

Domestic water softener

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Thank you for purchasing this Water Softener. Please read these instructions and warnings carefully before use, to ensure safe and satisfactory operation of this product.

Keep this manual in a safe place for future reference.

Location

The water softener should be fitted as close as possible to the rising main (stop cock), along with the drain and overflow facilities (typically under the sink). Any drinking water and garden taps should be plumbed from the mains before the inlet supply to the water softener. We recommend that the distance from the softener to the drainage point should be as short as possible to avoid possible bending or kinking of the pipe.

The softener must NOT be positioned where it or any other connections, which include the drain and overflow, are subject to room temperatures under 1°C (34°F) or over 49°C (120°F). If positioning the softener within a cupboard, the cupboard base must be adequately supported. If the softener is to be installed above ground level, e.g. within a loft, the following instruction must be applied: The softener should be installed within a container to which an overflow pipe with a minimum ¾ inch diameter is fitted. The overflow should be a minimum of six inches below any electrical connection mounted on the softener. Please allow room for filling with salt, and maintenance of the system.

Plumbing Systems

Vented systems

For vented plumbing systems with cold water storage tanks, the softener should be installed using a 15mm fitting kit.

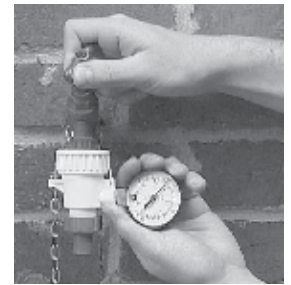
Unvented fully pressurised systems

These modern systems require high flow rates. The softener should be installed with a 22mm Hiflow fitting kit.

Backflow prevention valve

A non-return valve complying with BS EN 13959:2004 should be correctly fitted.

Fig. 1



Drinking water

Your water supply to the tap used for drinking water must be untreated (hard water). See **Fig. 2** as recommended by British Water

1. Water pressure test

High water pressure can potentially damage the water softener, and therefore a water pressure test must be carried out to ensure efficient operation of your water softener. Use a pressure-testing gauge on the kitchen or garden tap as in **Fig. 1**. The daytime pressure must be within the limits of minimum pressure 25psi (1.7 Bar) & maximum pressure 70psi (5.0 Bar). If the daytime pressure exceeds 70psi a pressure-limiting valve must be fitted. However, if daytime pressure is below 25psi a pressure pump is required.

2. Installing the inlet, outlet & bypass valves and hard supply to drinking / garden taps

Switch off the mains stopcock and drain off any excess water left in the rising main. Immediately after the mains stopcock, tee off your hard drinking water tap and any garden taps. The non-return valve should be installed between hard water tee-off point and the inlet to the water softener. Install the 3 valves (inlet, outlet and bypass) as shown in **Fig. 2**. If required (see section 1) a pressure-limiting valve should be installed before the inlet to the softener.

