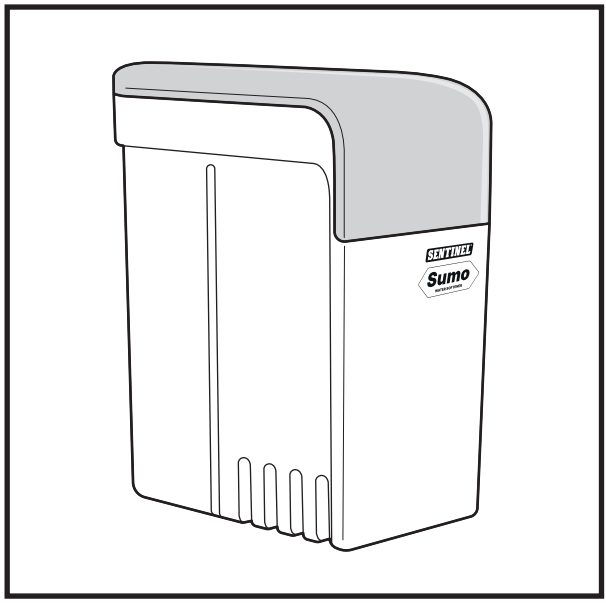
Sumo
Installation Manual

Water Softener

Version 1 – September 2022

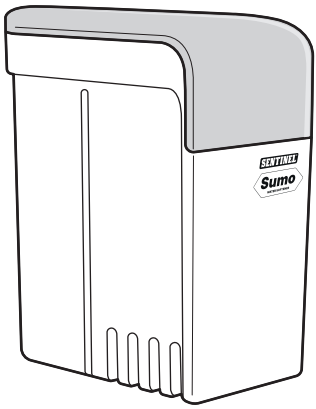


Contents

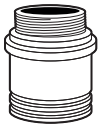
Please visit **www.sentinelprotects.com/uk/guarantee-registration** for Guarantee Registration and Terms and Conditions.

CONTENTS OF BOX

Please ensure you have all of the following items before proceeding with an installation.



1 x Water softener

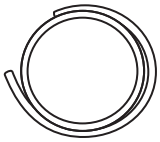


2 x 3/4" BSP in/out adapter

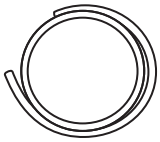
4 x O-ring

1 x in/out retaining bracket

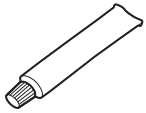
1 x Bracket retaining pin



1 x 2m of 5/8" overflow tubing



1 x 2m of 1/2" drain tubing



1 x 2cc silicone tube

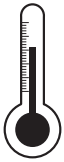
Figure 1

SAFETY INFORMATION

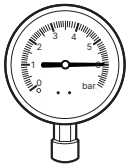
Read all information carefully before installing and using the softener. Check WRAS Information and Guidance Note, no. 9-07-01 for regulatory advice.

Qualified Installer
We recommend that a qualified installer or engineer performs the installation. Failure to do so could invalidate the warranty.

Water Temperature
Do not install the water softener in an area where the water temperature can cause the unit to freeze. Freezing temperatures will damage the system.



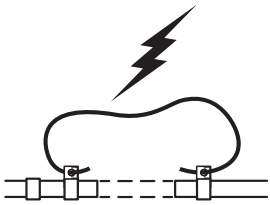
Water Pressure
Do not install if the supply water pressure exceeds 6 BAR (87 psi), unless a suitable pressure regulating valve has been installed on the softener water supply.



Overflow
VERY IMPORTANT: You must install the 5/8" O.D overflow tubing to the barbed fitting on the back of the cabinet and run to a suitable position that is visible and capable of taking water away from the unit (i.e. though an outside wall). The tubing MUST remain lower than the barbed fitting and must NOT be connected to a drain.

Safety Information

Copper/Plastic Pipework
When installing a plastic component on a copper pipe in line, earth continuity straps must be placed ACROSS the component being fitted to ensure that the earth continuity is never broken.



WRAS Approval
WRAS approval for the Sumo I applies to cold water (max 23°C) installs only.

Installation Kit
A Sumo installation kit includes a by-pass assembly which conforms to BS14743 and enables the softener to be isolated from the water service lines for maintenance and service. This also maintains the water supply when the system is disconnected.

Intended Use
These systems are not intended to be used for treating water that is microbiologically unsafe or water that has an unknown quality without adequate disinfection before or after the system.

