
Contact Details / Service Agents / Stockists

Pool&Spa2 Palmerston North

63 Grey Street,

Palmerston North

06 952 1220

info@poolandspa2.co.nz

www.Poolandspa2.co.nz

Pool&Spa2 Wanganui

176 Glasgow Street,

Wanganui

06 376 2368

Wanganui.poolandspa2@gmail.com

Affordable Pools South Island

Christchurch

0800 POOL 4 U

mike@affordablepools.co.nz

www.affordablepools.co.nz



For use with Simpure Electronic Pool Ioniser
on domestic swimming pools.

A Q U A

Simpure

ELECTRONIC POOL IONISER

Warranty and Purchase information

Simpure Serial: _____

Date of Purchase: _____

Dealer: _____

Address: _____

Email: _____

Phone: _____

Owner: _____

If you have any questions about any aspect of your **Simpure** ioniser set-up, operation or maintenance, contact your authorized **Simpure** dealership. They are trained professionals who are familiar with the product as well as pool ownership concerns. Their expertise will help maximise the enjoyment of your swimming pool.

IMPORTANT: **Simpure** reserves the right to change specifications, or design, without notification and without incurring any obligation.

(a) for goods:

- Repairing or replacing those goods; or
- Paying the cost of having those goods repaired or replaced; and

(b) for services:

- Resupplying the services; or
- Paying the cost of having those services resupplied.

- Use of the product for a purpose other than for which it was designed and sold.
- Abuse, misuse, corrosion, internal or external, or normal wear and tear.
- Any repairs or modifications whatsoever carried out by a person or company other than an authorised service provider.
- Exposure to water not caused by a defect in the product.
- Shipping of the product where Simpure has no control.
- Insufficient ventilation.
- Damage caused as a result of third-party equipment failures.
- Infestation of vermin or insects.
- Improper water balance.

Limitations of Liability

To the extent permitted by law Simpure excludes all liability it may have to the purchaser for indirect, special or consequential loss arising from or related to any defect in any Simpure product, or any act or omission, including negligence of Simpure, including, but not limited to, loss of business, loss of profit, loss of revenue, lost opportunity, inconvenience, and damage to any property other than the Simpure product.

To the extent permitted by law, Simpure excludes all other conditions, guarantees, liabilities or representations that are not expressly set out in this agreement. These terms and conditions do not attempt to exclude, restrict or modify any applicable statutory rights, or any exercise of any statutory rights, or any liability imposed on Simpure by any law (including the Consumer Guarantees Act 1993), if to do so would contravene that law or make any part of these terms and conditions void.

To the extent permitted by law, Simpure excludes all conditions and warranties implied into these terms and conditions and limits its liability for breach of any such condition or warranty that it cannot exclude to the greater of (at Simpure's option);

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1. Safety Information

Please find below a list of safety precautions to take when installing/operating your Simpure Ioniser.



Warning

1. This equipment operates on electricity. Turn off and disconnect from power before changing any connections.
2. The Simpure cell operates under 50v DC so connections do not require a qualified electrician to install.
3. The Simpure power pack is supplied with a Tapon 10amp plug. Exceeding the load limit may lead to damage of the Simpure power pack or other equipment.
4. Excessive copper in the water can lead to staining of the surface of the pool and if high enough also stain body parts containing keratin like nails and hair.
5. This product is only intended for use in swimming pools.
6. Simpure is an anti-algae and anti-bacterial treatment but is not an oxidising agent. The use of a minor amount of chlorine or other approved cleaners is required to maintain your pool.
7. Copper is extremely toxic to aquatic life. Removal of pool water should be managed in such a way that it will not enter natural waterways under any circumstance.
8. The Simpure Ioniser is designed and certified to operate only on NZ Standard 220-240v 50hz compliant with AS/NZS 3000:2018

Conditions of Warranty

The warranty stated prior only applies where: -

- The product has been installed and operated in accordance with written instructions supplied within this manual.
- The purchaser is able to provide proof of purchase that specifies the date of purchase.
- The product has been maintained regularly.
- Installed in an area that does not expose it to excessive outside contact with water.
- The water is balanced in accordance with the instructions provided within this manual and within a Langlier Saturation Index value of -0.8 to 0.5.
- That the electrical equipment has been adequately protected from salt air environments and from salt water; and that all electrical repairs to the power pack shall be completed by Simpure or an authorised service agent unless stated otherwise in writing.

If an authorised service agent is not within 35km of the purchaser's area;

- The purchaser must contact the place of purchase for further instructions.
- The purchaser is responsible for any freight or infield labour costs not involving the product.
- Travel and labour costs are solely at the discretion of the service provider.

Exclusions

This warranty does not cover, and Simpure shall not be liable for, any defect or damage caused or contributed to by: -

- Installation or use of the product other than in accordance with the written instructions supplied in this manual.
- Connection to uncertified power supply.
- Any statutory requirements and these terms and conditions.

