

20-JUNE-2008
2007-5435

QUIKCHLOR RP30HD

CHLORINE GENERATOR
CONTROLS BACTERIA AND ALGAE
in
Swimming Pool (Spa) Waters

DOMESTIC

A maximum of 165,000 L (44,000 USGAL) of water can be treated with one Quikchlor RP30HD unit.
Maximum output of hypochlorous acid equivalent to 0.72kg of free available chlorine per day

For swimming pools, a range of 1-3 ppm of free available chlorine must be maintained

For spas, a range of 3-5 ppm of free available chlorine must be maintained

READ THE LABEL AND OPERATING MANUAL BEFORE USING

KEEP OUT OF REACH OF CHILDREN

REGISTRATION NO. 28939 *PEST CONTROL PRODUCTS ACT*

WARNING: Operating Quikchlor RP30HD without water flow through the cell can cause a build up of flammable gases which can result in FIRE OR EXPLOSION.

NOTICE TO USER: This pest control product is to be used only in accordance with the direction on this label. It is an offense under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

Poolpower Australia Pty Ltd.
1b, 39-45 Susan Street
ELTHAM VICTORIA AUSTRALIA 3095

Paradise Pools of Canada Ltd.
179 Willowdale Avenue
Toronto ON M2N 4Y9
Tel: (416) 222-4734

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QUIKCHLOR

Replacement cell for the chlorine generating device (QUIKCHLOR RP30HD)
REGISTRATION NO. 28939 *PEST CONTROL PRODUCTS ACT*. This cell must only be used on this model of chlorine
generating device.

READ THE LABEL AND THE OPERATING INSTRUCTIONS MANUAL of the chlorine generating device
QUIKCHLOR RP30HD before using. KEEP OUT OF REACH OF CHILDREN.

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WIRING INSTRUCTIONS

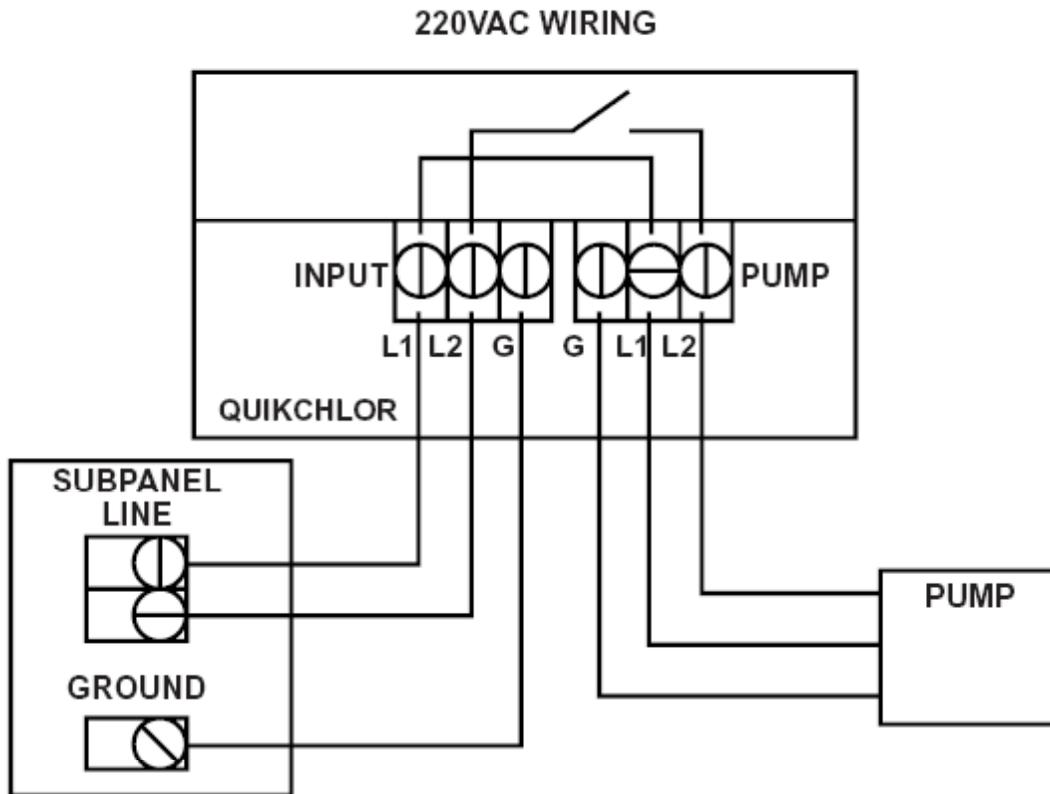
Power must be shut off at the circuit breaker before performing any wiring or opening the junction box of the chlorinator. Local and NEC electrical codes must be followed. Refer to labeling on chlorinator and inside chlorinator junction box for wiring markings and power ratings.

Wiring configuration when using the chlorinators built in digital time clock to control both pump operation and chlorinator.

Wire the Quikchlor RP30HD power pack directly to the 220V line supply as per the diagram below.

Ensure the ground wire is connected to the "G" marked on the input terminal block of the chlorinator.

Ensure the ground wire of the pump is connected to the "G" marked on the pump output terminal block of the chlorinator.



WARNING: POWER MUST BE OFF AT THE CIRCUIT BREAKER BEFORE PERFORMING ANY WIRING.

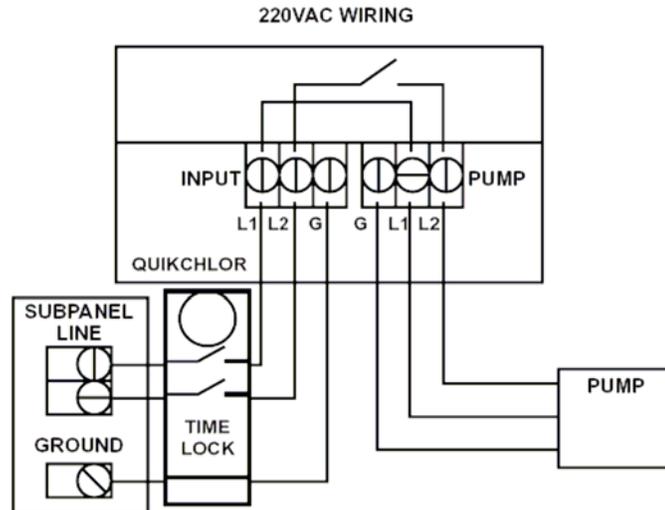
Wiring configuration when using an external time clock to control both pump and chlorinator operation.

(NB: SOME POWER PACK FEATURES WILL NOT BE ACTIVE IF WIRED THIS WAY)

Power must be shut off at the circuit breaker before performing any wiring or opening the junction box of the chlorinator. Local and NEC electrical codes must be followed. Refer to labeling on chlorinator and inside chlorinator junction box for wiring markings and power ratings.

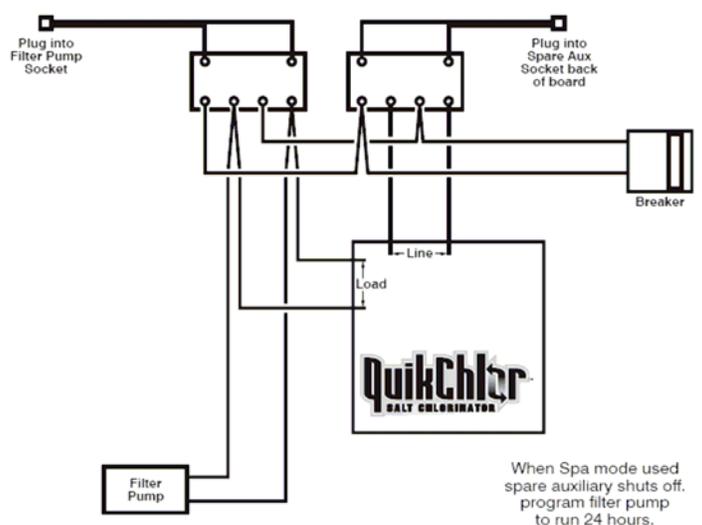
SET QUIKCHLOR RP30HD TO MANUAL OPERATION

Wire the Quikchlor RP30HD power pack to the 220V **LOAD SIDE** of the filter pump timer. Ensure both pump and chlorinator operate simultaneously. Ensure the ground wire is connected to the "G" marked on the input terminal block of the chlorinator. Ensure the ground wire of the pump is connected to the "G" marked on the pump output terminal block of the chlorinator.