IMPORTANT:
Refer to the plumbing schematic in **Typical Installation** before beginning installation.

SPECIFICATIONS

Sumo Water Softener

Hardness Level mg/L	100	125	150	200	250	350	525
Litres between regenerations	1,358	1,083	905	689	531	394	256
Maximum Hardness				525 mg/L			
Cabinet Dimensions @ base				H 492mm x D 425mm x W 235mm			
Salt used per regeneration				0.27kg			
Water used per regeneration				25 litres			
Regeneration Time				12 minutes			
Flow Rate @ 1 bar pessure drop				30 litres per minute			
Flow Rate @ 2 bar pessure drop				40 litres per minute			
Pipe connections – in/out				3/4" BSP male			
Drain				Drain Kit and hose suitable for 32mm & 40mm. Waste Pipe supplied.			
Overflow				5/8" OD Barb – Hose supplied			
Minimum/Maximum Operating Temperature				2° – 23°C			
Minimum pressure				1.5 bar (dynamic)			
Maximum pressure				8 bar*			

*Recommend PRV fitted if above 6 bar.

TYPICAL INSTALLATION

Your installation may vary. Image for illustrative purpose only.
NOTE: Air gap waste fitting contains a water trap.

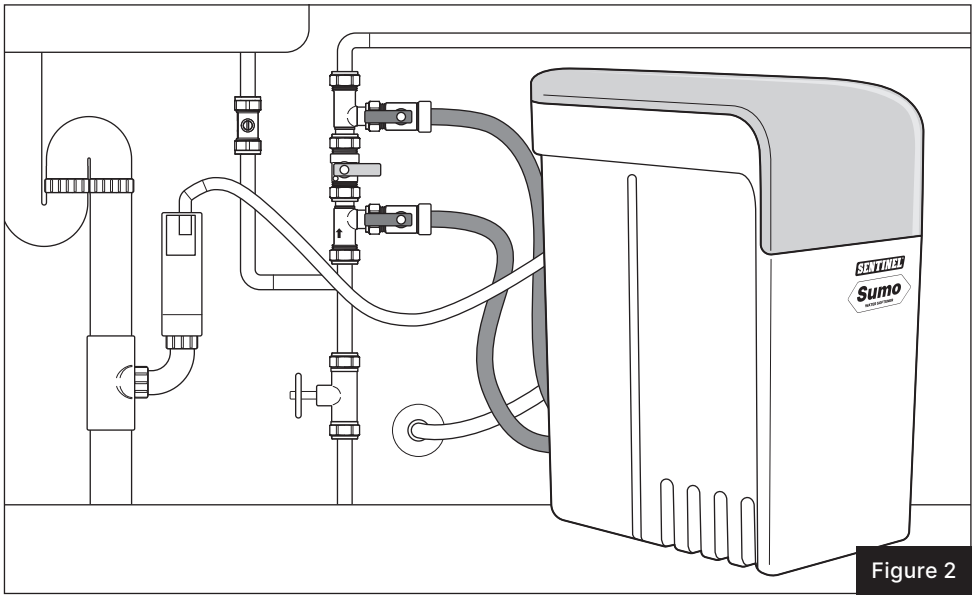
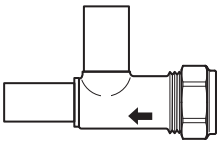
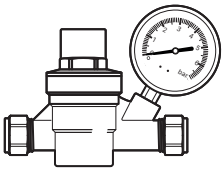


Figure 2

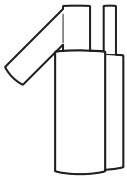
Non-return Valve
A non-return valve (included in the by-pass set) is required on the mains water supply to the softener.



Pressure Regulating Valve
Fit a pressure regulating valve, where water supply pressure exceeds 6 bar on the mains water supply to the softener.



Drain Line
Plumb a drain line from the softener to a waste pipe through an appropriate water regulations compliant air gap, such as the one provided. The extension piece MUST be and cut no shorter than 100mm.



WRAS
Consult WRAS Information and Guidance Note, no. 9-07-01 for regulatory advice.

INSTALLATION INSTRUCTIONS

Step 1 – Locate:
Determine location to install equipment. Make sure that the unit will be on a flat surface. If the unit is sited in a warm environment or next to a heat-generating appliance, you may experience salt build up on the inside of the cabinet. This may need to be periodically cleaned. Alternatively, site the unit in cooler, ventilated position.

