AQUAFRESH™
BY LO-CHLOR

User Manual
AquaFresh™ Chlorine-Free System

pool CONTROLS

Contents

IMPORTANT

If the power cord is damaged the unit must be returned to Pool Controls for repair.

Always read the instructions and warnings on chemical containers before using chemicals.

Serial Number...

Date of Installation................................

Installed by...

pool CONTROLS   Manufacturer's Warranty

Pool Controls products come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. The benefits under this warranty are in addition to other rights and remedies under a law in relation to the goods.

Pool Controls warrants all components of the AQUAFRESH™ Water Management System to be free from defects in material and/or workmanship for a period of 2 years from the original date of purchase or installation:

Additional Pro-rata Warranty on Multi-electrodes (Optional Probes)
Pool Controls warrants the AquaFresh™ Multi-electrode (Probe) to be free from defects in material and/or workmanship for a period of 2 years, followed by 36 months pro-rata warranty.

Exclusion for Wearing Parts
This warranty does not extend to wearing parts, in particular the squeeze tubes fitted in peristaltic dosing pumps. Squeeze tubes should be replaced every **six months** by a suitably qualified technician. Pool Controls is not liable for any failure of its products or other damage caused by failure of a squeeze tube that has been used for more than six months.

WARRANTY OBLIGATIONS OF POOL CONTROLS
If a defect in workmanship or materials in any Pool Controls product covered by this warranty is discovered during the term of the warranty, and provided the warranty holder follows the procedure set out below, Pool Controls will, at its option, repair or replace that item.

PROCEDURE FOR CLAIMING UNDER THIS WARRANTY
In order to claim under this warranty, the warranty holder must:
- Contact Pool Controls Service as soon as possible after the discovery of the defect and in any event, within the relevant warranty period;
- Provide proof of purchase and confirm date of installation;
- Confirm that the installation was completed by a suitably qualified technician, as set out in the installation manual; and
- If required, arrange for the relevant Pool Controls' product to be returned to Pool Controls for repair, and the warranty holder is responsible for the cost and risk of any freight or transportation to and from Pool Controls.

CALL OUT FEES

- This is a "Back to Base" Warranty, which means that if the Pool Controls product needs to be serviced, replaced or repaired at a place other than Pool Controls' premises, a call out fee will be charged to cover the cost of travel by an authorised Pool Controls technician. Please note that this call out fee will NOT be charged when the relevant Pool Controls product is returned to Pool Controls for repair.
- If an authorised Pool Controls technician repairs or replaces a Pool Controls Product and this warranty does NOT apply, a fee for labour and parts supplied will be charged in addition to the call out fee.
- If the Pool Controls product needs to be returned for repairs under this warranty, the warranty holder is responsible for the cost and risk of any freight or transportation to and from Pool Controls.

WARRANTY EXCLUSIONS

- This warranty extends to the original owner only, beginning on the date of installation and is not enforceable by any other party without the prior written consent of Pool Controls.
- Pool Controls is not responsible for any cost of freight or transportation to or from its Service Department.
- Pool Controls is not liable under this warranty if the installation of the Pool Controls product was not carried out by a suitably qualified technician.
- To the extent permitted by law, Pool Controls is not liable for any incidental or consequential loss incurred in connection with the removal or replacement of the Pool Controls product under this warranty.
- To the extent permitted by law, Pool Controls disclaims all other warranties, either express or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose with regard to Pool Controls products, parts and/or any accompanying written materials.

REGISTER YOUR WARRANTY NOW
Go to www.poolcontrols.com.au, click on the warranty registration tab to fill in your details.

CONTACT POOL CONTROLS

Pool Controls is based at 20 Abrams Street, Balcatta, Western Australia. We also have service technicians based in NSW, Queensland and Victoria.
- Service Email: service@poolcontrols.com.au
- Service Phone: 1300 550 010

Introducing the AquaFresh™

What's in the box?

The image above shows the main parts of the AquaFresh™ Water Management System (clockwise from top left):

- Mounting brackets; top and bottom
- AquaFresh™ Power Supply and Mains Cable
- Tubing
- Drum weights and Y-pieces (not shown)
- Peristaltic pump set

Also included in the box, but not illustrated:

- User Manual
- Injection manifold and bushes (not shown)
- Mounting hardware (raw plugs, screws and paper template)

How it works:

The AquaFresh™ system is installed with dosing pumps to feed a calculated, metered dose of the Sanitiser and Enhance chemicals into the pool each week. These chemicals are polymer-based biocides and flocculating agents. A third chemical – Performance – is an oxygen-based oxidiser that could be described as a powdered hydrogen peroxide. This is added by hand periodically to remove oxidisable contaminants from the pool.