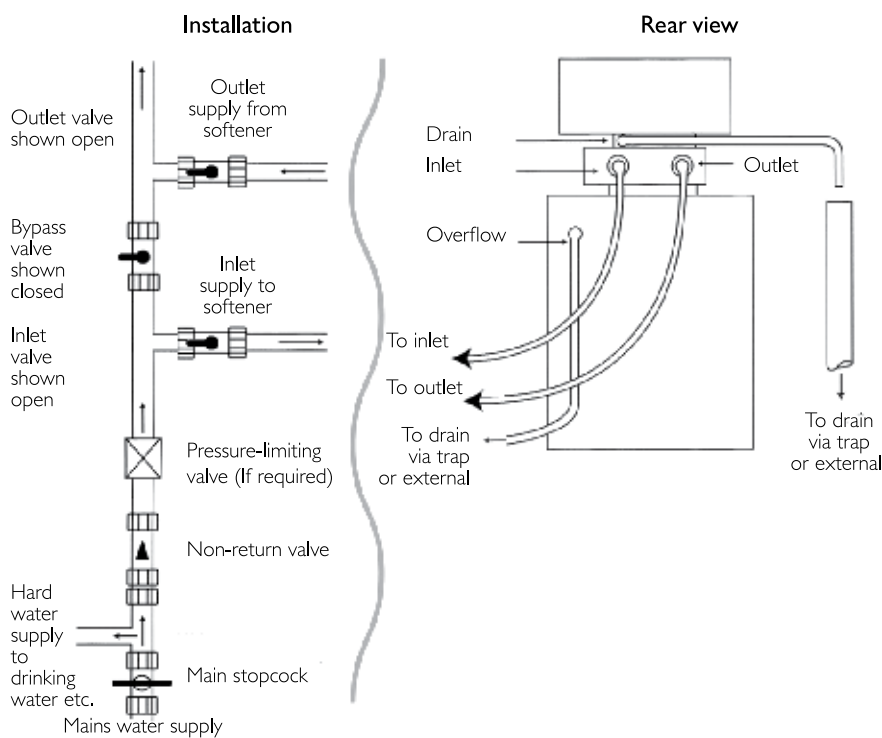


Fig. 2

Fig. 3

3. Connecting inlet/outlet hoses

Connect hoses to the inlet and outlet connection on the rear of the water softener **Fig. 3**. The hoses should be hand-tightened, and then turned another half a turn using hose pliers. Connect the hoses to the inlet and outlet taps in the same manner. Do not use washing machine hoses as they can contaminate the water.

4. Drain connection

Use an appropriate drain/overflow hose. Connect the drain hose onto the barbed connector as shown in **Fig. 3** and secure with a jubilee clip. The drain operates under mains pressure, therefore can be elevated (see below). It can also be extended up to 20ft using 15mm copper pipe, provided there is a minimum of 40psi pressure. Run the drain hose to a standpipe or drain. Always ensure an air gap exists between the end of the drain hose and drain water level. The drain hose must not be kinked or restricted in any way, as this will cause the softener to overflow.

If the drain hose is run outside, it must be insulated to prevent it from freezing, which would cause the softener to overflow.

Elevated drain hose

The drain hose can be elevated 8ft (2.45m), provided there is a minimum of 40psi and a further 2ft (60cm) for every additional 10psi.

5. Overflow connection

Cut the required length of pipe from the drain hose and connect to the ½ inch hose spigot on the rear of the cabinet. **The over flow must not be elevated.** The overflow must be run downhill to the outside of the building or to a standpipe. No securing clip is required. The overflow must not be kinked or restricted and must not be allowed to discharge where damage could occur.

6. Power to the softener

The softener is powered by a 24V transformer with a UK 3 pin plug.

7. Set programme

Using a hardness test kit to find out your water hardness. Refer to relevant programming instructions on the following pages to set programmer.

8. Switch on water supply and test

Turn on the mains stopcock. Open the inlet valve to the water softener slowly, then open the outlet valve and close the bypass valve (see **Fig. 2**). Check all the connections for leaks; water is now passing through the water softener. The first water drawn off may be amber coloured. This is quite normal.

9. Prime salt tank

Prime salt tank with 4 litres (one gallon) of water.
This is only required when the softener is first installed.

10. Salt

We recommend the use of salt tablets or block salt in your water softener. Fill the cabinet to approximately 2 inches (5cm) from the top of the water softener. The softener will require topping up once the salt has dropped to within 3-4 inches (8-10cm) from the bottom of the cabinet.

11. Servicing

It is recommended that your water softener be serviced every two years.

- **This product should only be repaired or serviced by an authorised service engineer and only genuine approved spare parts should be used.**

12. Switching off your water softener

To switch off your water softener close the inlet and outlet valves and open the bypass valve. All three valves must be turned to 90 degrees. As shown in **Fig.4**