Step 2 – Test pressure:
Test incoming pressure to the unit. A pressure reducing valve is recommended if the pressure is above 6 bar.

Step 3 – Install:
Plumb pipe work as necessary to accommodate a by-pass valve set, see **Figure 2.**

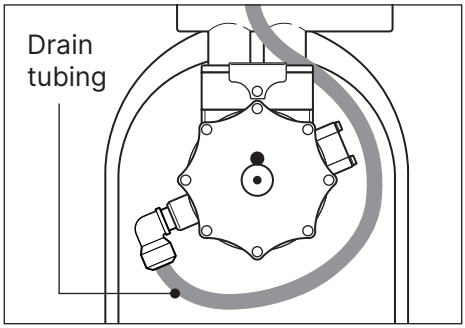
CAUTION:
Do not solder any fittings whilst connected to the unit adaptors. Excessive heat may result in damage to the plastic and rubber parts. The materials used in the soldering process may attack certain types of plastics. Care should be taken during the installation process to ensure that solder and flux do not come in contact with media tank, control module and related plastic components.

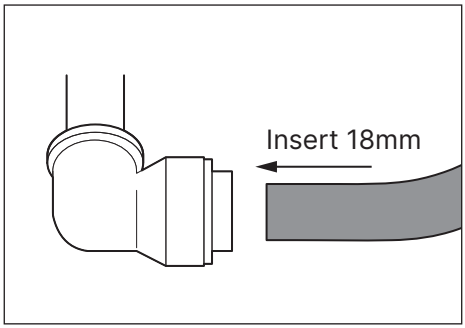
NOTE:
Verify installation complies with regulations before continuing.

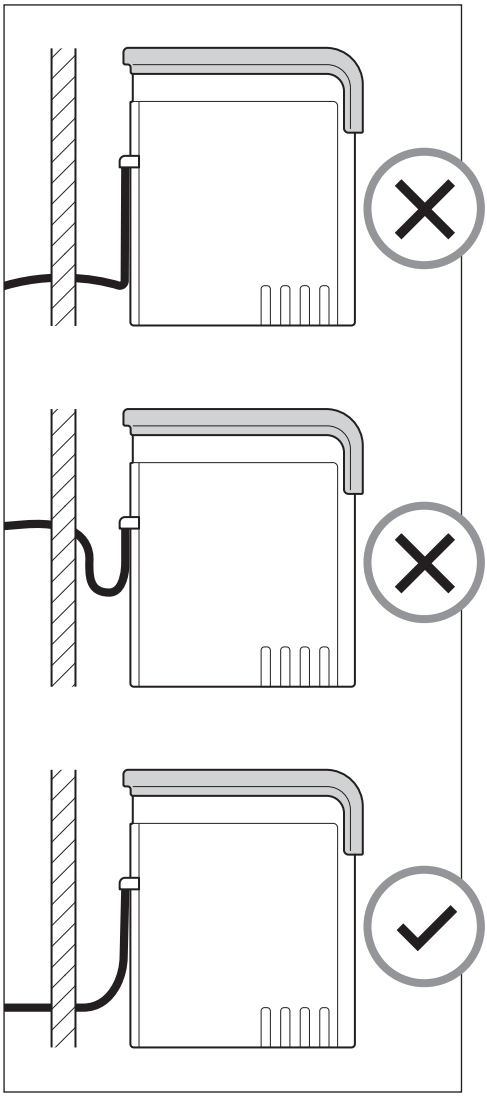
Step 4 – Flush:
After all the plumbing has been completed, but before connecting the water softener, flush the pipe work allowing water to rinse out any residual debris**.**

Step 5 – Attach drain and overflow tubing:
Insert the 1/2" tubing into the drain elbow. Tug on it to ensure it is fully inserted. Route the tubing around the softener module, exiting in the aperture below the inlet and outlet connections on the back of the cabinet. Make sure the tubing is inserted 18mm into fitting.

NOTE:
The drain tubing should be run no more than 2 metres vertically and 9 metres horizontally, before connecting to the main drain. Make sure there are no obstructions or kinks in drain tubing before connecting to softener.







Step 6 – Attached overflow tubing: Run the drain line to the discharge point then install the 5/8" O.D overflow tubing to the barbed fitting on the back of the cabinet and run to a suitable position that is visible and capable of taking water away from the unit (i.e. though an outside wall). The tubing MUST remain lower than the barbed fitting and must NOT be connected to a drain.

