

# EMS Eco Premier Water Softener User Guide

CLICK ANYWHERE on THIS PAGE to RETURN to WATER SOFTENER DIAGNOSTIC GUIDES at [InspectApedia.com](http://InspectApedia.com)

**Please check your package and ensure you have everything you need for your installation BEFORE you start**

## BOX CONTENTS:



Water hardness  
test kit



**Your EMS Eco Premier  
water softener**



1/2" flexible hose for  
waste **and** overflow  
(approx. 1.5m  
length) You cut this  
into two, to create  
the two hoses



Electrical  
transformer



Installation  
instructions

**IF YOU PURCHASED A 15mm OR 22mm FITTING KIT,  
THIS IS PACKED INSIDE YOUR SOFTENER**

**PLEASE READ THIS INSTRUCTION BOOKLET BEFORE COMMENCING  
INSTALLATION, AS IT CONTAINS USEFUL INFORMATION TO ASSIST YOU.**

**Your 10 year warranty details are stored digitally**

Thank you for purchasing your **East Midlands Water Company EMS Eco Premier water softener**. Soft water will benefit your household in many ways and if you haven't previously enjoyed soft water, you will soon be delighted with the difference it will make to your life.

Your water softener has been packed with care and comes complete with all the components you ordered. If you have ordered a fitting kit for your softener, this will also be included and packed inside the softener. Please make sure you thoroughly check the packaging for all components, before disposal.

This booklet contains your fitting instructions and your programming guide. In addition, you can also find a comprehensive fitting video, featuring this product, on our website. Simply go to

[www.eastmidlandswater.com](http://www.eastmidlandswater.com)

and select 'fitting videos' from the tab at the top of the page.

Your softener will need to be filled and topped up with water softener salt, to maintain the best efficiency. We recommend that you put our specially selected water softener tablet salt in your machine; it comes in easy to manage 10kg bags and we can arrange delivery to your door, making life simple. You will find it competitively priced on our website.

You have chosen the best water softener on the market that will give you many years of excellent service. Welcome to the world of soft water!

*East Midlands Water Company*

**PLEASE READ THIS INSTRUCTION BOOKLET BEFORE COMMENCING  
INSTALLATION, AS IT CONTAINS LOTS OF USEFUL INFORMATION TO HELP YOU.**

## **FREE SOFTENER SALT**

**We are confident you will enjoy many years of soft water with your new EMS water softener. If you are happy to give us a positive online review (Google, Trustpilot, Yell) we will send you a complimentary bag of softener salt. Simply send us an email with your name and address to:**  
**[reviews@emwc.uk.com](mailto:reviews@emwc.uk.com)**

**We will send you a link for the review. Once your review has been verified, we will send out your complimentary salt, with our thanks!**

## Quick reference guide

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Further help	<a href="http://www.eastmidlandswater.com/fittingvideos">www.eastmidlandswater.com/fittingvideos</a> <a href="mailto:tech@emwc.uk.com">tech@emwc.uk.com</a>

## Alphabetical reference list

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## What to expect from your EMS Eco 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. **This does NOT affect the ph of your water supply.**

### Salt/Brine Tank

This softener's cabinet is also the brine tank. You lift the lid and add the tablet salt to the main cavity. When filling with salt make sure you don't overfill it. The tank is fitted with an external overflow - never fill above this level. You will need to check the salt level on a regular basis and top up when required. You will find that you develop a routine and automatically top up after a set period of time, either weekly or monthly. All households are different. If you notice the tank is completely empty of salt, just perform a manual regeneration a few hours after refilling.

### Regeneration Process

The resin in your softener needs a regular clean. This is the regeneration process. The resin is literally washed with a brine solution. You can think of it like a washing machine cycle in that it will perform several different processes to clean the softener. Most units will have a fast rinse, slow rinse and pause cycle. Water is drawn from the brine tank and flushed through the system. At the end of the cycle, water is 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 in the tank will depend on the type, size and water pressure feeding the softener. Dependent on 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 my softener start to work?

Your softener will produce soft water as soon as water passes through it. However, the size of your property, water usage and the type of water system will determine how quickly you will notice results. For example, if one person lives in a very large property with water fed from a storage tank system (gravity feed) they may not see the benefit for several months until all the hard water that was present in the storage tanks has been replaced with soft water. A large family in a smaller property with a direct feed system will notice the results much quicker.

### What happens in my softener?

Your softener doesn't show any visible signs or make any noise during the water softening process. Water will only enter or leave the brine tank during regeneration. Salt is NOT used in the water softening process - only during regeneration. The only time you will see or hear your softener working is during the regeneration process. Its important that you have yours softener regularly serviced. We recommend a period of between 24-36 months for each service.

