

FULFLO PRESSURE PUMP

Installation and Operation Manual



WARNING

This equipment must be installed and serviced by a qualified technician. Improper installation can create electrical hazards which could result in property damage, serious injury or death. Improper installation will void the warranty.



Notice to Installer

This manual contains important information about the installation, operation and safe use of this product. Once the product has been installed **this manual must be given to the owner / operator of this equipment.**

IMPORTANT SAFETY INSTRUCTIONS

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL INSTRUCTIONS



DANGER

Do not block the pump suction, as this will cause severe or fatal injury if blocked with the body.



WARNING

To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

Incorrectly installed equipment may fail, causing severe injury or property damage. Refer to the Installation instructions.



WARNING

To reduce the risk of Electric Shock, if the electrical power supply cord is damaged it must be replaced immediately by the manufacturer, service agent or Approved or suitably qualified person in order to avoid hazard.

Excess power supply cord should be located to prevent accidents. The cord should be located and protected to prevent the cord from sustaining damage from lawn mowers, hedge trimmers and other equipment. Do not bury cord.

Do not run this product on an extension cord. Damage to the electrical components may result.

The motor is fitted with an automatic internal overload and will automatically reset and start without warning. The pump should be disconnected from the power source before attempting any service or repair in order to avoid personal injury or property damage.



WARNING
RISK OF ELECTRIC SHOCK

Connect only to a grounding type receptacle protected by a ground-fault circuit-interrupter (GFCI) or a Residual Current Device (RCD) with a rated residual current not exceeding 30mA. Contact a qualified electrician if you cannot verify that the receptacle is protected by a GFCI or an RCD.

SAVE THESE INSTRUCTIONS

Table of Contents

INTRODUCTION -----	01
APPLICATION SUITABILITY -----	01
ASSEMBLY & INSTALLATION -----	01
OPERATION -----	05
PRESSURE TANK AIR CHARGE -----	06
TROUBLESHOOTING GUIDE -----	07

INTRODUCTION

Congratulations on purchasing your Waterco pump. This unit has been designed to pump water at a constant pressure no matter how many outlets are opened.

Your pump will provide you many years of trouble-free service, providing you adhere to the correct installation and operation instructions specified below.

The Waterco Fulflo Pressure Pump will function correctly with or without a pressure pack. If no pressure pack is used, the pump will run whenever water is demanded from the unit. If a pressure pack is employed, the pump will run when the pressure pack is empty and stop once it is full. Pressure packs are available in 4 litre sizes.

APPLICATION SUITABILITY

The Waterco Fulflo Pressure Pump range of pumps are designed, engineered and manufactured for pumping abrasive-free potable water.

Use for pumping liquids outside of these parameters will void the warranty unless express approval in writing has been received from Waterco Limited. The pumps used in the pressure system are standard Fulflo 30 and Fulflo 50 multistage pumps.

Operating Range:

Liquid temperature -10°C to 40°C

ASSEMBLY & INSTALLATION

Pre Installation Checks

1. Check that the area where the pump is to be located is as close as possible to the water supply, is flat and water will drain away easily from the area.
2. Check that the power supply to the pump meets the specification listed on the pump name plate.
3. Check that adequate housing and protection from the weather is available that will give proper ventilation to the unit.

Assembling the Waterco Fulflo Pressure Pump Unit



Pump and Controller



**Pressure Pack and Tee Fitting
(Optional)**

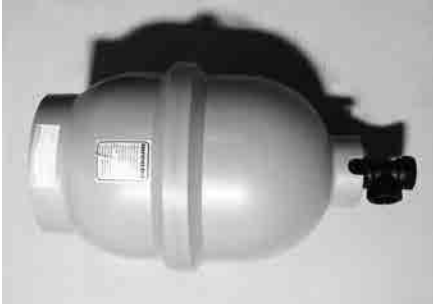
Figure 1: Contents of the Boxes

Upon purchase, some minor assembly of the unit will be required before installation. Follow the steps below and the assembly will be finished before you know it.

1. Locate the pump in the desired position.
2. Place the controller onto the pump so it is facing the desired position and tighten the brass barrel union.



3. If you have purchased a pressure pack;
 - a. Wrap 3-4 turns of Teflon tape onto the male threaded end of the Pressure Pack and screw on the Tee fitting.



- b. Wrap 3-4 turns of Teflon tape onto the male threaded end of the controller. Take the Pressure Pack and Tee Fitting and screw onto the pump controller.



