

# Bewamat 25A, 75A

Simplex-Weichwasseranlage  
Simplex Water Softener



Änderungen vorbehalten!  
Changes reserved!

For You and Planet Blue.



Thank you very much for the confidence that you have shown in us by purchasing a BWT appliance.



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# 1 Safety advice



**Danger: Mains voltage!**  
**Before opening the casing of the electronic control unit, the mains plug must be removed!**  
**If the power supply cable of the appliance is damaged, it must be replaced by an original BWT cable.**

## Important information



The system must be installed as described in the installation guide by a water supply company.

Notify operators about the installation and function of the water softening system and about the regenerating agent that is used.

### Using retreated drinking water with plants and aquatic animals

Each species of plant and aquatic animal requires water that contains a special combination of substances. Users of the unit should therefore consult standard literature and check that they can use retreated drinking water for watering plants or for filling ornamental lakes, aquariums or fishponds.

The control unit of your product includes a long-life battery.

Batteries and power packs must not be disposed of in the household waste!

You are obligated to take batteries to a suitable recycling point or return them, free of charge, to BWT. Old batteries contain valuable resources that can be reused.

### Microbiological and sensory quality of the softened water

The quality of the treated water is influenced by the installation and operating conditions of the system. The most important factors are listed in the following table.

	<b>Harmful conditions</b>	<b>BWT recommendations</b>
<b>Supply water quality</b>	Borderline supply water quality, which can deteriorate further in the system	Contact your fitter More frequent maintenance intervals
<b>Operating conditions</b>	Long stagnation periods and infrequent regeneration	Please note the information in the operating manual
<b>Salt quality</b>	Cheap regenerating salt with high proportions of insoluble particles	Use regenerating agent in accordance with DIN EN 973 Type A
<b>Installation situation and installation conditions</b>	High ambient temperatures, e.g. incorrectly executed regenerating water drainage next to a radiator	

For all issues about sensory and microbiological quality of the treated water, there is a difference depending on the location, from which these are being evaluated. In terms of an evaluation at an extraction point, the pipe material, water heater, water heater or hot water storage tank, among other things, could have a decisive impact on the water quality.

## 2 Scope of Delivery

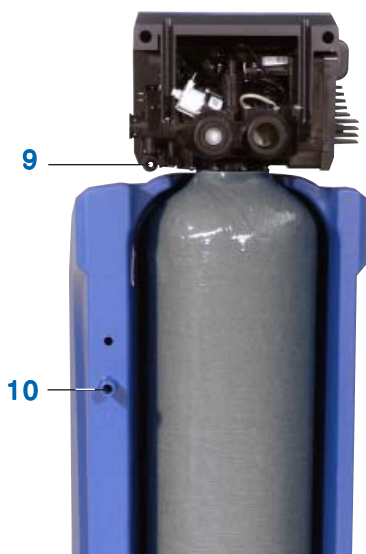
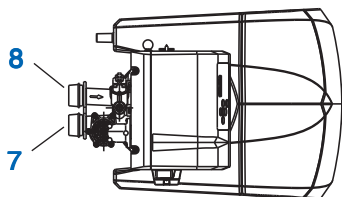
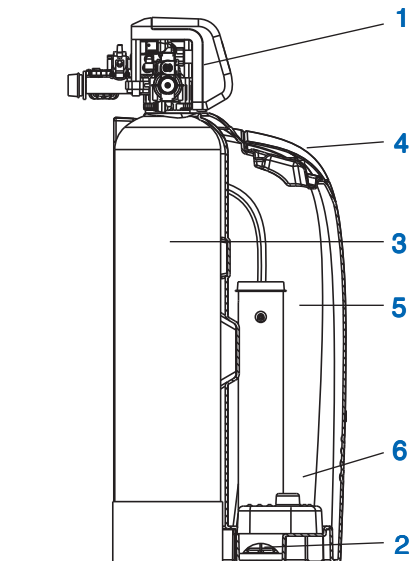
**Bewamat A water-softening unit, with:**

