What to expect from your water softener

All water softeners work on the same basic principal. Hard water flows through a bed of resin and the calcium and magnesium, the minerals that are responsible for hard water are removed. Unfortunately the resin cannot perform this process indefinitely and will require regenerating. Most machines perform this process automatically after a set period of time, or water has passed.

**Salt/Brine Tank**
The water softener that you have purchased is supplied with a brine tank; most models have the brine tank integrated into the softener cabinet (the cabinet space under the lid where the internal tank or tanks are) however on some units this is a separate cabinet. When filling the tank with salt make sure not to over fill, the tank is fitted with an external overflow, never fill above this level. Salt levels should be checked on a regular basis and toped up when required. There is no right or wrong amount of salt to store in the tank. Most customers will eventually develop a routine and automatically top up after a set period of time either weekly or monthly etc. If you notice the tank is completely empty it may be advisable to perform a manual regeneration a few hours after refilling.

**Regeneration Process**
The regeneration process is basically a resin clean, if you think of it like a washing machine cycle, it will perform a number of different processes to clean. Most units will have a fast rinse, slow rinse and pause cycle. During the process water is drawn from the brine tank and flushed through the system, at the end of the cycle water is normally put back into the brine tank in order for the salt to dissolve ready for the next time the machine needs to regenerate. On some units this is delayed until a few hours before regeneration. The level of water that is in the tank will depend on the type, size and water pressure feeding softener. Dependent upon the amount of salt in the softener you may not even see the water level. Once the regeneration is complete the resin will be able to supply soft water to your property.

**How quickly will it start to work?**
The water softener will produce soft water as soon as water passes through it. The size of your property, water usage and water system will determine how quickly you will notice the results. If for example one persons lives in a very large property with water feed from storage tanks (gravity feed system) they may not see a benefit for several months, until all the water that was present in the property has been replaced with softened. A large family in a small property with a direct feed system will find the results appear very quickly.

The water softener does not show any visible signs or make any noise during the water softening process. Water will only enter or leave the salt/brine tank during regeneration. Salt is not used in the water softening process it is only used during regeneration. The only time you will see or hear the softener working is during the regeneration process.

If you require any additional information regarding your particular water softener please contact our technical support team on 0871 890 3334 or email tech@emwc.uk.com

Regards
East Midlands Water. Com
EMWC Water Softener Installation Guide
Effective for all Softeners from the EMWC Range

Planning Your Installation
Always observe the water byelaws. Ensure there is only one rising main, that you have allowed space for access to the unit for salt filling and possible maintenance in the future. Check the water pressure; locate the rising main (stop cock), a drain facility and a power supply.

Siting the Softener
Where possible, this should be close to the rising main. Take care to allow hard water take off points for a drinking water facility and/or an outside tap. For easy DIY installation we recommend the fitting of an EMWC hard or filtered water kit. If the Stopcock is located in an inconvenient position to create a hard water supply we recommend the fitting of an EMWC reverse osmosis system.

The distance between the drain and the Softener should be as short as possible. Ensure that both the drain and overflow are not subject to freezing or over 120°F. If siting 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 25-gallon tank and insulate well. The overflow on the tank should be below the softener overflow and be a minimum of ¾” in size.

Non Return Valve
In single dwellings a single check valve should be fitted. This is supplied with our installation kits that can be ordered separately.

Check list
Dependant upon your installation you may need to purchase 2 T valves if you purchased an EMWC fitting kit all other valves required would be included. Check that you have ordered the correct fitting kit for your installation. Combi boilers require an EMWC Combi Kit, Pressurised system require an EMWC 22mm Fitting Kit.

Water Pressure Test
It is important that a pressure check is carried out. Low and high water pressure can result in either damage to, or failure of the softener. Although the softener is tested to a pressure of 8 bar we recommend the fitting of a pressure limiter should your pressure exceed 5 bar (70 psi) we also recommend that any water appliance should be fitted with a leak controller.

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

DO NOT ADJUST THE RED BAR THIS ONLY TO BE USED BY OUR ENGINEERS
Connecting to the softener

Once you have completed the installation of the valves put the valves into the positions as shown Softener inlet and outlet closed bypass valve open (if you have also installed an EMWC hard water supply kit and have only so far installed the valve also make sure that this is closed) You can now safely return the stop cock to the open position.

