CLEAN • PURE • SIMPLE

Installation & Operating Guide

NKD1
FRESH WATER SYSTEM

Naked POOLS
swimming as nature intended

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1.1 Important Warnings

This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner and/or operator of this equipment. When installing and using this electrical equipment, basic safety precautions should always be followed. Failure to follow safety warnings and instructions in this manual can result in serious injury and/or damage to your equipment. Read and follow all warning notices and instructions which are included in this manual.

The Control Unit internally contains live components. There is a danger of electric shock if opened. If the power cord is damaged then it should be replaced by the manufacturer, their agent or similar qualified person, in order to avoid a hazard. The product shall be installed according to AS/NZS 3000 wiring rules. It shall be installed outside the pool zone. Please contact Naked Pools on 1300 625 331 for further assistance.

1.2 Important Safety Instructions

To reduce the risk of injury, do not permit young children to use this product unless they have been trained by the person responsible for their safety and they acknowledge their ability to use such equipment. To reduce the risk of accidents or incidents, service on the unit should only be performed by a qualified pool service professional.

When mixing acid with water, **ALWAYS ADD ACID TO WATER. NEVER ADD WATER TO ACID.**

DO NOT PLUG UNIT IN IF CARTON HAS BEEN WET.

GAS BUILDUP CAN OCCUR WITH IMPROPER WIRING: To reduce the risk of personal injury, the Control Unit is designed so that the OXI Cell and ION Rods will only receive power when the pool pump is on. Otherwise possible gas build-up can occur. If the pump is not installed to the AC Socket (pump outlet) on the Control Unit, the installer must ensure that the OXI Cell and ION Rods are never energised when the pool pump is OFF or water is not flowing through the unit.

Congratulations on the purchase of your NKD1 Fresh Water System. Please take a moment to read through the entire manual before installing your new unit. Your system must be installed and operated as specified.

While every effort has been made to ensure that the information contained in this guide is accurate and complete, no liability can be accepted for any errors or omissions. Naked Pools Pty Ltd reserves the right to change the specifications of the hardware and software described herein at any time without prior notice.

Your NKD1 Fresh Water 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 as well as oxidation to treat and provide fresh water. This delivers up to 70% less salt/mineral levels than its rivals, resulting in record low levels of chlorine being produced.

Please remember that your NKD1 Fresh Water 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 & 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 fresh water pool.

There is one design in our Naked Pools Fresh Water System range:

NKD1 is designed to optimally sanitise swimming pools up to and including 100,000L of water. Smart self-cleaning technology allows the polarity of the OXI Cell plates to change direction every 4-16hrs (depending on your setting). Reversing times can be changed, see 7.3 CELL CLEANING. The change of polarity causes the calcium to dislodge and keep the OXI plates clean. Please note occasional cleaning of the plates may be necessary.

The ION Rods change direction every 3 minutes to ensure even wear and tear.
Please note the Rods are sacrificial and will have to be changed from time to time (typically every 2 years) depending on the size of your swimming pool.
Visit www.naked-pools.com or call 1800 NAKED1 (625 331) for further information.

Thank you again for choosing a NKD1 Fresh Water System.
We wish you many happy years of swimming in your Fresh Water Pool.

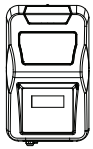
2.1 Recommendations and Helpful Hints

• Read and keep your manual in a safe place.
• Operate the unit on manual when large number of swimmers are present to ensure sufficient water turnover.
• Maintain your copper level between 0.2-0.4ppm at all times.
• Check your copper levels weekly with the test kit provided.
Please note pH must be adjusted to correct levels to ensure an accurate reading see 8.3 pH.
Visit www.naked-pools.com or call 1800 NAKED1 (625 331) for further information.

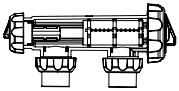
Do not use Stabilizer (Cyanuric Acid)
Do not use Bromine compounds
Do not use Aluminium based or any other flocculants
Do not use Soda Ash (Sodium Carbonate)
Do not use Granular Chlorine
Do not use forms of Zeolite filtration media

• Maintain your TDS (Total Dissolved Solids) level between 800-1000ppm for optimum performance and complete Fresh Water experience.
• Decrease running times when temperature goes down - see 6.7 WINTER MODE.

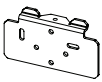
2.2 Contents



CONTROL UNIT



OXIDISER, IONISER, HOUSING WITH UNIONS



WALL MOUNTING BRACKET

WATER TESTING CARD

COPPER TEST KIT

2X50/40 Redusing Bushes

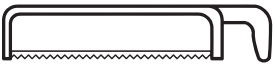
2X Green Wall Plugs with Screws

The Installation & Operating Manual

2.3 Tools Needed

DRILL WITH 6MM

BASIC PVC FITTINGS



HACKSAW

PVC PRIMER AND GLUE

NO.2 PHILIPS HEAD SCREWDRIVER

Before operating your NKD1 Fresh Water System please read the following:

- Check your TDS levels in your pool before starting your system.
- TDS levels should ideally be 800-1000ppm and no more than 1200ppm.
- For all new pool installations please seek advice from your pool builder before adding salt or minerals as some new surfaces request no addition when initially completed.
- **NEVER ADD SALT/MINERALS DIRECTLY TO THE SKIMMER BOX.** This high concentration of either salt or minerals will pass through your filtration, pump and other pool equipment and may cause damage.

Handy Tips

- The system can operate on mineral/magnesium chloride salts and you should allow an extra 20-30% for these type of salts.
- Salt or minerals should always be added to the shallow end of the pool and allowed to dissolve. Do not let the salt settle on the floor of the pool as this may cause damage to the surface. Use your pool brush to mix the salt into the water.
- Running the pump will mix the water and help the salt/minerals to dissolve.

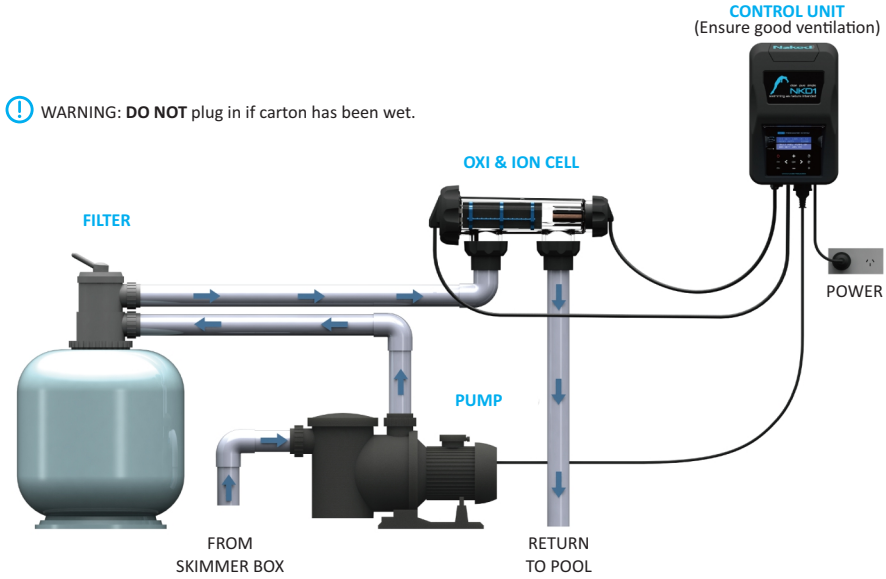
When taking your pool water to a pool shop for testing please ensure you take the enclosed laminated NKD1 System Card to ensure your water is tested correctly and accurate results are achieved. See handy tips 8.0 WATER CHEMISTRY.

- The only pool chemicals needed are those for normal water balance.
- Copper levels of 0.2-0.4ppm need to be achieved in order to optimally sanitise the pool water. On initial start up the system allows for the literage of your pool to be entered and this is critical to ensure the run times of the system and all the levels are set correctly.

If unsure visit www.naked-pools.com or call 1800 NAKED1 (625 331) for further information.

4.1 Installation Diagram

WARNING: **DO NOT** plug in if carton has been wet.



