

USER MANUAL



AUTOMATIC WATER SOFTENER STATION SOFTENER EI

Date of Installation
Serial Number

Installer Stamp

Please read the operating manual before startup!
The manufacturer is not responsible for malfunctions caused by faulty operation and failure to comply with the provisions of this documentation.
Store for later use! This operating manual is an integral part of the device.

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General instructions

1. The relevant installation and operation instructions contained in this manual must be read prior to the installation and operation of this device.
2. The manufacturer will not bear responsibility in case of improper use and incorrect operation of the device.
3. The system is used only for removing unwanted mineral substances, which accumulate as lime scale (Calcium and Magnesium). This device is a part of the system protection.
4. It is forbidden to make change in the system without consultation with the manufacturer. The manufacturer will not bear responsibility in case of any damage caused by this type of modification.
5. The temperature in the device operating room must be at least 10 °C
6. The general regulations and provisions as well as provisions concerning accident prevention must be observed at the installation location of the device.
7. The installation location of the device must be secured from any damage caused by water (e.g. by the existing floor drain). The manufacturer is not responsible for any damage caused by water.
8. The appliance in which the filter is used must be free of limescale and gypsum deposits prior to installation.
9. Do not assemble near sources of heat and open flames.
10. Protect the filter system from mechanical damage.
11. Installation and maintenance of the filter system may only be carried out by trained and authorized personnel.
12. For cleaning do not use any abrasive chemicals, cleaning solutions or astringent cleaning agents
13. The proper name and serial number of the device must be provided with any enquiries and ordering of spare parts. Only then an effective and quick reply or order implementation is ensured.

Transportation and packaging

Prior to shipment our systems are carefully packed and controlled.

Damage during transportation cannot be excluded in case of shipment by a shipping company.

It is necessary therefore to check the package at receipt of the product.

1. Check the completeness of the delivery based on the delivery receipt.
2. In case of damaged packaging: perform a visual inspection of the goods and record conclusions in the shipping documentation provided by the shipping company. Make photographic documentation of the damaged package and the device. In the shipping documentation place an annotation of possible claiming of hidden damages, which may be revealed after start-up. Immediately contact the shipping company because otherwise the shipping insurance will not be available. Save the package for the purpose of any later inspections by the shipping or insurance company.
3. In case of returning the package, it must be packed in a way to be protected against any mechanical damage.
4. Drain water from the system prior to the shipment. This will help reduce shipping costs. It will also prevent the packaging from damage due to potential water leakage.

After storage and transport below 0 °C, the product must be stored in the open original packaging for at least 24 hours before it is commissioned at the stated ambient temperatures for operation.

Liability Exclusion

Installation must be performed precisely in accordance with the instructions in this manual.

Manufacturer shall not be held liable for any damage, including subsequent damage, arising from the incorrect installation or use of the product.

How it works

Hard water contains the combination of calcium (Ca), magnesium (Mg) and iron (Fe). The softening process serves the removal of the positively charged ions by means of ion-exchanged resin. When the ion-exchanged resin loses its effectiveness it is regenerated by the reagent.

Regeneration:

The regeneration is based on rinsing the deposits using the tablet salt solution and rinsing out the absorbed calcium and magnesium ions into the sewage.

Regeneration takes place automatically in a Intelligent mode. User just program tested water hardness and system will calculate its efficiency. Regeneration can be also forced in time if capacity will not be reached and day of override regeneration came system will perform regeneration. During regeneration, hard water is available.

Regeneration process consist of 4 cycles:

1. Backwashing
2. Brine and Slow Rinses
3. Fast Rinsing
4. Refilling

Standards, provisions and statutory regulations

1. Water supplying the device must comply with the requirements of the utility water use regulation.
2. Parts that are in contact with treated water must be made of material resistant to treated water,
3. In the room for the water treatment floor drainage must be installed. The purchaser is responsible to ensure the drainage.
4. Maximum temperature of the supply water is 30 ° C

1. Description of the device

1.1. System structure

The system of water purification type SOFTENER EI is a device of high quality and precision. Properly installed and maintained guarantees infallible functioning for many years.

The water softener station of small efficiency type SOFTNER EI is used where the water flow does not exceed 75l/m.

