CONDAIR SOFT 10

Pendulum softening system

INSTALLATION MANUAL

Condair **Soft 10** Pendulum softening system
01/05/2017

Air humidification, dehumidification and
evaporative cooling

condair

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1. Safety instructions

1.1 General

This technical documentation contains basic instructions that must be observed during set-up, operation and maintenance. Therefore it is essential that it is read before assembly and commissioning by the installer as well as by the responsible technical personnel/operators. It must always be available in the location where the system is in use.

The general safety instructions listed in the "Safety instructions" section must be followed, as must the special safety instructions and warnings that appear in other sections.

Moreover, the special rules and guidelines for accident prevention that apply to the location of use must also be followed.

Instruction

These instructions provide important information on how to handle the system correctly. Failure to observe these instructions can lead to faults in the system or problems in the surrounding environment.

Risk of injury

Warning — informs the operator of dangerous situations. These situations must be avoided, otherwise you or other persons could suffer severe injury or even death.

Instructions and warnings affixed directly to the system, such as arrows indicating the direction of rotation or labels for fluid connections, must always be followed and kept in a completely legible condition.

1.2 Personnel qualification and training

The personnel carrying out operation, maintenance, inspection, and assembly work must have appropriate qualifications. The responsibility, competence, and supervision of personnel must be regulated in detail by the operator. If personnel do not have the required skills, they must be trained and instructed. If necessary, this may be provided by the manufacturer/supplier at the request of the system operator. Furthermore, the operator must ensure that the content of the technical documentation is completely understood by personnel.

1.3 Hazards due to failure to follow safety instructions

Failure to follow the safety instructions can lead to hazards to personnel as well as to the environment and the system.

Failure to follow the safety instructions can result in any damage compensation claim being void.

Specifically, failure to follow the safety instructions can result in the following hazards, for example:

- Failure of important system functions
- Failure of specified maintenance and repair methods
- Hazards to personnel due to mechanical effects

1.4 Safe working practices

The safety instructions listed in this technical documentation, applicable national guidelines for accident prevention, and any workplace, operating, and safety guidelines provided by the operator must all be followed.

1.5 Safety instructions for maintenance, inspection, and assembly work

The operator must ensure that all maintenance, inspection, and assembly work is carried out by authorised, qualified technicians who have sufficiently informed themselves by studying the technical documentation in detail.
As a matter of principle, work on the system must only be carried out when it is switched off.
Immediately after completion of work, all safety and protective systems must be reattached and/or reactivated.
Before recommissioning the machine, the points listed in the section "Commissioning" must be followed.

1. 6 Unauthorised modification and replacement parts

Modification of or changes to the system are only permitted after consultation with the manufacturer. Original replacement parts and manufacturer-authorised accessories are important for your safety. The use of other parts can void liability for any resulting consequences.

1.7 Unauthorised operation

The operational safety of the system provided can only be guaranteed if it is used as intended. The limit values specified in the technical data must not be exceeded under any circumstances.

2. Functional description

Condair Soft 10 is a pendulum softening system for the continuous production of soft water. Two exchanger containers that are directly integrated in the compact brine tank alternately provide an uninterrupted supply of soft water to downstream consumers. The Regeneration is automatically triggered by the water volume. An electrical connection is not necessary.

Instruction

According to DIN 1988, a backflow preventer must be installed upstream of the softening system.
The sizing of the on-site water supply must correspond to the specified dimensions of the untreated water inlet.

3. Technical data

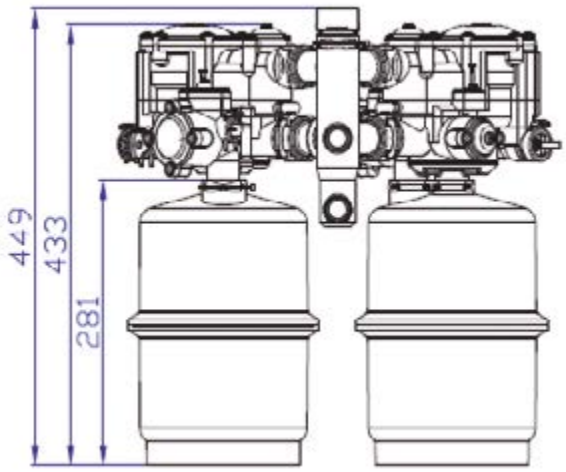
Softening capacity	9.5	m³ x °dH
Nominal flow rate	0.4	m³/h
In case of pressure loss	1.0	bar
Working pressure min./max.	1/8	bar
Operating temperature	5/50	°C
Desalination tank content	Approx. 20	L

