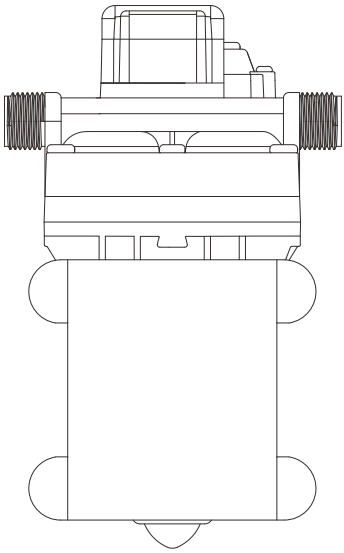
Puretec®
PERFECTING WATER



User Guide

PT Series

Reverse Osmosis / Low Pressure / Caravan /
RV / Marine Fresh Water Pump

SEP 2022

For correct operation & installation, it is essential to observe these instructions.

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Puretec Customer Service

Thank you for purchasing a Puretec PT Series Pump. Your Pump is a proven performer manufactured from only quality materials and components and is ideal for use with Reverse Osmosis systems and other low pressure water filtration systems.

Carefully read through the installation instructions before installing and putting the unit into service. These must always be issued to the owner/user. Customer Service Helpline **1300 140 140** (Australia) **0800 130 140** (New Zealand).

Installation Record

For future reference, fill in the following data:

PRODUCT INFORMATION	
Model Number:	**PT-12DC11**
Purchased From:	
Date of Installation:	
Plumber Details:	
Electrician Details:	

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Introduction

The Puretec PT Series Pump is designed to run economically for many years, dependent on the initial installation and periodical maintenance.

Features

- 4 Chamber diaphragm pump
- Bypass to reduce cycling
- Dry Run Protection
- Automatic operation controlled by pressure switch
- Industry standard mounting pattern
- Self-priming
- Quiet operation

Applications

- Reverse Osmosis / Low Pressure / Caravan / RV / Marine pressurised water system
- Sprayer fixtures (vehicle-mounted sprayers, electric sprayers)
- Cleaning machines, humidifier, water purification, medical apparatus
- Beverage filling & liquid transfer
- Solar water system
- Any other small pressurisation system

Materials/Tools Required

You will need the following materials/tools to install the PT Series pump:

- 2 (or more) lengths of flexible, reinforced hose with a collapsing strength of twice the inlet pressure.
- 4 x stainless steel hose clamps and screws
- 4 x screws to fasten the pump to the mounting surface
- Electrical cutoff switch
- 15 AMP Fuse
- Screwdriver
- Strong cutting implement for tubing
- Thread seal tape
- 2mm Allen Key

Installation

Installation Note: A pump, like any product, has a limited lifespan and if not replaced, will eventually fail. Failure can happen early due to unforeseen circumstances. To avoid possible property damage, this product should be regularly examined for leakage and/or deterioration and replaced when necessary. We strongly recommend that a drain pan, plumbed to an appropriate drain or outfitted with a leak detector, be used in those applications where any leakage could cause property damage. We also strongly recommend that the water supply be turned off, upstream to the pump, if no one is home for an extended period of time.

1. The pump may be mounted in any position. If mounted vertically, the pump head should be in a downward position to avoid leakage into the motor casing in the event of a malfunction.

2. Secure the feet, but do not compress them. Overtightening the securing screws may reduce their ability to dissipate noise and vibration.

3. Intake hose must be a minimum 1/2" (13mm) diameter, reinforced tubing. The main distribution line from pump outlet should also be 1/2"with branch and individual supply lines to outlets no smaller thn 3/8" (10mm).

4. Plumb the system using high pressure (2 x pump rating), flexible tubing to minimize vibration /noise.

5. Do not apply inlet pressure in excess of 30psi (206 kPa). In general, try to avoid any inlet pressure completely.

6. Avoid any kinks or fittings which could cause restrictions.

7. The strainer (provided) should be attached to the inlet side.

8. The fittings must be secured to avoid leakage.

9. If a check valve is installed in the plumbing, it must have an opening pressure of no more than 2 psi (13 kPa).

10. If applying plumbing tape be careful to not overtighten, as they can be sucked into the pump.

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11. This pump should be wired on its own dedicated circuit. Connect the positive lead (red) to the positive terminal of your battery and the negative wire (black) to the negative terminal of your battery.