WARNING: POWER MUST BE OFF AT THE CIRCUIT BREAKER BEFORE PERFORMING ANY WIRING.

Aqualink Quikchlor RP30HD Hook-Up



POWER PACK - Installation guide

The Quikchlor RP30HD power pack is supplied with a mounting bracket, three screws and three masonry plugs. To comply, the unit must be mounted on a solid wall or post that covers an area no less than the rear area of the back of the power pack.

Always mount the power pack as per local electrical codes and within 3 meters of the cell.

Air flow around the power supply must not be restricted or warmed from a heat source.

Qualified electrical personnel are required to wire the unit in accordance with the relevant local electrical standards that apply.

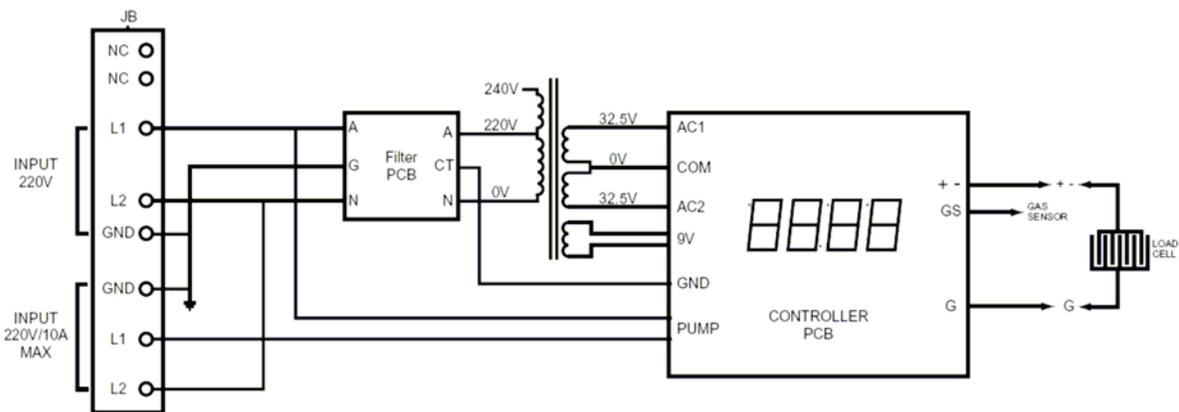
The Quikchlor RP30HD power pack should be wired to take advantage of all the available features. For this, it is necessary to wire the power pack to the supply and wire the pump into the power pack. The 220V supply must have a minimum current rating of 15A and contain a GFI device and isolating switch. Other devices as specified by the local electrical codes must be fitted.

The power pack has a built in digital time clock which will control both the chlorinator and pump ON and OFF times. Both pump and chlorinator must operate simultaneously.

You may use an external time clock to control the chlorinator and pump, however some of the delay features involving the pump will not operate.

WARNING - ISOLATE SUPPLY POWER TO CHLORINATOR POWER PACK BEFORE OPENING ELECTRICAL JUNCTION BOX OR SERVICING CHLORINATOR OR PUMP.

CAUTION - FOR CONTINUED PROTECTION AGAINST POSSIBLE ELECTRIC SHOCK USE ONLY IDENTICAL REPLACEMENT PARTS WHEN SERVICING.



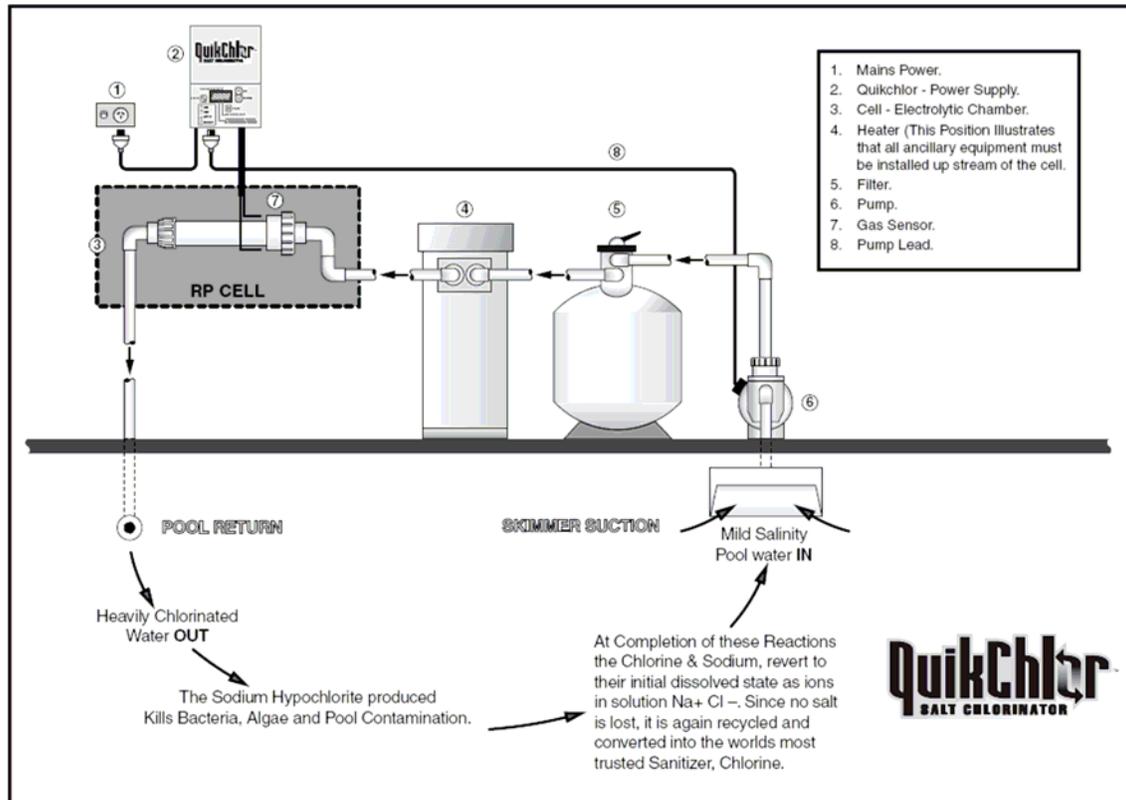
RP MODEL CELLS – Installation guide

An important safety requirement requires that when the cell is installed horizontally, three basic plumbing configurations ensure the gas sensor operates correctly and a physical containment of hydrogen gas exists.

1. Plumbing a 90 degree elbow on either end of the cell so that they face downwards.
2. Plumbing two 45 degree elbows on either end of the cell so that they face downwards.
3. Plumbing two 45 degree elbows on either end of the cell so that the inlet and discharge is parallel to but lower than the flow through the electrode bundle within the cell.

Illustrated in the picture below is configuration number 1.

Please note: the vertical height of the cell with respect to the ground, equipment and/or pool water level is not important. If a gas heater is present in the system, the heat discharged from the unit should be taken into consideration when positioning the cell.



Water may flow only in the direction specified on the cell.

2" to 1.5" reducers are supplied for use in 1.5" plumbing.

