BIANCO NXT controls

Bianco NXT CORE

Auto Restart Pump Controller

User Manual

808034 / BIA-NXT

808357 / BIA-NXT AX



GOOD DESIGN AWARD® WINNER

BIANCO NXT 2 YEAR WARRANTY

Approved for Drinking Water AS/NZS 4020

1. Introduction

Thank you for choosing the **Bianco NXT CORE** Intelligent Pump Controller a digital pump pressure controller suitable for controlling single phase pumps up to a maximum of 10 amps (approx. 1.5kW).

The **Bianco NXT CORE** starts the pump by registering water pressure drop and stops the pump when flow through the controller falls sufficiently.

Pressure controllers are an alternative to the conventional pressure tank, pressure switch control method.

The chief benefit of a pressure controller over a pressure switch is the in-built dry-run protection and reduced pressure fluctuation due to pump cycling i.e. the pressure remains constant for a given flow.

2. Key Features

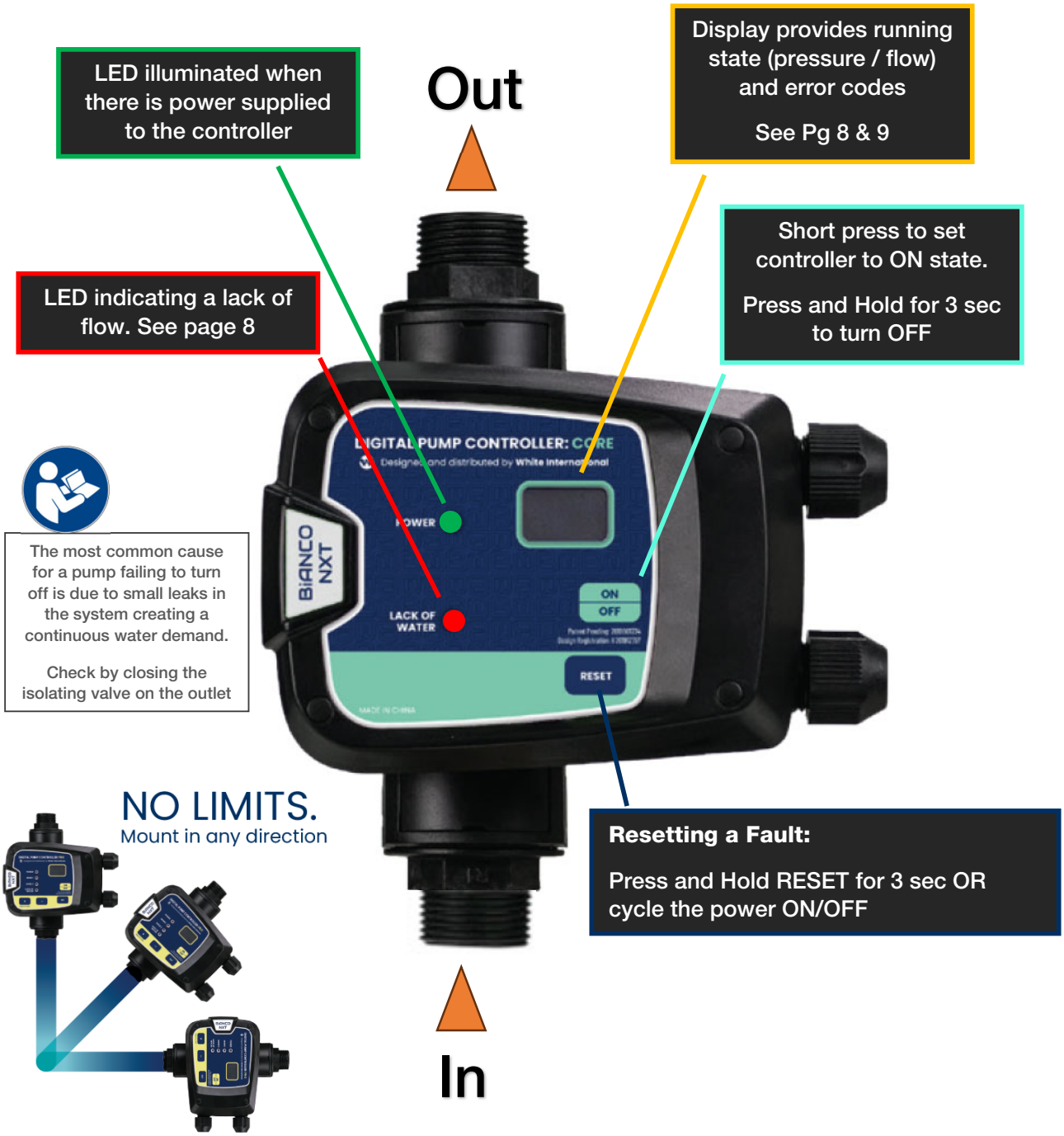
- Electrical components are completely isolated from the water flow.
- The Digital display provides real time information of the pressure OR can provide a visual indication of whether there is flow or not.
- Built in pump protection:
  - Anti-seize function if pump has not operated for some time.
  - Dry run sensing and auto restart function when water supply is available.
  - Prevents the pump from starting and stopping too often.

