DAB Stainless Steel Surface-mounted Horizontal Multistage Pumps

DAB-Euroinox30/50PRO – 808421

DAB-Euroinox40/50PRO – 808422

DAB-Euroinox40/80PRO – 808423

DAB-Euroinox50/50PRO – 809544

Installation and Operation Manual

1. Introduction

Congratulations on your purchase of a **DAB EUROINOX NXTP** horizontal multistage pump.

Compact, quiet and efficient, the Euroinox Pro is a ‘self-priming’ booster pump, able to draw water up into the pump from shallow wells or submerged tanks.

Supplied prewired with the award-winning **NXT PRO** controller, the user can choose between pump operating modes. Mode 1 operates as an electronic pressure controller switching the pump off when flow falls to a very low level. Mode 2 switches on and off according to system pressure. The controller offers a number of pump protection features and the digital display is easy to read and understand.

The **DAB EUROINOX NXTP** is the perfect solution whether you need to boost water pressure from above or below ground water sources, or simply for washdown or water transfer. The range includes models for domestic household supply, water transfer or with higher pressures and flows well suited to light irrigation / horticultural use in rural and semi-rural applications.

- Household water supply
- Pressure boosting
- Light commercial applications
- Water transfer
- Washing systems
- Light irrigation

2. Key Features

Self-priming for up to 4 metres vertically, the **Euroinox Pro** is ideal for pressurising water from above or below ground water sources.

Robust Design with wetted parts made from high quality, corrosion resistant stainless steel or non-reactive composite materials for long life and reliable operation.

The user-friendly controller user interface displays operating mode, power status, pump running status, running current, running pressure and error codes.

The pump has an inbuilt thermal overload. The controller provides a range of protective features such as dry run protection with automatic restart. Additional protections can be enabled/disabled such as under current, over current, cycling alarm and maximum continuous operation time.

The **Euroinox NXTP** is a compact and adaptable solution suitable for many installations. Simply connect the inlet and outlet and adjust the start controller to suit individual requirements, and you have a fully operational booster unit.

3. Operation Summary

LED illuminated when there is power supplied to the controller

Out

Display provides running state (pressure / current / flow) and error codes

Mode 1 = Pressure Controller

Mode 2 = Pressure Switch

Short press to set controller to ON state.

Press and Hold for 3 seconds to turn OFF

LED indicating a lack of flow.

Scan for the complete manual

The most common cause for a pump failing to turn off is due to small leaks in the system creating a continuous water demand.

Check by closing the isolating valve on the outlet

In

To select Mode and access program menu:

Press and Hold SET for 3 sec

- Short presses of **+** to Increases a value
- Short presses of **−** to Decrease the value
- Short presses of SET to accept a change and advance

Resetting a Fault:

Cycle the power ON/OFF (Press and Hold SET for 3 sec) Short press ON/OFF to restart

Controller Programming

Important Note: The controller allows for a maximum of 10 seconds between button presses when programming. If no button press is detected, after 10 seconds the controller will exit the adjustment state.

POWER

After completing any parameter menu the controller returns to the start of the programming options

SET — Hold for 3 seconds to enter parameter menu

Mode 1 = Pressure Control

F1 — SET — PX.X — + or - — SET — MODE 1

Pump Start Pressure

+

Mode 2 = Pressure Switch

F2 — SET — PX.X — + or - — SET — PX.X — + or - — SET — MODE 2

Pump Start Pressure — Pump Stop Pressure

+

Optional settings

OL — SET — CX.X — + or - — SET

Overload Current - Adjustment range C15 - C50 (15 - 50 amps)

+

UL — SET — CX.X — + or - — SET

Underload Current - Adjustment range C0.5 - C10 (0.5 - 10 amps)

+

PF — SET — 1 — + or - — 0 — SET

Low Flow Protection. Default 1 = Enabled — 0 = Disabled (for low flow applications)

When PF is disabled UL MUST be set to provide dry run protection

+

Pr — SET — 000 — + or - — XXX — SET

Maximum run time. Default 000 = Disabled — Select 30,60,90,120,150,180,210,240 minutes

+

FS — SET — 1 — + or - — 0 — SET

Anti Cycling Protection. Default 1 = Enabled — 0 = Disabled

ERROR MESSAGES

OP — Pressure on the control has exceeed 9.9 bar for more than 5 seconds Pump will attempt restart in 30 minutes.

