PURE
WATER SYSTEMS

AUTOMATIC & SEMI-AUTOMATIC

WATER SOFTENER

RANGE

WATER TREATMENT APPLIANCE GUARANTEE

Pure Water Systems (Aust.) Pty Ltd guarantees five years on automatic control valves, and two years on semi-automatic control valves and pressure vessels. This water treatment appliance is subject to the “conditions” set out hereunder, to be free from defects in material and workmanship under normal use and service. The obligation of the Company shall be limited to replacing or repairing (at the option of the Company) any part of the water treatment appliance which proves to be defective within one year from the date of the original purchase and which the Company’s examination shall disclose to be thus defective.

CONDITIONS

This guarantee does not cover faults arising from the following causes:

1. Appliance is not installed in accordance with the Company’s installation instructions.
2. Accident, alteration, negligence, abuse, misuse, flood, fire or act of God.
3. If repairs are conducted by any person not approved by the Company.
4. Operation at water pressures higher than 600kPa.

The Company does not accept responsibility for any costs or charges, involved in transporting the appliance to the Company’s premises, or those of its accredited agent, for the purpose of adjustment.

This guarantee is the sole guarantee given by the Company, and the Company neither assumes, nor authorises any person to assume for it, any other obligation in connection with this water treatment appliance, or part thereof.

IMPORTANT

This guarantee must be retained by the owner. Keep this together with your purchase docket in a safe place as you will have to present it should you require service under the terms of this guarantee.

Purchase Date:

Installer Name/Company:

Installation Date:

PLEASE READ PRIOR TO INSTALLATION

Where to install

Water softeners are designed to treat the water supply to the entire home and therefore need to be connected to the main water supply to the property. It is advisable to segregate garden taps if possible. During regeneration a predetermined capacity of saline water will be discharged to drain necessitating connection to a sewer/deep drain rather than to a stormwater drain. Automatic models require a 240V general power outlet to operate - semi-automatic models do not.

Automatic models are supplied with all parameters preset apart from the time of day. The time of day can be set by pushing the “arrow up” or “arrow down” buttons until the correct time is displayed. No adjustments are required for semi-automatic models.

Plumbing instructions

The installation of any water softener must be carried out by a licensed plumber in accordance with current Australian Plumbing Standards (ASNZS3500.1, as per WMTS-103 Cl.1 1.1).
It is mandatory that the pressure limiting valve (supplied) is installed correctly prior to the appliance. Installations subjected to permanent hydrostatic pressure shall incorporate a backflow prevention device in accordance with the Plumbing Code of Australia.

As you look at the softener front on, the inlet is on the right and the outlet is on the left. All fittings require tightening prior to commissioning. The drain line has a 1.5 metre length of clear plastic tubing connected - all models. This tube must be directed to drain and must not be extended without an air gap (the clear plastic tube cannot be extended and must discharge to another pipe with an air gap between the plastic tube and the new pipework to prevent damage to the valve head).
NOTE: All domestic softener models have a precautionary overflow outlet elbow at the rear of the softener cabinet. A drain line will need to be connected to the overflow elbow and directed to an appropriate drainage point. Do not join overflow drain with regeneration discharge drain line.

Before turning the water back on, open a non-aerated tap downstream from the softener and/or open the control valve to drain. This can be done by turning the timer on a semi-automatic unit or by pushing the extra cycle button on an automatic unit.
This will allow any air caught within the system to escape.
NOTE: If air is not allowed to escape, the hydraulic effect of the air water mix could result in serious overpressurisation damage.

INSTALLATION INSTRUCTIONS

Semi-Automatic models

With the water turned on, the brine tank/cabinet will automatically fill to the correct level once. Add salt to the brine tank/cabinet in preparation for the next regeneration.

Automatic models

Automatic models do not return water to the brine tank/cabinet until the last stage of the regeneration cycle. Water should be added manually to the brine tank/cabinet prior to instating the water supply to the softener inlet. Fill the brine tank/cabinet approximately a third full and then add salt.

