



OXISWIM

D U A L S A N I T I S A T I O N

Installation and Operation manual

Version: 1.1.3

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WARNING

This equipment must be installed and serviced by a qualified technician.

Improper installation can create electrical hazards, which could result in property damage, serious injury, or death. Improper installation will void the warranty. If you cannot obtain the information to a particular question from this guide, please contact the place of purchase or your nearest Waterco branch for further information.

Notice to Installer

This manual contains important information about this product's installation, operation, and safe use. Once the product has been installed, this manual must be given to the owner/ operator of this equipment.

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1 CHEMICAL GUIDE

Oxiswim Support Chemicals

When operating the system chlorine-free, the following chemicals are recommended:

- Perox Pro – Hydrogen peroxide designed explicitly for use in a swimming pool
- Perox Safe & Clear – Needed to generate chlorine dioxide from Oxiswim Sanitiser
- Perox Activate – Used to break down and remove body fats, oils, sun tan lotions, and makeup. Prevents scum build-up around the water line and prevents and removes biofilms.
- Perox pH Control - Hybrid acid that is non-fuming, does not need to be diluted, removes phosphates, clarifies the water, and will help prevent algae. Safe to use with a chemical dosing system
- Perox Start-Up - Protects the surface of your pool and pipework from calcium deposits reducing the consumption of hydrogen peroxide and chlorine
- Aqua~Health Concide / Aquachlor Long Life Algaecide -Activates hydrogen peroxide in the pool water and helps prevent algae growth
- Perox Perfect - Used for green pool recovery or phosphate removal
- C5 Tablets - Prevents formation of biofilm and will reduce consumption of hydrogen peroxide and chlorine

Filter Cleaners:

- Aqua~Health Natural Filter Cleaner or similar cartridge filter cleaner may also be used

When running chlorine, you can continue to use the above support chemicals in conjunction with liquid, powdered chlorine, or chlorine produced by a salt chlorinator.

Perox Pro is not used when running chlorine.

Do not use any polyquats or lanthanum chloride-based products at any time while using this system.

CHEMICAL	INITIAL DOSE	MAINTENANCE
PEROX PRO	1.5 litres per 10,000 litres raises Hydrogen Peroxide level by 100ppm 21 fl oz. per 1000 US gal raises HP level by 100ppm	Approx. 0.09 litres (90ml per 10,000 litres per day) 1/8 fl oz. per 1000 US gal, per day
PEROX SAFE & CLEAR	100 grams per 10,000 litres 1.6 oz per 1000 us gal	Every 3 months: 100 grams per 10,000 litres 1.6 oz per 1000 us gal
PEROX ACTIVATE	250mL per 50,000 litres	Every 3 months: 250mL per 50,000 litres
PEROX START-UP	250mL per 10,000Litres 3.20 fl oz. per 1000 US	Every 6 months: 250mL per 10,000 litres gal 3.20 fl oz. per 1000 US gal
COPPER ALGICIDE	100mL per 10,000 litres 1.3 fl oz. per 1000 US gal	Every 6 months: 100mL per 10,000 litres 1.3 fl oz. per 1000 US gal
C5	1 Tablet per 10,000 litres 1 Tablet per 2500 US gal	Every 3 months: 1 tablet per 50,000 1 tablet per 12500 US gal
PEROX PERFECT	Shock dose (green pool recovery, phosphate removal or use with Perox Activate); 300mL per 10,000 litres 3.80 fl oz. per 1000 US gal	Every 3 months: 250mls per 50,000

If using chlorine, refer to the recommended dosage rate for the individual product that you are using. Maintain a chlorine level as per the information located in section 4.1.1

2 INTRODUCTION

The Oxiswim Sanitisation system is a revolution in how a swimming pool owner can run their swimming pool or spa. The system has been developed as a result of many years of research using alternatives to chlorine whilst offering the cost savings of being able to use chlorine if desired. When operating the pool using Perox Sanitisers at the recommended level, chlorine cannot co-exist in the water - even if added at very low dosage rates. Chlorine can only become the dominant sanitiser when all Hydrogen Peroxide has been consumed in the pool water. When operating using Hydrogen Peroxide, it's free of odours and taste and is soft and gentle on the skin. What's more, no shower is required after swimming. It's been described by users as "just like a refreshing swim in a natural spring".

The Oxiswim system uses new catalytic technology that removes the need to use ozone. However, the advanced oxidation process continues to be the cornerstone of the system when operating on hydrogen peroxide. Using the advanced oxidation process is a chemical reaction generated by combining Perox (a chlorine-free, hydrogen peroxide-based sanitiser) and a catalytic material that will remove bacterial threats better than any other oxidation process.

NOTE The Oxiswim system is a kit of components. Attempting to operate the system without correctly installing all parts or with chemicals other than those recommended in this manual may result in the system not functioning correctly, and failure of the system may be hazardous or may cause adverse effects to your swimming pool or bathers.

Do not use chemicals other than those recommended in this manual

Gloves and safety glasses should be worn when handling chemicals.

Attention Installer

READ AND FOLLOW ALL INSTRUCTIONS

⚠ WARNING

In emergencies, the system should be switched off immediately.

⚠ WARNING

The manufacturer is not liable for misuse of this product that may cause damage to persons and/or materials.

⚠ WARNING

Only a certified service technician should perform servicing requirements to reduce the risk of injury.

⚠ WARNING

The use of chemicals other than those recommended may result in the system not functioning correctly; failure of the system may be hazardous or may cause adverse effects to your swimming pool or bathers.

3 WHAT IS IN THE BOX

- 1) 1 x Wall-mounted panel with Chemical Controller, Timer, and Pump Power Outlet
- 2) 1 x Hydroxyl Radical Generator
- 3) 2 x Chemical injection assemblies
- 4) 2 x Chemical hose connections kits
- 5) 2 x Chemical pick-up and float pieces
- 6) 1 x Oxiswim Sanitiser (Electrolysis equipment)

Additional materials required, but not supplied in kit

The following items may be required to install the Hybrid system but are not supplied in the kit:

- 40mm/48mm/1 ½ in or 50mm/63mm/2 in pipe and fittings
- UPVC Pipe Adhesive and Primer
- Mounting screws for wall-mounted panel
- Cable Ties
- Hole saw 22mm (55/64 in)

Recommended Tools

The following tools will be required as a minimum for the installation:

- Cordless Drill
- Hammer Drill (if mounting on a masonry wall)
- Philips Head Screwdriver
- PVC Saw
- Adjustable wrench 0-25mm (1in) or 10mm (25/64 in) Socket and Multigrips
- Utility knife

4 PEROX PRO - SAFETY GUIDE

Ensure that all work complies with local authority regulations and any local or organisational workplace health and safety regulations, policies and procedures.

