NKD-M Freshwater System

USER GUIDE

Naked
Freshwater Pool Systems

Download the App

SCAN QR CODE TO GET THE NAKED APP

- Detailed help information at your fingertips
- Register warranty directly via the App
- Pool Volume Calculator
- Water Balance Calculator
- Submit Support Tickets
- Tips to manage your swim spa

Congratulations on getting Naked!

Your Naked Freshwater System is a true environmentally friendly system requiring far less maintenance than traditional sanitisers. This hybrid swimming pool and spa sanitisation system uses a combination of copper and silver ionisation combined with oxidation to treat and provide safe, healthy fresh water.

The Naked Pools pH Controller is the perfect compliment to your new system and will dose acid into the pool on a daily basis, making maintenance far simpler.

Please take the time to review this entire guide and download the Naked App to ensure you have the best experience in using and managing your pool and spa.

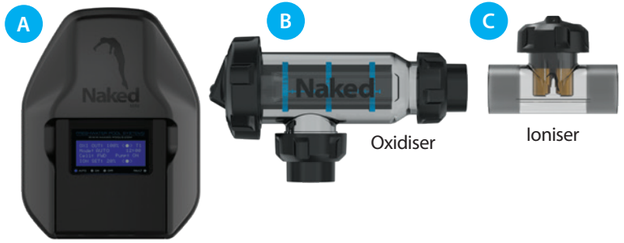
HANDOVER EXPERIENCE

If you've never owned a pool before it can be daunting when the builder does the final 'handover' to you. Everything about your pool will be explained with a lot of information to take in. Don't panic! You will come to understand with time how to maintain your pool and often a pool surface and water will need a few weeks to fully settle. Your pool water will then be more stable and ongoing maintenance will become a simple process.

Please remember that your Naked Freshwater System is not designed to chemically maintain your pool water and keep it balanced. We encourage regular water and copper testing, balancing and correction if and when required to maintain the recommended balanced levels of your pool water. This is a vital part of a complete maintenance program and will ensure a trouble-free freshwater pool.

What's in the box?

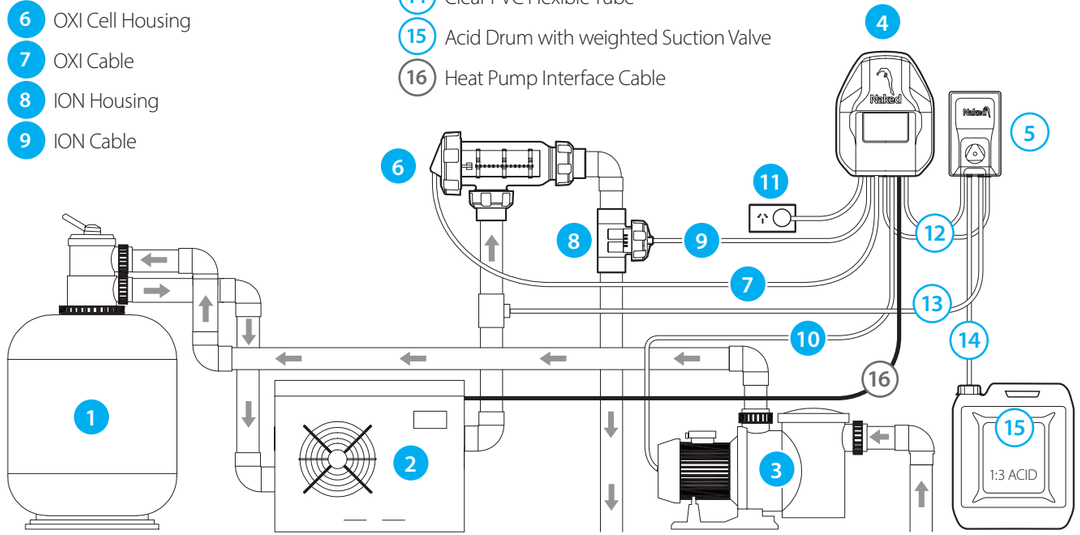
- **A** NKD-M Freshwater Control Unit
- **B** Oxidiser Housing with Unions
- **C** Ioniser Housing
- **D** Optional NKD-pH Controller
- **E** Naked Copper Test Kit
- **F** Water Test Bottle
  (for use when visiting a pool shop)
- **G** Installation & Startup Guide
- **H** User Guide



Typical pool setup

1. Filter
2. Heater
3. Pump
4. NKD-M Control Unit
5. pH Controller
6. OXI Cell Housing
7. OXI Cable
8. ION Housing
9. ION Cable
10. Pump mains power cable
11. Control Unit mains power cable
12. pH Data Cable
13. Clear PVC Flexible Tube and Injection Tee
14. Clear PVC Flexible Tube
15. Acid Drum with weighted Suction Valve
16. Heat Pump Interface Cable

Pool Components
Optional NKD-pH Controller
Optional Heat Pump Interface Cable



Water balance and your swimming pool

In a pool or spa, we need to help nature (water) achieve balance. Balanced and sanitised water provides a healthy environment for your family and friends, but untreated or improperly treated water is not quite so appealing.

When water is out of balance, it becomes aggressive and seeks to balance itself by either attacking the pool surface, corroding pool equipment or forming scale on various surfaces. This can be expensive and it can also inhibit the sanitising process. In simple terms, the pool owner should balance the pool's pH, its Total Alkalinity and the Calcium Hardness.