FS — Pump has started for less than 30 seconds for the last 15 starts. Pump will attempt restart in 30 minutes.

OL — Overload condition active. Pump will shut down and prevent operation until a controller reset is performed.

UL — Underload (Dry run) condition active. Pump will enter an AUTO RESTART CYCLE

The **RED** LACK OF WATER LED will FLASH — LACK OF WATER

If awaiting the 24Hr restart, The **RED** LACK OF WATER LED is STEADY — LACK OF WATER

Pr — Maximum run time exceeded. Controller has stopped the pump.

PE — Critical fault. Hardware or sensor error

To reset the controller,
*Press and Hold the **ON/OFF** button for 3 sec*
OR cycle the power to the controller

ON/OFF — 3"

4. Contents

5. 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

6. Warnings

	Read the manual carefully before starting.
	Prior to starting installation or any maintenance the pump 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.
	Never open the controller cover or pump terminal box cover while controller is connected to electrical supply.
	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.
	To avoid excessive thermal shock to the motor the pump should not start more than 20 times in any one-hour period.
	Ensure that the installation will comply with all applicable local regulations.

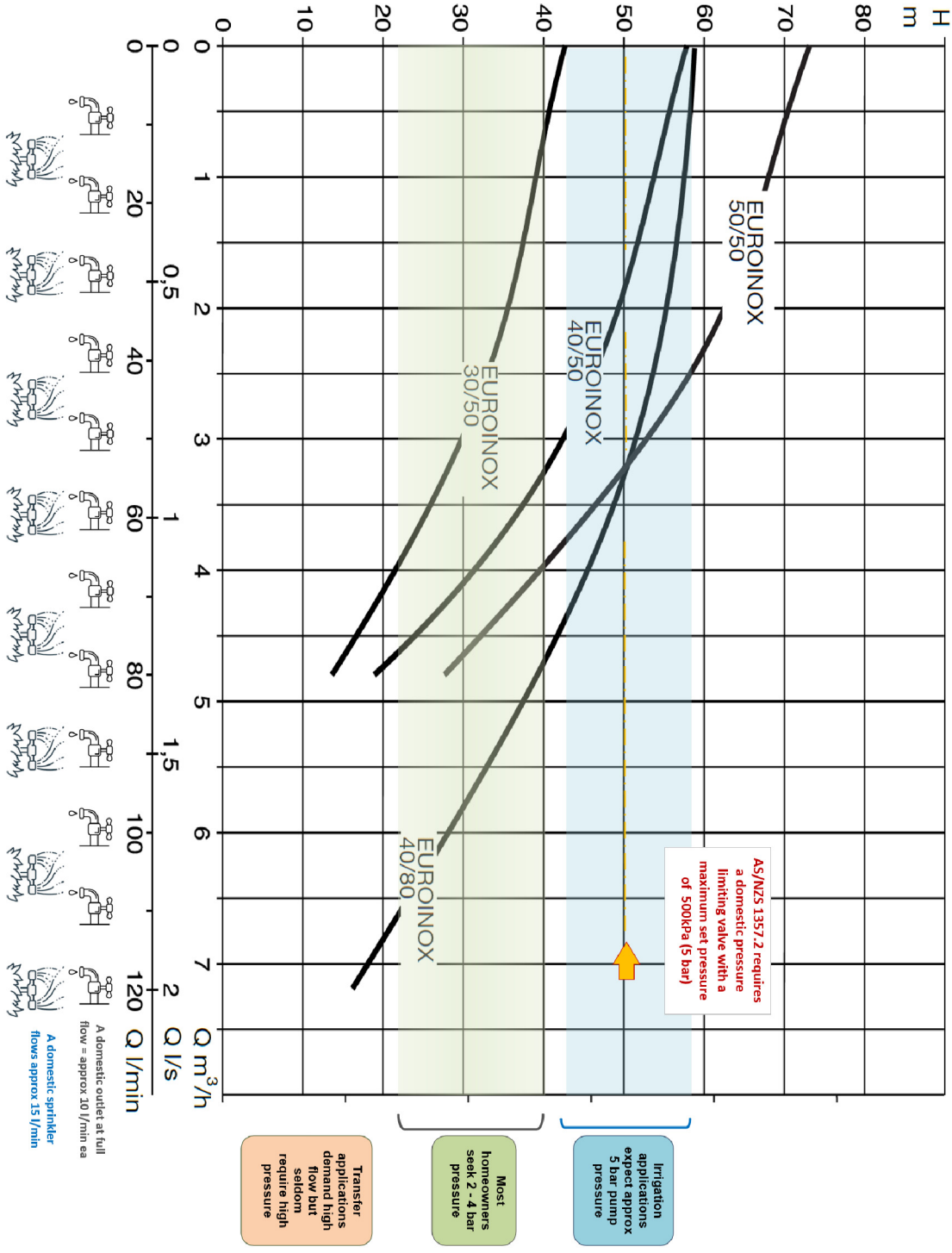
7. Standards and Approvals

	**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.
	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 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.

8. Technical Specifications

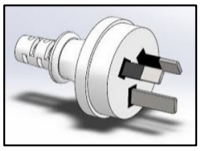
SPECIFICATIONS				
ITEM CODE	**808421**	**808422**	**808423**	**808544**
Model	**30/50**	**40/50**	**40/80**	**50/50**
Maximum Head	42.2 m	57.7 m	59 m	72 m
Maximum Flow	80 L/min		120 L/min	78 L/min
Maximum Pressure	Controller maximum pressure: 10 bar			
Pump Start Pressure	Pre-set 2.2 bar. User-adjustable			