Running the system

When the AquaFresh™ system is first started the LCD screen will prompt the operator to check the time and day. Then the pool volume must be set for the unit to calculate the dosing requirements. Simply follow the prompts to enter the pool volume in cubic metres (m^3). 1 m^3 = 1000 litres. If you make a mistake it can be corrected in the Advanced Menu area under Pool Menu.

Dosing Sanitiser, Enhance and Performance

The unit will automatically dose **Sanitiser** at the rate of 60mL / $10m^3$ on the day selected (when the unit is first installed). It will then dose **Enhance** at the rate of 50mL / $10m^3$ the next day. Both of these chemicals can be manually dosed if needed.

If the pool is experiencing an algal bloom, for example if the pool has some green patches, extra Enhance can be SuperDosed as an algicide at the rate of 1000mL/$5m^3$.

Performance (the oxidiser) must be dosed at least once per fortnight at the rate of 50gr / $10m^3$. 50 gr is approximately 1/5 cup measure. As an example a 50,000 litre pool will require a cup of Performance each fortnight.

Notes:
1 **The filter system should always be running when the pool is being used.**
2 **As the Sanitiser is a flocculating agent the filter will remove more fine debris from the pool and may require more frequent cleaning.**

pH Control (optional)

When chemicals are added to water the pH can change – this is because most chemicals are not pH neutral. In a concrete pool the pH will slowly rise due to the alkaline nature of the wall material. It is important for comfort and safety to ensure that the pH remains in the correct range for the pool.

The pH of the water can be lowered by the addition of acid – and your AquaFresh™ can do this automatically. The AquaFresh™ multielectrode (probe) measures the pH of the water and the controller then doses the pool with small amounts of acid to keep the pH in the correct range.

Initial pool balance

Before you begin using the AquaFresh™ make sure your pool water is balanced as follows:

There must be no chlorine in the pool prior to starting the system
Add chlorine reducer (sodium thiosulphate) to make sure all trace of chlorine is removed. AquaFresh™ is not compatible with chlorine or bromine.

Stabiliser is not required in an AquaFresh™ pool.

pH
Adjust the pH to suit your pool type. This is usually in the range of 7.2 to 7.6 – note that pH and TA are related and will likely need to be adjusted together.

Total Alkalinity (TA)
Total alkalinity is also known as carbonate hardness or TA for short. The recommended level is between 80 and 120ppm.

TA is related to pH in that it stops the pH from varying quickly with small additions of acidic or alkaline chemicals. When the TA is low it is almost impossible to control the pH.

To raise the TA, buffer (sodium bicarbonate) is added. This must be done slowly as buffer will also cause the pH to rise. As an approximate rule every increase of 20ppm of TA will also cause a 0.1 rise in pH. Once buffer is added it should be left to mix in the pool for a few hours before reducing the pH.

Phosphates and Nitrates
Phosphate and ammonia nitrogen will make your garden green – and they will do the same thing to your pool. Check for phosphates and add phosphate remover if necessary. Don't let fertiliser get into your pool! Phosphates are also in some cleaning products – check the label if using around your pool.

Metals
Metals such as iron and copper will break down the polymers in the AquaFresh™ liquids. Make sure there are no metals in the pool before starting the system.

Pool Chemical Safety

Your AquaFresh™ feeds a solution of Sanitiser and Enhance into your pool to maintain water hygiene. These chemicals should not be diluted. Read the instructions on the containers.

If you have selected the pH Control option you may need to dilute the acid to suit the size of your pool. Your AquaFresh™ can work with either hydrochloric (muriatic) acid or sulphuric (sold as low-fume or no-fume pool acid). If you have a concrete pool consult your pool builder about which acid is recommended.

IMPORTANT SAFETY MEASURES:

- Always add concentrated chemicals to water – not the other way around!
- Don't allow chemicals to mix – dangerous, highly corrosive fumes can be produced.
- Always wear protective clothing, footwear, gloves and eye protection when handling pool chemicals to avoid injury.
- If a spill occurs, wash the affected area with fresh water immediately and seek medical attention.
- Work in a well ventilated area and avoid inhalation of fumes.
- Read and follow safety instructions on chemical drums.

