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**SCHLISSMANN
SCHWÄBISCH HALL**



Tel. 07 91 - 9 71 91-0 • Fax 9 71 91-25
C. Schliessmann Kellerei-Chemie GmbH & Co.KG
Auwiesenstr. 5 • D-74523 Schwäbisch Hall

Brennereitechnologie

AQUA Compact - Water softener -

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Technical informations and use instructions

General information:

When lowering high-percentage distillates to drinking strength, white-coloured, fuzzy turbidities occur when limy water is used. The reason for this is the significantly lower solubility of calcium and magnesium salts in alcohol-water mixtures than in water. To avoid such distillate turbidities, the use of softened blending water is necessary.

The use of softened water is also recommended for cooling the burning device in order to protect the system from calcification.

Function principle:

The **AQUA Compact Water Softener** is filled with the artificial resin granule LEWATIT®. During the process, the granule withdraws calcium and magnesium ions from the water and delivers sodium ions to the water in exchange. Sodium salts do not form any deposits in alcohol-water mixtures and do not form any layers on the hot surfaces in the dephlegmator and the cooler.

The softening performance of the LEWATIT® filling is based on the quantity of hardness formers contained in the water, i.e. the water hardness. The following water quantities can be softened with the **AQUA Compact** until the next regeneration is required:

2,500 litres at 15° dH	1,800 litres at 20° dH
1,200 litres at 30° dH	900 litres at 40° dH

If the granule is exhausted, it can be regenerated with pure softening salt (softening salt, art. no. 6508). To detect the exhaustion of the granule in good time, it is recommended to test the water hardness with the DUROVAL test set (art. no. 6500) regularly. If the draining-off softened water reaches a hardness degree of 4° dH or more, the **AQUA Compact** is to be regenerated.

Device description:

The **AQUA Compact Water Softener** is made of stainless steel (height approximately 600 mm). The filling consists of 9 litres of LEWATIT®.

The device can either be operated on a non-pressure basis with hose connections or can be permanently integrated into the tap water or cooling water system.

Scope of delivery:

The device is delivered with 3x2kg softening salt, a 2x1.50m hose with quick couplings and 1x1½" tap connection, salt filling chute and a DUROVAL quick test for determining the water hardness. A 5-litre polymasuring cup is included for setting the water throughflow rate. Note: there are 3/8" external threads under the quick couplings for permanent integration.

Special advice:

1. The **AQUA Compact Water Softener** must always be stored on a frost-free basis in order to avoid damage to the artificial resin granule and the device.
2. The granule is always to be kept moist. For this reason, the **AQUA Compact Water Softener** must always be filled with water. To avoid the deterioration of the water in the non-used device, one should allow a few litres of clean drinking water to flow through it once a month.
3. The use of pure softening salt (sodium chloride) is recommended for the regeneration. In addition to sodium chloride, commercial cooking salt contains other salts as anti-caking agents that not only reduce the regenerative performance of the LEWATIT® granule, but also reduce its lifespan.
4. N LEWATIT® that is no longer regenerable can itself be replaced (3-litre bag, art. no. 6506).

General installation advice:

- The **AQUA Compact Water Softener** should be installed behind a tap in such a way that the filling opening above is easily accessible;
- The temperature at the setup point should be between 0 and 50°C;
- Ideally, there should be a drain within reach of the ventilation and salt-water drain hose.

Initial operation:1. Fill device with water:

- Connect fabric-reinforced inlet hose to the quick coupling on the lower tap "D" and screw on to the tap;
- Fit ventilation hose "E" into drain;
- Open tap;
- Turn the lever at the lower tap "D" to the left, the lever at the upper tap "C" to the right in order to fill the container;
- As soon as water comes out of the ventilation hose "E", close both taps (position lever vertically);
- Leave device filled with water to stand for approximately **2 hours**.

2. Back-wash device:

- Open lower tap "D" to the left, upper tap "C" to the right again;
- As soon as colourless, clear water flows out of the ventilation hose "E", close both taps.

3. Leach out ion exchanger resin:

Note: Although this step requires time and a few cubic metres of water, it aids the complete taste neutralisation of the resin.

- Close tap;
- Disconnect fabric-reinforced inlet hose from the lower tap "D" and connect to the quick coupling on the upper tap "C";
- Connect second fabric-reinforced drain hose to quick coupling on the lower tap "D" and fit its end into drain;
- Open tap;
- Open the two taps "C" and "D" to the left and run 1-2m³ water;
- Regenerate device as per section "**Regeneration**";
- Repeat step 3 once.

4. Connect device ready for operation:

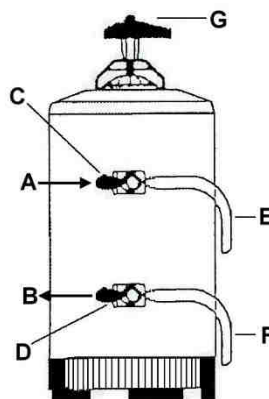
- Maintain hose connection between water tap and upper tap "C" or replace with permanent piping;
- Create hose connection between lower tap "D" and the device to be supplied with soft water or replace with permanent piping.

Routine operation:

- Open tap and both taps of the **AQUA Compact Water Softener** to the left; here:
- **Set throughflow output to a maximum of 5 litres per minute (monitor with clock and measuring cup)!**

Regeneration:

- Close tap and both taps of the **AQUA Compact Water Softener**;
- Fit saltwater drain hose "F" into drain;
- Open lower tap "D" to the right to relieve pressure;
- Open container by unscrewing handle "G", remove lid;
- Pour in 2kg of softening salt;
- Clean cover seal and seal seat, insert lid again and screw on;
- Open upper tap "C" to the left;
- Run water until it no longer tastes salty;
- Close the two taps "C" and "D".

Operating position of the taps:

- A: Tap water inlet
- B: Soft water outlet
- C: Upper tap
- D: Lower tap
- E: Ventilation
- F: Saltwater drain