SCALEMASTER®

SOFTLINE 150, 150 MINI & 450

Non - Electric Water Softeners

Installation & Operation Manual Effective: 2023

IMPORTANT INFORMATION

Before you start installing your Softline Water Softener, ensure that you have all the correct parts and tools required to install your Water Softener.

YOUR SOFTLINE WATER SOFTENER IS COVERED BY A 5 YEAR PARTS & 2 YEARS LABOUR WARRANTY. TO ENSURE YOUR WATER SOFTENER IS COVERED IT MUST BE INSTALLED IN ACCORDANCE WITH THESE INSTRUCTIONS & REGISTERED ONCE INSTALLED.

Your warranty does not cover the following;

- Resin Contamination.
- Incorrect Installation including incorrect setting up of unit.
- On-Site damage to the water softener.
- Damage caused by ingress of debris from an external source.

In the interests of continuing product development, we reserve the right to make modifications to the specification of the unit without notice.

Thank you for choosing a Scalemaster® Non Electric Water Softener.

It is important that you take the time to read this installation guide. It will tell you in a simple format how to install your Water Softener and how to start enjoying the benefits of softened water.

This instruction manual applies to the SL150, SL150 Mini & SL450 models only.

1. Introduction.

The SL Non-Electric range of Water Softeners from Scalemaster® present a new approach to the world of water softeners. Based on proven technology, these softeners are non-electric so there are no issues relating to electrical installation compliance. These units are fully automatic. The units operate purely through the hydraulic pressure of the incoming water whether that be from the mains or from a well. Scalemaster® non-electric water softeners have no motors and no wires, they just do not need them! The moving parts are operated by water pressure above 1 bar (dynamic).

Scalemaster® SL Water Softeners are one of the most efficient water softeners on the market. For example, through it's advanced technology, the SL150 version typically uses only 330 grams of salt and 18 litres of water for every regeneration making it one of the most environmentally friendly water softeners on the market today. Water usage is less than 4% per regeneration which meets the minimum performance requirements of the Code for Sustainable Homes published by the Buildings Research Establishment.

2. Features & Benefits.

- **NON-ELECTRIC:** The 150 & 450 range work entirely without electricity.
- **EASE OF INSTALLATION:** Far simpler than standard water softeners to install due to the simple and unique 'clip-connect' design and integrated bypass manifold.
- **COMPACT DESIGN:** The SL150 is designed to fit into a standard kitchen cabinet and other areas where space is at a premium.
- **MINIMAL PROGRAMMING:** Just set the water hardness for your area.
- **ENVIRONMENTALLY FRIENDLY:** Designed to use minimal salt & water during the regeneration cycle.
- **HIGH TEST STANDARDS:** The units are *all* 'wet tested' before leaving the factory eliminating annoying problems on installation.
- **HIGH FLOW RATES:** Nominal flow rate (1 bar loss of pressure) 25 litres per minute (1500 litres per hour).

3. Before You start

- Make sure you have all necessary parts and tools required before starting the installation.
- Follow all regulations regarding drainage. If in doubt see the relevant WRAS guidance notes which can be found at www.wras.co.uk.
- **Read this manual carefully.** If you have any questions please contact the **Technical Helpline on 07990 064096.**
- Check incoming water pressure: minimum 1 bar (dynamic), maximum 6 bar (static) (15 - 100 PSI). If necessary fit a pressure reducing valve to reduce the incoming water pressure.
- Do not install the water softener close to a heat source. (environment ambient temperature must be below 40°c).
- Protect the water softener drain hose and all fittings against frost. Any hoses that go outside must be insulated.
- Make sure you have tested the water for Total Hardness for the area. If in doubt call the **Technical helpline on 07990 064096** to obtain this information.
- Remember, if you are not sure ***ASK!***

It is recommended that any water softener is installed by a professional.

Although Softline water softeners are probably the easiest and safest softener on the market, it is imperative that all necessary precautions are taken.

Proper operation of the softener depends on correct installation, commissioning, maintenance and maintaining the salt level with suitable salt manufactured for use in water softeners.