4.2 Control Unit Installation

- The NKD1 Control Unit has an Ingress Protection Rating of IP23 enabling it to be installed outdoors. Regulations require that the Control Unit shall be installed outside the pool zone. The Control Unit shall be installed according to AS/NZS 3000 wiring rules.
- The Control Unit should be installed in a well ventilated position ideally away from sunlight and rain to prolong life and at least 1m above ground to prevent run off water entry.
- Ensure that the Control Unit is not stored near chemicals, fertilisers or in a closed unventilated shed with similar products as the fumes will cause excessive corrosion and damage to the internals of the Control Unit and may void warranty.
- When mounting the Control Unit on a post it is recommended to install a flat panel at least the same size to act as a waterproof backing plate.
- Mount the Control Unit with the Wall Mounting Bracket, Green Plugs and Screws provided.

The Control Unit should be mounted no further than 1.5 metres from the Housing for ease of operation.

4.3 OXI/Housing Installation

- Connect the Housing horizontally in the return line to the pool (use reducing bushes supplied if 40mm PVC pipe) using high pressure PVC glue. The Housing can be mounted vertically but provision must be made for a gas trap.
- Direction of water flow through the Housing is not critical although we do recommend entry from the OXI Cell end and exit from the ION Rod end of the Housing.
- Check that the O-ring is clean, greased with silicone grease (**DO NOT** use petroleum based jelly) and securely located in the Housing.
- Fit the OXI Cell and ensure the Locking Ring is firmly tightened by hand (**DO NOT** use a tool to tighten).
- Connect the plug to the base of the Control Unit ensuring a firm snap lock connection.

4.4 ION Installation

- Check that the O-ring is clean, greased with silicone grease (**DO NOT** use petroleum based jelly) and securely located in the Housing.
- Fit the ION Rods and ensure the Locking Ring is firmly tightened by hand (**DO NOT** use a tool to tighten).
- Connect the plug to the base of the Control Unit ensuring a firm snap lock connection.
- Plug the Control Unit 3 pin plug into a suitable weatherproof RCD protected 10amp outlet and then plug the pump into the 3 pin AC Socket located at the bottom of the Control Unit.

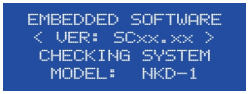
NOTE: The pump rating must not exceed 8amps.

WARNING:

- We **DO NOT** recommend the use of valves on the inlet or outlet of the Housing. If you do use a valve then it is important to ensure that the valve cannot deadhead (lock closed) while the pump is running. It is the installers responsibility to ensure some form of flow control is installed in this instance and it disables the pump.
- **ALWAYS** ensure that pipe work and equipment do not allow gases generated to collect and build up in any part of the installation.
- It is **RECOMMENDED** that the Housing be installed horizontally to create a natural gas trap that acts as a safety device. Installation in any other way may cause explosion, injury or death if the installer does not allow for gas removal. A venturi pipe is installed/moulded within the Housing design to eliminate any possible gas build up, although it is always recommended to ensure proper installation to eliminate this from happening.
- The Housing must be installed in the **RETURN** pipework to the pool. It must always be installed after the filter, gas heater, solar heating or heat pump.
- **DO NOT** apply priming fluid to the Housing, it is not needed and may react with the plastic.

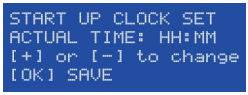
5.1 Switching on the Unit

When switching on the NKD1 Fresh Water System for the first time the screen to the right will be displayed.



5.2 Start Up Clock Set

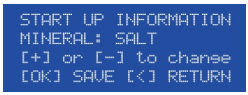
START UP CLOCK SET allows you to program the exact time of the day.
HH digits will flash and pressing [+] will increase the time and pressing [-] will decrease the time.
Pressing [OK] saves the selected hour HH and MM.
Pressing [<] skips this menu however you will need to set this later.



MM digits will flash and pressing [+] will increase the time and pressing [-] will decrease the time.
Pressing [OK] saves the selected hour HH and MM.
Pressing [<] returns you to the previous screen.

5.3 Mineral or Salt Mix

MINERAL OR SALT MIX allows you to enter the type of mineral used in the pool.
Pressing [+] or [-] will change it from SALT to MINERAL MIX.
The reason for this is because a higher salt reading (TDS value) is required for MINERALS to be as conductive as SALT.
Pressing [OK] confirms your selection.
Pressing [<] returns you to the previous menu screen.



5.4 Initial Start Up

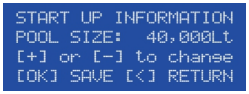
On intial start up the unit will ask whether or not there is copper is currently in the pool. The reason for this is the copper level needs to be added into the water in order for system to operate correctly and sanitise the water.

All new pool installations press [-]NO and continue to **5.5 START UP INFORMATION**
Pressing [<] returns you to the previous menu screen.

If the pool contains copper and an ioniser system is currently being used press [+] and follow the prompts. Start Up Information (5.5) will appear the unit will automatically set the timers to run as per the volume of water entered and www.naked-pools.com or call 1800 NAKED1 (625 331) for further information.

5.5 Start Up Information

START UP INFORMATION allows you to customise the unit to your pool size.
Pressing [+] or [-] will change it in 1,000lt increments.
Holding the [+] or [-] in will change it in 5,000lt increments.
A reading of 40,000Lt or similar flashes to show it can be changed.
Pressing [OK] confirms your selection. If you do not know your pool size you can press [OK] and set this later or visit www.naked-pools.com or call 1800 NAKED1 (625 331) for further information.
Pressing [<] returns you to the previous menu screen.



Selecting NO to DOES YOUR POOL CURRENTLY CONTAIN COPPER displays the 2 screens to the right.
The time displayed is the amount of hours the unit will run continuously to ensure the copper levels are correct in the water based on the pool size entered in the previous screen.

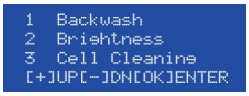
5.6 Default Display Screen

DEFAULT DISPLAY SCREEN (DDS) displays the screen to the right. This is the actual output % of the unit.
Pressing [+] or [-] will increase the OXI Setting and the screen will change as seen on the right.
This should always remain at 100% unless SPA MODE has been selected.
The (●) symbol indicates normal opeartion.
T2 is the default timer displaying "Dual Timer Cycle" and T1 displays "Single Timer Cycle" when single timer is selected.
The Mode shows AUTO and this can be changed by pressing Power/Mode (either AUTO, ON or OFF).
The time shows with HH:MM in 24hr clock format.
The cell status shows as FWD when the cell is in the forward direction and REV when in the reverse direction.
The pump AC socket status is displayed, either ON or OFF.
The ION Setting diplayed.
Any power failures return you to the DDS screen and the last saved MODE is active.

6.1 OK BUTTON

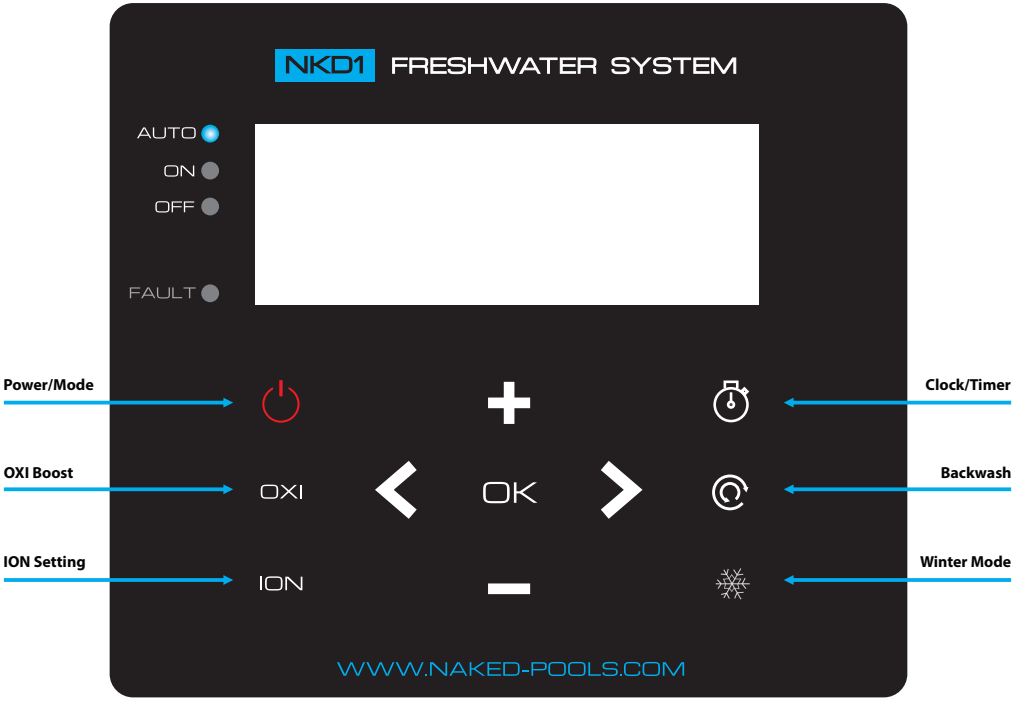
Menus are entered by either pressing the menus short cut button on the control panel or by entering MAIN MENU, which is done by pressing the [OK] button.