Pool Shops

Your AquaFresh™ system is not compatible with some pool chemicals. Chlorine and bromine based products should not be added to the pool.

Metal-based algicides will destroy the biocides in the AquaFresh™ system.

Always tell the Pool Shop staff that you have an AquaFresh™ pool.

The level of Sanitiser in your pool is checked by a Biguanide Test.

Installation Guide

The basic installation of the AquaFresh™ System with dosing pumps is shown on page 9.

Choose a good location

The AquaFresh™ is manufactured from weather resistant materials and is designed for operation in full sun and rain. However, your AquaFresh™ will benefit if it is protected from the weather. The AquaFresh™ Power Supply should not be mounted close to where chemicals are stored (eg acid) as vapours from some chemicals are corrosive and may damage the electronic controls within the unit.

Insect intrusion (particularly ants) can cause problems with all equipment. Ensure that the pool equipment area is kept free of insects as much as possible. Insect intrusion is not covered under the warranty.

Installing the AquaFresh™ Power Supply

Locate the AquaFresh™ Power Supply close to the filtration pump so that it may be connected easily. Connect the AquaFresh™ Power Supply to the mains power outlet of the pool area and make sure this outlet meets all applicable Australian Standard at the time of installation.

Mount the AquaFresh™ Power Supply at least 1.5m above the ground and at least 3m from the pool water. A mounting template has been provided with the AquaFresh™ that shows you where to place screws on either a wall or post.

The PUMP socket outlet in the base of the AquaFresh™ Power Supply is dedicated to the filtration pump only. Do not use a double adaptor to connect another pump as this will overload the system and void warranty.
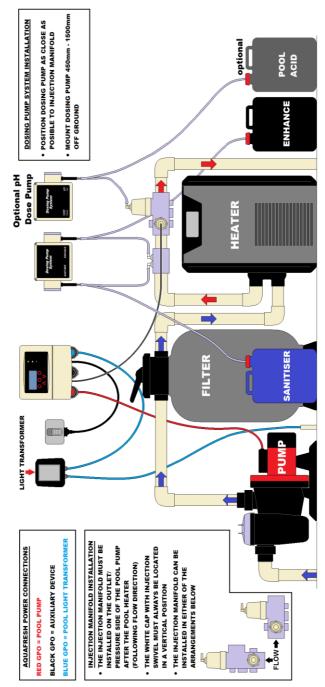
Your AquaFresh™ has two other power outlets on its base, which can be used to run lighting or other pool equipment. These outlets are also timed, so accessories can be set to come on and turn off automatically.

Installing the Injection Manifold

Unplug the pool pump before installing the injection manifold.

The injection manifold may be installed on the return (pressure) or inlet (suction) side of the pump, but always after any accessories such as heaters. The maximum pressure for dose pump operation is 100kPa – do not install between the pump and the filter.

AQUAFRESH INSTALLATION DIAGRAM

DOSING PUMP SYSTEM INSTALLATION

- POSITION DOSING PUMP AS CLOSE AS POSIBLE TO INJECTION MANIFOLD
- MOUNT DOSING PUMP 450mm - 1500mm OFF GROUND

optional

POOL ACID

ENHANCE

Optional pH
Dose Pump

HEATER

Dosing Pump System

Dosing Pump System

LIGHT TRANSFORMER

FILTER

SANITISER

PUMP

AQUAFRESH POWER CONNECTIONS

RED GPO = POOL PUMP

BLACK GPO = AUXILIARY DEVICE

BLUE GPO = POOL LIGHT TRANSFORMER

INJECTION MANIFOLD INSTALLATION

- THE INJECTION MANIFOLD MUST BE INSTALLED ON THE OUTLET/ PRESSURE SIDE OF THE POOL PUMP AFTER THE POOL HEATER (FOLLOWING FLOW DIRECTION)
- THE WHITE CAP WITH INJECTION SWIVEL MUST ALWAYS BE LOCATED IN A VERTICAL POSITION
- THE INJECTION MANIFOLD CAN BE INSTALLED IN EITHER OF THE ARRANGEMENTS BELOW

FLOW

Chemical Drums

Position the Sanitiser and Enhance chemical drums in a safe and secure location, preferably close to the AquaFresh™. Note that drums of acid for the optional pH Control will need to be at least 2 metres from the unit due to possibly corrosive vapours.