Identification of your Water Softener

Softline SL150 Mini

Softline SL150

Softline SL450

3.1. Positioning the water softener

- Remember to measure your water softener and the space where it will be installed. Remember to allow extra space for connecting pipework when you do your calculations along with adequate space to allow for future servicing, maintenance and topping up of salt.
- Keep the distance of the incoming main and drainage to a minimum. While 2 metres is an adequate distance this can be longer in circumstances where water pressure allows.
- The weight of the water softener is greatly increased when fully operational and filled with both salt and water so this must be taken into account when choosing where to site the water softener.
- Your water softener is designed to operate effectively with an incoming water pressure of between 1 bar and 6 bar. If your water supply is likely to fall outside of these parameters we recommend that either a booster pump or pressure reducing valve should be fitted accordingly.
- Do not install your water softener next to a boiler or other heat source that will exceed ambient temperature of 40°c.

WHEN INSTALLING YOUR WATER SOFTENER IN A LOFT THE FOLLOWING INSTRUCTIONS SHOULD BE STRICTLY ADHERED TO.

3.2. Loft Installation

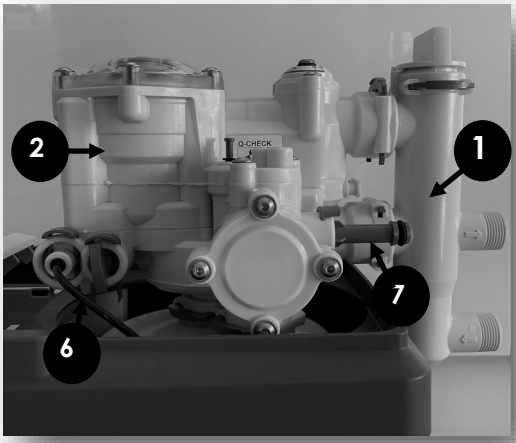
- The water softener may be installed in a loft or roof cavity but must be situated within a safety tank of not less than 100 litre capacity. A suitable tank would be a plastic roof storage tank with an overflow pipe of not less than 20mm diameter. This tank should be mounted on a board strong enough to spread the weight over a load bearing wall.

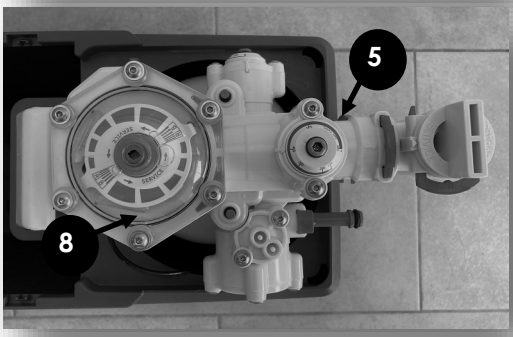
3.3. Drinking Water

- When fitting your water softener allowance should be made for at least one drinking water tap that is not fed by the water softener. Where practical this should be at the kitchen sink but a utility room or other suitable alternative will suffice.
- It is recommended that people on a low sodium diet should not drink artificially softened water. Water used for mixing infant powder for babies must only be taken from unsoftened water as artificially softened water contains an increased level of sodium to which young babies have a limited tolerance.

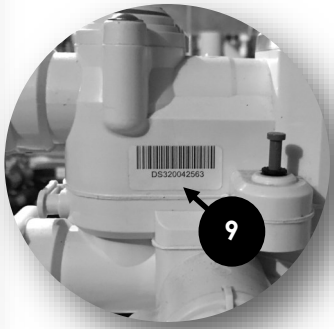
PLEASE NOTE

While the outward appearance of the 150, 150 mini & 450 are different the look of the component parts will look similar or the same as described on this page.





1. Bypass Manifold
2. Valve Housing
3. Resin Vessel
4. Blending Regulator (Always left at 0)
5. Water Hardness Regulator
6. Brine Pick-Up Tube
7. Discharge Connector to Drain
8. Programme Disc
9. Serial Number (under barcode).



4. Installation:

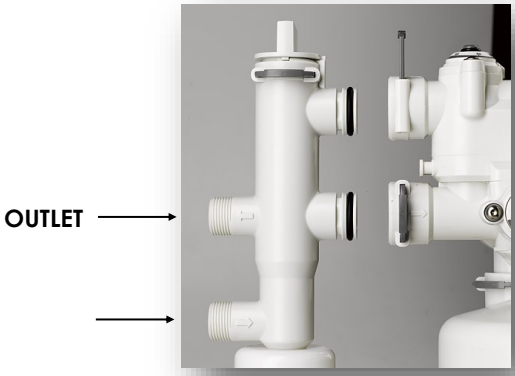
4.1 Close the main valve (stop tap) and make sure pressure is released from the piping. This can be done by opening at least one tap.

