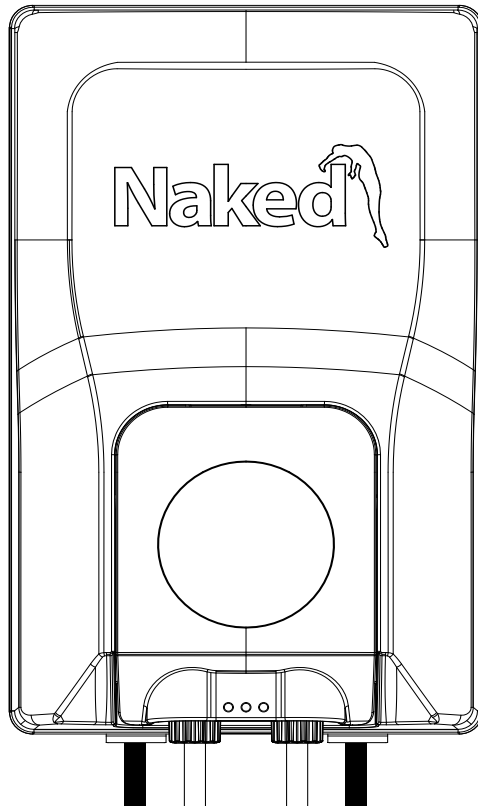


# pH Controller

## INSTALLATION & STARTUP GUIDE

MODEL: NKD-pH



### NOTE:

1. READ THIS DOCUMENT PRIOR TO INSTALLATION. IMPROPER INSTALLATION WILL VOID WARRANTY.
2. PRODUCT ONLY TO BE INSTALLED & SERVICED BY A SUITABLY QUALIFIED PROFESSIONAL.
3. THIS MANUAL CONTAINS IMPORTANT INFORMATION. ONCE INSTALLATION IS COMPLETE INSTALLER MUST PROVIDE THIS MANUAL TO OWNER/OPERATOR TO STORE IN A SAFE PLACE.



## IMPORTANT - PLEASE READ!

This guide contains important information about the installation, operation and safe use of this product. 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 the equipment. Read and follow all warning notices and instructions that are included in this guide.

The NKD-pH Controller internally contains live components. There is a danger of electric shock if opened. If the power cord is damaged then the manufacturer, their agent or a similar qualified person in order to avoid a hazard, should replace it. The product shall be installed according to AS/NZS 3000 wiring rules. It shall be installed outside the pool zone.

To reduce the risk of accidents or incidents, service on the unit should only be performed by a qualified pool service professional and not operated by children under 18 years of age.



**WHEN MIXING ACID WITH WATER:  
ALWAYS ADD ACID TO WATER. NEVER ADD WATER TO ACID.  
ACID/WATER MIX RATIO = 1 : 3**



**DO NOT PLUG UNIT IN IF CARTON HAS BEEN WET.**



**WE RECOMMEND STORING ACID DRUMS IN A SAFE PLACE  
PREFERABLY AT LEAST 2M AWAY FROM ALL EQUIPMENT.**



**IF ACID IS STORED INSIDE ENSURE ADEQUATE VENTILATION.**

## WATER BALANCE GUIDELINES - Ideal Levels

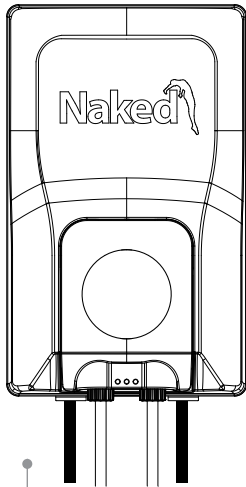
Pool Type	pH	Salt	Total Alkalinity	Calcium Hardness
Concrete	7.4 - 7.6	500-700ppm	80 - 150ppm	200 - 250ppm
Fibreglass or Vinyl	7.2 - 7.4	500-700ppm	80 - 120ppm	150 - 190ppm

Specifications subject to change without notice.

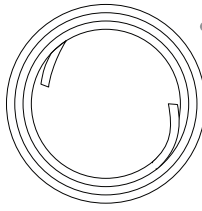
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Whilst every care was taken in preparation of this document, Naked Pools accepts no responsibility for the accuracy of the information supplied.