4. Readjust the direction of the pump controller and the tee fitting if necessary. The brass barrel union should be tightened using a suitably sized wrench. All other connections should be hand tight.



WARNING

Do not tighten any connections by twisting the pressure pack. Over-tightening may result.

Methods of Installation

The Waterco Fulflo Pressure Pump Pressure System can be installed in as follow;

Flooded Suction

- A good quality check valve should be installed in the suction line.

NOTE : LAWS GOVERNING ELECTRICAL INSTALLATIONS MUST BE observed and electricians consulted where necessary.

- Do not attempt to start the pump until both suction line and pump have been completely filled with water.
- Suction pipe to be as short as possible.

FLOODED SUCTION

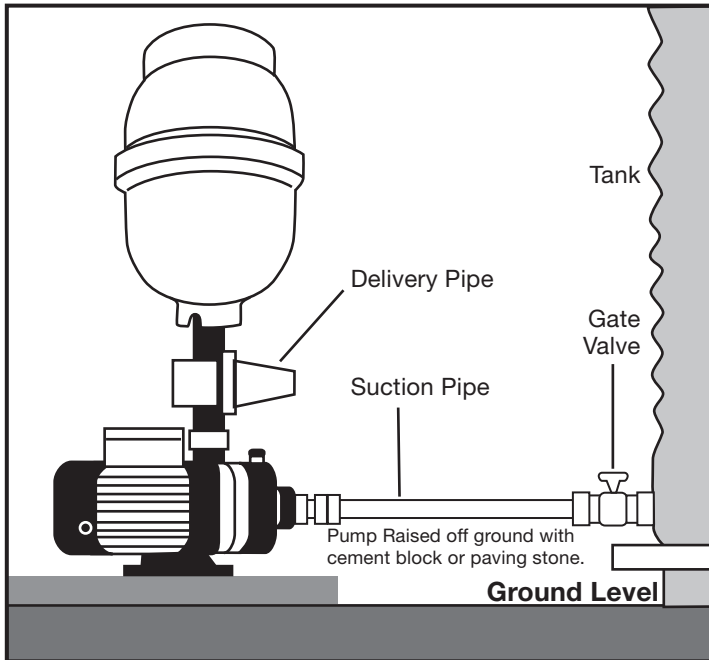


Figure 2: Methods of Installation

Pipe Size

Suction Port: 25mm (1 inch) female BSP.

Delivery Port: 25mm (1 inch) female BSP.

Pipe runs in excess of 10 metres should use a minimum of 40mm (1 ½ inch) pipe.

Pipe Supports

All pipe work must be supported separately from the pump otherwise distortion of the pump components could cause problems. Short pump components could cause problems. Short lengths of rubber hose can assist in alignment and also assist in reducing vibration through the system. Long lengths of PVC or poly pipe should be buried to keep the sun off them. This is essential as expansion of these pipes can put stress on the pump.

Connecting to Mains Water Supply

If connecting this pump to the mains water supply, consult local codes for plumbing requirements.

Water Hammer

Water Hammer may be caused by products such as automatic dishwashers and washing machines as a result of the quick action solenoid valves. If water hammer is evident, consult your plumber and have a water hammer arrester installed.

OPERATION

Priming the Pump

Flooded Suction

- loosen the priming cap on the pump and gently open the gate valve at the tank and allow water to flow to the pump until all air is expelled via the cap.



WARNING

Make sure the pump is full of water before switching on. Damage may be caused through running the pump dry, as this will cause excessive wear to moving parts that depend on water for lubrication.

Starting Up

Prime the pump as above. Open a tap on the delivery side. Switch on the power supply to the unit. The green “Power On” LED will glow, indicating power is being supplied to the unit. The pump will start running and the yellow “Pump On” LED will glow. Water will begin to flow from the open tap. Close the tap and the pump will switch off when it has reached the correct pressure. Running time will vary depending on the size of the pressure pack but should not be much longer than 2-3 minutes.

If the red “Failure” LED glows, make sure there are no leaks in the suction line. Ensure the pump is primed by opening the priming cap and check that it is full of water. Press “Restart” and the pump should start running again.

Once running, if the pump switches off for a short time and then starts up again, check that all taps are closed and that there are no leaks in the suction or delivery pipes. If this problem continues refer to the troubleshooting section. If the pump will not switch off after initial start up refer to the troubleshooting section.

