INSTRUCTION BOOK

Bionizer™

Chlorine-Free & Freshwater Pools

Read before you call us for advice

APVMA Product No: 60564 ; Label Approval No: 60564/01/0106

Version 2.28r, 10-Nov-2025

BIO-EFFECTIVE POOL AND SPA PURIFIER

GETTING YOU STARTED

PREPARATION

- ☐ Watch the videos on how to install on our website (http://www.bionizer.com.au/instructions-videos/).
- ☐ If your pool has algae then super-chlorinate as per page 30 of the Bionizer manual before proceeding.
- ☐ Test pool water and bring into balance using the Snap Pool Balance Chart as your guide.
- ☐ For new pools or pools that have just been refilled: Add 2x20kg bags of salt per 50,000 litres to help water conductivity – brush in well to dissolve. This allows your Bionizer to operate on full power when boost function is activated.
- ☐ **IMPORTANT: NEW POOLS OR NEWLY RENOVATED POOLS** refer to page 8 of the Bionizer Instructions.
- ☐ Check filter medium – we recommend changing your filter medium if it is more than 5 years old (Bionizer's recommendation: glass or silica sand for filter). Make sure your cartridge is in good condition if you have a cartridge filter.
- ☐ **If a pH BOSS has also been installed, ensure that the acid has been diluted at a ratio of not less than 4 parts water to 1 part acid. See page 5 of the pH BOSS handbook for instructions and important acid safety information.**

START-UP

- ☐ Locate the Copper Start-up Kit in your Bionizer packaging. Measure half a lid (40 grams) and pour into the skimmer box for every 30,000 litres of pool water (make sure the filter is running).
- ☐ After 30 minutes of filtering: test the water for copper level using the copper test kit.
- ☐ Plug your pool pump into the Bionizer and plug Bionizer Control unit into power.
- ☐ Enter real time of day as per page 13.
- ☐ Enter pool size (volume) as per page 13.
- ☐ Enter desired pumping times (4 pumping sessions available) as per page 14.
- ☐ Ensure that the Bionizer is switched to **AUTO** setting. See page 15.
- ☐ Activate the boost function on Bionizer. Enter the copper level you measured and start the boost function as per page 18 (see install video on http://www.bionizer.com.au/instructions-videos/).
- ☐ After the boost function has completed, the Bionizer will switch back to its daily operation in auto mode.
- ☐ Check your copper levels again to make sure the levels are the required level of 0.5-0.6. If levels are still low, activate boost function again with recent copper level measurement.
- ☐ Enjoy your chlorine free pool!

For the first couple of weeks test your copper level every 3-4 days and after that once a week. Adjust Bionizer settings up or down as per page 14 if needed, until you have found the right ionizing time/output for your pool. pH level has to be within the correct range for an accurate copper reading.

PS. Keep your instruction booklet in a safe place, this and your Snap Pool Balance Chart are your guides to a trouble free pool. Use them! You can also refer to our online instruction book by visiting www.bionizer.com.au.

QR CODE LINK TO INSTRUCTION VIDEOS

If you have a QR Code App on your smart phone or tablet, scan the code below to link directly to the instruction videos.

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PLEASE TAKE THE TIME TO READ THESE INSTRUCTIONS CAREFULLY. NOTE HOW THEY APPLY TO YOUR PARTICULAR POOL AND EQUIPMENT.

An all natural pool that requires minimal maintenance and expense is a real joy. Before start up correctly **balance and maintain the pool water** and you will be rewarded by having a toxic free, eco pool that will not cause corrosion (as salt does) or threaten your health in any way. Feel free to water your garden or lawn with any backwash water.

Take note of the few "don'ts" and you will have a seamless start up and thereafter you will be amazed at your pool water quality and clarity.

Bionizer Pty Ltd is committed to creating a more healthy environment… the Bionizer Pool System is only part of our ongoing journey in this direction.

We have now introduced three other products to advance ourselves along the path back to a toxic free world. They are Bionizer Eco-Oxidizer, Bionizer pH BOSS (auto pH Control) and the Mini-B, a “no frills” Ionizer for spas and above ground pools. A pool with all three of these systems will never require a toxic chemical to be placed in the water... ever! In fact the most difficult part of the process of pool maintenance will then be to add some soda bicarbonate. to the water and clear the leaves from the skimmer every several weeks. It just does not get any easier than that… not with swimming pools anyway.

You can start with a Bionizer on your pool and a short while later when you are delighted and confident with the Bionizer technology you can add the Eco- Oxidizer unit and/or the pH Boss unit to augment the Bionizer. You will then have the 'Ultimate' Eco Pool Care System operating your pool - zero toxicity and/or salt, zero corrosion, tiny running costs, low maintenance whilst saving water.

We know Ionization technology and we know pools and, we know more than most do about water and just how special a substance it really is. Water is in fact vital to all life on earth… water and oxygen are essential substances… as are beneficial ions.

Bionizer Pty Ltd has harnessed the three of these technologies to protect and maintain your pool water in the most powerful natural way known on Earth. The Eco-Pool Partners.

Nothing is more powerful than Nature.

Witness a Volcano blowing its top, a Force 5 hurricane or a devastating Tsunami…Bionizer has united the most essential elements in Nature to ensure that you swim safely and hassle free.

Now for the first time pools are able to stay healthy and clear without any toxic substances polluting your swimming environment or your lifestyle. You are removed from all but the most simple tasks required for pool care.

If you use a pool care service you can halve the time they visit… they are now almost redundant. Let them visit once a month and sweep the pool, check the skimmer and add some acid to the pH reservoir and you do no pool care whatsoever.

This is the Bionizer "Ultimate Solution" to Pool Care…
and your commitment to help us all return to a toxic free Planet for your children to enjoy.

Dear Bionizer Owner,

Congratulations and thank you for choosing the Bionizer Pool Management System.

By purchasing this product you have taken a major step towards helping the environment, as well as the health of your family.

Superior Pool System
We have developed one of the most superior pool and spa management systems on the market today.

The Bionizer pool ionizer manages your pool superbly while you spend your valuable time relaxing in your environmentally sensible and healthy pool.

No more dry skin and hair. No more red eyes. No more corrosive salt. Now you and your family will be swimming in pure sanitized mineral water that needs only small amounts of oxidizer to remain crystal clear and healthy.

The important point is that with Bionizer **this occurs without an overload of hazardous, costly chemicals or corrosive salt !**

Olympic Swimmers Use Ionization
Currently the most common way of sanitizing your pool is by using environmentally degrading and costly pool chemicals. This also applies to controlling algae in your pool.

Yet, ionization is a well tried and long time proven natural alternative to chemical-based pool treatments. Ionization is endorsed & embraced by the World Health Organization (WHO) and the US EPA -Environmental Protection Authority.

Ionization does not ever exacerbate asthma or eczema as high levels of chlorine are shown to do. Many USA Public Pools have chosen ionization as their primary form of sanitation and pool control and the public who use these pools have overwhelmingly endorsed this choice.

Our Bionizer is used on many Eco-Award swimming pools, learn to swim pools, health resort pools and public pools in over 35 countries

NASA Developed Ionizers
Ionizers have been used for sanitizing water for many years now and were refined by NASA in the 1960's for its space program.

The main function of ionizers is to control the growth of micro-organisms in bodies of water.

They are in widespread use in water towers for air conditioning systems where they efficiently control Legionella bacteria that cause the deadly Legionnaires' disease, whilst reducing the chemicals that promote structural decay.

In Australia the APVMA, the government authority in regards to pool & spa chemicals (APVMA - The Australian Pesticides & Vetinary Medicines Authority) requires that a registered sanitizer be used with this product when the pool is used for bathing. Bionizer uses only official APVMA Authorized Anodes.

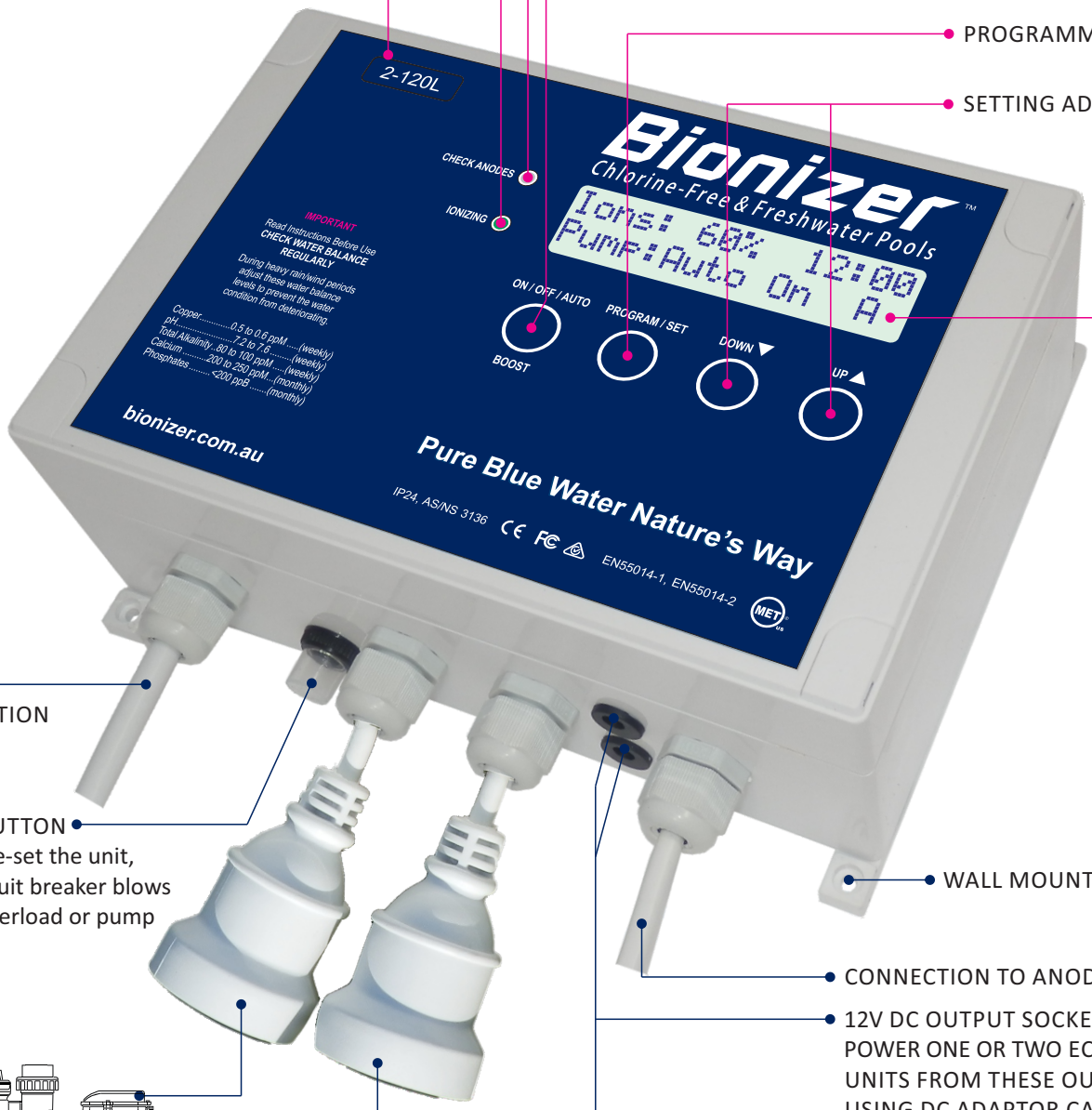
The Bionizer Eco-Oxidizer creates Hydroxyl Radicals and Peroxy Compounds electrochemically and these products effectively impart a powerful oxidative effect into your pool water when the pump/filter is running. If using a Bionizer and Eco-Oxidizer we advise that the pump is running when bathing.