Pump Stop	Mode 1 (Pressure Control). Flow less than 0.5 lpm Mode 2 (Pressure switch). User-adjustable cut-out pressure			
Pressure Tank	3-18 litre tank recommended for most efficient operation Pressure vessel fitment compulsory for controller Mode 2 operation			
Input Power	220 (-6%) – 240V (+6%) 1ph 50Hz			
Motor	Asynchronous TEFC motor with inbuilt auto-reset thermal overload			
IP Rating / Insulation	Ingress Protection: IP44 / F Class Motor Insulation			
Motor Output Rating (P2)	0.55 kW	0.8 kW	1.0 kW	
Max. Amperage	3.9A	5.3A	6.5A	
Start Capacitor	12.5µF 450Vc	25µF 450Vc		
Pump Materials	Pump body – stainless steel. Composite impellers / diffusers			
Mechanical Seal	Silicon Carbide/Carbon			
Inlet/Outlet Size	1” BSPF In 1” BSPM Out			
Working Temp. Range	2 – 35°C Water. Maximum ambient temperature 40°C			
Power Cable	1.2m long 10A-rated H05 flex with 10A AS/NZ 3112 (Type I) 3-pin male power plug			
Weight (Bare Pump)	10.7 kg	14.8 kg	15.5 kg	

9. Pump Curves



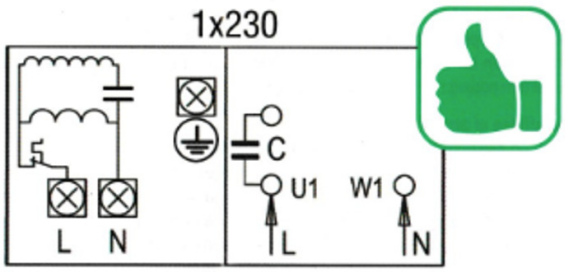
10. Electrical Connections

Always use an electrical outlet that is protected by Residual Current Device (RCD) Safety Switch with a trip current of 30mA or less. A Safety switch is required by Australian/New Zealand Standard AU/NZS 60335.1-2011.



The pump is supplied with a 10A-rated lead and AS/NZ 3112 (Type 1) 3 pin male power plug for connecting to mains power.

Exercise care with the power cord. Route the cord carefully to avoid potential snagging or chafing hazards. Never lift the pump by the power cord or disconnect from the power supply by pulling the cord.



11. Cautions

Protect the pump and controller from rain and moisture and minimise exposure to extremes of heat and cold. Operating range 2°C - 40°C.

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

The pH of the water must be between 6.5 and 8.5.

This pump is not suitable for use with spa or pool water.

Running the pump without water or allowing the pump to run dry will damage the mechanical seal and void the warranty.