System structure:

1. Water softener Type : SOFTENER EI
2. Drain hose ½”

1.2. Technical description

Quantity of softened water for 10°dh /regeneration	[liters]	1500
Salt Consumption	[kg]	0,7
Flow Rate	[l/min]	1,8-20*/ 75**
Operating pressure	[bar]	2,0 - 6,0
Connections	[cal]	¾“
Height	[mm]	535
Depth	[mm]	470
Width	[mm]	230
Maximum water temperature	[°C]	30
Salt storage capacity	[kg]	20

*water softened completely

** water softened partially

Due to the delayed regeneration (at 2:00 AM), the device automatically set efficiency with reserve in the event of regeneration capacity being exhausted a few hours before regeneration begins. This will protect against the supply of untreated water to the final device before starting the regeneration process.

TAB. 1. CAPACITY – SOFTENER EI

Water hardness				System Efficiency	Efficiency with reserve
English degree	French degree	PPM	GH degrees		
12,5	18,0	178,6	10	1500	1320
13,8	19,8	196,5	11	1364	1200
15,0	21,6	214,3	12	1250	1100
16,3	23,4	232,2	13	1154	1015
17,5	25,2	250,0	14	1071	943
18,8	27,0	267,9	15	1000	880
20,0	28,8	285,8	16	938	825
21,3	30,6	303,6	17	882	776
22,5	32,4	321,5	18	833	733
23,8	34,2	339,3	19	789	695
25,0	36,0	357,2	20	750	660
26,3	37,8	375,1	21	714	629
27,5	39,6	392,9	22	682	600
28,8	41,4	410,8	23	652	574
30,0	43,2	428,6	24	625	550
31,3	45,0	446,5	25	600	528
32,5	46,8	464,4	26	577	508
33,8	48,6	482,2	27	556	489
35,0	50,4	500,1	28	536	471
36,3	52,2	517,9	29	517	455
37,5	54,0	535,8	30	500	440
38,8	55,8	553,7	31	484	426
40,0	57,6	571,5	32	469	413
41,3	59,4	589,4	33	455	400
42,5	61,2	607,2	34	441	388
43,8	63,0	625,1	35	429	377
45,0	64,8	643,0	36	417	367
46,3	66,6	660,8	37	405	357
47,5	68,4	678,7	38	395	347
48,8	70,2	696,5	39	385	338
50,0	72,0	714,4	40	375	330

The stated capacities were calculated based on standard application and machine conditions. This information may vary according to external influencing factors (for example, fluctuating raw water quality).

1.3. Control function

Steering Valve

Before starting, you should program the time and frequency of regeneration.

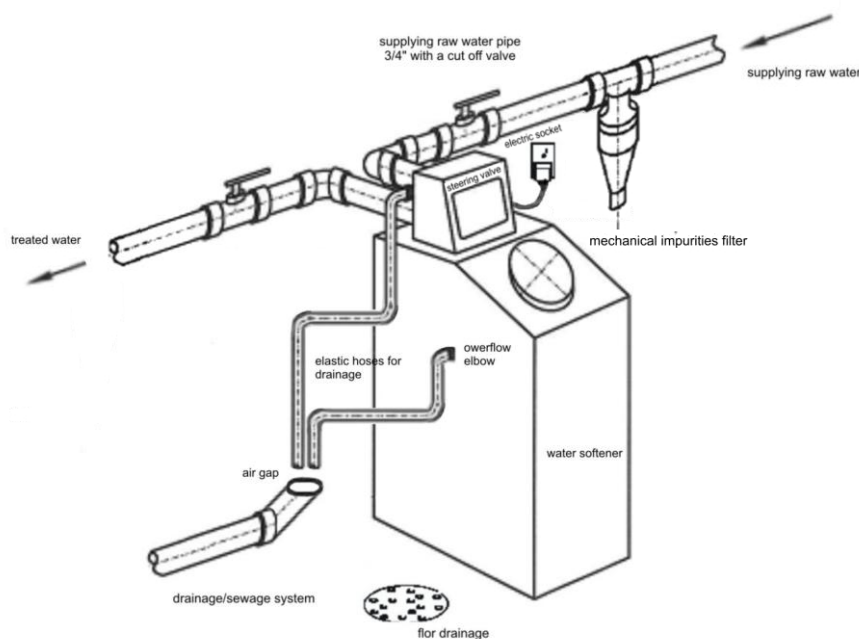
The controller is factory programmed for regeneration at 2.00 at night, for 20 oGH.