Caution: Use only standard type plumbing adhesive. Some specialized PVC types will stress and crack the cell housing. Contact Quikchlor RP30HD if you are unsure.

The cell must be installed on the pool return line downstream of all other equipment and or equipment take-off and return points.

That is after the pump, filter, solar system, heater or other receptacles where in excess of 2 litres of gas could accumulate.

If an air blower is connected directly to venturi spa jets, a vented loop must be installed. This allows any build up of hydrogen gas to escape from the blower line before it becomes in contact with the blower motor. (Contact Quikchlor RP30HD for plumbing advice)

Ensure 30 cm of space is kept free for removal of the cell for inspection purposes.

Where the cell is installed below water level, ensure valves are installed so the water can be isolated for flood free removal of the electrode.

Ensure the male key-way situated on the large electrode cap is positioned into the female key-way situated on the clear cell body before screwing on the locking nut.

CAUTION - INSTRUCTIONS MUST BE READ PRIOR TO INSTALLATION OF CELL AND POWER PACK

RP SELF CLEANING CELL INSTALLATION

PLEASE NOTE - THE CELL/S MUST BE INSTALLED AS PER ONE OF THE DIAGRAMS LISTED IN THESE INSTRUCTIONS.

CAUTION - MINOR ALTERATIONS TO THE PLUMBING RECOMMENDATIONS AS OUTLINED MAY CAUSE A DANGEROUS VOLUME OF HYDROGEN GAS TO ACCUMULATE.

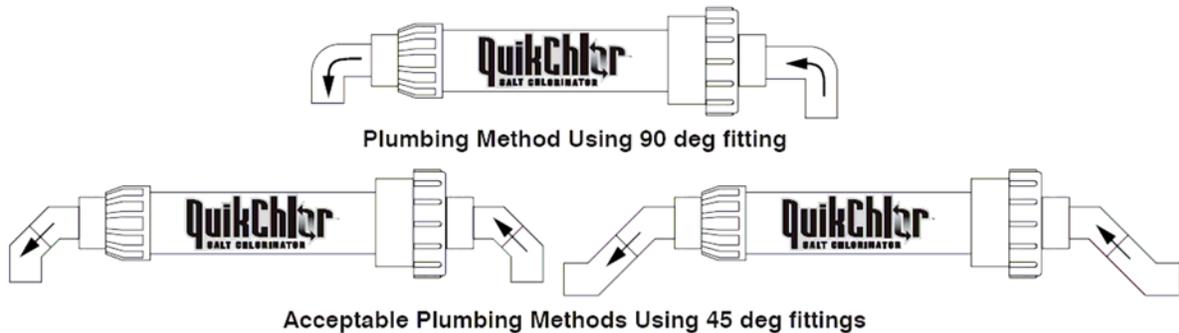
CAUTION: Only use standard plumbing adhesive.

Some specialized PVC types will stress and crack the fittings.

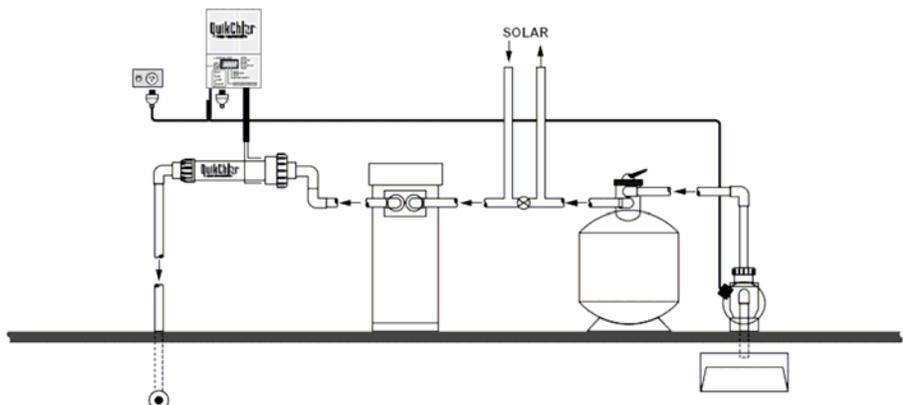
Horizontal Cell Installation - A 90 degree 2 inch PVC elbow must be plumbed directly onto both ends of the cell such that they face vertically downwards. This is imperative in forming the inverted "U" - shaped physical gas trap required to ensure a safe cell installation.

Always plumb the 90 deg elbows onto the cell whilst the inlet and discharge unions are fitted to the clear cell housing. This is particularly important for the inlet union which has a male keyway which lines up with the cell housing female keyway. In doing this, you will be assured of the correct orientation and alignment of the keyways when the cell is fixed into the plumbing system.

The message molded into the cell, "This side must be uppermost and horizontal" must be precisely that. This ensures that the gas sensor is positioned at the highest point in the horizontal.



Positioning Cell in Plumbing System - The cell must be installed on the pool return line, DOWN STREAM of all other equipment such as the filter, heaters and solar heaters. This is very important in preventing accumulation of Hydrogen gas and high return line chlorine levels corroding heat exchangers. Where the cell is installed below pool water level, ensure isolating valves are installed so the cell can be inspected or removed.



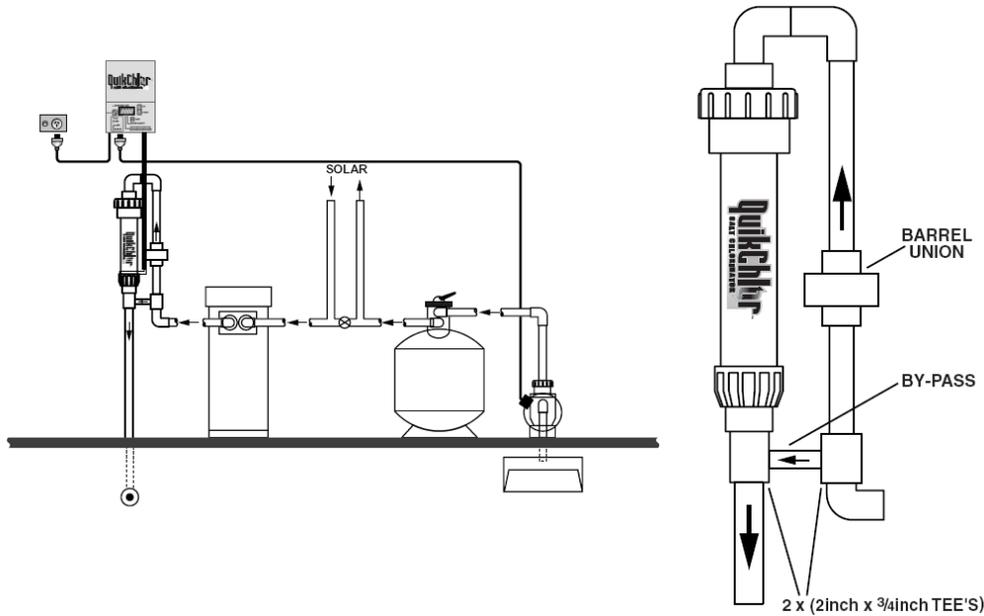
Vertical Cell Installation - This Installation may be preferred when horizontal space is insufficient or the water by-pass the vertical method contains is desired to lower the pressure drop across the cell.

The water by-pass is integral in maintaining the optimum physical gas trap of this plumbing arrangement. DO NOT omit the by-pass when plumbing the cell vertically. The leg in the manifold containing the cell is referred to as the live leg. Once the water leaves the cell, the plumbing arrangement is not important with respect to the cell operation or gas containment.

