

A WARM WELCOME FROM EAST MIDLANDS WATER COMPANY

YOU HAVE CHOSEN A QUALITY WATER SOFTENER AND ONE THAT WILL GIVE YOU MANY YEARS OF TROUBLE FREE SERVICE

PLEASE FULLY READ THESE FITTING INSTRUCTIONS BEFORE INSTALLATION

IF YOU PURCHASED A 15mm or 22mm FITTING KIT, THESE ARE PACKED INSIDE YOUR SOFTENER



** Your warranty details are stored digitally **



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 requires regenerating (refreshing). Most machines perform this process automatically after a set period, or volume of water, has passed through the resin.

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 can be 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 topped up when required. There is no right or wrong amount of salt to store in the tank as your softener will use the salt as required. 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 of salt, it may be advisable to perform a manual regeneration a few hours after refilling.

Regeneration Process

The regeneration process is basically a resin clean. You can think of it like a washing machine cycle in that it will perform several 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 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 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 person lives in a very large property with water feed from storage tanks (gravity feed system) they may not see the benefit for several months until all the water that was present in the storage tanks 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. It is important that you have your softener regularly serviced; we recommend a period of 24 months between each service. 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

Kind regards

East Midlands Water Company



Water Softener Installation Guide (for all softeners in the range)

Planning your installation

Always observe the water bylaws. Ensure there is only one rising main and 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

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 $\frac{3}{4}$ " 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.

Fitting kit components

See diagrams on next page for 15mm and 22mm pipework configurations

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 IS IN A CLOSED position.

DO NOT ADJUST THE RED BAR ON THE SOFTENER—THIS IS 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 a hard water supply kit and have only so far installed the valve, make sure that this is also 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. Insert the provided washers 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. The softener tails are in usually in a configuration of three with the centre position being the waste outlet.



Waste Pipe Installation

All softeners are provided with a waste hose. On some of our units this is preinstalled to the softener. If it is not preinstalled, 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 <u>minimum air gap of 20mm must exist</u> at the end of the drain line. 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. <u>Ensure that the drain hose is not kinked in any way</u> 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 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 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 electric 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 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 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. East Midlands Water Company are able to supply salt (in block or tablet form) and deliver to your door. For convenience. Please check our website for details.





Setting the machine to service

<u>Complete the programme sections before setting into service</u> <u>mode (see pages 5, 6 and 7 of this guide).</u>

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 <u>on</u> position
- 2. Turn the bypass valve to the <u>off</u> 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 <u>on</u> 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.

It is important that you have your softener regularly serviced; we recommend a period of 24 months between each service.



QUICK SET UP GUIDE

Guide for initial programming of your water softener



Before starting this process, ensure that the softener is connected correctly to the water and power supplies. Please also fill the brine tank with tablet salt (maximum level 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 (meter control units only).



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.





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).



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Set day of the week.

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

The following is now displayed.

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



Set Days to Regenerate or Regeneration Frequency on time models.



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. This function is also used to set regeneration frequency on timer models.

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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.

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

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Setting the hardness (Meter Controlled Units only) For timer <u>units move to</u> <u>'Commissioning the Unit'</u>.

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 alternate between capacity left before the next regeneration and current flow rate.

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 Process

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



Control panel showing cam shaft





TROUBLESHOOTING GUIDE FOR THE ERR3 MESSAGE ON WATER SOFTENERS

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.



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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 difficuilt 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).

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













East Midlands Water Company

For all your water treatment requirements



Water softeners



Softener salt in tablet or block form



Compact softeners for smaller spaces and places



Our 'Made in the UK, hand built, award winning three year water filter'. Fits under the sink and delivers pure filter water at the turn of a tap



Water filters—under sink and whole house filters



Reverse Osmosis systems—domestic and commercial