Happy Swimming!

BIONIZER ILLUSTRATION

All user-programmed settings are backed up in memory indefinitely when power is switched off.

Clock is backed up for up to 2 weeks when power is switched off.



BIONIZER MODEL NO.

IONIZING (Green light that flashes when the Ionizer function is operating.)

CHECK ANODES (Red light that flashes if water conductivity is too low, or anodes are worn. See page 20,

ON/OFF + AUTO SET+ BOOST

PROGRAMMING + SETTING

SETTING ADJUSTMENT

DISPLAY

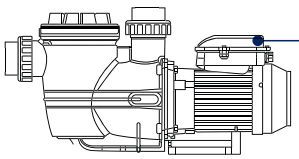
POWER CONNECTION

RESET BUTTON
Push to re-set the unit, if the circuit breaker blows due to overload or pump fault.

WALL MOUNTING FEET

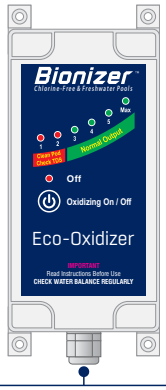
CONNECTION TO ANODES

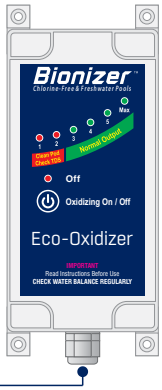
12V DC OUTPUT SOCKETS.
POWER ONE OR TWO ECO-OXIDIZER UNITS FROM THESE OUTPUTS USING DC ADAPTOR CABLES.



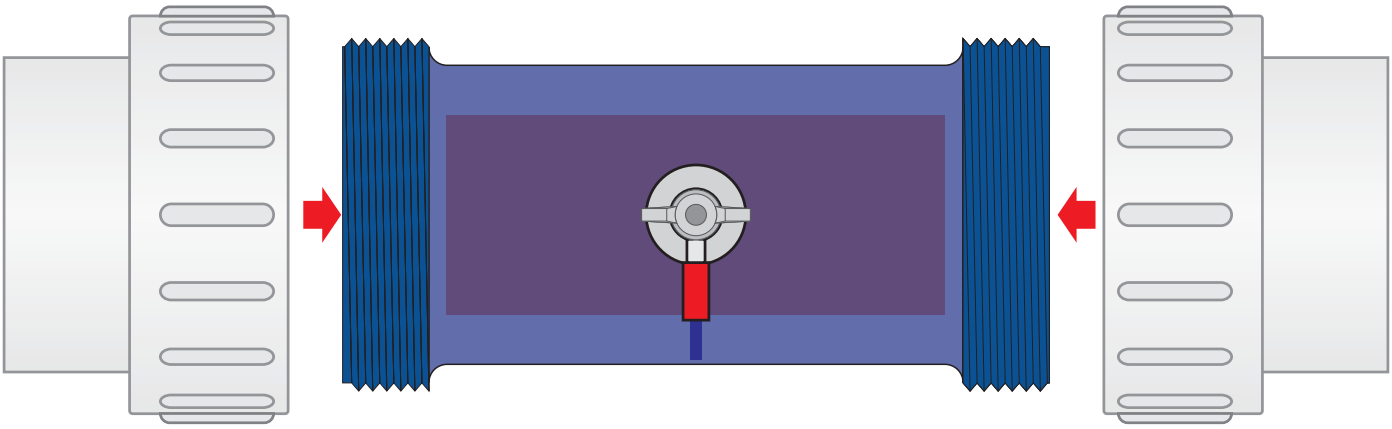
CONNECTION FOR POOL PUMP AND OTHER MAINS POWERED DEVICES. CONNECT MAINS POWERED pH BOSS HERE.

MAXIMUM COMBINED OUTPUT FOR BOTH POWER OUTLETS IS 9.5 AMPS (2280 WATTS). CONNECTING MORE LOAD THAN THIS WILL CAUSE THE INTERNAL CIRCUIT BREAKER TO TRIP.





BIOPOD ANODE CARTRIDGE



BIONIZER SAFETY INSTRUCTIONS

IMPORTANT SAFETY INSTRUCTIONS

It is important to follow basic safety precautions when installing and using this electrical equipment, including the following:

1. **Ensure you read and follow all instructions.**
2. **WARNING** – Do not allow children to use this product unless they are closely supervized at all times. This is to prevent accidental injury.
3. Keep cord visible and do not bury it. Also position the cord so that it does not get damaged by lawn mowers, hedge trimmers and other equipment.
4. **WARNING** – To prevent electrical shock, replace damaged cord immediately.
5. Save these instructions.

Scan this QR Code with your smartphone or tablet to download a PDF copy of the Bionizer manual from the Bionizer Web Site.

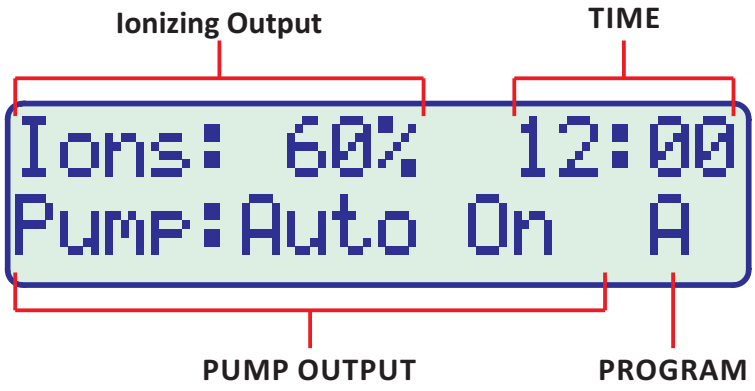
CAUTION:

Your warranty could become invalid should you fail to observe the following:

1. The Bionizer must be installed and operated as specified.
2. Do not open plastic enclosure with mains power connected.
3. Turn off the power to the Bionizer before detaching the anode connectors.
4. The life of the unit will be extended (as with most other pool equipment) if it is placed indoors or in an enclosed structure. This is recommended as sunlight can damage the Liquid Crystal Display on the face of the control unit.
5. Never plug more than one pump at a time into the 3-pin socket in the base of the control unit.
6. Disconnect pump from mains power (or control unit) before inspecting or working on the pump.

BIONIZER DISPLAY

The illustration below shows what the information of the various sections of the Bionizer Display represents.



IONIZING OUTPUT

- When the Ionizing Output is on, the current output setting is displayed here (Page 14).
- Displays "**Off**" when the Ionizing Time is completed for the day and the Ionizing output is off.

NOTE: The Ionizing Time for each day, and the Pump Times are two separate things, and should not be confused. For example the Bionizer may only require 1 Hour of Ionizing Time each day, even though there are 4 Hours of Pump Time in total. In this example, for the first hour of filtration each day the Bionizer will display the Ionizing Output (eg. "Ions: 60%"). For the other three hours of filtration, the Bionizer will display "Ions:Off" to indicate that it is not Ionizing during this time.

TIME

- Displays the current time, in 24 hour clock format. Clock is backed up for up to 2 weeks if power is lost.

PUMP OUTPUT

- Auto On . . . . . Unit is in Automatic Timer mode, and the Pool Pump is switched on (page 15).
- Auto Off . . . . . Unit is in Automatic Timer mode, and the Pool Pump is switched off (page 15).

  NOTE: When the Bionizer is displaying "**Auto:Off**" it is not indicating the Bionizer unit is switched in any way. It is merely indicating that the Pool Pump is being controlled by the Timer and is simple switched Off at this time.
- Manual On . . . . . Pool Pump is switched ON, regardless of the Timer Programs. If the power to the unit is switched off at any time, it will resume this **Manual On** mode when the power is restored. Use this mode when operating the Bionizer from an external controller or timer system (page 15).
- Manual Off . . . . . Pool Pump is switched OFF, regardless of Timer Programs. If the power to the unit is switched off at any time, it will resume this **Manual Off** mode when the power is restored. Use this mode when servicing the pump, pool cleaner, skimmer box etc (page 15). ***DO NOT FORGET TO SET THE UNIT BACK TO AUTO MODE, OR THE POOL PUMP AND IONIZING FUNCTION WILL NOT OPERATE.***
- Boost . . . . . Unit operates the Pool Pump AND Ionizing outputs to boost Copper level. Use this function when installing the Bionizer, or in times of high rainfall (page 18).

PROGRAM

- Displays which of the A, B, C or D timer programs is running, when the unit is in **Auto** mode and the Pool Pump is ON.

SETTING UP YOUR POOL

READ THE DO'S AND DON'TS AND TAKE THE TIME TO SET UP CORRECTLY

STEP 1 – PREPARE YOUR POOL

FOR EXISTING POOLS:

- **If unsure about your pool water quality** we recommend that the pool should be super-chlorinated and the walls and floor brushed. (See **Super-Chlorination** on page 23).
- If the pool has a sand filter where the sand has not been changed for more than 5 years, we recommend to replace the sand with glass media as part of this installation.

FOR NEW POOLS:

For a new pool with quartzon, marblesheen and specialized plaster, do not start to use the Bionizer ionization for the first 4 weeks after filling the pool with water. Use Chlorine for sanitation in the meantime. Set the Ionizing time to 0:00 Hours (page 14).

It is critical to maintain correct pH and Total Alkalinity for these types of pool surfaces.

For all types of pools, place a sock on your skimmer box basket for 3 to 4 weeks and clean and refit it every few days. Do not run an automatic pool cleaner for several weeks after first filling your pool as fine particles are released from the pool surface for two to three weeks whilst the new surfaces are 'curing'. If these particles manage to get into your filter they have the potential to 'trap' the copper ions in your filter which will result in low copper levels in the pool until the next time the filter is backwashed or cleaned.

We recommend using a filter sock during this time to capture these particles.

FOR BOTH EXISTING AND NEW POOLS:

Test your pool water for pH, Total Alkalinity, Calcium Hardness, Phosphates and balance the pool to the following levels:

- pH. . . . . 7.2 – 7.6 pH
- Total Alkalinity . . . . . 80 - 100 ppM
  (150 - 180 ppM for freshly painted pools)
- Calcium Hardness. . . . . 200 - 250 ppM
- Phosphates . . . . . less than 0.2 ppM (200ppB)

If the pool has been filled with fresh water, we recommend adding Calcium Chloride (Hardener) until the 250ppM level is reached. See Snap Pool Balance on page 35. Mix and brush in well to dissolve.