MAIN MENU allows you to enter all MENU's including those available with shortcut buttons on the control panel.
Pressing [+] takes you to the last menu and using the [-] or [OK] enters the first 3 menus.
Pressing [<] returns you to the previous menu screen.
Pressing [+] or [-] scrolls up or down and [OK] enters the flashing menu.



Below are the available menus in the NKD1 Fresh Water System

1 Backwash	8 Power/Mode
2 Brightness	9 Pump Setting
3 Cell Cleaning	10 TDS Test
4 OXI Boost	11 Service Menu
5 OXI Setting	12 Spa Mode
6 Clock/Timer	13 Winter Mode
7 Contrast	14 ION Setting

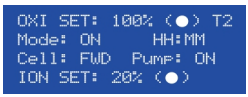


6.2 POWER/MODE

[POWER/MODE] button changes the operating modes of your NKD1 Fresh Water System.
When pressed the Mode will change AUTO to OFF then ON.
When the unit is first powered on the factory setting is in AUTO as shown to the right.

Pressing [POWER/MODE] to OFF will display the screen as seen to the right.

Pressing [POWER/MODE] to ON will display the screen as seen to the right.



Pressing [OK] from the DDS screen enters the MAIN MENU.
Pressing [+] takes you to the last menu and using the [-] or [OK] enters the first 3 menus.
Pressing [<] returns you to the DDS screen.

Pressing [+] takes you to last menu.
Pressing [+] 6 times displays the display shown to the right.
Press [OK] to enter POWER/MODE.

Pressing [OK] enters the display shown to the right and pressing the [+] or [-] allows you to adjust the POWER/MODE setting from AUTO to OFF to ON.
Pressing [OK] saves the required mode and returns to the DDS screen.
Pressing [<] returns you to the DDS screen.

6.3 OXI

BEFORE ENTERING OXI YOU MUST BE IN THE DDS SCREEN.

OXI BOOST sets the oxidiser and pump to operate continuously for 24hrs.
This allows for an injection of extra oxidising time when necessary, also known as OXI BOOST.

OXI BOOST is entered by pressing the [OK] button in the MAIN MENU and scrolling to OXI BOOST (Menu 4).

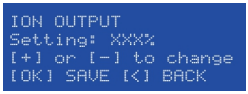
Pressing [+] or [-] allows you to adjust the time in one hour increments.

While the timer is counting down you can press [+] or [-] at any time and add or subract 1 hour.

After the selected OXI BOOST timer runs down (i.e. it reaches 0:00), the unit will return to the DDS screen in the last selected POWER/MODE.

6.4 ION

BEFORE ENTERING ION YOU MUST BE IN THE DDS SCREEN.



[ION] button automatically controls the IONISER output for your NKD1 Fresh Water System.
The output is determined by the volume of water when your pool size is entered in **5.4 Start Up Information.**

This feature is particularly handy if the copper levels are not holding at the correct levels (0.2-0.4ppm) or when you want to run the pump for longer hours (i.e. a variable speed pump on slow setting or you want additional filtration). If this is the case ION levels would be decreased.

Pressing [+] or [-] increases or decreases in 1% increments.

ION can also be entered by pressing the [OK] button in MAIN MENU and scrolling to ION Setting.

6.5 CLOCK/TIMER

BEFORE ENTERING CLOCK/TIMER YOU MUST BE IN THE DDS SCREEN.

Your NKD1 Fresh Water System comes with a built in digital timer.

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

It is important to understanding 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.

To run the system in MANUAL ON and override internal timers leave settings as 00:00 on all ON/OFF times.

CLOCK/TIMER can also be entered by pressing the [OK] button in MAIN MENU and scrolling to CLOCK/TIMER.

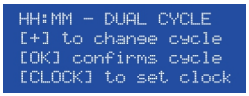
6.51 Clock Settings

CLOCK SETTING allows you to program the exact time of the day.
HH digits flash and pressing [+] increases the time and [-] decreases the time.
Pressing [OK] accepts the selected hour HH.
Pressing [<] exits you to the DDS screen.

MM digits flash and pressing [+] increases the time and [-] decreases the time.
Pressing [OK] accepts the selected minute MM.
Pressing [<] returns you to the previous display.

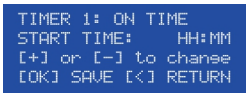
6.52 Timer Settings

Pressing [CLOCK/TIMER] displays the screen to the right.
Pressing [+] then it changes to Single Timer Cycle (T1).
Pressing [OK] accepts the selected cycle and enters the Timer Program.
To program the actual time of the day press [CLOCK/TIMER] again.



Pressing [+] changes back to Dual Timer Cycle (T2).
Pressing [OK] accepts the selected cycle and enters the Timer Program.
To program the actual time of the day press [CLOCK/TIMER] again.

TIMER 1: ON TIME (HH)
HH digits flash and pressing [+] increases the time and [-] decreases the time.
Pressing [OK] accepts the selected hour HH.
Pressing [<] returns you to the previous display.

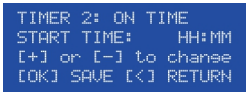


TIMER 1: ON TIME (MM)
MM digits flash and pressing [+] increases the time and [-] decreases the time.
Pressing [OK] accepts the selected minute MM.
Pressing [<] returns you to the previous display.

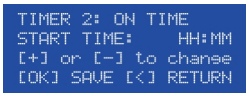
TIMER 1: OFF TIME (HH)
HH digits flash and pressing [+] increases the time and [-] decreases the time.
Pressing [OK] accepts the selected hour HH.
Pressing [<] returns you to the previous display.

TIMER 1: OFF TIME (MM)
MM digits flash and pressing [+] increases the time and [-] decreases the time.
Pressing [OK] accepts the selected minute MM.
Pressing [<] returns you to the previous display.

TIMER 2: ON TIME (HH)
HH digits flash and pressing [+] increases the time and [-] decreases the time.
Pressing [OK] accepts the selected hour HH.
Pressing [<] returns you to the previous display.



TIMER 2: ON TIME (MM)
MM digits flash and pressing [+] increases the time and [-] decreases the time.
Pressing [OK] accepts the selected minute MM.
Pressing [<] returns you to the previous display.



TIMER 2: OFF TIME (HH)
HH digits flash and pressing [+] increases the time and [-] decreases the time.
Pressing [OK] accepts the selected hour HH.
Pressing [<] returns you to the previous display.

TIMER 2: OFF TIME (MM)
MM digits flash and pressing [+] increases the time and [-] decreases the time.
Pressing [OK] accepts the selected minute MM.
Pressing [<] returns you to the previous display.

6.6 BACKWASH

BEFORE ENTERING BACKWASH MODE YOU MUST BE IN THE DDS SCREEN.
[BACKWASH] button assists you in the operation of your pump and filter during the backwash process.