Small weights and Y-pieces are supplied to allow the tubing to sit on the bottom of the Sanitiser and Enhance drums. The optional pH Control uses a different suction point – see the following information.

Installing the Peristaltic Pumps

Mount the dual peristaltic pump unit adjacent to the AquaFresh™ Power Supply, as it is hard-wired to this power supply.

Cut lengths of tubing that will reach from the base of each peristaltic pump to the injection manifold. Connect one end of the tubing to the outlet side of the peristaltic pump (the direction of flow is indicated by an arrow on the front cover of the pump.) Connect the other end of the tube to the injection point on the injection manifold.

Cut another length of tubing that will reach from the base of the peristaltic pump to the base of the chemical drum.

Connect the one end of this tube to the inlet side of the peristaltic pump (the direction of flow is indicated by an arrow on the front cover of each peristaltic pump.)

Drill an 10mm hole in the lids of the chemical drums and pass the tubing through the hole in the drum lid. Place a sinker on to the end of the tubing that will be in the drum and then attach the Y-piece. Note that the Y-piece must sit on the bottom of the drum.

Before placing the tubing into the drum, measure the tubing against the outside of each drum and wrap several turns of PVC tape around the tubing above the drum lid so that the drum Y-piece will just on the bottom of the drum. Lower the Y-piece and sinker into the drum and screw on the lid – if the tube is tight in the lid do not tighten completely as the drum must be able to breathe.

The Optional pH Control

The optional pH Control has a single dosing pump, injection manifold, Probe and a length of tube with suction fittings.

The AquaFresh™ comes with the pH Control system turned off. It must be turned on before the control will operate. See "Adjust pH System On or Off" on page 19.
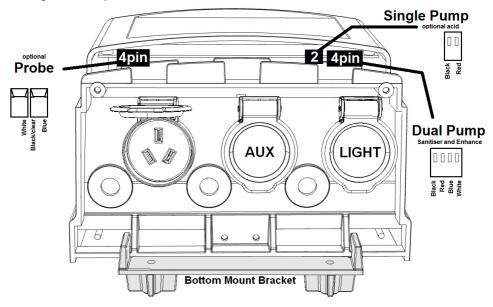
Installing the optional pH Control parts

Unplug the filter pump prior to installing the injection manifold.
The manifold should be installed after any accessories with the water flow in the correct direction. The dosing pump needs to be installed in a similar manner to the dual peristaltic unit described on the previous page.

Connection

The Probe and single dosing pump must be connected to the unit. The connectors are under the front cover which is accessed by removing two screws in the cover bottom corners. Always touch connectors with clean, dry hands – wetness can interfere with readings from the probe.

Acid Drum

Drill a 10mm hole in each of the screw-on drum caps (slightly larger than the diameter of the tubing) to allow venting and to prevent the drum walls from being sucked in as the chemicals are used.
Pass a length of supplied tubing through the hole in the appropriate drum cap
Place the supplied sinkers onto the tubing and attach the appropriate drum filter
When placing the tubing into the drums, measure the tubing against the outside of each drum so that the drum filter will be 10-15mm above the bottom of the drum and then apply several turns of PVC tape at a point above the cap to prevent the tubing from slipping further into the drum.
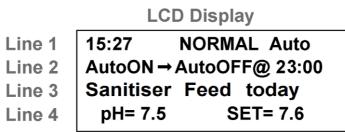Lower the drum filter and sinker into the drum and screw on the cap.

The AquaFresh™ Front Panel

AquaFresh™ Display

The AquaFresh™ uses a four line LCD display to provide the user with information.

LCD Display

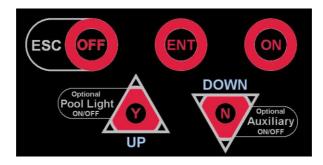|	
Line 1	15:27 NORMAL Auto
Line 2	AutoON ➞ AutoOFF@ 23:00
Line 3	Sanitiser Feed today
Line 4	pH= 7.5 SET= 7.6

READ MANUAL FOR DETAILED INSTRUCTIONS

Line 1   shows the current time and the mode of operation.
In the example above, line 1, tells you that the time is 3:27pm and the AquaFresh™ is operating in "Normal Automatic mode"
Note that the AquaFresh™ displays the time using a 24 hour clock.