Avoid situations where the pump could be exposed to corrosive liquids or gasses, or to flammable materials, solvents, etc.

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

12. General installation notes

Review Section 6: Warnings prior to installing

Choose a pump location with a firm base as close to your water source as possible and close to a suitable power supply.

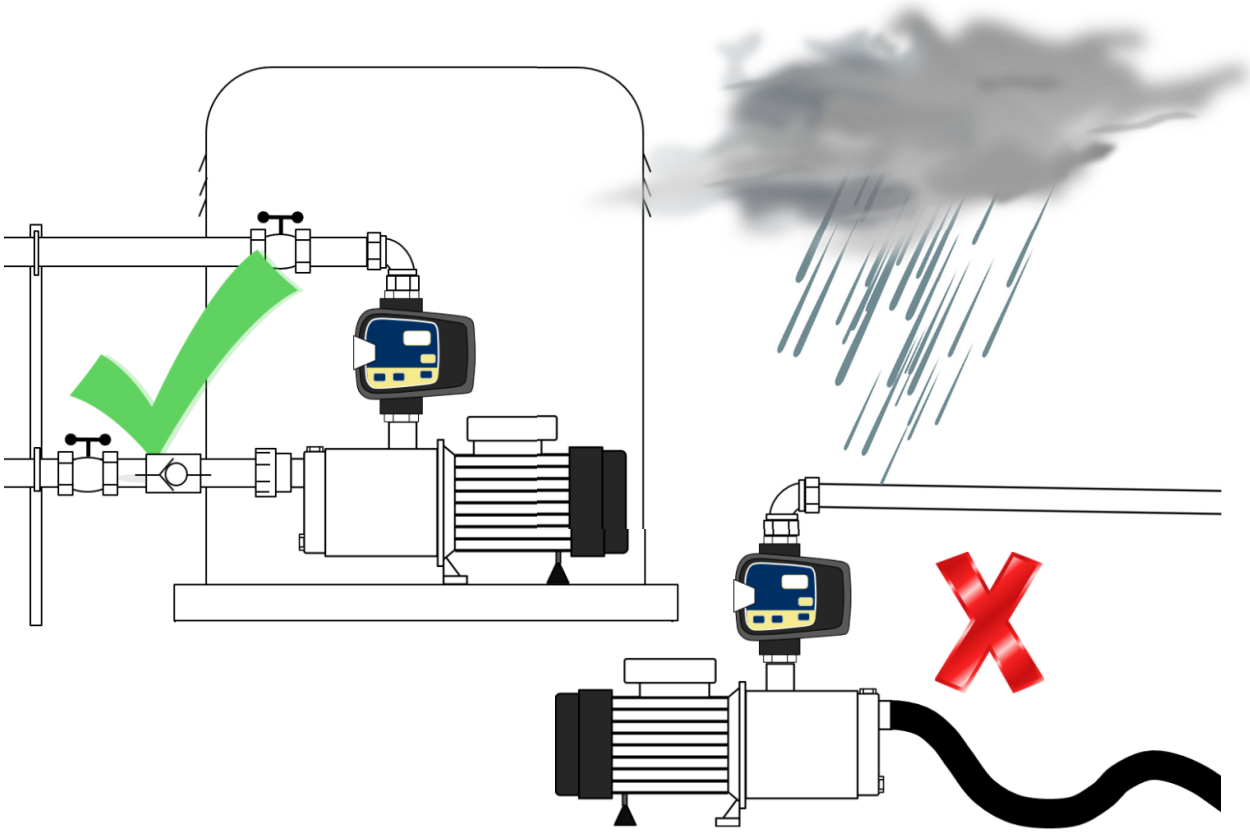
Avoid extension cords. If an extension cord must be used ensure it is correctly rated and less than 20m long.

Before installation, inspect the pump for any shipping damage.

The pump should be housed in a weatherproof, free draining, well vented enclosure to protect it from the extremes of temperature, moisture, flooding, chemicals, vermin and insects, dust etc.

If solid fittings are used to connect to the pump ensure the pump is mounted securely on a concrete tile, concrete base or similar. If the pump is not mounted securely then flexible piping connectors are recommended.

Avoid strain on the pump casing by supporting your pipework.