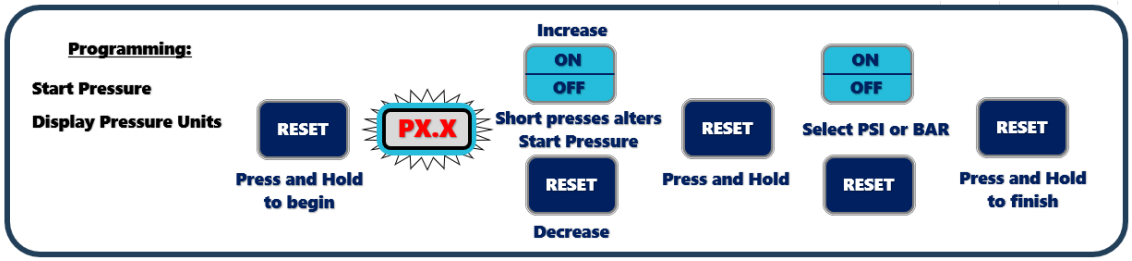
See Pg 15 for instructions to disable FS protection, if desired

3. Standards and Approvals

Approved for Drinking Water AS/NZS 4020	Pumps that carry the **AS/NZ4020 Drinking Water Approval** demonstrate compliance with requirements of Australia & New Zealand Standards of products that come into contact with water intended for human consumption. This approval also ensures that the water coming from the pump will not be contaminated by toxic materials or metals. It also means the water will not support the growth of micro-organisms and will not cause a change in taste or appearance.
CE	**CE marking** is a certification mark that indicates conformity with health, safety and environment. The CE marketing represents a manufacturer's declaration that products comply with the EU's New Approach Directives. These directives not only apply to products within the EU but also for products that are manufactured in or designed to be sold in the EEA.
SAA APPROVALS	**SAA Approvals** is accredited by the Joint Accreditation Service of Australia and New Zealand (JAS-ANZ) as a third-party certification body to issue of Certificates of Approval for declared and non-declared electrical equipment that has proven to comply with the safety requirements of the applicable Australian Standard.