Step 7 – Set regeneration frequency:
You must ensure the unit is fully reset before adjusting the hardness.

Resetting procedure: Put a cross headed screwdriver into the recess on the top of the unit and whilst keeping the screw driver pushed down, turn at least one full rotation to reset the metering system. Determine the hardness of your water supply in ppm or mg/l by using a hard water test kit or contacting your water supplier. Locate the closest higher valve on the meter and having removed the blue protection clip from underneath the Hardness Adjustment Knob, push down and turn the knob so the chosen hardness value is positioned above the alignment arrow. **YOU MUST NOT SET THE ALIGNMENT ARROW IN THE BLACK AREA**.

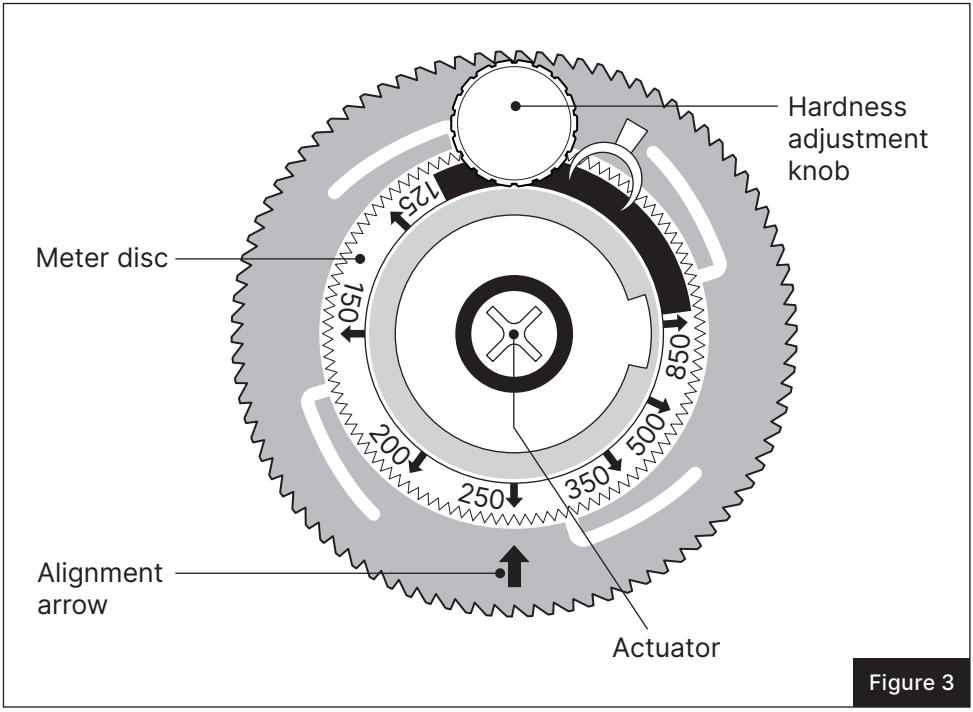
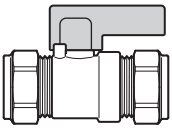


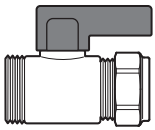
Figure 3

Step 8 – Fit the adapters:
Fit 2 O-rings to each in/out adaptor then lubricate with supplied silicone grease. Connect the inlet/outlet adapters to the supply and return hoses remembering to use screened washers. Install adapters into control valve in/out ports, ensuring that they are fitted into the correct ports (see flow arrows on valve for reference). Attach the retaining bracket and pin to the control valve.

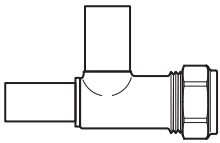
BY-PASS KIT: CONTENTS



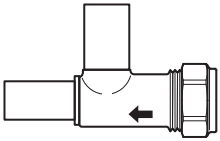
1 x Bypass valve



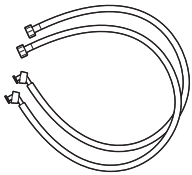
2 x Inlet/outet valve



1 x Outet T



1 x Inlet T with non-return valve (labelled with flow direction)



2 x Hoses (15mm or 22mm)

4 x Sealing washers

Figure 4

BY-PASS KIT: CONSIDERATIONS

Before starting consider the following:

- The by-pass valve set can be assemble in various configurations to accommodate change of copper pipe direction.
- The inlet "T" is clearly labelled with a "direction of flow arrow", if the T's are assembled incorrectly water will not flow to the property.