STORAGE AND HANDLING

Store in the original closed container in an upright position in a cool, well-ventilated place. Do not store in direct sunlight. Wear chemical splash goggles and rubber gloves when handling. Do not mix with other chemicals. Avoid contact with combustible materials or organic liquids as they may cause fire or explosion. If spilled, rinse, with plenty of water immediately. Do not pour the unused liquid back into the container. Replace the cap after use. Do not replace the vented cap with another cap.

WEAR PROTECTIVE CLOTHING AND FOOTWEAR

DISPOSAL

Triple or preferably pressure rinse containers before disposal. Add rinsings to the pool. Do not dispose of undiluted chemicals on site. If recycling, replace the cap and return the clean container to the recycler or designated collection point. If not recycling, break, crush, puncture, and bury empty containers in local authority landfill. If not available, bury the container below 500mm (20in) in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation, and tree roots. Empty containers and products should not be burnt.

SAFETY DIRECTIONS

- Corrosive.
- Attacks eyes, nose, throat, and skin.
- Protect eyes when using.
- Avoid contact with skin.
- Do not inhale the vapour.
- Wash hands thoroughly after use.
- When using the product, wear rubber gloves and safety glasses

FIRST AIDS

If poisoning occurs, get to a doctor or hospital quickly. Give plenty of water. If skin contact occurs, remove contaminated clothing and wash the skin thoroughly with soap and water. If in eyes, hold open and flush with water for 15 minutes and see a doctor.

Notice to the purchaser: Perox products are manufactured following the highest standards. Therefore all conditions and warranties expressed or implied by law and all negligence claims are excluded. Our liability is limited to replacing any portion of the product supplied which is shown to our reasonable satisfaction to be defective.

IN AN EMERGENCY CONTACT THE RELEVANT LOCAL AUTHORITIES

INSTALLATION AND COMMISSIONING

5 INSTALLATION GUIDE

The Oxiswim system can be fitted into most types of pools or spas. In addition, the system can be retrofitted into other existing sanitisation systems to complement the operation of the existing system.

5.1 Water Chemistry

When operating with hydrogen peroxide, the following operating parameters are recommended

Test	Result
Perox Pro (Hydrogen Peroxide)	100ppm - 300ppm
pH level	7.2 - 7.6
Total Alkalinity level	60ppm - 80ppm
Calcium Hardness	180ppm - 400ppm
Salinity (= total Pool salt & Mineral Crystals) For low salt cell use*	2000ppm-3000ppm
Phosphate level	Less than < 0.5ppm
Chlorine Dioxide	0.4ppm - 0.5 ppm

When operating on chlorine, the following operating parameters are recommended:

Test	Result
Residual sanitiser chlorine	1.0ppm – 3.0ppm
pH level	7.2-7.6
Total Alkalinity level	100ppm – 150ppm
Calcium Hardness	180ppm – 400ppm
Salinity (= total Pool salt & Mineral Crystals) For low salt cell use*	2000ppm-3000ppm
Phosphate level (ppm)	Less than < 0.5ppm

PLEASE NOTE: The above information is a guide only. Please refer to the local laws that govern a swimming pool or spa operation in your area. Always operate the system in compliance with local laws.

IMPORTANT: When refilling a pool, use municipal or tank water only. It is not recommended that Bore or Well water is used to fill or top up a pool unless it has been tested and recommended for this purpose.

5.2 Phosphate Treatment

If Phosphate levels are higher than 1.0ppm, then;

Treat the high phosphate levels as an event, and complete a shock dose treatment using Perox Perfect once the system has been commissioned.

There should be no need to treat phosphates regularly with any other chemicals other than Perox Perfect, provided Perox pH control is used to control the pH.

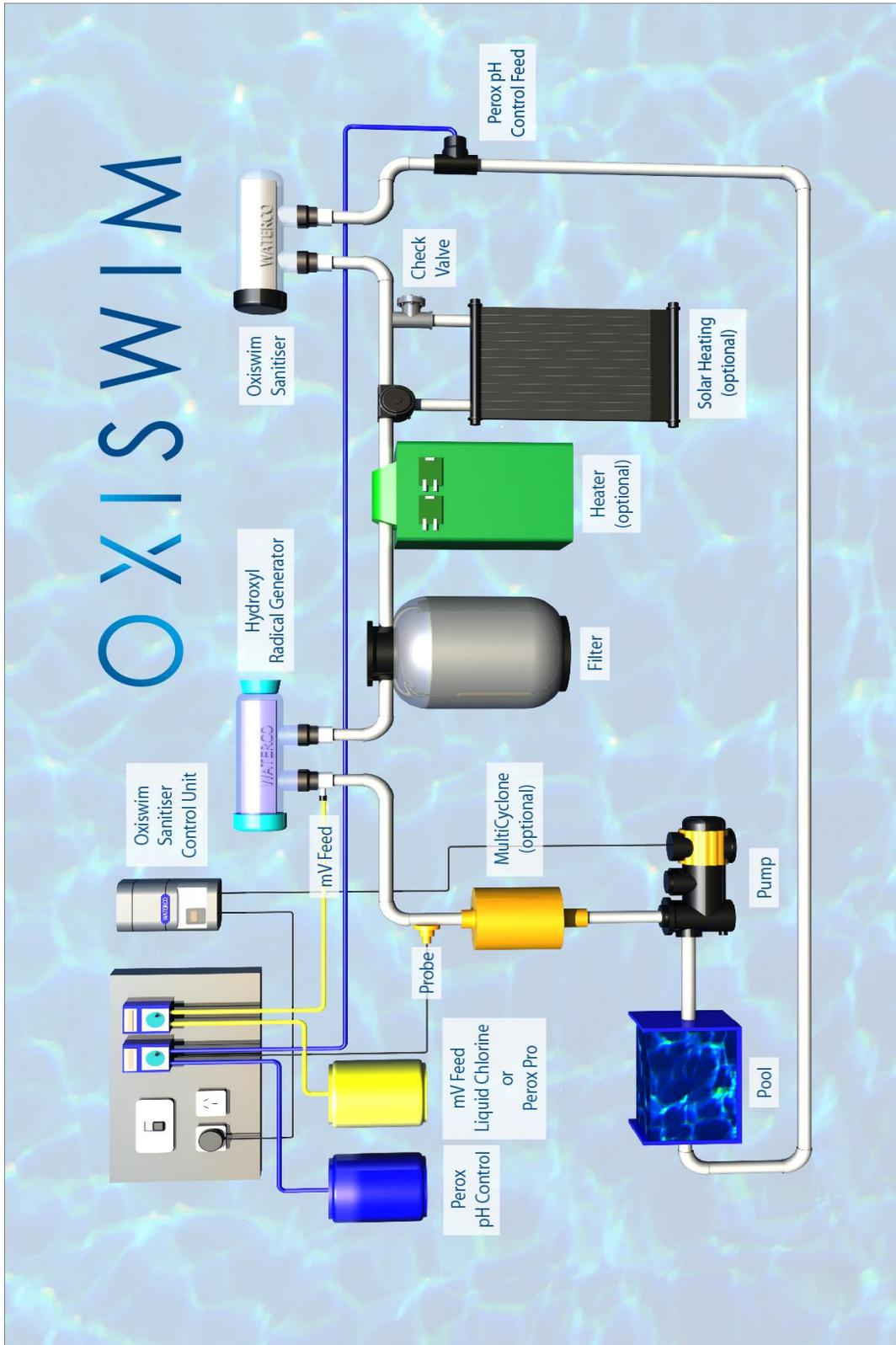
Diatomaceous Earth filters are not recommended for use with Hydrogen Peroxide.