4.2 Cut into the cold water mains supply in order to install two isolation valves, one for the mains ***inlet*** and one for the mains ***outlet.*** <u>These are not supplied with the Softener.</u>

4.3 **ENSURE THE BYPASS VALVE IS SET TO "BYPASS" (see bottom picture)** Connect the mains ***inlet*** to the ***bottom*** port of the bypass unit using the hose supplied and the mains ***outlet*** to the ***top*** port of the bypass unit with the remaining hose. <u>Domestic water softeners should not be hard plumbed.</u>

4.4 Connect the bypass unit to the softener, by gently pushing the bypass into the two ports on the back of the valve ensuring that the inlet filter does not fall out. Insert the two clips fully to secure the bypass. (note that the 450 has two extenders).

<u>Ensure that bypass is the correct way up with the Green Open/Bypass knob at the top.</u>



<u>THE BYPASS MANIFOLD</u>

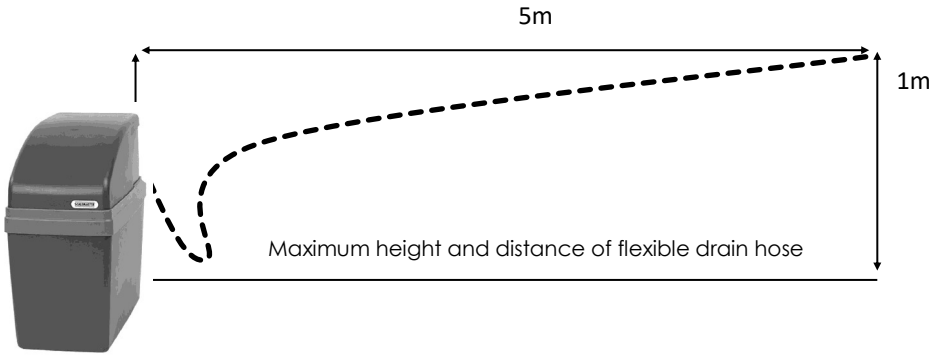
When '**BYPASS**' is facing the arrow (as in the R/H image) the softener is isolated from the mains water supply. **BYPASS = OFF and OPEN = ON**

4.5 Connect the straight drain outlet to a local drain by means of the 13 mm flexible drain hose supplied in the installation kit. **Ensure the hose is fully pushed on to the straight drain outlet.** This drain hose is reinforced to avoid possible problems caused by kinking of the pipe. **It is important to protect the drain hose rom frost and excessive heat.** If the drain hose is being taken outside ensure a suitable insulation material is used to stop water freezing in the pipe. (min. temp. 5°c, max. temp. 40°c).

STRAIGHT DRAIN OUTLET
DO NOT CONNECT THE DISCHARGE TO THE OVERFLOW!

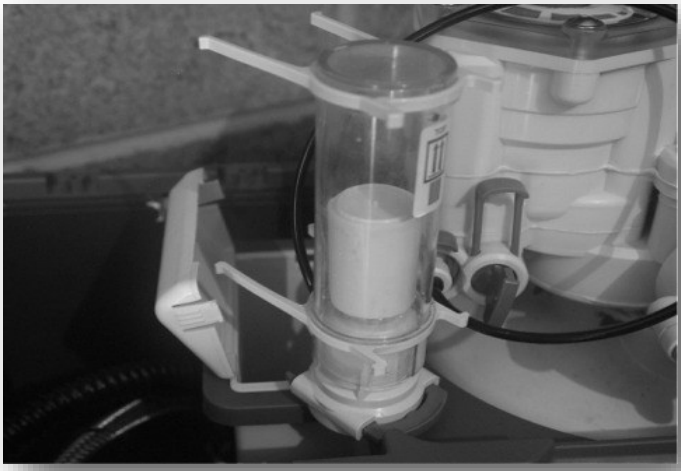
TIP: Put the end of the hose in hot water before pushing it with a screwing motion onto the spigot.

NOTE: The discharge drain hose can be installed with a rise of 1m **but this must be over a 5 metre run.**



CAUTION: Follow all regulations regarding connection of the flexible drain hose to the drain. If in doubt check the relevant WRAS guidance notes at www.WRAS.co.uk

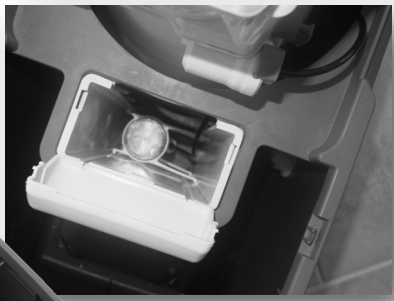
4.6 Connect the brine float assembly to the softener by means of the 4mm flexible tubing. Insert the tube as far as possible (to stop) into the quick release couplings. Make sure not to squeeze the tube and avoid kinks.

