

User Guide

CFS / IRS / IRX / SFS Series

Water Treatment Systems

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Puretec Customer Service

Thank you for purchasing a Puretec Water Treatment System. Your system is a proven performer manufactured from only quality materials and components. It will give years of reliability and trouble free operation if maintained properly.

This user guide is designed for Puretec Water Treatment Systems. Be careful to ensure the information and illustration is applicable to your particular unit.

Caution: Do not use with water that is microbiologically unsafe or without adequate disinfection before or after the system.

The systems are designed for metropolitan supply water but can be used in other situations. For other types of water supply, please contact your local Puretec dealer.

Puretec Treatment Systems are designed to run economically for many years dependent on the initial installation and periodic maintenance.

Flush system for 5 minutes or more, after any period of non-use, more than 2 weeks.

Installation Record

For future reference, fill in the following data:

| Product Information | |
|------------------------------|------------|
| Model Number: | |
| Serial / Batch Number: | |
| Purchased from: | |
| Date of Installation: | |
| Installer / Plumber Details: | |
| Regen Frequency: | _____ Days |

| Water Analysis Information | |
|------------------------------|------------------|
| Hardness: | _____ ppm / mg/L |
| Iron: | _____ ppm / mg/L |
| Manganese: | _____ ppm / mg/L |
| pH: | _____ |
| TDS (Total Dissolved Salts): | _____ ppm / mg/L |
| Hydrogen Sulfide: | _____ ppm |
| TOC (Total Organic Carbons): | _____ % |
| Dissolved Oxygen: | _____ ppt |

Before Installation

Professional Installation Required

- Installation requires shutting water off to home, cutting home water supply pipe and using a welding torch to add piping and fittings. Specialised tools and skills are required. Installation should be performed by a qualified tradesperson.

Make Sure the Water Has Been Thoroughly Tested

- An analysis of the water should be made prior to the selection of the water treatment equipment. Puretec dealers can usually perform this service and may send a sample for analysis and recommendations. Enter analysis information on page 4 for a permanent record.

Facts to Remember While Planning Your Installation:

- All installation procedures MUST conform to local plumbing codes.
- If lawn sprinkling, a swimming pool, or geothermal heating/cooling or water for other devices/activities are to be treated by the water system, a larger model MUST be selected to accommodate the higher flow rate plus the backwashing requirements. Contact Puretec for assistance.

Installation Note: A water filter system/tap, like any product, has a limited life and may eventually fail. Also sometimes failure happens 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. A drain pan, plumbed to an appropriate drain or outfitted with a leak detector, should be used in those applications where any leakage could cause property damage, and/or the water supply should be turned off if no one is home/present.

Note: For point of entry installations an approved dual check backflow prevention device must be installed. When line pressure exceeds 860 kPa, a pressure limiting valve must be installed.



WARNINGS

- The control valve, fittings and/or bypass are designed to accommodate minor plumbing misalignment but are not designed to support the weight of a system or the plumbing.
- Do not use petroleum jelly, oils, other hydrocarbon lubricants or spray silicone anywhere. A silicon lubricant may be used on the black o-rings but it is not necessary.
- Do not use pipe dope or other sealants on threads. Thread seal tape is the preferred sealant but is not necessary on the nut connection or caps because of o-ring seals.
- All plumbing should be done in accordance with local plumbing codes. The pipe size for the drain line should be a minimum of 1".
- Avoid getting primer and solvent cement on filter system.
- Install grounding strap on metal pipes if required.
- Ensure the system is protected against high pressure and extreme temperatures.