- 1 Reusable control valve with microprocessor controller
- 2 Brine valve
- 3 Softening column with ion exchanger
- 4 Cover
- 5 Storage area for regenerative
- 6 Brine cavity
- 7 Softened water output
- 8 Hard water inlet
- 9 Flushing water connection
- 10 Overflow

Power supply unit with cable and mains plug  
 2 m flushing water hose  
 2 m overflow hose 18 x 24  
 Fixing material

**Optional extras:**

- Aquastop 3/4" Order no.: 11825
- Aquastop 1" Order no.: 11826



## 3 Intended Use

Bewamat A is a system designed for softening or partially softening drinking and service water.

Bewamat A minimises malfunctions and damage due to calcification in water pipelines and the connected fittings, equipment, boilers etc.

## 4 Function

The unit operates according to the principle of intelligent regeneration.

### Intelligent quantity-dependent regeneration

When the unit is started, the available supply of softened water is programmed (depending on the hardness of the drinking water).

At a user-defined time (e.g. at night), the unit checks whether the remaining supply of softened water is sufficient for the following day.

If not, the softening column is regenerated in order to refill the supply of softened water up to 100%.

In the event of a power failure, the data and the time are kept (about 1 year).

The unit is equipped with a device that disinfects the ion exchange resin during the regeneration. Spring-loaded non-return valves protect all water connections on the inlet side of the unit.

### Automatic activation of regeneration

If the capacity is not used up within four days, the electronic system triggers a regeneration.

The system complies with all relevant national and international standards.

### Only for Bewamat 75 A

Two capacity levels can be set on the controller, making the unit suitable for larger applications.

The unit is preset. In case less performance is necessary, this can be set by after-sales service.

## 5 Installation conditions

### General information

Observe all applicable installation regulations, general guidelines, hygiene requirements and technical specifications.

Site of installation and surrounding area

Water softeners must not be installed in water supply systems that provide water for fire extinguishing purposes.

The site of installation must be frost-proof, must guarantee protection of the unit against chemicals, dyes, solvents and vapours, must have construction waterproofing in accordance with DIN 18195-5 and enable easy connection to the water supply.

To protect the drinking water installation from backflow, a type BA system separator must be installed in front of the water softener in accordance with DIN EN 1717.

A wastewater connection, a floor drain and a separate network connection (230 V/50 Hz) must be close by.

The power supply must be permanently guaranteed.

If the treated water is exclusively for use in technical applications, the ambient temperature must not exceed 40°C.

Electromagnetic interference (voltage peaks, high-frequency electromagnetic fields, interference voltage, voltage deviations ...) by the surrounding electrical installations must not exceed the maximum values stated in EN 61000-6-4.

Separate protection against water deficiencies does not exist and must be fitted locally – if required.

### Feed-in water

The hard water to be fed into the unit must always meet the specifications of the German Drinking Water Ordinance [Trinkwasserverordnung] or EU Directive 98/83/EC. The total dissolved iron and manganese may not exceed 0.1 mg/l. The hard water to be fed into the unit must always be free of air bubbles. If necessary, an exhauster must be installed.

The necessary operating pressure must always be guaranteed.

A minimum operating pressure is required for the unit to function (see technical data).

The maximum operating pressure of the unit must not be exceeded (see technical data). If the network pressure is higher, then a pressure reducer must be installed upstream of the unit.

In the case of pressure deviations and pressure surges, the total of the pressure surge and standing pressure must not exceed the nominal pressure, meaning the positive pressure surge must not exceed 2 bar and the negative pressure surge must not fall beneath 50% of the adjusted flow pressure (see DIN 1988-200/3.4.3).

Continuous operation of the softening unit with water containing chlorine or chlorine dioxide is possible if the concentration of free chlorine / chlorine dioxide does not exceed 0.5 mg/l.

However, continuous operation with water containing chlorine/chlorine dioxide causes the ion exchanger resin to age prematurely. A softening unit reduces the concentration of free chlorine and chlorine dioxide. In other words, the concentration in the outflow of a softening unit is generally considerably lower than in the inflow.