Line 2   shows timer information.
In the example above, line 2 tells you that the "unit is turned ON and will turn OFF automatically at 23:00 (11pm)"

Line 3   displays AquaFresh™ feeding information.
In the example above, line 3 tells you that the Sanitiser will begin feeding today.

Line 4   displays the optional pH information.
In the example above, line 4 tells you that the current pH is 7.5 with the unit set to provide 7.6. This system is turned off until the optional pH Control is added.

AquaFresh™ Operational Buttons

Your AquaFresh™ has 5 buttons that allow you to control the various functions available via the AquaFresh™ Menu system.

Each button is labelled with its primary function either on the button itself, or adjacent to it. Secondary functions are labelled within a curved white outline next to the relevant button. The buttons are backlit to show which are active at any given time, although the ESC/OFF button is always available to take you back to the home screen.

ON Button
Turn the System On Manually
Press the ON button once to switch the AquaFresh™ and the pool pump on manually. The AquaFresh™ will default back to AUTO and turn itself off automatically at the end of the next programmed FILTER CYCLE (and this time will be displayed on the LCD).

Increasing Manual Run-time in Hourly Increments
Press the ON button repeatedly (or hold the button down) to increase the manual run time in hourly increments. The run time is displayed on the LCD. When the desired run time has been reached, press the ENT button to confirm your selection and the system will commence operation.

ESC/OFF Button
Turn the System Off Manually
If the AquaFresh™ and pool pump are running, pressing this button will turn them off manually. The AquaFresh™ will automatically turn on again at the start of the next FILTER CYCLE (and this will be displayed on the LCD).

Return to Home Screen
If you have unintentionally accessed a AquaFresh™ Menu that you don't actually require, pressing the ESC/OFF button allows you to return to the home screen at any time.

ENT Button
Use this button to enter the AquaFresh™ Menu system and to access the various options in each Menu. Use the Y/UP and N/DOWN buttons to scroll through menu options and when your desired menu option is displayed on the LCD, press ENT to access that option.

Y/UP Button and Optional Pool Light

If you have accessed the AquaFresh™ Menu by pressing the ENT button, press the Y/UP button to scroll upwards through the various menu options. Some menu options will prompt a yes or no answer. If you wish to answer "yes", press the Y/UP button.

If your AquaFresh™ also controls your pool lighting (optional), you can turn the lights on or off manually by pressing the Y/UP button. For multi-coloured lights, hold the Y/UP button down to cycle through the various colours and release once the desired colour is reached.

Navigating the AquaFresh™ Menu System

There are four aspects to the general AquaFresh™ Menu system – the Timer Menu, the Sanitiser and Enhance Menus, and the pH Menu (for optional pH Control).

Access the AquaFresh™ Menu system by pressing the ENT button and following the prompts on the LCD. If you find you have ended up in a part of the Menu system unintentionally, you can return to the Home Screen by pressing the ESC/OFF button at any time.

Use the Y/UP and N/DOWN buttons to scroll through the various menu options until the desired option is displayed on the LCD. Use the ENT button to confirm that you wish to select that option.

Once accessed, use the Y/UP and N/DOWN buttons to adjust operational settings up or down – and confirm adjustments by pressing ENT. To cancel any adjustments, simply press ESC/OFF to return to the Home Screen.

Advanced Settings Menu

If you are interested in learning more about additional functionality of your AquaFresh™, a detailed **Advanced Settings Manual** is available to download from the Pool Controls website - www.poolcontrols.com.au or call Pool Controls Service on **1300 550 010** for further information.

Advanced Settings comprise:
- POOL – used to store information on pool volume and whether it is concrete or fibreglass
- SYSTEM DATA - shows service information
- FILTER CYCLES - allows for up to 4 Filter Cycles to be activated and is very useful for seasonal timer adjustments.
- AUX - controls timed operation of auxiliary power outlet
- FULL MANUAL ON or AUTO TIMER ON – use when the AquaFresh™ is being run as a "slave" to another controller. The AquaFresh™ unit is not recommended as a slave unit as it has dedicated dosing timing.

Timer Menu

Setting the time
Once you have installed your AquaFresh™ and turned it on, you will need to set the correct time on the AquaFresh™ 24 hour clock.

First, access the Menu System by pressing the ENT button.