Copper ionisers can be used in conjunction with the Oxiswim system, but total copper levels must not exceed 1ppm.

5.3 Planning

Before commencing the installation, take time to plan;

- That the chemical drums will be at least 1.5m (5 ft.) apart.
- Ensure the unit is protected from the weather and, when possible, not exposed to elements.



Oxiswim Typical Installation Layout

6 SYSTEM INSTALL

ENSURE THE POWER TO THE SYSTEM AND GPO's OFF AT THIS POINT

6.1 Install the Controller Panel

- 6.1.1 Install the wall-mounted panel, ensuring that the POWER supply is OFF
- 6.1.2 Plug the pool pump into the GPO outlet marked 'PUMP', ensuring the POWER is OFF at the GPO.
- 6.1.3 Install the Hydroxyl Radical Generator as per the diagram on the inlet side of the filter. For additional information regarding the Hydroxyl Radical Generator, please refer to the instruction manual located in the box that contains the Hydroxyl Radical Generator.
- 6.1.4 Connect the chemical dosing tubes as per the diagram. Use blue tube for acid and yellow tube for hydrogen peroxide/chlorine. Use the tapping saddle provided to connect the acid feed in an appropriate position based on the installation diagram. Refer to 6.2 for instructions on how to install a tapping saddle.

Refer to 6.3 and 6.4 on how to fit the chemical tube to injectors and foot valves.
- 6.1.5 Plug the power cord from the Hybrid system into a 10amp power outlet. Ensure the POWER supply is off until ready to commission the unit.
- 6.1.6 Plug the Oxiswim Sanitiser (OS) unit into the GPO located on the Oxiswim controller board. Switch the OS unit to the on position (refer to instructions of the OS). The OS will automatically come on when the pump is signalled to operate. The OS should always be on in conjunction with the system in either Fresh Water or Chlorine mode

Note on Filters Warranty.

NOTE Waterco will honour the warranty of all Waterco media and cartridge filters when used with the Hybrid System, as their construction materials are designed to withstand the injection of hydrogen peroxide. Waterco can't support the use of any other brand of filters for use in a Hybrid System pool

6.2 Install the Chemical Injection Points

6.2.1 Acid Injection Point

- I. The acid (pH) injection point is to be installed on the pool return line, after all, other pool equipment.
- II. Dry fit the chemical injection point saddles to ensure sufficient space and clearances.
- III. Ensure that the heads of the chemical injection points have a minimum of 200mm (8in) clearance so that the chemical feeder hoses may attach freely. The chemical injection points may be installed on either vertical or horizontal pipe.
- IV. Whilst in dry fit, mark the holes to be drilled into the pipes, so they are directly under the open head of the chemical injection point.
- V. Use a 22mm (55/64 in) hole saw, drill the first hole and clean the swarf (Figures 6.1 and 6.2)
- VI. Install the lower and upper clamps (Figures 6.3 and 6.4) so that the hole is directly beneath the open head of the upper clamp. Then secure the clamps together using the nuts and bolts provided, tightening with an adjustable wrench or 10mm (25/64 in) socket wrench (Figure 6.5)



Figure 6.1



Figure 6.2



Figure 6.3



Figure 6.4



Figure 6.5

- VII. Using the Teflon tape provided, install the reducing bush to the top of the chemical injection clamp (Figures 6.6 and 6.7). Hands tighten and then / turn with an adjustable wrench (Figure 6.8). Do not over tighten
- VIII. Using the Teflon tape provided, install the chemical injectors to the reducing bush. Hand tightens, and then % turn with an adjustable wrench (Figures 6.9 and 6-10).

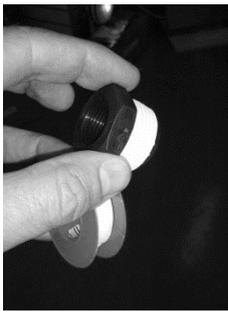


Figure 6.6



Figure 6.7



Figure 6.8



Figure 6.9



Figure 6.10

6.2.2 Hydrogen Peroxide/Chlorine Injection Point

- I. The Hydrogen Peroxide/Chlorine injection point is connected to the chemical injection point located on the Hydroxyl Radical. The injection point should be on the inlet side of the Hydroxyl Radical Generator. See illustration below



6.3 Connect the Chemical Supply Tubes

The Electrochlor pH is supplied with ample chemical supply tubes, which may be cut to length using a sharp utility knife.

- 6.3.1 Connect to chemical injection assembly, use Figure 6.11 as a reference for the assembly of the connection point of the tubing to the injection valve and the acid dosing pump.



Figure 5.11 Connection Point Assembly6

- 6.3.2 Take one end of the chemical supply tube and feed it through the tightening nut and holding ring. Then push the end of the tube over the pipe holder. Ensure that the tube is pushed on firmly over the tip and screw the tightening nut hand tight. See the images below.