Specifications

IRS / IRX Models

| | |
|--------------------------------|----------------|
| Operating Pressure Min/Max: | 140 - 860 kPa |
| Operating Temperature Min/Max: | 0 - 43°C |
| Electrical Connection: | 230V AC / 50hz |
| Inlet/Outlet Connection: | 1" / 1" BSPM |
| Drain Connection: | ¾" BSPM |

| | IRS2000 | IRS3000 | IRS4000 | IRX3000 | IRX4000 |
|------------|----------------|----------------|----------------|----------------|----------------|
| Width (A) | 245 mm | 270 mm | 320 mm | 270 mm | 320 mm |
| Height (B) | 1,400 mm | 1,500 mm | 1,600 mm | 1,500 mm | 1,500 mm |

CFS Models

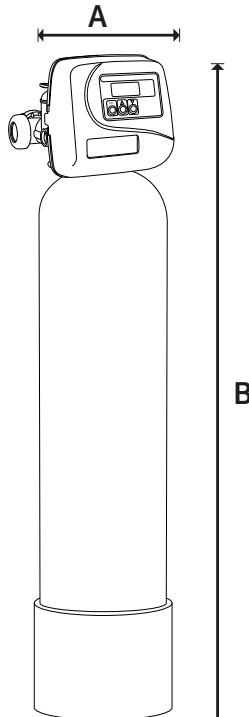
| | |
|--------------------------------|----------------|
| Operating Pressure Min/Max: | 140 - 860 kPa |
| Operating Temperature Min/Max: | 0 - 43 °C |
| Electrical Connection: | 230V AC / 50hz |
| Inlet/Outlet Connection: | 1" / 1" BSPM |
| Drain Connection: | ¾" BSPM |

| | CFS2000 | CFS3000 | CFS4000 |
|------------|----------------|----------------|----------------|
| Width (A) | 245 mm | 270 mm | 320 mm |
| Height (B) | 1,400 mm | 1,500 mm | 1,600 mm |