Copper/Silver is not required for balancing your pool water but a residual of copper is a highly effective natural algaecide. In fact, the Naked System relies on copper and silver as it's main form of residual sanitiser in your swimming pool eliminating the need to swim in high levels of chlorine and other chemicals associated with chlorine, salt or mineral pools. Correct copper levels should range between 0.2-0.5ppm.

Smaller swimming pools and swim spas are often heated and have covers installed to minimise evaporation and retain heat for long as possible. It is important to ensure adequate circulation, filtration and sanitisation as water balance levels can change with warmer water, after heavy pool usage, heavy rain, topping up the pool, or adding chemicals, which in turn affects sanitising. Sanitiser and pH levels should be checked and adjusted frequently. Regardless of the chlorination process used, any pH drift above the recommended range (7.2 to 7.6) will inhibit the sanitising effect of your pool.

TIP: The calculators in the Naked App will assist with correct ranges for balancing your pool water.

Water chemistry for your Naked pool

Important Notes

- ✕ Do not add cyanuric acid (Stabiliser)
- ✕ Do not use copper algaecides
- ✕ Do not use any bromine compounds
- ✕ Do not use aluminium based or other flocculants
- ✕ Do not use sodium carbonate (Soda Ash)
  - Sodium bicarbonate is fine
- ✕ Do not use granular chlorine
  - Liquid chlorine can be used if necessary

Please follow the recommended water chemistry advice below to ensure the correct operation of your Naked Freshwater System.

TESTING	IDEAL
Total Chlorine	0 - 0.5ppm
Free Chlorine	0 - 0.5ppm
pH	7.2 - 7.6
Total Alkalinity	80 - 150ppm
Calcium Hardness	150 - 250ppm
Copper *	0.2 - 0.5ppm
Total Dissolved Solids (TDS)	800 - 1200ppm
Salt / Mineral Salt	500 - 700ppm
Phosphates	0 - 0.2ppm

TIP: If you are taking your water to a pool shop for testing, use the Naked Water Sample Bottle provided with your system and show them the table (right). Alternatively download the **Water Testing Tips** article from the Naked website or the Naked App.

NOTE: The above takes into account all pool surfaces. TDS levels should not exceed 3000ppm for optimum performance and complete Fresh Water experience. Excessive TDS levels may cause the unit to overheat and void warranty.

**Always test copper using the Naked Copper Test Kit.*

Adjusting your water chemistry

pH

For adjustments to pH levels, use Liquid Hydrochloric Acid. For correct adjustments, the Acid Demand test on your 4-in-1 Test Kit should be carried out. One drop of solution 3 = approx' one cup (250mls) of hydrochloric acid.

DO NOT add more than 500ml at any one time or while people are in the pool. If a NKD-pH Controller is installed simply adjust the running times up or down depending on the pH reading.

Total Alkalinity (TA)

For adjustment of Total Alkalinity levels, use Buffer (Sodium Bicarbonate). 200g will raise the Total Alkalinity by 10ppm per 10,000 Litres.

Salt (TDS)

For adjustments to salt levels, always use quality pool salt or mineral mix from a pool shop rather than hardware stores to ensure crystal clear water.

Calcium Hardness

For adjustments of Calcium Hardness levels, Calcium Chloride should be used. Correct amounts need to be checked and advised by your pool shop.

It is important to clean the filter regularly and the water chemistry of your pool should be kept at the proper levels at all times. Failure to keep a correct chemical balance can result in scale build-up and possible discolouring of the pool surface. Most importantly, maintaining correct water balance ensures your sanitiser works efficiently and the pool is the most comfortable to swim in.

We recommend testing pH and Copper weekly. Test Alkalinity and Phosphate levels every 4-6 weeks and Calcium Hardness quarterly.

TIP: Use the calculators built into the Naked App to assist you with correct levels and adjustments for your pool.

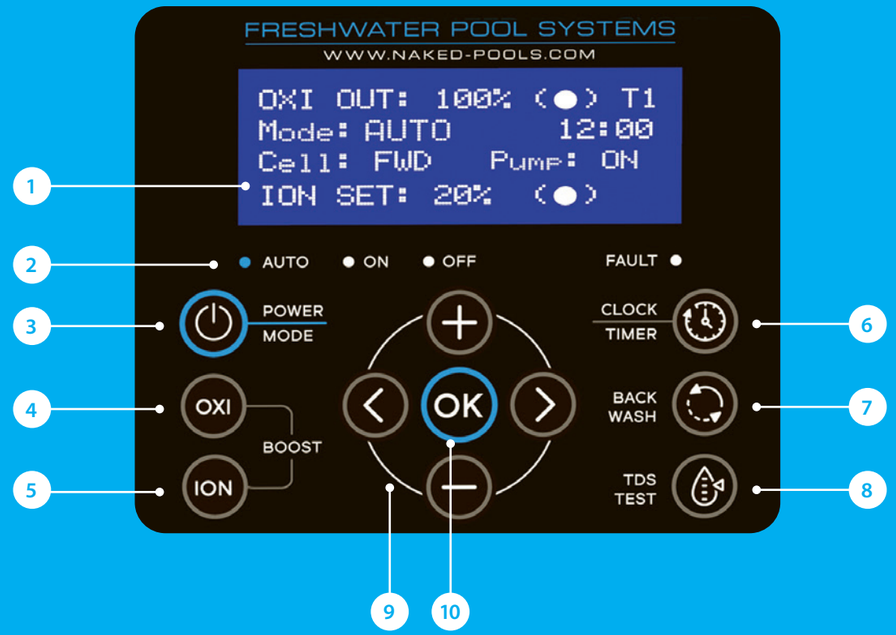
Overview – Major Functions

This is a general overview of each button on the main screen. More detailed information about these functions are contained in the System Menu Overview of this guide.