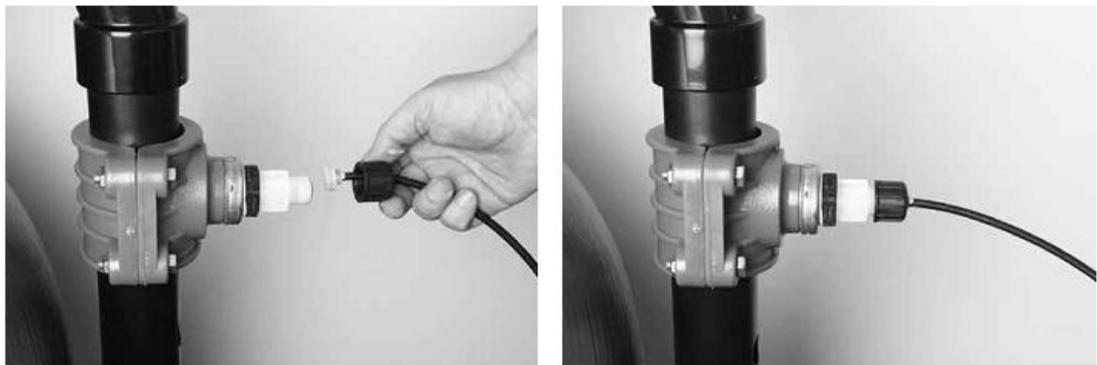


Figure 6.12 Connecting acid feed line to the injector

6.4 Connect Chemical Injection Points to the Chemical Dosing Unit

Cut the chemical supply tube connected to the chemical injection point to a suitable length allowing enough slack. Then feed the tightening nut and holding ring over the tube. Next, push the open end of the tube onto the pipe holder in the base of the chemical dosing unit RIGHT-HAND SIDE (discharge side Figure 5-13) and screw the collar hand tight (Figures 5-14).



Figure 5.13



Figure 5.14

LEFT Peristaltic Pump HEAD (pH) **RIGHT Peristaltic Pump HEAD (hydrogen peroxide or chlorine)**

Repeat, so both tubes are now connected with one end joined to the chemical injection point, and the other joined to the RIGHT-HAND SIDES (discharge sides) of the chemical dosing unit pumps.

6.4.1 Connect chemical dosing unit to chemical supply tanks.

Ensure that the supply tanks are positioned no less than 1.5m (5ft) apart.

6.5 Assemble the Foot Filter & Weight.

- 6.5.1 Prepare the chemical drum to enable the chemical tube to pass through the exit point of the drum. This can be done by drilling a hole in the cap to the approximate size of the chemical tube (7-8mm). Feed the tube through the drum cap and then fit the foot filter and weight.



Figure 6.15

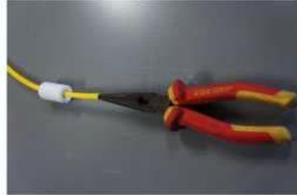


Figure 6.16



Figure 6.17



Figure 6.18

- 6.5.2 To fit the foot filter & weight, take the end of the chemical tube and push the weight over the end, ensuring the concave-shaped end of the weight is orientated to face the end of the tube. Slightly expand the end of the chemical tube with pointy nose pliers or similar before fitting the foot filter. See fig 6.16 and 6.17.
- 6.5.3 Fit the foot filter over the end of the expanded chemical tube and then pull the ceramic weight back over the end of the tube. See fig 6.18.
- 6.5.4 Remove the external housing and front cover to enable easy connection of the chemical tubes (See fig 6.21). Connect the inlet and outlet chemical tubes to each dosing pump as per fig 6.22 and 6.23.



Figure 6.19



Figure 6.20



Figure 6.21



Figure 6.22



Figure 6.23

- I. The Hybrid system is pre-set to operate in hydrogen peroxide mode for a 50,000 litres pool.
- II. If the pool size is not 50,000 litres, refer to the suggested setting to suit the pool or spa.
- III. Use the chart that suits the sanitiser that you are running (Hydrogen Peroxide or Chlorine)

- IV. Use the chart that suits the sanitiser that you are running (Hydrogen Peroxide or Chlorine). The charts are only a guide for dosage rates - some alteration to the setting may be required based on the physical test results.

6.6 PUMP PROGRAMMING PROCEDURE – OXISWIM

Please note: The Oxiswim system comes preset to operate on a pool with a water volume of 50,000 litres. If your swimming pool has a different water volume, please refer to the recommended dosage rate charts in this quick reference guide for the appropriate percentages of feed and timer operation times for your specific size pool.

Steps:

- 1 – Set Time
- 2 – Set Timer (Program)

Welcome Screen



The welcome screen will look similar to the above. The only buttons needed for programming are the buttons in blue on the bottom panel (↕). The up and down arrows will let you scroll through the menu or individual digits. To enable programming press the up and down arrows simultaneously to enter the menus. To navigate through the setting in each menu use the tick button (✓) to scroll right and the ESC button (ESC) to scroll left. When completing any changes in the menu always click the tick button (✓) to get to the end of the changes to save the settings.

6.6.1 Set Time

Starting from the main screen press the Up and Down buttons simultaneously to enter the menus. Scroll Up/Down until you see the **Set Date and Time** option. Select this option by clicking the tick button.



Once in the setting, change the date and time to the current Australian Eastern Standard Time (AEST). To scroll through the setting in each menu use the tick button (✓) to scroll right and the ESC button (ESC) to scroll left. Use the up and down button to change the setting values. When completing any changes in the menu always click the tick button to get to the end of the changes to save the settings.

Please ensure the SW setting remains as pictured below (SW: -) before saving the changes.



6.6.2 Set Timer

Starting from the main screen press the Up and Down buttons simultaneously to enter the menus. Scroll and select the **Time Switch** option.



In the next menu select "**Timer Progr.0**". For our uses, we will only be selecting Timer 0 as the main timer on both the ACID and PEROXIDE pumps.



ACID Pump

For the Acid Pump, the default setting is for a 50,000 litre pool. To increase or decrease the acid dose rate, change the % feed in the top right hand corner. Refer to the dose charts located in the quick reference guide for assistance with determining the correct setting for your particular size pool. To scroll through the setting in each menu use the tick button (✓) to scroll right and the ESC button (ESC) to scroll left. Use the up and down button to change the setting values. When completing any changes in the menu always click the tick button (✓) to get to the end of the changes to save the settings.