8. Warranty

Warranty Cover

If a defect occurs within your Simpure unit during the warranty period stated herein, Simpure at its discretion, will repair/replace the defective part/s provided the defect occurred solely from poor workmanship or materials and subject to these terms and conditions.

Labour and travel are covered by this warranty for a period of twenty-four months from the date of purchase or installation, within a 35km radius of an Authorised Simpure Service Agent.

The purchaser is responsible for all necessary freight costs incurred to repair.

Warranties are valid only within the original country of purchase. Our goods come with guarantees that cannot be excluded under the Consumer Guarantees Act. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if goods fail to be of acceptable quality and the failure does not amount to a major failure.

Warranty Period

Your Simpure Ioniser is warranted for a period of two years. This period begins on the date of purchase or installation. This warranty and its provisions are non-transferable except at the sole discretion of Simpure. The provisions of this warranty are in addition to and not in modification of or subtraction from any applicable statutory warranties, rights or remedies.

Spare parts are warranted for a period of one year. Parts replaced under warranty carry either the remainder of the warranty period or one year, whichever is longer.

2. Components

Inside your Simpure Ioniser packaging you will find the following: -

- 1x Simpure Control Box.



- 1x Simpure Ionic Cell.



- 1x Copper/Zinc and pH test kit.



- 4x Mounting screws
- 2x 50/40 reducing bush

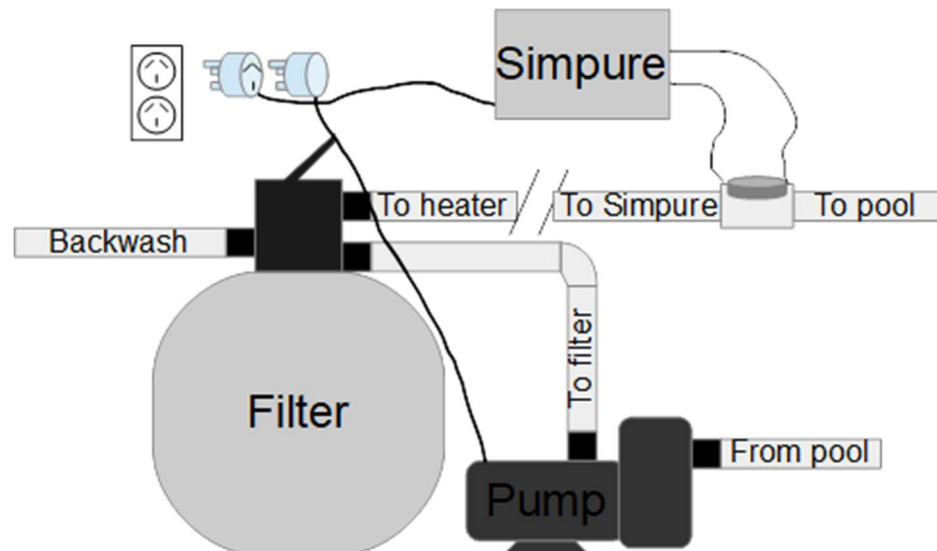
3. Installation Instructions

The Simpure unit is simple to install and does not require a professional. You will require the following equipment: -

- Simpure Power Pack.
- Simpure Ionic Cell.
- PVC pipe solvent.
- Pipe saw or alternatively a hack saw.
- A drill.
- 2 screws (4 if using optional mounting method).
- Spanner

While not technically required we also recommend the following: -

- PVC pipe primer.
- A plug-in time clock.
- 50/40mm reducing bushes if working on 40mm plumbing.
- Misc plumbing fittings if required.
- A cloth or towel



7. Troubleshooting

Issue	Cause	Solution
The meter is stuck at 0 and turning the dial does not change the number.	- Low conductivity - Worn electrodes - Scaled electrodes - No water in the cell - Power pack not operating	- Add salt. Magnesium chloride or sodium chloride are suitable. - Inspect cell internals. If electrodes are significantly worn then replace. If electrodes are scaled mix a solution of 1 Tbsp of Sodium Bisulphate with 500ml of water and scrub with a brush coated in the solution. Avoid strong acids like Hydrochloric acid.
The meter is stuck at 5 and turning the dial does not change the number.	- High conductivity	- Dilute water in the pool. Desired TDS is between 250 and 1000ppm.
Power pack does not turn on.	- Blown fuse - Tripped RCD - Damaged components	Before replacing parts, check that the power socket is in working condition. If other items work then it is reasonable to replace the fuse. If the subsequent fuse breaks, send the Simpure power pack for service.
My copper readings are constantly high	- High conductivity - Excessive running hours - Corrosive water conditions	- Confirm water balance is within recommended parameters. - Reduce running time or temporarily disconnect Simpure until copper levels decrease.
My copper readings are constantly low	- Low conductivity - Insufficient output - Scaling water conditions	- Confirm water balance is within recommended parameters. - Increase running time of pump or output of the Simpure. - Add salt to improve conductivity.