Looking for more detailed information?

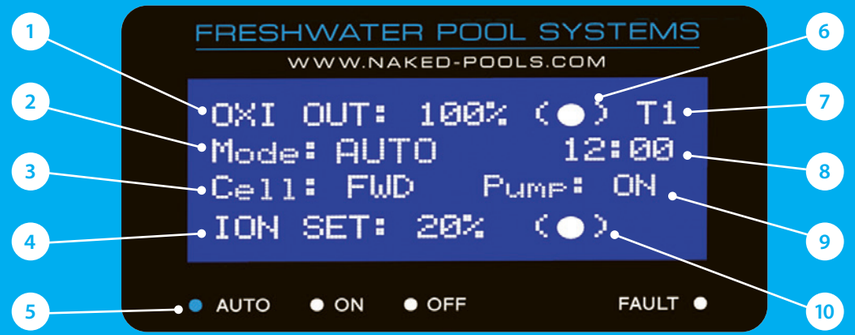
Once you're familiar with the instructions in this guide, you can find more detailed information, help videos, downloads, FAQs and more at:
https://support.naked-pools.com
or download the Naked App from
https://naked-pools.com/the-naked-app

1. DDS Screen – Default Display Screen.
2. Indicators – Displays what mode the system is currently in.
3. Power Mode – Switch between running modes Auto/Off/On.
4. OXI Boost – Boost the Oxidiser during/after heavy pool use or extreme weather.
5. ION Boost – Boost copper levels in the pool if low.
6. Clock & Timers - Single/Dual/Ext
7. Backwash – Controls the pump and steps through backwashing sand or glass media filters.
8. TDS Test – Check the TDS levels in your pool. (Ideal levels are 800-1200ppm)
9. Navigation - [+] Increase. [–] Decrease. [<] Back/Exit
10. Enter/Save/Next



Overview – DDS (Default Display Screen)

1. What % the Oxidiser is running at. Should always be 100% during summer but can be reduced during winter or for indoor/covered pools. (See OXI OUT in more detail further in this guide).
2. The mode the system is currently in. Can range between AUTO (Default), ON (Manual) or OFF.
3. Shows direction cell is operating relating to reverse polarity. Will change between FWD, REV or OFF.
4. Shows the Set Point for the Ioniser (copper output). This screen will also fluctuate between ION Set and Water Temperature and any possible alerts from the unit.
5. LEDs for current mode or if a fault is detected.
6. The dot inside the brackets shows when the Oxidiser is actually running. The (•) may flash at times when TDS is higher than expected and the unit compensates for this by switching the Oxidiser off/on to avoid higher than expected chlorine levels.
7. Timer mode the unit is running in T1 or T2, where the unit will work in accordance to the times set. EXT is displayed when the unit run times are set by an external controller. (More detail available further on in guide).
8. Time of day
9. When the unit is controlling the pump (ON/OFF)
10. Similar to OXI OUT, the dot will be only visible when the Ioniser is running. ie: at 20% you will see the dot on for two minutes of every ten. The Ioniser reverses polarity every 3 minutes for even wear of the copper/ silver anodes.



System menus

There are 15 sub menus within the system. Some functions are the same or similar to what is available through the main buttons on the front of the unit such as BACKWASH and OXI BOOST, while others are more detailed.

To access the **MAIN MENU**, simply **press the [OK] button** and then either the **[-] or [+] buttons** to scroll through the options.

When you have the menu you want, simply **press the [OK] button** to enter.

NOTE: Everything will appear on the digital display as to how to adjust, save or exit these menus.

1. **BACKWASH** - Same as on the front of the unit for backwashing sand/glass filters. Backwashing is a process that must happen regularly (8-10 weeks on average) to maintain a healthy, clean pool. It is the process of cleaning the filter media or cartridge of larger debris that is trapped in the filter. This feature will control the pump for you and the LCD screen steps you through each part of the process.
2. **BRIGHTNESS** - Factory setting for screen brightness is 65% but this can be adjusted up or down.
3. **CELL CLEANING** - The number of hours the oxidiser plates reverse polarity (clean themselves). By default these are set for 10 hours. If your pool water is high in calcium and you start to see a build up on the plates inside the cell you may need to reduce the reversing hours to accommodate. This is important as build up on the plate surface reduces the sanitisation affect and you may even notice the OXI OUT percentage drops below that ideal of 100%.
4. **OXI BOOST** - Same function as the OXI button on the front of the unit. This boosts the oxidising time if the pool is under heavy use or severe weather conditions.