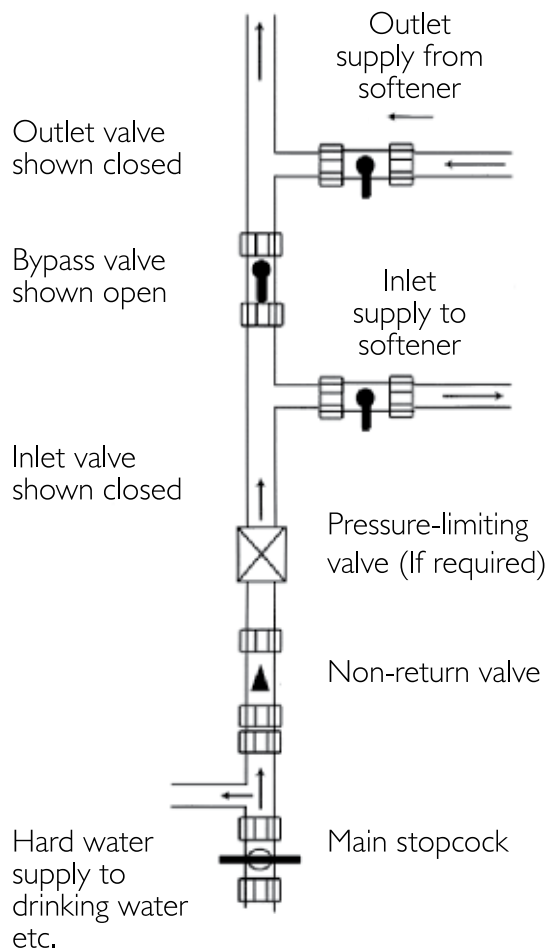


Fig. 4

Electronic control programming instructions

Display

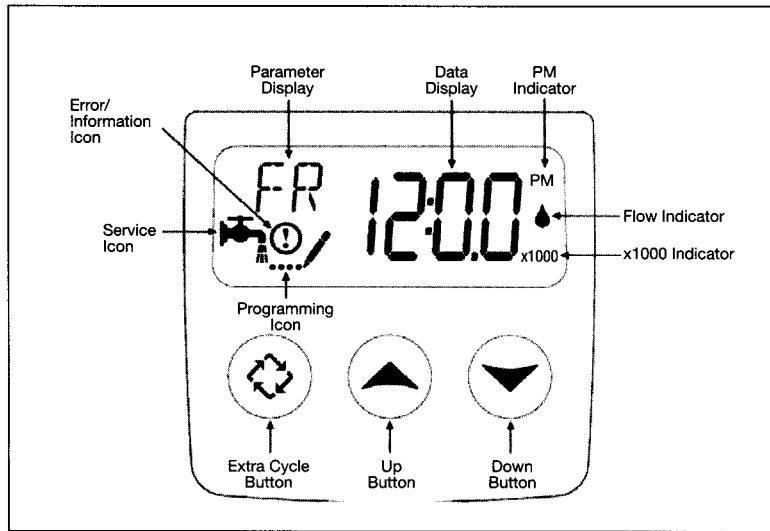


Fig 1 Display

1. Obtain your water hardness in Degrees Clarke with a hardness test kit.

The timer display alternates between remaining capacity shown in litres and the time of day. The time of day is indicated by two flashing dots between the middle digits.



Fig 2

2. Setting the Time of Day

Press and hold either the Up \triangle or Down ∇ button until the parameter display reads TD. Adjust the displayed time with the Up \triangle & Down ∇ buttons. When the correct time is set press the extra cycle $\textcircled{\curvearrowright}$ button to return to normal operation or if left for 5 seconds this will happen automatically.

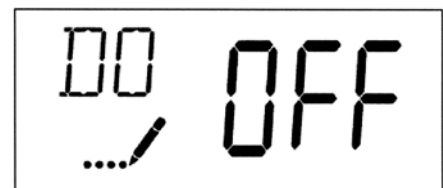


Fig 3

3. Programming Water Hardness

Press the Up \triangle & Down ∇ Buttons for 5 seconds while in service. The display will change and the parameter display will read DO and the Data display will read OFF. This is factory set should the Data display show a number use the Up \triangle or Down ∇ button until the display reads OFF.



Fig 4

Press the Extra Cycle $\textcircled{\text{↻}}$ button once and the parameter display will read RT, the Data display will read 2:00. This is the time of regeneration, should you require a different time of regeneration use the Up \triangle or Down ∇ button until the desired time is displayed.

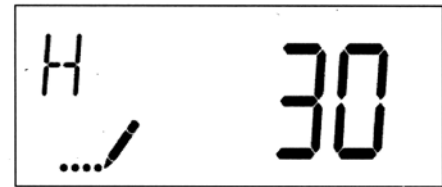


Fig 5

Press the Extra Cycle $\textcircled{\text{↻}}$ button once and the parameter display will read H, enter your water hardness using the Up \triangle or Down ∇ buttons until your water hardness is displayed. Fig 5 shows a hardness of 30.