13. Intake (suction) piping notes

The intake suction piping is the most critical part of the installation. Errors or air leaks will cause significant issues for performance and pump reliability.

Reminders of best practice:

Inlets pipe size must be equal to or larger than the inlet port size.

Note that intake pipes which are too small, result in a reduction of the pump rated duty and may harm the pump.

Keep inlet piping as short and straight as practical.

If the water supply is higher than the pump with a long suction line, fit another isolating valve close to the pump.

The suction line should include a non-return valve.

Suction lifts greater than 1m vertical require a non-return type foot valve

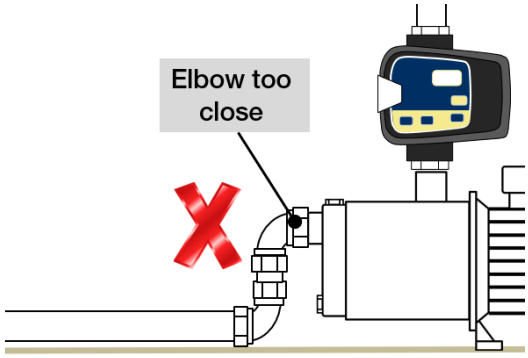
Avoid bends within 150mm of the inlet port.

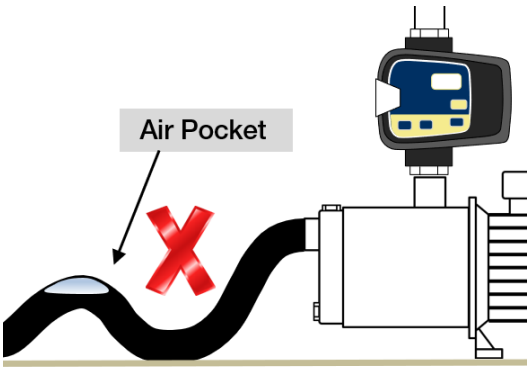
Avoid pipework which results in air pockets.

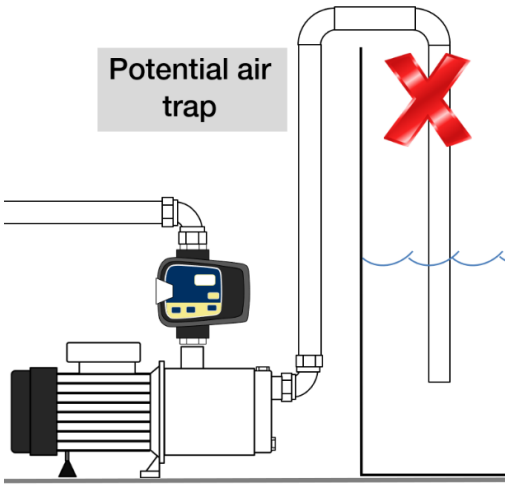
Connection to the pump using unions ensures easy removal for servicing.

