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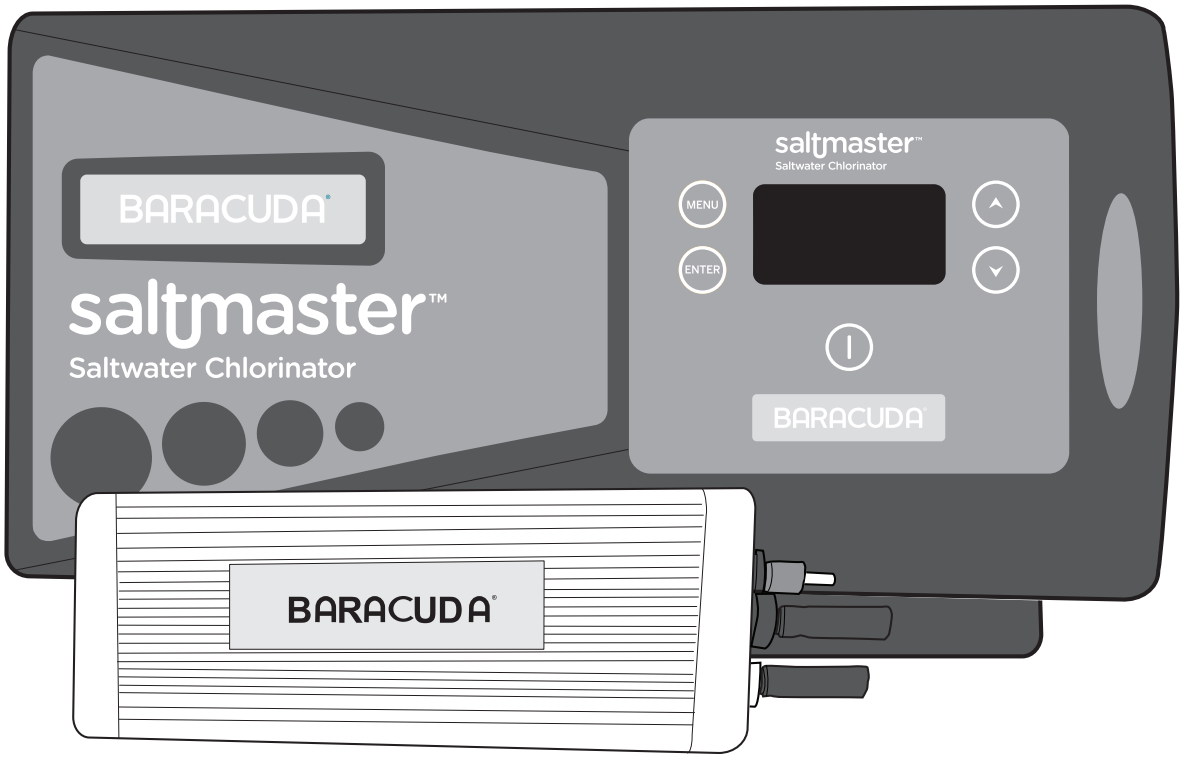


SALTMASTER™
SALTWATER CHLORINATOR
Installation & Operating Instructions

H0744500_REVA

For full warranty terms and conditions and to register your warranty, visit https://warranty.baracuda.com.au/ and complete your details. Or scan the QR code to go directly to the registration page

Record your equipment details here for quick reference:

Model No. : _____

Serial No. : _____

Refer to the following websites for information on warranty and service in your country:

- Australia, NZ, Asia and South Pacific go to www.zodiac.com.au

EQUIPMENT INFORMATION RECORD

Date of Installation _____

Installer Information _____

Initial Pressure Gauge Reading (with clean filter) _____

Pump Model _____ **Horsepower** _____

Filter Model _____ _____

Control Panel Model _____ **Serial Number** _____

Notes _____

_____

Table of Contents

Section 1. Important Safety Instructions

READ AND FOLLOW ALL INSTRUCTIONS

All electrical work must be performed by a licensed electrician and conform to all national, state, and local codes. When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

⚠ DANGER

To reduce the risk of severe injury or death, do not remove the suction fittings of your spa or hot tub. Never operate a spa or hot tub if the suction fittings are broken or missing. Never replace a suction fitting with one rated less than the flow rate marked on the equipment assembly.