### Help?

If you require any additional information regarding your particular water softener, please contact our technical support team via email. They can be reached at [tech@emwc.uk.com](mailto:tech@emwc.uk.com)

## Installation Guide for the EMS 10 and EMS 15 Premier Water Softeners

### Planning your installation

Always observe the water bylaws. Make sure there is only one rising main and that you are allowing space for access to the unit, for filling with salt and possible maintenance in the future.

- Check the water pressure - see below
- Locate the rising main (stop cock),
- You will need a drain facility
- a power supply (for the 12v transformer)

### Siting the softener

- This should be as close to the rising main as possible. Allow hard water take off points for a drinking water facility and /or an outside tap if required.
- For easy DIY installation we recommend the fitting of a hard or filter water kit. If the stopcock is located in a difficult position to create a hard water supply, you can fit a 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 excessive temperatures (freezing or over 120°F).
- If you are siting the softener in a cupboard, ensure that the base of the cupboard is adequately supported.
- If the softener is being installed in a loft, it is recommended that you house the softener within a well insulated 25-gallon tank. 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 15mm installation kits and can be ordered separately.

### Check list

If you purchased an EMWC fitting kit with your softener, all valves required for installation will be included.

- Combi boilers require a *Combi Kit*.
- Pressurised systems require a *22mm Fitting Kit*.

Check you have ordered the correct fitting kit for your installation, before you start.

### Water Pressure Test

It is important that you carry out a pressure test. High and low water pressure can result in damage to/ 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 household appliance using water should be fitted with a leak controller.