NOTE:
Supplied compression olives are a mix of brass and copper, they are in the correct joints and should not be relocated. Brass olives are for joints on copper pipe, copper olives are for hard tails in the T assemblies. When in the correct orientation make good the compression joints.

- When measuring the length of copper pipe work to cut out, take into account that the length of pipe inserted into the T's is different as the inlet T allows for the inbuilt non-return valve.
- On completion, affix the "By-pass Softener" label in a prominent location.

BY-PASS KIT: INSTALLATION

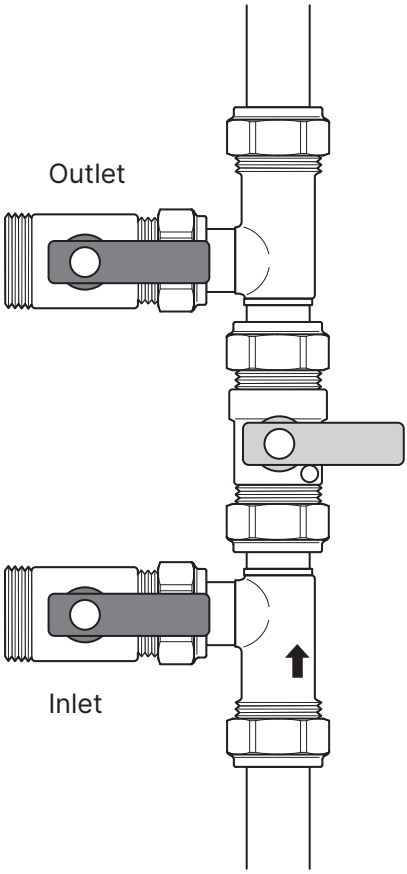
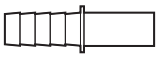
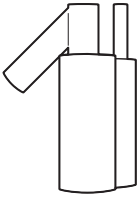


Figure 5

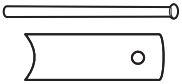
GAP TRAP KIT: CONTENTS



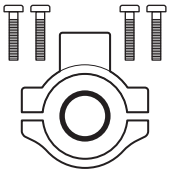
1 x Drain hose to air gap connector



1 x Air gap

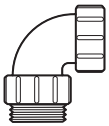


1 x Outlet T



1 x Saddle

2 x Spacers



4 x Elbow

1 x Extension piece

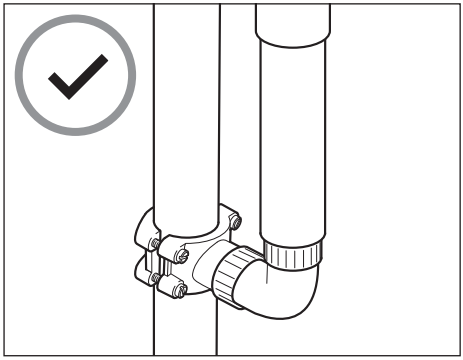
1 x Gap trap

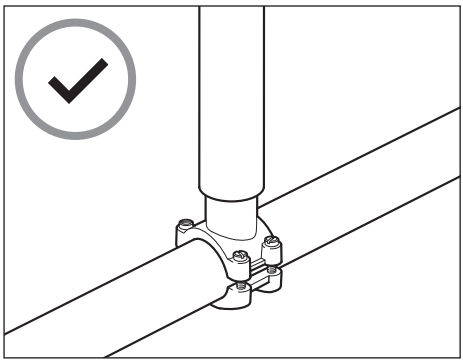
Figure 6

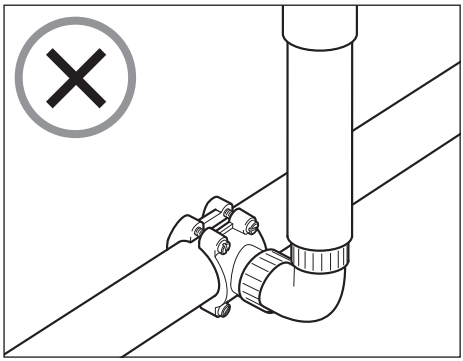
GAP TRAP KIT: CONSIDERATIONS

Before starting consider the following:

- You will require a tin of solvent weld cement
- The extension piece can be cut to suit the installation, but should be no less than 100mm in length
- The elbow should only be used on a vertical waste pipe, since use on a horizontal pipe will cause subsequent restriction due to the build up of fat/grease. If fitting to a horizontal pipe, fit on top without the elbow.







