

INSTALLATION & OPERATING INSTRUCTIONS



PACIFIC WATER TECHNOLOGY



TANNIN FILTER PUROLITE A860 RESIN

Pacific Water Technology's tannin filters are supplied with high purity premium grade bead-form macroporous polyacrylic anion exchange resin designed expressly for the removal of tannins & natural organics.



Pacific Water recommend coarse, kiln dried water softener salt for resin regeneration



CLACK CONTROL VALVE



Tannin Filter



INSTALLATION RECORD



Please complete the following as a record of purchase for warranty and service purposes.

TANNIN FILTER MODEL:

SERIAL NO.:

.....

PURCHASED FROM:

.....

DATE PURCHASED:

.....

DATE INSTALLED:

.....

INSTALLED BY:

.....

HOW DOES YOUR TANNIN FILTER WORK?



Congratulations on the purchase of your Fully Automatic Tannin Filter.

Please take the time to read the following. It will familiarize you with the design principles and workings of your new filter.

FUNCTION OF A TANNIN FILTER

A tannin filter 'exchanges' tannin/organics for harmless sodium ions, leaving treated water. A special tannin removal resin – Purolite A860, is the exchange medium and softener salt is the regenerant. When the resin becomes laden with tannins/organics, the filter regenerates using a saltwater solution, (sodium chloride + water). The high concentration of sodium ions introduced dislodges and displaces the tannins/organics with sodium ions. The tannin/organics & chloride ions are sent to the drain. When the process is complete, the filter is regenerated and ready again to deliver treated water. All functions are fully automatic with only a periodic top-up of salt required.

WHAT CONTROLS THE REGENERATION?

The Microprocessor Demand Control Valve. The volumetric rates and resin capacity of the filter are programmed into the control which tells the valve the amount of treated water the filter can supply before a regeneration is required. The valve includes an in-built water meter that, with the control, monitors actual water flow and usage. The control automatically initiates a regeneration when the listed treated water volume is reached. The control compensates for high and low usage patterns ensuring the water remains treated until the next regeneration.

The control uses safe 12-volt power from the wall-mount transformer supplied.

COMPONENTS OF A TANNIN FILTER

The filter comprises of a 5-cycle control valve, bypass valve, fiberglass pressure vessel containing A860 resin and distributor system, and a salt/brine tank.

WHAT ARE THE STAGES OF THE REGENERATION CYCLE?

1st Stage - Service Position

In this position the tannin filter delivers treated water for usage. The filter is in this position prior to commencing the backwash cycle.

2nd Stage - Backwash Position

The water flow is reversed to lift and wash the resin bed clean of entrapped sediment and particulate matter prior to brining.

3rd Stage - Brine Position

The filter valve draws in brine solution from the brine tank to regenerate the A860 resin.

4th Stage - Fast Rinse Position

The softener fast-rinses the resin bed to remove residual brine solution.

5th Stage - Brine Refill Position

The softener valve refills the brine/salt tank with sufficient water to make brine for the next regeneration.

The Regeneration Cycle is now complete, and the unit will return to the Service Position.

All the functions of your softener are fully automatic.

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CAUTION !

The filter is not designed to remove microbiologically unsafe contaminants from the water supply. If the water is for potable use it should be disinfected prior to use.

IMPORTANT. FAILURE TO COMPLY COULD VOID WARRANTY!

- a. All plumbing must conform to Australian Standards guidelines and Local Council regulations.
- b. For filters subjected to permanent hydrostatic pressure an integral non-testable backflow prevention device in accordance with AS3500.1 and complying with AS 2845.1 Clauses 3.6.3, 3.6.4, 7.3.1 and 7.3.3 should be fitted in the inlet line.
- c. For filters subject to hydrostatic pressure in excess of 700 kPa a suitable pressure control device should be fitted in the influent line.
- d. Where the hot water system is a mains pressure storage type, a cold-water relief valve of suitable rating should be fitted (if not already installed), between the non-return valve and the cold water inlet of the hot water system.
- e. For installations subject to excessive or prolonged water hammer, a water hammer arrestor should be fitted.
- f. Waste connections should comply with minimum air gap requirements as per AS3500.1, Table 4.5.

IMPORTANT. FOR TANK FILLING OR OPEN-DISCHARGE APPLICATIONS ONLY!