⚠ WARNING

Risk of electric shock - Install the controller at least 3.5 metres from the inside wall of the pool and/or hot tub using non-metallic plumbing.

Children should not use spas or hot tubs without adult supervision.

Do not use spas or hot tubs unless all suction guards are installed to prevent body and hair entrapment.

People using medications and/or having an adverse medical history should consult a physician before using a spa or hot tub.

⚠ WARNING

A terminal bar marked "GROUND" is provided within the controller. To reduce the risk of electrical shock which can cause serious injury or death, connect this terminal bar to the grounding terminal of your electric service or supply panel with a continuous copper conductor having green insulation and one that is equivalent in size to the circuit conductors supplying this equipment in accordance with AS/NZ 3000 - 2010. In addition, where required, bonding should be extended in accordance with AS/NZ 3000 - 2010 to any metal ladders, water pipes, or other metal within 3.5 m of the pool/spa.

Attention Installer: Install to provide drainage of compartment for electrical components.

SAVE THESE INSTRUCTIONS

Section 2. General Overview

Congratulations! You have purchased a Baracuda Saltmaster Saltwater Chlorinator. Please read the instructions carefully and your purchase will provide you with years of trouble free use.

Your Saltmaster Chlorinator works by converting some of the salt (sodium chloride) in your pool into chlorine which starts to destroy algae and bacteria and sanitises your pool. As part of the process, the chlorine is converted back into salt and hence salt is not consumed.

Your chlorinator control has many features which ensure simple operation of your chlorinator and filtration system.

The Saltmaster Chlorinator has an internal electronic time clock designed to operate the filtration pump up to 2 separate time periods each day. The control has a non replaceable backup power source which is designed to maintain timer setting memory in the event of an infrequent and short power interruption.

⚠ WARNING

This appliance is not intended for use by persons including young children or infirm persons with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Please ensure that young children are supervised to ensure that they do not play with the pump or chlorinator.

If the supply cord if damaged, to avoid a safety hazard, it must only be replaced by a suitably qualified person.

Section 3. Chlorinator Controller Installation

The Saltmaster Chlorinator controller has a Rating of IP23 enabling it to be installed outdoors. **Regulations require that the control is not allowed to be located within 3.5 metres of the pool water.**

The chlorinator controller should be installed in a well ventilated position ideally away from direct sunlight. Ensure that the unit is not located near pool chemicals as fumes may damage the control.

When installing the controller on a post, first attach a flat waterproof panel at least 500 mm wide by 300 mm long or onto a flat wall that prevents ingress from behind the control. Make sure the controller is located centrally on the panel or wall and sits flat.

Plug the 3 pin plug into a suitable weatherproof outlet and then plug the pump into the 3 pin socket in the chlorinator controller.

NOTE: The pump current rating must not exceed 8 amps.

Section 4. Cell Installation

The chlorinator cell should be the last piece of equipment installed on the pipe work just prior to the return to the pool. However if valves are installed between the chlorinator and the pool outlet, it is essential that they cannot deadhead the pump. If the pressure in the cell exceeds 250 kPa and/or the water temperature exceeds 40 degrees Celsius, the cell may fail.

⚠ WARNING

Never install the cell before the pump or heater.

The cell **MUST** be installed with the barrel unions underneath (water connections pointing downwards) and the cell should be horizontal. The cell is suitable for 40 mm pipe only. Use high pressure PVC pipe and glue into the barrel union tails. Make sure that the O-rings are correctly fitted and the unions are tightened firmly.

Direction of flow through the cell is critical – unit must be plumbed with the water entering the cell at the end closest to the terminal connections.

⚠ WARNING

It is essential that pipe work and equipment do not allow gases generated from the cell to collect and build up.

⚠ WARNING

Cell must be installed horizontally with water connections pointing downwards – this creates a safety gas trap. Installation in any other way may cause explosion, injury or death.

