Sumo Non Electric Single Tank Water Softener

READ THIS MANUAL CAREFULLY BEFORE STARTING YOUR INSTALLATION
Contents of your SUMO water softener box. Please check that you have all parts as soon as you receive your softener.

Your Sumo water softener

Water hardness test kit

1/2” WASTE connection hose

Waste connection parts (overflow elbow, nut and washer)

5/8” OVERFLOW connection hose

IF YOU PURCHASED A FITTING KIT - CHECK INSIDE YOUR SOFTENER, AS THIS IS WHERE IT WILL BE PACKED

Your SUMO water softener is a high performance single tank non electric water softening product designed to eliminate limescale (calcium and magnesium) in residential environments. It is not a water purifier. It is recommended that you fit this softener to a municipal water supply.

Benefits include:

- Energy savings; Increased life of electrical appliances (dishwashers, washing machines);
- Cost savings due to reduced usage of soap and detergents fabric softeners and chemical cleaning products;
- Low maintenance costs; Simple and automatic control of equipment.

Super fast regeneration - completed in 10 minutes
Energy efficient regenerations
Easy salt filling
Non Electric unit
Tested and Certified by WQA under NSF/ANSI 61 for Materials Safety Requirements

Resin volume 5.7 litres
Salt/regeneration 0.27 kg salt
Pressure rating 1.5 - 8 bar
Electrical connection N/A

Height 495 mm
Depth 550 mm
Width 277 mm

YOUR WARRANTY DETAILS ARE STORED DIGITALLY
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 value of your water supply.**

**Salt/Brine Tank**

This particular 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 (see page 11 for instruction on how to carry out a manual regeneration).

**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. 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. 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 you have 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.

**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
Planning your installation— the plumbing part.

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 waste facility
- The softener needs to be level

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. With modern softeners this is not essential, due to the quality of the resin.
- 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 waste and the softener should be as short as possible.
- Ensure that both the waste 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 place 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...
**Installing your softener (the plumbing part)**

Installations will vary. Ensure you have set up your inlet and outlet valves as per these configurations. We recommend that you use a competent tradesman if you are unsure about any aspect of your installation.

**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.**

NEED HELP? Check our installation video. [https://www.eastmidlandswater.com/FittingVideos](https://www.eastmidlandswater.com/FittingVideos)
SETTING UP YOUR SUMO SOFTENER

FITTING THE WASTE AND OVERFLOW CONNECTIONS

The waste and overflow connections need to be fitted by the end user. They are not preinstalled. This is to protect the connections during transit.

Step 1 Remove the resin tank from the softener cabinet.

LIFT THE RESIN TANK FROM THE NECK - DO NOT TRY AND LIFT USING THE WASTE CONNECTION AT THE TOP OF THE RESIN TANK.

Step 2
Inspect the brine valve to ensure that the large tube is correctly fitted and hasn't moved during shipping. Ensure it is firmly in place. This is really important as the brine line will be under pressure when your Sumo softener is in service. Failure to check this element may result in leaks.

Step 3 Waste Connection
Connect the 1/2” tube to the waste elbow on the valve (Figure 2). Make sure that the waste tube is pushed well into the elbow arbour (Figure 3). Placing the tube in hot water for a few minutes to warm it will make this easier.

The waste tube must bend around the valve - anti-clockwise to prevent kinks or blockages.

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Figure 2 - looking down on the top of the brine tank

Figure 3

WASTE HOSE (anti clockwise direction)
FITTING THE WASTE AND THE OVERFLOW CONNECTION (continued)

**Step 3** Installation of the waste and the overflow (continued from previous page)

Make sure there are no kinks or restrictions on the waste tube. Keep the tube as straight as possible to avoid bottlenecks or syphoning. The waste installation must have suitable aeration to prevent waste water from returning back to the softener. If you need to elevate the waste tube, it is possible to raise it a maximum of 1.5 metres provided that the minimum inlet pressure is 4 bar. Double check that the waste is fitted around the valve in an anti clockwise direction - failure to achieve this will result in damages in the waste pipe and to your new softener.

**Step 4 - Testing your incoming mains water for level of hardness.**

Your Sumo water softener is supplied with a water test kit. Follow the simple instructions supplied with the kit in order to establish the hardness of your water. It is measured in parts per million (ppm).

It is important that your softener is set up correctly in order to cope with the hardness of your water. Municipal water supplies across the UK vary in degrees of hardness. Not all areas are the same. If you do not adjust or check your hardness level setting, your softener might not operate correctly.

**Step 5 Setting your hardness level**

See diagrams and images on page 8. Familiarise yourself with the elements of the brine tank before you start any adjustments.