The automatic control valve must have a positive back pressure during the backwash and rinse cycles to ensure effective backwashing and also prevent unfiltered water going to service.

If using the filter to fill a storage tank (or any other open-discharge application) a 'No Hard Water Bypass Valve' must be used. Picture below.



GENERAL SPECIFICATIONS

Minimum Operating Pressure	280 kpa (40psi)
Maximum Operating Pressure	700 kpa (100psi)
Minimum & Maximum Operating Temperature	4°C to 43°C
Inlet & Outlet Connections:	25mm male BSP
Valve Drain Fitting:	20mm male BSP
Mains Power Requirement:	240 Volt, 10 amp
Control Valve Power:	12 Volt AC supplied by wall mount transformer supplied
Transformer Output Current:	500mA

Maximum Intermittent Flow Rate, liters per minute @105kpa loss:

WTWSC7	19.0
WTWSC9	28.0
WTWSC10	38.0

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LOCATE THE FILTER:

V CHECKLIST

1. It is advisable to locate the filter in a protected environment. If the unit is to be installed outside, or in the open, a protective shelter or shed is recommended.
2. The distance between the filter and a drain or waste outlet should be as short as possible.
3. The filter should be in an easily accessible area for access to the control valve, for salt refilling and to facilitate servicing.
4. Hot water can severely damage the filter. If installing near a hot water service, ensure a minimum of 2 metres of piping is between the outlet of the filter and the inlet of the heat to avoid heat transfer. Ensure a non-return valve is put in place on the inlet of the hot water system and is functional.
5. Do not install filter where it or its connections (including drain and overflow lines) will ever be subjected to ambient temperatures under 1°C or over 49°C.
6. Do not install the filter near chemicals or chemical fumes.
7. Do not install the filter near chemicals or chemical fumes.
8. It is advisable to locate the filter in a protected environment. If the unit is to be installed outside, or in the open, a protective shelter or shed is recommended.

MEDIA LOADING & FILTER ASSEMBLY:

The filter is pre-loaded with A860 resin:



8. Remove the nut from the brine elbow on the control valve (Fig.A). Insert the 3/8 tube through the nut. Slide the olive onto the tube with the conical end of the olive facing out. Insert the white plug into the end of the tube and hand tighten the assembly onto the brine elbow thread.

9. Fit the other end of the tube into the brine elbow inside the brine tank (Fig.B). The brine tube should run straight to the brine tank and not be looped or rise higher than the brine elbow on the valve, cut to length if necessary. Push-fit the 3/8 tube into the brine elbow located on the brine riser pipe in the brine tank. Ensure the end of the tube is not frayed or damaged and is pushed all the way into the elbow.

Fig. A



Fig. B



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V CHECKLIST

WATER CONNECTION:

10. If not fitted, fit the bypass valve (Fig C) to the control valve inlet and outlet by screwing on the knurled nuts to the male threads of the control valve. **Hand tighten only.**
11. Fit the inlet and outlet adaptors (Fig C) to the bypass valve. Hand tighten only.



12. Connect the incoming and outgoing water lines to the inlet & outlet adaptors. Looking front-on at the valve the inlet is at the back of the valve on the right-hand side and the outlet on the left-hand side. Flow direction arrows are molded on the valve barrels to show the correct flow direction.

LOAD SALT:

13. Remove the lid from the filter brine tank and pour softener salt into the tank (Fig D). A minimum of 1 bag of salt is required, however the tank can be loaded with salt to the top of the brine well.
14. Pour approx. 15 liters of water into the brine tank.



DRAIN & OVERFLOW LINE CONNECTIONS:

14. If ideally located, the filter will be above, and not more than 6 metres, from the drain. Connect 20mm (3/4") hose and hose clamp (not supplied) from the valve drain fitting to the drain (Fig. E)
IMPORTANT: Support the hose or tube to prevent kinking. A kinked hose will prevent proper backwash and regeneration.
15. If the filter is located where the drain lines must be elevated, you may elevate the lines up to 2 metres providing the run does not exceed 5 metres and the water pressure at the filter is not less than 280kpa. You can elevate an additional 610mm for each additional 70kpa pressure.
16. Where the drain line is elevated but empties into a drain below the level of the control valve, form a 180mm loop at the far end of the line so that the bottom of the loop is level with the valve drain line connection. This will provide an adequate siphon trap.
17. Where a drain empties into an overhead sewer line, a sink-type trap must be used.