GAP TRAP KIT: INSTALLATION

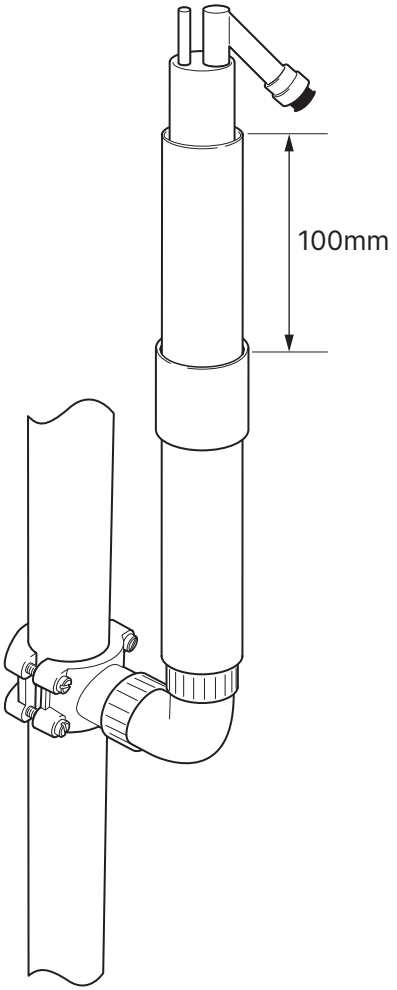


Figure 7

GAP TRAP KIT: INSTRUCTIONS

Step 1 – Assemble the saddle with the O ring:
Use spacers if the pipe is 1 1/4", assemble the saddle with the O ring and clamp to the waste pipe.

Step 2 – Bore the hole:
Using the cutter, bore the hole and make sure that slug is fully cut off – put your finger in to check.

Step 3 – Fit the gap trap:
Fit the gap trap hand tight on to the O ring with the elbow in between, if required. At this point dry assemble the extension and air gap to check that you have sufficient space. If you need to cut the extension do so now but leave as long as possible (minimum 100mm).

Step 4 – Assemble the air gap:
Determine which way you need the spigot on the air gap to meet your drain hose and assemble all with solvent weld.

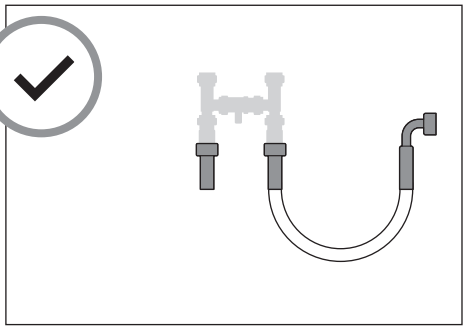
Step 5 – Connect the drain hose:
Once the solvent is dry, connect the drain hose – this can be done before gluing if it is easier.

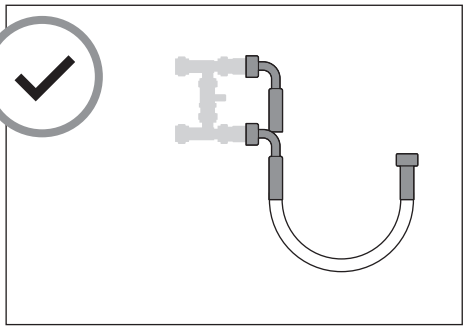
Step 6 – Installation checks:
Check for leaks and if you have used the elbow make sure that there is no danger of the standpipe being pushed out of vertical alignment.

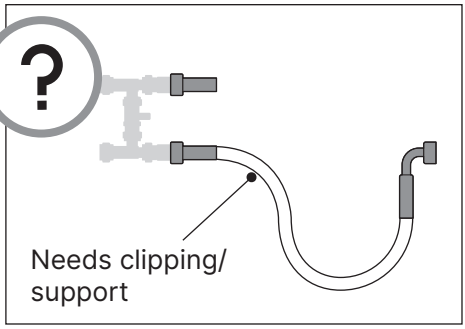
Step 7 – Connect drain hose to gap trap:
To make the final connection of the drain hose into the gap trap, insert 3/8" barb fitting into the hose and connect to the gap trap via the push-fit fitting.