STEP 2 – BIONIZER INSTALLATION

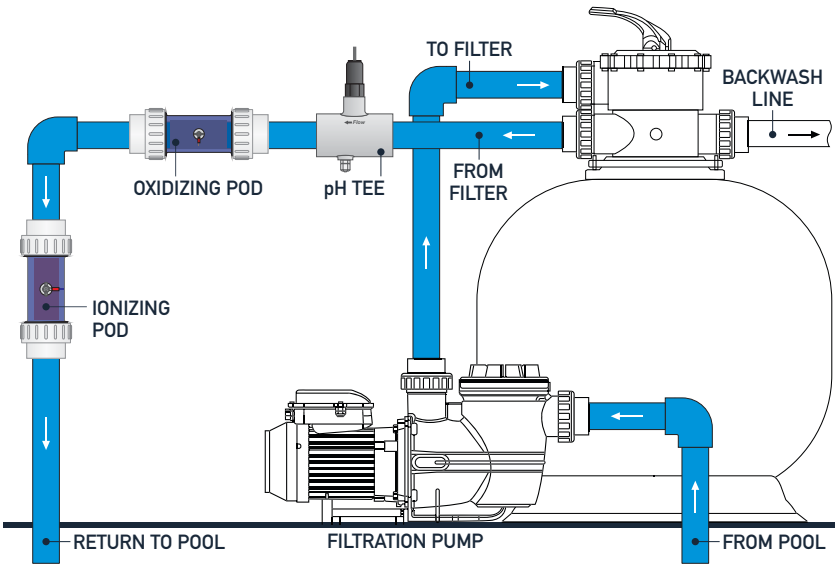
- Installing your Bionizer Ionizer takes around 30 minutes, depending on the amount of pipework required for your specific installation.
- Alternatively engage a plumber or a handyman to do the job.
- If installing it yourself you will need:
  - PVC pressure glue and primer
  - A fine tooth saw.
  - Fine tip marker pen and ruler.
- **The Bionizer must be fitted on the pipe that sends water back to the pool after it has been filtered (the "Return Line").**
- If a salt chlorinator is currently fitted between the filter and the pool turn off the chlorinator. Remove the old cells or the electrode chamber.

BIOPOD CARTRIDGE INSTALLATION

- **NOTE:** Turn off all valves prior to fitting the BioPod (to avoid leaks) and turn them on again before ionizing / filtering the pool.
- Check the system drawings on the next page to work out the best position to install the BioPod.
- **Are you installing a pH BOSS or Eco-Oxidizer ?** Be sure to install the 2 or 3 fittings in the correct order, as per the system drawings over the page.
- A little more time spent on planning the installation now, will result in a system that gives you many years of reliable, hassle-free service.
- Allow 60 minutes for PVC glue to dry before running water through the system.

BIOPOD CARTRIDGE INSTALLATION

Scan this QR Code with your smartphone or tablet to go to the BioPod installation video on the Bionizer web site.



PLANNING THE BIOPOD IONIZING POD INSTALLATION

- Locate a section of pipe where the BioPod can easily fit.
- Ensure that there is a minimum of 10cm of straight pipe AFTER the BioPod.
- The Ionizing and Oxidizing Pods can be fitted horizontally or vertically. They can be mounted where it is convenient and easy to install them as long as they are in the correct order.
- If you are installing a pH BOSS and/or Eco-Oxidizer, the fittings MUST be installed in this order :

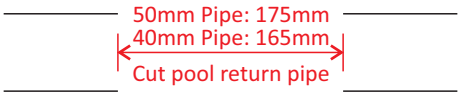
  1. **pH BOSS Probe and Injection Tee**
  2. **Eco-Oxidizer Oxidizing Pod**
  3. **Bionizer Ionizing Pod**

- **HINT :** Even if you are not installing a pH BOSS now, you may want to leave a space for the pH BOSS Tee-Piece Fitting. This requires 20cm of HORIZONTAL pipe BEFORE the BioPod.

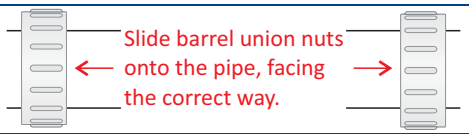
FITTING THE BIOPOD IONIZING POD

1. 50mm Pipe : Cut out a 175mm section of pipe sufficient for the BioPod and 50mm barrel unions.

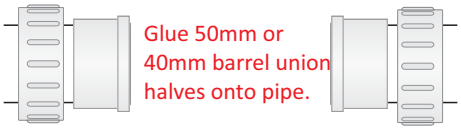
   40mm Pipe : Cut out a 165mm section of pipe sufficient for the BioPod and 40mm barrel unions.



2. Slide the barrel union nuts onto the pipe. Ensure that the threads are facing the correct way, so that the nuts can be screwed onto the BioPod at the last stage of installation.



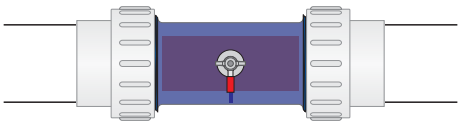
3. Glue the barrel union halves onto the pipe. Use either the 50mm or 40mm barrel union halves, depending on your return pipe size. Do not lose the O-rings from the unions, and ensure that they are in place before fitting the BioPod in place.



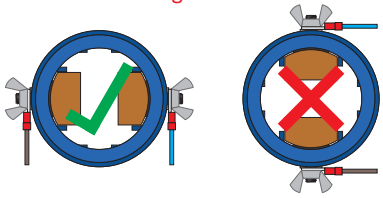
4. Fit the BioPod into place and secure the barrel union nuts. Hand tighten only - do not use a tool.

   For optimum performance when mounting in a horizontal position, particularly in low flow conditions, ensure that the bolts are exiting on the sides as shown in the diagram on the right.

   Fit the ring connectors onto the bolts on each side of the BioPod and tighten the wing nuts securely. The rings can be fitted to either anode bolts. There is no + / - polarity for the connections.



Fit BioPod Cartridge and tighten barrel union nuts. Fit ring connectors onto bolts.



Bionizer

CONTROL BOX INSTALLATION

The control box MUST be mounted vertically, with the cables at the bottom, in order to be weather resistant. Any water ingress due to the unit being incorrectly mounted is not covered by warranty.

1. Make sure that the Control Box is positioned near enough to a power outlet and to the BioPod Cartridge to allow the power connecting and anodes cables to reach the socket and BioPod Cartridge.

2. Choose a position that will allow you to see the LCD (Display) easily. Fix the control box in position using screws at each corner of the box.

3. Make sure (if possible) that the unit is undercover and that the LCD (Display) is not in direct sunlight as it is not covered by warranty if it is damaged by sunlight.

4. Once fixed in position attach the connecting wires to the anode connectors and tighten the wing nuts onto each connector. It does not matter which connector goes on which anode.

5. Plug the pump power cable into either of the outlet sockets at the base of the control box.

   The spare mains power outlet can be used for any mains powered device that will operate whenever the pool pump is running. A mains powered pH BOSS can be connected here.

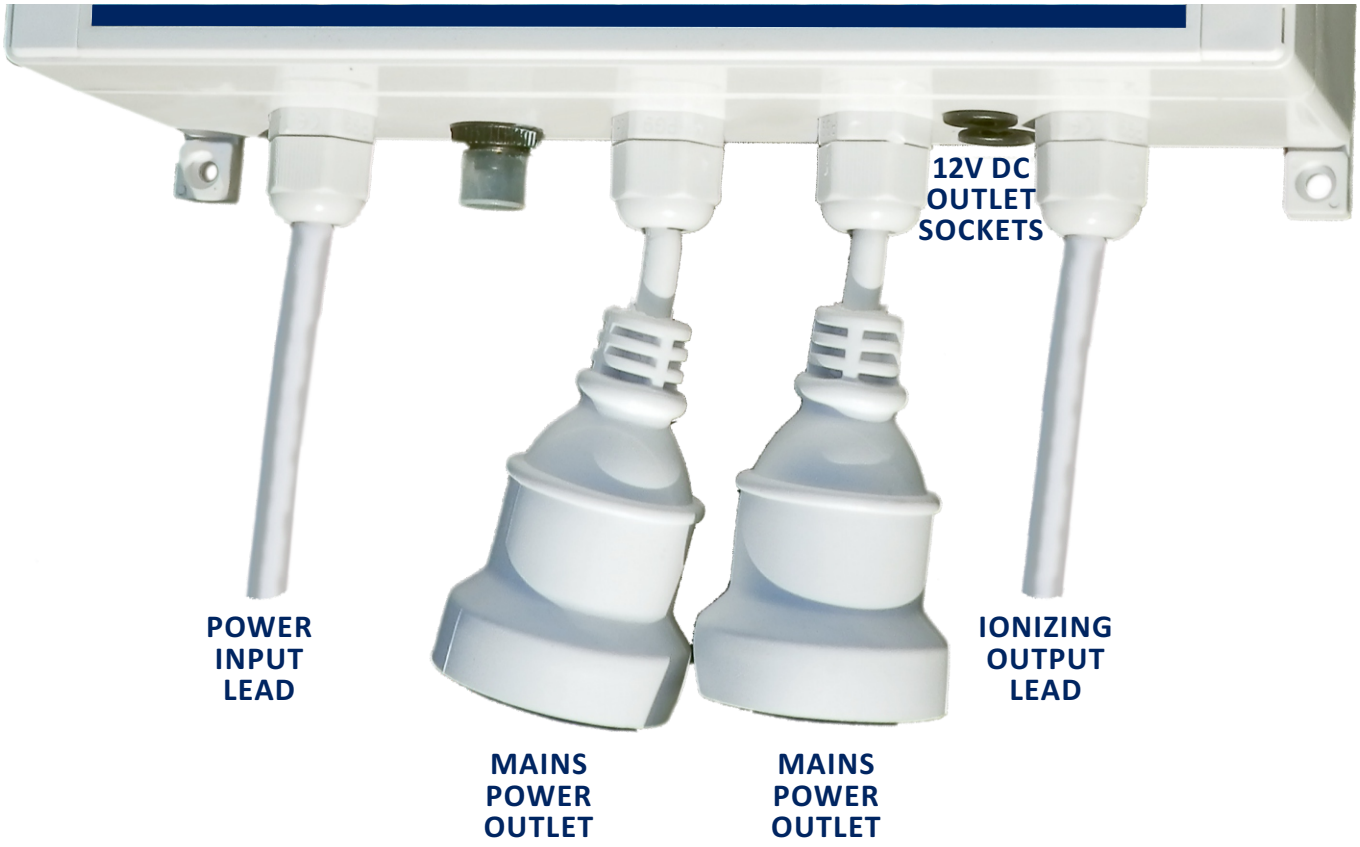
6. Two 12V DC outlets are provided for powering one or two Eco-Oxidizers. Connect the short DC-DC Adaptor Cable supplied for this purpose. These units will thereby only operate when the pool pump is operating.

   DO NOT connect any other 12V DC device to the 12V DC power outlets. Damage from connecting non-genuine accessories is not covered by your warranty.

7. Lastly, plug the power cable for the Bionizer unit into a power source.

   For low tariff power installations where the Control Box will be hard wired to the power source, a licensed contractor will be required.

Your Bionizer is now ready for programming.



MAXIMUM COMBINED OUTPUT FOR BOTH POWER OUTLETS IS 9.5 AMPS (2280 WATTS). CONNECTING MORE LOAD THAN THIS WILL CAUSE THE INTERNAL CIRCUIT BREAKER TO TRIP.