5. **OXI SETTING** - The factory setting for OXI Output is 100%. If TDS levels are within the correct range (800-1200ppm) the OXI OUT is producing 10gr/h of chlorine . Without stabiliser (cyanuric acid) in the pool this level is negligible but most effective. However, if the pool is indoors or constantly under a pool blanket or permanent cover you may want to reduce the output level to avoid chlorine build up in the pool water.
6. **CLOCK/TIMER** - Same function as the clock/timer icon on the front of the unit. Used for adjusting the CLOCK, SINGLE, DUAL and EXTERNAL CONTROLLER TIMERS. There is more information about Timers in this guide.
7. **CONTRAST** - Factory setting for contrast is 80%. This can be adjusted up or down should you have difficulty seeing the digital display.
8. **POWER/MODE** - As per the blue button on front of the system. This will adjust the unit from AUTO - OFF - ON (Manual)
9. **PUMP SETTING** - Designed to protect your pump if there is no flow of water. This means the time the pump is allowed to run after the water sensor on the OXI Cell detects there is no flow of water. The pump will be turned off from 3 to 10 minutes, after detecting no water flow.
10. **TDS TEST** - Used to measure the TDS (Total Dissolved Solids) in the water. TDS is the combination of all solids that are present in the water such as salts/minerals, calcium, sodium bicarbonate and acid. A total of four readings are displayed for 30 seconds in the FWD direction and then another 30 seconds in the REV direction.
11. **SERVICE MENU** - Please contact your local Naked dealer or service technician for further information in the use of these functions. Model number and pool size can be found here and this is typically used for troubleshooting and not required by the average consumer.
12. **SPA MODE** - The Spa mode allows your system to be adjusted to suit your Spa by reducing the OXI Output to 10%.
13. **WINTER MODE** - Winter Mode will reduce the output of the Oxidiser and Ioniser by 50% to accommodate low use conditions or when the pool is covered during colder months. It does not adjust pump run times.
14. **ION SETTING** - Used to adjust the current Ioniser output from the default 20%. You may need to reduce this for very small pool sizes.
15. **pH CONTROLLER** - Adjust the daily run times where necessary. Priming the acid line or manually set a given amount of acid if needed.

TIP: ION SET will automatically reduce by 50% when the temperature is less than 20 degrees celsius and will revert back to 20% once the temperature increases past 20 degrees.

Details of Major Functions

Clock / timers

CLOCK /TIMER displays are all shown in 24 hour format.

It is important to understand the difference between CLOCK and TIMER. CLOCK means the physical time of the day (e.g. 08:00) and TIMER means the settings programmed to turn the unit ON and OFF.

ADJUSTING THE CLOCK

Simply press the Clock icon on front of the unit TWICE. You can then adjust the time of day using [+] or [-] buttons and OK to save hours and then move to the minutes.

NOTE: Variable speed pumps
These are designed to run for longer at a lower speed. Often a pool will be set up according to a single speed pump so it is important to increase Timer 2 for adequate pool circulation when using variable speed pumps at low speeds.

ABOUT THE TIMERS

The Naked Freshwater Pool System defaults to run in a DUAL CYCLE once the INITIAL START UP has completed.

- TIMER 1 (T1) and TIMER (T2) when in operation is oxidising and sanitising your pool, keeping the pool crystal clear. During this time the system is producing a small of chlorine.
- TIMER 2 (T2) may need to be adjusted depending on your pool and its environment to allow for longer sanitisation and filtration.
- During TIMER 1 the ION SET will work for a set period of time based on the pool size. Once completed the temperature will be displayed.

External controllers

Your Naked System may be connected to an automation system, designed to allow you remote control of your pool, spa, lights or other features. There is no problem in having the Control Unit plugged in to automation systems and we advise to select EXT (External Controller Mode) and that you check with your builder/installer or refer to the Installation Guide provided with your unit as to the best way to set up your swimming pool.

Information on external controllers can also be found on the Naked Pools App.

OXI Boost

The OXI button is designed to give the pool water a boost to ensure it remains crystal clear and will help breakdown organic matter, sunscreens, body oils and other factors that get in the water during heavy use.

It is a good idea to utilise this function either when the pool is under heavy use or directly after or if your pool is looking cloudy after a lot of use or adverse weather conditions such as heavy rain or storms.

When the OXI Boost button is pressed you will see the timer on the screen start counting down from 24 hours.
To adjust the run time, press the [-] button or leave it and after the default 24 hours countdown period ends the system will automatically go back to the previous setting, normally AUTO.

A general misconception is that engaging the OXI Boost feature will help increase your copper level in the pool which it will NOT. (See ION Boost).

TIP! Check and adjust pH before and after OXI Boost.

ION Boost

Firstly, did you check your copper level using the copper test kit provided? If not, then please do so remembering to read the sample in the shade and not direct sunlight and make certain your pH is within range (7.2 - 7.6).

Low or no copper residual in the pool can happen and one of the most common reasons is dilution - maybe you have experienced a lot of rain or been back washing the pool a lot recently.

Copper levels can also decrease due to having phosphates present in the pool...the copper residual in the water can be eaten up if phosphates are present, so please get a water analysis done by your local pool shop and if required treat the pool accordingly.

If it's determined that your copper is low, you can use the ION Boost feature which will step you through the process. The ION Boost will automatically determine the run time of the Ioniser based on the figure you enter and the pool size.

The ION SET will change to 100% while in boost mode.

We advise testing copper levels at least once whilst ION Boost mode is running. Should the levels be within range (0.2-0.5ppm) while the Boost function is still running, simply press the ION Boost icon again, wait a few seconds and it will give you the option to EXIT.