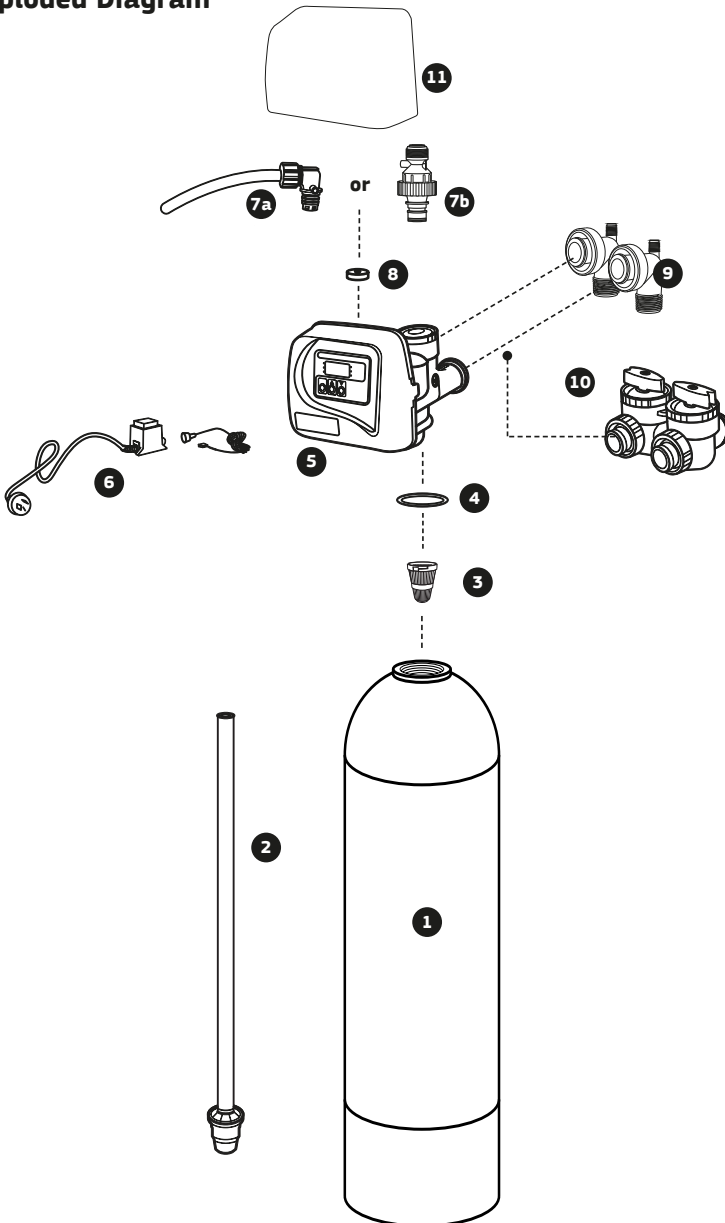
SFS Models

| | |
|--------------------------------|----------------|
| Operating Pressure Min/Max: | 140 - 860 kPa |
| Operating Temperature Min/Max: | 0° - 43°C |
| Electrical Connection: | 230V AC / 50hz |
| Inlet/outlet Connection: | 1" / 1" BSPM |
| Drain Adaptor: | 1" BSPM |

| Dimention | SFS2000 | SFS3000 | SFS4000 |
|------------|----------------|----------------|----------------|
| Height (A) | 1,400 mm | 1,500 mm | 1,600 mm |
| Width (B) | 245 mm | 270 mm | 320 mm |

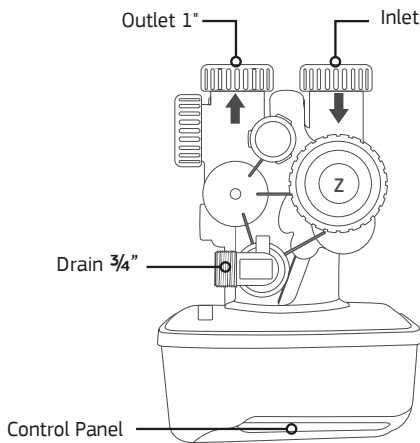


Exploded Diagram

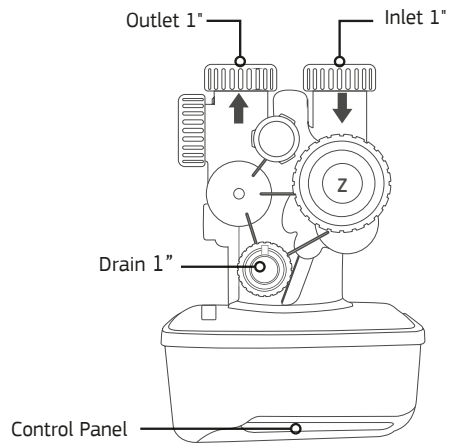


| Item | Description | Product Code |
|------|--|--------------|
| 1 | Pressure Tank | |
| 2 | Riser Pipe | WTD2030 |
| 3 | Top Screen | WTD1010 |
| 4 | Pressure Tank Collar / UV Shield | WTV3030 |
| 5 | Automatic Time Valve | WTV4100 |
| 6 | Transformer, Suits Auto Valves | WTV5135 |
| 7a | Drain Tube Assembly (CFS / IRS / IRX Models) | WTV5930 |
| 7b | Drain Tube Adaptor (SFS Models) | WTV5080 |
| 8 | DLFC | - |
| 9 | 1" Plastic Fitting Kit | WTV5070 |
| 10 | Bypass Assembly (If Purchased) | WTV5000 |
| 11 | Controller Weathershield | - |

Diagram Identification



CFS / IRS / IRX Models

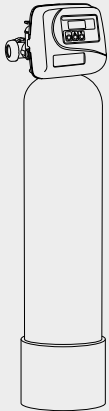


SFS Models

Installation Procedure

1 Unpack the Equipment

Ensure all parts are present and have not been damaged in transport. You should have:



Treatment System



Bypass Assembly
(purchased separately)



Media
(refer to page 10)



or



Drain Tube Assembly
or Drain Tube Adaptor
(depending on model)



User Guide

2 Extra Items Required

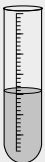


SFS Models: 1" drain tube required.

CFS / IRS/ IRX Models: ¾" tube supplied (500 mm). If longer length required, tube may be purchased separately.

