Water Softener Installation & Operating Guide

Manual 001.6

Thank you for purchasing this Softener. We are sure that it will provide you with trouble free service for many years to come. Please use the following pages to assist you in the installation and set-up of your new Softener.

Identifying your Softener.

Your softener will have a identification label fixed to the outer carton and the control valve, this will look similar to the picture shown here.
The information listed can be read as follows:

4202035013
SNo 08090137
Mis
0919-255-760

Stock Number:	Manufacturers part number.
Serial No:	Serial No.
Id Code:	Softener type identification code.
Configuration:	Vessel size, Valve type & Controller type.

Identify the settings relevant to your softener from the chart below by looking at the vessel size and controller type.

General Information

Valve Connections
255 Valve Inlet and Outlet ¾", Drain ½" barbed fitting, Overflow ½" Barbed
268 Valve Inlet and Outlet 1", Drain ¾" barbed fitting, Overflow ½" Barbed

Power Requirements:	240V (12V, 50Hz , 3 amp plugin transformer supplied)
Inlet water pressure:	Min 20psi , Max 120 psi
Working temperature:	Frost free, max temp 40°C

The softener may or may not be supplied with connection hoses, drain hoses and or a bypass valve depending on your order; these are generally available to order separately if required, please contact your supplier.

Planning Your Installation.

Please observe the regulations concerning the installation of your water softener. For guidance check out the water regulations advisory service web site (www.wras.co.uk). Check that you only have one rising main, that you have allowed space for access to the unit for possible future maintenance and salt replenishment. Check the water pressure; locate the rising main (stop cock) a drain facility and a power supply.
Unless you are replacing an existing water softener, this installation will require you to carry out plumbing work and may require an electrical outlet to be fitted near the softener, this should be carried out by a qualified person.

Positioning the Softener.

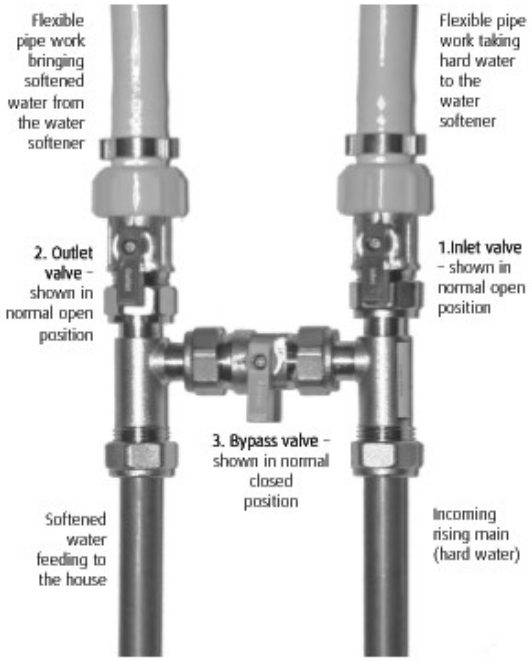
Where possible the softener should be placed close to the rising main. Take care to allow hard water take off points for a drinking water facility and /or an outside tap. The distance between the drain and the Softener should be as short as possible. Ensure that both the drain and overflow will not freeze or reach a temperature above 40°C. If putting the Softener within a cupboard ensure that the base is adequately supported. If the Softener is being installed within your loft etc it is recommended to house the Softener within a tank capable of storing at least 100 Litres with an overflow fitted. The overflow on the tank should be below the Softener overflow and be a minimum of ¾" in size.

A single Check Valve.

A suitable check valve should be fitted. This will usually be in the installation kit that can be ordered separately.

Check List.