ALERTS: High pH will mask an accurate copper reading. Ensure pH is in range when testing copper levels.

NOTE: The ION will only boost during the standard run times of Timer 1 each day, not continuously like the OXI Boost function. After the time has elapsed the ION SET will automatically go back to its default setting. (It is possible this may take a few days depending upon the pool size).

TDS Test

TDS stands for "Total Dissolved Solids" and in simple terms refers to anything solid that is dissolved in the water.
Your Naked System has a built-in TDS meter that measures the water and can be checked by pressing the TDS Test button.

- Common contributors to TDS in a pool are salt, buffer (alkalinity increaser), calcium hardness and acid.
- The Naked System operates on record low levels of 800-1200ppm in comparison to traditional salt/mineral or chlorine systems.

It is best described that the lower the TDS in the water, the less dense the water is therefore the clarity and quality of water with a Naked System is a clear standout in comparison to its rivals.

Total dissolved solids play a significant role in water chemistry. While pH, total alkalinity and calcium hardness levels get all the attention, TDS should not be overlooked.

Adding 'anything' into the water, even contaminates increases TDS levels. However, often TDS becomes diluted due to rainfall, backwashing and topping up pool water. As TDS decreases the effectiveness of the sanitiser (OXI/ION) can also decrease.

NOTE: Cold Water affects TDS. The water is less conductive than during summer months so there may be instances where more salt/minerals are required during winter months.

ALERTS: If the TDS levels in your pool are either very high or too low you will see a warning message on the LCD screen. For high TDS this can only be adjusted by diluting pool water but is not critical. If the TDS is too low you should increase the levels (normally through salt/minerals) to ensure adequate sanitisation in the pool water.

TIP! – A clear indication of low TDS in the pool water is the OXI OUTPUT will not be showing 100% or less than its original set point. If the OXI SET = 100% but the OXI OUT during Timer 1 or Manual Mode is showing much less than the set point, this is a clear indication that the TDS levels are low or you have high calcium build up on the plate material in the cell and it requires cleaning.

Pools during winter

There is a term used "Winterising your pool". During colder months when the pool is unlikely to be used, pool shops may recommend a "Winteriser Pack" which is typically an algaecide. This is not needed for a Naked Freshwater Pool as it already contains copper.

Often a pool cover may also be used over winter for long periods of time which can trap and hold chlorine in the pool water.

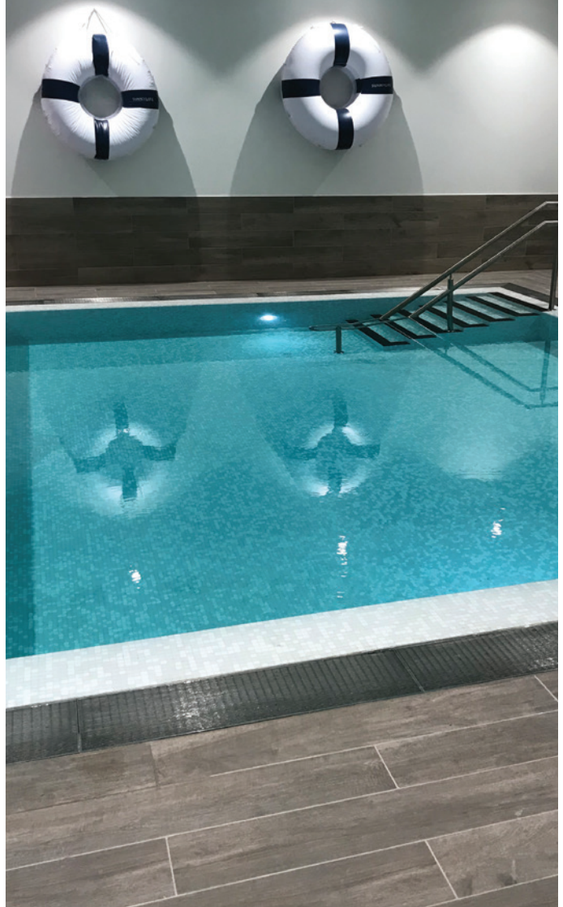
MENU 13 allows you to set your Naked System to winter mode and reduce both the OXI and ION setting by 50% from its current default. This reduces chlorine and copper production as they are in less demand by the pool during winter months.

You will see on the DDS screen the Mode will show "**WINTER**".

Once temperatures increase you can use the same menu to revert back to normal operation and the OXI and ION SET will return to their original settings. (Normally OXI=100% / ION=20%)

NOTE: Where possible we recommend running pumps more rather than less for better circulation. Pool Blankets should also be removed to allow the water to breathe at least once a week during winter.

IMPORTANT! – We DO NOT recommend adding a chemical based 'algaecide' to winterise your pool as the Naked System has a built in natural algaecide already – Copper!



Indoor or covered pools

Pools that are indoor or under cover are not exposed to direct sunlight. UV is a main factor in removing chlorine from the pool water. (This is ideal for a Naked System).

With indoor and covered pools it may be necessary to reduce the OXI output by as much as 50% or even more on small indoor pools. It is not critical these are set optimally to begin with and may take some time over different output settings to find the right setting for your pool size, environment and use. If you have any queries, please refer to our online Help Centre at naked-pools.com or download the Naked App.