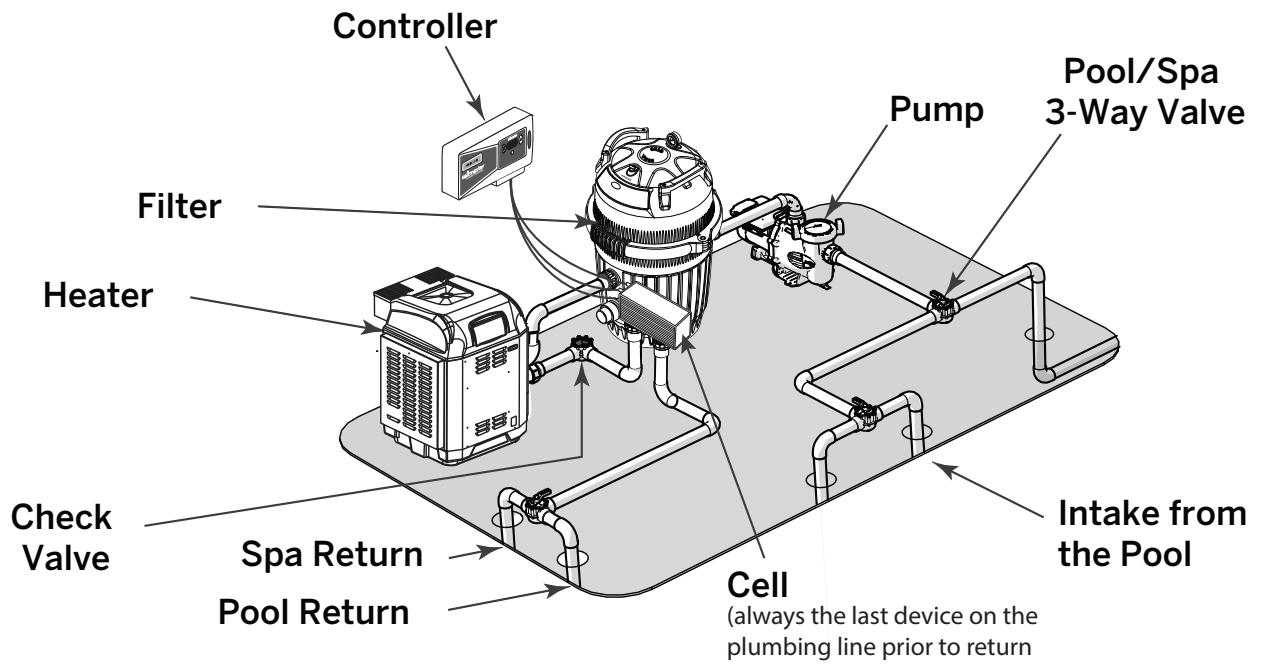
⚠ WARNING

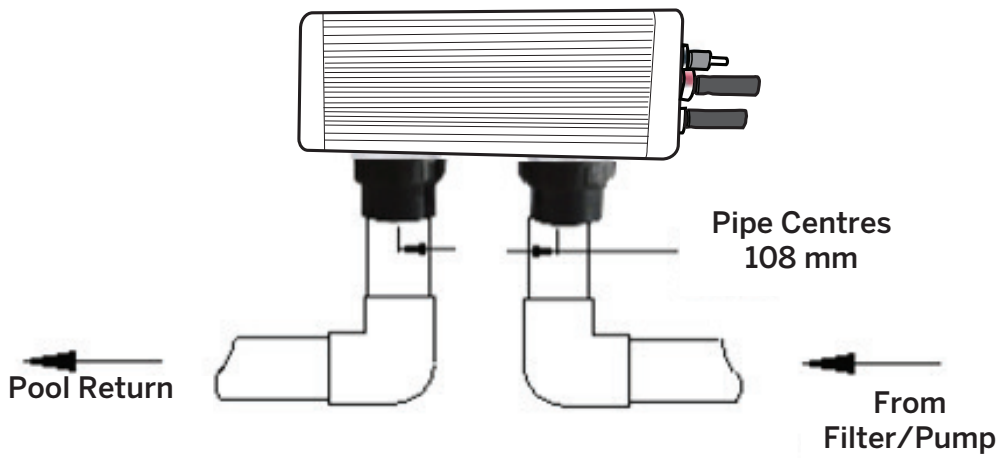
Cell must be installed in the return pipework to the pool. Always install after filter, gas heater, and solar heater or heat pump connections.

⚠ WARNING

DO NOT install isolation valves on inlet or outlet of cell.

Once the cell is located, connect the cell cable to the cell. All terminal posts and cell cable connectors are colour coded, ensure the correct colours are connected. Ensure that the connectors are seated firmly and correctly.