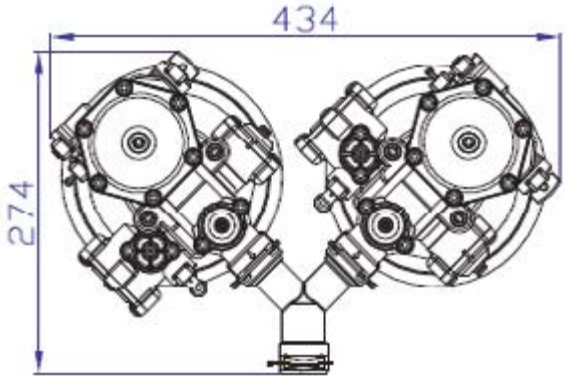
Water connections

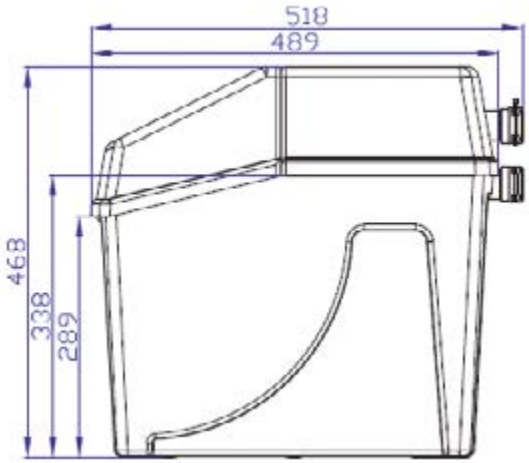
Untreated water inlet	R ¾	inches
Soft water outlet	R ¾	inches
Waste water (hose)	13	mm
Block dimensions (W/H/D)	522/470/520	mm
	Backflow preventer required according to DIN 1988	

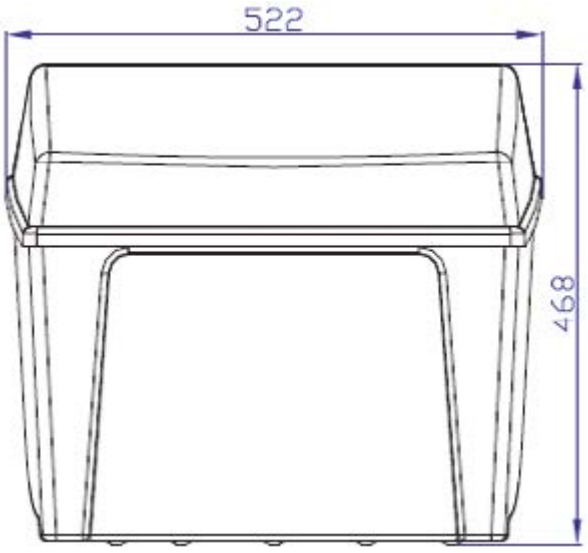
Make	Condair
Type	Condair Soft 10
Supplier	Condair GmbH