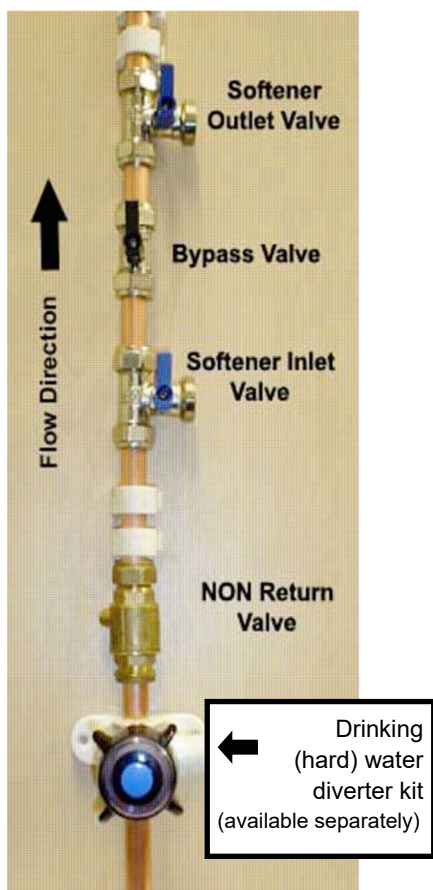
## IMPORTANT INFORMATION

Before starting the installation of the valves, ensure

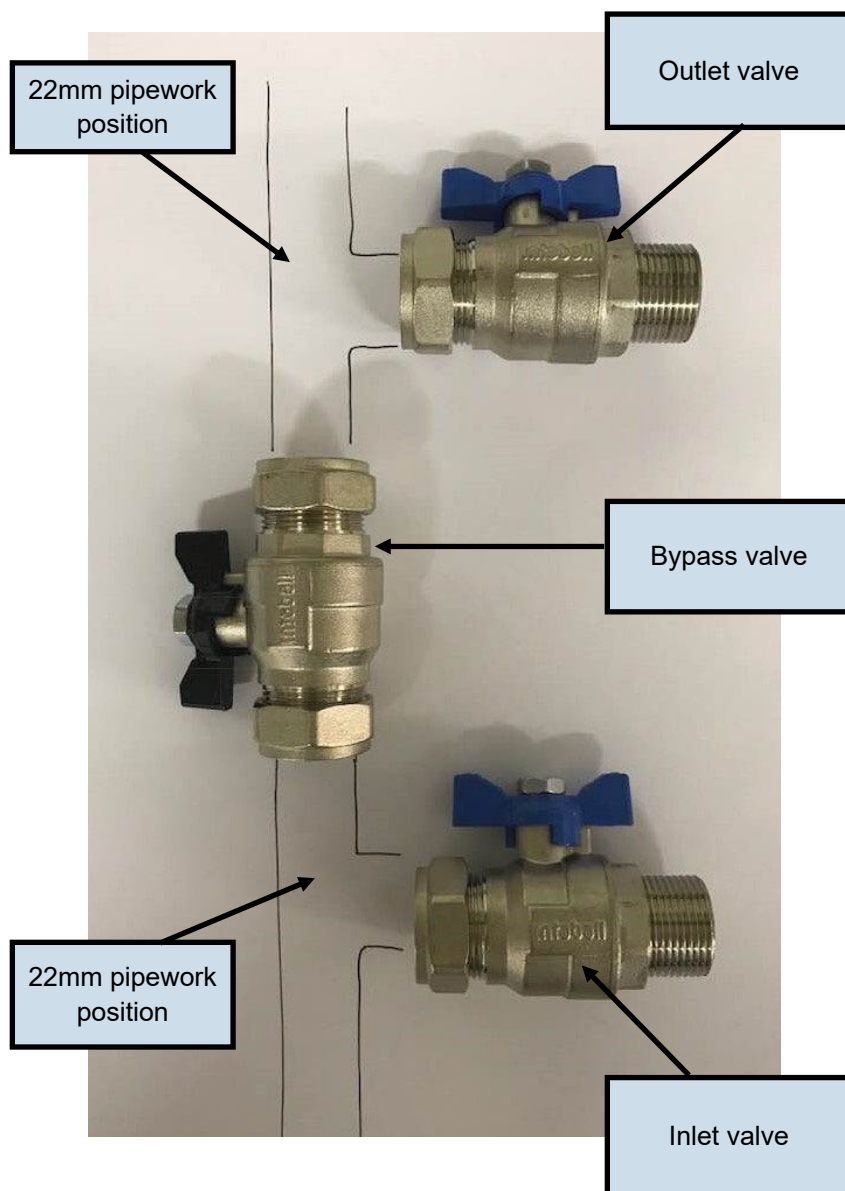
**THE STOP COCK (INCOMING MAIN) IS IN A CLOSED position.**

**DO NOT ADJUST THE RED BAR ON THE SOFTENER—THIS IS ONLY TO BE USED BY OUR ENGINEERS**

**Typical Softener  
Installation Valve  
Configuration when  
using a 15mm fitting  
kit**



**Typical softener installation valve  
configuration when using a 22mm fitting kit  
(pipework position indicated). Note: 22mm  
t-pieces and non return valves are not  
included in the fitting kit.**





## Installation Guide - continued

### Connecting to the softener

Once you have completed the installation of the valves, put the valves into the positions as shown (image 1);

**softener inlet and outlet = closed      bypass valve = open**

If you have also installed a hard water supply kit and have so far only installed the valve, make sure this is in the **closed position**.

You can now safely return the stop cock to the **open** position. Using the hoses provided (if you purchased a fitting kit) connect the straight end of the hoses to the valves.

- Make sure you put the washers provided into the inlet and outlet valves.
- The softener tails are usually in a configuration of three with the centre position being the waste outlet (image 2)

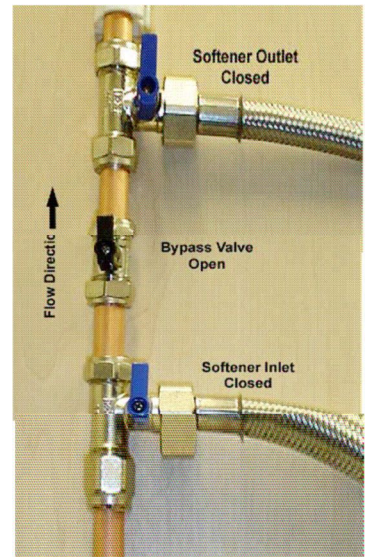
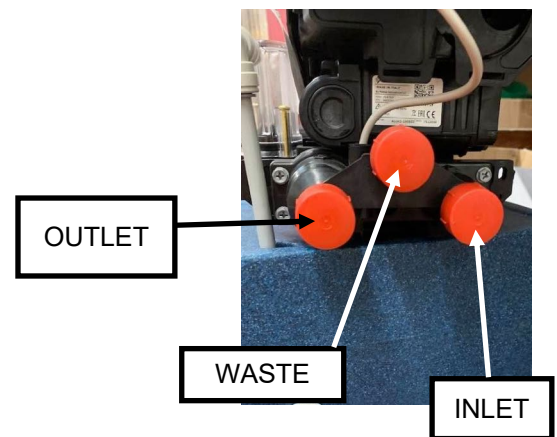


Image 1



Connect the angled end to the softener.  
The softener inlets and outlets are indicated with the word "inlet" or "outlet" or with an embossed directional arrow on the softener tails.