Allow for the silicone manufacturers recommended curing time before restarting the filtration. Electrodes should be replaced as a set to allow for as even a distribution of surface area as possible.

Note: -

- Use only neutral cure silicone (Oxime) as other types can cause the UPVC in the cell wall to break down.
- As the system can function on reverse polarity the electrodes function as both a positive and negative pole. Special care is not needed to install them in a specific order.
- The electrodes are not designed to be completely consumed before being replaced. We recommend replacing the electrode when it has eroded to 1/3 of its original size.
- If using a longer cure silicone, it is recommended to dose the pool with some chlorine and filtering for 24 hours to kill off any algae or bacteria. A stagnant pool is perfect conditions for them to grow.

To install your Simpure, follow these steps: -

Power pack:

1. Find a suitable flat section of wall near a power point and your intended cell installation location.
2. Drill and screw in the 2 screws following the mounting template.
3. Mount the power pack on to the screws through the cut-out slots.
4. (Optional) Drill the extra 2 screws into the bottom slots for additional stability.

Ionic Cell:

1. Select a suitable installation spot. The cell should be installed horizontally with the water care sticker visible, within the filter shed, after the filter and pump, and accessible for service.
2. If installing into a new plumbing run skip this step. For installations into existing plumbing, measure a section 120mm long and cut.
3. Clean the installation point with a cloth to remove any burrs and dirt/dust from the edges of the pipe.
4. Apply primer to both ends and inside the ionic cell. Follow with pipe cement and push on to pipe stubs.
5. Allow up to 24 hours for glue to dry before restarting filtration.

Start-up:

1. Connect cable leads from the power pack to the connectors on the ionic cell. Tighten nuts finger tight and finish with a ¼-1/8 turn with the spanner. Hold the base lock nut with another spanner for the best results
2. In the following order plug in the timeclock, power pack, and pump.
3. Prime the system so the water is flowing fully through the pump and Simpure cell with little to no air bubbles. Partial coverage of the cell can lead to uneven wear of the electrodes.
4. From this point the unit is functional. It will now be releasing the copper and silver ions into the water for treatment. Check for green and red alternating lights and the needle to move every 30 seconds.

Notes: -

- The ioniser should only be positioned as the final component on the plumbing run. High concentrations of copper found immediately after the cell may not meet operational requirements of other equipment.
- The cell operates on a reverse polarity system so the cable connections from power pack to cell can be set up in either order.
- If the meter does not move when changing the output power there is either too much salt or the water is too pure. Refer to section 7. Troubleshooting for advice.
- In some cases, it can take up to 2 weeks for the copper reading to stabilise in the pool. Until a suitable stable copper reading is found we recommend running the pool as a standard pool using granular or liquid chlorine.
- Never run the Simpure without the pump. Build-up of ionic copper inside the electrode chamber can rapidly increase conductivity and exponentially erode the electrodes.

Dosage frequency will vary with bather load. Increase frequency if under heavy bather load, reduce if a chlorine residual above 1ppm is maintained between tests.

With even the smallest amount of oxidiser present the Simpure can treat the water to international standards, but is not effective enough with no oxidisers. They are integral for the rapid disinfection of bacteria commonly found in pool water.

Replacing the Electrodes: -

Your Simpure ioniser operates by eroding the electrodes found in the cell in order to add copper and silver into the water. As time passes you will need to replace the electrodes once they have worn down significantly. Typical timespan for this to happen is 5 years.



Remove the nuts from the outside of the cell housing then remove the old electrode, using a knife if necessary to clear away any silicone holding it in place. Scour the area clean of any leftover silicone scrapes.

Once the install location has been cleared, apply a thick bead of neutral cure silicone around the blue washer and along the length of the electrode on the same side. Pass the threaded rod through the opening on the cell housing then secure in place with a washer and bolt.

As this process happens the silicone will expel out the sides of the cell. Using a finger or similar implement (Recommended to wear rubber gloves) clear away and smooth out any silicone touching the sides of the cell housing.

6. Ongoing Use

With your copper residual achieved it is now important to maintain that reading. Most pools are built to have their pumps operating for a total of 8-12 hours per day. It is recommended during summer to stick to this timetable as it provides sufficient time for filtration and recirculation of the water in the pool. The general rule is 1 hour of filtration per 4,500L for operation.