IMPORTANT INFORMATION BEFORE PERFORMING A BACKWASH.
NEVER OPERATE THE FILTER LEVER WHILE THE PUMP IS RUNNING YOU MAY DAMAGE THE SEAL AND LEAKS MAY OCCUR.
THE PUMP WILL START AND STOP AS YOU REQUIRE.
ENSURE ALL THE VALVES, VALVE HANDLE, LIDS, BASKETS, ETC. ARE IN THE CORRECT POSITIONS AS PER THE REQUIREMENTS OF THE MANUFACTURERS OF THAT EQUIPMENT.

[BACKWASH] can also be entered by pressing the [OK] button in the MAIN MENU and scrolling to BACKWASH MODE.

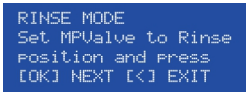
ALWAYS FOLLOW MANUFACTURERS INSTRUCTIONS.
IF UNSURE PERFORM MANUALLY BY PRESSING POWER/MODE ON&OFF TO DO THE FILTER CLEAN.

During BACKWASH the [POWER/MODE] button displays the ON LED when the pump is running and the OFF LED displays when the pump is stopped.

CARTRIDGE FILTER: If you have a cartridge style filter you can now perform all your required cleaning functions.
Press [<] or [BACKWASH] to exit.
SAND, GLASS or D.E. FILTER: If you have these filters, rotate the filter multi-port valve to the backwash position, ensure the handle locks are in place and once ready press [OK] to enter the [BACKWASH MODE] cycle.

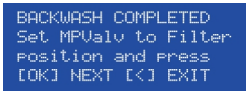
Pressing [OK] starts the pump for 1 minute and TIME LEFT will be displayed automatically counting down in 1 sec increments.
Once dirty water in the waste pipe or sight glass is clear press [OK] to finish.
RINSE MODE will then be displayed.

Pressing [OK] stops the pump and RINSE MODE is displayed.
Rotate the filter multi-port valve to the backwash position, ensure the handle locks in place and once ready press [OK] to enter the RINSE MODE cycle.
Pressing [<] or [BACKWASH] allows you to exit and this takes you to BACKWASH COMPLETE.



Pressing the [OK] button starts the pump for 1 minute.
TIME LEFT automatically starts counting down in 1 sec increments.
Once dirty water in the waste pipe or sight glass is clear then press [OK] to finish RINSE MODE and enter BACKWASH COMPLETE MODE.

Pressing [OK] stops the pump and BACKWASH COMPLETED is displayed.
Rotate the filter multi-port valve to the filter position, ensure the handle locks in place and once ready press [OK] to enter the final BACKWASH COMPLETED cycle.
Pressing [<] or [BACKWASH] allows you to exit.



BACKWASH COMPLETED is displayed and the pump remains stopped.
This gives you time to ensure all lids are resealed and that all the required flow valves are returned to their correct positions. Do a final check that everything is in the correct positions and sealed.
Press [BACKWASH] to exit the BACKWASH COMPLETED mode and you will return to the DDS screen.

6.7 WINTER MODE

BEFORE ENTERING WINTER MODE YOU MUST BE IN THE DDS SCREEN.

[WINTER MODE] button automatically turns your NKD1 Fresh Water System OXI settings down by 50% when the unit is either in AUTO or ON mode.

The unit defaults to a 50% set point and will stay on this until [WINTER MODE] is pressed again.

Pressing [+] or [-] increases or decreases the OXI setting by increments of 10% from 0% to 90%.

Once your desired set point is entered, pressing [OK] will return to the DDS screen and the output will display at the lowered set point (50% or different if you set it to that).

Significant savings can be achieved in winter months as running times can also be altered by up to 50% depending on your pool set up. Visit www.naked-pools.com or call 1800 NAKED1 (625 331) for further information.

WINTER MODE can also be entered by pressing the [OK] button in MAIN MENU and scrolling to WINTER MODE.

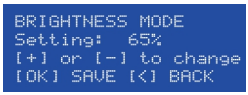
Pressing [WINTER MODE] whilst ON automatically returns to the original setting.

7.1 Backwash

See 6.6 BACKWASH (CONTROL PANEL OPERATION)

7.2 Brightness

BRIGHTNESS is entered by pressing the [OK] button in the MAIN MENU and scrolling to BRIGHTNESS (Menu 2).



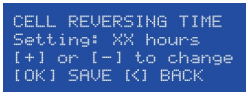
The factory setting is 65%.

Pressing [+] or [-] allows you to adjust the BRIGHTNESS. Pressing [OK] saves the required BRIGHTNESS and returns to the DDS screen.

Pressing [<] returns you to the previous screen.

7.3 Cell Cleaning – OXI Cell Reversing Time

Smart self-cleaning technology allows the polarity of the OXI Cell plates to change direction every 4-16hrs (depending on your setting). The change of polarity causes the calcium to dislodge and keep the OXI plates clean. Please note occasional cleaning of the plates may be necessary.



The factory setting is every 10 hours and this can be adjusted from as low as 4 hours (for high calcium areas) and as high as 16 hours.

In areas where the calcium hardness of the water is low (less than 200ppm) cleaning of the cell may not be necessary. Where calcium levels exceed 200ppm, regular inspection of the cell is necessary. Cleaning in an acid solution may be necessary.

CELL CLEANING is entered by pressing the [OK] button in the MAIN MENU and scrolling to CELL CLEANING (Menu 3).

Pressing [+] or [-] allows you to adjust the CELL CLEANING time in one hour increments and is displayed as shown to the right.

Pressing [<] returns you to the previous screen.

7.4 OXI Boost

See 6.3 OXI

7.5 OXI Setting

BEFORE ENTERING OXI YOU MUST BE IN THE DDS SCREEN.

This feature is particularly handy when you want to run the pump for extended running hours (i.e. with a variable speed pump or you want additional filtration). If this is the case OXI levels can be decreased if necessary.

The factory setting is set to 100% and in majority of pools remains at 100%. If unsure visit www.naked-pools.com or call 1800 NAKED1 (625 331) for further information.

Pressing [+] or [-] anytime whilst in the DDS screen increases or decreases in 1% increments.

OXI Setting can also be entered by pressing the [OK] button in MAIN MENU and scrolling to OXI Setting.

7.6 Clock/Timer

See 6.5 CLOCK/TIMER (CONTROL PANEL OPERATION)

7.7 Contrast

CONTRAST is entered by pressing the [OK] button in the MAIN MENU and scrolling to CONTRAST (Menu 7).

The factory setting is 80%.

Pressing [+] or [-] allows you to adjust the CONTRAST adjustment and pressing [OK] saves the required CONTRAST and returns to the DDS screen.

Pressing [<] returns you to the previous screen.

7.8 Power/Mode

See 6.2 POWER/MODE (CONTROL PANEL OPERATION)

7.9 Pump Setting

PUMP SETTING is 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.

PUMP SETTING is entered by pressing the [OK] button in the MAIN MENU and scrolling to PUMP SETTING (Menu 9).

The default setting is 3 minutes and pressing [+] or [-] allows you to adjust the time the pump is turned off for. Pressing [OK] saves the required protection time.

You can also select OFF and it will be disabled and will not stop the pump outlet.

Pressing [<] returns you to the previous screen.

For installations where a flow switch or external pump controls are used then this can be left in the OFF position.

7.10 TDS Test

TDS TEST is designed 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.

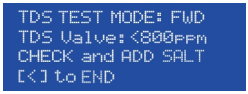
TDS TEST is entered by pressing the [OK] button in the MAIN MENU and scrolling to TDS TEST (Menu 10).

BEFORE PERFORMING THIS TEST, ENSURE THE OXI CELL IS CLEAR OF ALL CALCIUM DEPOSITS AS THIS WILL INSULATE THE ELECTRODES AND IMPACT YOUR READINGS. See 9.11 Inspecting and Cleaning the OXI Cell if manual cleaning is required.

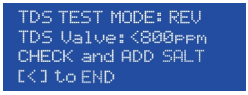
The TDS level is tested and displayed as shown to the right.