IMPORTANT! – Pool blankets trap chlorine in the pool. It is important to reduce the OXI Output when the pool is covered and to remove the blanket often to allow the water to breathe and be exposed to direct sunlight where possible.

Faults and Alerts

Should there be situations where operation or standard performance of the system may be affected you will see the Fault light come on and the fault message or an alert will be displayed at the bottom of the DDS.

TIP: For detailed information about these alerts and possible causes please refer to our online Help Centre at **naked-pools.com** or download the Naked App.

LOW TDS

TDS levels below 600ppm means sanitisation will not be as effective. Check water balance and add salt/minerals. LOW TDS for long periods of time can damage the plate material inside of the cell.

TIP: Another indicator of Low TDS will be that the OXI OUT will not retain its setting at 100%.

HIGH TDS

TDS levels above 2500ppm. Try diluting some of the pool water. TDS levels should never exceed 3000ppm.

CHECK IONISER RODS

The Copper/Silver anodes have warn and will need replacing. Replacement Ioniser Rods can be ordered through naked-pools.com or call 1800 625 331.

WATER FLOW FAULT

Occurs when there is no water flow or the water level in the cell housing is too low and has exposed the flow sensor on the OXI Cell.

The system will automatically stop the pump for 3 minutes and make three attempts to draw water over a 5-10 minute period. The system will continue repeating the process when another Timer is due to start. The Fault Light will remain until the water flow issue is resolved.

WATER TEMP LOW

Should the water in your pool get below 10ºC the unit will come up with an alert to notify you. During the process of electrolysis, very cold water can cause damage to the titanium plate material within the cell.

To combat this the Naked system will automatically drop the OXI (oxidiser) output to 10% (from 100%) to protect itself. As soon as the water increases above 10ºC again the alert will go off and the system will set the OXI back to 100% or it's previous default.

WATER TEMP HIGH

This alert will show when the water temperature is between 40º - 45ºC and the unit will operate as normal. This alert is in the event that there may be a closed valve, pump fault or water flow issue.

Should the water rise above 45ºC the unit will pause and wait for the water temperature to drop again, once more to protect your equipment and the safety of others.

Troubleshooting

CALCIUM BUILD UP (WHITE SPOTS)

This is caused by an imbalance of chemicals in the pool. It is important to maintain the chemical balance at all times to avoid the build-up of calcium. If calcium build-up does occur, have your water tested and seek advice from a pool professional. (See "Inspecting and cleaning the OXI cell further in this guide").

SUNSCREENS / BLOCKOUT

Sunscreens do come off the body when swimming and can affect water balance and cause the water to go cloudy. Excessive use can also form a residue on the waterline of your pool which will then need wiping to ensure no staining develops. Try to avoid excessive use of sunscreens and make sure it is applied at least 30-45 minutes prior to jumping in the pool. Although rare, certain people when using sunscreen in the pool may find discolouration of bathers after swimming. (This can be removed when washing).

PHOSPHATES

Phosphates typically come into the pool from lawn care products; fertilizers, sprays, and other phosphorous based chemicals. Phosphates can also come from dead skin cells, body fats and oils. In pool water, phosphates are a food source for algae and will assist in its reproduction. It's important to keep your pool well maintained and always remove debris as soon as possible from the pool. For unknown reasons, many pool shops do not include a test for phosphates as standard practice so please ensure to insist on it when testing your water. We recommended testing every 4-6 weeks depending upon the environment of your pool.

ENVIRONMENT

Harsh weather conditions also affect water quality. Strong winds blow dust and debris into the pool. High rainfall can dilute pool water and is typically acidic which may alter water balance. Lightning is full of nitrogen, similar to fertilizers, this can feed phosphates and therefore algae. Consider what your car or house windows look like after high winds and rain, the same applies to your pool. Be aware of changing conditions that may affect your pool and manage accordingly. Should you be in a generally harsh environment or area with many trees/leaves you may need to look at extending run times to accommodate.

VARIABLE SPEED PUMPS

Increasingly more popular, these pumps are designed to run for much longer but at a lower speed (flow rate) which in turn saves on power costs. It's important to understand that if you are running your pump at low speed you will likely need to extend the runtime of the Naked System to accommodate. ie: a standard pump may require five hours to adequately filter and sanitise an average pool, but with a variable speed pump set on low, the running time will need to be increased to at least eight hours a day. For more information on setting timers and run times, please see our helpful How To Videos: https://naked-pools.com/how-to-video-naked-pools/

RUST COLOURED SPOTS

These spots can occur on the surface of Pebblecrete pools and is due to the mixture of natural stone in Pebblecrete. The chemicals used to treat the pool can cause leaching of stones which has the appearance of rust, as do leaves left on the surface releasing tannins into the pool water. However, it is purely cosmetic and can be simply removed by using hydrochloric acid directly to the spot that will clean the surface of the pebble. It is not a structural issue and can occur periodically.

Owner maintenance

It is important to understand a certain amount of owner maintenance and care is required to keep your investment operating properly and your water healthy.

We would like to share with you a few tips and hints to extend the life of your investment:

- **pH level** – it is extremely important that your pH is maintained at the correct levels at all times. This is something you should test weekly with a simple Water Test Kit. More than likely, your pH level will be high for the first 10-12 weeks as your pool surface settles into its new environment. Please be aware this is totally normal for nearly all new pools. The NKD-pH Controller will dose acid daily or if not installed acid can be purchased from your local pool shop.