1. Remove the small blue plastic locking clip on the adjustment knob. It is simply removed by gently using your fingernail or a small screwdriver. It is plastic so over zealous removal may result in damage. Put this clip to one side. The clip prevents any tampering or misuse of the settings.

2. By depressing the adjustment knob, you can rotate the dial to show the desired setting. The viewer for the programmer has a small arrow which indicates which setting you have selected. The adjustment knob is easily turned using a small flat head screwdriver with light downward pressure.

Ensure you line up your required softened water setting with this arrow. The schematic diagram shows the letters A-H. Your Sumo softener will show a range of settings from 100 through to 525.

The dial will ‘click’ for each turn and increment the setting by varying units on each click.

Simply select the correct number to match your hardness setting as per the table below. For example if your water hardness test shows your water at 360ppm - we recommend that you select 350 plus one click. If your hardness is 270ppm select 250 plus one click.

Once you have selected the correct level, replace the blue plastic locking clip to prevent accidental movement of the adjustment knob.

<table>
<thead>
<tr>
<th>Hardness reading</th>
<th>Sumo Softener Setting</th>
<th>Hardness reading</th>
<th>Sumo Softener Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>190</td>
<td>150 + 8 clicks</td>
<td>300-320</td>
<td>250 + 3 clicks</td>
</tr>
<tr>
<td>200</td>
<td>200</td>
<td>330-340</td>
<td>250 + 4 clicks</td>
</tr>
<tr>
<td>210</td>
<td>200 + 1 click</td>
<td>350</td>
<td>350</td>
</tr>
<tr>
<td>220</td>
<td>200 + 2 clicks</td>
<td>350-400</td>
<td>350 + 1 click</td>
</tr>
<tr>
<td>230</td>
<td>200 + 3 clicks</td>
<td>400-450</td>
<td>350 + 2 clicks</td>
</tr>
<tr>
<td>240</td>
<td>200 + 4 clicks</td>
<td>450-500</td>
<td>350 + 3 clicks</td>
</tr>
<tr>
<td>250</td>
<td>250</td>
<td>500-525</td>
<td>350 + 4 clicks</td>
</tr>
<tr>
<td>260-270</td>
<td>250 + 1 click</td>
<td>525+</td>
<td>525</td>
</tr>
<tr>
<td>280-290</td>
<td>250 + 2 clicks</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Close up of the hardness settings (meter dial) through the viewer. This is set at 260 (250 plus one increased position).
FITTING THE OVERFLOW CONNECTION

To connect the overflow you need the overflow hose (5/8” diameter) the rubber washer, the overflow elbow and the securing nut (see box contents page 1)

Step 1
Put the rubber washer over the overflow elbow threads.

Step 2
Position the overflow elbow on the outside of the cabinet with the washer between the cabinet and the elbow. Leave the overflow in an upward position for now.

Step 3
Thread the nut onto the elbow so the nut is on the inside of the cabinet. With the elbow facing upwards, ensure the nut on the inside is a snug finger tight tightness.

Step 4
Holding the nut with your fingers on the inside, turn the elbow so it points in a downward direction.

Step 5
Now push the 5/8” overflow hose onto the overflow elbow, as far as it will go. The hose will be a snug fit. Warming the end of the hose in hot water will make the fitting easier.

Reassembling the softener
Place the resin tank back into the brine cabinet. The plastic collar will only allow the resin tank to sit in one position. Ensure that you do not disturb the brine valve as you put the softener back together. You are now ready to connect your softener to your water supply.
SUMO Water Softener

CONNECTING YOUR SOFTENER TO YOUR WATER SUPPLY

Step 1 Connecting the hoses to your plumbing installation

Once you have completed the installation of the valves, put the valves into the positions as shown in image 1 (here to the right).

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 to the valves.

Make sure you insert the provided washers to the softener inlet and outlet valves.

Step 2 Connecting the hoses to the softener

Connect the angled end of the hoses to the softener. The softener inlets and outlets are indicated with an embossed directional arrow on the top. MAKE SURE YOU CONNECT THE HOSES THE CORRECT WAY ROUND. Incorrect connection could result in damage.

Now ensure that your softener is in the correct position to finalise the installation.

MAKE SURE YOU HAVE CONFIGURED THE SOFTENER FOR YOUR WATER HARDNESS (see page 7)

Step 3 Waste Hose Installation

For this part of the installation you need to locate the softener waste hose into your waste connection. You have already assembled the 1/2” waste hose (page 6) and the 5/8” overflow hose (page 6) to the softener.

All you need to do is run the hose to either an up stand or an outside waste. A minimum air gap of 20mm must exist at the end of this waste/waste line.

If you need to extend this waste 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 waste hose is not kinked in any way as this could lead to an overflow of the machine.