### Waste Hose Installation.

For this part of the installation you will need the 1/2" flexible hose provided with the softener. This hose needs to be cut into two pieces - one part for the waste pipe and one part for the overflow hose.

The waste/drain connection should be pre-installed in the central position (image 2 above) so all you need to do is run the hose to either an up stand or an outside drain. A minimum air gap of 20mm must exist at the end of this waste/drain line.

If you need to extend this drain hose, it 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 could 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. Softened water from the EMS Eco water softener will have no adverse effect on a septic tank.

### Overflow Connection

The hose for the overflow should be cut to the required length from the drain hose provided. The overflow connection is the white 1/2" 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 recommended the overflow hose be visible when it exits the outside wall.



### Electrical connection

Connect the transformer provided to a continuous electric supply with the power **off**.

Plug the flying lead from the transformer into the electrical connection on the controller (see programming instructions (page 11) for the location of the connection).

Ensure the flying lead cannot get caught on the camshaft or any moving parts on the softener.

### Preparing the softener to go into service

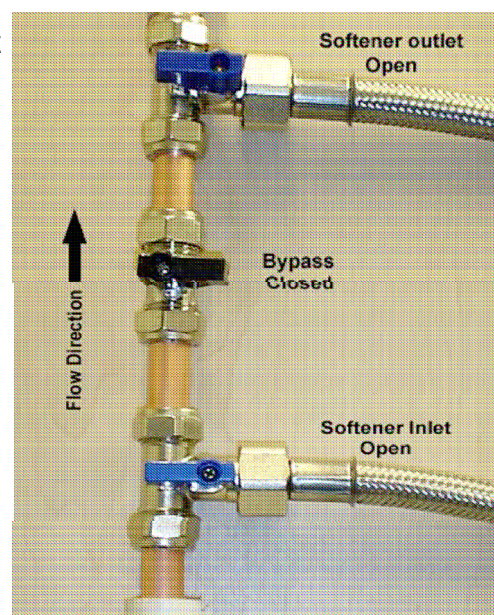
Now that all of the connections have been completed, ensure that you are happy with the connections and new plumbing work that you have undertaken.

### Next steps

Put approximately 5 litres of water into the brine tank

Put a quantity of salt into the brine tank. Do not allow the height of the salt to exceed the height of the overflow. Your salt usage will be dependent on the hardness of your water and the quantity of water that is used. You should never let the brine tank become completely empty of salt and it's advisable to check salt levels on a weekly basis until you understand your usage pattern.

East Midlands Water Company are able to supply your salt and deliver to your door, for convenience. **Please check our website for details [www.eastmidlandswater.com](http://www.eastmidlandswater.com)**



**Complete the programme sections before setting into service mode (see pages 8 and 9 of this guide).**

**Alter the position of the inlet and outlet valve and turn the bypass valve to the off position. We recommend that you do this 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 let the incoming water to build a level of pressure before completing step 3
3. Turn the softener outlet valve to the on position.
4. 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 softened water.

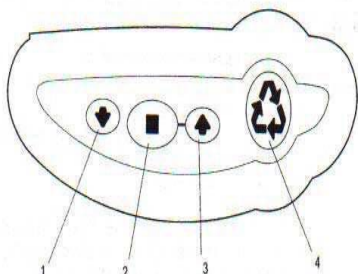
**DO NOT LINK THE OVERFLOW CONNECTION TO THE WASTE CONNECTION. If you do this, it will cause the unit to overflow and could result in water damage to your environment**

*Incorrect maintenance or usage may invalidate your warranty.*



# QUICK SET UP GUIDE

## Initial programming of your water softener

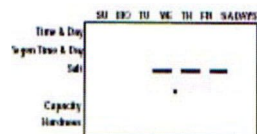


### Control Panel

- |   |   |   |
|---|---|---|
| 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 through a group of choices     |
| 4 |   | Regenerate. Used to command the softener to regenerate                  |

Ensure that the softener is connected correctly to the water and power supplies.

Fill the brine tank with tablet salt (maximum level  $\frac{3}{4}$  full). The softener will operate at levels below this. If you purchased a hardness test kit, follow the instructions in order to obtain information about the hardness of your water. Make a note of this figure as you will need it later in the set up.



### Initial power up.

Plug the jack plug from the transformer into the rear of the control panel. This is located to the left hand top corner of the panel if viewing from the front.

Once the power to the machine has been switched on, the display will show 3 lines (as shown). You may also get a flashing between 'time' and 'regeneration'.