A total of 4 readings are displayed for 30 seconds in the FWD direction and then another 30 sceonds in the REV direction.

Pressing the [<] and [>] button while in the above display and holding them in for 3 seconds brings you to this maintenance function which allows you to view the actual TDS VALUE.



Testing starts off with FWD and if you want to check REV then press [<] and [>] in at the same time and hold them in for 3 seconds, the direction will change to REV.
At the same time you will also be displayed the current reading in XXX.Xamps.



Pressing [<] returns you to the previous screen.

The TDS TEST measurement is meant to be a guide only as many factors can impact the result. We recommend you take your pool water sample and Water Testing Card to your local pool shop before adding salt/minerals or replacing your OXI Cell.

7.11 Service Menu

Please contact your local distributor or alternatively call 1800 NAKED1 (625 331) for further

7.12 Spa Mode

SPA MODE allows your system to be adjusted to suit your spa.

SPA MODE is entered by pressing the [OK] button in the MAIN MENU and scrolling to SPA MODE (Menu 12).

Pressing [+] or [-] allows you to adjust the SPA MODE settings from OFF to ON and ON to OFF.

Selecting OFF leaves the OXI OUTPUT SETTING at 100% and ON changes the OUTPUT SETTING to 10%.

When SPA MODE is selected ON the DDS screen will change as shown to the right.

Pressing [OK] saves the required setings and returns to the DDS screen.

Pressing [<] returns you to the previous screen.

7.13 Winter Mode

See 6.7 WINTER MODE (CONTROL PANEL OPERATION)

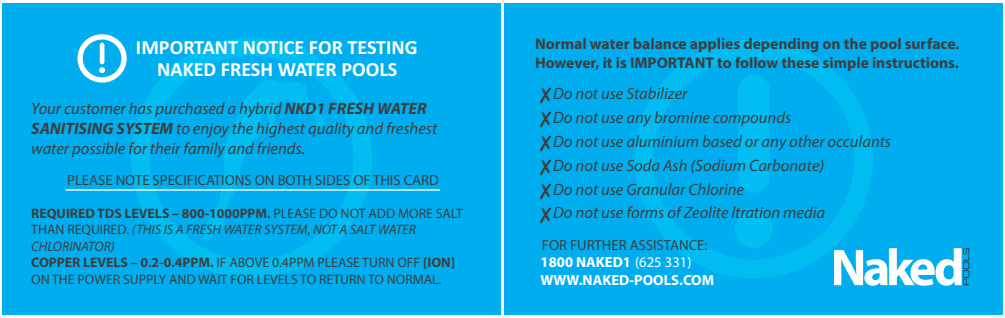
7.14 ION Setting

See 6.4 ION (CONTROL PANEL OPERATION)

The NKD1 Fresh Water System is designed for use with swimming pool water balanced in accordance with the Langelier Saturation Index with a pH range of 6.8-7.8.As previously advised, for best performance and operation of your NKD1 Fresh Water System, certain water balances must be maintained within your swimming pool. Have your water tested regularly. Transport the test water in an opaque container and have the test done as soon as possible for the most accurate results. What follows is a list of recommended water chemistry levels.

HANDY TIPS:

When having your water tested by either a pool professional or pool shop please show the card below received with your unit to ensure they test the water correctly.



Do not use Stabilizer (Cyanuric Acid)
Do not use Bromine compounds
Do not use Aluminium based or any other flocculants
Do not use Soda Ash (Sodium Carbonate)
Do not use Granular Chlorine
Do not use forms of Zeolite filtration media

8.1 Copper — Measurement Interval: Once a week ideally

Ideal Copper Levels: 0.2-0.4ppm.

Ensure your pH (**see 8.3**) is at the correct levels to ensure an accurate copper reading.

High pH will mask the copper reading and although copper is actually present a reading may not be seen.

Test the copper levels with the Copper Test Kit provided with the system and follow the simple instructions provided.

To adjust the copper output press [ION] and pressing [+] or [-] increases or decreases in 1% increments.

ION Settings can also be entered by pressing the [OK] button in MAIN MENU and scrolling to ION Setting.

8.2 TDS Levels — Measurement Interval: Every 4-6 weeks

Ideal TDS Levels: 800-1000ppm and no more than 1200ppm.

Although the TDS is not consumed by the System, TDS is lost during backwashing, pool overflow, heavy rainfall, splashing and on bathers that use it. The correct TDS level allows for the most efficient production levels, electricity consumption and freshest possible water.

The TDS level **SHOULD NOT** go below 700ppm. **Low TDS levels (<700ppm) will destroy the coating on the OXI Cell and void the warranty.**

NEVER ADD SALT DIRECTLY TO THE SKIMMER BOX. This high concentration of salt will pass through your filtration, pump and other pool equipment.

HANDY TIP: The colder the water the lower your output but this does not mean you need more salt.

The unit can operate on mineral/magnesium chloride salts and you should add 20-30% more than traditional salt.

Salt/Minerals should always be added to the shallow end of the pool and allowed to dissolve. Do not let them settle on the floor of the pool as this may cause damage to the surface. Use your pool brush to mix the salt/minerals into the water.

Running the pump will mix the water and help the salt/minerals to dissolve.

8.3 pH — Measurement Interval: Once a week

Ideal pH Levels: Concrete Pools: 7.4 - 7.6
Fibreglass/Vinyl Pools: 7.0 - 7.2

A pH of 8.0 makes oxidization only about 26% efficient which is why it is critical to keep your pH in range.

A correct pH level must be maintained to prevent problems such as black spot, staining, cloudy water, etc. An incorrect pH level can damage the surface finish and walls of your pool.

When pH is high you can add hydrochloric acid to lower the pH.

8.4 Total Alkalinity — Measurement Interval: Every 4-6 weeks

Ideal Total Alkalinity Levels: Concrete Pools: 80 - 150ppm Fibreglass/Vinyl Pools: 80 - 120ppm

Total Alkalinity should not be confused with pH, although the two are closely related. Total Alkalinity determines the speed and ease of pH change, it is measured in ppm. You should use a test kit which includes a test for Total Alkalinity. Low Total Alkalinity can cause unstable pH levels. This causes an inability to keep the pH constant and may cause staining, etching and corrosion of metals. High Total Alkalinity will cause constantly high pH levels.

When Total Alkalinity is high you can add hydrochloric acid (a little at a time) to lower the Total Alkalinity.
When Total Alkalinity is low you can add sodium bicarbonate to raise the Total Alkalinity.

8.5 Calcium Hardness — Measurement Interval: Every 3 months

Ideal Calcium Hardness Levels: Concrete Pools: 250 - 300ppm
Fibreglass/Vinyl Pools: 150 - 190ppm

In addition to pH and Total Alkalinity, Calcium Hardness must be kept in balance so that your pool water does not become too corrosive or end up scaling the surface of your pool. These are symptoms of swimming pool water that is unbalanced.

THE MOST IMPORTANT NOTICE AND WARNING:

Only add chemicals in the method and quantities as indicated on the packaging provided or advised by your local pool professional. Also, if in doubt of any results you achieve then do not hesitate to consult with your local pool professional or visit www.naked-pools.com

Maintenance of your NKD1 Fresh Water System is designed to be simple. Your Fresh Water System has to be one of the most productive pieces of equipment on your swimming pool so it will require some basic maintenance.

While water chemistry will always be the most important form of maintenance there are also other hints and pointers to take note of.

DO NOT cover the Control Unit with towels or similar. Air circulation is important to ensure optimum performance of the unit at all times.

To extend the life of your unit we always recommend installation in an under cover area away from the elements.

Placing the unit in a closed shed or similar environment with chemicals, fertilisers and other corrosives will damage the unit and could void your warranty.

Check that the plug connections on both the OXI Cell and ION Rod cables are tight and are in sound condition at least once a year.

9.1 Inspecting and Cleaning the OXI Cell

Reverse Polarity electrodes should not normally require cleaning, however, in areas with very hard water all calcium may not be removed. A calcium deposit might form on the lower areas of the electrode, the sensor or the sides of the electrode plates. This will **NOT** affect the operation of your system.