12. In an easily accessible location, install a switch to control the electricity to the pump. Turn the pump off when not used for extended periods or when the tank is empty.

13. The electrical circuit should be protected with an over-current protection device (fuse) in the positive lead. This pump requires a 15 AMP fuse.

14. The pump circuit should not include **any** other loads.

15. Be sure to have the correct wire sizing for the length of wire you are using.

16. After installation, check the voltage at the pump motor. Voltage should be checked when pump is operating. Full voltage must be available at the pump motor at all times.

Notes

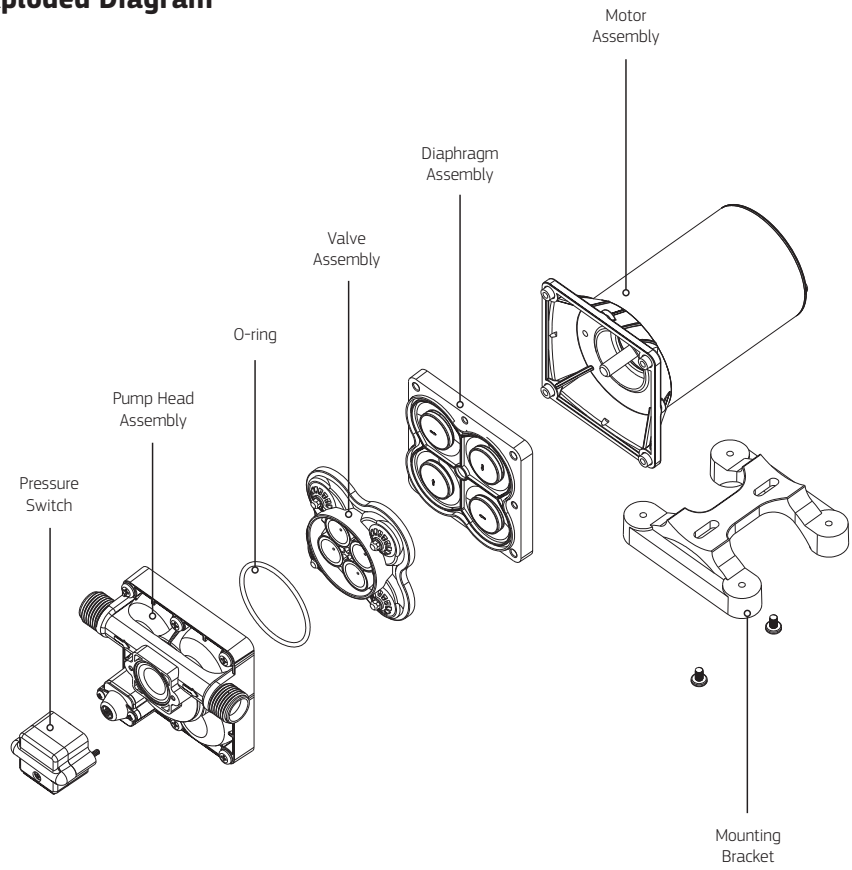
- Flexible portable water hose or PEX tubing is recommended instead of rigid piping at pump. If you choose to use rigid piping, provide a short length of hose between pipe and the pump to avoid noise and vibration.

- The use of metal fittings are not recommend. When possible, use the provided plastic fittings.

- **Do not** adjust the bypass personally without the help of a technician or the Puretec Customer Care Team.

- Lack of sanitising and maintenance can cause the pump to under perform. Ensure regular maintenance is carried out and winterize the pump at appropriate times, especially before and after a period of storage.

Exploded Diagram



Before Adjusting the Bypass

Please consult Puretec or you local Puretec dealer if the bypass needs adjustment. Improper adjustment of the bypass may damage the pump.

The bypass comes preset for optimal operation of the pump. If your application calls for a different setting for the bypass, it may be changed accordingly. Carefully tighten the screw to increase or loosen the screw to decrease the minimum operational pressure of the bypass.

