



Delta Water Engineering



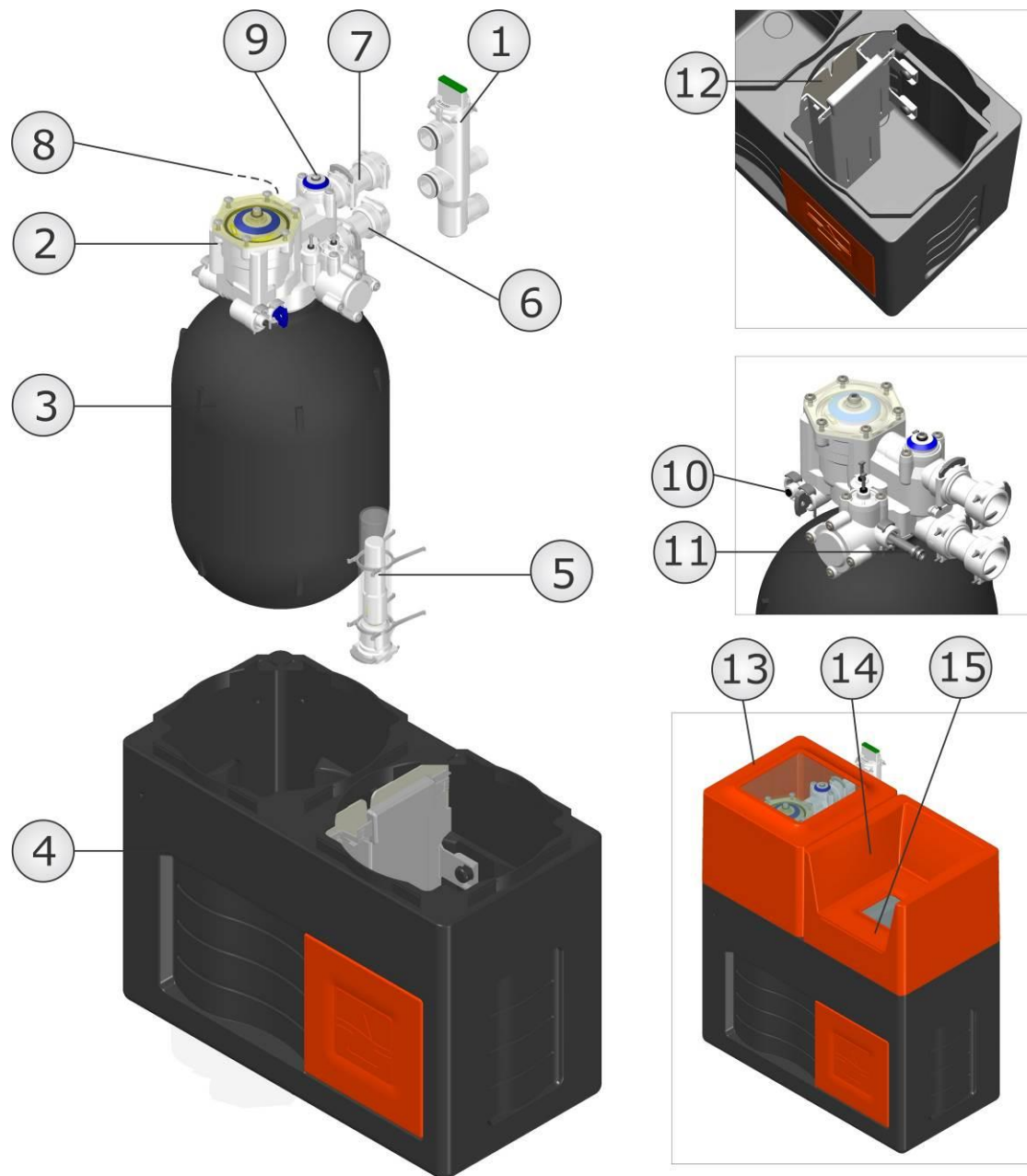
DELTA ARENAL



INSTALLATION GUIDE

ARENAL

1. Parts:



1.	BYPASS	9.	HARDNESS REGULATOR
2.	VALVE HOUSING	10.	TO BRINE VALVE
3.	RESIN TANK	11.	TO THE DRAIN
4.	CONTAINER FOR DEVICE AND SALT	12.	LOCATION FOR THE BRINE VALVE
5.	BRINE VALVE (float)	13.	COVER VALVE
6.	WATER INLET	14.	COVER SALT COMPARTMENT
7.	WATER OUTLET	15.	SALT HATCH
8.	BLENDING REGULATOR		