3 Ensure Water Has Been Tested

Input values into table on Page 3 and the analysis has been inspected by Puretec.



| Water Analysis Information | |
|-----------------------------|-------------------------|
| Hardness | ... 5.0 ... ppm / mg/L |
| Iron | ... 0.3 ... ppm / mg/L |
| Manganese | ... 0.1 ... ppm / mg/L |
| pH | ... 7 ... |
| TDS (Total Dissolved Salts) | ... 2.75 ... ppm / mg/L |
| Conductivity | ... 404 ... µS/cm |
| Chloride | ... 3.0 ... ppm / mg/L |
| Sodium | ... 9.6 ... ppm / mg/L |



Customer Service Helpline
1300 140 140 (AU) 0800 130 140 (NZ)



4 Install Water Treatment Equipment Correctly

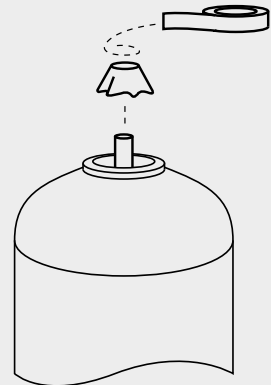
1. Select the location of your water treatment system with care. Various conditions which contribute to proper location are as follows:
2. Install as close as possible to a drain on a level surface.
3. Install in correct relationship to other water treatment equipment. Contact Puretec for assistance.
4. Install the treatment in the supply line BEFORE the water heater. Temperatures above 110°F (43.3°C) will damage the system and void the warranty.
5. DO NOT install the treatment in a location where freezing temperatures occur. Freezing may cause permanent damage and will also void the warranty.
6. DO NOT install where water hammer conditions may occur without installing an arrestor
7. Allow sufficient space around the installation for easy servicing. Provide a non-switched 240V power source for the control valve.

5 Media Installation

The Media has been shipped separately to avoid damage in transit.

The length of the internal riser pipe is pre-set and does not need adjustment.

1. Position the system on a flat surface close to a drain or a properly trapped outlet, in a position when the system can service all lines requiring treated water. The system should be placed far enough away from any water heaters to avoid any hot water backflow into the system. A weatherproof powerpoint and surge protector is recommended.
2. Plug or cover the top end of the riser pipe in the tank making sure no media can enter the tube.



Continued next page.

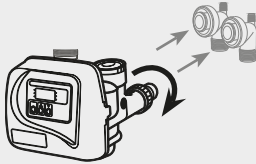
Continued.

3. Ensure that the riser pipe is sitting in the cradle at the base of the tank. Then using a wide mouth funnel, place the media in the tank as per the numbering on the buckets. (Buckets are labelled 2, 3 etc. Put No. 2 in first, followed by 3, etc. as required.)

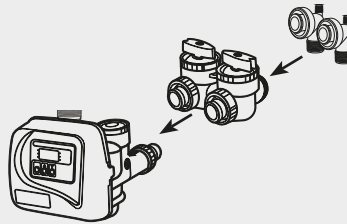
Note: vessel and head are always labelled as No.1.

4. Remove the plug or cover from the riser pipe making sure you do not lift the riser pipe. Top up tank with water. Screw valve onto the tank (hand tight is usually sufficient), making sure the distributor tube is properly inserted into the valve.

6 Installing the Bypass (purchased separately)



Uninstall the plastic fittings by turning the knob counterclockwise.



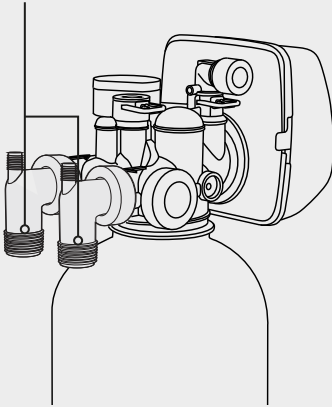
Connect the bypass assembly followed by the plastic fittings. Hand tighten the knobs, do not overtighten.

Refer to page 19 for Bypass Operation.