Section 5. Pool Preparation

The recommended salt level for the Saltmaster Chlorinator is 6,000 ppm. The chlorinator requires between 4,000 ppm and 6,000 ppm of salt dissolved into the pool water. The level of salt will depend on water temperature, but if a level of 6,000 ppm dissolved salt is allowed for, your chlorinator will always be able to produce the maximum level of chlorine. We recommend you add 6 kgs of salt for every 1,000 litres of water (a typical pool of around 50,000 litres requires 300 kg of salt).

Salt should always be added at the shallow end of the pool and allowed to dissolve. Running the pump will mix the water and speed the dissolving process.

⚠ WARNING

Never add salt to the skimmer box!!

NOTE: **Plug the pump directly into a power outlet (bypass the chlorinator) and run for 8-10 hours to ensure the salt is dissolved prior to running the chlorinator.**

When the salt is dissolved, connect the pump to the chlorinator and run it on maximum chlorine output. Check that low salt is not indicated on the screen. If it is, check again in 24 hours. If the low salt indicator still persists, have the salt level checked by your local pool shops and ensure it is increased to 6,000 ppm.

Section 6. Programming

6.1 Setting Current Time/Day

SELECT OFF:

(a) Press the MENU button and screen should display CLK. Press ENTER.

(b) Press ENTER and the hour digit will flash. Use up and down arrows to adjust.

(c) Press ENTER to change to minutes and set.

(d) Press ENTER and select AM or PM.

(e) Press MENU to save.

6.2 Setting Timers

Your chlorinator has 2 timers enabling you to set different periods in which your chlorinator/pump will operate. Timers are set by entering a start time and an off time. To set timers, do the following:

(a) Press the MENU button twice and screen should display TMR. Press ENTER.

(b) Use up and down arrows to adjust start time for TIMER1. Press ENTER.

(c) Use up and down arrows to adjust the off time for TIMER 1. Press ENTER.

(d) Repeat for TIMER 2.

6.3 Programming Recommendations

Baracuda recommends that you use two timers, one for the morning and one for the evening and typically for periods of 2-5 hours for each (depending on pool size and season). Your chlorinator is most effective if running in the early morning or evening when it is cooler (strong sunlight consumes more chlorine). As a factory default, the control is set to come on at 8 am and 4 pm both for periods of 4 hours.

Section 7. Chlorine Output

To adjust the chlorine output:

(a) Use Increase/Decrease arrows for setting the chlorine output level of the chlorinator. The chlorinator output can be set from levels 1 through to 8.

(b) Chlorine Output display shows the level set

Section 8. User Operation

The user mode buttons enable you to select and to automatically or manually control the chlorinator/pump. Functions are as follows:

POOL MODE:

(a) **Auto - Running:** The chlorinator/pump will run according to how you have set the timers.

(b) **Manual - Running:** The chlorinator/ pump will run continuously.

(c) **Manual - Stopped**: The chlorinator/ pump will stay off continuously.

Section 9. Fault Codes

The User Display can indicate the following fault codes;

- **NO F – No flow indication**
- **LO S – Low salt indication**

Refer to troubleshooting table at the end of this manual for actions to correct these errors.

Section 10. Setting the Right Chlorine Output and Filtration Time

Your Saltmaster Chlorinator must be run every day to ensure that your pool is correctly sanitised. As the sun dissipates chlorine, running times are higher in the summer compared to the winter. Baracuda recommends that you initially run your chlorinator at maximum output for the first few days, then adjust as required.

10.1 Summer

You should set your chlorinator to operate for 8 to 10 hours per day. Ideally, run it for 4-5 hours in the morning (say 8 - 12 pm) and 4-5 hours in the evening (say 6 - 11 pm).

In extremely hot weather it may be necessary to extend the running time if you find that the free chlorine level is too low.

To prevent consumption of chlorine by sunlight, try adding cyanuric acid as recommended by your local pool professional. Additional benefit will be gained by operating your chlorinator and pump into the evening when the strong sunlight has abated. See Section 11 for more information.

Chlorine is most effective when the pH of your pool water is 7.4. The electro-chemical process of the chlorinator, (change salt into chlorine) will automatically raise the pH of your pool water, so it is very important to check your pH weekly and adjust as necessary.

10.2 Winter

You should set your chlorinator to operate for 6 to 8 hours per day. Again, running it in the morning and evening is preferable.