STEP 3 - WATER PREPARATION & TESTING

VERY IMPORTANT POINT:

Balance your pool water.
Test and adjust to levels below :

- **pH . . . . . 7.2 – 7.6 pH**
- **Total Alkalinity . . . . . 80 - 100 ppM**
- **Phosphates . . . . . < 0.2 ppM (200ppB)**
- **Calcium Hardness . . . . . 200 – 250 ppM**
- **Stabilizer . . . . . < 30 ppM**

Refer to the Snap Pool Balance chart, supplied with your new Bionizer, and also printed onto the inside back cover of this instruction manual.

pH

pH is extremely important. If pH is too high, the copper ionization will not be as effective, and you will get incorrect copper test readings. Also, algae grows more readily at high pH.

Total Alkalinity ("TA")

TA helps the pool water to resist changes to pH from outside influences. Correct TA helps to produce crystal clear water. Low TA makes copper less effective, and the pool water can take on a green appearance.

Phosphates

Phosphates are algae food and are introduced into the pool water by bathers, plants and animals. If the phosphate levels get above 0.2 ppM then they assist algae to form when it gets introduced to the water during rainy and/or windy periods, especially if the pH is too high. Algae thrive on high pH and high phosphate levels. One drop of rainwater may contain as many as 30,000 algae spore.

Check your phosphates every month. If your phosphate reading is around 0.2 ppM or higher, treat the pool with **Bionizer PFP™** according to the directions on the label. This small task will save you from algae attack – prevention not cure is the intelligent course of action.

In areas that do not have testing facilities for Phosphates treat the pool for phosphates anyway just to make sure that they are not present in the pool water. This may save you an algae attack.

Salt

Bionizer's smart software allows for large variations in salt level without compromising performance so there is no need to empty and refill water in your pool if you are converting from salt chlorination. The maximum permitted salt level is 5000ppM.

Calcium Hardness

If your Calcium Hardness is too low the water will, over time, absorb calcium from pool surfaces and pool equipment. This can cause the pebbles in a pebblecrete pool to fall off and etching to appear on the walls and floor of quartzon type and concrete pools. It can also cause damage to other pool equipment and be a cause of cloudy water if levels are low. Calcium Chloride is used to raise the Calcium Hardness of the water.

Low Calcium Hardness level will also cause Copper test readings to be low. Always maintain Calcium Hardness at correct levels to be sure that there is enough Copper in the water, and that it can be measured accurately.

Bionizer supplies calcium and phosphate test kits for your convenience.

MINERAL ION USE

1. The Mineral Ions supplied with your Bionizer can be used to more quickly build the initial Copper Ion levels. These are also known as Start-Up Ions.

   Add around 15 grams of Mineral Ions per 10,000 Litres of pool water.

   For Zeolite filter medium or D.E. Filters, use 30 grams of Mineral Ions per 10,000 Litres.

2. Run the pool pump for an hour or more, then test the Copper Ion level with your Copper Test Kit. Now activate the **BOOST** function as per Page 18, and enter the result of the Copper Ion test.

   The Bionizer will now run continuously to boost Copper Ion level to the required 0.5 to 0.6 ppM.

3. When the Boost cycle is complete, please test the Copper Ion level again. If the reading is lower than 0.5ppM, run the Boost function again and enter the Copper Ion level that you just measured.

START UP PROCEDURE

1. **The start-up period** will be from 8 hours to 2 days depending on pool size. The Bionizer ionizer can make a correctly water balanced domestic pool immune to algae in as little as 6 hours (without start up ions being added). Do not use an automatic pool cleaner, Kreepy Krauly, Barracuda etc, or run a waterfall during the start up period. These devices slow the water flow thereby increasing the amount of time it takes to ionize the pool.

2. **The Copper (Cu) Ion Test Kit** supplied with the Bionizer indicates whether or not the pool has sufficient ions in it (see **Copper Ion Testing**, page 16).

   At 0.4ppm Cu your pool is guarded against contaminants, however we recommend keeping the copper ion level in swimming season at between 0.5 and 0.6ppM with the pH at 7.2 – 7.6. This should ensure that algae cannot thrive - keep Phosphate level below 200ppB.

3. It is not recommended to use your pool/spa unless the ion level has reached 0.4 ppm on your **Copper Ion Test**.

4. **If no ions are detected** in the pool water after several days of operation it may indicate that the water conductivity or Calcium Hardness level is low. Check if the unit was set correctly. To increase Conductivity, add add Calcium Hardener (Calcium Chloride) to bring Calcium Hardness level to 250 ppM. See Snap Pool Balance chart on page 33.

   For installations where a multi-speed pump is being used, increase the speed to a higher setting to ensure a higher flow rate through the BioPod Anode cartridge.

   Alternatively add additional Start-up Ions to the pool water. Always add start up ions into the pool's skimmer box with the filter running or pour them into the balance tank. Once the start-up ions have been added operate the unit as for normal operation. (See step 4)

5. **When adding acid to the pool** first mix it into a 10 litre bucket of water and spread around the pool (always add acid to a larger volume of water, NEVER add water to acid). **The fitting of a 'pH Boss' Auto pH controller will eliminate this process.**

   Scan this QR Code with your smartphone or tablet to go to the pH Boss web site.

6. **Test pH before testing for copper.** If the pH is too high bring it down to the required level (7.2 – 7.5) before testing for copper or you may get an inaccurate copper reading. It is very important to maintain these levels of pH. **Copper is somewhat less effective at pH levels above 7.5 just as chlorine is less effective at pH levels above 7.5.**

7. If a copper-based algaecide has been used, the pool water will probably show an ion reading when testing with the copper test kit. This will also be the case if "**start up ions**" have been used. If the copper readings are detected prior to start up, proceed as outlined under the "**Ion Testing**" section.

8. **If intending to swim prior to ionizing your pool ensure adequate levels of chlorine are present in the pool water.**

STEP 4 - FIRST TIME START-UP PROGRAMMING

All user-programmed settings are stored in memory indefinitely when power is switched off.

Scan this QR Code with your smartphone or tablet to go to the Programming video on the Bionizer web site.

FIRST TIME START-UP PROGRAMMING

The first time you switch your Bionizer on, you will be able to set the clock and the pool size. This will automatically choose optimum settings for most pools. You can still choose to customize settings later, as needed.

- First, set the HOURS (the hours will be flashing):

- Use the ↑↓ buttons to change the Hours.
- Press **PROGRAM/SET** once to go on to setting the MINUTES (the minutes will be flashing):

- Use the ↑↓ buttons to change the Minutes.
- Press **PROGRAM/SET** once to go on to the Pool Size / Pool Calculator selection menu ("Pool Size" will be flashing). From this screen, you can select whether to enter the Pool Size (in litres), or if you would want to use the Pool Size Calculator :

- Use the ↑↓ buttons to change between "**Pool Size**" and "**Enter Calculator**", then press **PROGRAM / SET** to go to the next step.

If you selected Pool Size, the following screen will now be displayed :

Press the ↑ button to start scrolling the pool size values. If your Pool Size falls between two settings, select the lower setting.

If your Pool Size falls below the minimum setting allowed for the Bionizer model you have installed, use the Pool Size Calculator instead.

Press **PROGRAM / SET** to save the Pool Size setting.

If you selected Enter Calculator, the following screen will now be displayed :

- Use the ↑↓ buttons to set the Pool Length, in metres.
- Press **PROGRAM / SET** to save the setting and go to setting the Pool Width :

- Use the ↑↓ buttons to set the Pool Width, in metres.
- Press **PROGRAM / SET** to save the setting and move to setting the Average Pool Depth :

- Use the ↑↓ buttons to set the Average Pool Depth, in metres. For example, a pool with a 1.7m deep end and 1.1m shallow end has an average depth of 1.4m.
- Press **PROGRAM / SET** to save the setting. The Bionizer will confirm the Pool Size calculation :

Press **PROGRAM / SET** to save the calculated Pool Size.

Alternatively, use the ↑↓ buttons to enter a different value, then press **PROGRAM / SET** to save.

NOTES:

- If your Pool Size falls between two settings, select the lower setting.
- While setting Pool Size, if wish to change to using the Pool Size Calculator instead of entering the Litres directly, press the ↓ button until "**Press up key**" is displayed, then press **PROGRAM / SET**. This will go to the Pool Size Calculator.
- ***The Pool Size setting will automatically set your Ionizing Time and Ionizing Output settings to default optimal values for your pool size, over-writing any custom settings you may have entered previously.***
- The Pool Size setting is used to calculate the correct Boost setting, so it is important to enter the correct size of your Pool.

PROGRAMMING YOUR BIONIZER

This section details all of the settings that can be programmed by the user.

Scan this QR Code with your smartphone or tablet to go to the Programming video on the Bionizer web site.

This programming guide corresponds to the order of the menus of the Bionizer. To change any settings of your choice, simply refer to the relevant section.

1. SETTING THE OUTPUT LEVEL

- Press **PROGRAM / SET** once to show the Output Level setting screen. In this example, the current output setting is 60%:

```
Ions: 60%  12:00
Setting Output
```

- Use the ↑↓ buttons to change the Output Level. See page 16 for a information about Ionizing Settings for your pool.
- After selecting the desired Output Level press **PROGRAM / SET** once to go on to the Ionizing Time setting.

2. SETTING THE IONIZING TIME

- The Ionizing Time menu allows you to set the amount of time per day for which the Bionizer will ionize your pool. In this example, the Ionizing Time is set to 3 hours per day. ***Ionizing Time is NOT the same as the Pool Pump Timer Refer to IONIZING OUTPUT on page 7.***

```
Ions: 60%  12:00
Ionize for  3:00
```

- Use the ↑↓ buttons to change the Ionizing Time.
- After selecting the desired Ionizing Time press **PROGRAM / SET** once to go on to the Clock setting.

3. SETTING THE POOL PUMP TIMER

- The Bionizer will operate your pool filtration pump for up to four sessions per day. These four sessions are labelled A, B, C and D.
- First, set the time when session A will start :

```
Setup ..
On A  9:00>11:30
```

- Use the ↑↓ buttons to set the ON A time in 30 minute increments.
- Press **PROGRAM / SET** once to go on to setting the time when session A will finish :

```
Setup ..
Off A 9:00>11:30
```

- Use the ↑↓ buttons to set the OFF A time in 30 minute increments.
- Set the ON and OFF times for the remaining pump timer sessions as detailed for the A session. Press **PROGRAM / SET** each time to save a new setting and move to the next one.
- To operate the pool pump 24 hours per day, set the Bionizer to "**Manual:On**" mode (see page 15). The Ionizing time will re-set after midnight every night.
- To delete any of the pool pump timer sessions, set the same time for the ON and OFF times, as per the example below. Note the " * ", which shows that the session is ignored :

```
Setup ..
On C 20:00*20:00
```

4. SETTING THE CLOCK

- The Bionizer has a real time clock, which displays time in 24 hour format
- The clock is backed up by a Super-capacitor when power to the Bionizer is lost. This will keep correct time for up to 2 weeks without power.
- First, set the HOURS (the hours will be flashing):

```
Setup ..
Set Hour  12:00
```

- Use the ↑↓ buttons to change the Hours
- Press **PROGRAM / SET** once to go on to setting the MINUTES (the minutes will be flashing):

```
Setup ..
Set Min   12:00
```

- Use the ↑↓ buttons to change the Minutes
- Press **PROGRAM / SET** once to go on to the Pool Size setting next.