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 causes rubbing on the plate coating which in turn affects operation.

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 the wall outlet switch as this ensures 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 use cell cleaning solutions and if you do then 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 TIP:
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.

Rinse the electrode in clean water and re-fit the electrode in the Housing, ensuring that the Locking Ring is hand tight and secure.

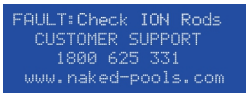
Turn on the wall outlet switch and the pump and the system will return to the mode it was in before.

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.

9.2 Inspecting the ION Rods

The Copper/Silver Rods are sacrificial and will have to be replaced from time to time (typically every 2 years) depending on the size of your swimming pool.

When the Rods appear thin the unit will display
FAULT: Check ION Rods CUSTOMER SUPPORT as seen to the right.



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 NKD 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 switch and the pump and the system will return to the mode it was in before.

9.3 Inspecting and Cleaning the Control Unit

Little or no maintenance is normally required with the NKD1 Fresh Water System Control Unit.

Ensure the Control Unit 3 pin plug is connected into a suitable weatherproof RCD protected 10amp outlet. Ensure that the pump plugs into the 3 pin AC Socket located at the bottom of the Control Unit. Check all plugs and cords for damage. If damaged then it should be replaced by the manufacturer, their agent or similar qualified person, in order to avoid a hazard.

If the system is to be hard wired, then a qualified electrician must complete the installation.

The NKD1 Fresh Water System Control Unit has air vents to allow internal components to remain cool in hot weather. It has a special oil spray applied to the inside of the unit during production to stop the insects from entering the unit. To help assist in keeping the insects away, apply a surface spray periodically on the wall or post that the unit is mounted on. **DO NOT** spray directly into the Control Unit and make sure the power is off when you spray. Allow adequate time for the spray to dry before turning power on again.

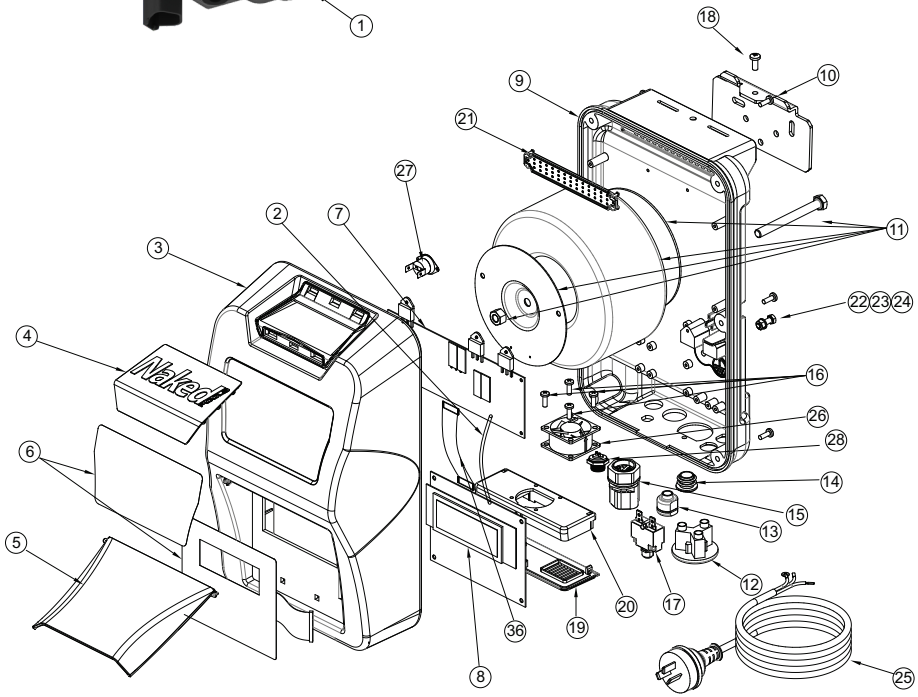
If you suspect for any reason your NKD1 Fresh Water System is not performing or running as it should be, here are some handy troubleshooting tips that may assist you. Alternatively visit www.naked-pools.com or call 1800 NAKED1 (625 331) for further information.

	Fault Indication	Potential Cause	Remedy
10.1	FAULT LED «ON»	Numerous causes	See the LCD DISPLAY for the reason then go to that section in this troubleshooting guide
10.2	HIGH TDS-SEE MANUAL	TDS too high or short on Cell plates	Check TDS levels (sec. 7.10/8.2) Check that cell is clear of any foreign materials (e.g. wire, metal, touching plates, etc)
10.3	INTERNAL TEMPERATURE HIGH	No air flow in the area around the CONTROL UNIT or excessively high TDS levels	Ensure Contol Unit is mounted in a well ventilated area free of chemicals and fertilisers Check TDS level (sec. 7.10/8.2)
10.4	LOW TDS or CLEAN CELL or FAULTY CELL	Low TDS level	Check TDS level (sec. 7.10/8.2)
		Build up of calcium on the Cell plates	Calcium acts as an insulator and needs to be removed See Cleaning of Cell Electrode (sec. 9.1)
		Water temperature is low	Winter water temperature can be very low. For every 1°C below 28°C the output can drop 2-3%
		Insufficient water flow through the Cell	Check water flow and ensure a full chamber of water is passing over the Cell
		The Cell could be damaged or at the end of its life	Damaged coating will reduce cell life and reduce output If all conditions are correct then Cell could be at the end of its life Visit www.naked-pools.com or call 1800 NAKED1 (625 331)
		Level low in one direction but OK in the other	Cell may need cleaning (sec. 9.1) or the Cell may have run its life in one direction
10.5	NO CURRENT FLOW - NO OUTPUT	Faulty CONTROL or MAIN PCB	Faulty PCB - call for service 1800 NAKED1 (625 331)
10.6	FAULT CHECK ION	The ION Rods could be damaged or at the end of their life	Visit www.naked-pools.com or call 1800 NAKED1 (625 331) to purchase replacement ION Rods
		Low TDS level	Check TDS level (sec. 7.10/8.2)
		Water temperature is low	Winter water temperature can be very low. For every 1°C below 28°C the output can drop 2-3%
		Insufficient water flow through the ION Rods	Check water flow and ensure a full chamber of water is passing through the OXI/ION Housing You may need to backwash your filter (sec. 6.6)
10.7	WATER FLOW FAULT	No water flow	Possible closed valve, pump fault, burst pipe
		Low water flow	Water does not cover the water sensor
		Low speed pump not supplying sufficient water to cell housing	Increase the speed of the pump until housing is filled

	Fault Indication	Potential Cause	Remedy
10.8	WATER TEMP HIGH	No water flow	Possible closed valve, pump fault, burst pipe
10.9	WATER TEMP LOW	Water temperature is below 13°C	The CONTROL UNIT will lower output when water temperature goes below 13°C to protect the cell plates
10.10	WATER TEMP SUDDEN INCREASE	No water flow	Possible closed valve, pump fault, burst pipe
10.11	Not operating at all - no lights	Not plugged into power point or power point not turned on	Check that CONTROL UNIT POWER CORD goes into wall outlet and outlet is turned on
		Plugged into power point and turned on but still no power	Test wall outlet with a working appliance
		Wall outlet working but still no power	Check CIRCUIT BREAKER at bottom of CONTROL UNIT Press white button to reset if tripped
		Pressed and reset but still no power	If you have checked all of the above then there is an internal fault - call for service 1800 NAKED1 (625 331)
		CIRCUIT BREAKER stays out in a tripped state	Faulty CIRCUIT BREAKER - call for service 1800 NAKED1 (625 331)
10.12	Not operating at all - comes on but turns off	CIRCUIT BREAKER resets but trips again	1. Excessively high TDS - check TDS (sec 7.10/8.2) and lower it if needed 2. Short across Cell plates - remove Cell and check the plates for any metal lying across plates 3. Faulty rectifiers, transformer or Cell cable - call for service 1800 NAKED1 (625 331)
10.13	Everything displays OK but not turning ON	Incorrect TIMER settings	Press POWER/MODE button until in ON mode. Does it work now?
		Yes, it works now.	Check TIMER settings (sec. 6.51) in CLOCK/TIMER Mode
		No, it does not work.	If the FAULT LED is ON then refer to above. If only LCD DISPLAY is ON but nothing works - call for service 1800 NAKED1 (625 331)
10.14	Sign of melting or burning of the OXI or ION Connector Plug	Possible moisture entry to the plug or was not adequately tightened (snap locked) during installation	If melted then it will need replacing otherwise clean with WD40 or similar. Return for service if melted or call for service 1800 NAKED1 (625 331)
10.15	OXI OUT reading less than 100%	TDS level is below 800ppm	Check TDS level (sec 7.10/8.2)
		Build up of calcium on the Cell plates	Calcium acts as an insulator and needs to be removed See Cleaning of Cell Electrode (sec. 9.1)
		Water temperature is low	Winter water temperature can be very low For every 1°C below 28°C the output can drop 2-3%
		Insufficient water flow through the OXI/ION Housing	Check water flow and ensure a full chamber of water is passing over the OXI Cell and ION rods You may need to backwash your filter (sec. 6.6)