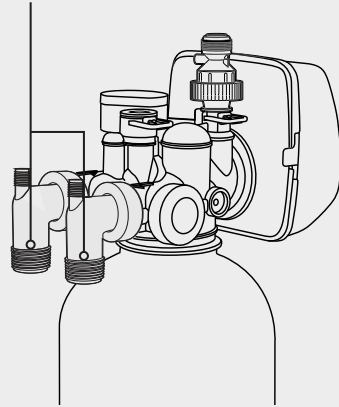
7 Connecting the System

Connect the system to main plumbing. Do not solder brass adapters while they are inserted in the control module.

Apply plumbing tape to the nipple as required. Connect the pipe work to the valve, refer to page 8 for identification.



CFS / IRS / IRX Models



SFS Models

Note: Solder joints must be done prior to connecting to the valve fittings. Leave at least 6" between the fitting and solder joints when soldering pipes. Failure to do this could cause heat damage to the fittings.

This should be carried out by a qualified tradesperson.

FOLLOW LOCAL PLUMBING CODES

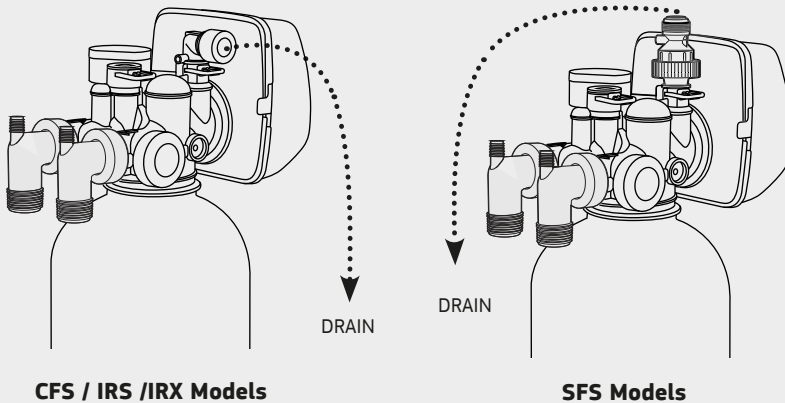
8 Connecting the Drain Line

Locate the drain tube and attach to the drain connection, refer to Page 8 for identification of the drain port.

Connect pipe to the drain line connection on the valve to the drain. Ensure the drain line is not kinked. The line must not travel more than 2.4 m up from the valve, otherwise increase the diameter of the drain line.

Connect drain and overflow to sewer or stormwater, whatever is approved by local authority for discharge water.

Ensure drain line has an adequate air gap of 2 times the pipe diameter or 25 mm, whichever is larger.



9 Programming

6.1 Plug into an uninterrupted electrical outlet.

Note: the system transformers are not weather resistant and should be adequately protected. All electrical connections must be connected accordingly to local codes.

6.2 Proceed to 'Programming' section.

Programming



OR



General Operation

When the system is operating one of two displays will be shown. Pressing ▲ or ▼ button will alternate between the displays. One of the displays is always the current time of day (to the nearest hour).

The second display is the days remaining until the next regeneration. If the days remaining is equal to one, a generation will occur at the next present regeneration time. The user can scroll between displays as desired.

If the system has called for a regeneration that will occur at the present time of regeneration, the arrow will point to Regen.

Set Time of Day

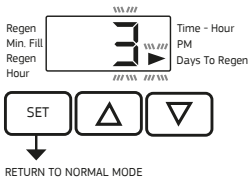
1. Press SET for 5 seconds
2. Current time: set HOUR by using the ▲ + ▼ button then press SET. Repeat for MINUTES.

Note: After a power outage, the time of day will need to be reset.

Other Settings

These have been factory set (only adjust if required).

1. From normal mode, press SET + ▲ buttons simultaneously for 5 seconds and release.
2. Regeneration Time: Set the clock to the hour the regeneration should occur by using the ▲ or ▼ buttons. Once the hour is chosen, press SET and repeat for MINUTES. Factory setting is 2 AM. Press SET to go to STEP 3.