NOTE: If you continue from this point to the Pool Size setting, and re-enter your pool size, the Ionizing Output and Ionising Time settings will be changed back to factory default values for that pool size. To avoid this, simply allow the display to time out.

SELECTING OPERATING MODE

Set the Operating Mode to the way you want the Bionizer to work for you.

The following four operating modes are available on the Bionizer.

- **Auto** .....Unit will operate the Pool Pump and Ionizing outputs according to the Pool Pump Timer sessions (page 14).
- **Manual On** ....Overrides Pool Pump Timer Program, and operates the pool pump continuously whenever the Bionizer is switched on.

  Ionizing time will restart at midnight each night, or as soon as the Bionizer is first switched on for the day.

  Use this mode when operating the Bionizer from an External timer (such as C-Bus) or for solar powered installations.
- **Manual Off**....Overrides the Pool Pump Timer Program, and switches the pool pump and ionizing outputs off.

  Use this mode when doing maintenance such as cleaning out the pump hair and lint pot etc, when the pump must not start.

  Caution : Be sure to return the Bionizer to Auto or Manual On modes as required, or your pool will not be filtered or ionized, resulting in water that is unsafe for swimming.
- **Boost**.....Unit operates the Pool Pump and Ionizing outputs for a calculated number of hours to boost Copper level. The number of boost hours is calculated from the Pool Size setting and the current Copper reading. See the "**Using the Boost Function**" on page 18 for instructions.

Selecting the required operating mode :

- **Short presses of the ON/OFF/AUTO button select between the following Auto and Manual modes.**

Auto

The display will show **Auto:On** or **Auto:Off** when this is first selected, depending on the time of day and Pump Timer settings.

Please note that "Auto:Off" only indicates that the pool pump is switched off because it is currently not in one of the Pool Pump timer cycles. This is NOT an indication that the Bionizer is switched off.

Manual: On

The unit will show "**Manual:On**", and the currently selected output level (see page 14). When the Ionizing Time is finished for the day, the unit will show "**Ions:Off**".

Manual: Off

The unit will show "**Manual:Off**" and and "**Ions:Off**"

Boost Mode

- Press AND HOLD the **ON/OFF/AUTO** button for 4 seconds to select "Boost" mode.
- Press AND HOLD the **ON/OFF/AUTO** button for 4 seconds to **EXIT** "Boost" mode.
- See the "**Using the Boost Function**" section on page 18 before using this feature.

POOL CONDITION

New Pools
The water condition of a new, freshly filled pool is a great starting point for the Bionizer system. Simply balance your pool according to the Snap Pool Balance chart. Your pool professional will be able to assist with this.

Existing Pools
The Bionizer system should be installed on a clean, well maintained pool. If the pool is in poor condition due to a failed salt chlorinator or other cause, then consult a pool professional to assist with getting back to good condition. Finally, balance the pool according to the Snap Pool Balance chart.

COPPER START-UP KIT

Pour the granules of the supplied Copper Start Up Kit at the suggested dose rate (see page 11) into the skimmer box whilst the filter is running. This will saturate the filter, allowing the Bionizer to be effective from start-up.

BOOST FUNCTION

When the Bionizer is first installed on a new or existing pool, we recommend that you use the Boost function, as detailed on page 18. This will boost your Copper ion levels quickly.

ENSURE THAT ALL POOL BALANCE LEVELS ARE CORRECT BEFORE BOOSTING, ESPECIALLY pH AND TOTAL ALKALINITY.

RECOMMENDED IONIZING SETTINGS

Drawing on our many years of experience in pool ionizing, we have made the initial ionizing settings extremely easy for the first time user.

When you entered your Pool Size during the first time start-up, the Bionizer automatically adjusted the Ionizing Output and Ionizing Time settings for your pool. See page 13 for more information.

If you have changed the Ionizing Output and/or Ionizing Time settings and wish to restore them to the initial start-up settings, you can re-enter the Pool Size again to reset them. See page 13.

- **Test your Copper Levels every 3 to 4 days for the first 2 to 3 weeks after installation.**
- Ideal Copper Levels are :
  Summer . . . . . 0.5 to 0.6 ppM
  Winter . . . . . 0.3 to 0.4 ppM (unheated pool)

  In Tropical climates with high rainfall, the summer level should be maintained all year round.
- Adjust the Ionizing Time and/or Ionizing Output settings until the Bionizer is consistently giving the ideal Copper Ion Level.
- Once you have established the best setting to maintain the correct Copper level in your pool, it will rarely require adjustment, except at the beginning of summer or winter. However, we recommend that you test Copper weekly to be sure you pool will stay crystal clear.
- If Copper readings drop in times of heavy rain, wind or bather load, simply use the Boost (super ionize) function to compensate for the increased environmental stress that the water is experiencing. The ions in the water will be replenished. See page 18 for instructions.

COPPER ION TESTING

The mineral anodes are made of a unique alloy of copper and silver, predominantly copper.

Why Test for Copper Ions?

- The purpose of copper ion testing is to establish how long to run the ionizer each time the filter is operating so as to maintain a steady ion level.

The target reading for Copper is 0.5 to 0.6 ppM in summer and 0.4 to 0.5 ppM in winter. When 0.4ppm is reached the pool is adequately ionized for swimming.

- Reaching 0.5ppm or less should only take 1 day of continuous ionization in a 50,000-litre pool.
- The ion test kit detects the presence of copper ions, thereby determining if the water has an adequate level of protective minerals. It is an accurate test when used correctly.
- The reagents should be replenished every time you change anodes or when they have run out.

TESTING SCHEDULE

- **pH MUST be between 7.2 and 7.6 to obtain correct copper readings.**
- Test copper and pH at least **once every week** to ensure your pool has an adequate level of ions and the pH is correct.
- The anode mineral composition is homogenous. As a result silver ions are created at the same time as the copper ions. If the copper ion level is adequate then so is the silver ion level.

COPPER ION TEST KIT

Testing for ions with the Bionizer Copper Ion Test Kit is different from testing for pH or Total Alkalinity which require looking through the side of the test tube.

- To use the copper ion test look down through the top of the tube with the cap off.
- Depending on the kit supplied, the colour comparison chart is either on the top of the plastic bottle that contains the Copper Ion test kit or a separate printed card.
- Go off the shading to judge copper level as computer colours rarely match our test hues.

1. **Read instructions on the test kit.**

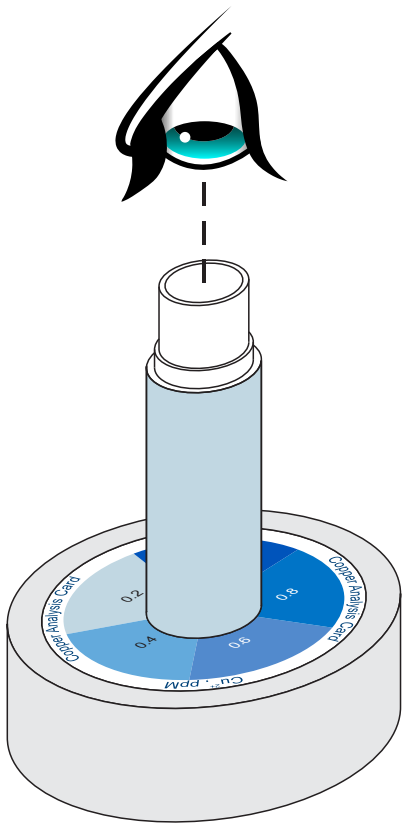
- When taking a reading place the tube on the white part of the colour chart in the centre of the various comparison colours. (Cu ion levels). Leave the tube for a minute or two to arrive at the true reading.
- When the water sample is taken and the reagents added correctly remove the cap from the test tube and look down through the tube to obtain a comparative colour reading.

2. **Test the water** from different positions around the pool with the filter running. You should be getting the same reading each time.
3. **If the ion reading climbs to 0.7 ppM** or thereabouts, turn down the ionizer current output or ionizing time period.

- Test ion levels weekly. By doing this you will know the average ion loss from the pool.

5. **If the ion level drops to less than 0.5 ppM** increase the unit's ionize time or current output enough to restore the pool to the 0.5 ppM to 0.6 ppM range.

- In a short time you will ascertain how long and at what level to run the ionizing function each day so as to keep the pool at the correct levels of copper.



USING THE BOOST FUNCTION

The Boost function boosts Copper ion levels quickly, and should only be used for 2 reasons :

1. For new installations, to bring Copper Ions up to the required level quickly.
2. In times of heavy rainfall or if the pool is topped up with fresh water, and the Copper Ion level has dropped to below 0.4 ppM.

DO NOT use the Boost function to boost copper levels in a pool that has had an algae attack. The algae attack would more likely be due to incorrect pool balance levels, as outlined on the Snap Pool Balance chart provided with the Bionizer (also on printed the inside back cover of this manual).

BEFORE USING THE BOOST FUNCTION

- Check all pool balance levels as per the Snap Pool Balance Chart. Of particular importance is pH, which MUST be between 7.2 to 7.6 in order for the Copper Ion test to show a correct reading.
- Make a note of the Copper reading, which you will need to enter into the Bionizer when starting the Boost function. If a dose of Mineral Start-Up Ions has been added, be sure to wait for at least one hour of filtration time before taking a Copper reading.
- Multiple use of the Boost function should not required. Test Copper Ions and Pool Balance again before running the Boost function again.
- See the Bionizer Support Pages in this manual if Copper Ion levels continue to be low.

STARTING AND STOPPING BOOST MODE

- Press AND HOLD the **ON/OFF/AUTO** button for 4 seconds to start "Boost" mode. The Bionizer will now ask you to enter the Copper reading from your pool:

- Use the ↑↓ buttons to enter the Copper Reading that you obtained from your Bionizer Copper Test Kit.

  For a new installation, be sure to enter 0.0, which will start a special longer Boost cycle for new pools.

  For existing installations, you MUST enter the Copper Ion level that you have measured in the pool using the Copper Test Kit. The value you are setting is the CURRENT Copper Level, BEFORE the Boost starts.

  Press **PROGRAM / SET** to start the Boost function. The following Boost screen will be displayed :

Ions . . . . . The Ionizing Output is fixed at 100% while Boosting.

Time . . . . . Current clock time is displayed.

Boost:Auto . . The Bionizer will return to **Auto** mode when the Boost cycle is finished. To return to **Manual:On** mode instead, press the **ON/OFF/AUTO** button once.

Boost:Man . . The Bionizer will return to **Manual:On** mode when the Boost cycle is finished. To return to **Auto** mode instead, press the **ON/OFF/AUTO** button once.

Countdown . . Counts down the hours and minutes of Boost cycle remaining. This time is calculated from your pool size and the Copper reading you entered.

BASIC POOL ROUTINE

1. It is important to spend a few minutes a week to monitor the water balance and to learn the trends of the pool.

2. After a couple of weeks a clear pattern will be identified as to how many hours and at what current control levels the ionizer should function.

3 **Do not haphazardly alter the pH**, or add algaecide, or try to alter perfectly clear water. Give the pool water time to stabilize and remember simplicity is the key.

4. Always keep the pH, Phosphates, Total Alkalinity, Calcium Hardness and Copper Ion levels at the correct levels. See the Snap Pool Balance Chart.