4. Operation Summary





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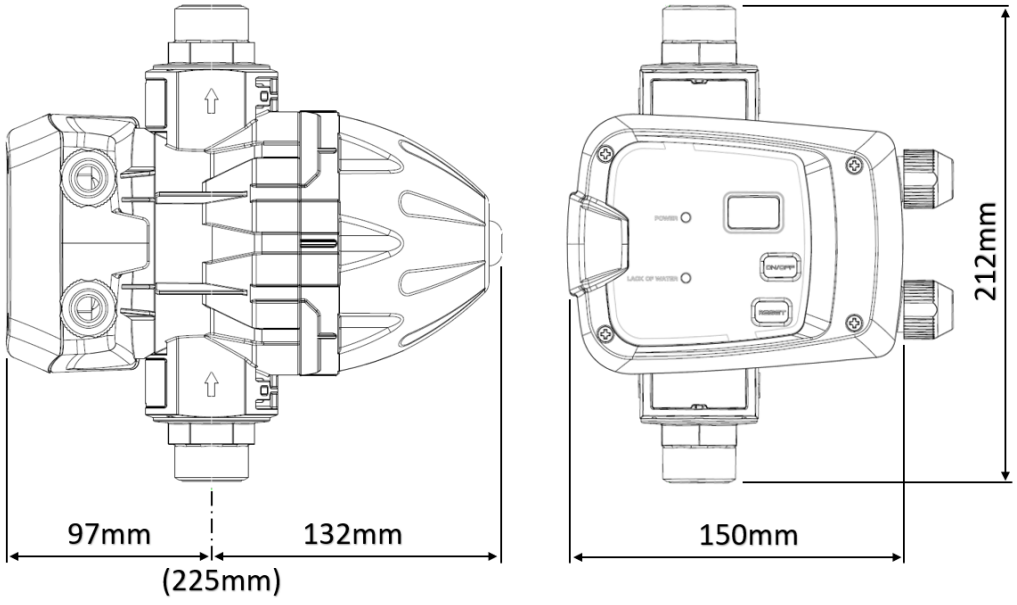
6. Symbols used in this manual

	Warning - Electrical safety
	Warning – Potential consequences of use outside of intended application(s). Includes environmental condition warnings.
	Mandatory warning
	Warning to disconnect power
	Read carefully

7. Technical Specifications

	BIA-NXT CORE
Function	On/Off Control
Modes	Single mode, non-programmable
Pump Size	Up to 1.5kW 240V Single Phase
Input Power	220 - 240V +/- 6% 1ph 50Hz
Max Amperage	10 amp
Connection Size	1" BSP Male – Swivel union
Pressure Tank	In built accumulation only *External tank recommended*
Pump Start pressure	User adjustable 0.5 - 6.0 bar Pre-set 2.2 bar
Pump stop	Flow less than 0.9 lpm
Maximum pressure	10 bar
Max water temp	3 - 60°C
Max ambient air temp	3 - 50°C
Maximum flow	Tested to 150 lpm
Cable to Pump	Plug and Play *Fly lead supplied when purchased as Control Only*
Power Cable rating	10 amp
IP Rating	IP65

8. Controller Dimensions



9. Warnings

	Read the manual carefully before starting and retain for future reference.
	Prior to starting installation or maintenance, the controller must be disconnected from the power supply and pressure relieved from the system including controller, pump and associated pipework.
	Any changes or modification to the wiring must be carried out by suitably qualified personnel.
	A qualified electrician should correctly size and install circuit breakers to protect the power supply. The fitment of additional surge protection is recommended.
	This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
	Never connect AC power to the output terminals. This will cause damage to the controller and will not be covered under warranty.

10. Cautions

Ensure the controller is suitable for the pump (see Section 7. Technical Data).

The controller is designed for use with clean water. Contamination, including sand or mineral deposits, may affect the operation of the controller.

No regular maintenance of the controller is required.

There are no serviceable parts in the controller and it should not be dismantled.

Fitment and replacement must be carried out by competent, skilled and qualified personnel.

Avoid installing the controller where it could experience the following conditions:

i. Where there is significant vibration and/or mechanical shock.
ii. Where it could be exposed to corrosive liquids or gasses, or to flammable materials, solvents etc.
iii. Extreme heat and cold. Operating range 3°C - 50°C ambient.
iv. Protect the controller from rain and moisture.

11. Electrical Connections

The pump should be connected to (10 Amp) power outlet equipped with a residual current device. The RCD should be installed and meet nominal trip current of 30 mA in compliance with the requirements of AS/NZS 3000.



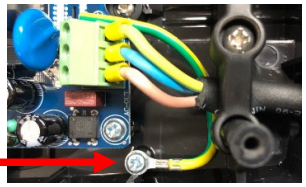
If the supply cord is damaged, it must be replaced by a special cord or assembly available from White International Pty Ltd or its service agent.



The **Bianco NXT CORE AX version** is supplied with a 10 amp rated lead and AS/NZ 3112 (Type 1) 3 pin male power plug for connecting to mains power.
The 'Plug and Play' version is fitted with a 10 amp rated IEC type appliance connectors.