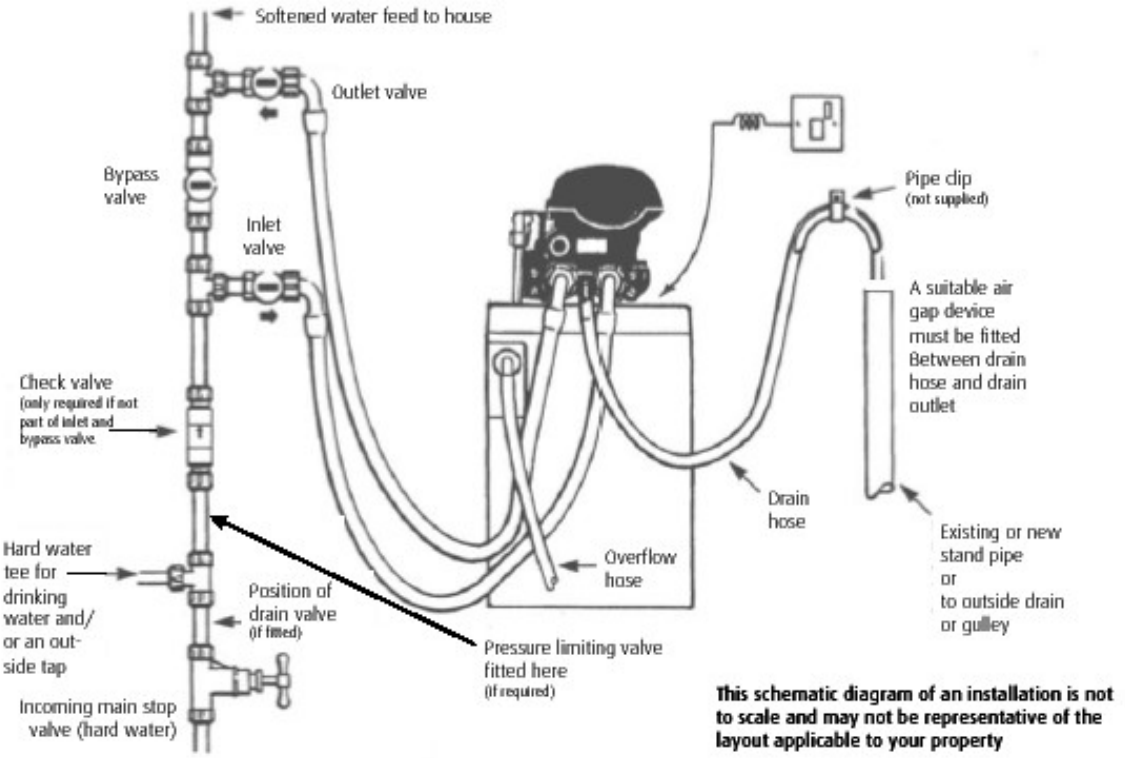
Before you start the installation make sure that you have all the necessary fittings. The purchase of one of our standard installation kits will normally ensure that you have everything that you need for a typical installation.



Water Pressure Test.

It is important that a pressure test is carried out. High and low water pressure can result in either damage to or failure of the Softener. Although the Softener is tested to a pressure of 8 bar (120psi), we recommend the fitting of a pressure limiter should your pressure exceed 5 bar (70 psi). The minimum working pressure is 1.4 bar (20 psi)

Before starting the installation of the valves ensure that the stop cock is in the closed position.



Connecting the Softener.

Once you have completed the installation of the valves set the valves as follows:
Softener Inlet and Outlet valve CLOSED, Bypass valve OPEN

You can now safely return the stop cock to the open position. Using the hoses provided (if installation kit ordered) connect the straight end of the hose having first inserted the washer provided to the softener inlet and outlet valves. Connect the angled end to the Softener. The Softener inlets and outlets should be indicated either with the words inlet or outlet or with an embossed directional arrow on the Softener tails. Normally the Softener tails are in a configuration of three with the centre normally being the waste outlet.

Waste Pipe Installation.

Connect the waste pipe to the waste outlet on the Softener and run the hose to either an up stand or outside drain, a minimum air gap of 20mm must exist at the end of the drain line. Softened water will have no adverse effect on a septic tank. Should you need to extend the drain hose this can be done by connecting to a 15mm copper tube for a maximum run of 8 meters with a minimum daytime pressure of 40 psi. Ensure that the drain hose is not kinked or obstructed in any way as this will lead to an overflow of the softener. The drain pipe can run uphill to a maximum of 1 Meter with a minimum water pressure of 40 psi.