Using the hoses provided (if you purchased an EMWC fitting kit) connect the straight end of the hoses 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

All EMWC softeners are provided with a waste hose on some of our units this is preinstalled to the softener. Should this not be the case on your machine use the connection fitting at the end of the supplied flexible pipe to connect to the softener drain connection. Run the drain hose to either an up stand or an 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. If 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 40psi. Ensure that the drain hose is not kinked in any way as this will lead to an overflow of the machine.

The drain hose can run up hill to a maximum of 3 feet with a minimum pressure of 40psi.

Overflow Connection

The hose from the overflow should be cut from the drain hose provided. The overflow connection is the white ½” hose spigot on the rear or side of the cabinet. No clip is required for this connection. The overflow must be run downhill through an outside wall without kinks or restriction. It is recommend the overflow hose be visible when it exits the Outside wall.

Electrical connection

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

Preparing the softener to go into service

Now that all of the connections have been completed it is advisable to put approximately 5 litres of water into the brine tank. You may also at this point but a quantity of salt into the tank. Do not allow the salt level in the brine tank to exceed the height of the overflow. Should you require a salt supply contact 0116 2763334 The amount of salt used will depend upon the type of machine. You should never let the brine tank become completely empty of salt and it is advisable to check the salt levels on a weekly basis until a usage pattern has been established.

Setting the machine to service

Complete the programme sections before setting into service mode.

To set the machine to service simply alter the position of the inlet and outlet valve and turn the bypass valve to the off position. It is recommended that this procedure is completed in the following order.

1. Turn the Softener inlet valve to the on position
2. Turn the bypass valve to the off position. Allow approximately five minutes to allow the incoming water to build a level of pressure before completing step 3.
3. Turn the Softener outlet valve to the on position.

You should now complete any programming instructions that apply to your particular machine and perform a manual regeneration.

A manual Regeneration is performed at this stage to allow you to confirm that the unit has no leaks from the installed valves and the Waste runs free. This regeneration will also assist in clearing any potential air locks that may be present within the system. The regeneration will also reset any internal meter or timer devices that dictate the frequency of the regeneration cycle.

Your machine should now be supplying your property with soft water. If you find that the water feels too soft for you. It is possible to dilute the softness by slightly opening the bypass valve and allow some hard water to blend with the soft.
Set Up and programming Guide

Start Up Programming

Connect the power adapter to a suitable power supply. Once the power supply has been connected the following may appear on the display.

The above indicates that the softener is placing itself into service position.

Overview of the functions

Programming the softener

Once the softener has finished the initialising stage (this may take several minutes from initial power up) once the above is displayed you can now begin the softener programming.

Press the MENU Button
If the Following is displayed

The System will automatically lock the keypad if no buttons are pressed for approx 30 seconds. This may also occur during the programme procedure, press & hold the MENU button for 3 Seconds to unlock the keypad.

Once the display is showing as opposite, press the MENU Button again, to enter the programming mode.

You can advance to different points of the programme by repeatedly pressing the down arrow until you reach the desired section.
Having entered programme mode the display will now change to Show System Language.

**ENG (English) should be highlighted with a black cursor, as shown if correct move to next section.**

*If ENG is not highlighted.*

Press REGEN button, a black cursor will flash behind the country selected. Use the up or down arrow Until the Cursor is behind the correct country then press menu button.

**Press down arrow, if the correct date is shown move to next section.**

**IF Not follow instructions below.**

Year is highlighted, to alter press REGEN and the year will flash, Use the up or down button until the correct year is displayed.

Press REGEN button, Month will now flash, use up or down to set correct Month.

Press REGEN button, day will now flash, use up or down button to set correct day, press REGEN Button.

**Press Down Button The display will now show the hour and minute**

If correct move to next section.

To alter this Press REGEN button the Hour will flash, using the up or down buttons select the correct hour.

Press REGEN, button Minutes will now flash, using the up or down buttons select the correct minute.