2. Precautions:

- Make sure you have all necessary tools on hand before you begin with the installation.
- Follow all local legal regulations.
- **Read this manual carefully.** If you have any questions or remarks, please contact your Delta supplier.
- Check incoming pressure: minimum 1bar (dynamic), maximum 8bar (static) (15 PSI – 116 PSI). If necessary reduce incoming pressure.
- Do not install the Delta Softener close to a heating source (environment temperature must be below 40°C).
- Protect softener and drain (11) against frost.
- Make sure you have the latest installation manual at hand. Check with your Delta supplier.

3. Installation:

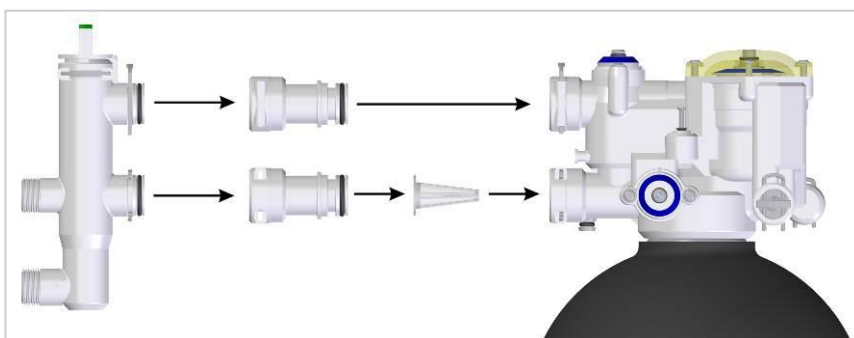
3.1 Close main valve and make sure pressure is released from piping. This can be done by opening at least one tap.

3.2 Cut open main water supply in order to install the Delta Bypass.

3.2.1

Follow the arrows on both Bypass and softener for water inlet and outlet.

Extension parts need to be mounted between the Delta Bypass. Assemble them if they are not fixed yet.

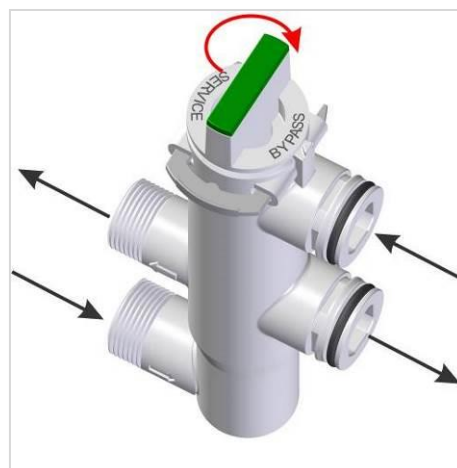


With Delta Bypass (3/4" connections)

Pay attention that the inlet filter doesn't fall out.

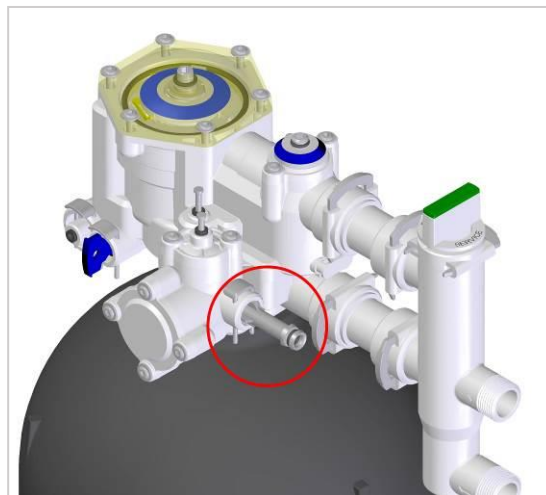
The filter is located at the inlet, between the valve housing and the extension part. Check this! (See picture)

Caution: before installing the softener, set the Bypass in "bypass" mode, **not** in "service".