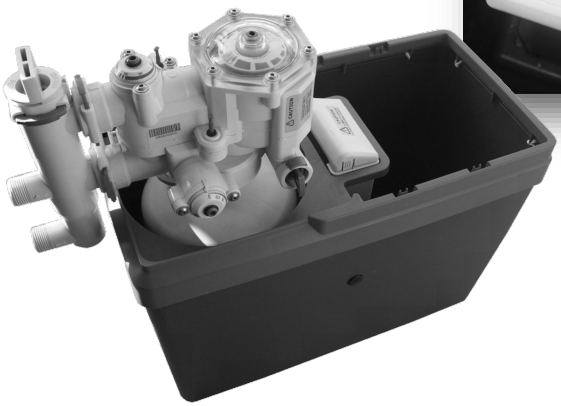


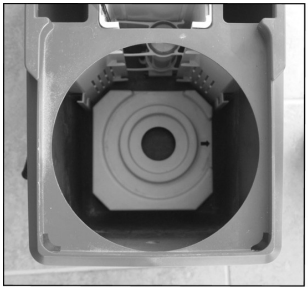
4.7 Connect the overflow hose to the integrated overflow connector. (see below) **The overflow hose must go downhill**.

NOTE: The 13mm Flexible hose is supplied in 1 piece which can be cut as required for use on the discharge and the overflow.

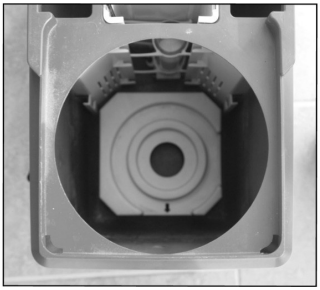
4.8 Place the softener (valve & vessel) in the salt bin; use the side with the round opening (for correct installation, see 4.9). To install the brine float assembly, open the small hinged lid (open by pressing gently on both sides) Insert the brine float assembly inside the space provided, ensuring that it is the correct way up (see diagram below). The brine float should be gently pushed all the way to the bottom of the channel and the tube fitted so as to go behind the blue bar (see below).



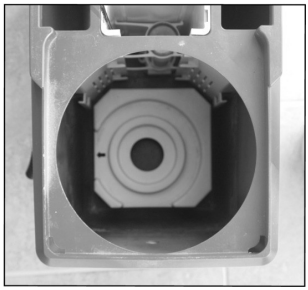




Left Hand Install



Rear Install



Right Hand Install

5. Settings:

5.1 **THE HARDNESS REGULATOR**: (Part 9, Page 6).

The hardness regulator is situated on the **TOP** of the valve unit. It has measurements marked 0 through to 600. Measure the incoming water by means of one of the test strips provided. (these are on the reverse of the registration card).

The Softline units use ppm (parts per million) settings of $CaCO_3$.

Adjust the hardness regulator to the measurement value using the 5mm hex key supplied. **If you are unsure contact the Technical Helpline.**

5.2: **THE BLENDING REGULATOR**: (Part 4, page6).

The blending regulator is situated on the **SIDE** of the valve unit. It has measurement markings from 0 through to 1/2 in fraction increments.

THE SETTING OF THE BLENDING REGULATOR SHOULD BE LEFT AT ZERO.

6. Commissioning & Operation

6.1 Leaving the water softener in 'bypass' mode, open the main valve (stop tap) slowly and flush for several minutes in order to avoid any debris from installation entering the water softener.

6.2 Add water to the salt container until the water level is approximately 10cm (4") high.

6.3 Now add the salt to the salt container (see image). Salt should not be filled any higher than 3/4 the depth of the salt bin.

- **THE SOFTLINE 150 WILL USE EITHER GRANULES, TABLETS OR BLOCK SALT.**
- **THE SOFTLINE 150 Mini & 450 USED EITHER GRANULAR OR TABLET SALT.**

6.4 Turn the bypass fully 180° slowly into "service or open" mode.

FOR OPTIMUM PERFORMANCE WE RECOMMEND THE USE OF TABLET SALT / PELLETS

ALWAYS USE SALT THAT HAS BEEN SPECIFICALLY FORMULATED FOR USE IN WATER SOFTENERS

6.5 Turn on the first cold water tap after the water softener so a flow runs through the water softener. Some air may flow from the tap, this is coming from the softener as excess air is purged from it. This will happen only once at start up. When only water flows from the this tap, close the tap.