Depending on water hardness program the value in valve.

2. Preparation for installation

2.1. Installation preparation plan

Picture 1.



On the purchaser's side:

1. Utility water **supply pipe** (cold) 3/4" with a cut off valve.
2. **Drainage** (sewer) at a max. height of 100 mm, connection DN 50.
3. **Electric socket** 230 V / 50 Hz, 16 A
4. **Floor drainage** must be in the room.
5. **Sediment filter** should be use before water softener

2.2. Dismantling and utilization

The device is dismantled after its lifetime has expired (for final destruction or scrap).

The reversed assembly steps are to be commenced.

Note!

First clean the system thoroughly with fresh water and drain the tanks and pipes completely!

Comply with workplace safety instructions in this respect!

Different parts of the device must be utilized in accordance with binding regulations of utilization and waste management!

3. Installation

- After preparation for mounting, the device is to be placed in the designated room in accordance with the system structure.
- All inlets and outlets are to be connected on the water's side. The device connections are shown in the following figure:
 - Connect the inlet (1) and outlet (2) to water supply;
 - Connect the elastic pipe (1/2') draining the sewage to the stub connector pipe (3) and to a sewage grating or a draining installation.
 - The sewage draining should be permeable enough to drain 5l/m of the flushing water. The draining pipe should be stiff enough to avoid its breaking, which may cause blockage and result in the overflow in the tank with the reagent as well as faulty regeneration process;
 - Before water softener should be used mechanical sediment filter to protect device from mechanical damage caused by sediments from water pipes.
- The brine tank of the water softening device is to be filled with salt tablets. _.
- Check and tighten all fittings connecting the device.
- Connect to electric Power socket.
- The device is factory adjusted. The **fine tuning** is done by the user on site.
- Before launching the current time should be set and the water hardness from installation localisation (**for oGH**) depending on water hardness and daily water consumption (see table from page 5)
- **The Valve is preset for the regeneration at 2 a.m. for 20oGH. Depending on the water hardness set the appropriate number german degrees in valve.**
- Open the **water supply** to the water softening device.
- The **water pressure** must be at least 2,0 bars and a maximum of 6,0 bars.
- De-aerate system by initiate the regeneration. After first regeneration the device is ready to work.