## Installation

The pipe network must be flushed before the unit is installed.

Use corrosion-resistant pipe materials for installation. Observe corrosion-causing chemical properties in the combination of different pipes (mixed installation), even in the direction of the flow upstream of the softening unit.

The hose attached to the overflow of the brine container and flushing water hose must be routed at an incline to the sewage system or connected to a pump.

According to DIN 1717, the flushing water hose and the overflow hose must be secured at the specified distance from the highest possible waste water level to the sewage connection (distance greater than the diameter of the waste pipe).

If flushing water is fed into a pump, it must be designed for a water quantity of at least 2m<sup>3</sup>/h or 35 l/min. If the pump is used for other units simultaneously, it must be sized larger by a factor of their water output quantities.

The pump must be salt-water resistant.

## 6 Installation

GB

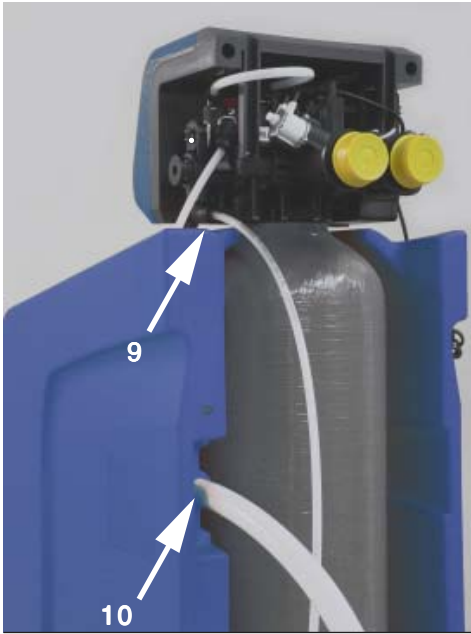
Place and align the softening column with control valve behind the cabinet.



Run the the brine hose from the inside though the bore to the outside and insert it as far as it will go (a depth of about 15 mm) in the connection angle.



Put the grey cover onto the left side of the control valve.



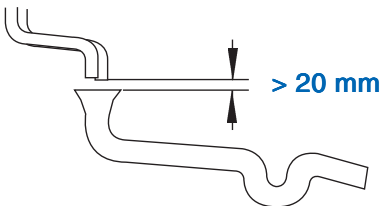
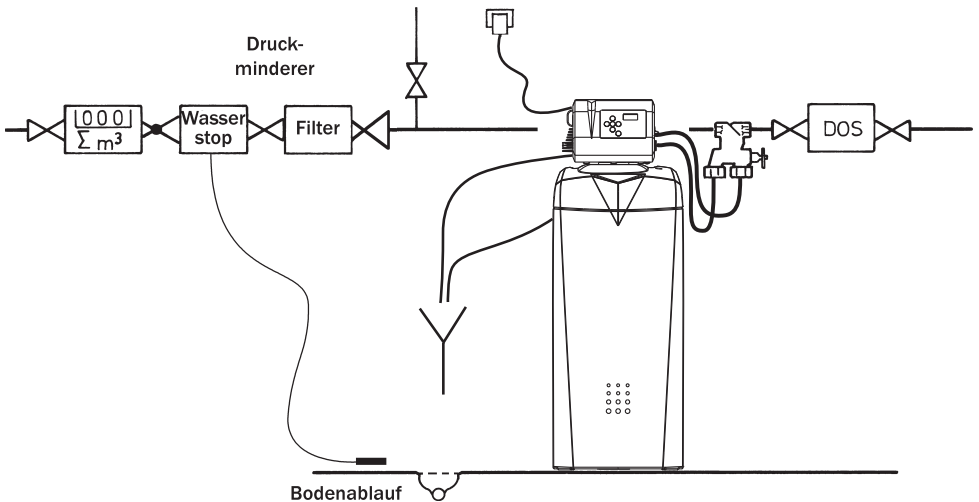
Firmly attach the flushing water hose into the flushing-water connection (9).