NOTE: All models are supplied with pre-regenerated softening resin. While it is not necessary to regenerate before using, it is necessary to allow water to run until clear. New resin contains a water soluble identification dye and in some rare cases can leach colour and/or odour into the water supply. If this occurs then water may require flushing for several minutes.

NOTE: To regenerate a semi-automatic softener, turn the mechanical timer on for 60 minutes for the small model and 90 minutes for the large model. The timer will automatically turn off when regeneration is complete. To regenerate automatic models, push and hold the extra cycle button for 5 seconds. This will enter the softener into an automatic regeneration cycle which will last for approximately 90 minutes.

POWER SURGES MAY CAUSE THE MICROPROCESSOR TO RETURN TO DEFAULT SETTINGS

Power surges can affect the performance of your water softener. The electronic power board has a built-in safety feature that protects the microprocessor from damage due to voltage spikes. When a power surge occurs, the microprocessor may return all settings to default. When in the default state the softener will not function correctly and will need to be reset. An indication of this will be that the normal 24 hour clock display will return to AM/PM settings. The PM light will illuminate when the clock is moved past 11:59AM. A further indicator will be that the water level in the brine tank may be lower than usual or simply that your water is not as soft as it used to be. To reset your water softener to the correct settings, refer to the “Valve Setting” information provided.

NOTE: Normal power failures will not cause your water softener to return to its default settings. If there is a power outage it will only be necessary to reset the time of day.

FREQUENTLY ASKED QUESTIONS

What does semi-automatic mean?

Semi-automatic means that a small mechanical timer must be manually turned in order for the softener to enter a regeneration cycle. The softener will turn itself off when the regeneration cycle has been completed. The automatic models are programmed to enter a regeneration cycle automatically.

What do I do to get started?

Once the softener has been installed the next step is to add salt to the brine area. Initially you can add two bags of either high-grade softening salt or granulated swimming pool salt - if you don't have two bags, one will get you started. Using water softener salt is recommended as the crystals are larger therefore it is less likely that the salt will become compacted. When adding fresh salt to an empty brine tank, it is recommended to allow one hour before manually regenerating the softener. This will give the salt ample time to dilute to a brine solution.

Why do softeners use salt?

Salt is used purely as a regenerate to wash accumulated hard-water salts to drain and to recharge the softening resin. The softening process relies on resin releasing sodium to make the water soft. When salt (sodium chloride) is passed through the softening resin, the sodium is used to recharge the resin and the chloride combines with accumulated hard-water salts. They are reconstituted as insoluble salts that can then be washed to drain as part of the regeneration cycle. The brine solution created by the salt is used only during the regeneration cycle. The brine water is rinsed from the resin bed with fresh water during the last stage of the regeneration cycle before the water softener is returned to service.

Once a supersaturated brine solution has been formed, the salt automatically stops dissolving. The level of water in the brine tank (softener cabinet) is preset and this determines the amount of brine that will be formed. In summary, the brining process happens automatically - all you need to do is to add salt.

When will I need to replenish the salt in the brine tank?

As a general rule it is diligent to keep the brine tank at least a third full at all times. If a brined tank is empty this could mean that the water softener has not been regenerating properly therefore will not work as required.

NOTE: Before adding a new bag of salt, it is a good idea to stir up the existing salt to prevent it from compacting. The rounded end of a broom handle is ideal for this.

Is there any other regular maintenance required?

Other than regenerating regularly and adding salt when necessary there is very little regular maintenance required. It is recommended that the seals and spacers located internally of the automatic softener valve are replaced every 5 years.

When does a softener need to be regenerated?

Automatic softeners

The softener capacity is dependent on a combination of the amount of water being treated and the hardness of the water being softened. Automatic water softeners regenerate once the preset capacity is reached.

Semi-automatic softeners

Semi-automatic softeners do not measure volume and have no predetermined way of allowing for water hardness. To calculate the regularity of regeneration cycles for a semi-automatic softener you will need to determine roughly how much water is being used on a daily/weekly basis and the hardness level of your water. If you are unsure of the hardness level of your water you can either test the water with a total hardness test strip or contact Pure Water Systems and we will be able to assist you.