Press the Extra Cycle $\textcircled{\text{↻}}$ button once and the parameter display will read RC, (see fig 6); then refer to chart Fig 7, your reserve capacity to be programmed is determined by the number of people in your household. Use the Up \triangle or Down ∇ buttons to programme in your reserve capacity.

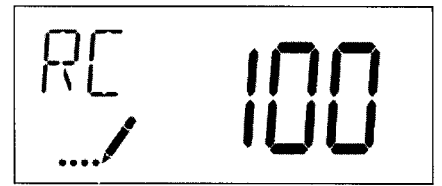


Fig 6

PLEASE NOTE the maximum reserve capacity that can be programmed is 50% of the Softeners total capacity (which alters depending on your water hardness) therefore if the unit returns to 0 before you have reached the figure shown in Fig 7 set to the highest number the softener will allow.

Number of persons in Household	1	2	3	4	5	6	7	8
Reserve Capacity to be programmed	160	320	480	640	800	960	1120	1280



Fig 7

Press the Extra Cycle button once more, the programming is now complete.

The display will now alternate between the time of day and the remaining capacity in litres. The time of day is indicated by two flashing dots between the middle digits.

Extra Regeneration Cycle

To activate an Extra Regeneration Cycle you have two choices:

1. Press the Extra Cycle  button, the service icon will flash, the Water Softener will now regenerate at the pre-set regeneration time.
2. Press and hold the Extra Cycle  button for 5 seconds, this will activate a regeneration immediately.

In both cases once the regeneration cycle is completed the Water Softener will automatically revert to regenerating on demand.

During the regeneration cycle the timer will display the cycle stage that it is in and how many minutes remain in that stage. Fig 8 shows the softener in the Rapid Rinse cycle with 10 minutes remaining.

Flow Indicator

When the water is passing through the water softener the flow indicator will flash.

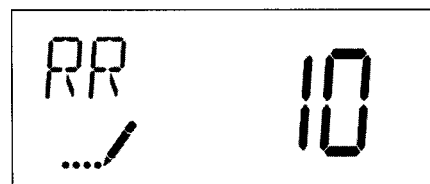


Fig 8

Some more information to help you!

- 1. How does my Water Softener work?** Think of your machine as a 'water washing machine', it simply washes the hardness out of your water, it works automatically and rarely requires adjustment apart from adding salt as required. (See Question 7).
- 2. What is a Regeneration and when does it happen?** The ion exchange resin bed inside your water softener becomes exhausted every few days and needs to be flushed clean with a brine solution to resume softening your water again. This process takes place automatically as the water softener meters the water you use before regenerating usually at 2am.
- 3. How do I know if it's working?** The main way you can tell is when you wash your hands, they will lather quickly however if you are in any doubt use a hardness test kit which was supplied with your softener.
- 4. It's not making a noise?** That's fine, it's simply working normally.
- 5. It's making a noise?** Then it's regenerating, you will hear occasional whirring and some water swooshing noises, nothing to worry about and all perfectly normal.
- 6. Why is Salt used?** Salt is the cleaning agent used to make the brine that cleans the softeners ion exchange resin bed. Salt never enters your soft water, it's simply flushed down the drain during regeneration.
- 7. What type of Salt and how often do I top up?** You can use either tablet or block salt in your water softener, top it up no higher than 2-3 inches from the top of the cabinet lid. Thereafter top up your salt either once a week or you can wait until the salt level has fallen to about 4-5 inches from the bottom. Your salt usage will depend on your household water usage, how hard your water is and your water softeners resin bed capacity.
- 8. Does it need servicing?** We recommend that a routine service is carried out on your water softener on a regular basis, certain models have extended guarantees that make a service obligatory for the guarantee to be maintained.
- 9. How long does the resin bed last?** Your resin bed is likely to last many years if looked after, 10 to 15 years is not uncommon however it depends on its usage pattern throughout its life.
- 10. Where do I find my softeners serial number?** This will be found on the control valve.
- 11. How can I bypass my water softener?** Look for the label on the underside of the salt lid or on page 7 of this installation manual for the correct procedure.

 Retain these instructions for future reference.