Route the flushing water hose at an incline to the sewage system connection (drain) and secure the end with the supplied fixing material to prevent it moving around when under pressure.

Put the overflow hose (18 x 24) on the overflow (10). Secure it with cable ties and route it with an incline of at least 10 cm to the sewage system connection (drain).

## Installation diagram

Connect the unit as shown in the installation diagram.



The flushing water and overflow hoses may not be connected or restricted.

The flushing water and overflow hoses must be connected to the sewage water system at least 20 mm above the highest waste water level (unimpeded drainage).

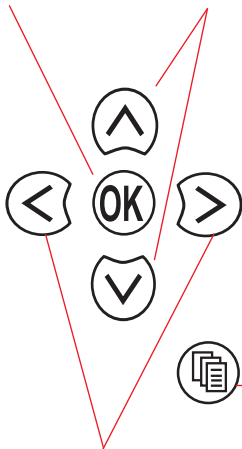


# 7 Start-up

## Operation of the Controller

Confirms entries

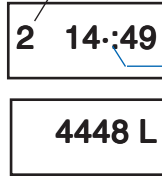
Moves cursor, changes entries



Moves cursor

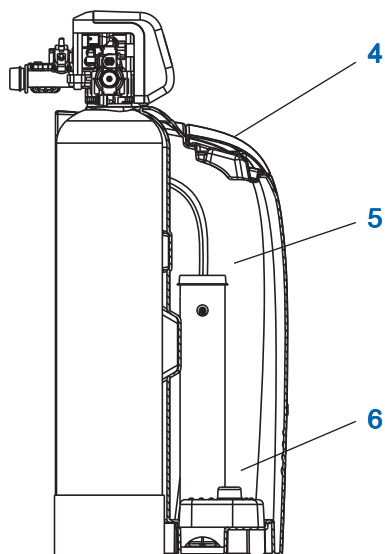
Change mode between operation and programming

1 = Monday  
2 = Tuesday



Operating display

The points flash in the programming mode



StArt

4450 L

z.B.

6 10:50

lbn



Check that the unit has been properly installed.

## Preparing the brine

Remove cover (4).

**Pour regenerative** (salt tablets according to DIN EN 973 type A, e.g. Clarosal or Sanisal/Sanitabs) into the storage area (5).

Fill up the brine cavity (6) with about  
**4 litres for the Bewamat 25 A**

or

**15 litres for the Rubis 75 A**

Fill up with drinking water.

**Notes:** Observe the following if consumption of a large quantity of softened water is expected after start-up: The unit requires about three hours for the brine to form.

### Insert mains plug.

Water supply must remain closed.

The display shows **StArt** and then alternates between the remaining supply of softened water and the day of the week (1-7) / time.

Allow basic fixing to finish (about 40 sec.). The running noise stops.

For automatic regeneration, press the **OK button** to interrupt.

Open the water supply.

### Initiating a start-up flush

press and hold  
until **lbn** appears in the display.

Flushing occurs for 1 minute (flush time t1). The valve then moves into operating position.

### The unit is ready for operation.

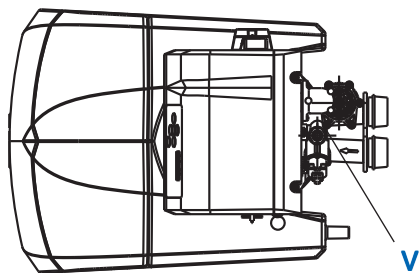
The capacity and the blending valve are preset. A readjustment is only necessary for especially hard water (hardness greater than 22°d) or for water of medium hardness (less than 14°d).

## 8 Operation

### Setting the hardness of blended water

The unit is preset to 4°d.

To test the water hardness, allow the nearest cold water tap to run for a while (about 500-600 l/h) and check the hardness of the blended water using the AQUATEST hardness tester. Adjust with the blending valve **V** until the desired value (BWT recommendation 4 - 8°d) is reached.