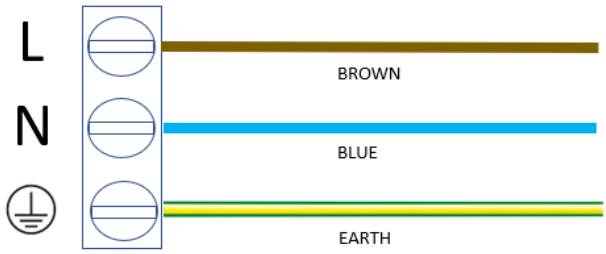
When the **Bianco NXT CORE** is purchased as CONTROLLER ONLY it is supplied with a 2 core and earth power cable for connection to the pump's electric motor. This must be connected by a suitably qualified technician.

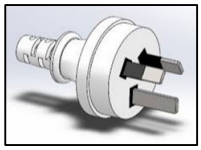
There is an additional earth wire inside the controller to provide protection in the event of flooding.

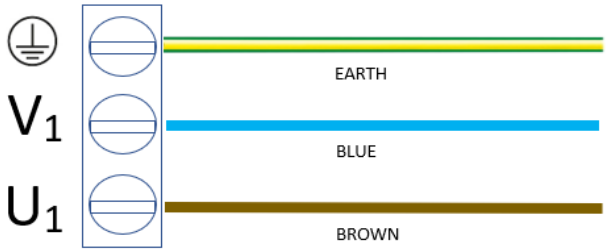


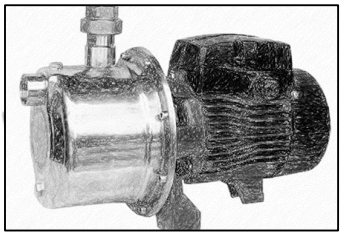
Additional Earth Connection

Bianco NXT CORE internal wiring

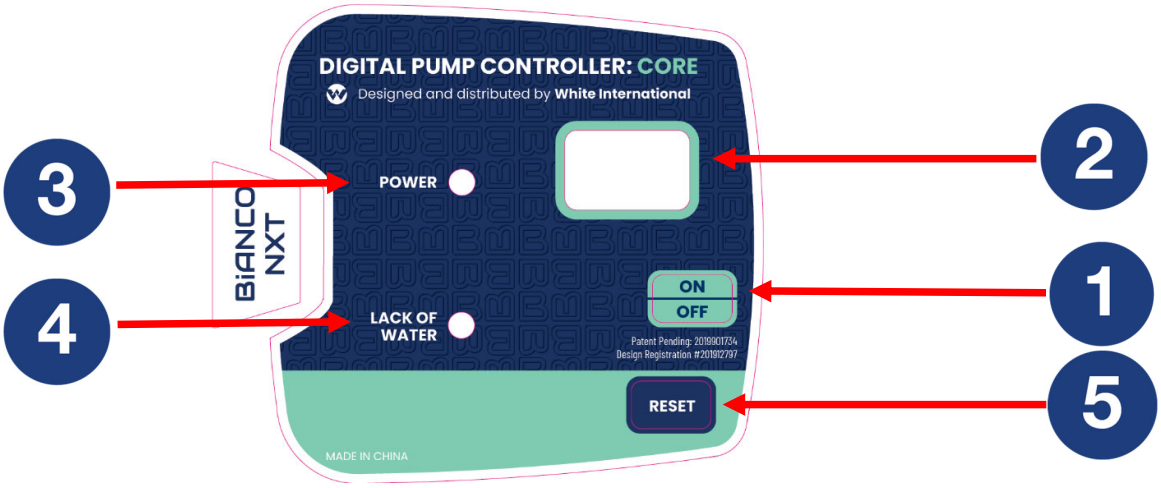








12. Display



No.	Name	Function
1	ON/OFF	Press button to turn pump controller on Press and HOLD button for **3 seconds** to turn the pump controller off
2	DIGITAL DISPLAY	**PX.X:** Real time pressure in Bar **Symbol moving clockwise** = Flow (quick press of button 5 to change modes) **- - - Symbol stationary** = No Flow **OP** displayed: Over pressure protection activated **FS** displayed: Frequent start protection activated **PE** displayed: The controller has suffered a software or hardware issue. Return to dealer if issue persists
3	POWER	**GREEN** LED constant – Power connected
4	LACK OF WATER	**RED LED flashing** - pump short of water **RED LED constant** – pump awaiting 24 hour restart
5	RESET	Press and HOLD for **3 seconds** to reset controller Quick press to change between operation status and pressure reading

13. Operation

When the controller is live, the **GREEN** LED **"Power On"** illuminates.