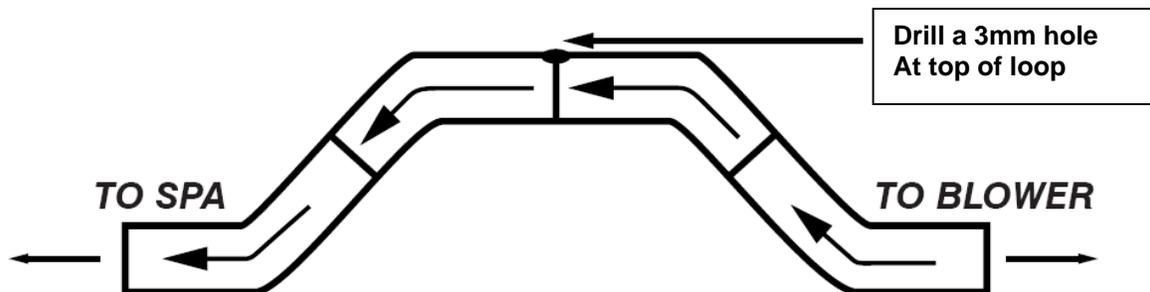
NOTE: (The manifold plumbing): It is important for the water to enter the dead leg or (cell free) side of the manifold and pass downwards through the end of the cell with the large lock nut.

A barrel union plumbed in the dead leg of the manifold helps remove the cell if service is required.

(The inscription on the cell, "This side must be uppermost and horizontal" can be ignored when a vertical installation is preferred and plumbed as per the instructions herein)



Air Blower Installation - If an air blower is installed and connected directly to venturi spa jets, a vented loop must be installed. This allows any build up of hydrogen gas to escape from the blower line before it comes in contact with the blower motor.



NOTE: TOP OF LOOP MUST BE ABOVE SPA WATER LEVEL.

OPERATING INSTRUCTIONS

Quikchlor™

SALT CHLORINATOR

Another Great Product From



1-800-851-8492
www.aamfg.com

QUIKCHLOR RP30HD
CHLORINE GENERATOR
CONTROLS BACTERIA AND ALGAE
in Swimming Pool (Spa) Waters
DOMESTIC

Congratulations and thank you for
purchasing this quality Australian Product

READ CAREFULLY BEFORE OPERATING.
KEEP THESE INSTRUCTIONS IN
A SAFE PLACE

A maximum of 165,000 L (44,000 USGAL) of water can be treated with one
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Maximum output of hypochlorous acid equivalent to 0.72kg of free available chlorine per day
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IMPORTANT SAFETY INSTRUCTIONS

When installing and using this electrical equipment, basic safety precautions must always be followed.

- **READ AND FOLLOW ALL INSTRUCTIONS**
- **WARNING:** Potential risk of fire, electric shock, or injury to persons is possible if the installation and safety instructions listed in this manual and on the chlorinator itself are not followed.
- **CAUTION:** Unit is to be mounted over a non-combustible surface.
- Disconnect all AC power during installation and or removal
- **WARNING:** To reduce the risk of injury, do not permit children to use this product.

- **SAVE THESE INSTRUCTIONS**

PLEASE NOTE: Ensure that the materials that are likely to come into contact with the Pool or Spa water are suitable. Some materials, in particular some paving materials, may not be suitable when in contact with mildly saline Pool or Spa water. Check with your installer or Pool professional before commissioning this product.

Our products require a salinity of 2500 ppm or 0.25% to operate.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: Heavy pool (or Spa) usage, and higher temperatures may require higher chlorine output to maintain proper free available chlorine residuals.

WARNING: To reduce risk of injury, do not permit children to operate this device.

If additional chlorine is required due to heavy bather loads, use liquid chlorine (Sodium Hypochlorite) to maintain an appropriate chlorine residual in the water.

Maintaining high salt and chlorine levels above recommended range can contribute to corrosion of pool or spa equipment

DO NOT add pool or spa chemicals directly to the skimmer. This may damage the cell.

Check the expiry date of the test kit, as test results may be inaccurate if used after that date

The life expectancy of the electrolytic cell is 10,000 hours under normal use conditions

Only use original Quikchlor RP30HD replacement cells.

When replacing the cell, only use replacement cells having a label that clearly states that it is a replacement cell for the chlorine generating device (Quikchlor RP30HD)
REGISTRATION NUMBER 28939 *PEST CONTROL PRODUCTS ACT.*

Follow all aspects of the local and National Electrical Code(s) when installing chlorine generators

NOTE: For outdoor pools, chlorine residuals can be protected from destruction by sun light by addition of stabilizer (cyanuric acid)

For proper sanitation, spas must be completely drained periodically. The number of days between COMPLETE SPA DRAINAGE is equal to the volume of spa water in litres, divided by 10 times the maximum number of daily spa users. Refill spa with water and repeat DIRECTIONS FOR USE of the device.

Health and Hyperthermia warnings for spa devices:

People with a medical condition should consult a physician before entering pool or spa water.

Maximum spa water usage temperature is 40 deg C. Bathing in spa water at 40 deg C should not exceed 15 minutes.

IMPORTANT INSTRUCTIONS

- Test salt level before calculating your salt addition requirement. This is important because the pool water may already contain sufficient or a percentage of the required concentration.
- The need or period between cell cleans is determined by the water chemistry and temperature of the water. In areas where the calcium hardness of the water is low, (less than 200 ppm), cleaning of the cell may not be necessary. Where calcium levels exceed 200 ppm, regular inspection of the cell is necessary. Cleaning in an acid solution may be necessary.
- **IF THE CELL REQUIRES MORE THAN 15 MINUTES TO CLEAN, THE CELL IS NOT BEING CLEANED REGULARLY ENOUGH. - INSPECT MORE FREQUENTLY**
- **It is a condition of the warranty for the home owner to ensure the cell is inspected and maintained in accordance with the directions in this manual.**
- **It is the home owner's responsibility to ensure all materials in contact with the pool or spa water are compatible with and intended for the application intended.**
- Time clock is in 24hr format. The built in digital clock will not accept an operating time period which travels from PM to AM (Through midnight).
eg. Where it is desired to operated the unit from 22:00 to 06:30 follow the following -
 - ON1 set to 22:00
 - OFF1 set to 23:50
 - ON2 set to 00:10
 - OFF2 set to 06:30
- **DO NOT USE BROMINE BASED PRODUCTS IN POOL - Use of bromine will void warranty**
- It is the home owner's responsibility to ensure the water is regularly tested and balanced. Ensure your local pool professional provides advice relating to the frequency of testing and water balance criteria in your area.
- Where the Calcium hardness of the Pool or Spa water exceeds 200 ppm, the water must be balanced as per the langlier index on a daily basis to ensure the water is not scale forming. - consult your pool professional.
- Do not assume the chlorinator is faulty if a chlorine test reveals a low or zero level. There are many factors that relate to chlorine demand in the water. Refer to the trouble shooting guide in this manual.
- Regular manual chlorine super chlorination or shock dosing may be required where chlorine demand is high. To supplement the chlorine requirement during peak use periods is normal and good practice.
- Always wear safety goggles and suitable gloves when handling pool chemicals. Where muriatic (Hydrochloric) acid is used, also wear a suitable respirator. Always add acid to water and not water to acid.

PLEASE NOTE

1. Test the salt level of the pool before calculating your salt addition requirement. This is very important because a pool that has been treated with liquid chlorine may already have a significant salt level in it. This is due to the fact that liquid chlorine breaks down into salt and water. Depending on the geographical area, water used to fill the pool may contain a significant salinity level. If a salt test is not performed, you may actually be adding too much salt which will cause the chlorinator not to perform as intended.

2. When setting the On and Off times, be aware that the time clock and On/Off settings must be in 24hr format, (ie 6:00pm = 18:00 hrs).

The chlorinator will not accept an operating time period which travels from PM to AM (through midnight).

If you would like the unit to operate on automatic through midnight, you must use two time periods.

Eg. On1 set to 18:00
Off1 set to 23:50
On2 set to 00:00
Off2 set to 03:00

The first time period must switch off before midnight with the second time period beginning at midnight or later.