Overflow Connection.

The overflow connection is the white ½" hose spigot on the rear or side of the cabinet. A clip is not required for this connection. The overflow must be run downhill through an outside wall without kinks or restrictions. It is recommended the overflow hose be visible when it exits the outside wall.

Electrical Connection.

Connect the transformer provided to a continuous electrical supply with the power off. Plug the flying lead from the transformer into the electrical connection on the controller (see programming instructions). Ensure the flying lead cannot get caught on the camshaft or any moving parts on the Softener valve.

Preparing the Softener to go into service.

Now that all the connections have been completed put approximately 5 litres of water into the brine tank. You may also at this point put a quantity of salt into the tank. Do not allow the salt level in the brine tank to exceed the height of the overflow. The amount of salt used will depend on the type and model of Softener you have, you should never let the brine tank become completely empty of salt and it is advisable to check the salt levels on a regular basis until a usage pattern has been established, normally the salt level should be above the water line.

Putting the Softener into service.

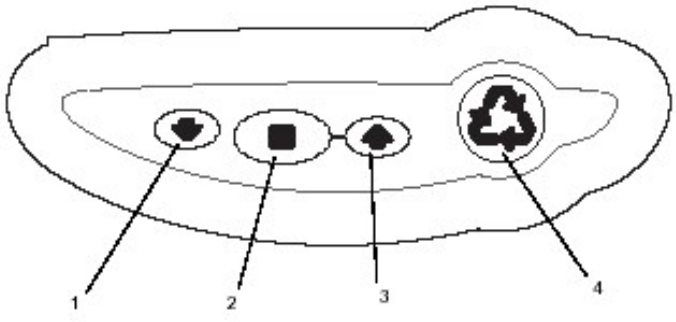
You should now complete any programming instructions that may apply to your particular Softener. During the commissioning process and initial regeneration you can confirm that the unit has no leaks from the installed valves and that waste water runs freely. This regeneration will also assist in cleaning any potential air locks that may be present within the system.
The regeneration will also reset any internal meter or timer devises that dictate the frequency of the regeneration cycle.

Quick Set Up Guide

The main user guide should only be used for reference purposes, please use this guide for initial programming.

Your Softener should already have been set up with the basic settings in the factory

The only settings you should need to enter are the time of day, day of week and the water hardness where applicable.



1. Down arrow. Used to scroll down or increment through a group of choices.
2. Set. Used to accept a setting to store in the memory.
3. Up arrow. Used to scroll up or increment up through a group of choices.
4. Regenerate. Used to command the controller to regenerate.

Before starting this process ensure that the softener is connected correctly to the water and power supplies.

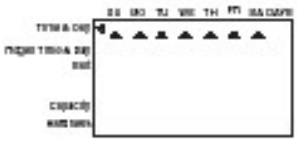
Initial Power Up.

Plug the transformer into the rear of the control panel; this is located to the left top corner of the panel if viewing from the front. Once the power is connected the display may briefly show the valve type (255 or 268). The valve type will be printed on the side of the valve and should also appear on the delivery documentation. On occasions the display may flash between time and regeneration with the regen symbol flashing, Press the set button to clear this.
Note: During the set-up process the display may revert to service mode (after 25 seconds).

By repeatedly pressing the set button you can scroll to the part of the set-up programme you require. If you receive an ERR3 message allow the cam shaft to turn for a few moments and this code should disappear. If the cam does not move Check that the Cam Shaft is fitted correctly, and that the optical sensor is in position.

Set Time.

Press the set button. The TIME should now be flashing, use the up and down arrows to set the correct time of day (24hrs format). Once the correct time has been selected, press the set button to confirm. The menu moves on to Set Day of the week,

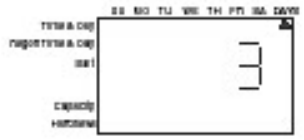


Set Day of the Week.

An arrow will display under a day, press the set button to make it flash then use the up and down buttons to advance the arrow to underneath the correct day. Once under the correct day press the set button to confirm. The arrow will stop flashing and the menu will move on to Regeneration Time.

Time at which Regeneration will occur.