Tables 6.1 and 6.2 Hydrogen Peroxide Setting

Hydrogen Peroxide				
Pool size	Tube Size (L/min)	Summer Run Time (hr)	Winter Run Time (hr)	% Setting
10,000	3	8	5	1
20,000	3	8	5	2
30,000	3	8	5	3
40,000	3	8.5	5.5	3
50,000	3	8	5	4
60,000	3	8	5	5
70,000	3	8	5	6
80,000	3	8	5	7
90,000	3	8	5	8
100,000	3	8	5	9
110,000	3	8	5	10
120,000	3	8	5	11

pH Control				
Pool size	Tube Size (L/min)	Summer Run Time (hr)	Winter Run Time (hr)	% Setting
10,000	3	1	1	6
20,000	3	1	1	7
30,000	3	1	1	8
40,000	3	1	1	9
50,000	3	1	1	10
60,000	3	1	1	11
70,000	3	1	1	12
80,000	3	1	1	13
90,000	3	1	1	14
100,000	3	1	1	15
110,000	3	1	1	16
120,000	3	1	1	17

Tables 6.3 and 6.4 Chlorine Setting

Chlorine				
Pool size	Tube Size (L/min)	Summer Run Time (hr)	Winter Run Time (hr)	% Setting
10,000	3	8	5	2
20,000	3	8	5	4
30,000	3	8	5	6
40,000	3	8.5	5.5	6
50,000	3	8	5	8
60,000	3	8	5	10
70,000	3	8	5	12
80,000	3	8	5	14
90,000	3	8	5	16
100,000	3	8	5	18
110,000	3	8	5	20
120,000	3	8	5	22

pH Control				
Pool size	Tube Size (L/min)	Summer Run Time (hr)	Winter Run Time (hr)	% Setting
10,000	3	1	1	7
20,000	3	1	1	8
30,000	3	1	1	9
40,000	3	1	1	10
50,000	3	1	1	11
60,000	3	1	1	12
70,000	3	1	1	13
80,000	3	1	1	14
90,000	3	1	1	15
100,000	3	1	1	16
110,000	3	1	1	17
120,000	3	1	1	18

7 WATER PREPARATION

IMPORTANT: The following steps must be followed to ensure the pool is correctly prepared.

Measure the pool volume with reasonable accuracy

7.1 Balance the Pool Water

- I. Ensure the pool water is balanced within the parameters set out in section 5.1 and within these tolerances be balanced to the Langelier Saturation Index within a range of -0.5 - +0.5
- II. Standard pool balancing chemicals may be used for Calcium Hardness,
- III. Alkalinity and pH. If you need to lower the pH, Perox pH Control can be used.
- IV. Add sanitiser directly into the pool to achieve the recommended level as per the installation guide in section 5.1

OPERATION AND MAINTENANCE

8 MAINTENANCE

More frequent testing and maintenance may be required in periods of extremely high usage or significant water dilution. Please ensure that you follow the correct procedure for filling the pool and that pool water chemical levels are carefully monitored.

The Oxiswim system is a kit of components. Attempting to operate the system without correctly installing all components or with chemicals other than those recommended in this manual may result in the system not functioning correctly, failure of the system, maybe hazardous, or may cause adverse effects to your swimming pool or bathers.

NOTE: Low levels of either Perox (hydrogen peroxide), chlorine or chlorine dioxide will result in a failure of the system to maintain healthy, crystal clear water adequately.

8.1 Regular Care

Waterco recommends that you have your water regularly tested by your local pool professional, who is trained and accredited in the operation of Hydroxypure or the Oxiswim system. A record of testing should always be kept for reference.

8.1.1 Water testing and balancing

It is important to ensure the water is balanced for the very best results as per the recommended levels.

The pH level is maintained by the control unit (provided the Perox pH Control chemical drum is not empty). Therefore, the consumption of Perox sanitiser can be minimised provided that the recommended balances are maintained.

NOTE: Perox Pro is specifically blended hydrogen peroxide for use in swimming pools. Other forms of hydrogen peroxide that have not been specifically designed for use in a swimming pool or spa and approved by Waterco should not be used.

ONLY USE RECOMMENDED CHEMICALS

MAINTENANCE PROGRAM CHART

CHEMICAL	INITIAL DOSE	MAINTENANCE
PEROX PRO	1.5 litres per 10,000 litres raises Hydrogen Peroxide level by 100ppm 21 fl oz. per 1000 US gal raises HP level by 100ppm	Approx. 0.09 litres (90ml per 10,000 litres per day) 1/8 fl oz. per 1000 US gal, per day
PEROX SAFE & CLEAR	100 grams per 10,000 litres 1.6 oz per 1000 us gal	Every 3 months: 100 grams per 10,000 litres 1.6 oz per 1000 us gal
PEROX ACTIVATE	250mL per 50,000 litres	Every 3 months: 250mL per 50,000 litres
PEROX START-UP	250mL per 10,000Litres 3.20 fl oz. per 1000 US	Every 6 months: 250mL per 10,000 litres gal 3.20 fl oz. per 1000 US gal
COPPER ALGICIDE	100mL per 10,000 litres 1.3 fl oz. per 1000 US gal	Every 6 months: 100mL per 10,000 litres 1.3 fl oz. per 1000 US gal
C5	1 Tablet per 10,000 litres 1 Tablet per 2500 US gal	Every 3 months: 1 tablet per 50,000 1 tablet per 12500 US gal
PEROX PERFECT	Shock dose (green pool recovery, phosphate removal or use with Perox Activate); 300mL per 10,000 litres 3.80 fl oz. per 1000 US gal	Every 3 months: 250mls per 50,000

* The dosage rate for C5 is based on a 100 gram or .35 oz. tablet. Please check the size of the tablet and adjust the dose as required.

Water testing should be carried out weekly.

Water balancing should be carried out as required to ensure water is balanced within the following parameters. Within these tolerances, be balanced to the Langelier Saturation Index within a range of -0.5 to +0.5.