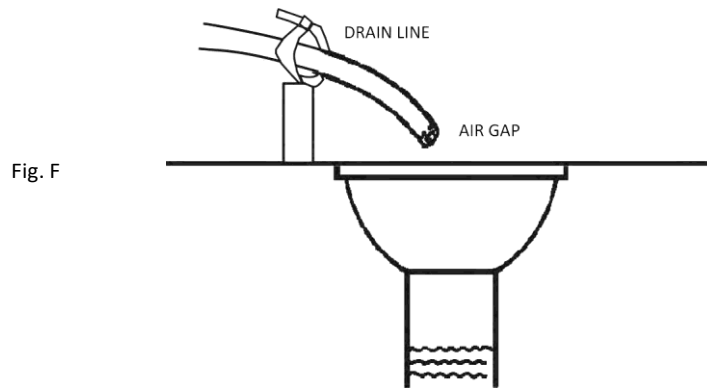


Fig. E

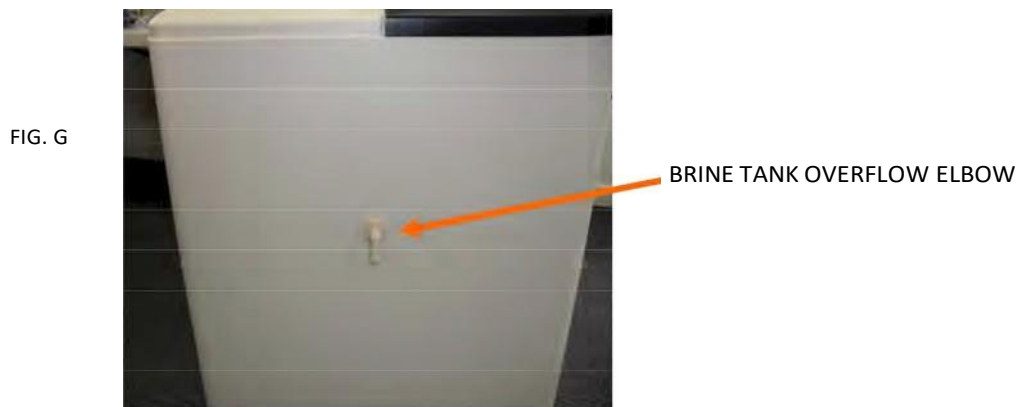


CAUTION!

Never connect the drain line or overflow line direct into a drain, sewer line or trap. Always allow an air gap between the drain line and the wastewater to prevent the possibility of sewage being back siphoned into the softener (Fig. F)



18. Fit a 12mm (1/2") hose onto the overflow elbow on the side of the brine tank (Fig G) . The hose should run to drain. Allow an air gap between the hose end and the drain as per (Fig F).



Final Steps: Set 'Time Of Day' and regenerate filter

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SYSTEM START-UP

The final steps before putting the filter into service:

- Set the actual time of day into the control valve
- Regenerate the filter



Setting Time of Day

Push NEXT until time of day screen is displayed. Press and hold K or V until the SET indicator is displayed, and the hour flashes. Press A or V until the correct hour is displayed.

Then press NEXT. The minutes will flash. Press A or V until the correct minute is displayed.

Press NEXT to return to the Display Screens. Time of day should only need to be set after power outages lasting more than 8 hours, if the battery has been depleted and a power outage occurs, or when daylight saving time begins or ends. If a power outage lasting more than 8 hours occurs, the time of day will flash on and off which indicates the time of day should be reset. If a power outage lasts less than 8 hours and the time of day flashes on and off, the time of day should be reset, and the battery replaced.

Regenerate the filter

1. Press and hold the REGEN button for three seconds until the drive motor starts.
2. Open the inlet water supply valve very slowly allowing water to fill the tank in order to expel air. CAUTION: If water flows too rapidly, there could be a loss of media out of the drain.
3. When the water is flowing steadily to the drain without the presence of air, fully open the water supply inlet valve.
4. Allow the filter to complete the regeneration cycle.

INSTALLATION COMPLETE.

IMMEDIATE REGENERATION FEATURE:

A regeneration can be initiated at any time by pressing and holding the REGEN button for 3 seconds.

NEXT button



REGEN button