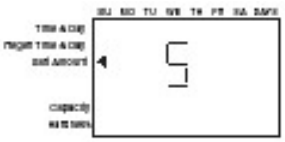
In this instance the system will regenerate at 02:00. To change press the set button to make the time flash then up/down arrows to change then set button to accept (stops flashing). The menu moves on.



Calendar Override

(760/762 Metered units only). The softener should regenerate automatically based on how much water is used. An override can be set it will regenerate anyway (this helps keep it clean when there are low usages). Press the set button to make the display flash, use the up and down arrows to advance to the required setting then press the set button to confirm. Move on.

(740/742 Timer units only) In Timed softeners use this setting to set the frequency of regeneration. Eg Regenerate every 3 days.

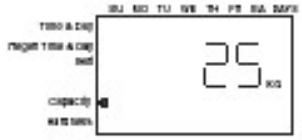


Salt Setting

This is the amount of salt used when the softener regenerates.

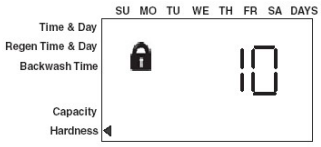
740/760 Models: This display will show an L (Low), or S (Standard), or H (High). Typically set on S. Press set to change then arrows. Set again to accept. Press the set button to advance to the next setting.

742/762 Models: The grams per litre of salt can be set. Typically, its set at 140g/l. Use the set button to make the value flash then the arrow keys to change then set to confirm.



Capacity Setting (760/762 Models only)

This is the amount of hardness (scale) the softener can remove (Kg). This figure will be pre-set at the factory. Press the set button again to advance to the next setting. **Not adjustable on 740 or 760 models.**



Setting the Hardness.

The hardness will be displayed (as parts per million Calcium Carbonate). A typical value in the UK is 300 ppm. Press the set button and the display will flash, use the up and down arrows to enter the water hardness in ppm then press the set button to confirm. setting.

The display should then revert to the time display.

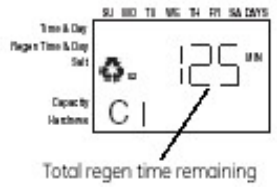
Once you are satisfied that the Softener is both plumbed in and set up correctly it is ready for commissioning.

Normal Display

During normal valve operation the **740/742 will display the time of day**.
The **760 will alternate between the time of day and the volume of water remaining in cubic meters** before the system will need to regenerate. The **762 controller will alternate between water flow (litres) and the volume of water remaining in cubic meters.**

Commissioning the Softener

Close the stop cock again and then open the inlet and outlet valves to the softener. Press and hold the regenerate button (4) you should hear the cam rotate and the following display will appear, when the cycle indicator shows C1 slowly open the stop cock about a quarter of the way, this will purge the air from the system. When all the air has been purged from the system (water will begin to run steadily from the drain) open the water supply fully, this will purge the final air from the system.



Advance the regeneration cycle to the (Refill) position C8 by pressing the set button and the up arrow! Wait until the cam stops before repeating the operation and continue to do this until you reach C8. When in C8 this will direct water down through the regenerant line to purge the air; when all the air bubbles have gone and the glass chamber is full, press the set button and up arrow to move the cycle onto C0 service position.

Finally turn on a tap after the softener until the water runs clear.
Your softener is now ready to supply your property with soft water. Please bear in mind that it may take some time for soft water to reach all outlets in your home.

It is advised that you instigate a delayed regeneration for the first night (see below)

Manual Regeneration.

This softener can perform two different types of manual regeneration either immediate or delayed.

Delayed Regeneration.

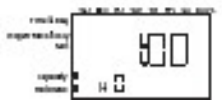
Press and release the regeneration button once. The regen symbol will appear and flash on the display. A single regeneration will start at 2am (preset regen time) if you wish to cancel this delayed regen simply press the regeneration button again and the symbol will disappear from the display.

Immediate Regeneration.

To perform an immediate regeneration press and hold the regen button for 5 seconds until the cam starts to turn and the egg timer shows.

To Re Set the Control

Only to be done when necessary.