With the regeneration symbol flashing, press 'set' button. Due to time outs (approx. 25 seconds) that might occur during your set up process, the display may revert to service mode. By repeatedly pressing the set button you can scroll to the part of the set up programme you require.

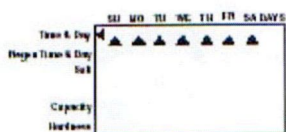
If you receive 'ERR 3' message allow the cam shaft to turn for a few moments and this code should disappear. If the cam does not move, check that the cam shaft is fitted correctly and the optical sensor is in position.

### Set time.



Press set the 'TIME' should now be blinking. Use the up/down arrows to set the correct time of day. Once the correct time has been selected, press the 'set' button (time format is 24 hours).

### Set day of the week.



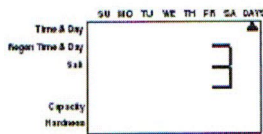
Press the set button. The display will now flash. Use the up/down arrows to advance the arrow to underneath the correct day.

Once under the correct day, press the 'set' button.

The following is now displayed.



Press the set button again to advance to the next setting.



## Set Days to Regenerate

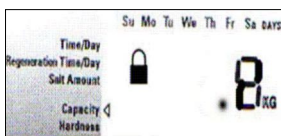
This setting is a default or holiday setting on meter softeners. If you have not used enough water and the machine has not regenerated on the meter setting, it will automatically regenerate after a set number of days have elapsed. If the default is set at 10 and you are away on holiday, for example, 10 days after the last regeneration the machine will clean itself automatically. This will ensure you have full capacity on your return.

To set, press the set button and with the number flashing, use the up arrow until the desired number of days is displayed.



The following is now displayed;

Press the set button again to advance to the next setting.



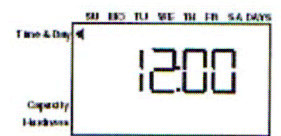
A number with kg will appear on the display. (This is the weight in limescale that the softener can hold).

Press the set button again to advance to the next setting.



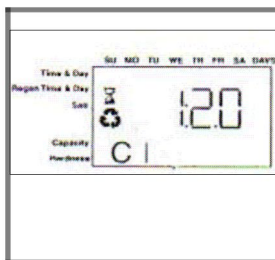
## Setting the hardness

Press the set button. The display will now start to flash. Use the up or down arrows to advance the incoming hardness. Once the display reads the required number, press the set button.



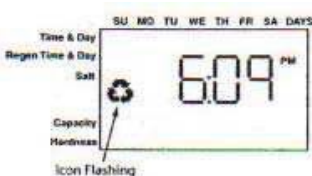
The display will revert to capacity and alternative between capacity left in cubic meters (m3) and current time of day.

**Once you are satisfied that the machine is both plumbed in and set up correctly, the machine will need to be commissioned.**



## Commissioning the unit.

Press and hold the regenerate button (4). You should hear the cam rotate and the following display will appear. The machine will now perform a regeneration. This initial process will take up to 72 minutes to complete. Once this operation is complete, the unit will supply your property with soft water.



## Manual Regeneration.

The unit can perform two different types of manual regeneration, either immediately or delayed.

### Delayed Regeneration.

Press the regeneration button once. The symbol will appear and flash on the display. A single regeneration will start at 2am (preset regeneration 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, follow the procedure for commissioning the unit (as above).