5. Brush the pool or operate your auto pool cleaner once a week and your pool water will settle down into a healthy sparkling body of water.

3 TESTS EACH WEEK

Test every week (adjust if required):

1. pH . . . . . 7.2 - 7.6 pH
2. Copper . . . . . 0.5 - 0.6 ppM
3. Total Alkalinity. . . . . 80 to 100 ppM

2 TESTS EACH MONTH

(If weather/conditions are very wet/windy then do these 2 tests weekly)

1. Phosphates (Algae Food) . . . . . <0.2ppM (200 ppB)
2. Calcium Hardness . . . . . 200 - 250 ppM

Correct phosphate levels are as important as correct pH levels and are easily controlled by using **Bionizer PFP™** Phosphate remover. When levels of phosphates are above 0.2ppM (200ppB) in the pool water there is a risk of algae as phosphates are food for algae.

Follow these rules and check your Bionizer regularly to ensure it is operating correctly and the anodes are not worn. Do these simple steps and your pool will be the source of joy it was meant to be.

Using a Bionizer to manage and control your pool or spa rewards you with sparkling and healthy water which is a pleasure to swim or spa in.

The copper/silver mineral anodes are "sacrificial" and designed to slowly disintegrate, contributing mineral ions to the pool water.

- **After an average of 18 – 36 months,** (for 50,000 Litre pool), the anodes will wear away and require replacing.

REPLACEMENT INDICATOR

- This will be apparent when the ion readings start to drop for no apparent reason. The red MAX OUTPUT LED on the control box will flash.

- When this happens it is indicating that the anodes are wearing down.

NOTE: When the anodes are worn it will not damage the Bionizer. This is also true if the pump fails or there is no water passing the anodes when the Bionizer is operating – no damage to the unit or pool equipment will result and there will be no risk of fire or explosion as can occur with many salt chlorinator electrodes if they are left running.

ADJUSTING IONIZATION WHEN ANODES ARE WORN

1. If they are becoming worn reduce the Ionizing Output setting until the red light goes out.
2. Increase the length of ionizing time that the unit operates to compensate.

EXAMINING THE ANODES

NOTE: At this time it is important to check the anodes.

1. The Anodes can simply be inspected for wear through the clear BioPod cartridge.
2. If there is noticeably more wear on one end of the anodes, remove the cartridge, turn around, and re-fit.
3. Don't forget to have the filter turned off and the taps or valves closed to prevent water from spurting out when you remove the BioPod from the pipeline..

ANODE REPLACEMENT

REPLACING ANODES

Don't forget to have the filter turned off and the taps / valves closed to prevent water from spurting out when you remove the old anodes.

1. Unscrew the barrel union nuts on either side of the BioPod Cartridge.
2. Remove the old BioPod Cartridge. Make sure that the O-rings fitted to the fittings that are glued to the pipe are correctly seated in place.
3. Fit the new BioPod Cartridge. It can be fitted either way around.
4. Screw the barrel union nuts back in place to a firm hand tightness. Do not use a tool, as it could damage the plastic threads.
5. Refit the ring terminals from the Bionizer output cable, and screw the wing nuts on tightly.

HOW CAN I GET THE MOST LIFE FROM MY ANODES ?

When the anodes get quite small, the Bionizer may not be able to pass enough current between them to maintain the correct Copper level. At this time, the **MAX. OUTPUT** LED starts to flash.

Reducing the Ionising Output (page 14) can make the **MAX. OUTPUT** light go out. Be sure to also increase the Ionising Time proportionally so the Bionizer is still producing enough Copper Ions each day.

For example, if you halve the Ionising Output, you must double the Ionising Time. See page 14.

HOW OFTEN SHOULD I CHECK ANODES ?

We recommend checking your anodes for wear every six (6) months.

It is always a good idea to have a spare set of anodes on hand.

TO ORDER ANODES:

For replacement anodes call or email your local distributor or check the Bionizer website for details to order over the internet.

www.bionizer.com.au

Scan this QR Code with your smartphone or tablet to go to the online store of the Bionizer web site.

DO'S AND DON'T'S

Remember:
(DO NOT LET YOUR POOL MAN/SHOP OVERRULE THESE INSTRUCTIONS)

1. **Don't allow direct sunlight to shine onto the display screen. The LCD as it is called is not covered by our warranty if left out in sunlight.**

2. **Don't leave any old sand whatsoever in the filter** when replacing the old sand/medium in your filter. Make sure the filter is clean before adding the new sand or glass media.

3. **Don't operate an auto pool cleaner** (Kreepy Krauly/Barracuda etc) while initially ionizing the pool as these will inhibit the water flow and therefore slow down the time it takes to achieve the correct level.

   Only use suction cleaners such as Kreepy Krauly, Barracuda etc once a week, and remove when not in use. This will ensure good flow through your filtration.

4. **Don't operate any waterfalls/features** while initially ionizing the pool as these features may also inhibit the water flow.

5. DO NOT add any chemicals that are not recommended by Bionizer to work with your Bionizer unit, despite what your pool service man may tell you.

   NEVER use stabilized granular chlorine (calcium hypochlorite), or chlorine stabilizer (Cyanuric Acid).

   Check the Snap Pool Balance chart for recommended pool balance levels.

6. **Don't use any flocculants (pool water polish / clarifiers)** that remove metals or minerals from water (such as Alum based types), as they will inhibit Bionizer operation. If at any time a flocculant is required to remove dust etc from your pool then we recommend "**Bionizer Blue**™" as it is compatible with Bionizer. This specially formulated flocculant does not remove metals from the water, and traps the residue in the filter where it is easily backwashed away. This saves having to vacuum the particles off the floor of the pool. The water returns to a sparkling blue after treatment with Bionizer Blue.

   Alternatively, other brands of Polymer based clarifiers may be used.

7. When treating your pool with **Bionizer PFP**™ Phosphate Remover, DO use the correct dose of **PFP** for your pool size and the measured Phosphate level. Adding excessive amounts of **PFP** will not only cost you money, but also affect the overall pool balance.

8. If you are not a diligent pool owner, or if you are planning on going on an extended holiday, DO use the **Bioniser Ionlife+**™ product to ensure that your pool will be sparkling clear when you return. You may use a double dose of **Ionlife+** if you will be away for more than 2 weeks.

9. **Don't backwash the filter too frequently** unless clearing trapped residue after shocking the pool. One backwash session every 3-4 weeks is ample (give a quick rinse after each backwash). Overdoing backwashing the filter causes "tunnelling" in the sand reducing the filter's effectiveness and reducing filter medium.

10. DO take your pool cleaner out of the pool before fitting a pool cover.

11. **Never open the control box. Unplug it before removing it from it's usual position.**

12. **Do check the pH and Copper levels** at least once per week. Check pH every 2 or 3 days if it rises rapidly or until it becomes trained to stay low. **The Bionizer pH Boss will eliminate pH problems and irksome testing.**

    See www.phboss.com.au.

Scan this QR Code with your smartphone or tablet to go to the pH Boss web site.

13. **Do increase the Bionizer Output Level (increase ion production)** to compensate for times of heavy rain and bather load that may deplete the ion level and put the pool at risk of algal attack. The Boost function is there for this purpose also.

14. **Do try to keep the pH between 7.2 and 7.6** as copper is less effective against algae when not within this neutral range.

15. **Do try to keep the calcium hardness level around 200 at all times unless you have a fibreglass pool so 150+ is adequate.**

16. ***Don't take advice from anyone who is not experienced with ionizers. This type of expert opinion is often prejudiced by the criteria surrounding costly pool chemicals. Additionally, recommendations more often than not reflect the criteria followed with chemical based pools and are not applicable to ionized water. Be guided by these instructions at all times.***

17. "Shocking" the pool after initial start-up should only be required if the pH and copper levels in the pool have been let lapse and created an algal attack. **Use of a 'pH Boss' will eliminate any threat of algae attack that would be caused by your pool's pH being too high.**

    This can occur during times of extreme heat and/or rain. In this instance a one-off heavy dose of liquid chlorine to dissolve the coating is the cheapest and easiest solution. This heavy concentration of chlorine will dissipate rapidly as unstabilized Chlorine is 90% removed from your pool in 3 hours of sunlight, leaving the pool ready to swim in once again. **(Refer super chlorination section.)**

18. **DO NOT** use any form of stabilised Chlorine, either in tablet or granular form. When stabilised Chlorine is used, the Cyanuric acid (stabiliser) will accumulate in your pool to gradually higher and higher levels. This will actually reduce the effectiveness of the Chlorine being added, so you will find your Chlorine use spiralling out of control. Additionally, excess Cyanuric acid levels will react with Copper Ions, producing a purple stain of Copper Cyanurate. This can easily be scrubbed off, but can leave a mark if not treated promptly.

    Additionally, the use of granular chlorine broadcast over a pool surface can result in streaks of undissolved copper falling to the pool floor. This causes a contact zone at very high pH and Chlorine levels right on the floor itself. This can cause a dark grey or even a black stain on the floor of the pool which can be very difficult to remove.

    Therefore, **DO** use liquid chlorine. This form is low cost, contains no stabiliser and will dissolve readily into the pool water therefore not resulting in any staining. Add doses of liquid chlorine after sunset, so that UV does not cause it to dissipate, and it will work through the night to oxidize your pool. Within 3 to 4 hours the next morning, this unstabilised Chlorine will be dissipated by the sun's UV light and you will be back to swimming in a Chlorine-free pool once again.

BUCKET TEST

It is highly unlikely that your Bionizer will not generate ions. Should there be any doubt the following quick check will confirm if the unit is working or not.

1. Put 10cm of pool water in a plastic container or bucket.

2. Remove the BioPod Cartridge from the pipeline and stand vertically into the water in the bucket. The water level should be just below the connection bolts.

3. Turn on the Bionizer and ionize the water for several minutes.

4. Note the **self clean** light glowing and the **screen display**. This demonstrates that the unit is working.

5. After several minutes in ionize mode use the **copper test kit** to check the water in the bucket. It should show copper ions are now present in the water.

6. If there are no ions present in the water, repeat the same test, but using fresh tap water instead. Dissolve around 1 teaspoon of table salt into the water before doing the bucket test.

7. If there are still no ions present in the water, see Point 3 of the **Bionizer Support Pages** on page 26 before calling your Bionizer distributor / supplier.

8. If you have been adhering to the **simple pool regimen** that we suggest then any problems are rare and also easily rectified.

You may also contact your distributor via the Bionizer website or by email.

Scan the QR Code below to go directly to the Troubleshooting page of the Bionizer web site :

bionizer.com.au/customer-supporttroubleshooting/

TIPS FOR TROUBLE-FREE SWIMMING

1. **Do not use undissolved and/or granulated chlorine or chlorine tablets in an ionized pool. It may have the effect of forming a crust effect on the surface of the anodes and reducing the anodes life and reducing Ion output.**

2. **When replacing the mineral anodes**, ensure that they are free of water. Ensure also that the O-Rings are in place inside the Barrel Union fittings before screwing the Barrel Union nuts into place.

3. **Keep test kits in a cool place** (not the Fridge) in hot weather/hot climates. Store out of direct sunlight.

4. **The use of a pool cover is recommended** as it saves time and effort in keeping debris out of the pool whilst the pool is not being used. It can save 30,000 litres or more of water loss (evaporation) per year on the average size pool.