Caution Ensure the installation instructions laid out in this user guide are correctly followed. Any action outside what has been specified in the user guide may damage the pump and will not covered by warranty.

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The effectiveness of any water treatment system is affected by variances in incoming water quality. Do not use with unknown or contaminated water that does not fit the parameters of the system/product as specified by Puretec, for further assistance, contact the Puretec Customer Service Helpline on 1300 140 140 (AU) or 0800 130 140 (NZ).

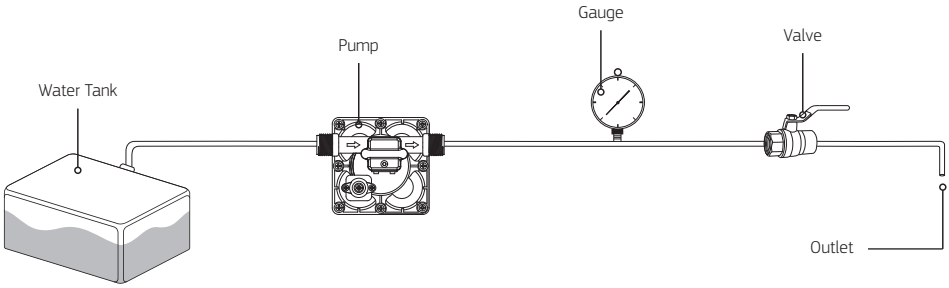
Adjusting The Bypass Valve and Pressure Switch

WARNING

NOTE: THE BYPASS ADJUSTMENT SHOULD BE PERFORMED BY A PROFESSIONAL TECHNICIAN USING A PROPER GAUGE AND EQUIPMENT. WITHOUT THE PROPER EQUIPMENT, YOU MAY DAMAGE THE VALVE OR PRESSURE SWITCH CAUSING THE PUMP TO NOT WORK CORRECTLY.

Caution: The pressure setting for full bypass must be at least 8psi (55 kPa) higher than the shut-off pressure of the pump. If the pressure switch and bypass is adjusted too closely, the bypass and pressure switch shut-off can overlap and the pump will not shut off.

Bypass Installation Diagram



The pump uses a spring-loaded bypass valve to maintain smooth performance as water demands rise and fall. When a faucet is turned on, the pump is providing full water flow, so the bypass valve is closed. When there is little or no water demand, the bypass valve opens to allow water to flow back from the outlet side to the inlet side, keeping a steady flow of water within the pump with almost no cycling.

Adjusting the Pump's Shut-off Pressure

- Unscrew the front cover of the pressure switch (Fig. A).
- To raise the shut-off pressure, use a 2 mm Allen Key to turn the pressure switch screw clockwise to the desired pressure. To lower the shut-off pressure, use a 2 mm Allen Key to turn the pressure switch screw counter-clockwise to the desired pressure (Fig. B).

Fig. A

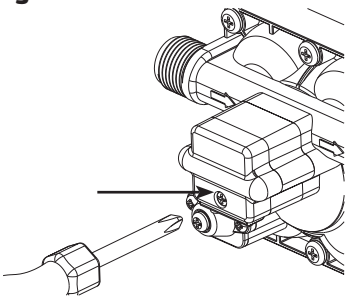
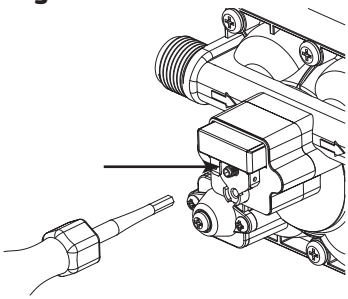
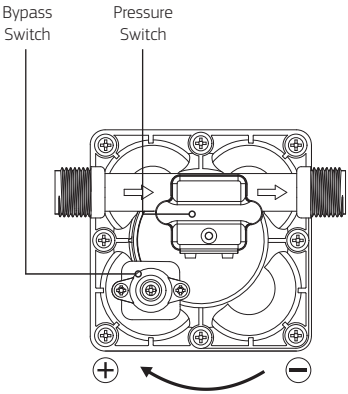


Fig. B



Adjusting the Bypass

- To raise the pressure at which the bypass starts and raise the full bypass pressure, use a 2 mm Allen wrench to turn the bypass screw clockwise to the desired pressure.
- To lower the pressure at which the bypass starts and lower the full bypass pressure, use a 2 mm Allen wrench to turn the bypass screw anti-clockwise to the desired pressure.