Press the **ON/OFF** button to switch between on and off.

- Press **ON/OFF** button and the pump will attempt to run.
- Press and Hold the **ON/OFF** button for 3 seconds to switch the controller off

> *After initial priming the controller may time out on 'dry run' and the **RED** **"LACK OF WATER"** LED will illuminate. In this event. Press and Hold the **RESET** button for 3 sec to reset.*

The controller will start the pump automatically when the pressure falls below its programmed start pressure (default 2.2 bar).

To adjust the start pressure:

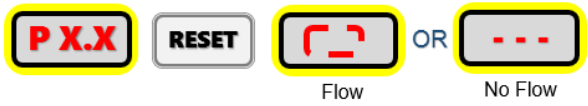
Press and Hold RESET for 3 sec. The start pressure will display on the screen.

- Short presses of ON/OFF to Increase the value
- Short presses of RESET to Decrease the value

Press and Hold RESET for 3 sec to exit

Controller Display:

Short presses of the RESET button rotates the display indication from the current system pressure to operational status.



Pump Stop:

The controller will stop the pump for 3 reasons:

- Once flow has fallen below 0.9 lpm
- In the event that the pump has run out of water
- If the control is subject to over-pressure or frequent starts (FS error)

DRY RUN

If there is no water in tank or a closed supply/suction pipe issue, the controller will allow the pump to run for 20 seconds with no flow detected before shutting down.

The **RED** **LACK OF WATER** LED will **FLASH** and the following sequence will run:

i. Stop for 10 seconds

ii. Run for 40 seconds, Stop for 10 seconds

iii. Run for 40 seconds, Stop for 10 seconds



After this sequence, the controller will go into auto restart mode and the **RED** LED, LACK OF WATER will stay **ON AND STEADY**

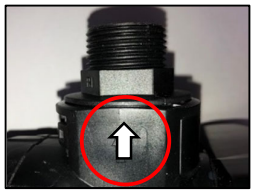


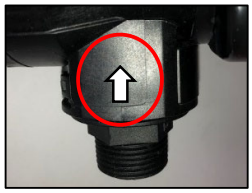
The system will repeat this sequence every 24 hours until flow is detected.

Press and hold the reset button for 3 sec to manually restart the pump.

14. Installation

Review Warnings and Cautions sections prior to installation





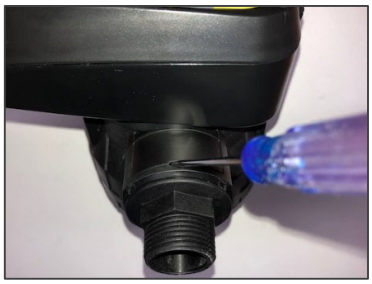
- Direction of flow is indicated by an arrow on the inlet and outlet.
- The controller has been designed to work with clean water.
- Avoid debris in the pipeline and/or controller to prevent failure.
- The controller can be installed in any orientation so long as the direction of flow is respected.
- Ensure the maximum static head (pressure) of water above the controller is less that the starting (cut in) pressure, otherwise the pump will not start.

The controller must be installed on the discharge side of the pump before any outlets/taps.

15. Priming the system

The **Bianco NXT Core** is supplied with two 1” BSPT male swivel unions.

The controller can be removed from the pump by removing the stainless steel retaining clip. Once the clip is removed the connection fitting will slide from the controller body.







Due to the non-return mechanism inside the controller, the pump should be primed before fitting the controller OR filled through the pump priming port.