3.1 Dimensions



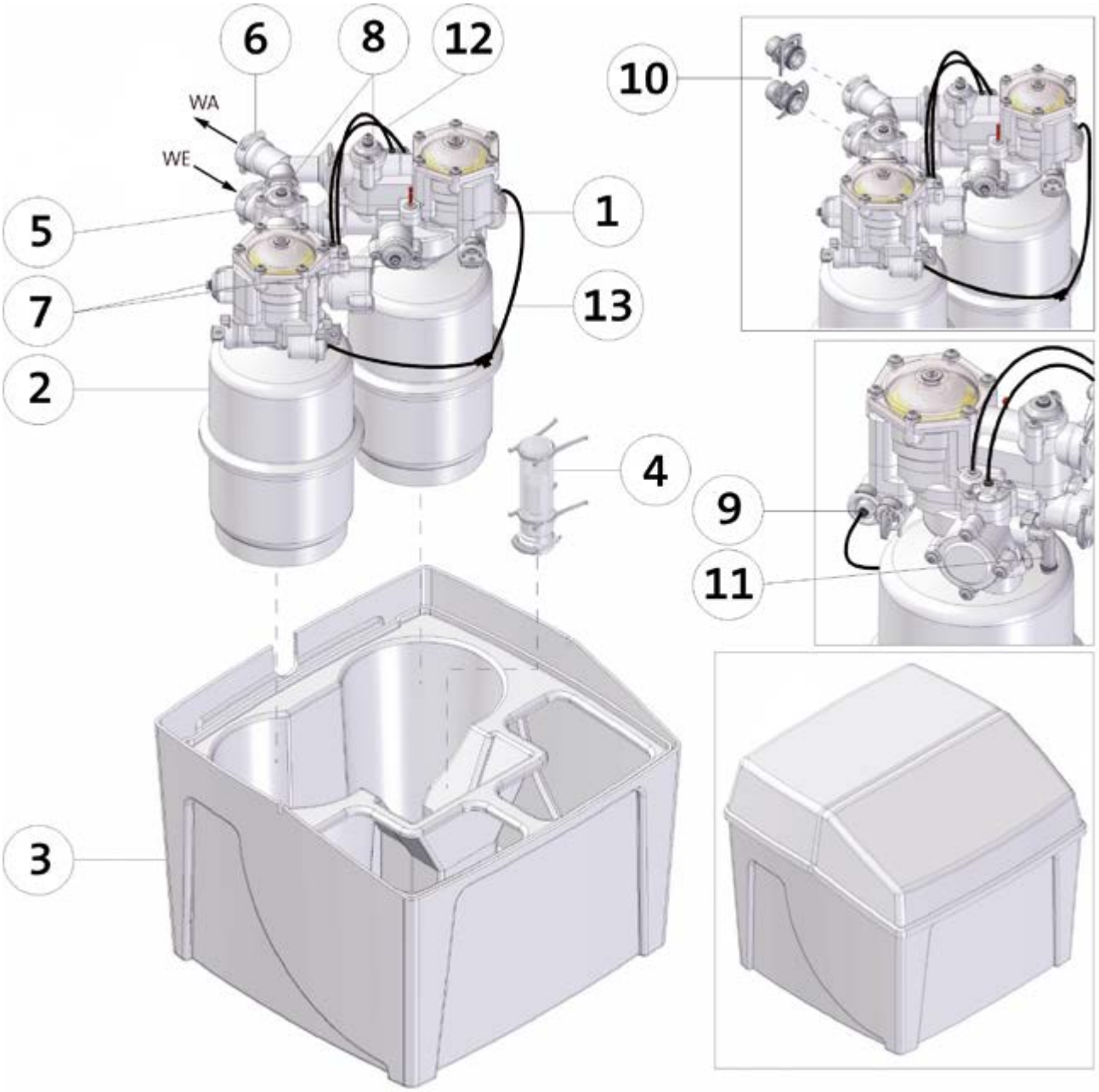






4. Installation

4.1 Parts



1 Valve housing
2 Resin tank
3 Container for device and salt
4 Brine valve (float)
5 Water inlet (WI)
6 Water outlet (WO)
7 Adjustment of blending
8 Hardness setting
9 To the brine valve
10 ¾˝ connection
11 Drain
12 Connector hoses
13 Pipelines to the brine valve

4.2. Safety notes

Make sure you have all the necessary tools to hand before starting the installation.
Observe the respective applicable legal regulations.
Carefully read this manual. If you have any further questions or comments, please contact a representative of Condair GmbH.

Check the inlet pressure:
Minimum 1 bar (dynamic), maximum 8 bar (static) (15–116 PSI).
If required, reduce the inlet pressure.
Do not install the Condair Soft 10 near a heat source. The ambient temperature must be below 50°C. Protect the softener and the connecting pipes from frost.

Make sure you have the latest installation manual. If necessary, clarify this with a representative of Condair GmbH.

4.3 Installation

1. Close the water supply line and make sure that the pressure has been released from the pipeline.

2. Connect the two softener connecting pipes (see fig. 1) with the corresponding quick couplings.
The quick couplings are colour-coded in the figure (red to red, blue to blue)!