	Fault Indication	Potential Cause	Remedy
		The Cell could be damaged or at the end of its life	Damaged coating will reduce cell life and reduce output If all conditions are correct then Cell could be at the end of its life
		Level low in one direction but OK in the other	Cell may need cleaning (sec. 9.1) or the Cell may have run its life in one direction
		Continuous build up of calcium	See this troubleshooting sec 9.10
10.16	Control Unit only works in one direction No output in one direction	Faulty rectifiers, transformer or PCB	Return unit for service call 1800 NAKED1 (625 331)
10.17	Timer is not functioning properly in AUTO	Incorrect settings	Make sure POWER/MODE is set to AUTO. Refer to Timer Setting in this manual (sec. 6.51)
10.18	Pool pump outlet not functioning properly or pump always on	Pump not plugged into the base of system	Check that pump is plugged into the bottom of the CONTROL UNIT and not directly in to the wall outlet Make sure you are set in AUTO mode and not MANUAL for normal running
10.19	Cell not cleaning, excessive calcium build up on Cell or Control Unit not changing direction	Excessively high calcium, change of direction time set too high or faulty PCB	1. See Calcium Hardness test (sec 8.5) and adjust water accordingly 2. Change the Cell Cleaning times (sec. 7.3) 3. Manually try changing direction by holding both [<] and [>] buttons in for 3 sec (you must be in the default display screen for this to work). Failure for this to work could indicate a faulty PCB - return for service
10.20	Low or No OXI Output	Unit not working correctly	Go through Troubleshooting from 9.1
		Unit not set correctly	Basic settings such as Output Control and Timer running hours need to be checked Go through all settings in sec. 5, 6 & 7 and balance water accordingly
		TDS level is to low	Check TDS guide (sec 7.10/8.2)
		pH is too high	Check pH guide (sec. 8.3)
		Cell at the ends of its life	If full output is not reached then it could be a failing Cell
10.21	Timer loses time when mains power removed	Battery life expired	Replace Battery - return for service

NAKED NKD1 FRESHWATER SYSTEM



Naked POOLS

NAKED NKD1 FRESHWATER SYSTEM (PARTS LIST)

POWER PACK		
	CODE	Naked DESCRIPTION
1	SL-15PP-NKD1	Naked NKD1 Power Pack
2	N00895	Wire Loom SL-12 - Multi PCB TB-GND Pin 1 to LCD PCB RB-GND Pin 1 BLACK
3	N00364	NKD1 Cover BLACK
4	N00842	NKD1 Vent Naked BLACK
5	N00367	NKD1 Front Flap BLUE
6	N00870	NKD1 Decal Sticker (set of 2)
7	N00693	Multi Triac Shunt PCB
8	N00496	NKD1 LCD Display PCB
9	N00356	Aluminium Die Casting with BLACK Outer Coating
10	N00453-2	NKD1 Mounting Bracket
11	N00022-1	Transformer 232VA for 15g/hr Model
12	N00498	AC Socket Round - Pump Outlet Flush Mount White (Top Wire Entry)
13	N00869	Grommet EC RP 6N-4 Cable Strain Relief Bush
14	N00501	Grommet Rubber AUX Hole up to 19mm
15	N00488	Oxidiser Plug SL-10 Male End Complete with Power Supply Looms - Grease Filled
16	N00054	Screw M3x12 Stainless Steel 304 (Fan)
17	N00018L	Circuit Breaker 3amp with 6.3mm push on
18	N00503	Screw Pan Head M6x10 Stainless Steel 304
19	N00368	NKD1 Bottom Vent Cover BLACK
20	N00369	NKD1 Fan Support Plate BLACK
21	N00370	NKD1 Snap Fit Gauze BLACK
22	N00050	Earth Screw M5 S/S
23	N00051	Earth Nut M5 S/S
24	N00049	Internal Tooth Washer for Earth M5 S/S
25	N00011	Power Cord-Au
26	N00504	Cooling Fan 40x40x20mm (not in all models)
27	N00027	Thermostat 100degC
28	N00883	Ioniser Plug SL-13 Female End Complete with 2 x SL-09 Wire Looms
24	N00049	Internal Tooth Washer for Earth M5 S/S
25	N00011	Power Cord-Au
26	N00504	SM Cooling Fan 40x40x20mm (not in all models)
27	N00027	Thermostat 100degC
28	N00883	Ioniser Plug SL-13 Female End Complete with 2 x SL-09 Wire Looms

PARTS AND COMPONENTS (Not shown in schematic)

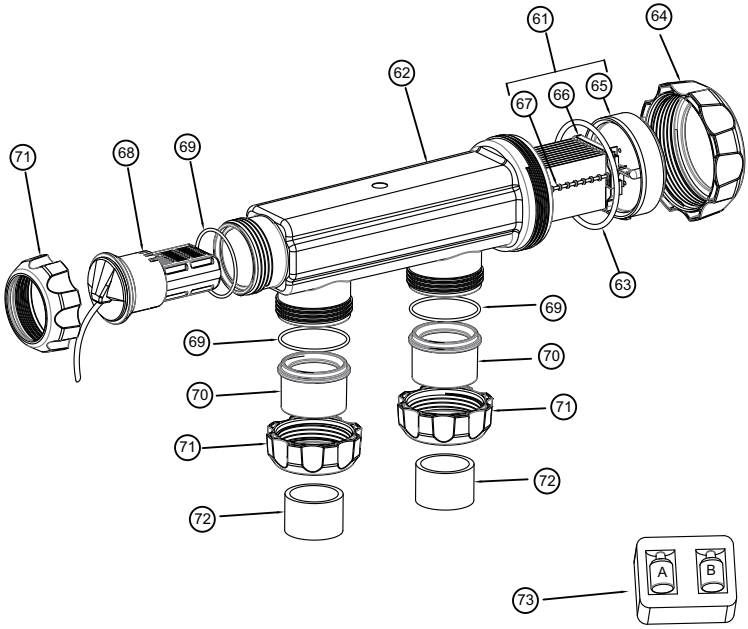
	CODE	Naked Description
30	N00047	Washer 37x37x2.5 Zink Plated
31	N00207	Wire Loom SL-01 - Circuit Breaker LOAD to Transformer Active BROWN
32	N00223	Wire Loom SL-02 - AC Socket N to PCB N BLUE
33	N00224	Wire Loom SL-03 - AC Socket L to PCB PUMP-L BROWN
34	N00348	Wire Loom SL-04 - Circuit Breaker LINE to PCB A BROWN
35	N00484	Wire Loom SL-05 - Terminal Block 1 Pin 2 to Terminal Block 2 Pin 2 RED
36	N00485	Wire Loom SL-11 - Ribbon Cable with RED line and Header Sockets
37	N00008	Wire Loom CC-05 - Earth Wire
38	N00036	Cable Tie 3mm
39	N00560	Green Wall Plugs
40	N00217	Screw Self Tapping M5x25 Stainless (Wall)
41	N00053	Screw M4 x 8 Stainless Steel (Front Cover)
42	N00052	Screw M3x6 Stainless Steel (Triac Connection and PCB)
43	N00067	NKD1 Power Supply Carton Box
44	N00876	Sleeve - NKD1 Freshwater System
45	N00873	NKD1 Operating Manual
46	N00079	NKD1 Freshwater System Outer Box