The LCD will display the word TIMER MENU. Select this by pressing the ENT button once more.

Line 2 on the LCD will now read SET TIME HOURS. Press ENT to select this option and then use the Y/UP and N/DOWN buttons- to adjust the hours on the LCD. Confirm the correct hours value by pressing ENT again.

The LCD will now show SET TIME MINUTES. Adjust the minutes using the Y/UP and N/DOWN buttons. When complete, press ENT to return to normal operation.

ADJUST CYCLES Sub-Menu

Your AquaFresh™ has two filter cycles pre-programmed as factory defaults as follows:

Filter Cycle 1:   ON at 6:00 (6am)   OFF at 08:00 (8am)
Filter Cycle 2:   ON at 18:00 (6pm)   OFF at 20:00 (8pm)

You can change the start and finish times of each filter cycle to meet your sanitiser requirements and to suit your lifestyle.

To adjust filter cycle start and finish times, press ENT to access the AquaFresh™ Menu system. Press ENT again to select the TIMER menu and then scroll down using the N/DOWN button until ADJUST CYCLES is displayed on the LCD.

Select this option by pressing ENT and the LCD will show the start (ON) time of the filter cycle being adjusted. Use the Y/UP and N/DOWN buttons to adjust the start time. Press ENT to confirm your selection and then the LCD will show the end (OFF) time for that filter cycle. Adjust the OFF time in the same way as the ON time and press ENT to confirm.

After ON and OFF times for the first filter cycle have been adjusted, the ON time for the second filter cycle is shown on the LCD. This can be adjusted in the same way, or if you do not wish to make any changes, simply press ENT to confirm the time shown on the LCD. Follow the same process to either adjust or confirm the OFF time for the second filter cycle, and once this has been confirmed the LCD will display the home screen.

Note: an additional 2 filter cycles can be enabled and programmed via the Advanced Settings Menu. For details on how to access this menu, please refer to the Advanced Settings Manual (available to download from www.poolcontrols.com.au) or call Pool Controls Service on 1300 550 010.

Running Times

We recommend your system be operated for ***at least 4 hours per day and always run the system when using the pool.***

AquaFresh™ Sanitiser and Enhance are added for sanitation but the filter is needed to remove pollutant particles (dust, sand etc) and keep the water looking good. The filter must operate for a reasonable number of hours per day to remove these pollutants. If there are adverse local conditions – such as windborne dust and debris - you will likely need to operate the system for longer periods to adequately filter the water.

Optional LIGHT Timer Sub-Menu

You can use your AquaFresh™ to turn your pool or garden lighting on and off automatically, you can set the ON and OFF times using the light timer menu.

Press ENT to access the AquaFresh™ Menu system. Press ENT again to select the TIMER menu and then scroll down using the N/DOWN button until LIGHT MENU is displayed on the LCD.

Line 2 on the LCD will now read "AUTO? Y/N". To enable automatic light operation press the Y/UP-button. Line2 will read "Auto ON" for short period before displaying "ON hh:mm".

Adjust the ON time using the Y/UP and N/DOWN-buttons and confirm by pressing ENT. The LCD will now prompt you to set the OFF-time, which is accomplished using the Y/UP and N/DOWN-buttons as before. Press ENT-to confirm the new OFF-time and the LCD will return to the home screen.

To disable automatic light operation, access the LIGHT menu in the way described above and when asked "AUTO? Y/N" - press the N/DOWN button. Line 2 will read "Auto OFF" for short period then the system will return to normal operation and the light can only be operated manually (see below for how to do this).

Manual Light Operation

If the AquaFresh™ is turned on, the light can be turned on or off manually by pressing the Y/UP-button.

If you have multi-coloured LED lights that cycle through different colours and requiring a power pulse to change effects, you can hold down the Y/UP-button to cycle through the options and release when the desired colour or effect is achieved.

Sanitiser & Enhance Menus

Accessing the Sanitiser Menu

Access the AquaFresh™ Menu System by pressing ENT. Use the Y/UP or N/DOWN button to scroll through the main menus until Sanitiser or Enhance MENU is displayed on the LCD. Press ENT to select.

Manual Feed

Having accessed the Sanitiser or Enhance menu, the LCD will ask "Manual Feed Y/N?". Press Y/UP to select and on dosing pump models the display with read "FEED 5 mins/75mL"

You can increase the amount of the dose by pressing the Y/UP button until the desired dose amount is displayed. (Note: the dose volume displayed is an estimate only)

Press ENT and the peristaltic pump will commence feeding the Sanitiser liquid.