10.3 Checking Chlorine Level

Ideally, check your chlorine level after the morning operating period. The free chlorine residual level should be somewhere between 1 and 3 parts per million. Increase or decrease the output of the chlorinator to get the right residual chlorine level. It may also be necessary to adjust the operating period if you are running at minimum or maximum output.

Section 11. Water Chemistry

11.1 Stabiliser/Cyanuric Acid

As previously mentioned, sunlight rapidly dissipates the amount of free chlorine in your pool. Chlorine stabiliser greatly reduces this effect. Without stabiliser, you may need to run your chlorinator and filtration system up to 16 hours per day or longer.

Keep the stabiliser reading between 30 and 60 ppm.

11.2 pH Level

You should keep you pH level between 7.0 and 7.4 for fibreglass pools and 7.2 to 7.6 for other pools.

11.3 Total Alkalinity

The ideal range is between 80 and 120 ppm.

11.4 Salt Level

Although salt is not consumed by the chlorinator, salt is lost during backwashing, and when your pool overflows due to rain or splashing. The correct salt level is important to cell life and the effective operation of your chlorinator. Salt level should be maintained around 6,000 ppm but should never be allowed to fall below 4,000 ppm.

A typical pool of around 50,000 litres requires 300 kg of salt to initially set-up the pool to 6,000 ppm.

A low salt level warning is indicated on your Saltmaster Chlorinator if the salt level drops. If "Low Salt" is indicated, check again in 24 hours and then if it is still indicated, add two 20 kg bags of salt to the shallow end of your pool. Run the filtration system for approx. 6 hours to help mix the salt in the pool. It can take up to a day for the salt to fully dissolve.

If the "Low Salt" light is still on, then you should get your pool water tested. If the salinity is above 6,000 ppm, however, the low salt warning can be activated due to cold water temperature. To check if there is a fault or it is caused by cold water activation, check with your local pool shop for advice.

⚠ WARNING

Never add salt directly to the skimmer box. This practice should be avoided as it allows very high concentrations of salt to be passed through your filtration and other pool equipment.

11.5 Water Chemistry Table

Test and maintain correct water balance throughout the season, according to the water chemistry table below.

NOTE: Test all equipment sensors quarterly.

Section 12. Chlorinator Maintenance and Troubleshooting

If the supply cord is damaged, it must be replaced by Baracuda or its service agent or a similarly qualified person in order to avoid a hazard.

⚠ WARNING

Operating the chlorinator with less than 3,000 ppm of dissolved salt in the water may cause damage to the cell and will void the warranty. Never start the chlorinator until the correct quantity of salt has been added and dissolved in your pool water.

Section 13. Cell Maintenance

Your Saltmaster Chlorinator has an automatic cleaning feature that under normal conditions, will keep the cell plates clear of deposits of salt and calcium.
The cell has a negative charge sensor that monitors the flow and salt levels of the water. This sensor is designed to be fail safe. As it is negative charge deposits of calcium or other debris may be deposited on it and cause it to indicate a low salt or no flow condition. Should a low salt condition be indicated, have your salt level checked at your local pool shop. If the low salt condition persists, or a no flow condition is indicated when the supply pump is operating, you may need to manually clean your chlorinator cell.

	Free Chlorine	pH	Total Alkalinity (ppm)	Calcium Hardness (ppm)	Cyanuric Acid (ppm)	Salt Level (ppm)
Australian Standard AS 3633-1989 Private Swimming Pools-Water Quality	1 -3	7.2 - 7.8	60 - 200	100 - 400 ***	up to 50	4000 - 7000
Ideal range	1 - 3	7.4	80 - 140	90 - 300	up to 50	4000 at 27°C
To Increase	Add chlorine or increase equipment output	Add buffer or soda ash (sodium carbonate)	Add sodium bicarbonate	Add calcium chloride	Add cyanuric acid	Add salt or minerals **
To Decrease		Add muriatic acid	Add muriatic acid or dry acid	Partially drain and refill pool*	Partially drain and refill pool*	Partially drain and refill pool*
In Season Testing Frequency	Weekly	Weekly	Weekly	Weekly	Weekly	Monthly

* **Fill pool with water from the mains water supply. Do not use rain water or well water**
** **Do not add salt directly into the skimmer. Do not initiate electrolysis until salt has fully dissolved**
*** **Reading is True Calcium Hardness, not Total Calcium Hardness**