When operating using hydrogen peroxide the following operating parameters are recommended

Test	Result
Perox Pro (hydrogen peroxide)	100ppm - 300ppm
pH level	7.2 - 7.6
Total Alkalinity level	60ppm - 80ppm
Calcium Hardness	180ppm - 400ppm
Salinity (= total Pool salt & Mineral Crystals) For low salt cell use*	2000ppm-3000ppm
Phosphate level	Less than < 0.5ppm
Chlorine Dioxide	0.4ppm - 0.5 ppm

When operating on chlorine the following operating parameters are recommended:

Test	Result
Residual sanitiser chlorine	1.0ppm – 3.0ppm
pH level	7.2-7.6
Total Alkalinity level	100ppm – 150ppm
Calcium Hardness	180ppm – 400ppm
Salinity (= total Pool salt & Mineral Crystals) For low salt cell use*	2000ppm-3000ppm
Phosphate level (ppm)	Less than < 0.5ppm

More frequent testing may be required in periods of extremely high usage or significant water dilution, and maintenance may be required.

PLEASE NOTE: The above information is a guide only. Please refer to the local laws that govern a swimming pool or spa operation in your area. Always operate the system in compliance with local laws.

8.1.2 Low levels of hydrogen peroxide

Low levels of hydrogen peroxide will fail to maintain a safe and pristine pool. Therefore, always ensure that the levels are maintained at 100-150ppm.

8.1.3 Shock dose

From time to time, it is good practice to shock dose the pool with Perox Sanitiser. This should ideally be done at the time of adding Perox Activate. Follow dose rates on the container to achieve a 250ppm hydrogen peroxide level. Bathers should not swim whilst the hydrogen peroxide level is above 450ppm.

Should the pool look cloudy or green, follow the Troubleshooting Guide below, and if required, follow the Green/Cloudy Pool Recovery Guide to return the pool to pristine condition.

9 RECOMMENDED CHEMICAL LIST

When operating the system chlorine-free, the following chemicals are recommended:

- Perox Pro – Hydrogen peroxide designed explicitly for use in a swimming pool
- Perox Safe & Clear – Needed to generate chlorine dioxide from Oxiswim Sanitiser
- Perox Activate – Used to break down and remove body fats, oils, sun tan lotions, and makeup. Prevents scum build-up around the water line and Prevents and removes biofilms.
- Perox pH Control - Hybrid acid that is non-fuming, does not need to be diluted, removes phosphates, clarifies the water, and will help prevent algae. Safe to use with a chemical dosing system
- Perox Start-Up - Protects the surface of your pool and pipework from calcium deposits reducing the consumption of hydrogen peroxide and chlorine
- Aqua~Health Concide / Aquachlor Long Life Algaecide -Activates hydrogen peroxide in the pool water and helps prevent algae growth
- Perox Perfect - Used for green pool recovery or phosphate removal
- C5 Tablets - Prevents formation of biofilm and will reduce consumption of hydrogen peroxide and chlorine

Other chemicals specifically designed for swimming pools that may be used to balance water:

- Alkalinity increaser (buffer)
- Calcium hardness increaser

Filter Cleaners:

- Aqua~Health Natural Filter Cleaner or similar cartridge filter cleaner may also be Used

When running chlorine, you can continue to use the above support chemicals in conjunction with liquid, powdered chlorine, or chlorine produced by a salt chlorinator.

Perox Pro is not used when running chlorine.

Do not use any polyquats or lanthanum chloride-based products

9.1 Chemical Supply

The installer will recommend a local supplier of the recommended products. For further information or a list of other suppliers in your area, please contact your local Waterco branch.

9.2 Cartridge Filters

Users should have two cartridge elements. The first is used as the current filter element. The second should be soaked in a water bath and Aqua~Health Natural Filter Cleaner for at least 24 hours before being hosed off (follow the dose rates provided on the product).

Aqua~Health Natural Filter Cleaner will dissolve the chemical compounds held within the element for easy cleaning with a hose as usual, without affecting the Oxiswim system.

Rotating the two cartridge elements will ensure a long cartridge life with no additional filter element costs over the long term.

9.3 Draining Water

If water is required to be drained from the pool that will take longer than 10 minutes, it is recommended that the dosing pumps are turned off during this procedure. Once the process is completed, turn the dosing pumps back on.

9.4 Topping up The Pool

If you fill the pool with new water, please refer to the installation guide (Please refer to 7. WATER PREPARATION) for instructions.

It is not recommended that Bore or Well Water is used to fill or top up a pool unless it has been tested and recommended for this purpose.

When topping up your pool with tank water or town water, it must be considered that this water may contain many contaminants or high metal content.

When topping up the pool, the hose should be placed into the skimmer box whilst the filter is operating. This is done so that the system will treat the new water as it is filling. This will help reduce the overall "shock" to the pool that the freshwater may present. The system will continually treat the new water as it is added to the pool. Higher dosage rates of Perox sanitiser are generally experienced when freshwater is added; also, consider a manual dose into the pool before filling up. Minimising splashed water and evaporation can assist with reducing the amount of Perox sanitiser required to keep your pool looking crystal clear.

9.5 Hydroxyl Radical Generator (HRG)

Please refer to the instruction manual located in the packaging of the Hydroxyl Radical Generator. The catalytic component of the HGR should be replaced every 12 months. Please use the following part number to order it from Waterco using part number 3533000 Hydroxyl Catalyst Replacement.

9.6 Peristaltic Pumps

The squeeze tubes of the peristaltic pumps should be replaced everyone (1) year depending on the amount of chemical being used. The roller blocks should be replaced at least every two years. The higher the usage, the more often replacement is required.

9.6.1 Changing the tube without dismantling the rotor



Important: Use original Oxiswim squeeze tubes only!

Important: Never grease the tube!



Figure 9.1



Figure 9.2



Figure 9.3



Figure 9.4



Caution: Before changing the tube always ensure, that the tubes don't contain the residual chemical. The acid may cause severe injuries to your eyes and your skin. Wear protective glasses and gloves and protect the environment from escaping dosage products with a cloth if necessary.

Caution: The turning rotor can cause dangerous contusions! Always first ensure that the pump stays disconnected from the operational voltage during the changing of the tube (Switch off power to the Electrochlor!)

9.6.2 Injection valve maintenance

The chemical injectors should be unscrewed from the pipe location and cleaned every six months. The ball bearing located on the injector's outlet should be checked for correct operation by placing a blunt object into the end of the injector to check the ball is moving freely. Make sure caution is taken when completing this process and personal protective equipment is in place.

When using liquid chlorine, the injector may become blocked up more often.

10 GREEN WATER POOL RECOVERY

Under normal circumstances, it is best practice to recover a green pool with chlorine. However, if this is not practical, then the following procedure can be followed.