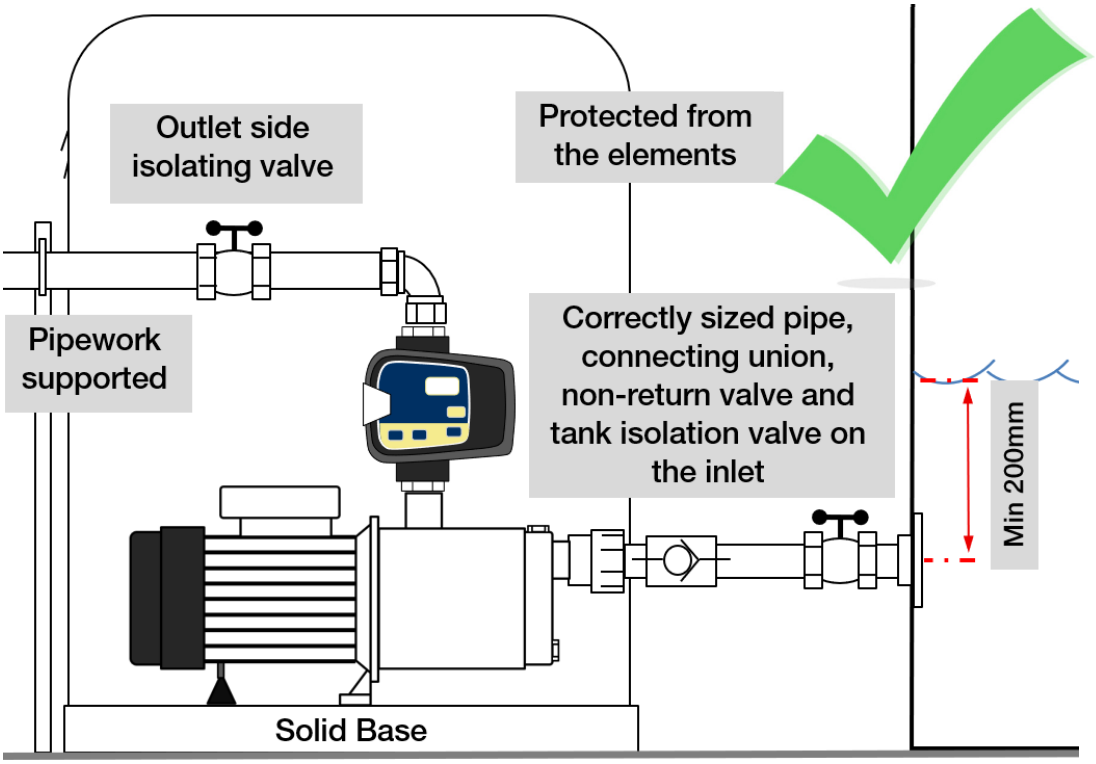
A gate valve on the pump discharge will aid diagnosing system problems.

Optional: If the water is known to contain particles (sand etc.) an in-line strainer/filter can be fitted. Usually, 500 micron is sufficient. Regular maintenance is required to keep an in-line strainer/filter clean and ensure best pump performance.









14. Boosting mains supply or connecting to a hot water system

Boosting Mains supply

Connecting directly to mains water supply is not recommended.

If mains pressure is poor, best practice is first to install an isolating (break) tank.

Pumps supplying Mains Pressure Hot Water Systems:

An approved Non-Return Valve should be fitted to the hot water inlet to protect the pump from backpressure due to expansion.

Pumps supplying Low Pressure Hot Water Systems:

Fit a pressure reducing valve to ensure pump maximum pressure doesn't exceed hot water cylinder rating.

Hot water systems must be installed in accordance with the manufacturer's recommendations and comply with all local regulations.

15. Controller and pressure vessel fitment

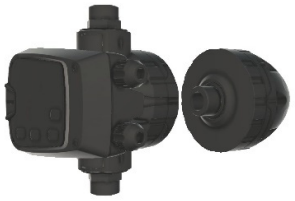
Your DAB EUROINOX NXTP is fitted with a prewired NXT PRO, dual-mode electronic pressure controller which doesn't require a licensed electrician to install.

As supplied, the controller default is Mode 1.

Operation is that of an electronic pressure controller whereby the pump starts as the pressure falls. The default start pressure is 2.2 bar. The start pressure is user- adjustable.

The pump will stop when the flow falls below 1 litre per minute

The controller incorporates a removable 0.3 litre accumulator. Fitting an external 3-18 litre pressure vessel will reduce pump starts prolonging pump life and lowering your energy costs.



Removing the OEM tank exposes an internal 1" BSPF thread which allows the user to thread a 3L pressure vessel directly to the controller OR to connect larger pressure vessels via a flexible hose.

- **Maximum size for direct fitment = 3 L**

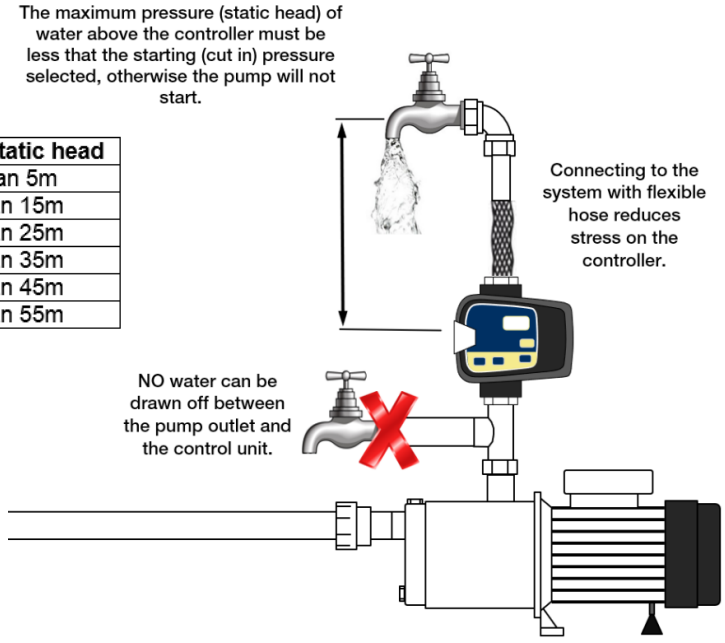
The controller can be set to behave as a pressure switch in Mode 2.