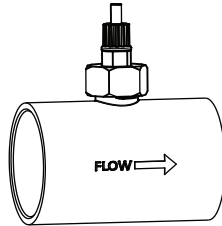
# PH CONTROLLER | PARTS SUMMARY



1



3



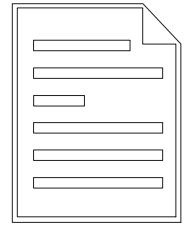
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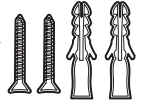
4



6



7



5

1 pH Controller with Wall Mount Bracket

2 Clear Tee with Lock Nut, Injector Valve c/w Sleeve & Tube Nut Injector O'Ring

3 Clear PVC Flexible Tube (6m)

4 Acid Drum Label

5 Wall Plugs & Mounting Screws (x2)

6 Drum Weight with Suction Valve c/w Tube Nut

7 Installation and Start-up Guide

## TOOLS REQUIRED



1



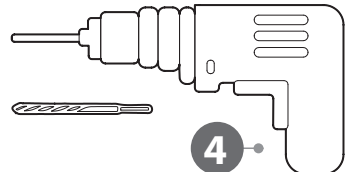
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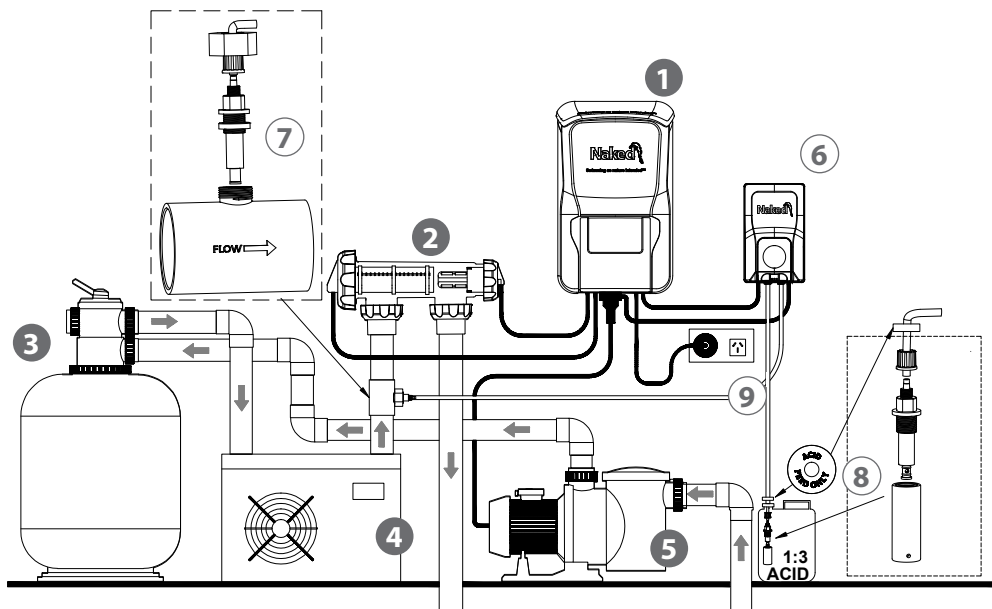
1 Hacksaw

2 No. 2 Phillips Head Screwdriver

3 PVC Primer & Glue

4 Drill & 6mm Drill Bit

# TYPICAL SYSTEM INSTALLATION



➔ Indicates direction of water flow

- |   |                    |   |   |
|---|--------------------|---|---|
| 1 | Naked Control Unit | 6 | NKD-pH Controller                               |
| 2 | OXI & ION Housing  | 7 | Clear Injection Tee Piece                       |
| 3 | Filter             | 8 | Acid Drum with weighted Suction Valve and Label |
| 4 | Heater             | 9 | Clear PVC Flexible Tube                         |
| 5 | Pool Pump          |   |   |

## ⚠ Before you start:

- NKD-pH uses a 1 : 3 Acid/Water mix ratio. Add 15L water then 5L of acid to a 20L drum. Always add acid to water, never water to acid.
- Install the Clear Injection Tee Piece before or after the OXI & ION Cell Housing taking note of the flow direction indicator.
- All installations must be after any heating.
- Store the acid drum at the furthest possible point away from all equipment.