- **Water Balance** – your pH level is only one part of the required water testing. Your other weekly testing can also be done with your Water Test Kit or pool shop.

- **Copper Level** – your Copper levels are maintained between 0.2 - 0.5ppm and need to be tested at least once a week to fortnight especially in summer. Test the copper levels with the Copper Test Kit provided on handover. Further information can be found here https://naked-pools.com/how-to-video-naked-pools/

- **Evaporation** – in the summer you can expect to lose up to 5mm of pool water a day. Please keep an eye on your water level and don't let it go below your skimmer box opening. Severe changes in temperature between night and day also contribute heavily to evaporation.

- **Pool Brushing in concrete pools** - it is very important in the first month to brush your interior surface every day. This prevents a rough surface and you don't get calcium build up. You should try to brush your swimming pool interior at least once a week thereafter. A robotic pool cleaner will also help here but remember to get right into the corners!

- **Quarterly Water Tests** – there are some things that your Test Kit can't test such as calcium and phosphate levels so you should take a water sample to your local pool shop every few months. Please make sure to keep your monthly printouts for future reference.

TIP: You should check your swimming pool regularly to make sure that the water is safe for swimming.
A simple way to do this is to look into the pool each day and check:

- Is the water clear?
- Can you see to the bottom of the pool?
- Does the water look any different to how it looked the day before?

Any changes, such as cloudiness, means you should test the water and take any necessary steps to improve water quality before swimming.

The major keys to water quality include:
Filtration, Sanitisation, pH Levels, Total Alkalinity (TA) and Calcium Hardness.

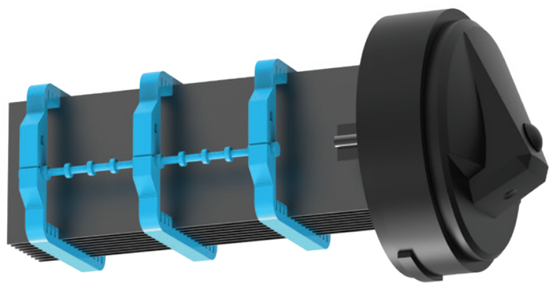
Inspecting and cleaning the OXI cell

Reverse Polarity electrodes should not normally require cleaning, however, in areas with very hard water all the calcium may not be removed. Calcium deposits may form on the lower areas of the electrode, the sensor or the sides of the electrode plates. All electrodes must be cleaned before scale/calcium builds up to the point where the electrode gaps in the OXI Cell become bridged.

If the OXI Cell has excessive calcium deposit, this may damage the electrode coating, as the bridging on the plates affects the operation.

The OXI OUT % can also decrease due to excessive build up of calcium and once cleaned will return to normal levels. Monitoring pH levels weekly/fortnightly and maintaining them within range will assist in less calcium build up.

- Check the OXI Cell to prevent the accumulation of pool debris that for any reason may have by-passed the pool filter, particularly after backwashing.
- Check that the O-ring is clean, greased with silicone grease (DO NOT use petroleum based jelly) and securely located in the Housing.



FOR CLEANING, PLEASE FOLLOW THESE STEPS

- Switch off unit at the wall outlet to ensure the pump and system will not turn on.
- Unscrew the OXI Cell Locking Ring and remove the electrode for inspection. If calcium build-up is present, immerse the electrode in cell cleaning solution.

A solution can be made by mixing 1 part hydrochloric acid to 10 parts of water. If excessive build-up is present, a stronger solution may be used to remove the calcium.

Using 5 parts of water will make a more aggressive solution and will not damage the electrode.

You can choose to use a cell cleaning solution and if so, follow the instructions supplied. Allow the cleaning solution to dissolve the calcium deposits for about 10 minutes. Dispose of the cleaning solution at an approved council depot and never into storm water or sewage drains.

HANDY TIPS

- Returning this mix to your pool only returns the calcium you just removed, so you may be better off reusing the solution until exhausted then disposing of it. Always store this solution safely as advised on the container.
- Do not scratch or bend the electrode plates in the Housing.
- Ensure that the O-ring is clean, greased and properly seated in the Cell Housing.
- Rinse the electrode in clean water and re-fit the electrode in the Housing, ensuring that the Locking Ring is hand tight and secure.
- Turn on the wall outlet switch and the pump and the system will return to the mode it was in before.

IMPORTANT: When mixing acid with water, ALWAYS ADD ACID TO WATER. NEVER ADD WATER TO ACID. Eye Protection, mask and gloves should be worn when cleaning the cell.

Inspecting the ION rods

The Copper/Silver Anodes are sacrificial and will have to be replaced periodically (typically every 3 years) depending on the size of your swimming pool.

When the ION Rods are worn and ready to change the fault light will appear to say "CHECK IONISER RODS". Replacement ION Rods can be purchased either direct from Naked Pools or your Naked Pool Dealer or service technician.

Naked Pools ION replacement Copper/Silver Rods come complete with cable and plug attached for ease of installation and replacement.