Note: **www.discountpoolcovers.com.au** for great quality and prices on pool blankets and rollers.

5. **Take a few minutes each week to thoroughly brush the walls, steps and floor** of the pool and clean the skimmer box and remove leaves and debris from the pool. This small chore will repay you repeatedly by ensuring a sparkling clean swimming environment at all times.

6. **At certain seasonal times of the year (spring/summer) the pool may tinge green or develop green residue** on the bottom. This can be mistaken for algae but is often **pollen**. The easy test is: run your hand around inside the wall of skimmer box or pool surface under the waterline. If it is slippery or slimy it is likely to be algae. If not, then it is most likely pollen. If it is pollen, use polymer clarifier such as Bionizer Blue, Bioguard Polysheen Plus. Do not use a clarifier or flocculent that removes metal ions from the water.

7. **Using chlorine to try and kill "algae" (really pollen) will only bleach the pollen so it disappears.** It is likely to reappear in your pool days later. If you continually mistake this for algae and continue the chlorine cycle until the pollen season is finished you will suffer the effects of too much chlorine and your pool will be out of control.

8. **To rectify this problem use a flocculant** that does not remove minerals or metals from the water – e.g. "**Bionizer Blue™**". This process may have to be repeated several times if the pollen is still in the environment and there are trees and shrubs surrounding your pool.

9. **We strongly recommend the use of an automatic pool cleaner** once a week or so in the pool. This will save a lot of time and effort and also keep the pool clean and free of any algae causing contaminants.

10. Do not operate the auto pool cleaner or any water features during the ionizing/start-up phase as they slow the water flow considerably. The pools that operate best always have very good water circulation so limit the auto pool cleaning times if possible.

11. **We recommend using "Glass" Filter Medium in your filter.** This medium is superior to other mediums such as river sand or zeolite in our opinion. River sand is not a quality medium and is not recommended. Make sure all old sand/medium is removed completely before replacing it with the new medium in an existing filter. This is important!

12. **If you have a heated pool** (this especially applies to indoor pools) that uses a pool blanket when the pool is not in use it is recommended that you maintain a residual Oxidizer level (hydrogen peroxide/chlorine) at minimum 0.5ppm in the water. This is to prevent any harmless environmental bacteria from hiding beneath the pool blanket thus causing a "smelly sock" type of odour. **We recommend the Bionizer Eco-Oxidizer to take care of this.**

13. If you are not a diligent pool owner, or if you are planning on going on an extended holiday, use the **Bioniser Ionlife+™** product to ensure that your pool will be sparkling clear when you return. You may use a double dose of **Ionlife+** if you will be away for more than 2 weeks.

WATER STRESS – PREVENTION BETTER THAN CURE

As algae can diminish the copper levels in water it is important to use the Boost function of the Bionizer to compensate for periods of heavy rain, wind and/or abnormal pool load (i.e. lots of bodies in the pool all day). Use the Boost function if the Copper Ion levels fall to 0.3ppM or less due to any of these factors.

These conditions rapidly increase the amount of algae spores that would normally find their way into your pool. By doing this before or soon after the rain/wind/extra load is experienced you are prepared for any increased loading on your pool.

This action will exponentially reduce the chance of an algal attack stemming from these conditions.

DON'T NEGLECT YOUR FILTER.

The filter's primary responsibility is to remove fine suspended debris from the water. **If it is not maintained properly, cloudy water will be a constant problem.**

- Sand filters should have their media/sand replaced every two or three years. Use Glass Filter medium for swimming pool sand filters, as it is an excellent fine micron media that will only require replacing every 6 to 8 years.

- When replacing the medium in the filter make sure that all of the old medium is completely removed from the filter. Up ending the filter and hosing out is one way to ensure this. This is important! Take care not to damage any laterals or seals inside the filter if changing filter medium.

- **We don't recommend D.E. filters** as the medium can double the number of anodes required for efficient operation. And who needs the expense and hassle of an “old school” D.E. filter anyway ?

- For Cartridge Filters clean cartridges regularly and inspect for holes or wear. Regardless of the filter type, damaged or missing gaskets or any incorrectly fitted parts can be responsible for cloudy water. **Many water quality complaints are finally traced to the pool's filter.**

REMEMBER WATER BALANCE.

Proper water balance is necessary for water health, clarity and also water hue. **Maintain the pool water as outlined in the Start-Up section.**

We recommend the addition of a “pH Boss” to your pool. pH problems and troublesome testing now disappear.

We also recommend the addition of an “Eco-Oxidizer” to reduce the need to chemical oxidizers and help maintain overall water balance and clarity.

SKIM THE SURFACE.

Use a surface skimmer net to collect all floating debris. A leaf net works best for this particular task. This task can be greatly minimized with a properly functioning pool filtration system with adequate flow and a properly functioning skimmer weir. This inexpensive device increases the velocity of the surface water into the skimmer; thereby ensuring its ability to remove surface material from the pool, keeping it crystal clear. It acts as a one-way street allowing debris in but not out. This device is often underestimated. Installing one greatly reduces the amount of time required to clean the pool properly and keep it clean.

BIONIZER SUPPORT PAGES

TROUBLESHOOTING

Scan the QR Code to open the Troubleshooting page of the Bionizer Web Site.

CHEMICALS

WARNING: Chemicals usually used for swimming pool maintenance require care in handling. Bionizer has the benefit of allowing the normal levels of chemicals used for algae and bacteria control to be substantially reduced whilst delivering spa and pool water in a sparkling healthy condition.

Treat and choose the chemicals for your spa and pool wisely.

- **For instance the harshness and health risks of Chlorine and Stabilizer (Cyanuric acid) can be largely negated by the use of Hydrogen Peroxide or the Bionizer 'Eco-Oxidizer' instead.**

MY COPPER READING IS LOW / ZERO

SOLUTION:

1. Check Anodes for wear.
2. Increase Ionizing Time or Ionizing Output.
3. Check that the Bionizer is switched on.
4. Check that the Bionizer program is still set.
5. Check that pH and Total Alkalinity levels are correct as per the Snap Balance Chart on page 35.
6. Check Calcium Hardness level. If this is below 120 ppM, add Calcium Hardness increaser to the level shown in the Snap Balance Chart on page 35.
7. Check that the pump is working.
8. If chlorine stabilizer has been used in the past, check that stabilizer level is below 80 ppM. The only way to reduce stabilizer level is by diluting. For example, draining half the pool and refilling with fresh water.
9. Check to see that you have not used a flocculent that removes metals from the water. If you have done so, empty half the water from the pool / spa and refill - adjust the Bionizer to start-up levels and re-ionize the pool water to normal ion levels. Once normal levels are achieved return Bionizer to normal operating mode.
10. Do the “Bucket Test” on page 24 to check that the Ionizing output of the Bionizer is operating correctly. If the pool water is low in copper, but the bucket test shows a high result, follow this procedure :
    a) Backwash the filter for 15 seconds or so and then stop.
    b) Then backwash the filter again for a second or two and capture a small amount of the backwash water. The sight glass on or near the filter is ideal for water sample collection.
    c) Test some of this water with the Bionizer Copper Test Kit.
    d) If the ion reading is high then the filter sand / media is trapping ions. Backwash the filter and SLOWLY pour about 500 ml of Hydrochloric Acid into the skimmer box with the filter running. Wait for 15 minutes and test the copper in the pool again. If the copper reading is still very low then change the sand to Glass Medium for pool filters.

    Please do this test before calling your distributor as this information will enable them to quickly rectify any malfunction.
11. If you are running a new pool with a cement/quartzon type finish then it may be that the surface has released small particles/dust (especially if you are brushing the pool quite frequently) and these have been caught in the filter and are causing the ions to be trapped. In this case:
    a) Backwash the filter (sand) or clean the filter (cartridge).
    b) Pour 500mL to 750mL Hydrochloric Acid into the skimmer box while the pool pump is running. Pour the acid slowly.
    c) Attach a "sock" to the basket in the skimmer box. Filter the pool normally for several weeks and clean and replace the "sock" regularly during this time. This should remove most of the particles from the filter and the ions should then be released into the pool. The "socks" are inexpensive and are readily available at your nearest pool shop.

BIONIZER SUPPORT PAGES

TROUBLESHOOTING

Scan the QR Code to open the Troubleshooting page of the Bionizer Web Site.

MY POOL WATER IS CLOUDY

Cloudy water is generally an indication that the water is out of balance. High pH, high total alkalinity and/or deficient calcium hardness levels can produce conditions that cause cloudy water.

SOLUTION:

1. Test pH, total alkalinity, and calcium hardness and adjust to the recommended levels.

2. A filter in need of backwashing/cleaning and/or other filter faults can also cause cloudy water.

3. If the water remains cloudy after these checks then use a compatible flocculant such as **Bionizer Blue™** as the cloudiness will be dust or pollen particles or the like that are not removed by an Oxidizer.

4. If you are not using an Eco-Oxidizer or other oxidizing device in conjunction with the Bionizer, then use of an oxidizer such as Hydrogen Peroxide or an Oxy Shock such as one that contains Potassium Mono-persulphate should clear the cloudiness. Also some liquid chlorine may be used. Add to the pool late in the day and run the filter for several hours and the water should be sparkling again by morning. The liquid chlorine used should be unstabilized.

GREEN CLEAR WATER BUT NO ALGAE

SOLUTION:

Test Total Alkalinity - green clear water can be an indication that T/A is too low. There is no need to adjust the total alkalinity (T/A) unless it drops below 50 - 60. If raising the T/A try to keep it in between 80 – 100. Do not add too much buffer, as the higher buffer level will cause a higher pH, and increase your acid usage. The water may tinge clear green if the T/A gets too low for any period of time. The ionizer will not cause any corrosion if the T/A is low (under 60). The levels of water balance that we prescribe fall into the area that is neither corrosive nor scale forming.

THE BIONIZER UNIT IS NOT WORKING : NO DISPLAY.

SOLUTION:

1. Check there is power to the unit.
2. Check the reset button on the bottom of your control unit, as per the information on page 32.

MY RED LIGHT IS FLASHING.

The red light flashes when water conductivity is low or anodes are worn from use. Conductivity can be low due to :

1. Recent rains or

2. Pool water level being topped up.

To check conductivity adjust "Output %" setting down slowly. If red light goes out before zero output is reached conductivity of the water is low.

SOLUTION:

1. If anodes worn from use, replace anodes.

2. If water conductivity is low, add one bag of pool salt per 50,000L to pool water and brush until dissolved.

IS THE POOL WATER GREEN ? THIS SIMPLE TEST WILL CHECK IF IT'S ALGAE

SOLUTION:

At certain seasonal times of the year (spring/summer) the pool may tinge green or develop green residue on the bottom. This can be mistaken for algae but is often **pollen**. The easy test is: run your hand around inside the wall of skimmer box or pool surface under the waterline. If it is slippery or slimy it is likely to be algae. If not, then it is most likely pollen. If it is pollen, use polymer clarifier such as Bionizer Blue. Do not use a clarifier or flocculent that removes metal ions from the water.

BIONIZER SUPPORT PAGES
WHAT TO DO IN CASE OF ALGAE ATTACK

Why does an algae attack occur ?