3. DO NOT USE COPPER OR BROMINE BASED PRODUCTS IN POOL. Usage of these may void warranty. Consult your local pool professional for advice. (Some copper based products available are acceptable for use – consult with your pool professional or Quikchlor)
Bromine must never be used in conjunction with our systems.

Index

Introduction	7.
Basic Operating Hints	8.
Control Panel buttons/functions	9.
Power Supply control Panel	10.
Current time and ON/OFF periods – Settings guide	11.
Special Functions – 24 hr boost and pump protection	12.
Salt Levels and Diagnostic Display	13.
Cell Maintenance – RPHD Models	14.
Salt – Initial Dose, how to add and maximum levels	15.
Chlorine production, control of, and chlorine stabilizer	17.
Water Balance – pH, Total Alkalinity and Calcium Hardness	18.
Trouble Shooting	20.
Power Supply – Installation Guide	21.
Warranty Information	22.

INTRODUCTION

Congratulations, you have wisely purchased the most technologically advanced salt water chlorinator in the world. The benefits of doing so will be evident for many years to come.

QuikChlor's research and development team is committed to producing the finest chlorination systems and being recognized world wide as the leaders in salt chlorination technology.

Maximum customer satisfaction is achieved if the purchaser knows they have installed the very best product for their pool and family. We recognize this and therefore manufacture only the highest quality chlorine generating systems possible using the most innovative and unique technology.

Thank you once again for choosing Quikchlor RP30HD, we trust you will be very happy.

Your Quikchlor RP30HD chlorinator will eliminate the need to store dangerous quantities of chlorine, daily manual chlorine dosing and the risks associated with these practices. It is automatic, clean, and economical and for these reasons, salt chlorination as a method for treating pool water is increasing world-wide.

Mild salt water is gentle on eyes and skin and is said to benefit those people who find conventional chlorinated pools irritating.

The salinity of seawater is approx. 35,000 ppm or 3.5%, while Quikchlor RP30HD chlorinators require only 2250 ppm to 2750ppm. The human body has a salinity of approx. 4500 ppm and fresh water is zero. It is the similarity between the salinity of the human body and that of a salt pool that make for a silky luxurious swimming experience.

The chlorinator comprises two basic components, the power supply and cell. It is within the cell that the electrolytic reactions occur. Chloride ions in the water are converted into chlorine gas, this dissolves immediately into the water to ultimately form sodium hypochlorite, (liquid chlorine). The chlorine oxidizes bacteria, algae and other harmful matter in the pool water and through this process reverts back into available chloride ions. The major by-product of the reaction in the cell is the liberation of Hydrogen gas at the cathode. This explains the small bubbles often seen passing out of the pool returns.

No salt is lost through this process or as a result of evaporation. The necessity to top up the salt level approximately twice per year is because of dilution through events such as backwashing and splashing out etc.

All QuikChlor models contain digital time clocks, the four ON/OFF periods available are easily programmed for fully automatic operation of your pump & chlorinator.

All models have a built in back up power system that will hold all your programmed information for at least seven days. This suits applications where the mains power is switched off every day for a number of hours.

QuikChlor units do not contain batteries.

Basic Operating Hints

1. Ensure water is balanced with respect to pH, total alkalinity and calcium hardness otherwise corrosive or scaly conditions may result. These conditions may lead to equipment inefficiencies or damage and the resultant water may cause staining and mineral deposits on pool surfaces. Chlorine effectiveness may be compromised along with bather comfort.
2. Regular testing of pool or spa water is imperative. A free available chlorine level of 1-3 ppm (pools) or 3-5 ppm (spas) should be maintained with periodic manual shock dosing to effectively remove contaminants. A correctly sized chlorinator will meet the normal demand requirements of your pool. Your Quikchlor RP30HD chlorinator displays % chlorine output only, not the actual residual chlorine level in the pool.
3. The use of Cyanuric Acid (chlorine stabilizer) will ensure environmental chlorine loss due to the action of U.V. light is kept to a minimum. The breakdown of chlorine by U.V. light is so significant that we insist on it's use.
4. Although regular acid cleaning of the cell should not be required, it is important to periodically inspect the cell for both entrapped debris and calcium deposits. If entrapped debris is present in the cell, the filter requires attention to correct this problem. If calcium deposits are present in the cell, then the cell requires acid cleaning as described in this manual. Ensuring the water chemistry is maintained as recommended can minimize the frequency of this procedure.
5. Generally the pool pump and chlorinator should operate from 4 to 12 hours per day depending on the demand placed on the residual chlorine level by the environment or bather numbers.
6. Take note of the diagnostic display, it will inform you of the chlorinators activity and any abnormal conditions that may exist.
7. Read the entire owners manual and seek advice from a pool professional. It is important to understand not only the operation of your Quikchlor RP30HD salt chlorinator, but indeed some basic water chemistry to ensure the pool, the equipment and you and your friends and family enjoy healthy swimming pleasure.
8. Your new Quikchlor RP30HD salt chlorinator is a safe and automatic method of chlorinating your pool water. Installation of this unit will not necessarily replace the need for regular manual shock dosing during high use or demand periods.

CONTROL PANEL BUTTONS

MODE BUTTON Press to select ON, OFF or AUTO operation. (When AUTO mode is selected, the ON/OFF times you have set will switch both pump and chlorinator on and off on a daily basis.)

OFF MODE: Indicated by way of the anti-clockwise rotation of the top portion of the first digit.

Neither pump or chlorinator will operate.

ON MODE: Indicated by way of the clockwise rotation of the top portion of the first digit.

Pump and chlorinator will operate continuously.

AUTO MODE: Indicated by way of the clockwise rotation of the lower portion of the first digit.

While in the auto mode and during an OFF time period, the display will alternate from displaying OFF to displaying the next ON time.

This feature allows for an easy visual of when the unit will next switch on.

Eg.:

OFF  10:30

VIEW BUTTON: Press repeatedly to display, current time, % chlorine output and all four ON/OFF periods. All values remain displayed for 30 sec, the normal real time % chlorine output is then displayed.

Current 24Hr time is displayed.