You can determine the capacity of your softener by placing the softener into a regeneration cycle then wait until the water begins to change from soft to hard. Keep track of the amount of days that have passed since the softener was regenerated to determine the correct amount of days between regenerations. This may vary during the season or when there are more or less people using the water.

How long should the softener regenerate for?

For optimum results it is important **not** to reduce regeneration times below that are recommended for your water softener. Doing so may have a detrimental impact on the softening resin and/or allow salty water through to service. Recommended times for regeneration are as follows:

Small - 60 minutes

Large - 90 minutes

What does volumatic mean?

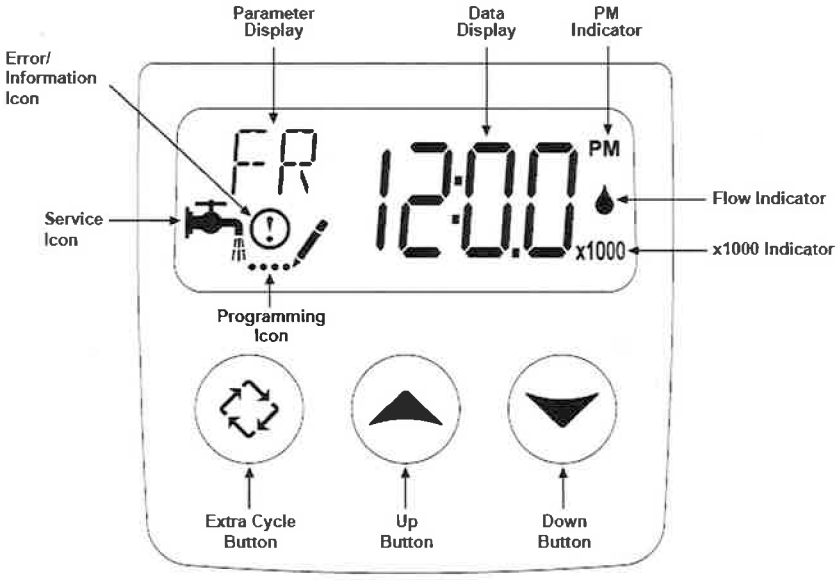
Fully automatic volumatic softeners use a microprocessor to control regenerations. A reserve litre capacity is set to suit the expected water conditions. Water usage is monitored by a flow meter connected to the softener valve which enables the water softener to determine how many litres have passed through the softener. When the capacity is reached the unit will queue for regeneration, meaning it will wait until the preset regeneration time occurs before it will perform an automatic regeneration. All softeners are programmed to regenerate at 2:00AM as this is when water is least likely to be used, however, it can be adjusted to occur at any time during the day or night - refer to valve setting instructions. Automatic softener/conditioners require 240 volts to operate. The automatic valve is fitted with a waterproof 24 volts step down transformer.

Does my softener require a pre-filter?

Although it is not always essential to install pre-filtration for a water softener when using mains water it is highly recommended to do so. Installing a carbon filter prior to the water softener will prevent chlorine from entering the water softener. Whilst the softening resin can tolerate some chlorine, the lifespan of the resin will be significantly prolonged if a carbon pre-filter is installed prior to the softener.

Depending on the initial water quality being supplied to the softener it may be advisable to install a sediment and carbon pre-filter. If you are unsure of the initial water quality you can contact Pure Water Systems and we will be able to advise you whether a pre-filter is necessary or not.

AUTOMATIC CONTROLLER SETTING



Setting the Time of Day

1. Press and hold either the Up or Down buttons until the programming icon replaces the service icon and the parameter display reads TD.
2. Adjust the displayed time with the Up and Down buttons.
3. When the desired time is set, press the Extra Cycle button to resume normal operation. The unit will also return to normal operation after 5 seconds if no buttons are pressed.

NOTE: *After selecting the desired time of day it is necessary to press the Extra Cycle button.* The time that has been set will not take effect until the Extra Cycle button has been pressed - refer highlighted section above.