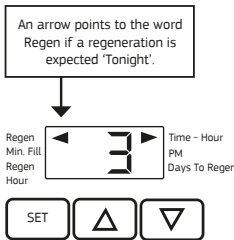
- Days to Regen: This is factory set to 3 (3 days between regenerations). The allowable range is 1 to 99. Refer to "Regeneration" to set correct regen days. Press SET to exit Installer Displays and Settings.

Note: The system is factory set to regenerate at 2 AM. If there is a demand for water when the system is regenerating, untreated water will be used.



Regeneration Mode

When the system begins to regenerate, the display will change to indicate the cycle of the regeneration process that is occurring and an arrow will also point to Regen. The system will run through the steps automatically and will reset itself to provide treated water when the regeneration is completed.



Manual Regeneration

Sometimes there is a need to regenerate the system, sooner than when the system calls for it, usually referred to as a manual regeneration. There may be a period of heavy water usage because of guests or a heavy laundry day.

To initiate a manual regeneration at the preset delayed regeneration time, simultaneously press ▲ + ▼ buttons together and release. The arrow will point to the word Regen if a regeneration is expected 'tonight'. To cancel the regeneration simultaneously press ▲ + ▼ buttons and release.

To initiate a manual regeneration immediately, simultaneously press ▼ + ▲ buttons together for 3 seconds. The system will begin to regenerate immediately. The request cannot be cancelled.

Power Loss

Your Puretec electronic control valve maintains the time for up to 8 hours using the internal PCB battery if power is interrupted. Nonvolatile memory stores the stats & programming & are not affected by power outages. After 8 hours of backup use, replace the battery with a type 2032, 3-volt lithium coin cell battery. If the time flashes on & off after a power loss the time of day should be reset & the flat battery replaced.

In the unlikely event of a power loss during backwash, when power is restored, a dry-reset should be performed (refer to page 16), followed by a manual backwash/regeneration (refer to page 13) if convenient.

Start-up

Now programming is completed (if required) you are ready to start the system.

1. Open the nearest tap downstream of the filter system (after the filter system).
2. Allow water to flow through the system slowly, and allow all air to escape out of the closest tap. Wait until the water is flowing out of the tap and then increase the flow slowly up to full flow. Allow to run for 5 - 10 minutes.
3. Close the opened tap and check for leaks.
4. Conduct a full manual regeneration.
5. Your system is ready for use.

Regeneration

E1 Valve (Regeneration Time: 20 mins)

This valve is factory set to regenerate every third day. The required frequency of regeneration is dependant on the level of contaminates and the amount of water used.

To change the regeneration setting refer to the 'programming' section.

Media Replacement

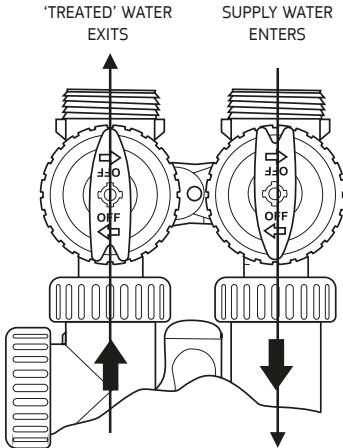
| Series: | Model: | Media Replacement Code: |
|---------|---------|-------------------------|
| CFS | CFS2000 | RMK-CFS2000 |
| | CFS3000 | RMK-CFS3000 |
| | CFS4000 | RMK-CFS4000 |
| IRS | IRS2000 | RMK-IRS2000 |
| | IRS3000 | RMK-IRS3000 |
| | IRS4000 | RMK-IRS4000 |
| IRX | IRX3000 | RMK-IRX3000 |
| | IRX4000 | RMK-IRX4000 |
| SFS | SFS2000 | RMK-SFS2000 |
| | SFS3000 | RMK-SFS3000 |
| | SFS4000 | RMK-SFS4000 |

Customer Service Helpline at **1300 140 140** (AU) and **0800 130 140** (NZ) for more details.