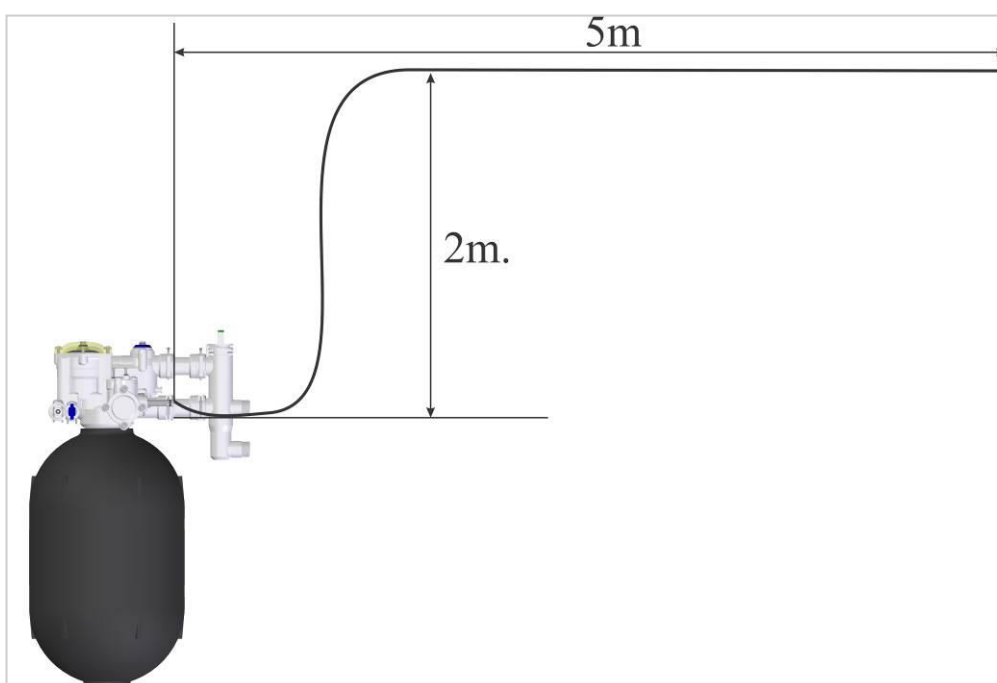


3.2.2

Connect straight outlet (#11) to a local drain **(through a free flow off)** by means of the provided 13mm flexible drain pipe. In order to guarantee that the device will keep on functioning perfectly in the future, this drain pipe is spirally reinforced to avoid later blocking and/or kinks. Please protect the drain against frost and heat (min. temp. 5°C, max. temp. 40°C).



When a different drain tube is used, the warranty will expire.



Maximum height and distance of flexible drain hose

CAUTION: For the installation of the flexible drain hose to the fixed piping, please follow local legislation.

3.2.3

Make sure to install the supplied overflow elbow. (You will find it in the salt container)

First make a hole with a diameter of $\varnothing 21\text{mm}$ in the container. For the location of this hole, there are 4 marks. (See picture) Choose the best location for your overflow. When the hole is made, mount the overflow tap and secure it with the supplied nut.

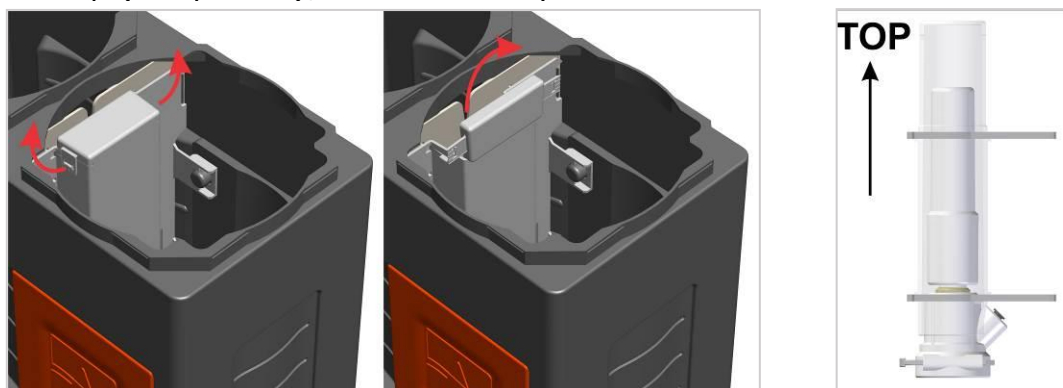
Make sure that you remove all plastic parts that might have fallen into the container caused by making the hole.