- Worn Bionizer anodes, where the user did not see the red light on the Bionizer flashing.
- pH allowed to drift too high.
- High phosphate level in the pool water.
- High biological loading, such as large amounts of leaves in the pool and skimmer basket.
- Pool pump not pumping sufficient water, or failed completely.
- Weather changed from mild to hot, and the Bionizer Ionizing Time or Ionizing Output was not sufficient to treat the pool.
- Generally incorrect pool balance.

How should I eliminate the algae ?

1. First, the algae needs to be killed. The quickest and easiest way to do this, is to Super-chlorinate the pool. See Super-chlorination on page 29. Run the filter for 24 hours, to ensure that the Chlorine is circulated well throughout the pool and the filter.

   Hint : Since you are using a Bionizer and are not likely to have any Chlorine stabilizer in your pool, Super-chlorination should be done in the early evening, so that the Chlorine stays in your pool overnight. This way, you won't have Cyanuric acid left in your pool after the algae attack has been removed.

2. Next, the dead and dying algae must be removed from your pool. Thoroughly brush down the sides and floor of the pool. Run the filter while doing this, so that the particles get trapped there.

3. Check your filter's pressure gauge often. When the pressure rises to 50kPa or more ABOVE THE USUAL RUNNING PRESSURE, it's time to backwash (sand filter), or clean the filter cartridge (cartridge filter).

   For a heavy algae attack, you may need to backwash or clean the filter several times. To remove the last of the cloudiness, you may use **Bionizer Blue™**. This specially formulated clarifier is 100% compatible with your Bionized pool.

4. Once the water has cleared up, there are several problem areas that you need to check for further algae infestation :

- If you have a pool blanket, wash down the underside of the blanket with liquid chlorine, as there will be algae spores attached there. An easy and safe way to do this, is to fit the blanket into the pool upside down, and use a bucket of chlorine, your pool brush and a garden hose to wash it down. This way, excess chlorine that spills off the blanket only ends up in your pool, not on your lawn or pool surround.
- If possible, remove the "dress ring" that surrounds your pool light and check behind there. This is a favourite place for algae to hide.
- In and around the skimmer box also needs to be cleaned well.
- Any other nooks and hiding places, such as the underside of decorative rocks and so forth.

Following these simple steps will have your pool sparkling and clean again within 1 or 2 days, depending on the severity of the algae attack.

How can I prevent a future algae attack ?

Algae prevention is easy and economical with the Bionizer pool system. Follow these maintenance steps and you will spend more time swimming and less time working in your pool :

- Check your Copper level weekly, and adjust the Ionizing Time and/or Ionizing Output of the Bionizer as needed, to keep a level of between 0.5 and 0.6 ppM Copper in the pool.
- pH and Total Alkalinity are two of the most important pool parameters. Check them weekly and add acid and buffer as required. A pH BOSS takes the time and guesswork out of pH, by measuring and controlling pH constantly whenever your pool pump is running.

  Visit www.phboss.com.au for more information.

  Scan this QR Code with your smartphone or tablet to go to the pH Boss web site.

- Use **Bionizer PFP™** Phosphate remover to ensure there are no phosphates in your pool to feed algae. So after killing the algae, treat your pool within 2 to 3 days with the Phosphate remover.
- Check all other pool balance levels monthly to ensure that the Bionizer pool system is working at its optimum performance.

BIONIZER SUPPORT PAGES
SUPER-CHLORINATION

To super-chlorinate your pool apply one litre of liquid chlorine to every 10,000 litres of pool water. Thoroughly brush the walls and floor of the pool and run the filter for at least 24 hours. It is also advised to treat the pool water with **Bionizer PFP™** Phosphate remover at the same time.

1. Backwash several times during and after this period.

2. Turn off the filter for at least six hours (or overnight) to let any residue settle to the pool floor and then vacuum any residue to waste before resuming normal filter cycle. This will ensure that all algae are removed from the pool.

3. Check that the pool water is balanced as per the Snap Pool Balance chart.

4. Commence normal pool operation again.

Hint:
After going through the above procedure, we recommend using a flocculant (pool water polish/clarifier) to help remove any dead algae from the pool water. This prevents the dead algae from creating a level of phosphates again which may cause a second algae attack.

Don't use any flocculants that remove metals or minerals from water (such as Alum based types), as they will inhibit Bionizer operation. **Bionizer Blue™** is specially formulated for this purpose and is 100% compatible with your Bionizer.

CIRCULATION

Proper circulation of the pool water is vital to the health of the swimming pool water and to the prevention of algae. Long periods of time between filtering can give surface introduced algae time to protect itself with a wax coating thus resisting the copper and infesting the pool.

We strongly recommend filtering to a minimum amount per day to keep the water in a healthy condition. It is not about 'filtration'. It is about 'circulation'. A Bionized pool can be circulated/filtered to bare minimum time periods. Let your eyesight be the guide to whether the pool water is clean and healthy.

BIONIZER SUPPORT PAGES

DISPLAY MESSAGES

Message....Ions:Off

Example ....

Meaning....Ionizing has been completed for the day, and now only the Pool Pump output is operating.

Solution.....This is a normal part of the Bionizer operation, so no action is required.

Message....Red CHECK ANODES LED flashes

Meaning....The Bionizer unit is not able to generate the full amount of output current, as per Ionizing Output setting.

Solution.....Check the anodes, as per page 20.

- If the anodes are in good condition, check Calcium Hardness level and correct as necessary (See Pool Snap Balance Chart).
- If Calcium Hardness level is correct, add one bag of salt per 50,000L pool size to increase the conductivity of the pool water.

Message....No RTC

Example ....

Meaning....The real time clock function of the Bionizer is faulty.

Solution.....Switch off the power to the Bionizer control unit for at 15 seconds. Switch back on and check if this message has been cleared. If the message persists, contact your supplier or Bionizer for instructions about returning the unit for repair.

Message....Green IONIZING LED Flashes

Meaning ....The IONIZING LED shows the activity of the Ionising system of the Bionizer. The LED flashes slowly for one +/- polarity, then flashes quickly for the reverse polarity.

The IONIZING LED does not flash after Ionizing has finished for the day, and the "**Ions:Off**" message is displayed.

RESETTING THE CIRCUIT BREAKER

Your Bionizer is fitted with a circuit breaker to protect the unit in case of excessive power load from your pool pump, or from an internal fault.

When the circuit breaker trips, power is cut to the entire unit, to the display will be blank. The circuit breaker push-button will pop out (see the picture below).

To reset the circuit breaker, simply push it back in, and power to the unit will be restored.

IF THE CIRCUIT BREAKER CONTINUES TO TRIP :

In our experience, over 95% of the time that the circuit breaker trips is due to a fault with the pool pump.

- Unplug the pool pump and connect it a separate power outlet. Run the Bionizer and pool pump separately to check if the house circuit breaker will trip. If the house breaker trips, this positively indicates a faulty pool pump.
- Even if the pool pump does not trip the house breaker, it could still be faulty (for example a failed capacitor). This is because the house breaker has a much higher rating than the Bionizer circuit breaker.
- Try running a different load from the Bionizer's power outlet. Be sure that the pool pump is switched on in the separate power point when doing this test ! For example, you can run a spa blower, or a solar heating pump, or pool light etc from the Bionizer temporarily. If this does not cause the Bionizer breaker to trip, the fault is most likely with the pool pump.

  If the Bionizer breaker does trip with a different load connected, you may need to return it for service.

RESET BUTTON
Push to re-set the unit, if the circuit breaker blows due to overload or pump fault.

pH BOSS Automatic pH Controller

pH BOSS™

- No more annoying “pH Creep”.
- Reduces the risk of costly and time consuming Algae Attacks.
- No need for you to spend time testing pH levels.
- Maintains vital pH level constantly with small adjustments as needed.
- Reduces Acid use.
- Reduces Buffer (Alkalinity Increaser) use by maintaining a more constant pH.
- Every Pool Owner’s best friend !
- Suitable for ALL pool types including Ionized, Salt Chlorinated, and Chlorine pools.
- The pH BOSS is supplied ready-to-use out of the box.

Scan the QR Code to link directly to the pH BOSS web site, or go to www.phboss.com.au.

Eco-Oxidizer Chemical Free Pool Oxidizing System

Eco-Oxidizer

COMBINING NATURAL OXYGEN AND ELECTRO CHEMISTRY SO YOUR POOL AND SPA WATER STAYS HEALTHY, PRISTINE AND PURE … ALWAYS !

Sparkling Clear Pool Water So Natural and So Fresh You Will Love Your Pool More and More Each Time You Swim.

The All Natural Way To Protect Your Pool From Nasty Contaminants.

Pool Water So Refreshing …So Different …So Delightful.

Eco-Oxidizer Will Transform Traditional VIEWS of Pool and Spa Care.

Scan the QR Code to link directly to the Eco-Oxidizer product page of the bionizer.com.au web site.

Ionlife+ Copper Ion Stablizer

- Reduces Copper Ion loss from various environmental stressors.
- Helps to maintain crystal clear pool water.
- May extend the life of Copper Ionizer Anodes.
- Ideal less diligent pool owners who wish to spend less time maintaining their pools.
- Use a double dose of Ionlife+ when going away for extended holidays to help ensure that you return to pristine pool.

To order any of the Bionizer Pool Supplements, visit the Bionizer online store :
www.bionizer.com.au/store
Scan the QR Code with your smartphone or tablet to link directly to the store.

Snap Pool Balance

Water Balance Tests	Required Range	Treatment Product	Period
1. pH	7.2 to 7.6 pH (7.4pH is ideal)	Hydrochloric Acid 50mL per 10,000L reduces pH by 0.1	Weekly
2. Copper Ions (Cu^{2+})	0.5 to 0.6 ppM (0.3 to 0.5ppM adequate in winter with <25°C water temperature and no bather load)	Bionizer Program Settings (Turn output % Up or Dn)	Weekly
3. Total Alkalinity (TA)	80 to 100 ppM	Buffer / Soda Bi-Carbonate 200gm per 10,000L increases Alkalinity by 10ppM	Monthly
4. Phosphates	< 0.2 ppM (200ppB)	Bionizer PFP Phosphate Remover See Bionizer PFP Label	Monthly
5. Calcium Hardness	200 to 250 ppM Ideal (Up to 450 ppM OK)	Hardener / Calcium Chloride 100gm per 10,000L increases Calcium Hardness by 10ppM	Monthly
6. Total Dissolved Solids (TDS)	1000 to 1500 ppM Ideal (Up to 4000 ppM OK)	1 Bag Pool Salt per 25,000L Bionizer is compatible with Magnesium salt	Quarterly

Note: *Strengths of chemicals may vary from packet to packet.*
Please check instructions on the label of each product and add the units required to match the volume of your pool.

Bionizer™

Chlorine-Free & Freshwater Pools

Non-toxic Bio-Effective
Swimming Pool and Spa Control

SAVE THE ENVIRONMENT
SAVE TIME & MONEY
SAVE YOUR LONG-TERM HEALTH

Did you purchase your Bionizer products from a pool shop or was it installed by your pool builder?

If so, then please click on the QR Code to head to the Bionizer Warranty Registration page. Enter the information for each of your Bionizer units to ensure that you obtain your full 5 year warranty.

If you purchased your Bionizer products from Bionizer directly, your 5 year warranty has been automatically registered for you.

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INSTRUCTION BOOK