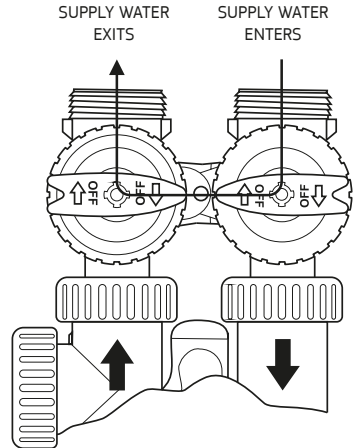
The nuts and caps are designed to be unscrewed or tightened by hand or with the special plastic wrench. If necessary a pliers can be used to unscrew the nut or cap. Do not use a pipe wrench to tighten or loosen nuts or caps. Do not place screwdriver in slots on caps and/or tap with a hammer.

Bypass Valve Operation - optional accessory

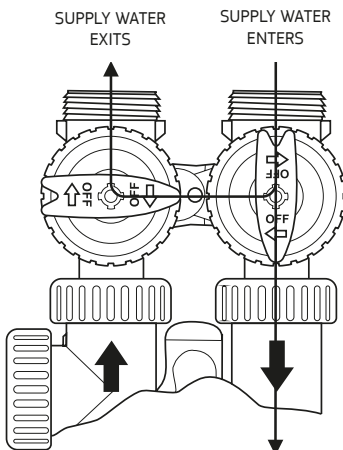
Normal Operation



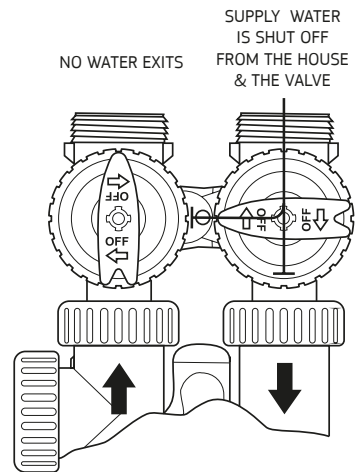
Bypass Operation



Diagnostic Mode



Shut Off Mode



Troubleshooting Guide

| | |
|--|---|
| <p>'Dry' Reset Procedure</p> <p>From time to time, the valve may display an error code for various reasons. The first troubleshooting step is to perform a 'dry' reset.</p> | <p>Remove the faceplate, opening the tabs on either side of the valve. This will expose the Power Circuit board with a number of wires connected.</p> <p>On the bottom right hand corner is a 4 pin adaptor labelled '12VAC PWR', disconnect the adaptor and reconnect after 5 seconds. The valve will then whirl twice, and should return to the normal screen.</p> <p>If the error message is still present, refer to the troubleshooting guide</p> |
|--|---|

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|--|--|
| No display/blank screen on valve. | A. Transformer not connected. | A. Connect transformer. |
| | B. No power at outlet/source. | B. Use working outlet/repair outlet. |
| | C. Switched outlet/improper voltage. | C. Use uninterrupted outlet/ensure source is delivering proper voltage. |
| | D. Dead battery. | D. Replace battery (CR2032). |
| | E. Defective transformer. | E. Replace transformer. |
| | F. Defective PC Board. | F. Replace PC Board. |
| Valve does not display correct time of day. | A. Power outage(s). | A. Reset time of day, replace battery (CR2032). |
| | B. Time of day set incorrectly. | B. Reset to correct time of day. |
| | C. Switched outlet. | C. Use uninterrupted outlet. |
| | D. Tripped breaker switch. | D. Reset breaker switch. |
| | E. Defective PC Board. | E. Replace PC Board. |
| Valve regenerates at wrong time of day. | A. Power outage(s). | A. Reset time of day, replace battery (CR2032). |
| | B. Time of day set incorrectly. | B. Reset to correct time of day. |
| | C. Time of regeneration set incorrectly. | C. Reset regeneration time. |
| Time of day flashes on and off. | A. Power outage(s). | A. Reset time of day, replace battery (CR2032) and then perform a 'dry' reset. |