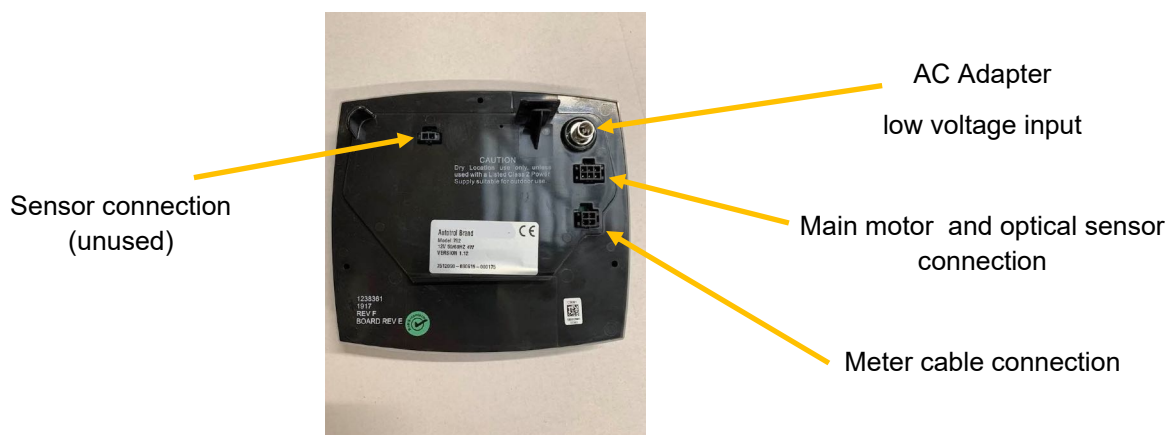
Regeneration button



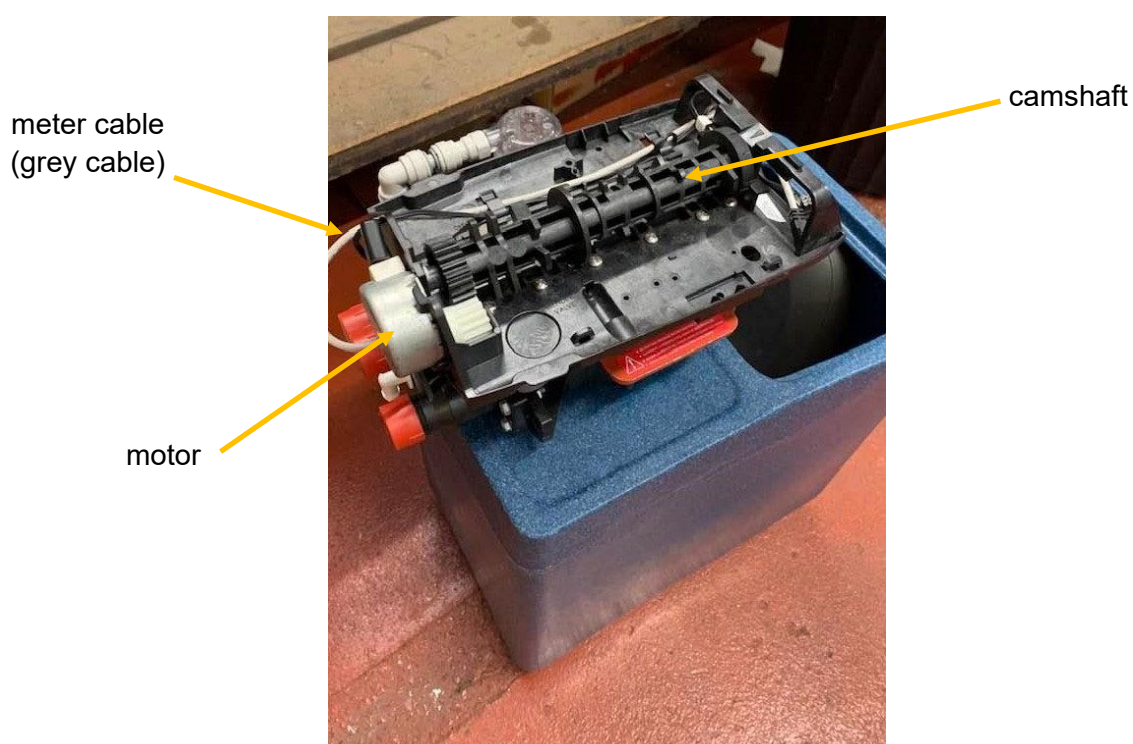
## Regeneration Process

- |                         |                            |
|-------------------------|----------------------------|
| C1 = Backwash cycle     | C2 = Regenerant draw cycle |
| C3 = Slow rinse cycle   | C4 = System pause          |
| C5 = Fast rinse         | C6 = Backwash cycle 2      |
| C7 = Fast rinse cycle 2 | C8 = Regenerant refill     |