3.2.4

Check the correct position of the brine valve.

Open the small cover on the partition panel in the salt container as you can see on the picture below. The brine valve needs to be placed with the right side up (see picture), and all the way at the bottom of the container.



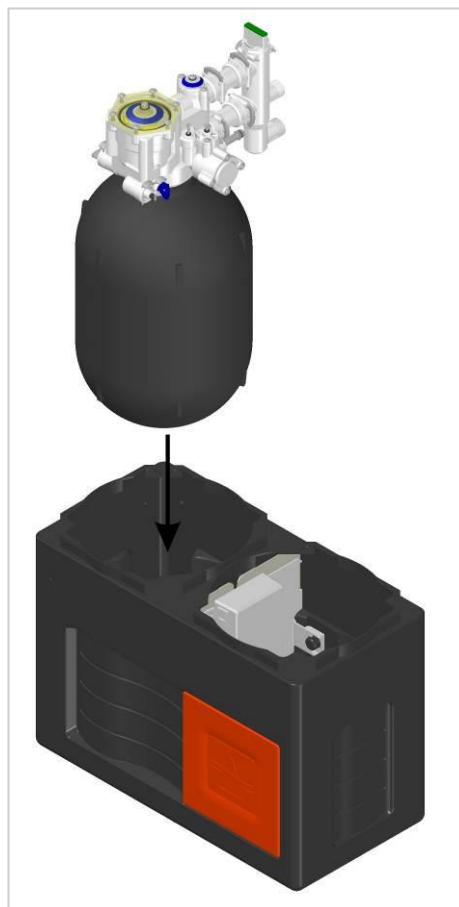
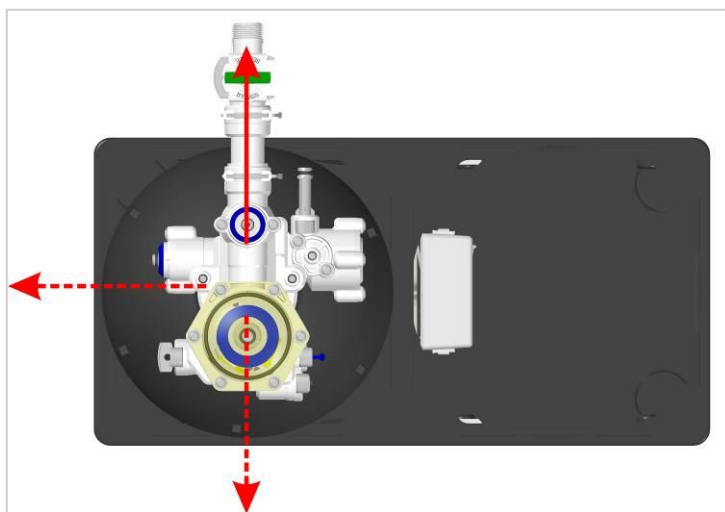
Make sure not to squeeze the tube; avoid kinks.

Disconnect if necessary, and reconnect correctly. Close the cover after you have checked the position of the brine valve.



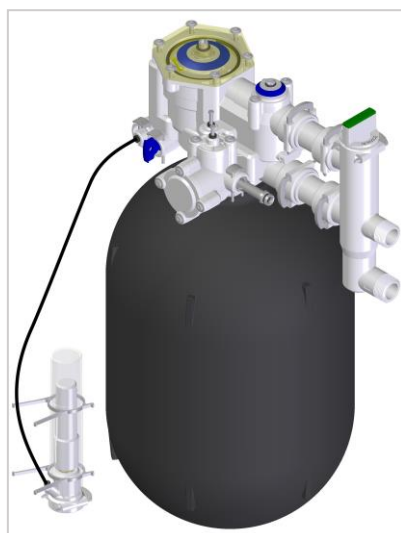
3.2.5

For the orientation of the softener, there are three possibilities. (See picture) Choose the orientation that is most suitable with your installation. You can change the orientation of the unit, without taking it out of the container.