% Chlorine output, is displayed. Use UP/Down buttons to alter time

ON1 is displayed, wait to see ON1 time. Use UP/Down buttons to alter time

OFF1 is displayed, wait to see OFF1 time. Use UP/Down buttons to alter time

ON2 is displayed, wait to see ON2 time. Use UP/Down buttons to alter time

OFF2 is displayed, wait to see OFF2 time. Use UP/Down buttons to alter time

ON3 is displayed, wait to see ON3 time. Use UP/Down buttons to alter time

OFF3 is displayed, wait to see OFF3 time. Use UP/Down buttons to alter time

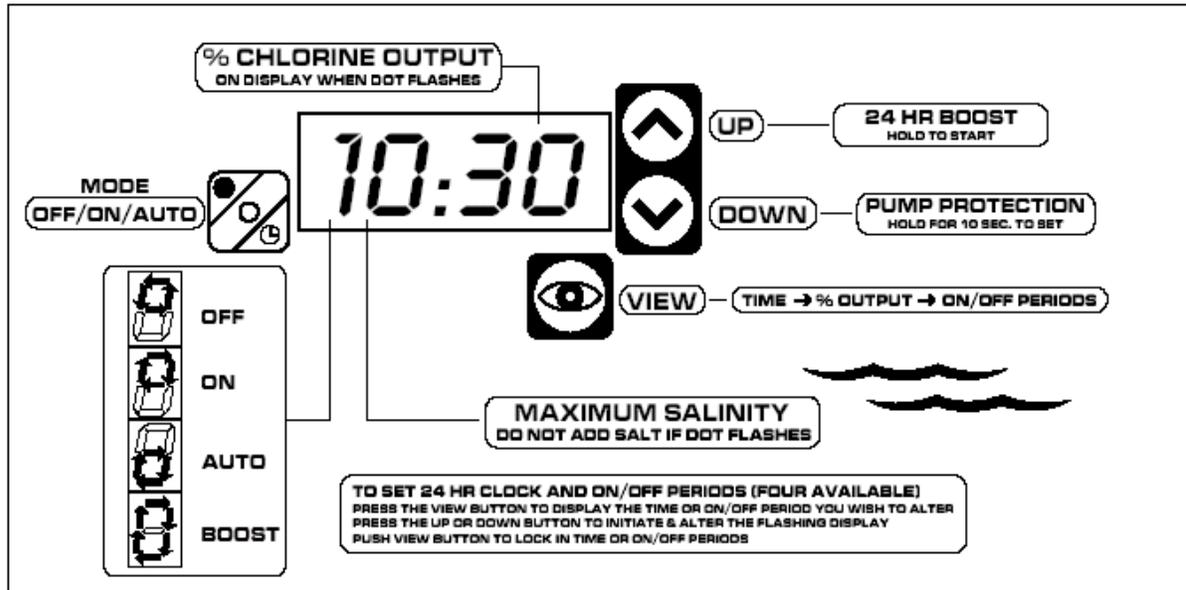
ON4 is displayed, wait to see ON4 time. Use UP/Down buttons to alter time

OFF4 is displayed, wait to see OFF4 time. Use UP/Down buttons to alter time

UP/DOWN BUTTONS: These are used to adjust the %chlorine level output either during a real time display or if the view button has been used to display the programmed %chlorine output.

They are also used to alter the time periods displayed by the View button. (The initial push of an UP/DOWN button will initiate the set mode and the display will begin to flash. Further pushes will alter the display).

POWER PACK CONTROL PANEL



Operational Understanding

RP models:

On start-up, power is ramped up to the cell after a 10 sec. delay.

At the end of a time period, the cell will cease production 30 seconds before the pump switches off. This delay allows the system to flush the pipe work and prevent heavily chlorinated water diffusing through and damaging heater tube bundles.

RP self cleaning models: When 100% chlorine output is set, full power is delivered to the cell however not for the entire ON time period. The cell power cycles on and off to achieve the percentage chlorine output required. The power modulation can be witnessed by observing the gas production at the cell.

TIME AND ON/OFF PERIODS – SETTING GUIDE

Quikchors digital clock operates on a 24Hr system where 00:00 is 12:00 midnight.

TO SET 24 HR TIME CLOCK

1. Press the view button once to display the time.
2. If the time is not current and you wish to alter it, press the up or down button once, the display will begin flashing indicating it is in the set mode.
3. Press the up or down button while the display is flashing and the time will alter.
4. When you have attained the correct time, wait 30 seconds or push the view button and the unit will automatically lock the time in.

TO SET THE FOUR AVAILABLE ON/OFF PERIODS

1. Push the view button until ON1 appears, wait a moment and the corresponding ON1 time will be displayed.
Initially this time may read **00:00**, push the UP or DOWN button once, the display will begin to flash indicating it is in the set mode.
 2. Press the up button and adjust the time to that which you would like the pump and chlorinator to switch on.
Wait 30 seconds or push the view button and the unit will automatically lock it in.
 3. You must then set an OFF1 time. Push the view button until OFF1 appears, wait a moment and the corresponding OFF1 time will be displayed. Initially this time may read 00:00, push the UP or DOWN once, the display will begin to flash indicating it is in the set mode.
 4. Press the UP button to adjust the time that you would like the pump and chlorinator to switch off. Wait 30 seconds or push the view button and the unit will automatically lock it in.
- ** If you would like the system to operate for two, three or four intervals during a 24Hr period, there is provision to do so by selecting, ON2, OFF2 etc and setting a time for each.

TO VIEW ALL PROGRAMMED SETTINGS

Push the view button repeatedly to scroll through all the settings.

1. Current time (24Hr clock)
2. %Chlorine output (Programmed value)
3. **ON1** - wait 2 seconds for the corresponding time to display
4. **OFF1** - wait 2 seconds for the corresponding time to display
5. **ON2** - wait 2 seconds for the corresponding time to display
6. – 10. Continue to view all four on/off times

NB: If your Quikchlor RP30HD chlorinator is unplugged, or the power is switched off, the unit will retain all you programmed settings for at least seven days.

SPECIAL FUNCTIONS

TO ACTIVATE 24 HR BOOST

1. The unit must be in the **AUTO** mode.
2. Hold the **UP** button until the display flashes and the rotating boost mode indicator will begin (The pump & chlorinator will operate at full power for 24Hrs regardless of current settings and then switch back to the normal auto mode settings for both time & output)
 - * Ideal for periods where pool encounters heavy bather loads
 - * Avoids the necessity to manually switch unit On and then Off after extended chlorination periods.

PUMP PROTECTION MONITOR

Optional function that protects the pump from operating with little or no water. These conditions often exist and may damage the pump. The pump protection function uses the gas sensor in the cell to detect the absence of sufficient water and after a delay period, the pump is switched off.

TO SET MONITOR: Hold the **DOWN** button until the display flashes. If a zero is displayed, this indicates that the pump protection monitor is not activated. While the display is flashing, use the UP/DOWN buttons to activate the monitor and set the delay in minutes that you would allow the pump to run in a starved of water condition. Once set, the display will lock in the value and return to the live display within 30 seconds.

Eg. If a delay of 4 minutes is set, the pump will automatically switch off if the chlorinator cell detects a low water flow for a period of 4 minutes. The message **FLO FAIL-OFF** will scroll across the display indicating this condition.

If the unit is in the **AUTO** mode, the system will retest the condition at the next **ON** time period, if the condition no longer exists, the pump will continue to operate as per normal.

Pushing the mode button will also cancel the condition enabling you to operate the system and determine what the problem is.

All pools have different hydraulic characteristics and risk levels with respect to the possibility of pump damage occurring due to lack of water. Pumps also have different tolerance levels to operating dry or in a starved condition.

The average delay time would be from 3 to 6 minutes but we would recommend you seek advice from the pump manufacturer or a pool professional.

To **deactivate** the pump monitor, hold the **DOWN** button until the flashing delay time is on display.

Use the **DOWN** button to reduce the time to **zero**, this disables the protection monitor.

NB: Remember, if you backwash the filter, vacuum to waste or perform any other function that by-passes water through the cell, the flow fail function will switch the pump off after it has timed out since it recognizes no water flow. Simply push the mode button to reset or de-activate pump monitor.

PLUMBING FLUSH FEATURE

This feature is automatic, no programming or adjustments are necessary. When in Auto mode, the cell power will automatically switch off 30 seconds before the pump to ensure the cell housing and plumbing are flushed of concentrated chlorine. This unique feature prevents high chlorine levels in the pipe work diffusing through and corroding heater tube bundles, and the possibility of damaging other sensitive equipment up-stream of the cell.

SALT LEVELS AND DIAGNOSTIC DISPLAY

RPHD models: ideal range is 2500 ppm @ 20 deg C (25kg salt per 10,000 L)

Allowing the salt level to fall outside the recommended parameters may reduce the cell life and efficiency. Quikchlor RP30HD has unique features that prevent the likelihood of this occurring. Test the salinity of the water before calculating salt addition.

VERY LOW OR NO SALT CONDITION – CRITICAL

This condition is common when a new pool is commissioned. The chlorinator & pump may be switched on days or even weeks before the salt has been added. Operating the cell under very low or no salt condition would dramatically reduce the life of the cell.

The Quikchlor RP30HD microprocessor constantly senses the salinity and will recognize a very low or no salt condition.