## View of rear of control panel



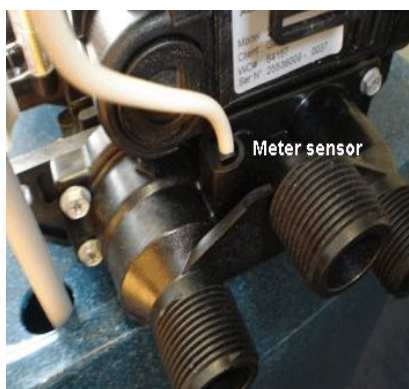
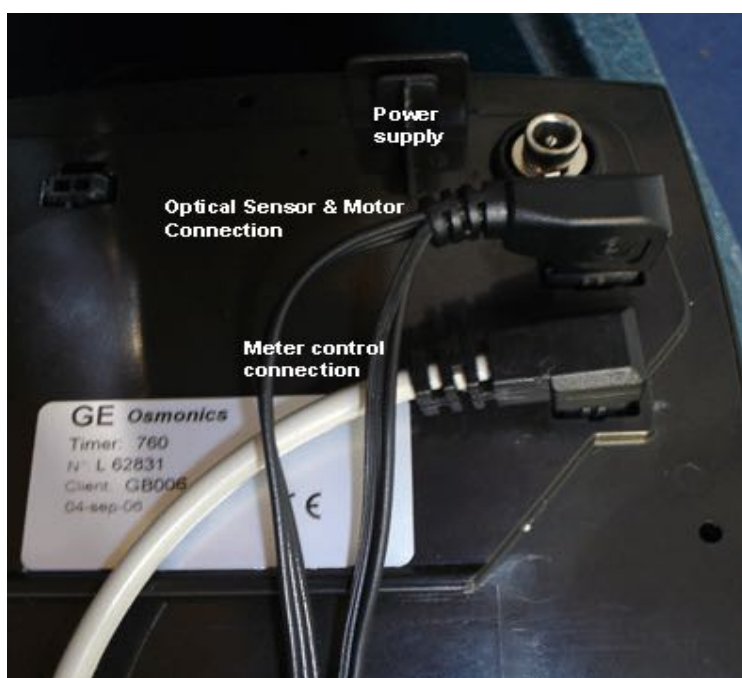
## Control panel with cam shaft exposed to show locations



Occasionally during transit the cam arm and optical sensor may become unseated. If your softener does not advance from ERR3 during the initial set up, please follow these instructions.

## 1. Check the connections on the back of the control panel.

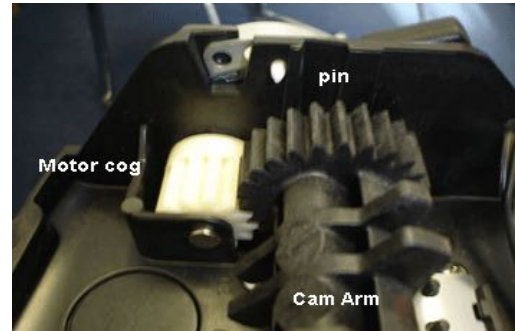
You will need to follow the cable from the connection to the meter controller at the back right hand side of the softener, the optical sensor at the front right of the machine and the motor to the rear left of the machine.



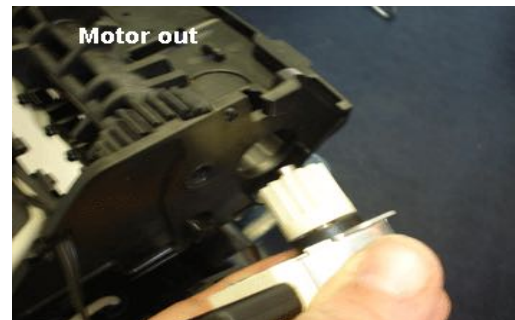


## **2. Checking that the optical sensor is located correctly and how to re-insert if the sensor is out of its location.**

Remove the pin by pushing back. Next twist the motor to the right in a clockwise direction (if you are looking at the front of the machine).

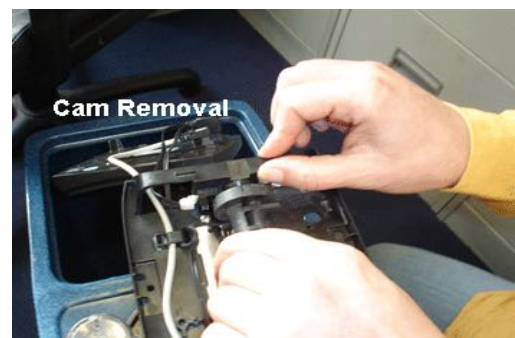


The motor unit should then slide straight out.

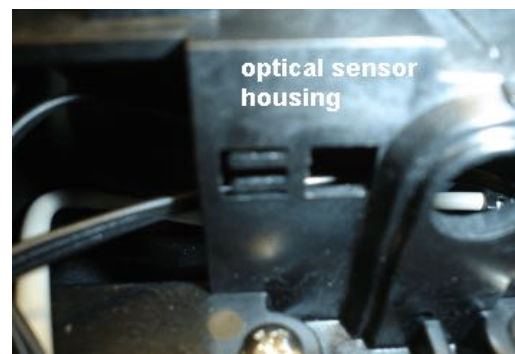


Removing the cam arm.