Enhance SuperDose (Algicide dose)

The Enhance menu has a special super dose calculation that adds Enhance at the rate of 1000mL/50m^3. This dose follows on from the Manual Feed – simply answer N/DOWN to the "Manual Feed Y/N?" and the question "SuperDose Enhance ?" will be asked followed by the amount to be added. Simply press Y/UP to do the Super Dose.

Turning Sanitiser & Enhance Control On or Off

To disable the feed system (or re-enable it if it has been disabled) you need to access the Sanitiser or Enhance menu and work your way through the questions – pressing the N/DOWN button in response to each question.

The LCD will then read "ADJUST CONTROL TURN OFF? Y/N" (if the system is ON) or ADJUST CONTROL TURN ON? Y/N" (if the system is OFF). If you press Y/UP, the system will turn on (or off depending on its current status). If you answer N/DOWN to either question, the LCD will return to the home screen.

Optional pH Menu

Accessing the pH Menu

Access the Menu System by pressing ENT. Use the Y/UP or N/DOWN button to scroll through the main menu until pH MENU is displayed on the LCD. Press ENT to select.

Manual Feed

Having accessed the pH menu, the LCD will ask "Manual Feed Y/N?". Press Y/UP to select and the display will read "FEED 5 mins/75mL".

You can increase the amount of the dose by pressing the Y/UP button until the desired dose amount is displayed. (Note: the dose volume displayed is an estimate only).

Press ENT and (depending on which model you have) either the solenoid valve or the peristaltic pump will commence feeding.

Adjusting the Set Point

The pH Set Point is the pH that the AquaFresh™ will adjust your pool water to. You can adjust the pH Set Point via the pH Menu.

Enter the pH Menu as described above, and press the N/DOWN button when asked whether you wish to do a manual feed. The LCD will then read "ADJUST SET POINT Y/N?" Press Y/UP to select this option and then the LCD will display the current set point. Adjust this using the Y/UP or N/DOWN buttons. Confirm the adjusted set point by pressing ENT. The new set point will then be displayed on the right hand side of line 3 of the LCD.

Calibration and Re-setting Factory Defaults

If your AquaFresh™ consistently displays a pH reading different from that obtained by manual testing with a quality test kit, it may be necessary to re-calibrate the multi-electrode (probe). The instructions below assume the probe is measuring a pH of 7.8.

Caution: do NOT re-calibrate the probe until identical pH readings have been obtained from at least three tests from around the pool. You will need to calibrate the probe to the pH value obtained from these test kit results.

Enter the pH menu as described previously and press the N/DOWN button when asked whether you want to do a manual feed, and then again when asked whether you wish to adjust the set point.

The LCD will then read "CALIBRATE PROBE?". Press Y/UP to select this option and the LCD will read "PROBE Ph = 7.8 ADJUST TO +0.0". Use the Y/UP button to increase the adjusted value to the required level. Press ENT to confirm the adjustment and after a few seconds the AquaFresh™ will revert to normal operation and the home screen will display the new pH value.

Adjust pH System On or Off

To disable the pH System (or re-enable it if it has been disabled) you need to access the pH menu and work your way through the MANUAL FEED, ADJUST SET POINT and CALIBRATE PROBE questions – pressing the N/DOWN button in response to each question.

The LCD will then read "ADJUST pH CONTROL TURN OFF? Y/N" (if the system is ON) or ADJUST pH CONTROL TURN ON? Y/N" (if the system is OFF). If you press Y/UP, the system will turn on (or off depending on its current status). If you answer N/DOWN to either question, the LCD will return to the home screen.

Note: Turning off the supply of acid is not normally necessary and could lead to unbalanced pool water that is unsafe to swim in. Pool Controls recommends that you seek advice from a qualified professional prior to disabling the pH system – or call Pool Controls Service on 1300 550 010.

AquaFresh™ Status Indicators, Warnings and Safety Features

Normal Operation – Green Status Indicators

When the AquaFresh™ is operating normally and optional pH readings are within the correct range, a green status indicator will be illuminated and the LCD will indicate the readings.