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|--|--|--|
| Valve does not regenerate when performing a manual regeneration. | A. No power to valve. | A. Refer to 'No display/blank screen on valve'. |
| | B. Broken drive gear or drive cap assembly. | B. Replace drive gear or drive cap assembly. |
| Valve does not regenerate automatically, but does when performing a manual regeneration. | A. Bypass valve in bypass position/faulty. | A. Turn bypass to normal operation/replace bypass. |
| | B. Defective PC Board. | B. Replace PC Board. |
| Untreated water delivered to service. | A. Bypass valve is in bypass operation/faulty. | A. Turn bypass to normal operation/replace bypass. |
| | B. Media is exhausted due to high water usage. | B. Check program settings or diagnostics for abnormal water usage. |
| | C. Fouled media bed. | C. Clean/replace media. |
| | D. Water quality fluctuation. | D. Test water and contact Puretec for assistance. |
| | H. Leak from seal/spacer stack assembly. | H. Clean/replace spacer stack assembly. |
| Water running to drain. | A. Power outage during regeneration. | A. Upon power being restored control will finish the remaining regeneration time. Reset time of day, replace battery (CR2032). |
| | B. Foreign material present in valve. | B. Remove drive cap, piston and spacer assemblies. Clean and relubricate components, assemble the valve and run a manual backwash. |
| | C. Leak from seal/spacer stack assembly. | C. Clean/replace spacer stack assembly. |
| | D. Piston assembly failure. | D. Clean/replace piston assembly. |
| | E. Loose/damaged drive cap assembly. | E. Tighten/replace drive cap assembly. |

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|--|---|--|
| Error Code - 1001 Control unable to sense motor movement. | A. Motor not inserted fully into engage position, motor wires broken or disconnected. | A. Disconnect power, make sure the motor is fully engaged, check for broken wires, make sure two pin connector is connected to the two pin connection on the PC Board labelled MOTOR. Connect power and perform a 'dry' reset. |
| | B. PC Board not correctly installed. | B. Ensure PC Board is correctly clipped into drive bracket and perform a 'dry' reset. |
| | C. Board unable to read middle reduction gear. | C. Check foil on reduction gear; clean any foreign material on the foil. |
| | D. Missing/damaged reduction gears. | D. Replace missing gears. |
| | E. Defective PC Board. | E. Replace PC Board. |
| Error Code - 1002 Control valve motor ran too short and was unable to find the next cycle position and stalled. | A. Foreign material lodged in valve. | A. Clean/replace piston/spacer stack assembly. Perform a 'dry' reset. |
| | B. Mechanical binding. | B. Check piston, spacer stack assembly, drive bracket and main drive gear interface. Perform a 'dry' reset. |
| | C. Main drive gear too tight. | C. Loosen main drive gear. Perform a 'dry' reset. |
| | D. Incorrect voltage being delivered to valve. | D. Check voltage of power source. Perform a 'dry' reset. |
| | E. Incorrect programming | E. Contact Puretec for assistance. |
| Error Code - 1003 Control valve motor ran too long and was unable to find the next cycle position. | A. Motor failure during regeneration. | A. Check motor connections. Perform a 'dry' reset. |
| | B. Foreign material lodged in valve. | B. Clean/replace piston/spacer stack assembly. Perform a 'dry' reset. |
| | C. Drive bracket not correctly installed. | C. Snap drive bracket in correctly. Perform a 'dry' reset. |
| Error Code - 1004 Control valve motor ran too long and timed out trying to reach home position. | A. Drive bracket not correctly installed. | A. Snap drive bracket in correctly. Perform a 'dry' reset. |

Warranty

Any claim under this warranty must be made within 1 year of the date of purchase of the product. This product is warranted to be free of defect of material and workmanship for 1 year 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. 1 year warranty is 1 year parts and labour.

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 Ltd, Reg. No 4464398, 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.



Puretec[®]
PERFECTING WATER

AUSTRALIA

P 1300 140 140

E sales@puretec.com.au

W puretec.com.au

NEW ZEALAND

P 0800 130 140

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