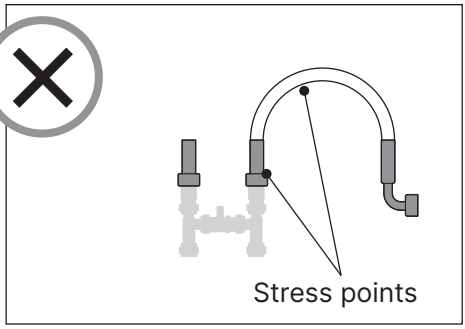
SUPPLY & RETURN HOSE ORIENTATION

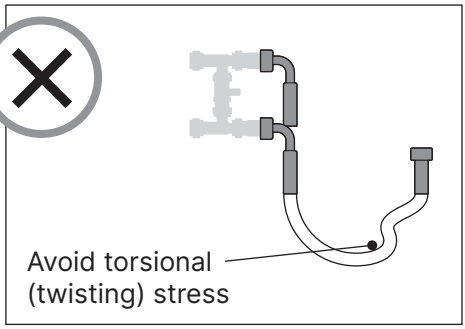
When fitting hoses in their final position, consideration should be given to any stresses imparted on connections.

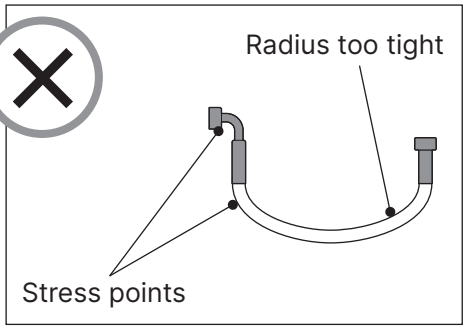












INSTALLATION REVIEW & STARTUP

Step 1 – Test pressure:
Test incoming pressure to the unit and adjust pressure reducing valve if the pressure is still above 6 bar.

Step 2 – Secure drain line:
Make sure the drain line is secure, using an airgap that is compliant.

Step 3 – Main inlet valve:
With the by-pass in position (inlet closed, outlet closed, by-pass open), open the main inlet valve slowly and check for leaks in the plumbing.

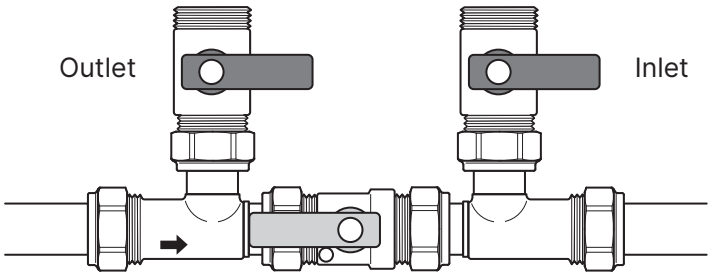


Figure 8

Step 4 – Finish system set up:
If cabinet does not fill up with water, add 6 litres of water to the Sumo I cabinet. Add a quality grade of block or tablet salt.

Step 5 – Start a manual regeneration:
Using a #2 Phillips screwdriver, push down firmly on the actuator and slowly turn clockwise, listening for four clicks to start the regeneration. At this point you should hear water begin to run through the system. If you do not hear water running through the system, the disc may not have been advanced far enough, continue to turn. After 12 minutes the regeneration will be complete and the softener is ready for service.

Step 6 – Salt Options:
You have the option of using block or tablet salt.

IMPORTANT: On no account should granular salt be used in this Sumo Water Softener

Step 7 – Leave in service:
Open outlet valve and close bypass.

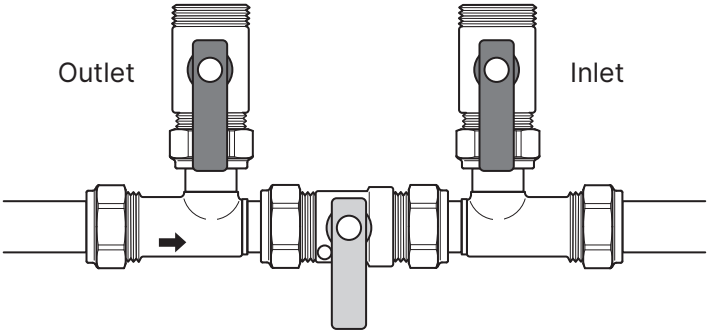


Figure 9

CUSTOMER SERVICES

For expert advice, any more information about the Sentinel Sumo Water Softener or any other product in the range please contact customer services at:

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