1. Press and hold SET and DOWN together for 5 seconds.
2. H0 and the system's resin volume for model will be displayed.
3. Press and hold the square set button for 5 seconds, three dashes should then appear on screen.
4. Use the up or down arrows to select the correct or nearest media volume of your softener.
5. Press the set button to accept this setting.
6. Refer to the earlier set up guide for the other settings.

WARNING: Resetting the control will delete all information stored in its memory. This will require you to reprogram the control completely from the initial power up mode.

Trouble shooting

Following you can find a guide as to the most common problems that may arise; please consult this section before contacting you supplying dealer as most problems are easily cured by following this information.

700 Series Controller Troubleshooting.

Problem	Possible cause	Solution
ERR 1 is displayed.	Controller power has been connected and the control is not sure of the state of operation.	Press the up arrow and the control should reset.
ERR 2 is displayed	Controller power does not match 50 or 60 Hz	Disconnect and reconnect the power. If the problem persists, obtain the appropriate controller or AC adapter for either 50 or 60 Hz power.
ERR 3 is displayed	Controller does not know the position of the camshaft. Camshaft should be rotating to find home position.	Wait for two minutes for the controller to return to home position. The hour glass should be flashing on the display indicating the motor is running.
	Camshaft is not turning during ERR 3 display.	Check that motor is connected. Verify that the motor wire harness is connected to the motor and controller module. Verify the optical sensor is connected and in place. Verify that motor gear has engaged cam gear. If everything in connected, try replacing in this order: Wire harness Motor Optical sensor Controller
	If camshaft is turning for more than five minutes to find home position.	Verify that the optical sensor is in place and connected to wire. Verify that the camshaft is connected appropriately. Verify that no dirt or rubbish is clogging any of the cam slots. If motor continues to rotate indefinately replace the following in this order: Wire harness Motor Optical sensor Controller
Four dashes displayed	Power failure occurred	Press SET to reset time display.

System Troubleshooting

Problem	Possible cause	Solution
1. Regenerant Tank Overflow. See also 4.	a. Drain line restricted. b. Uncontrolled refill flow rate c. Air leak in regenerant line d. Drain control clogged with resin or other debris. e. Sinking air check ball (255 only) f. Incorrect drain control fitted. g. Regenerant valve disc 1 being held open. h. Valve disc 2 not closed during regenerant draw causing a refill.	a. Check the drain line is not blocked or kinked. b. Remove refill flow control to clean ball and seat. c. Check all connections in regenerant line for leaks. d. Clean drain control. e. Replace air check ball. f. Too small of a drain control with a larger injector may reduce draw rates. g. Remove obstruction. h. Remove obstruction.
2. Water flow from drain or regenerant line when in service.	a. Flapper valve return spring weak. b. Debris stopping flapper valve from closing.	a. Replace valve spring. (contact dealer) b. Remove debris.
3. Hard water after regeneration.	a. Incorrect / failed regeneration. b. Leaking external bypass valve. c. O-Ring around riser damaged. d. Capacity too low due to incorrect setting.	a. Repeat regeneration after checking settings. b. Replace bypass (contact dealer) c. Replace O Ring (contact dealer) d. Check settings and adjust if required.
4. Will not draw regenerant or intermittent or irregular draw.	a. Low water pressure b. Drain line restriced. c. Injector plugged. d. Injector defective. e. Flapper valve 2 &/or 3 not fully closed. f. Air check prematurly closed.	a. Fit pump (contact dealer) b. Check the drain line is not blocked or kinked. c. Clean injector and screen. d. Replace injector. e. Remove debris, check flapper for closing or replace. (contact dealer) f. Put control into refill C8, replace or repair air check if needed. (contact dealer)
5. System will not regenerate automatically.	a. Power not connected. b. Defective motor c. Fouled or defective turbine d. Defective turbine cable.	a. Connect power. b. Replace motor. (contact dealer) c. Clean or replace turbine. d. Replace turbine cable.
6. System regenerated at the wrong time.	a. Settings incorrect.	a. Correct settings.
7. No conditioned water after regeneration.	a. No salt in regenerant tank. b. Injector plugged. e. Air check closes prematurely.	a. Add salt to regenerant tank. (Salt must be above the water level) b. Clean injector and screen. e. Check connections for air leaks and check air check ball (255) floats. See also 1.e. & 4.f.
8. Backwashes at excessively low or high rate.	a. Incorrect drain controller used. b. Debris affecting valve operation.	a. Replace with correct size. b. Remove drain controller and clean. volume to correct setting.