Press REGEN Button

Press down button, the display will now show the time for regeneration, if correct move to next section.

*(Meter Delay, Timer or Mixed regeneration setting only)*

The factory set time is 2 am, this is the least likely time that a household will use water. If water is required during regeneration the softener will supply untreated hard water. To alter this Press REGEN button, the hour will flash, using the up or down buttons select the correct hour.

Press REGEN button minutes will now flash, using the up or down buttons select the correct minute,

Press REGEN Button

The display will now show the number of days between regeneration

*(Timer or Mixed regeneration setting only)* On mixed regeneration setting the softener will regenerate on either water consumption or REGEN Days, which ever is the sooner. This figure can be set from 0 to 99 days, we recommend a figure of 7-14 is used. If you are happy with the factory setting move on to next section.

To alter the setting press REGEN button, the cursor will flash, use the up or down buttons to alter the figure, Press REGEN button again.
Regen Capacity
This is the amount of soft water, based on the hardness of your water, and the amount of resin that the softener can produce before regeneration. To work out the capacity figure you will need the following information, your water hardness in PPM & the size of your softener.

Take the capacity figure from the table opposite and divide by your hardness figure, the hardness figure is water hardness in PPM divided by 10.

Example
You have a 6 litre softener with a water hardness of 300ppm

Capacity figure = 36
Divide by
Hardness Figure = 30
Regen Capacity = 1.2m3

Setting REGEN Capacity
Press down arrow, press REGEN button, the capacity figure will flash, use the up or down button to select the correct Figure.
Press the REGEN button, the second part of the number will flash, use the up or down button to select the correct figure,
Press the REGEN button again

If the keypad locks while you are gathering this information press the MENU Button for 3 Seconds, press the menu button again and use the down arrow until the display shows REGEN CAPACITY.

<table>
<thead>
<tr>
<th>Resin Amount</th>
<th>Capacity Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Litres</td>
<td>36</td>
</tr>
<tr>
<td>12.5 Litres</td>
<td>75</td>
</tr>
<tr>
<td>15 Litres</td>
<td>90</td>
</tr>
<tr>
<td>30 Litres</td>
<td>180</td>
</tr>
</tbody>
</table>

Water hardness in PPM divided by 10 = Hardness figure
e.g. 300 ppm divide by 10
Hardness Figure = 30

The Softener Programming is now complete All other settings are factory set and should not be adjusted unless you are advised to do so by a member of our technical department. After 20 Seconds the Display will revert to its normal mode.
Connecting the Softener to your water supply.

The softener is supplied with detachable connection ports. In order to connect the softener ensure that each of the ports is fitted with the 2 O’rings. Remove the red lock key as shown opposite and push the connection port firmly into the inlet/outlet of the softener. Reinsert the red locking key. Repeat this process for the remaining port.

You should now connect your water supply to the softener the water inlet vale is on the right (if you are looking at the softener from front to back) The waste connection should also be fitted to the softener. This is a spigot connection located on the head of the machine. The connection on the Softener casing is an overflow connection.

The softener has been fitted with a by pass option It may be advisable to lessen the valve before turning on the water supply. The valves turn in a clockwise direction and a key is provided to assist in this operation.

Start up process.
With the Key pad Unlocked and the softener in bypass mode, Press and hold the REGEN button for approx 5 seconds. The display will now show the following.
Open the red inlet valve to 25%, Water will now start to enter the unit, Water will also run to waste

It is normal for the water to splutter and spurt during this stage, and the water to have some yellowish discolouration. When the water is running continually to drain for approximately 2 Minutes fully close the inlet valve. Leave in the closed position for approximately 5 Minutes then fully reopen. The regeneration process can be skipped forward by pressing the Menu Button. After pressing Menu allow 20 seconds or so before skipping to the next function. Skip the Regeneration to Refill and allow this process to complete automatically.
Once this process has completed start another regeneration by pressing the REGEN Button. Press the Menu button to skip to the Brining section of the regeneration.
Check that water is being drawn from the brine tank.
You can now skip the remaining regeneration cycles and Open the softener outlet valve and put a quantity of salt in the tank.

The Start up process is now complete.