In Mode 2 the controller starts at a user programmed start up (cut-in) pressure and stops at the user programmed stop (cut-out) pressure.

Set to Mode 2 a suitably sized pressure vessel is compulsory to prevent pump 'cycling'

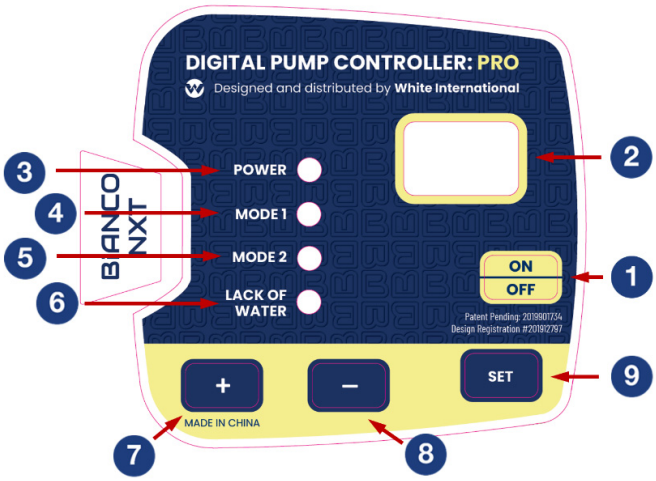
For a full description of the controller features and function, consult the NXT PRO manual.

Cut in Pressure	Maximum static head
1.0 bar	Less than 5m
2.0 bar	Less than 15m
3.0 bar	Less than 25m
4.0 bar	Less than 35m
5.0 bar	Less than 45m
6.0 bar	Less than 55m



Note: The controller provides dry-run protection in both modes.

16. Display



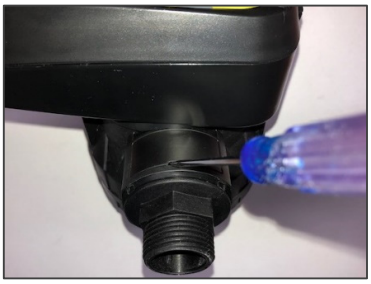
No.	Name	Function
1	ON/OFF	Press button to Turn pump controller on Press and HOLD button for **3 seconds** to turn the pump controller off
2	DIGITAL DISPLAY (RUNNING)	**PX.X**: Real time pressure in Bar **CX.X** = Real time current in Amp symbol moving clockwise = Flow (quick press of SET button 9 to change modes) **- - -** symbol stationary = No Flow **-P-** displayed: Over pressure protection activated **-A-** displayed: Frequent start protection active **OL** flashing = Overload protection setting **UL** flashing = Underload protection setting **PF** = Low Flow protection setting **PR** = Maximum Run-time protection activated
2	DIGITAL DISPLAY (PROGRAMMING)	**PX.X**: Start and Stop Pressure **CX.X** = Current **F1** = Mode 1 (pressure controller) *Default cut in 2.2 bar* **F2** = Mode 2 (pressure switch) *Default cut in 2.2 bar, Default cut out 9 bar* **OL** = Overload protection setting *Default setting C0.0* **UL** = Underload protection setting *Default setting C0.0* **PF** = Low Flow protection setting *Default setting 1 (Enabled)* **PR** = Maximum Run-time setting *Default setting 0 (Inactive)*
3	POWER	**GREEN LED POWER constant** – power connected
4	MODE 1	**Orange LED MODE 1 constant** – pump is in precise control mode
5	MODE 2	**Orange LED MODE 2 constant** – pump is in precise control mode
6	LACK OF WATER	**RED LED flashing** – pump short of water **RED LED constant** – pump awaiting 24-hour restart
7	PLUS	To increase value of parameter (located bottom left, marked +)
8	MINUS	To decrease value of parameter (located bottom centre, marked −)
9	SET	To set and save a parameter (located bottom right, marked SET)

17. Priming and Operation

DAB EUROINOX NXTP MUST be manually primed (filled) before the pump is started for the first time to ensure the mechanical seal is well lubricated. Dry operation causes irreparable damage to the mechanical seal.