3.2.6

Connect the brine valve (#5) to the softener by means of the $\varnothing 4\text{mm}$ flexible tube (if it has not been done yet). Insert the tube as far as possible (to stop) into the quick-release couplings. Make sure not to squeeze the tube; avoid kinks.



4. Settings :

4.1 Hardness regulator :

=part number 9 on the illustration on page 2

Measure the hardness of incoming water by means of a hardness test kit (not supplied by Delta). Delta uses ppm settings of CaCO_3 . (10ppm $\text{CaCO}_3 = 1^\circ\text{fh}$) ($1^\circ\text{dh} = 1.78^\circ\text{fh}$)

Adjust the hardness regulator to the measured value. This requires a hex key number 5.



4.2 Blending regulator :

= part number 8 on the illustration on page 2

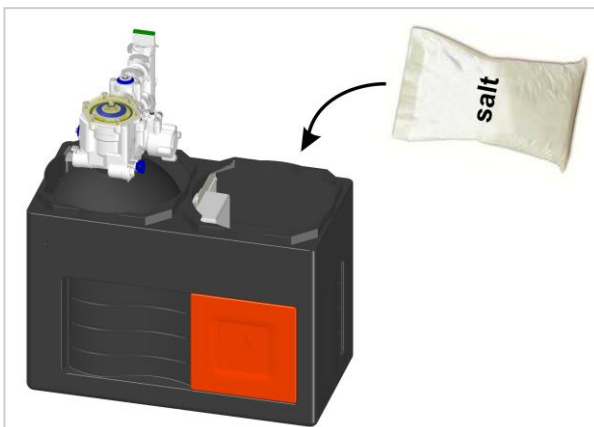
With the blending regulator, you can determine the outgoing hardness. Depending on the desired residual hardness, set outgoing hardness with a hex key number 5. The setting is proportional, i.e. 1/10 - 1/5 - 1/... of total incoming hardness.



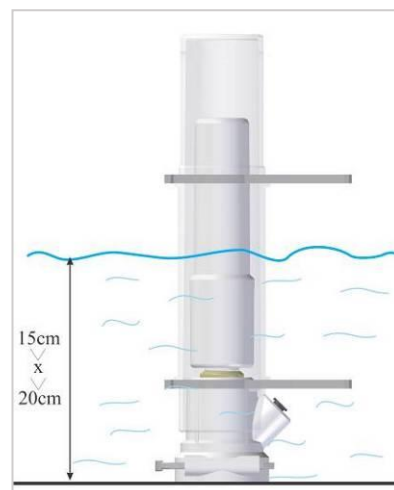
5. Start up:

5.1 Leave the Bypass in "bypass" mode, open main valve and flush for several minutes in order to avoid impurities from entering the softener.

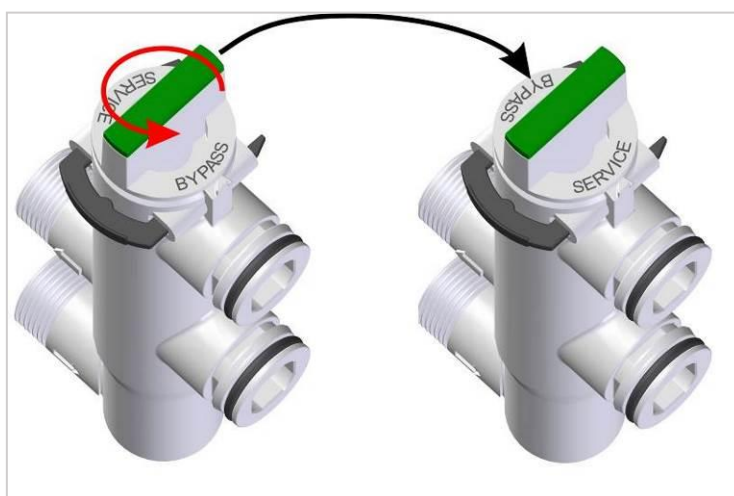
5.2 Fill the container with salt in the provided space. **Use only specific salt tablets that are suitable for softeners.**