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Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pulsating flow / pump cycles on and off.	Kink in the line(s)	Check lines for kinks, rectify any found.
	Plumbing lines or fittings may be too small.	Upgrade lines and/or fittings.
	Blockage in faucets and/or filters.	Clean faucets & filters.
	Air leak in fitting.	Check for loose fittings & tighten.
Noisy.	Feet on mounting bracket are compressed too tightly.	Loosen the mounting feet slightly.
	The mounting surface is flexible.	Mount the pump to a solid surface.
	Head/screws may be loose.	Check head/screws & tighten.
	Pump is plumbed with rigid pipe.	Rigid piping may transmit extra noise more easily. If needed plumb using tubing specified in the Installation guide.
Failure to prime but motors operates - no pump discharge.	Restricted intake or discharge line.	Clear any blockages/restrictions to the lines..
	Air leak in intake line.	Check the line, ensure fittings are tight, line is intact & rectify.
	Punctured pump diaphragm.	Replace pump.
	Initial AMP supply is not enough to sufficiently start the motor.	Ensure min 3.5 A is achieved.
	Debris clogged in valves.	Replace pump and ensure the supplied strainer is installed prior to the pump.
	Crack in pump housing.	Replace pump.
Motor fails to turn on.	Loose or improper wiring.	Tighten any loose wiring & ensure wiring is executed as per outlined in the Installation Guide & Electrical Information chart.
	Pump circuit has no power.	Check to make sure power is connected and there are no loose wires.
	Blown fuse or thermal protection tripped.	Replace fuse. If replacing the fuse does not work replace pump.
	Failed pressure switch.	Replace pump.
	Defective motor.	Replace pump.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pump fails to turn off after all fixtures are closed.	Punctured diaphragm.	Replace pump.
	Discharge line leak.	Rectify leak.
	Insufficient voltage.	Ensure 12V is achieved.
	Clogged valves in pump head.	Replace pump and ensure the supplied strainer is installed prior to the pump.
Low flow and pressure.	Air leak at pump intake.	Rectify leak.
	Accumulation of debris inside pump or plumbing.	Clean out debris.
	Worn out pump bearing (possibly accompanied by loud noise).	Replace pump.
	Punctured diaphragm.	Replace pump.
	Defective motor.	Replace pump.

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Warranty

Any claim under this warranty must be made within 2 years of the date of purchase of the product. This product is warranted to be free of defect of material and workmanship for 2 years from date of purchase. To make a claim under the warranty, take the product and proof of purchase to place where you purchased the product, and they will lodge a Warranty Request with Puretec. ^2 year warranty is parts only, please note this covers manufacturing defects not failure due to general wear & tear.

Puretec will pay your reasonable, direct expenses of claiming under this warranty. You may submit details and proof of your expense claim to place of purchase for consideration.

The warranty only applies if the product was used and/or installed in accordance with the user guide and/or installation instructions. This warranty is given in lieu of all other express or implied warranties and manufacturer shall in no circumstance be held liable for damages consequential or otherwise or delays caused or faulty manufacturing except as excluded by law.

Applicable to all above, is that the warranties need to be approved by Puretec to ensure product was not incorrectly used, installed or claimed. False and incorrect claims will be pursued at Puretec's discretion, including chargeable inspection and labour costs incurred.

Warranty/Australia

This warranty is given by Puretec Pty Ltd, ABN 44 164 806 688, 37-43 Brodie Road, Lonsdale SA 5160, telephone no. 1300 140 140 and email at sales@puretec.com.au.

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for 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.

Warranty/New Zealand

This warranty is given by Puretec NZ LP, Reg. No 50081773, PO Box 875 Cambridge 3450 NZ, telephone no. 0800 130 140 and email at sales@puretec.co.nz.

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Consumer Guarantees Act. You are entitled to replacement or refund for a major failure and to compensation for 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.

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