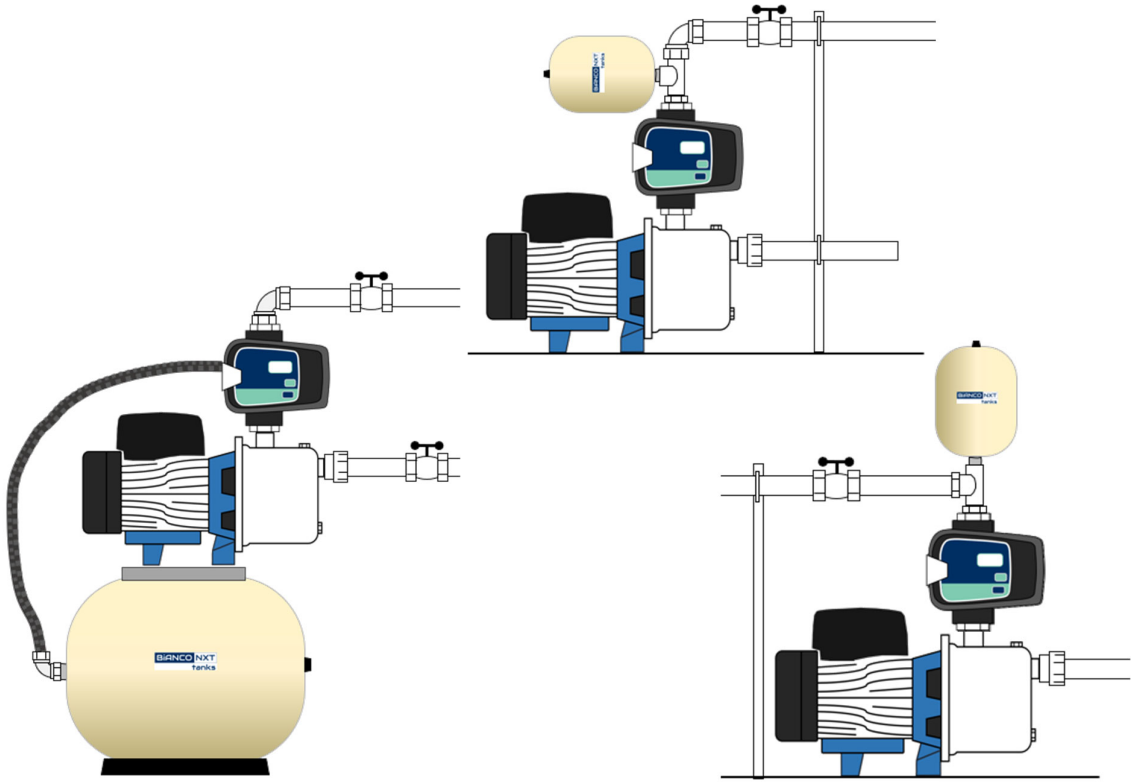
16. Benefits of fitting a pressure tank

The majority of domestic systems have small water losses from dripping taps, leaking cisterns or feeding low demand items such as ice makers or Reverse Osmosis filtration units.

Simply filling the kettle or pouring a glass of water can be enough to cause your pump to start up. With a pressure control such as the Bianco NXT CORE, a 3, 8 or 18 litre tank is recommended to minimise unnecessary pump starts.

Benefits:

- Power saving (reduced power bill!)
- Longer pump life
- Reduced noise
- Protects pipe work from water hammer and thermal expansion



Note the Pressure controllers switch off at minimum flow which is close to maximum pump pressure.

Manufacturers recommend the gas pressure in the tank to be **66% of the maximum system pressure**. Insufficient pre-charge pressure will void the tank warranty.

Pressure tanks should never hold more than 1/3 of their total volume as water.

17. Warranties – Terms and Conditions



This warranty is given in addition to the consumer guarantees found within the Australian Competition and Consumer Act 2010 (Cth) for goods purchased in Australia and the Consumer Guarantees Act 1993 NZ for goods purchased in New Zealand:

1) White International Pty Ltd / White International NZ Ltd (White International) warrant that all products distributed are free from defects in workmanship and materials, for their provided warranty period as indicated on the top or opposite side of this document. Subject to the conditions of the warranty, White International will repair any defective products free of charge at the premises of our authorised service agents throughout Australia and New Zealand if a defect in the product appears during the warranty period. If you believe that you have purchased a defective product and wish to make a claim under this warranty, contact us on our Sales Hotline on 1300 783 601, or send your claim to our postal address or fax line below and we will advise you as to how next to proceed. You will be required to supply a copy of your proof of purchase to make a claim under this warranty.