Naked POOLS

NAKED NKD1 FRESHWATER SYSTEM (PARTS LIST)

ELECTRODE CELL PARTS

	CODE	Naked Description
61	NKD1-OXI-15	NKD1 Oxidiser Electrode ONLY
62	N00379	Electrode Housing 3 Way - Smokey
63	N00460-1	O'Ring - NKD1 Oxidiser Electrode EPDM rubber
64	N00380	NKD1 Oxidiser Electrode Cap Locking Ring
65	SCCAP	NKD1 Oxidiser Electrode Cap (c/w cable, cover, cap, brassware, washers, resin filled)
66	N00530	Oxidiser Clip 11 Plate BLUE
67	N00322	Oxidiser Clip Spacer Rod BLUE
68	NKD1-IR	NKD1 Ioniser Rod set c/w cap, chamber, lead and connector plug
69	N00461-1	O'Ring - NKD1 Electrode Housing Adaptor Tail EPDM BLACK
70	N00382	NKD1 Electrode Housing Adaptor Tail BLACK
71	N00381	NKD1 Electrode Housing Nut Small BLACK
72	N00670-1	PVC Reducing Bush 50x40mm
73	N00844	Copper Test Kit Naked



MODEL NO: NKD1

Cell Model	VOLTS (Vac) Input	AMPS (Aac) Input	VOLTS (Vdc) Output	AMPS (Adc) Output	Chlorine (g/hr) @800ppm TDS	Power Consumption (Watts)	Frequency (Hz)	Weight (kg)
NKD1-OXI-15	210–265	0.86	7.57	15	15	204.7	50	9.7
NKD1-IR	210–265	0.02	16	0.3	0.5ppm/1hr/ 10000Lt	4.8	50	0.75

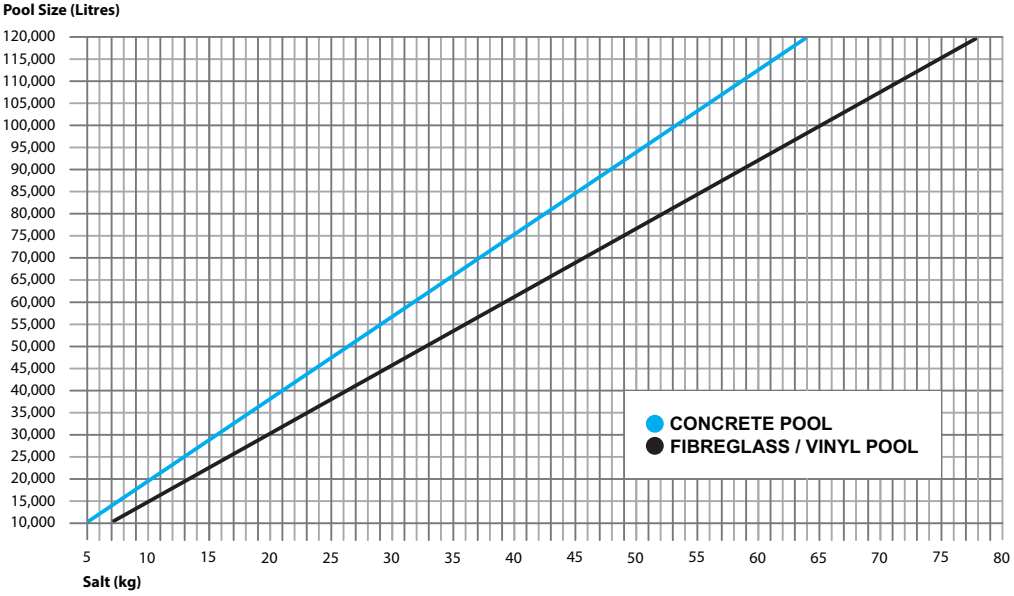
NAKED POOLS SALINITY ADDITION CALCULATOR

ALL NEW POOL START UPS THE TOTAL DISSOLVED SOLIDS (TDS) OF THE WATER WILL VARY DEPENDING ON YOUR LOCATION BEFORE ADDING SALT TEST YOUR POOL WATER FOR THE TOTAL TDS LEVELS
RECOMMENDED TDS LEVELS FOR NAKED POOLS FRESH WATER SYSTEMS: 800-1000PPM

WATER BALANCE GUIDELINES

Pools	Ideal pH Levels	Ideal Total Alkalinity Levels	Ideal Calcium Hardness Levels
Concrete	7.4 - 7.6	80 - 150ppm	250 - 300ppm
Fibreglass/Vinyl	7.0 - 7.2	80 - 120ppm	150 - 190ppm

IF USING MINERALS FOLLOW THE INSTRUCTIONS PROVIDED ON THE PACKAGING OR CONSULT WITH YOUR LOCAL POOL PROFESSIONAL.
BELOW IS A GUIDE FOR THE AMOUNT OF SALT TO BE ADDED INTO THE SWIMMING POOL AFTER NORMAL WATER BALANCE HAS BEEN ACHIEVED.



NEVER ADD SALT DIRECTLY TO THE SKIMMER BOX. This high concentration of salt will pass through your filtration, pump and other pool equipment.

THIS EQUIPMENT HAS BEEN MANUFACTURED AND TESTED TO THE HIGHEST STANDARD AND ACCORDINGLY CARRIES THE FOLLOWING WARRANTY.

13.1 The NKD1 Fresh Water System Control Unit will be repaired at no charge for a period of 36 Months 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 Electrolytic Cell carries a 3 year warranty. *The warranty applicable to commercial application is limited to 12 months from the date of installation unless a commercial model is purchased then this is 24 months.

13.2 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.

13.3 Defective equipment must be returned to the manufacturer or dealer as soon as the purchaser becomes aware of the defect and all transport must be prepaid. Neither the manufacturer nor the dealer shall be responsible for any goods damaged in transit.

13.4 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.

13.5 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.

13.6 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.

13.7 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. Copper levels should not exceed 0.5ppm and the TDS level should not exceed 1200ppm.

13.8 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 Control Unit or Cell Electrode is serviced by any person other than a person authorised by us to do so.
- Correct TDS levels are not maintained at all times.
- 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.
- Run in a commercial installation (these have a 1 year warranty on Control Unit and Cell Electrode unless a commercial application is granted then this is 24 months).
- 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 without authorisation or altered in any way.
- This warranty is applicable to workmanship and materials only.
- This warranty is not transferable under any circumstance.
- This system is for use in domestic swimming pools only. Used in commercial applications voids the Warranty unless a commercial application has been granted.

Claiming Warranty on your NKD1 Fresh Water System

Visit www.naked-pools.com/warranty

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
Cell 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 Pty Ltd reserves the right to modify any model without notice.

For all warranty enquiries or technical support please contact your local distributor or visit www.naked-pools.com or call 1800 NAKED1 (625 331) for further information.

Contact details:
Naked Pools Pty Ltd
P - 1800 NAKED1 (625 331)
E - warranty@naked-pools.com
W - www.naked-pools.com

DISCLAIMER

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No representations or warranities are made that the content, advice and recommendations in this guide are current, free from errors or omissions, or appropriate for the user's circumstances or abilities. No liability or responsibility is accepted for any loss suffered as a result of any user's reliance on such content.

Repairs should only be carried out by qualified persons or Naked Pools appointed agents. Naked Pools Pty Ltd reserves the right to refuse warranty if any damage caused to the Fresh Water System or auxiliary pool equipment that is not a result of a manufacturer's defect.

P - 1800 NAKED1 (625 331)
E - warranty@naked-pools.com
W - www.naked-pools.com