It will at this point switch the power off to the cell to protect it from damage and display the condition via a scrolling message.

Lo SALT – OFF

The pump will continue to operate as it should. When the condition improves i.e.; sufficient salt is added, the power to cell will automatically restore.

LOW SALT OR CELL IS IN NEED OF CLEANING CONDITION

If the salt level falls below the ideal operating level, or the cell is calcified sufficiently to reduce the output, a warning message will scroll intermittently across the display. (The power to the cell will remain on)

* Following this scrolling message, the display will show the maximum percentage output that it is able to attain.

CLEAN CELL or Lo SALT

This message will cease when the salt level is topped up sufficiently or the electrode is cleaned or both.

NOTE: It is good practice to have your pool water tested by a pool professional on a regular basis. Despite lasting many years, chlorinator electrodes have a limited life. If an electrode begins to fail it may indicate by way of the chlorinator display, that the salt level is low when in fact it is not. It is for this reason we recommend a pool professional test the salt level every four months or if there is a suspicion that the electrode is failing.

CELL MAINTENANCE

RPHD Self cleaning models

Self cleaning models generally require little or no maintenance. We do however recommend that periodic inspections are made to ensure debris is not obstructing the cell. If a calcium deposit appears to be forming on the electrodes, contact Quikchlor or your local dealer for advice.

NB: If debris is collecting at the cell, it indicates a filtration problem that should immediately be repaired. (Water is by-passing the filtration medium)

If calcium deposits have formed on the cell electrodes, the reason for this may be one of following:

- * The cell life is spent and is on the way out. (Replace cell)
- * The salt level is too high - Dilute
- * Water quality is very poor with an extremely high mineral content. Ensure water is balanced as per the Langlier Index.
- * Poor water flow through cell

To remove mineral deposits from cell if required.

- * Switch off power, close all relevant valves and remove cables from cell
- * Loosen the nuts at either end of the cell and remove cell
- * In a bucket, mix 6 parts water with 1 part Muriatic acid (Caution - wear safety glasses and suitable gloves)
- * Place entire cell in this solution. Deposits should dissolve within 15 minutes.
- * Rinse cell and cell terminals with plenty of fresh water and allow to dry.
- * Reinstall cell, connect terminals, open valves and switch on power.

SALT INITIAL SALT ADDITION

Do not assume a pool full of water whether it is new or old has a zero salinity. A substantial amount of salt may be present in the water if the pool was previously treated with liquid chlorine because liquid chlorine breaks down to salt and water. Depending on the geographical area, the tap water may have a high salinity level. It is important to test the water first before calculating the initial salt dosage or you may over-salt the pool water.

The left hand column of the salt addition chart lists the current salinity of the pool water.

Find the current salinity that best approximates what you have, go across the row until you are in the column that lists your pool volume and read the recommended salt addition in both pounds and kilograms.

Use this chart when topping up of the salt level is required.

Please note: Although the salt chlorinator will advise when to add salt and when not to add salt, it is always recommended that a salt test is performed using a test kit or salinity meter to confirm the findings before making a salt addition.

MAXIMUM SALT LEVEL

RPHD models: The high salt level light will begin flashing as the level approaches the upper end of the ideal range. **Operating the unit at higher than recommended Salt levels will reduce cell life and it's ability to self clean.**

When do I need to dilute the salt content in the water??

If the maximum salt level light is flashing, have a sample of water tested by a pool professional.

If the salt level is 20% higher than the ideal recommendation, dilute the water.

RPHD models: Dilute if salt level is 3000 ppm or higher

SALT: HOW TO ADD

Never add salt to the skimmer box, this will not harm your Quikchlor RP30HD salt chlorinator however coarse salt granules may seize the pump impeller.

Always disconnect any automatic cleaners before adding salt and leave them off until the salt has fully dissolved. Cleaners too may be affected by the coarse granules and because the salt solution initially formed is denser than water, it remains at the bottom of the pool.

If an automatic cleaner operates through this dense solution, the cleaners' suction hose will drop to the floor and may be damaged as a result.

Cut open bags (normally 25 kg or 55 lbs - pool grade salt only) and pour into pool away from skimmer and suction points. Brush with a pool broom to dissolve quickly.

CHLORINE PRODUCTION AND CONTROL

A free available chlorine residual of 1-3 ppm should be maintained for pools, whereas a 3-5 ppm free available chlorine residual should be maintained for spas. This level will alter with respect to bather load, debris falling into the pool and the pools water temperature.

These factors alter the demand for chlorine as will the water balance and filtration's effectiveness.

(Refer to equipment manufactures specifications with regard to maximum chlorine level permissible)

The %chlorine output is displayed on the power supply and may be altered using the UP/DOWN buttons. This allows you to increase or decrease the chlorine production without altering the operation time.

Testing for chlorine levels is very important and should be performed regularly by pool owners and periodically cross referenced by using the services of a pool water professional. See your local pool shop or service person.

The sample of water to be tested should be taken at arms depth away from the pool returns. This avoids highly chlorinated water, which has traveled directly from the chlorinator cell and ensures the reading will be a true representation of the pools residual level.

Testing for chlorine production rather than the pools chlorine residual, is performed by taking a sample directly at the pool return. This water is directly from the cell and should indicate a higher chlorine level than that obtained in the pool residual test. (NB: This test must be done while the unit is set to 100%)

The chlorine output may be altered in three ways:

1. Increasing or decreasing the operating time. Depending on the pool and model chosen, the daily operating time may be from 4 to 12Hrs per day. (There are exceptions to this)
2. Increasing or decreasing the output percentage. This allows for a finer control over the chlorine level.
3. Linking the unit to a Redox probe device. The probe senses the chlorine level in the pool and will switch the chlorinator on and off to maintain the recommended level. (Highly recommended for use in indoor pools and spa's)

NOTE: It may be necessary to periodically shock dose the pool water in high demand situations.

Consult with your pool professional regarding shock dosing.

CYANURIC ACID – CHLORINE STABILIZER

The sun's ultraviolet light breaks down chlorine, with this in mind, it is essential in sunny climates to use a chlorine stabilizer.

The importance of its use is such that our range of chlorinators are sized with the express requirement that chlorine stabilizer be used as per the directions. Cyanuric acid or chlorine stabilizer, when dissolved in the pool water to achieve levels of between 40 ppm to 80 ppm will effectively reduce the breakdown of chlorine by ultraviolet light.

Higher stabilizer levels may in fact be detrimental and hinder the kill rate of chlorine.

Consult with your pool professional.

Maintaining a correct stabilizer level will benefit the cell in an indirect way. The operating output percentage required would be lower than with an unstabilized pool. This factor extends cell life.

WATER BALANCE

	Swimming Pool	Spa
Free Available Chlorine	1.0 – 3.0 ppm	3.0 – 5.0 ppm
pH	7.2 – 7.8	7.2 – 7.8
Total Alkalinity	100 – 120 ppm	100 – 120 ppm
Calcium Hardness	200 – 300 ppm	150 - 200 ppm

The balance of your pool water is no less critical because you have installed a salt chlorinator.

All three components, pH, Total Alkalinity and the Calcium hardness are like a three legged stool, take one leg away or cut it too short and the stool falls over.

The analogy simply emphasizes that all three must be maintained within the recommended parameters suggested for your pool finish.

pH

A high pH will reduce the effectiveness of the chlorine, potentially cause scale on both the pool and the equipment, and irritate the bathers.

A low pH may cause water to become corrosive, damaging the pool's interior finish, equipment (especially heat exchangers) and also irritate bathers.

Each pool finish and type has a specific range in which the pH should remain. Generally a pH of between 7.2 – 7.8 is suitable for most pool types, however those requiring a higher pH will also require a higher chlorine residual. (Consult with your pool shop)

Total alkalinity (T.A.)

