

Resvari Booster Set Variable Speed

Operating and Maintenance Instructions

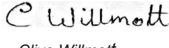
Declaration of conformity

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Lowara pumps UK declare that the Domestic Booster set conforms to the requirements of the Machinery Safety Directive 98/37/EEC.

Conforming to the UK Health & Safety Requirements
Water supply (Water fittings) regulations
Simple pressure vessel directive

S.I. 1992 No 3073 S.I. 1994 No 2063
1999
87/404/EEC

Signed: 
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Position: Engineering manager

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Introduction

This leaflet contains information to enable the safe installation and operation of the products mentioned above. The following instructions must be read and understood by all persons responsible for the installation, operation and maintenance of this product.

Warning Symbols



Safety instructions where noncompliance would affect safety.



Safety instruction where electrical hazard is involved.



Safety instruction where noncompliance could cause damage to the equipment.

Instruction for safe use

This product has been designed for boosting cold water in potable water installations to the operating conditions shown.



This product should not be installed until this leaflet has been studied carefully.

Handling, transportation and installation of this equipment should only take place with the proper use of lifting equipment.

This product must be stored in a frost-free dry environment.

Noise Emissions

This equipment operates at a noise level lower than 70dBA.

Installation

The domestic booster set is despatched mounted on a wooden pallet and covered in a protective film, it is recommended that the unit be retained in the protective packaging until the product is to be installed. The unit will arrive pre-packaged and wired ready for installation.



This product has been fully run tested at our works under simulated site conditions. The unit should be thoroughly checked for physical damage that may have been caused during transit. If the unit is found to have damage it must be reported immediately and should not be installed.

The unit should be sited on level ground in position that will allow adequate room for general maintenance and service. The unit is fitted with adjustable feet that can be adjusted to ensure the unit is level helping to reduce noise and vibration.

Electrical connections



The cable used for the incoming supply must be of adequate size to carry the motor full load current. This is shown on the duty plate. The supply must provide thermal/short circuit protection, a high sensitivity differential switch (0.03A) is also recommended.

All connections must be made using the appropriate wiring drawings for the equipment being installed, with particular attention being paid to the supply voltages, shown on duty plate.

Never operate this product with the inverter front panel removed.

Wait at least 5 minutes before removing front panel.

It is essential that this equipment is earthed to the building earth system.

Pump operates at 230v 50Hz.



The base frame must be earth bonded directly to the building earth system

The power supply wiring should be arranged such that it enters the product through the rear of the case and then into the appropriate cable gland on the inverter.

Water supply and system connection



Connect the domestic booster water inlet 15mm compression (left side of cabinet) to a suitable water supply. The water inlet to the ball cock has an internal isolation valve but it is advisable to fit one external isolation valve for added ease of maintenance. If the pressure available at the ball valve is below 0.3 bar, a low pressure orifice must be obtained and fitted.

It is the responsibility of the installer to ensure that the overflow is able to keep up with the incoming water volume, if this is not the case then a pressure reducing valve should be fitted to reduce the incoming mains water volume.

Extend the 22mm plastic overflow pipe from the rear of the unit to a position where an overflow will be noticed and rectified.

Connect the discharge port 22mm compression (right hand rear of cabinet) to the system cold water inlet.

It is advisable to arrange a suitably valved by-pass line including non return valve from the incoming mains water feed and the system cold fill point to enable the booster set to be bypassed in the advent of power failure. A drain valve is positioned at the rear of the unit to enable the tank to be drained for cleaning.

Commissioning



1. Ensure the water tank is clean; the pump is in the correct position with the anti-spin bracket engaged and the drain valve closed. Ensure the by-pass lines (if fitted) are closed.
2. Check the vessel pre-charge, this should be set to 0.2 bar below the system pressure, Re-charge with Nitrogen or dry air if required. Open vessel isolation valve.
3. With the power supply off, Close the discharge isolation valve and lift the Aquoncontroller off of the pump discharge pipe by releasing the push fit fitting. This will allow air to escape through the pump when the tank is filled.
4. Open the water supply to the booster set and let the water tank fill with water until the ball valve closes and stops further filling. Check the water level is correct and all joints are sound. Re-connect the Aquon troller to the pump discharge pipe and open discharge valve, switch power supply on and slightly open the furthest outlet, once all air has been evacuated close outlet and pump will stop.
5. Thoroughly flush the whole system through to ensure any contaminants that may have entered the system/tank during installation are completely removed.