6.6 Perform a manual regeneration. Follow these simple steps;

6.6 (a) Use the 5mm hex key supplied to turn the programme disc (shown in diagram 1 below).

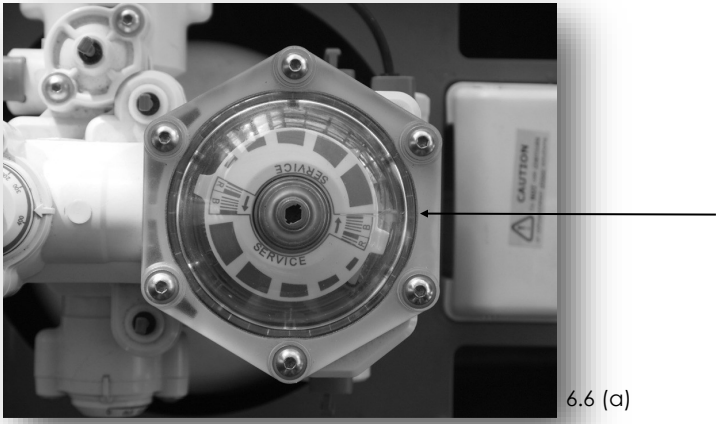
Turn the programme disc slowly counter clockwise until it is in the position shown in diagram 6.6 (a) below. When the arrow and the small line on the transparent cover reach the area marked 'B' (brining), the regeneration will start.

Immediately, the programme disk will drop down slightly (you will be able to see and hear this) at this point you will hear or see a trickle of water going to drain and the water level in the container will start to drop.

About 3/4 through the regeneration you will hear a change in tone as the programme disc reaches 'R' (refill) and the softener refills the container with 1 litre of water ready for the next regeneration.

6.6 (b) Finally, at the end of the regeneration cycle you will hear the water go to drain and then stop. This is a clear indicator that the regeneration stage is over. Depending on water pressure the regeneration cycle will last, approximately, between 10 and 13 minutes.

6.6 (c) Check outgoing hardness with the second hardness test strip provided. Test the water at the first cold water tap after the softener let the water run for a few minutes before testing.



6.6 (a)

6.7 Place both lids on the container. (150 Mini & 450 have a sliding cover).

First the valve cover; making sure the connections fit in the large opening and the drain in the small opening. (if the valve cover does not sit correctly check the position of the base plate). (see 4.8, page 10).

Then replace the front lid. For future salt refills, only the front lid has to be removed.

For ongoing operation, add salt to the container when it gets low. Do not allow the salt level to drop below the level of the water in the salt cabinet and do not allow the salt container to become drained of salt completely as this will impair the performance of the unit and its long term ability to provide soft water.

FINALLY…

To benefit from the warranty on your water softener you must register it. You can do this by either completing the registration card that came with the water softener or online at www.scalemaster.co.uk.

You will need the serial number of the water softener which can be found on the side of the valve on the barcode sticker (see below).

The installer should complete the check list on the next page before finishing.

IMPORTANT

YOUR SOFTLINE WATER SOFTENER BENEFITS FROM A 5 YEAR PARTS & 2 YEARS LABOUR WARRANTY. FAILURE TO ENSURE THE FOLLOWING POINTS MAY INVALIDATE YOUR WARRANTY AND MAY INCUR EXTRA COST FOR CALLS MADE BY SCALEMASTER ENGINEERS TO RECTIFY.

Installer to complete for customer future use.		
		✓
1	Are all grey clips fully secure ?	
2	Is the Brine Float assembly correctly installed ?	
3	Is the Bypass the correct way up ?	
4	Is the Water Hardness regulator set correctly ?	
5	Is the Blending Valve set to Zero ?	
6	Are all hoses installed correctly ?	
7	Has the Water Softener been registered ?	
8	Has the customer been shown fully how to operate the Water Softener?	
9	Has the customer been shown how to isolate the unit in an emergency ?	

IMPORTANT INFORMATION TO THE OWNER:

- Always use water softener grade salt.
- Do not overfill the water softener with salt.
- Do not fill the salt cabinet higher than 3/4 full.

THIS INSTRUCTION MANUAL SHOULD BE LEFT WITH THE HOUSEHOLDER FOR FUTURE REFERENCE

DATE INSTALLED **HARDNESS SETTING**

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