The total alkalinity is a measurement of all the alkalis in your pool water, (Carbonates, Bicarbonates and Hydroxides).

When adjusted within the accepted levels, T.A. acts as a pH buffer, resisting change to the pH. The recommended T.A. level of your pool may vary from 100 ppm – 120 ppm depending on the pool finish, again consult with a pool water professional.

Calcium Hardness

Probably the most ignored of the three, yet just as important.

The hardness of your pool water is very important in controlling scale and the corrosive effects of water. A low calcium level may cause pool water to become corrosive even if the pH is within its recommended range. A tell tale sign of this is brown stains on the pool finish and in adjoining Spa's especially. This is metal staining, the source is usually the heater.

A high calcium level may cause pool water to deposit scale, again even if the pH is within its recommended range. The salt chlorinator cell may require very frequent cleaning and scale may deposit on pool finish and equipment.

A level of 200-300 ppm should be maintained for pools and a level of 150 - 200 ppm should be maintained for spas. Consult with your pool builder or pool shop.

NOTE: We strongly recommend you seek advice from a pool professional regarding the balancing of water for your pool.

A correctly balanced pool will protect it and the equipment from chemical damage and ensure bathers are swimming in clean clear healthy pool water.

$$Si = pH + Ti + Ci + Ai - 12.1$$

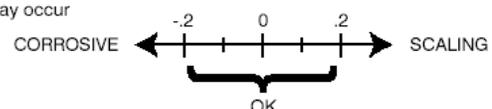
Langlier Index

The Langlier Saturation index (Si) is a relationship between the Calcium Hardness, Total Alkalinity, pH and water temperature. When the water is correctly balanced, the (Si) is +/- 0.2. A Saturation index of less than -0.2, the water is corrosive. A Saturation index of greater than +0.2, the water is scale producing and staining may occur.

Use the chart to the right to determine the saturation index.

°C	°F	Ti	Calcium Hardness	Ci	Total Alkalinity	Ai
12	53	.3	75	1.5	75	1.9
			100	1.6	100	2.0
16	60	.4	125	1.7	125	2.1
19	66	.5	150	1.8	150	2.2
			200	1.9	200	2.3
24	76	.6	250	2.0	250	2.4
29	84	.7	300	2.1	300	2.5
			400	2.2	400	2.6
34	94	.8	600	2.4	600	2.8
39	103	.9	800	2.5	800	2.9

How to use: Measure pool pH, temperature, calcium hardness and total alkalinity. Use the chart above to determine Ti, Ci and Ai from your measurements. Insert values of pH, Ti, Ci and Ai into the above equation. If Si equals .2 or more, scaling and staining may occur. If Si equals -.2 or less corrosion or irritation may occur



TROUBLE SHOOTING

Display is not Illuminated

Possible cause: Chlorinator power supply is not wired into live circuit.

Solution: Wire unit into live circuit.

Possible cause: Chlorinator is switched on via an external time clock.

Solution: No action necessary. Perhaps momentarily over-ride time clock to check units operation.

Flow fail – OFF scrolls across the display and pump has switched off

Possible cause: The pump protection monitor has been set and has timed out.

Solution: Investigate flow problem by eliminating possible solutions from the Lo Flow – OFF file above. (To reset, push the mode button)

Note: Remember, any filter settings that require the pump to run and where the water is not returned through the cell, eg. backwashing, rinse, waste etc will cause the pump protection monitor to activate if the period exceeds the programmed time out period.

NOTE: If the cell is disconnected for any reason, always remember to disable the pump protection monitor (set to zero) or the pump will continue to switch off after the time out period.

Lo Flow – OFF scrolls across the display

Possible cause: Flow sensor lead is not connected or poor contact is made.

Solution: Connect sensor lead to terminal marked 'sensor lead' on cell.

Possible cause: Flow sensor is detecting insufficient or no water flow through cell.

Solutions: Check pump is operating and actually pumping water.

Are skimmer and pump baskets clean?

Are valves in the correct positions?

Is the filter restricting the flow? If so, backwash filter.

Is the pool full enough?

Is the pump sucking air?

Is the skimmer weir door obstructing the water flow?

Is the inlet to the cell blocked with debris? If so, clean and investigate filter problem. Water is by-passing filtration medium.

Is the pump losing prime?

Has the solar system just powered up? On start up, the displaced air in the system may switch cell off briefly.

Were you in the process of backwashing or vacuuming to waste?

Chlorine output display reads a lower value than that which was set

Possible cause: Salt level is too low for the unit to operate at full power but not low enough for a warning message to scroll across the display.

Solution: Add more salt.

Possible cause: Fluctuations in mains voltage.

Solution: No action required since effect on output is negligible.

No chlorine residual in swimming pool

Possible cause: Chlorinator is not operating sufficient hours per day.

Solution: Check time clock ON/OFF periods and adjust accordingly.

Possible cause: Cell electrode is coated with a mineral or metal coating.

Solution: Clean electrode as described in this manual.

Possible cause: % Chlorine output setting is too low.

Solution: Increase % Chlorine output setting.

Possible cause: Cyanuric acid (Stabilizer) level in pool is insufficient.

Solution: Increase levels as specified.

Possible cause: Heavy usage of pool.

Solution: Use the BOOST function regularly or shock dose pool using an approved oxidizing agent as per the manufacturers instructions.

POWER PACK – Installation guide

The Quikchlor RP30HD power pack is supplied with a mounting bracket, three screws and three masonry plugs.

The power supply has been tested and approved to attain all relevant electrical and safety authority approvals. The unit is suitable for outdoor installation. Unit must be installed as per local electrical codes.

Ensure the pump and cell are close enough so that the low voltage lead will reach.

Air flow around the power supply must not be restricted or warmed from a heat source.

SAFETY

Your Quikchlor RP30HD chlorinator must be installed in accordance with the installation instructions listed in this manual. The cell, apart from producing chlorine, produces a mixture of gases, primarily hydrogen. Hydrogen is not readily dissolved into the water and under normal filtration conditions it passes through and out the pool returns, harmlessly dissipating into the atmosphere. If however the water flow is restricted (blocked skimmer box, incorrectly closed valve, etc.) and these gases collect in the system, a potentially explosive mixture could result under certain conditions.

Your Quikchlor RP30HD chlorinator has eliminated this potential hazard with in-built electronic and physical safety features.

WHEN INSTALLED CORRECTLY THE CHLORINATOR WILL:

- switch itself off if the cell is not completely full of water. The sensor positioned at the top of the cell will detect the absence of water and switch power to the cell off.

It indicates this condition by way of a scrolling message on the display.

LO FLO - OFF

When the condition improves, a delay will follow and the scrolling message will cease. The chlorine output will reappear on the display.

- as a result of the cell's physical design, contain the gases produced in a non-hazardous volume. This being in the unlikely event that the electronic protection device fails. (See installation instructions)

WARRANTY

Domestic applications

RP Models

The power supply carries a full 3-year parts warranty.

RP cells – 3 year parts warranty.

All components - 2 year labour warranty.

Commercial applications – All models will have a 1 year warranty on power supply and electrode if installed in a commercial situation.

Special Conditions

On site labor, service call or freight charges is the responsibility of the purchaser.

Under no circumstances shall the manufacturer be liable for incidental or consequential damages, inconveniences or expenses in connection with removal or replacement of equipment.

Under no circumstances shall the manufacturer be liable for damage caused to persons or property as a result of use of this equipment.

Warranty valid to original owner only.

The following invalidates the warranty:

- Incorrect Installation
- Failure to clean cell regularly and to the specifications listed in the manual.
- Misuse
- Water in excess of 45 degrees Celsius passing through the cell.
- Used for a purpose other than described in this manual
- Operating pressure exceeding 200 kpa
- Operating unit at both higher or lower salt levels than recommended.

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