5.3 Add water in the salt container until the water level is between 15cm (6") and 20cm (8") high. (The float on the brine valve must be afloat). Make sure that the salt level is always higher than the water level. (When the softener is fully operational)



5.4 Turn the bypass slowly to "service" mode. Open the main valve when you do not use a Bypass.

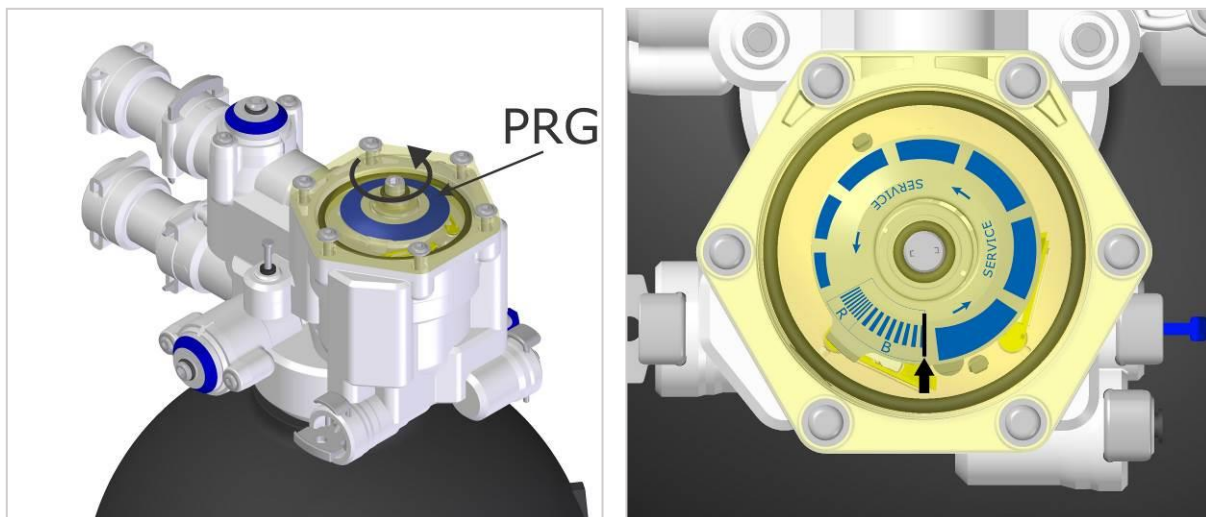


5.5 Open a tap behind the softener so a flow runs through it. Some air may flow from the tap; this comes from the softener. This will happen only once; at start-up. Once only water flows from the tap, and no more air, close the tap.

5.6 Perform a manual regeneration.

5.6.1

Use a hex key number 5 to turn the program disk (PRG) manually.



Turn PRG counter clockwise until it is in above position. When the arrow and the small line on the transparent cover reach the area marked by "B" (brining), the regeneration will start. Immediately, the PRG will drop down a little (you will be able to see and hear this). "R" stands for refill (refilling the container with water at the end of the regeneration stage). To make sure the softener is in regeneration, there should be a small water flow to the drain, and the water level in the container should drop.

5.6.2

We advice that a complete regeneration is performed. The estimated time is approx. 24 minutes. When regeneration has stopped, no more water flows to the drain and the container is filled up with water. This is a clear indication that the regeneration stage is over.