As the pump for the pool operates on a consistent amount of time it is best to alter the output reading of the Simpуре to suit your bather load. No two pools will operate under the same conditions so an exact setting cannot be advised but we do recommend the following: -

15,000L to 30,000L operate with needle at 2

30,000L to 45,000L operate with needle at 3

45,000L or greater operate with needle at 4

Adjust accordingly in relation to swimmer volume and time of year. The above recommendations are for a family of 4 in summer.

It is advised to not allow the needle to stay at maximum output of 5 as values beyond that cannot be read correctly by the sensors and indicate that the system is overworking. If copper readings cannot be maintained it is better to increase the time that the pump runs.

Chlorine or other oxidisers like Hydrogen Peroxide should be added regularly. Dosage frequency would be once a month at minimum, once a week at maximum.

Recommended dosage rates as follows: -

250g of Calcium Hypochlorite per fortnight

-or-

500ml of Liquid Chlorine/Hydrogen Peroxide per fortnight

4. Requirements for Operation

Water balance is a key part to looking after your pool. It is important not just for the longevity of the pool itself but also the equipment used to run it. The following values are our recommended parameters for long term life of the pool and equipment as well as bather comfort.

Alkalinity	pH	Hardness	TDS/Salt	Copper
80-120ppm	7.2-7.6	100-250ppm	250-750ppm	1-1.5ppm max

Alkalinity: A measure of the amount of bicarbonate in the water. Low alkalinity can lead to fluctuations in the pH and corrosion of metal and the pool surface.

pH: A measure of how acidic/basic the water is. The ideal pH for most pools and bather comfort is 7.4. A pH that is too low can lead to corrosion of the surface and equipment. A pH that is too high reduces the effectiveness of certain chemicals and can lead to cloudy water.

Hardness: A measure of the amount of primarily calcium and partly magnesium in the water. Different surfaces require varying quantities but too little can lead to corrosion and too much will cause water cloudiness and scaling of the surface.

TDS/Salt: Short for Total Dissolved Solids. A measure for the amount of salt in the water. A lower TDS can make the water non-conductive so the ionic cell will not function, but a TDS that is too high will cause it to overwork and shorten the lifespan of the electrodes as well as damage the power pack.

Copper: The ions the Simpуре will release into the water. Too little will allow algae and bacteria to grow freely, too much will cause issues including but not limited to discolouration of hair and nails or staining. The recommended copper level is such that following NZ guidelines it will not visibly change the water and will not have any impact on the body even with long term exposure.

5. Initial Start-up

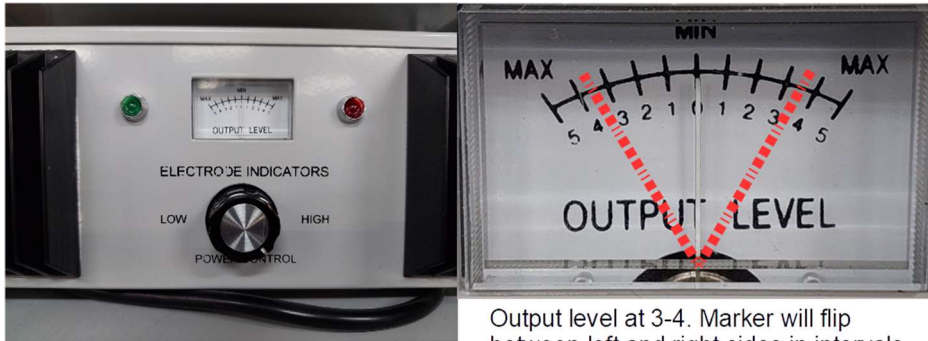
Once your Simpure has been installed and is operational it will require time to establish an appropriate amount of copper in the water. During this period, which can last around 2 weeks, the pool will need to be cared for using chlorine or alternative oxidisers to prevent the development of algae or bacteria. Recommended dosage rates as follows: -

1 Tablet of Trichlor Multi Tabs per 20,000L per week.

160g of Calcium Hypochlorite -or- 500mL of Liquid Chlorine per 10,000L, once per week.

The rest of the water balance should be done as recommended by your local pool specialist to suit the surface of your pool. The Simpure ioniser will operate for a broad variety of pool surface requirements. If the pool surface requires parameters outside of the Simpure operating range either contact us for further advice or discuss with your local pool specialist.

During the initial start-up period the unit should be set so that the output needle reads 3 to 4 in both the left and right position. Turn the dial until an appropriate reading is achieved.



Output level at 3-4. Marker will flip between left and right sides in intervals.

Test weekly with your supplied copper test kit or with your local pool specialist to determine when an appropriate copper reading of 1 to 1.5ppm has been achieved. Once this stage has been reached it is now feasible to stop using chlorine tablets and to use a significantly smaller amount of granular or liquid chlorine in the weekly/fortnightly treatments.

If experiencing difficulty starting your Simpure, refer to section 7. Troubleshooting for steps that can be taken for common issues, or contact your local Simpure agent for advice.