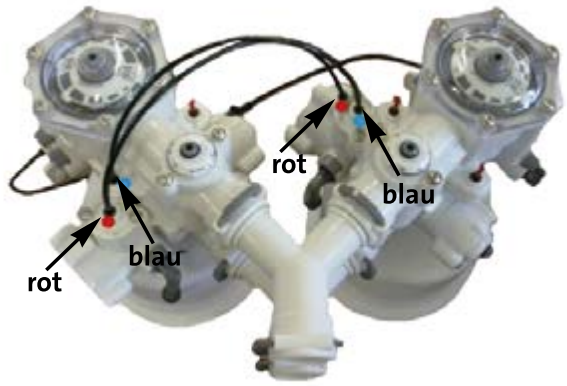


Fig. 1

3. Connect the two connections provided for the drain (see fig. 2) with the waste water hose (Ø 13 mm) included in the scope of delivery.

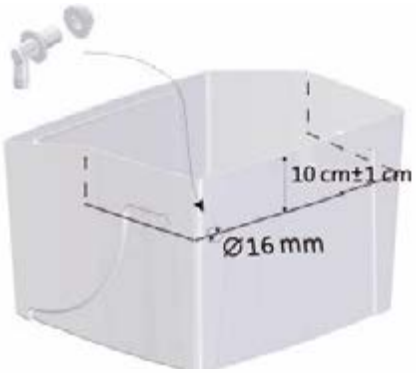
The drain must be frost and heat resistant (min. 5°C, max. 50°C).

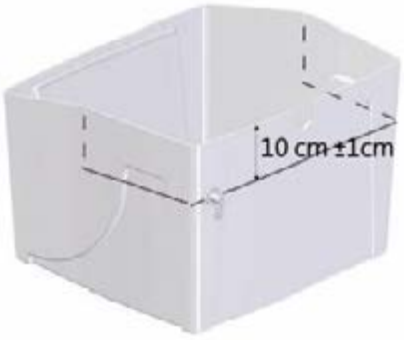
Fig. 2

Instruction

Please observe the local regulations when installing the hose lines on the drain pipe!

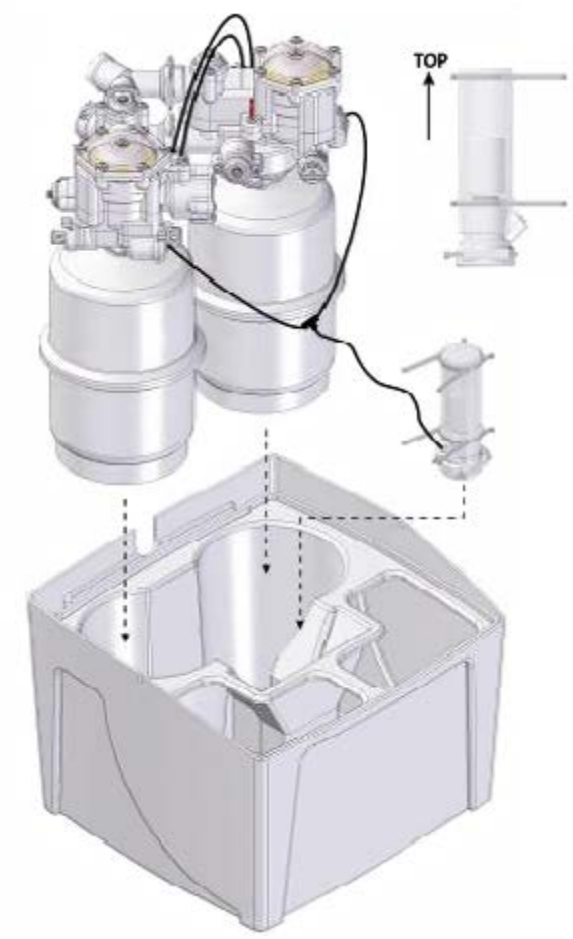
Caution:
Do not forget to install the overflow supplied.
Drill a hole (Ø 16 mm) in the side wall of the container, 10 cm from the top edge of the container.
Install the overflow, using the supplied screw nut.
Remove drilled out material (plastic chippings) from the container.
Connect the overflow with the waste water pipe.



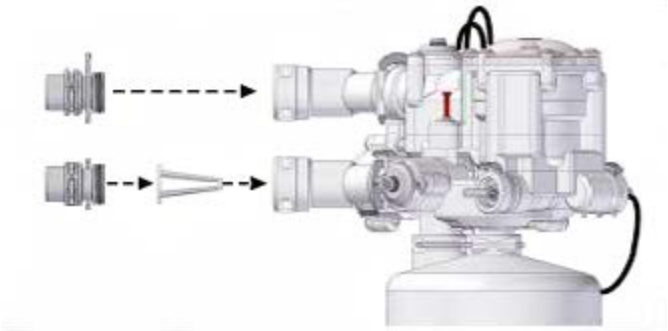


4. Connect the softener with the brine valve. To do this, use a 4 mm pipe to connect the T-piece that joins the two units to the brine valve. Insert the pipes as far as possible (limit stop) into the quick couplings. Avoid any blockages and kinks!