2) This warranty excludes transportation costs to and from White International or its appointed service agents and excludes defects due to non-compliance with installation instructions, neglect or misuse, inadequate protection against the elements, low voltage or use or operation for purposes other than those for which they were designed. For further information regarding the suitability of your intended application contact us on our Sales Hotline on 1300 783 601. If you make an invalid claim under this warranty, the original product will be sent back to you unrepaired.

3) This warranty refers only to products sold after the 1st January 2012, and is not transferable to another product type and only applies to the original owner, purchaser or end user, and is in addition to the consumer guarantees found within the Competition and Consumer Act 2010 (Cth) for goods purchased in Australia and the Consumer Guarantees Act 1993 (NZ) for goods purchased in New Zealand.

4) Our goods 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 reasonably foreseeable 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.

5) To the fullest extent permitted by law, White International excludes its liability for all other conditions or warranties which would or might otherwise be implied at law. To the fullest extent permitted by law, White International's liability under this warranty and any other conditions, guarantees or warranties at law that cannot be excluded, including those in the Competition and Consumer Act 2010 (Cth), is expressly limited to: (a) in the case of products, the replacement of the product or the supply of equivalent product, the payment of the cost of replacing the product or of acquiring an equivalent product or the repair of the product or payment of the cost of having the product repaired, is at the discretion of White International or a 3rd party tribunal elected under the Competition and Consumer Act 2010 (Cth) for goods purchased in Australia and the Consumer Guarantees Act 1993 (NZ) for goods purchased in New Zealand; and

6) To the fullest extent permitted by law, this warranty supersedes all other warranties attached to the product or its packaging.

7) In the case of services, supplying the services again or the payment of the cost of having the services supplied again, is at the discretion of White International or a 3rd party tribunal elected under the Competition and Consumer Act 2010 (Cth) for goods purchased in Australia and the Consumer Guarantees Act 1993 (NZ) for goods purchased in New Zealand.

8) Our warranty commences from the date of purchase of the above-mentioned products. Proof of purchase is required before consideration under warranty is given.

Print a copy of this page and record your date of purchase in the space below.
Retain the printed copy along with your purchase receipt for your records.

Date of Purchase ..... **Model Purchased** .....

18. Trouble Shooting Guide

	Causes unrelated to the controller	Unit related causes
The pump does not start	Voltage Failure (less than 220V) Is the **GREEN LED** POWER illuminated? Pump no longer operational. Wiring inverted (line/motor)	Ensure the controller **ON/OFF** button is ON Check the controller isn't in error mode displaying the **RED LED** LACK OF WATER or showing error message **OP FS** or **PE** Ensure the water column above the controller isn't greater than 20m Controller Only option: Check the controller to pump wiring Internal electronics may have failed due to a lightning strike or power surge
The pump doesn't stop	There may be leaks greater than the minimum flow requirement (nominal 0.9 l/min) Note: Check discharge and intake for losses	Inspect the internal check valve Excessive iron oxide disrupting operation of the flow sensor Internal electronics may be damaged
Pump Failure	Water failure Suction problems	***Pump failure is not necessarily the fault of the controller***
RED LED LACK OF WATER Flashing	Pump not primed or has lost prime Water shortage. Valve on suction closed? Air leaks or pockets in the suction line Pump thermal protection activated Pump head less than cut in pressure	
Display OP	The actual pressure in the pipeline has been more than 9.9 Bar for longer than 5 seconds	The controller may be damaged The pressure sensor may be damaged
Display FS	Check for leaking taps, float valves, or check valves/foot valves	For the last 15 times the pump has run for less than 30 seconds. To disable this protection
To disable FS protection: • Hold ON/OFF and RESET button together for 5 seconds • The unit will flash FS0 indicating FS protection inactive • The unit returns to normal function after 5 seconds • To reactive FS protection, repeat the procedure. FS1 will display		
Display PE	N/A	The controller has suffered a software or hardware issue. Return to dealer if issue persists

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