Note: it is the pool owner's responsibility to monitor the pool and periodically confirm the AquaFresh™'s readings with a good quality test kit. Remember that the AquaFresh™ is only able to balance pH and add Sanitiser/Enhance – but you need to ensure other factors such as total alkalinity are within the correct range (see page 6 for details) and Performance (the oxidiser) has been added regularly.

Low pH – (Excess Acid)

If the pH of the water drops below significantly below the set point, a red status indicator will be illuminated and the words "LOW pH" will be displayed on the LCD.

The AquaFresh™ will automatically prevent any further acid being added to the pool until the pH is brought back into the correct range by the addition of sodium carbonate or sodium bicarbonate.

Possible causes include:
- Manual overdosing
- Excessive rainfall
- Faulty peristaltic pump
- The multi-electrode (probe) may require cleaning (see page 24 for details)
- Low Total Alkalinity
- Poor pool water circulation

Safety Shutdown

If the pH falls below 5.8 the AquaFresh™ will shut down pump operation to ensure no more acid gets into the pool.

High pH – (Insufficient Acid)

If the pH rises significantly higher than the set point, a red status indicator will be illuminated and the words HIGH pH will be displayed on the LCD.

Note that a high pH can cause scaling in concrete pools and can reduce bather comfort. It is important to restore the pH balance as soon as possible by adding acid to the pool.

Possible causes include:
- The acid drum is empty
- The pool has a new plaster lining (very alkaline) demanding more acid than can be supplied by the AquaFresh™
- Faulty dosing pump
- Filter requires backwashing
- Multi-electrode (probe) may require cleaning (see page 24 for details)
- Injector nozzle is blocked

If each of these factors is addressed, the AquaFresh™ will dose the pool with acid until the set level is achieved – at which point the status indicator will revert to green and the warning will no longer be shown on the LCD. Note that TA reduces as acid is added over time.

Maintenance

Like all equipment the AquaFresh™ will look better and last longer if it is maintained and operated in accordance with these instructions.

The AquaFresh™ Power Supply

The Power Supply has been design for operation in full sun and weather. However, it will benefit from being under cover. There is little maintenance required however there are some Do's and Don'ts –

Don't:
- Install it in a small sealed enclosure (so it does not overheat)
- Install it in a very hot unventilated shed (so it does not overheat)
- Allow insects to nest in the unit (because they will prevent it from functioning)
- Install corrosive chemical drums under or close to the unit (to prevent corrosion)
- Forget about the unit once installed – it should be checked regularly to ensure that it is working for you

Do:
- Install it as per the instructions
- Check it regularly
- Make sure the pool balance is checked regularly

Cleaning the optional Multi-electrode (Probe)

If the AquaFresh™ is consistently giving readings different from those obtained from a test kit, it may be necessary to clean the multi-electrode.

To do this:
- Remove the probe from the injection point by twisting the bayonet (or if fitted with a tapping band, by unscrewing the retaining nut) and remove the o-ring.
- Holding the cable, gently swirl the probe in a dilute solution of hydrochloric acid (pool acid) for two minutes
- Rinse the probe in clean water and then replace it in the injection point, making sure that the "o-ring" is in place.
- Twist bayonet to lock (or tighten nut with fingers)

Trouble-shooting

Before requesting service, you may wish to run through the check list below but feel free to call Pool Controls Service on 1300 550 010 or log a service call via our website – www.poolcontrols.com.au.

If there appears to be a problem with the pool:

1. Check chemical drum levels. Possibly do a small manual feed to ensure dosing pump/s are working
2. Have you added any chemical additives recently? Chlorine/bromine and metal-based algicides are not compatible with the AquaFresh™ system.
3. Check pool for phosphates and remove if necessary
4. Is the unit turned on and operating the filter pump?
5. If the unit is not running at all, check the fuse in the bottom of the unit.

Operation Following a Power Failure

The AquaFresh™ unit comes with a timer function built into the operating software. The timer is a 24-hour type with quartz-crystal control. This Timer is backed-up by a Real-Time Clock (RTC) similar to those found in computers.

During a power failure the AquaFresh™ will keep time and maintain AutoMode functions.

If a Filter Cycle is active when power is returned the pump will be turned ON within 1 minute. The AquaFresh™ will keep all its settings and will not need to be re-programmed.

The AquaFresh™ is ideal for use in systems where repeated power cuts occur, such as off-peak power circuits and Queensland's Tarriff33 system.