Small & Large Automatic Versions

1. The above twin tank water conditioners are factory preset as follows:

1.	DF (Display Format)	Ltr
2.	VT (Valve Type)	5800
3.	RF (Regenerate Flow)	dF1 b
4.	CT (Control Type)	Fd
5.	C (Unit Capacity)	(SEV17) 39
		(SEV8) 27
		(SEV34) 78
6.	H (Hardness)	6
7.	RS (Safety Factor)	SF
8.	SF (Safety Factor Display)	0
9.	RC (Fixed Reserve Capacity)	SF
10.	DO (Day Override)	OFF
11.	RT (Regeneration Time)	2:00 (AM)
12.	BW (Backwash)	3
13.	BD (Brine Draw)	60
14.	RR (Rapid Rinse)	5
15.	BF (Brine Fill)	(Small) 18
		(Large) 20
16.	D1, D2, D3, D4, D5, D6, D7	OFF
17.	CD (Current Day)	Current day of the week
18.	FM (Flow Meter Type)	t0.7
19.	K (Meter Pulse Setting)	Sets automatically
20.	RE (Relay) time(ET)	Time base(tb),start time(ST),end
21.	VR (Relay) time on (TO)	Flow base(Fb),volume interval(VO),

2. Refer to Valve Manual for program setting advice. Please scan QR code and follow the instruction.

Master Reboot: Hold the Extra Cycle button while powering the unit. This will reboot the valve and return it to default settings after which all parameters will need to be reset.

Soft Reset: Press and hold the Extra Cycle and Down buttons for 25 seconds while in normal service mode. This will reset the valve without losing volume remaining settings/days since last regeneration. This mode can be employed if for example the valve displays an “Error” message. Note: After “Soft Reset” it will be necessary to re-enter factory set parameters (as above).

ASSEMBLY INSTRUCTIONS

1. What is supplied in the packages?

Your water softener package consists of:

1. Blue coloured pressure vessel media tank.
2. Softener control valve.
3. Drop tube with bottom screen attached (packed inside the blue pressure vessel).
4. Brine tank with lid containing brine valve, salt platform, tubing and parts that are necessary to connect the brine system to the softener control valve. Instructions and Valve Control Manual are also located in the brine tank carton.
5. Ion exchange resin and gravel (in separate bags).

2. Where to Install?

Locate softener vessel (blue in colour) in a suitable location taking into consideration the need for power (automatic version only) and a suitable drain in which to discharge water brine while the system is regenerating (for all systems).

If there is a water pressure pump the softener should be installed after the pump (not before). The softener should also be installed after any sediment filters etc., that may be incorporated.

Locate brine tank as near as possible to the blue pressure vessel.

3. Loading ion exchange resin

The resin supplied needs to be loaded into the blue media vessel. You will need to use a funnel for this.

IMPORTANT: Cover the top opening of the riser tube with tape to prevent any gravel or resin from entering the drop tube. Load the gravel first and then the resin. Once all the media is loaded remove the protective cover from riser tube and connect the control valve to the media vessel.

NOTE: As water softeners require 40% “free board” to operate correctly, the quantity of resin required will not fill the media vessel to the top.

Complete Assembly

1. Using 3/8” black tube supplied push tube into John Guest fitting on valve until it reaches stop.
2. Push the other end of the 3/8” black tube into the John Guest fitting located on the brine valve.
3. Set time of day using arrow Up or arrow Down buttons.
   NOTE: After selecting the desired time of day it is necessary to press the Extra Cycle button. The time that has been set will not take effect until the Extra Cycle button has been pressed.
4. Open tap or valve upstream of the softener to allow air to be evacuated when water is reconnected.
   NOTE: Failure to allow air to escape to drain could result in overpressurisation and permanent damage to the softener. This may void warranty.
5. Fill brine tank approximately 25% full with water.
6. Add at least one bag of salt to brine tank.
7. Slowly turn mains water back on.
8. Allow water to run until water is running clear out of the outlet.

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