System Troubleshooting

Problem	Possible cause	Solution
9. Valve will not draw brine.	a. Low water pressure b. Drain line restriced. c. Injector plugged. d. Injector defective. e. Air check closes prematurely.	a. Fit pump (contact dealer) b. Check the drain line is not blocked or kinked. c. Clean injector and screen. d. Replace injector. e. Put control into brine draw C2 to check. Repair or replace if needed.
10. Uses more or less salt than setting.	a. Foreign matter in valve causing incorrect flow rates.	a. Remove brine control and flush out any debris. Put system through a regeneration to flush valve.
11. No water flow display on metered valves.	a. Bypass valve in bypass. b. Meter probe not connected to control or turbine housing. c. Restricted turbine rotation due to foreign matter in turbine.	a. Open bypass. b. Connect correctly. c. Remove and clean turbine, Turbine should spin freely, if not replace.
12. Run out of conditioned water between regenerations.	a. Impropper regeneration. b. Incorrect regenerant setting. c. Incorrect hardness or capacity settings. d. Water hardness has increased. e. Restricted turbine rotation	a. Repeat regeneration after checking the correct regenerant doseage is set. b. Set correct salt setting. c. Set to correct values. d. Set hardness to new value. e. See 11.c

Certificate of Warranty

This product comes with a two-year warranty from the date of installation.

The warranty covers this product for two years from installation for defective materials and workmanship under normal use; when installed and operated within recommended parameters. No warranty is made with respect to defects not reported within the warranty period and/or defects or damages due to neglect, misuse, alterations, accident, misapplication, physical damage, fire, acts of God, freezing, hot water or similar causes. For outdoor installations where the Softener is not under cover a suitable weatherproof and insulated cover must be used for the warranty to remain valid.

In the event of a fault appearing within the warranty period it must be reported immediately by the customer and the goods returned for inspection or be made available to inspect in situ at the manufacturer's discretion. Should the failure be due to manufacture or other workmanship it will be repaired or at the manufacturer's discretion replaced free of charge, and will be returned carriage paid, a refund will be issued for its returned carriage. If the failure is found not to be covered by warranty the customer will be responsible for the carriage and will be advised of the repair costs before proceeding.

Declaration of Conformity

Applies Council Directive(s):

Electromagnetic Compatibility Directive 89/336/EEC as amended by Council Directive 92/31/EEC and Council Directive 93/68/EEC, Low Voltage Directive 73/23/EEC as amended by Council Directive 93/68/EEC.

We,

Manufacturer: Kennet Water Ltd
41 Bone Lane
Newbury
Berkshire
RG14 5SH

Contact: Tel: 01635 30805
Fax: 01635 524584
Email: sales@kennetwater.co.uk

Declare under our sole responsibility that the product(s),

Softeners using Model 740, 760, 742, 762 & 606 controls, which are designed as primary controls to direct and regulate all cycles of a water softener or filter,

_____

To which this declaration relates is (are) in conformity with the relevant provisions of the following standard(s) or other normative documents(s):

EN 61010-1:2001	Safety Requirements for Measurement, Control and Laboratory use-General Requirements.
EN 55014-1:2000	Electromagnetic Compatibility-Requirements for Household Appliances, Electric Tools, and similar Apparatus-Part1: Emissions conducted discontinuous disturbance.
EN 5501-2:2000	Electromagnetic Compatibility-Requirements for Household Appliances, Electric Tools, and similar Apparatus-Part 2: Immunity Requirements.

Year of CE Marking: 15

We, the undersigned, herby declare that the product(s) specified above conforms to the listed directive(s) and standard)s)

Signature:_____

Full Name: Neil Grant
Position: General Manager