5. Insert the unit with the brine valve (make sure the direction is correct) into the container so that the connections fit in the designated recess at the back of the container. The brine valve must be on the bottom of the container.



6. Now connect the water inlet and outlet of the Condair Soft 10 to the water lines using the enclosed adapters / direct connections. Ensure that the filter insert is inserted correctly in the water inlet.



5. Settings

5.1 Hardness regulator

Measure the hardness of the incoming water by means of a hardness test. Here, ppm settings of $CaCO_3$are specified (10 ppm $CaCO_3$ = 0.56°dH).
Now adjust the hardness regulator until the correct setting is reached. A 5mm Allen key is needed for this.

Instruction

Always set the hardness regulator on both valve housings to the same setting.

5.2 Blendind device

Using the 5 mm Allen key, set the dilution control to the 0 position.

Instruction

Always set the dilution control on both valve housings to the same setting.

5.3 Conversion table

Hardness in °dH	CaCo3 in ppm
0.056	1
0.56	10
1.12	20
2.24	40
3.36	60
4.48	80
5.60	100
7.00	125
8.40	150
9.80	175
11.20	200
12.60	225
14.00	250
15.40	275
16.80	300
18.20	325
19.60	350
21.00	375
22.40	400
23.80	425
25.20	450

6. Commissioning

1. Slowly open the main valve.

2. Fill the salt into the salt container provided. Use only salt tablets specifically designed for softeners (e.g. regenerating salt 25 kg — SAP No. 2001753).

3. Add water to the salt container until the water level is about 10 cm.
The float of the brine valve must float up.

4. Open a tap downstream of the softener (consumer). Some air may escape from the tap. This air comes from the softener. This release of air is a one-time occurrence (only during commissioning).
As soon as only water (and no air) flows out of the tap or consumer, close it again.

5. Perform a manual regeneration.

- Select one of the two units for manual regeneration. Use a 5 mm Allen key to turn the programme disc (PRG) manually.
- Turn the PRG disc anticlockwise to the position indicated in fig. 2. When the arrow and the line on the transparent lid reach the area of the letter “B” (brining, i.e. salinating), regeneration is started. The disc drops down slightly at this moment (this can be seen and heard). “R” stands for refill (refill the container with water after regeneration). To check that the softener is in regeneration mode, there should be a small water flow at the drain and the water level in the salt container should drop slightly.