Basic Parameter setting

Power the appliance and within 2 seconds the presentation screen will be displayed whilst this screen is displayed press the + button and hold, the screen will then change to INSTALLATION. Press and hold the + button and the screen will change to the SETTING DETAIL. After a few seconds this will automatically change and show LANGUAGE press + or – to scroll through menu and select English by pressing ENTER and hold until the screen displays DONE.

The screen will then change to MOTOR CURRENT. Input motor current, press and hold ENTER until the screen shows DONE.

The screen will then show SYSTEM PRESSURE input required system set point pressure, press and hold Enter until the screen shows DONE.

The screen will then show SYSTEM START. Select ON, press ENTER and hold until screen shows DONE.

The screen will then show SAVE & EXIT, press ENTER and hold until screen shows DONE.

All parameters will now be saved and screen will revert to normal window showing system pressure and Frequency on the top display line and Status on 2nd line (ACTIVE).

Note if the system pressure is low the pump will start immediately.

Open discharge valve and open an out let in the system to help purge air through and out of the system, close outlet and pump will ramp down and switch off.

Master menu

For extended setting details refer to Aquontrolleer O&M manual

To enter the master menu press and hold (+) (-) (enter) together until extended mode appears

Enter password 66 then press enter for 2 seconds. Press ↀ to scroll through the master menu

Check that par 06 is set to 3 sec, 07 set to 3 seconds, 11 is set to 25Hz, 21 is set to 25Hz and 22 set to 1.0 bar

Operation

When a draw off point connected to the system is opened water will be discharged from the vessel, if the demand continues the system pressure will start to fall until the pump cut in pressure is reached.

The pump will now start and ramp up maintaining the system pressure.

The pump will ramp up and down until demand ceases and the pump will then ramp down and stop.

Lack of water

If the Aquontrolleer senses a lack of water the pump will be stopped automatically.

The pump will automatically attempt to start 5 times (once every 5 minutes) if water is still not available the set will attempt to start every 50 minutes for the next 24 hours if water is still not available the set will shut down completely and a manual reset will be required. See Aquontrolleer O&M for further details.

Aquontrolleer display messages

Message	Possible Cause	Remedy
OFF	Aquontrolleer powered but disabled	Set to ON in parameter settings
Leaks	Pressure constantly low or pump Frequently Switching on and off	Check system for leaks and rectify
Low voltage	Input voltage too low	Check power supply
High voltage	Input voltage too high	Check power supply
Short ph-ph-gnd	Phase to phase or phase to earth Short circuit on pump motor	Disconnect the power supply and check motor windings
Stop CC	After 10 attempts to reset after a Short circuit unit restart is blocked	Seek technical assistance
High temperature	Water temp over 75°C	Check pump is primed correctly
Pressure insuff	Flow too high	Check pump is primed and system is Not leaking excessively
No water	Incoming water supply failure	Check incoming water supply and rectify
PrsSensor fault	Fault detected in pressure sensor	Consult service centre
Imax fault	Overcurrent in pump	Check the pump is not seized

Maintenance

Routine check (6 monthly intervals)



1. Check the pump produces the correct pressure.
 2. Check that the pump operates without undue noise or vibration.
 3. Check the break tank is clean and that the correct water level has been maintained.
 4. Check that all screws are tight on electrical components.
 5. Check that the earth connections are tight and making good contact.
 6. Check that the gas pre charge is at the correct pressure, this should be done by isolating the vessel from the system and draining water out of the vessel via the isolation valve drain point.
- once the water has been discharged, a tyre gauge can be connected to the pre charge valve to display the vessel pre charge pressure. Recharge as necessary with Nitrogen or dry air.
- Any other expansion vessels connected to the system can be checked in the same manner.

General fault finding guide

Fault	Possible Cause	Remedy
Pump fails to start	Power supply failure Isolator fuse blown/MCB tripped	Reinstate incoming power supply Replace fuse/reset MCB
Pump fails to stop	Set point set too high System pressure low due to large leak in system	Lower set point Switch unit off until leak is repaired
Pump switches on and off quickly	Air in system Vessel pre-charge incorrect	Purge air from pumps and pipework Check vessel pre-charge and Charge as necessary with Nitrogen or dry air
Pump runs but will not make pressure	Pump air locked Commissioning valve left open Passing too much water	Vent pump Check commissioning valves are in correct position. Check system for leaks
Pump overheating	Pump partially seized	Remove pump and check for sediment build up or foreign objects
Break tank overflowing	Leaking ball valve Non-return valve letting by	Replace ball valve seal Replace/clean non-return valve
Pump stops and pressure drops immediately	Non-return valve letting by Vessel pre-charge incorrect	Replace non-return valve Check vessel pre-charge and Charge as necessary with Nitrogen or dry air

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