5.6.3

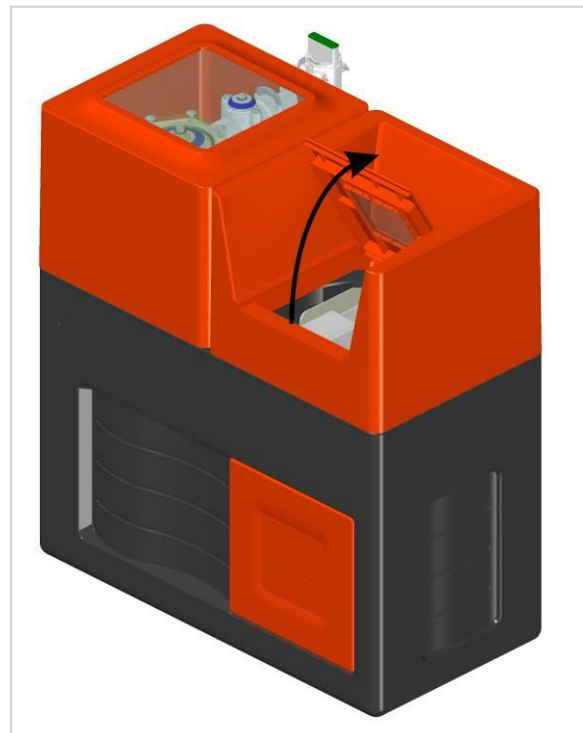
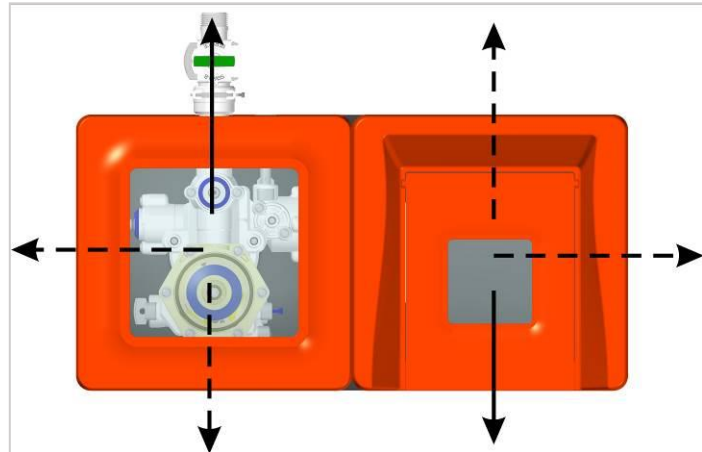
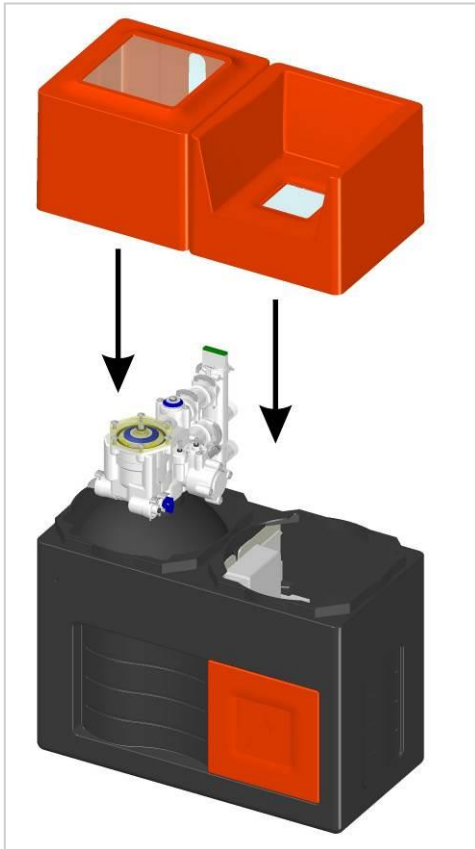
Open a tap behind the softener for several minutes to allow residual water to be flushed from the tubing.

5.6.4

Check outgoing hardness with a "hardness test kit" (not supplied by Delta). Adjust blending if necessary.



- 5.7 Mount the two covers on the container.
Each cover has 3 possible orientations. So in total, there are 9 different combinations possible.
The orientation of the cover valve depends on the orientation of the softener. For the cover over the salt compartment, you still have 3 options. Choose the position that is most convenient for your installation. For refilling the salt afterwards, there is a hatch provided in the cover over the salt compartment.



Do not forget to connect the overflow to the drain.

REMARKS:

It is recommended that a water softener is installed by a professional. Although the DELTA softener is probably the easiest and safest softener on the market, it is imperative that all necessary precautions are taken and **local legislation is followed**. This installation guide is written to help the professional installer keeping in mind that this person has essential knowledge about hydraulic softeners and domestic plumbing.

Proper working of the softener will be determined by proper installation.

An annual control of your Delta softener will guarantee optimal functioning and a long operating life.

The DELTA WATER ENGINEERING team is proud of its achievement in having provided in what we believe to be the best softener available today. Moreover, we are proud to have you as a customer. We will do our utmost to deserve your trust.

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