Section 14. Cell Cleaning

- Close applicable valves
- Disconnect the chlorinator from the mains by removing the 3 pin plug
- Disconnect the cell wires
- Undo the barrel nuts connecting the cell to your filtration system
- Turn the cell upside down (inlet and outlet on top) and fill the cell with a mix of 1 part hydrochloric acid to 10 parts water and leave standing for a few minutes. As an alternative, you may use an approved commercial cell cleaning solution
- Repeat if necessary and then rinse well in clean water
- Re-install the cell ensuring o-rings are correctly located and barrel nuts are tightened to prevent leaks
- Re-connect cell wires ensuring all connections are in the proper colour-coded connecter
- Return all valves to their normal positions, re-connect power to the chlorinator and turn on at power point.

⚠ WARNING

Follow safety instructions provided with the hydrochloric acid or cleaning solution. When handling hydrochloric acid, the use of eye protection, mask and gloves are highly recommended. Extreme caution should be taken whenever handling hydrochloric acid or cell cleaning solution.

Section 15. Maintenance of Your Chlorinator

Maintenance Schedule: Your new product incorporates moving parts and withstands high velocity water with chemicals in it. Some of these parts will wear in the normal course of use and require regular checks and maintenance. Performing these checks and maintenance will identify parts that have worn and require repair/replacement before further serious damage is sustained. A small amount of regular care and attention to your pool equipment will help ensure long life and trouble free performance.

To protect against extremes of temperature, your unit is vented to allow electronics to cool. Ants and some insects are often attracted to the warmer, dry environment inside the enclosure. We recommend that, with power turned off, spray a surface insecticide on the surfaces surrounding the control to prevent ant and insect ingress. Repeat every three months or as necessary.

NOTE: Insect ingress is not covered by your warranty.

IMPORTANT NOTICE: Regular maintenance is important to ensure long life and trouble-free performance of your pool equipment. If unable to perform the maintenance yourself, contact your local pool shop to arrange for a trained service technician to perform the maintenance for you.

Timing	Maintenance Check	Service action (if required)
Fortnightly	Check cell for calcium build up	Soak electrode in mixture of 1 part acid to 10 parts water. Use a soft brush only if required. **NOTE**: Always add acid to water, and never the reverse.
	Check water chemistry	Balance pH in pool and adjust output of unit to ensure satisfactory production of chlorine.
	Check cable connections to cell	Ensure no water contact is occurring with pins.
Three Monthly	Check cell connections for leaks	Isolate pump, turn power off, clean and grease o-rings or replace if necessary.
	Check for insects/ants	Spray a surface insecticide on the surfaces around the unit to prevent ant and insect ingress.
Six Monthly	Check chlorine levels and pump operating hours	Adjust timer and output depending on demand for current season.
	Prevent insect ingress to controller	Turn controller off, use an insect spray and spray onto walls around controller. Do not spay directly into unit. Wait for the spray to dry before turning unit on.

Section 16. Troubleshooting

Your Saltmaster Chlorinator has diagnostic and safety features to make it easy to maintain your system. The table below summarises potential faults and their causes.

Fault Indication	Potential Cause	Remedy
NO F (No flow)	Pump turned off/disconnected or valves closed	Ensure valves/pump on.
	Blue wire disconnected from cell	Connect blue sense wire to cell.
LO S (Low salt)	Salt level in pool has dropped too low	Take sample of water to pool shop and check salt level – add salt as recommended.
	Pool water temperature is low	Add salt and turn chlorinator output down until the water is warmer.
	Cell has calcified	Clean cell.
	Cell has failed	Call for service.
Display blank	No power to controller	Plug in controller and ensure mains power available.
	Fuse blown	Have a service technician replace fuse (3 amp slow blow).
Low/No chlorine in pool	Cables not connected to cell	Connect cables.
	Timer period too short	Increase timer period – particularly in summer.
	Chlorine output level too low	Increase chlorine output.
	Filter needs backwashing	Backwash filter.
	pH too high	Balance pH level to 7.4 – 7.6
	Pool stabiliser (cyanuric acid) too low	Increase stabiliser between 30 and 60 ppm.
	Salt level too low	Increase salt to above 6,000 ppm.
Clock loses time when mains power removed	Battery life expired	Call a technician.

For spare parts and further advice, please consult the website, go to www.baracuda.com.au

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