Step 4 Overflow Installation

The overflow hose must be run downhill to an internal or external waste without kinks or restrictions. It is recommended that the overflow hose be visible when it exits an outside wall. You should not allow the contents of the brine tank to impede the overflow (salt and brine) in any way. If this happens, it could cause water to overflow and flood.
STARTING UP FOR THE FIRST TIME
(or when the softener has been out of service for any length of time)

Before starting up the system, please check that all steps prior to installation, assembly and programming have been followed according to these instructions. Not all water softeners are the same and some of the finer detail may be overlooked.

Do not put any salt in the softener until the end of the start up. To prevent any air pressure on the water softener and the pipes please follow these instructions.

1. Leave the bypass valve in the bypass position.
2. Fully open two or more cold and treated taps located after the water softener. This is to remove all the air trapped inside the installation and to check there are no water leaks. Close these taps after about 20 seconds.
3. Add 10cm/4inches of water to the brine tank
4. Slowly open the bypass to allow water to flow into the system. Keep the bypass partially open at this point.
5. The softener will automatically start a regeneration process and the water in the brine tank should start to descend slowly. If the system does not go into an automatic regeneration at this point, start a manual regeneration. See box below.
6. When the water starts to flow continuously to waste, fully open the water inlet valve to the system. At this point you may notice that the waste water may have a slight yellowy/brownish tinge. This is completely normal as the resin is being used for the first time. Preservatives in the system are being washed away.
7. Let the softener finish this regeneration process. After a few minutes more the softener will cut the flow of water to the waste and refill the brine tank
8. Leave the softener in this position until water stops flowing into the tank. At this point the water level should be approximately 7-10cm above the bottom of the tank.
9. Check the brine line (page 6) and make sure there are no leaks after the refilling process has finished.
10. Now add salt to the brine tank, taking care not to exceed the level of the overflow. We recommend that you use water softener specific tablet salt. Do not use other forms of salt as these will damage your softener.

HOW TO INSTIGATE A MANUAL REGENERATION

Using a number 2 Phillips screwdriver, press the regeneration activator and turn slowly CLOCKWISE until you hear four ‘clicks’. This will instigate the regeneration. At this point the flow of the water inside the unit will be audible. If you cannot hear water moving through the system, you need to check that you have advanced the dial sufficiently.
MAINTENANCE

Now that your water softener is installed and up and running it requires very little maintenance. The key thing is ensure that it always has a supply of salt in the brine tank.

Salt replenishment

Ensure that you check the tank on a regular basis. If you allow the salt to run down before refilling, the system will produce hard water until the salt is replenished.

Check that you replace the brine tank cover correctly after inspection or refilling with salt.

Sometimes it is possible that a ‘salt bridge’ forms inside the brine tank where an empty space is left between the water and the salt, which prevents it from dissolving. This means that the water softener will not be regenerating correctly and will be supplying hard water.

If you think you have a salt bridge, simply take a rigid tool like a wooden spatula and gently push down in several places until it breaks. In addition, salt sometimes sticks to the side of the brine tank and is left high and dry. Again simply take a blunt wooden spatula and gently push the salt into the brine. Do not use a sharp implement in any instance as this will result in damage to the brine tank.

Anti scaling

The resin in your softener is what keeps your water soft so it is important that you take the best care you can of this important part of your investment.

We recommend that you carry out an anti scaling process every few months. This will help lengthen the life of your softener, especially in extremely hard water areas.

You can purchase this softener cleaner from many online retailers. This product is available under many different names but it is basically a water softener resin cleaner. For further advice please contact our sales department on 0116 276 3334. This product is available on our website as Neat Work resin cleaner.

https://www.eastmidlandswater.com/softener-mate-4-sachet-12-month-supply/781

Re-commissioning a softener that has been disconnected for a period of time

From time to time, it may be necessary to decommission your water softener for a number of reasons. This is why its necessary to install a bypass facility to enable straightforward removal of the softener.

We recommend you take the following precautions to protect your investment;

- Remove as much of the brine and salt from the cabinet as possible. If you have advance warning that you are removing the softener, then you might choose to run the salt down as much as possible.
- Disconnect the softener from the water supply.
- Remove any remaining salt and brine from the brine tank.
- Thoroughly clean and dry the unit both inside and out.

Protect from dirt and dust by using a large plastic bag and a suitable cardboard box. If you are having renovations carried out at your property, it will be worthwhile to ensure that the unit is removed from site.

If you are transporting the softener, ensure that you protect all connections such as the overflow, waste and the inlet and outlet from damage. Make sure the softener is well padded and protected and that you keep it upright.

When you are ready to re-install, connect up as per these instructions and ensure you carry out a full regeneration process. If you are moving area, ensure that you check the level of water hardness in the new area and adjust the hardness settings on the softener accordingly.

Welcome to the world of soft water!