SOFTENER, SCAVENGER AND CRYSTAL RIGHT

INSTRUCTIONS FOR YEARLY MAINTENANCE

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1. QUICK CHECK-UP

1. CHECK THE INCOMING AND OUTGOING HARDNESS

By measuring the incoming hardness and comparing this to the programmed hardness, you immediately know whether the hardness of the water has changed any.

By checking the outgoing hardness, you can immediately tell whether the system is still working fine and it is an indicator that the valve is programmed correctly.

2. CHECK THE BRINE TANK

When the brine tank is too full, this can indicate that there is something wrong during the draw phase. Please see below for common issues during the draw phase or check the Drawings and Service Manuals or Trouble Shooting guides for an overview of common issues and how to resolve them.

A dirty brine tank should be cleaned as well.

3. STEP-THROUGH REGENERATION

If something unusual would occur then please check the internal parts like piston, injector, S&S, DLFC. Further down, more detailed maintenance instructions can be found.

4. USE CLEANING CHEMICALS

Cleaning chemicals may be used to clean the resin beads or the Crystal Right. Fouling and other contamination can decrease the capacity of the media. By help of the cleaning chemicals the capacity is restored.

- Softener and Scavenger: Resin clean
- Crystal right: Crystal clear out

Perform a manual regeneration by pressing the "regen" button and holding it for a few seconds

Backwash phase

If no water is going to the drain, check:

- DLFC, piston or S&S

Draw phase

If no water is being drawn up, check:

- Injector
- Regenerant piston
- Inlet pressure min 1.7 bar?
- Brine line and drain line not clogged?
- Check settings/programmation
- No leakages?

If no water is going to the drain, check:

- DLFC, piston or S&S

Rinse phase

If no water is going to the drain, check:

- DLFC, piston or S&S

Fill phase

If no water is sent to brine tank, check:

- Check piston and S&S

1. Softener, scavenger, and crystal right – systems have a very similar work principle and have therefore the same maintenance.

2. A MORE THOROUGH CHECK-UP

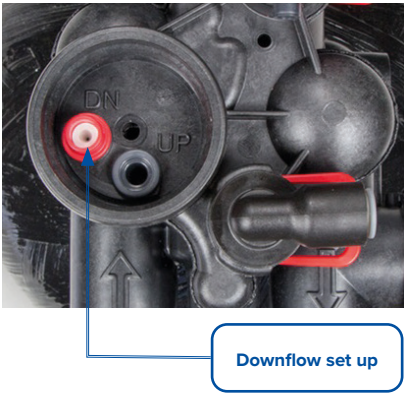
1. INJECTOR CHECK-UP

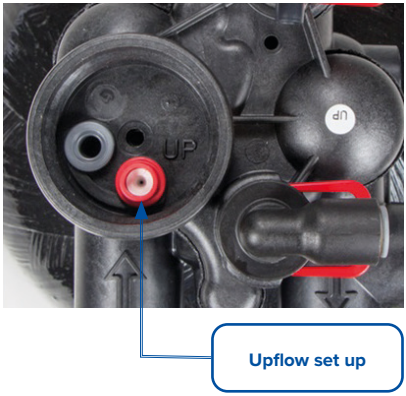
1. Remove the injector cap. There are two ways to do so.

a. **Right picture:** With the help of the open end of the service wrench

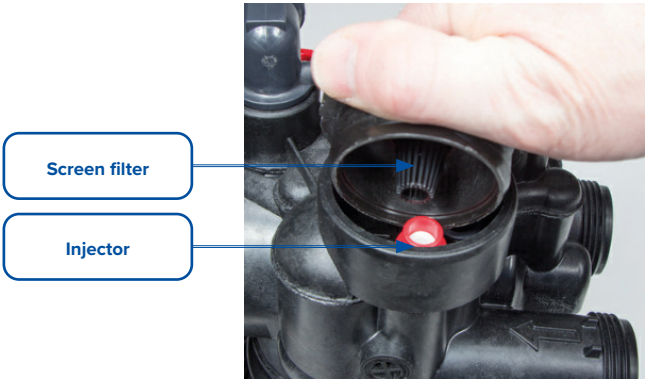
b. **Left picture:** With the closed end of the service wrench, but first you have to remove the BLFC fitting.

2. The injector is placed in either the DN-hole (down flow brining) or the UP-hole (upflow brining). The hole that is not used should contain a plug. The below pictures give an example of downflow or upflow.





3. Use the end cap to remove the injector from its position by scooping the top rim of injector



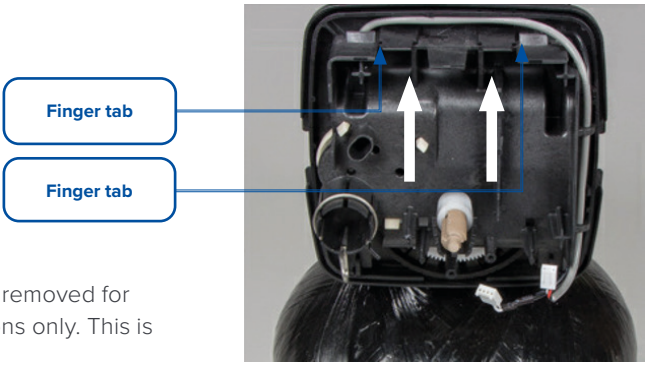
4. Check the screen filter for any dirt particles or deformations

5. When everything is cleaned, put the parts back in their original position.

2. CLEANING AND CHECKING THE PISTON AND SEALS & SPACERS

1. Remove the front cap of the valve, so the PCB-board becomes visible

2. Above the PCB-board, there are 2 finger tabs. By pushing these upwards, the drive bracket can be easily removed.



The PCB board is removed for educational reasons only. This is not necessary.

3. By using the closed end of the wrench again, the drive cap can be removed. When the drive cap is loosened, the complete piston assembly can be pulled out.

4. You can chemically clean the piston and regenerant piston in dilute sodium bisulfite or vinegar, or replace them in case you see any deformations.

Apply slight side pressure to remove

The main piston (amber colored) is attached to the piston rod with a snap-off connection. Rotate with the white gear if the piston is not fully exposed, hold drive cap and roll piston on other hand to pop off piston. If the piston has 2 colors, it is an UF piston. The brine piston (black colored) is also connected with a snap-off connection to the main piston.

5. The S&S can be easily removed with one finger and consists of one single piece.

6. Do a checkup of the S&S:

- Check the S&S for any dirt particles like for example iron.
  - Clean or replace if necessary
- Check seals for little cracks and make sure the seals are all in line and not worn out.
  - Replace if necessary

7. After cleaning or replacing internal parts lubricate all parts with silicone lube before reinstalling in valve.
8. Put everything back again after the check-up. The drive cap must be tightened to its stop where you cannot turn anymore using the service wrench. This ensures a proper seal.
9. Make sure that the white gear spins free and easy. If fixed at an extreme end position, the drive motor may not be able to turn the gears. When the 4 pin power connector is reconnected to the board, the valve will do a soft reset and put the valve in the service position.

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