It is very important to ensure no air remains trapped inside the pump body.

The easiest method to fill the pump is to remove the stainless-steel controller retaining clip at the base of the controller. Once the clip is removed the controller body can be removed and the pump body filled.



Never start a pump until the pump chamber is filled with water.

1. Ensure the pump power supply is disconnected.
2. Fill the pump body and suction line completely with clean water
3. For suction lifts greater than 1m vertical a non-return type foot valve is necessary.
4. Check that the motor fan blade rotates freely.
5. Ensure that the pump inlet line is fully submerged and that the pump will not draw any air into the system.
6. Connect to the power supply and start the pump with a tap open.

   If no water comes out of discharge or there is only limited flow, disconnect the pump from the power source and refill the pump body.

   Reset the controller if it has shut down sensing ‘dry-run’. Check for any possible leaks in the pipework.

   Restart the pump with a tap open.

7. Once primed satisfactorily, check that the pump switches off when the tap is closed.

18. 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** .....

19. Troubleshooting Guide

	POSSIBLE CAUSE	POTENTIAL SOLUTIONS
The pump won't start and makes no noise	1. No electricity 2. Fuses or RCD tripped 3. Internal motor fault 4. The static head pressure is greater than the cut in setting (applies when commissioning) 5. Controller has sensed dry run and is its auto restart cycle (Failure light slowly flashing)	1. Check the power supply. Is the power LED on the controller illuminated? 2. Fuses or RCD tripped may indicate more serious problems 3. Contact an expert to check the motor 4. Static water head above the controller must be less than cut in pressure 5. Press the controller reset button
The pump doesn't start but makes a noise	1. Motor not free to turn i.e. internal jamming 2. Faulty capacitor	1. Check whether pump can rotate freely 2. Contact an expert to check/replace capacitor
The pump runs but there is no flow or only poor flow	1. Valves closed 2. Air entering suction line (loss of prime) 3. The water lavel may be too low 4. Pump may be worn or damaged 5. Blockages in the pump, suction or discharge 6. In-line filters blocked (if fitted) 7. The piping may be too long or too small	1. Check suction and discharge isolating valves 2. Check for leaks and ensure all joins or fittings are sealed 3. Check water availability 4. Contact your service agent for repair 5. Contact your service agent for repair 6. Clean any filters/strainers in the system 7. Contact your pump professional
The pump runs. There is flow but poor pressure	1. Excessive flow demand 2. Total head requirement too great for the pump 3. Pump may be worn or damaged 4. Air entering suction line reducing performance	1. Check that the pump selected is correct for the application 2. Check the pump specification 3. Contact your service agent 4. Ensure the suction line is sealed correctly
Pump cycling on and off	1. Small water draw off or leak 2. Leak in suction or discharge line 3. Contamination in the controller	1. Check for small leaks, i.e. taps or cistern 2. Check for leaks including suction line non return valve 3. Contact your service agent to inspect
Pump runs intermittently	1. Overheating and thermal protection tripping	1. Ensure the water temp is less than 40 deg C. Ensure sufficient airflow to cool the motor. *Note that low voltage can cause the motor to overheat.*
Pump vibrates and is noisy	1. Incorrectly mounted/fixed 2. Internal blockage causing impeller imbalance 3. If the flow requirement is greater than the pump is capable of it will cavitate. *Cavitation sounds like gravel inside pump.*	1. Ensure the pump is solidly attached to a base 2. Contact your service agent 3. Reduce the water demand to see if the noise disappears. Ensure the suction pipe is sized correctly A different pump model may be required Contact your service agent
Water leaking from the centre of the pump	1. The mechanical seal is leaking	1. Contact your service agent for repair

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