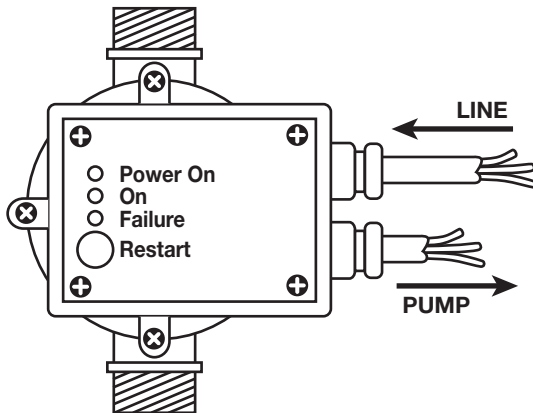


Figure 3: Control Panel

PRESSURE TANK AIR CHARGE

To check the air pressure, proceed as follows:

1. Switch power off to pump
2. If on flooded suction close gate valve on tank outlet
3. Open a tap on discharge side of the pump and relieve all water pressure
4. Check the tank air charge with a tyre gauge and inflate if necessary

The Correct Air Pressure Settings are:

Waterco Fulflo Pressure Pump 30 and Fulflo Pressure Pump 50 – 200 kPa (29 PSI).

TROUBLESHOOTING GUIDE

Waterco strongly recommends you have a qualified service technician service your pump. However, many problems may be solved by consulting the table below.

SYMPTOM	POSSIBLE CAUSE	ACTION
Motor won't start or run	No power supply	Check for blown/ tripped fuses and replace/ reset.
	Defective wiring	Check for damaged or corroded power cables. Have an electrician replace.
	Motor burnt out	Have technician replace.
	Impeller jammed	Have a service technician inspect the unit.
	Low voltage supplied to unit	Check with power company to ensure correct voltage is being supplied.
Motor runs hot and the automatic overload trips out	Irregular voltage supply	Check voltage supplied to unit is within the limits specified on the pump name plate.
	Poor ventilation	Provide adequate ventilation.
Red "Failure" LED glows	Air leak in suction pipe	Make sure all pipe joints are air tight. Re-prime pump. Press "Restart".
	Pump will not prime	Add water slowly so as to expel air from the pump and pipe system. Press "Restart". Repeat as necessary. Check suction pipe and foot valve for leaks.
	Foot valve stuck or strainer clogged	Remove, repair and clean.
	Water level below foot valve	Lower foot valve deeper into well.

WARNING

If the Waterco Limited pump is within the stated warranty period and you experience faults always contact your supplier or the nearest Waterco Limited branch for advice. Failure to do this may void the warranty. Refer to warranty documentation supplied with the pump.

All electrical work is to be carried out by a qualified electrician. Under no circumstances should you attempt repairs on the electrical components of Waterco Limited pumps unless you are qualified to do so.

OFFICES - AUSTRALIA

NSW - SYDNEY
(HEAD OFFICE)
Tel: +61 2 9898 8600

QLD - BRISBANE
Tel: +61 7 3299 9900

VIC/TAS - MELBOURNE
Tel: +61 3 9764 1211

WA - PERTH
Tel: +61 8 9273 1900

SA/NT - ADELAIDE
Tel: +61 8 8244 6000

ACT DISTRIBUTION
Tel: +61 2 6280 6476

OFFICES - OVERSEAS

WATERCO (EUROPE) LIMITED
Sittingbourne, Kent, UK
Tel: +44 (0) 1795 521 733

WATERCO FRANCE
Saint Priest, France
Tel: +33 4 72 79 33 30

WATERCO (USA) INC
Augusta, Georgia, USA
Tel: +1 706 793 7291

WATERCO CANADA
Longueuil, Quebec, Canada
Tel: +1 450 748 1421

WATERCO (NZ) LIMITED
Auckland, New Zealand
Tel: +64 9 525 7570

WATERCO © LIMITED
Guangzhou, China
Tel: +86 20 3222 2180

WATERCO (FAR EAST) SDN BHD
Selangor, Malaysia
Tel: +60 3 6145 6000

PT WATERCO INDONESIA
Jakarta, Indonesia
Tel: +62 21 4585 1481

WATERCO SINGAPORE INTL PTE LTD
Nehsons Building, Singapore
Tel: +65 6344 2378

WATERCO

Waterco Limited ABN 62 002 070 733

Member
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