Picture 2. Steering valve connection

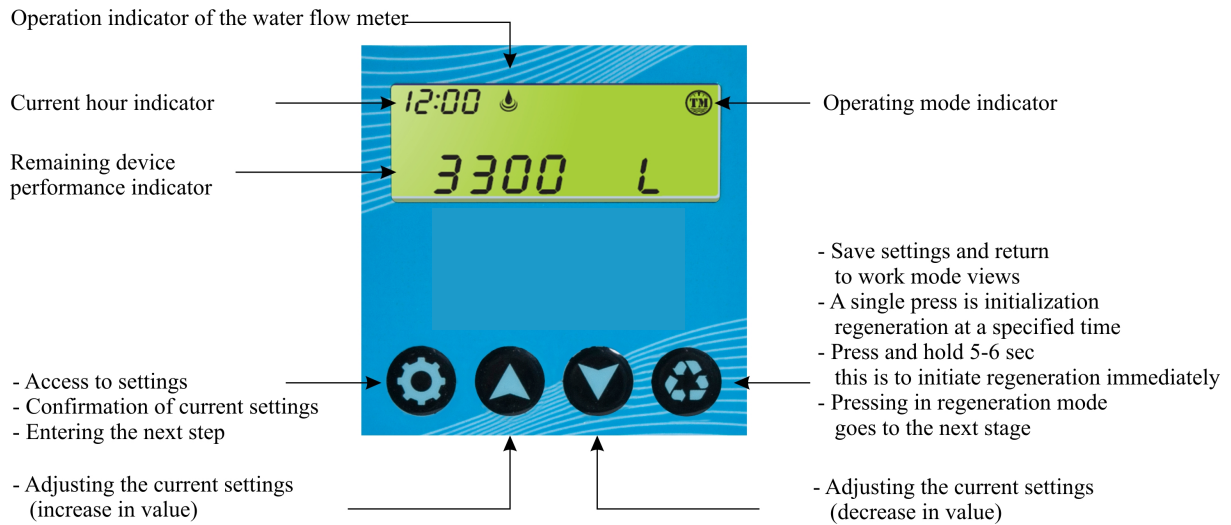


1. Inlet of raw water (3/4", elastic connection)
2. Outlet of treated water (3/4", elastic connection)
3. Drain (1/2", elastic connection).
4. Power supply

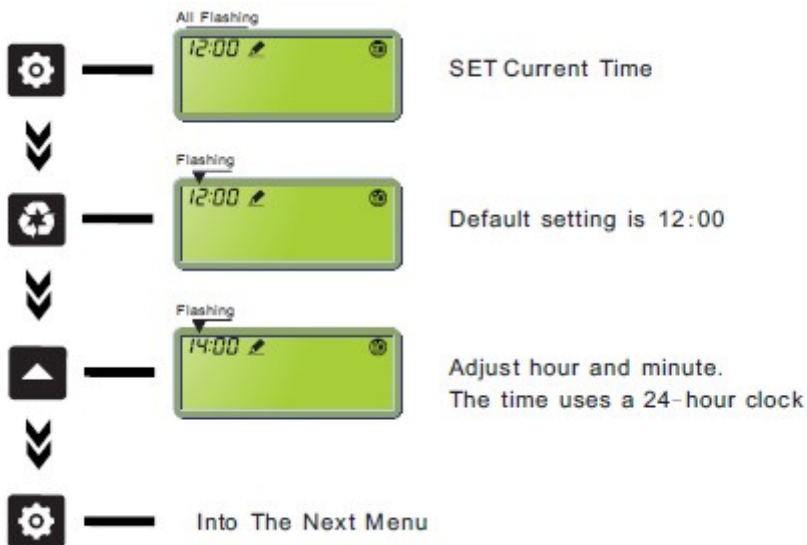
3.1 Programming device

3.2. Programming Control head

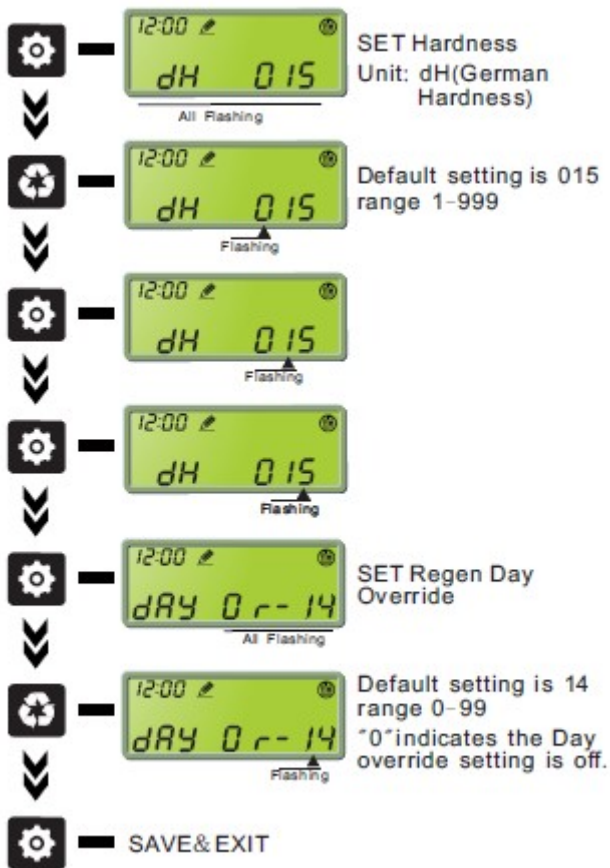
Display description:



The current time:



The Water Hardness and override regeneration:



Manual regeneration:



- A single press is an initiation regeneration at a specified time
- Press and hold 5-6 sec this is to initiate regeneration immediately