FOR INSPECTION OR TO CHANGE ION RODS PLEASE FOLLOW THESE STEPS:

- Switch off the wall outlet switch as this ensures the pump and system will not turn on.
- Unscrew the ION Locking Ring and remove the Rods from the Housing and simply unplug the cable from the base of the control unit.
- Replace with new ION Rods and repeat the process, ensuring that the O-ring is clean, greased and properly seated and the Locking Ring is hand tight and secure.
- Turn on the wall outlet starting the pump and the system will return to normal operation.

Maintaining the pH Controller

It is important to understand a certain amount of owner maintenance and care is required to keep your investment operating properly. We recommend the following basic maintenance and further information can be found on the Naked Pools App.

PLEASE FOLLOW THE THESE STEPS:

- Injection Point on Injector Valve

Check the injection point periodically by inspecting the Clear Injection Tee Piece for build-up of solid matter at the end of the PVC tubing. While unscrewing the BLACK lock nut, take care not to lose the rubber O-ring.

- Lubricate Squeeze Tube

Lubricate the pump squeeze tube every 3-6 months. Use a silicone-based lubricant only as petroleum-based lubricants will cause damage to the tube and rollers.

- Replace Squeeze Tube

Depending on usage, the squeeze tube may need replacing after 1-2 years of use. Before replacing, ensure that the suction and injection tubes are empty. We recommend using the original sized Tygon® Norprene® tube as incorrect sizing will damage the unit.

It is important to check the condition of the NKD-pH Tri-Roller Block each time the squeeze tube is replaced and changing this part at least every 24 months.

To replace the squeeze tube and Tri Roller Block, please follow the instructions included with the replacement kit, or on the Naked Pools App.

Warranty

Designed for water volumes from 5,000 - 30,000 litres, the NKD-M has been manufactured and tested to the highest standard and accordingly carries the following warranty.

The Naked Pools Digital Control Unit and Oxidiser Electrode will be repaired at no charge for a period of 36 Months (or 10,000 hours on the Oxidiser Electrode), from the date of purchase should it be found, after examination, that the failure has been caused by faulty workmanship or materials.

This is a back to base warranty. The Ioniser rods are a consumable item and therefore will need replacing from time to time depending on the size of swimming pool. The Ioniser rods do not have any warranty. The warranty applicable to commercial application is limited to 12 months from the date of installation. Commercial models purchased have 24 months. The NKD-pH Controller has a 12 month warranty from the date of installation.

Adverse operating conditions beyond the control of the manufacturer such as improper voltage or water pressure, excessive ambient temperature or any condition that adversely affects the performance of the equipment will render this warranty null and void.

Defective equipment must be returned to the manufacturer or dealer as soon as the purchaser becomes aware of the defect and all transport costs will be covered for the first 12 months. Transport costs for the following 24 months will be borne by the purchaser back to base and Naked Pools will cover the return. Neither the manufacturer nor the dealer shall be responsible for any goods damaged in transit.

If after examination the equipment is found to be defective it will be repaired or replaced free of charge (other than transport costs which will be borne by the purchaser). However, if upon inspection of the equipment it is found that the terms of this warranty are not satisfied, then the usual charges of the manufacturer for repair or replacement will be made.

Any liability of the manufacturer pursuant to the Trade Practices Act 1974, as amended for a breach of a condition or warranty shall be limited to replacing or acquiring the equipment (or part thereof) where the same has been supplied.

The maximum liability incurred by the manufacturer shall not in any case exceed the contract price for the equipment or the product parts or components thereof claimed to be defective. Further, the manufacturer shall not be liable for any loss, damage or delay directly or indirectly caused by any malfunction of or defect of or failure of the equipment other than as expressly provided in this warranty.

Products sold by the manufacturer are designed for use with swimming pool water balanced in accordance with the Langelier Saturation Index with a pH range of 6.8-7.8.

The manufacturer will not be held liable for damage caused by, but not limited to, corrosion, scaling or stress.

The Warranty is void under the following circumstances:

- Installation is carried out incorrectly by any person other than a person authorised by us to do so.
- The system is installed on pools larger than 30,000 litres.
- The Control Unit, Oxidiser Electrode or Ioniser Rods is serviced by any person other than a person authorised by us to do so.
- The Control Unit is not protected from the elements.
- The Control Unit is not operated in a position/area with good ventilation.
- Water has been allowed to enter the Control Unit or Cable connections.
- Run in a commercial installation unless a commercial model is purchased.
- Insect infestation or penetration by dust, sand or other foreign particles inside the Control Unit.
- Damage beyond our control.
- Equipment that has been misused, neglected, damaged, repaired with out authorisation or altered in any way.

This warranty is applicable to workmanship and materials only. This warranty is not transferable under any circumstance. This unit is for use in domestic swimming pools unless otherwise specified. Keep your original purchase invoice and serial number in a safe place.

When making a warranty claim, please note the following information MUST be provided or claim may not be approved.

- Model Number
- Control Unit Serial Number
- Oxidiser Electrode Serial Number
- Proof of Purchase showing the Purchase Date and Purchased From
- Installation Date
- Installer
- Your Full Name
- Your Phone number
- Your address Details
- Details of the Issue

We keep extensive production and sales records so this information will expedite the processing of your claim.

Naked Pools reserves the right to modify any model without notice.

You can register the product using the Naked App or website. Your serial number can be found on the back of this guide, the original packaging or on the side of the control unit.

For more information, guides, videos, calculators and more, scan the QR code to download the Naked App.

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