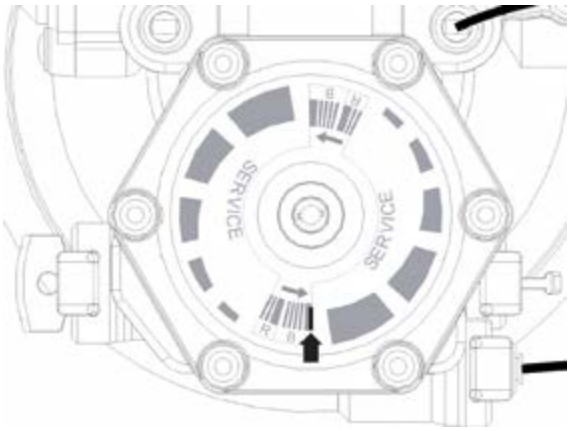
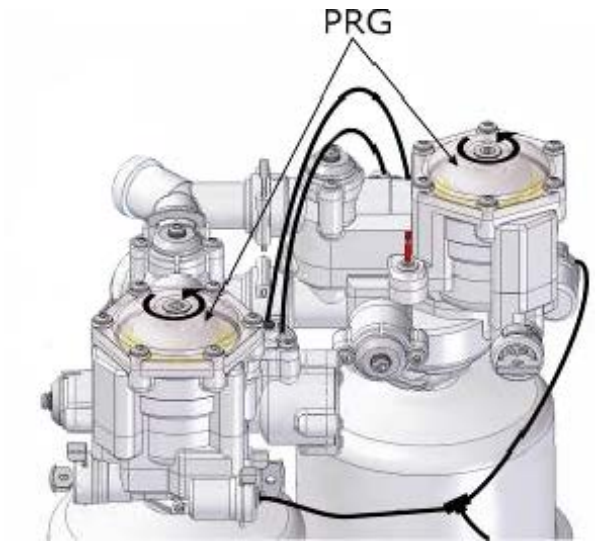
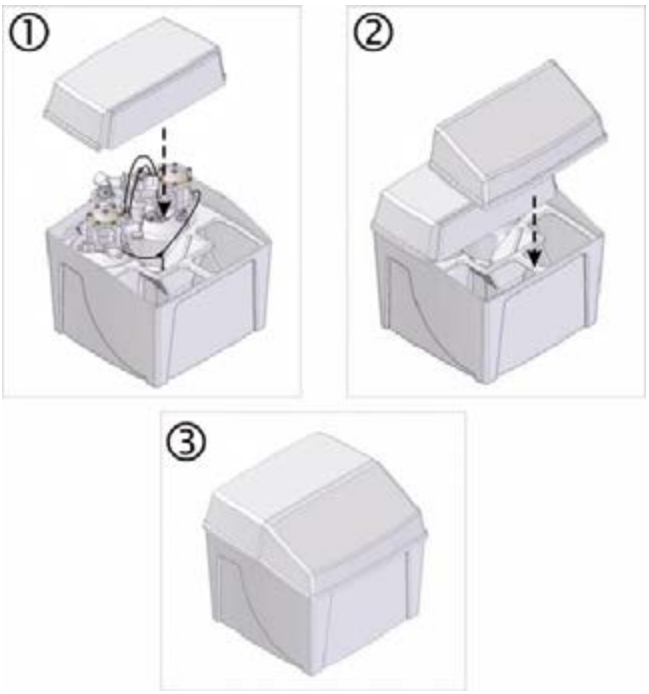


Fig. 2



- Allow the regeneration to run until it stops automatically. This is likely to last approximately 12 minutes. When there is no more water flow at the drain, regeneration is finished.
- Open a tap (consumer) downstream of the softener and flush for several minutes to let the remaining hard water run out of the pipes.
- Check the hardness of the outlet (< 1°dH) by means of a hardness test (not included in the scope of delivery).

6. Now place the protective cover and the lid on the container: first the protective cover over the appliance (1), then the lid over the front part (2).
To refill salt at a later stage, simply remove the lid of the front part.



Drill a hole for the drain hose to the drain. Select the most suitable location for this, depending on where the drain is installed. This hole must NOT be below the hole of the overflow. Connect the overflow with the drain.

NOTE:
It is recommended to have the water softener installed by a professional. Although this softener is probably the simplest and safest softener on the market, it is essential to take all necessary precautions and follow the applicable regulations. This installation manual has been written to assist a professional installer, assuming that this person has the necessary knowledge of hydraulic softeners as well as domestic installations.

Proper installation is a prerequisite for faultless operation. Annual inspection of your Condair Soft 10 water softener is particularly important because it guarantees you optimum performance and a long service life of the appliance.

Condair GmbH

Regionalcenter **Süd**
Parkring 3
D-85748 Garching
Tel. +49 (0) 89 / 20 70 08-0
Fax +49 (0) 89 / 20 70 08-140

Regionalcenter **Südwest**
Zettachring 6
D-70567 Stuttgart
Tel. +49 (0) 711 / 25 29 70-0
Fax:+49 (0) 711 / 25 29 70-40

Regionalcenter **Mitte**
Nordendstrasse 2
D-64546 Mörfelden-Walldorf
Tel. +49 (0) 61 05 / 963 88-0
Fax +49 (0) 61 05 / 963 88-40

Regionalcenter **West**
Werftstraße 25
D-40549 Düsseldorf
Tel. +49 (0) 211 / 54 20 35-0
Fax +49 (0) 211 / 54 20 35-60

Regionalcenter **Nord**
Lüneburger Straße 4
D-30880 Laatzen — Rethen
Tel. +49 (0) 5102 / 79 59 8-0
Fax +49 (0) 5102 / 79 59 8-40

Regionalcenter **Ost**
Chausseestraße 88
D-10115 Berlin
Tel. +49 (0) 30 / 921 03 44 -0
Fax +49 (0) 30 / 921 03 44-40

Condair **Austria**
Perfektastraße 45
A-1230 Wien
Tel. +43 (0) 1 / 60 33 111-0
Fax +43 (0) 1 / 60 33 111 399