## INSTALLATION STEPS (Refer To Typical System Installation Diagram)

- STEP 1** Detach the Wall Mounting Bracket from back of unit and mount in the desired location for the NKD-pH using the Wall Plugs and Mounting Screws provided.
- STEP 2** Snap the pH Controller into the locating pins of the Mounting Bracket.
- STEP 3** Install the Clear Injection Tee Piece BEFORE or AFTER the OXI & ION Cell Housing taking note of the flow direction indicator. Note: This should be installed after any heating.
- STEP 4** Measure and cut the Clear Flexible PVC Tube for the Clear Injection Tee Piece.
- STEP 5** Use the remaining Clear Flexible PVC Tube for the acid drum, keeping the acid drum a minimum of 2m from any equipment.
- STEP 6** Drill a 6mm hole in the lid of the acid drum for the Clear PVC Flexible Tube and attach Acid Drum Label to the cap.
- STEP 7** Connect the Clear PVC Flexible Tube to the base of the peristaltic pump (left side) and feed through the 6mm hole into the acid drum and attach to the Acid Drum with weighted Suction Valve.
- STEP 8** Connect the Clear Flexible PVC Tube to the base of the peristaltic pump (right side) and attach to the Clear Injection Tee Piece.
- STEP 9** Plug the pH Controller cable into the programming plug on the base of the Naked Control Unit.
- STEP 10** Plug the piggy back plug into the AC socket on the base of the Naked Control Unit and then the pump into the piggy back plug.

## OPERATING THE CONTROLLER

The NKD-pH is based on an algorithm and is designed to dose acid into the pool each day based on a preset time in accordance with the pool size entered during the Initial Start-up.

The pH controller will be activated each day when T1 starts and will run for the preset time based on the pool size.

If pH levels are high, longer running times will be required, and similarly if levels are low, run times will need to be decreased. Every swimming pool is different depending on the set up and environment.

To change dosing times simply press [OK] for the Main Menu within the Naked Control Unit and using the [+] and [-] buttons select M15 pH Control.

## NOTE:

WHEN STARTING THE NKD-PH FOR THE FIRST TIME THE ACID PUMP WILL AUTOMATICALLY PRIME WHEN THE INITIAL STARTUP BEGINS OR WHEN T1 IS ACTIVATED.

# THERE ARE 2 MENUS FOR PH CONTROL

## 1. pH1 RUN TIME

- Adjusts the run time of the acid pump.
- Run time is displayed in minutes indicating the run time of the acid pump each day when T1 starts.
- If pH levels are high simply increase the time by pressing the [+] button.
- If pH levels are low simply decrease the time by pressing the [-] button.

Adjustments may be necessary, we recommend adjusting the Run Time by 1-2 minutes and checking pH levels until the correct levels are achieved.

## 2. pH2 DEMAND or PRIME

- Used to manually dose acid or to prime the acid line after changing the acid drum.
- Displayed in ml, the default is 100ml and can be adjusted up to 5000ml.
- The acid pump will dose the required amount entered and once completed will return to the RUN TIME in pH1
- Calculate the amount of acid required by using the Dosing Calculator in the Naked Pools App. Simply select the ml required by pressing the [+] and [-] buttons and [OK] to confirm.

# MAINTENANCE

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.

## 4.1 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.

## 4.2 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.

## 4.3 Replace Squeeze Tube

Depending on usage, the squeeze tube may need replacement after 1-2 years of use. Before replacing, ensure that the suction and injection tubes are empty. To replace the squeeze tube, please follow the instructions included with the replacement kit, or on the Naked Pools App.

Only use original sized commercial grade Tygon® Norprene® tube as incorrect sizing will result in early failure of the Tri Roller Block.

# TECHNICAL SPECIFICATIONS

Volts Input (Vac)	220-245
Amps Input - Max. (Aac)	1.00
Total Power Consumption (W)	13W Motor - 20W Total
Frequency (Hz)	50
pH Controller Dimensions (mm)	135W x 225H x 123D
Output Controlled by Sanitiser (LPH)	0-1.0
Rated Pressure (kPa)	350
Squeeze Tube	Tygon® Norprene® (Commercial spec)
Motor Speed (RPM)	10
Non-Return Injector Valve	PVC with viton sleeve
Tubing	6m x 6mm Clear Flexible PVC Tube
Roller Block	Heavy-duty PVC
Power Cord	Approved piggy-back type
Water Connection	40/50mm
Water Flow Rate (L/min)	80-650
IP Rating	34
Net Weight (kg)	2.5

# WARRANTY

This product is warranted for twelve (12) months against defects in workmanship and materials when used for its intended purpose and maintained according to instructions. This warranty is limited to repair or replacement, depending on the problem of the product. If the product is found to have been misused or damaged due to water entry/mechanical damage/accidental damage, this will not be covered under warranty, and, in such cases, no warranty will apply.

**What is covered?** Repairs/parts/factory labour, or a replacement unit if applicable.

**What is not covered?** Damage due to accident, misuse, water penetration of the enclosure, tampering, or lack of prescribed maintenance is not covered.

Should you need to lodge a warranty, ensure to include the product serial number, purchase date, and type of failure. To lodge a warranty claim, please use menu under Support on our web site or directly from the Naked App.

This limited warranty is the sole and complete warranty for the NKD-pH Controller. In no event shall Naked Pools be liable for incidental or consequential damages.



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