NOTE: Do Not Swim While Performing This Procedure

- 1) Turn the dosing pumps into the off position as detailed in the installation section,
- 2) ensuring the chemical feed is not operating during this process
- 3) Pool must be closed during the process
- 4) Backwash filter
- 5) Shock dose with Perox Pro, add 10 litres (2 / US Gal) per 10,000 litres (2,600 US Gal)
- 6) Add Perox Perfect at a rate of 1.5L per 50,000L of pool water
- 7) Add sodium bicarbonate (alkalinity increaser) at a rate of 1.5kg per 50,000L
- 8) Circulate on the 'Filter' position for 72 hours
- 9) Backwash filter If still cloudy, constantly filter until clear
- 10) If after running the filter nonstop for 72 hours, there is any sediment on the bottom of the pool, this must be vacuumed to waste.
- 11) Backwash filter
- 12) Identify the cause of the green pool and resolve

NOTE: Pool must not be swum in until peroxide level is below 300ppm

10.1 Green Pool Recovery Using Chlorine

All quantities stated are for a pool that is 50,000 litres. Adjust the amounts mentioned to suit your pool size.

Recommended Chemicals to complete this treatment:

- 1) Aqua Health Super 700 or Aquachlor Pool Chlorine 700
- 2) Algatrol Concentrate
- 3) Perox pH Control
- 4) Soda Ash or pH Increaser (do not use Alkalinity increaser during this procedure)

Pre-Start directions:

- 1) Hydrogen Peroxide level is best to be zero when doing this procedure.
- 2) Backwash filter or clean cartridge filter and flush Multicyclone.
- 3) To flush all parts of the recirculation system, all pumps, including water features, and solar and in-floor systems, must be running nonstop during this procedure.
- 4) Switch off the dosing pumps

Add chemicals as follows once the above steps have been taken

- 1) Ensure all water reticulation systems are running (must run nonstop for the next three days). The filter must be in the *filter* position during this process.
- 2) Add 20kg of chlorine (For heavy algae infestations) into the pool (mix in a bucket before adding)
- 3) Add 5 litres of Perox pH Control to the skimmer (the pump should be running when this is done)
- 4) Add 1 litre of Algatrol Concentrate into the skimmer (the pump should be running when this is done)
- 5) Run all reticulation system nonstop for 3 - 14 days (or until you see the algae die off and the pool becomes a cloudy blue look)
- 6) After 1 hour, complete a chlorine test on the water. If the chlorine level is not equal to or greater than 8ppm, add more chlorine until it is.

After 3 -14 days of running, complete these steps:

- 1) Backwash filter or clean out cartridge - flush out Multicyclone
- 2) Add 1 drum of hydrogen peroxide to the pool. If you intend to stay on chlorine, then do not add hydrogen peroxide. Instead, commission the chlorine feed operation relevant to your system.
- 3) Turn the dosing pumps back to the on position with the relevant sanitiser you wish to use.
- 4) After 1 hour, check the pH using a test kit. If the pH is lower than 7.2, use soda ash to raise the pH back up to 7.4.
- 5) After 24 hours, check the sanitation level and adjust as required.
- 6) After completing the above procedure, all equipment can be returned to the auto position.

10.2 Changing from Hydrogen peroxide to chlorine.

Generally, this change is done when the swimming season is over.

Steps to follow if using liquid chlorine:

- 1) Allow hydrogen peroxide level to diminish to zero
- 2) Add 4 kg of powdered chlorine per 50,000 litres of water into the pool as per directions on the chlorine packaging
- 3) Add 1 litre of Perox pH Control into the pool via the skimmer
- 4) Remove the hydrogen peroxide chemical feed tube from the drum. Put the chemical feed tube into a bucket of water and press the "Fill Operation" button on the dosing pump to initiate a manual feed. Repeat the "Fill Operation" cycle at least twice. Give the chemical tube and foot filter/weight a clean while it is in the bucket of water to ensure hydrogen peroxide has been removed from any area that will come in contact with liquid chlorine
- 5) Once step 4 has been completed chemical tube and foot filter/weight can be put into the liquid chlorine drum. Complete two "Fill Operation" cycles to ensure the pump is primed
- 6) Alter the dosage percentage on the hydrogen peroxide/chlorine pump to suit the size of your pool and season as per the chart located in section 6 of the manual. This should be done on the pH dose pump as well.
- 7) After one week, check the chlorine level and pH and adjust the feed rate on the dosing pumps if required.

Steps to follow if using a salt chlorinator:

- 1) Turn off the hydrogen peroxide/chlorine dose pump
- 2) Check the salinity level of the pool water and add minerals/salt to the operating level of your individual chlorinator
- 3) Turn on the chlorinator to output the maximum amount
- 4) Alter the dosage percentage on the pH dose pump to suit the size of your pool and season as per the chart located in section 6 of the manual.
- 5) Test the water and adjust the pH dose pump if required
- 6) If more chlorine than the minimum level is detected, it is desirable to leave this high during the winter season as this will help clean the system.

10.3 Changing from Chlorine to Hydrogen Peroxide

Steps to follow if using liquid chlorine:

Turn off the chlorine dose pump or chlorine generation via the salt chlorinator

- 1) Add one drum of Hydrogen Peroxide per 50,000 litres into the pool. If the pool is an indoor pool, please make sure the room is well ventilated during this process
- 2) Remove the chlorine chemical feed tube from the drum. Put the chemical feed tube into a bucket of water and press the "Fill Operation" button on the dosing pump to initiate a manual feed. Repeat the "Fill Operation" cycle at least twice. Give the chemical tube and foot filter/weight a clean while it is in the bucket of water to ensure chlorine has been removed from any area that will come in contact with Hydrogen Peroxide
- 3) Once step 2 has been completed chemical tube and foot filter/weight can be put into the Hydrogen Peroxide. Complete two "Fill Operation" cycles to ensure the pump is primed
- 4) Alter the dosage percentage on the hydrogen peroxide/pump to suit the size of your pool and season as per the chart located in section 6 of the manual. This should be done on the pH dose pump as well.
- 5) After one week, check the Hydrogen Peroxide level and pH and adjust the feed rate on the dosing pumps if required.