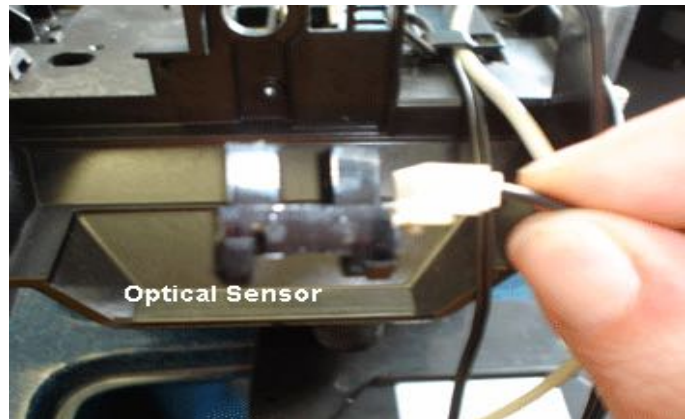
Apply gentle pressure to the rear of the housing and pull the arm in an upward direction. This will release the back of the cam arm which can then be pulled up from the rear and removed



This is a view from the rear to the front of where the optical sensor should be located. From the front of the machine, this housing is just to the right of the cam arm locator.



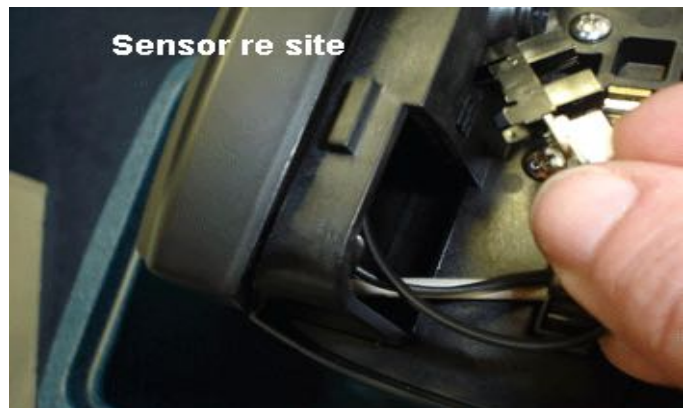
This is a view of the sensor. It has a white electrical connection with two large black sensors and five locator lugs.



Close up of the sensor.



The lugs to the left of the white connector fit in the large hole to the left with the two lugs slotting into the two smaller locators.



This is the view of the sensor when looking through the control housing from front to back.



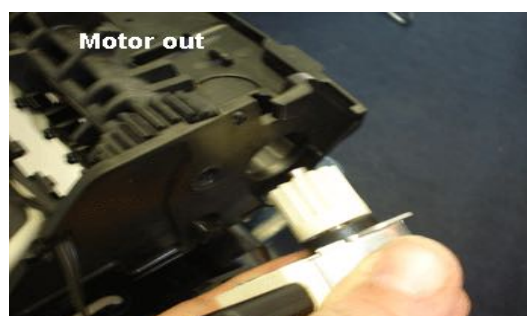
To re-insert the cam, first position the front of the cam in the front locator.



The rear cam housing has a slotted guide. Gently push the cam down on this guide; you may also need to slowly turn the cam arm anti clockwise until it clicks into position and is completely horizontal.



Re-site the motor unit with the black electrical connection to the right (when viewing from front to back).

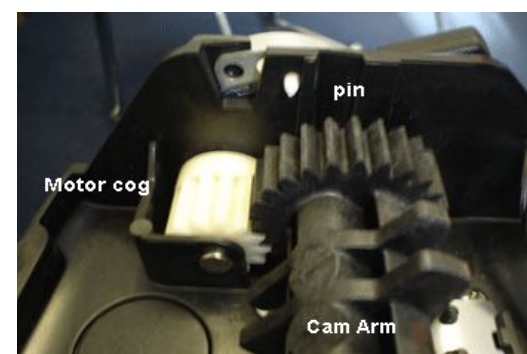


This is how the motor should look.

If it is difficult to turn when in position, try to put the motor in the correct position before inserting. Once fully pushed in, turn the motor to the left when viewing from left to right.



Replace the white plastic pin into the hole on the housing (next to the two holes on the lug of the motor unit).





# East Midlands Water Company

For all your water treatment requirements



Water softeners



Softener salt in tablet or block form



Compact softeners



Reverse Osmosis systems removes micro plastics



Water filters for pure drinking water



3 year long life water filters – fits under the kitchen sink



Don't forget to place your positive on line review in order to get your complimentary softener salt, simply email

[reviews@emwc.uk.com](mailto:reviews@emwc.uk.com)