11 GENERAL SAFETY GUIDELINES

- In emergencies, the instrument should be switched off immediately. First, disconnect the power cable from the power supply.
- When installing, always observe local regulations.
- The manufacturer is not liable for any unauthorised use or misuse of this product that may cause injury or damage to persons and/or materials.
- The controller should be interlocked with a no-flow protection device to automatically shut off the peristaltic pumps when there is no flow.
- Peristaltic pumps and accessories must only be serviced and repaired by qualified and authorised personnel.

Instruments must be accessible at all times for both operation and servicing.

- Access must not be obstructed in any way.
- Always discharge the liquid end before servicing the instrument. Empty and rinse the liquid end before working on a peristaltic pump that has been used with hazardous or unknown chemicals.
- Always read the material safety data sheets for all chemicals used.
- Always wear protective clothing when handling hazardous or unknown chemicals.

This instrument must be operated and serviced by trained technicians only.

- All connection operations must be performed while the instrument is not connected to the main power supply.
- Adequate measures should be taken to prevent the cross-connection of chemicals.
- Chemical feeding should be stopped during backwash cycles and periods of no flow as these conditions may introduce the potential for chemical overdosing.
- Not doing so may result in elevated chemical concentrations in the pool or spa.
- If the supply cord is damaged, it must be replaced by either the manufacturer, its nominated service agent, or a similarly qualified person to avoid a hazard.

WARRANTY

Important note: The benefits under this warranty are in addition to other legal rights and remedies you may have in relation to Waterco products

1. These terms and conditions carefully, as failure to comply may affect your legal rights under this warranty; and
2. Any operation instructions carefully before commencing the use of any product manufactured by
3. Waterco Limited ("Waterco").
4. Waterco manufactures quality pool and spa products to the highest standards
5. Using the most advanced technology and production procedures available.

WARRANTY COVER

If a defect occurs in any Waterco product during the warranty period, Waterco will at its discretion, repair the product or replace and install the defective part, free of charge provided that the defect results solely from poor workmanship or materials and is subject to these terms and conditions.

Labour is covered by this warranty for a period of twelve months from the date of purchase or installation, within a 25 km (15 miles) radius of an authorised Waterco Service Agent.

The purchaser is responsible for any freight incurred.

Warranties are valid only within the original country of purchase. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law [applicable only to Australian States and Territories]. 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

All products sold by Waterco are covered by a one-year warranty. The exceptions to this are the products listed in the schedule (which also specifies relevant warranty periods). All warranty periods commence on the date of purchase by the end user.

The provisions of this warranty are not transferable and are in addition to and not in modification of or subtraction from any applicable statutory warranties, rights, or remedies.

CONDITIONS OF WARRANTY

This warranty only applies where:

1. The products requiring installation have been sold with installation included and have been installed by a licensed plumber, electrician, or person who has completed an accredited course in swimming pool care and maintenance or a person with more than 12 months on the job learning or a person supervised by one of these people, in accordance with any written installation instructions provided.
2. The products have been installed and operated in accordance with written instructions supplied by Waterco;
3. The purchaser is able to provide proof of purchase that specifies the date of purchase;
4. The product has been serviced or maintained regularly.
5. Installed in an area that is free from flooding or excessive outside contact with water;
6. Any pool and spa equipment has been used in water:
 - a. With a temperature not exceeding 40°C degrees Celsius;
 - b. With a pH range maintained between 7.2 – 7.6;
 - c. That has been chemically balanced in accordance with the Langelier saturation index within a range of -0.2 to + 0.2 to ensure that it is not corrosive or scale forming;
 - d. That is not saltwater (other than mild saline water conditions which are compatible with swimming pool saltwater chlorination systems) – unless otherwise stated by Waterco in both the respective product labels and brochures that it is suitable for seawater applications; and
 - e. That has been regularly treated with a sanitising system using bromine, chlorine in one of its compound forms, or generated in-situ, in concentrations (doses) recommended by the relative state or territory health departments. (In areas outside of Australia please refer to the local health department recommendations before use);
7. Electrical equipment has been adequately protected from salt air environments and from salt water, and all repairs and replacements shall be carried out by Waterco or its authorised service dealer unless otherwise authorised in writing by Waterco.

If an authorised service dealer is not available within 25 km (15 miles) of the purchaser's area:

- The purchaser must contact the place of purchase or Waterco for further instructions and;
- The purchaser is responsible for any freight or infield labour costs.

EXCLUSIONS

This warranty does not cover, and Waterco will not be responsible for, any defect or damage caused or contributed to by:

- a. installation or use of the product other than in accordance with Waterco's written instructions,
- b. any statutory requirements and these terms and conditions;
- c. use of the product for a purpose other than for which it was designed or sold;
- d. abuse, misuse, corrosion, internal and external, or normal wear and tear;
- e. any repairs or modifications whatsoever carried out by any person, other than a Waterco authorised service dealer;
- f. exposure to water not caused by a defect in the product; and
- g. transit of the product over which Waterco has no control.
- h. inadequate ventilation
- i. cement, pebbles, render, or other pool surface finishes blocking the pump's impeller
- j. insect and/or vermin infestation

Some three-phase pumps are not supplied with thermal overload protection. It is the purchaser's responsibility to have this provision installed by appropriately licensed electricians prior to the initial installation of the pump. All electrical work must comply with any appropriate statutory requirements.

Warranty for installation of thermal overload protection is the sole responsibility of the licensed electrical contractor and not Waterco.

LIMITATIONS OF LIABILITY

To the extent permitted by law Waterco excludes all liability it may have to the purchaser for indirect, special, or consequential loss arising from or related to any defect in any Waterco product, or any act or omission, including negligence of Waterco, 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 Waterco product.

To the extent permitted by law, Waterco 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, any exercise of any statutory rights, or any liability imposed on Waterco by any law (including the Competition and Consumer Act 2010), if to do so would contravene that law or make any part of these terms and conditions void.

To the extent permitted by law, Waterco 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 Waterco's option);

(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.

TEST YOUR WATER REGULARLY

The water's chemical balance is a relationship between total alkalinity, pH, calcium hardness, and temperature. Waterco recommends that you have your water regularly tested by your local pool professional. A record of testing should always be kept for reference.

Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so any such limitation may not apply.

This warranty gives specific legal rights. In addition, the purchaser may have other rights depending on the jurisdiction in which the Waterco product was purchased, or the purchaser is located.

SCHEDULE OF WARRANTY PERIODS

Oxi Swim Dual Sanitisation	24 months
Dosing Pumps	24 months
Oxiswim Sanitiser	36 months
Commercial Installations	12 months

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