**The German Drinking Water Ordinance stipulates a sodium limit of 200 mg/l. This limit has been set so low so that people on a low sodium diet can still drink water from the unit and use it for cooking.**

#### Sodium content of partially softened water

The sodium content increases by 8.2 mg/l if the hardness of drinking water is decreased by 1°d.

Hardness of drinking water – hardness of blended water x 8.2 mg/l = increase in the sodium content.

### Handing over the unit to the operator

If there is a delay between the installation/start-up of the unit and transfer to the operator, a manual regeneration must be performed.

The operator must be told how the unit works as well as how to operate and inspect it. Ensure that the operator receives the installation and operating manual.

## Setting the supply of softened water

The unit is preset:  
 Inlet water hardness of 20°d  
 Blended water hardness of 4°d

### The supply of softened water is set if

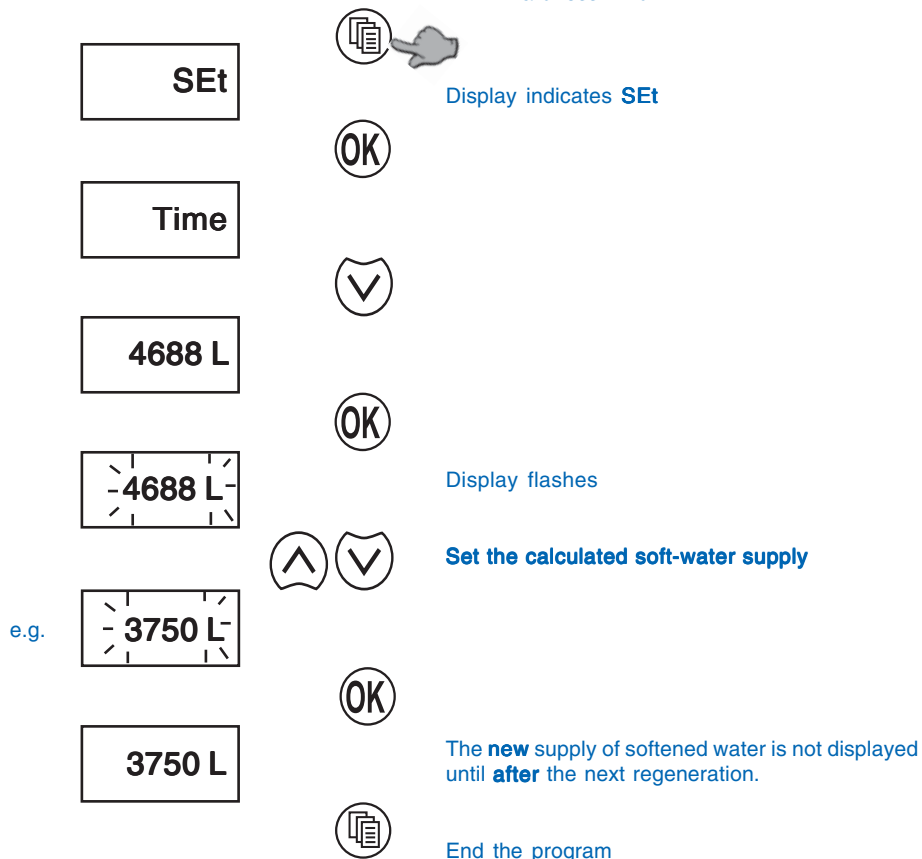
- the capacity of the unit is changed
- another inlet water hardness is present
- another blended water hardness is desired

### Calculating the supply of softened water:

$$\text{Supply of softened water in litres} = \frac{K \times 1000}{E - V}$$

**K** for **Bewamat 25 A** = 25 m<sup>3</sup> x °d  
**K** for **Bewamat 75 A** = 75 m<sup>3</sup> x °d

**E** = Inlet water hardness in °d  
**V** = desired and set blended water hardness in °d



## Setting the time/day of the week

GB

SEt



OK

OK

4 08:32

The flashing numbers can be changed.

### Day of week

1 = Monday

2 = Tuesday

3 = Wednesday

etc. ....



Changes the number



Moves the cursor

e.g.

-5- 07:43

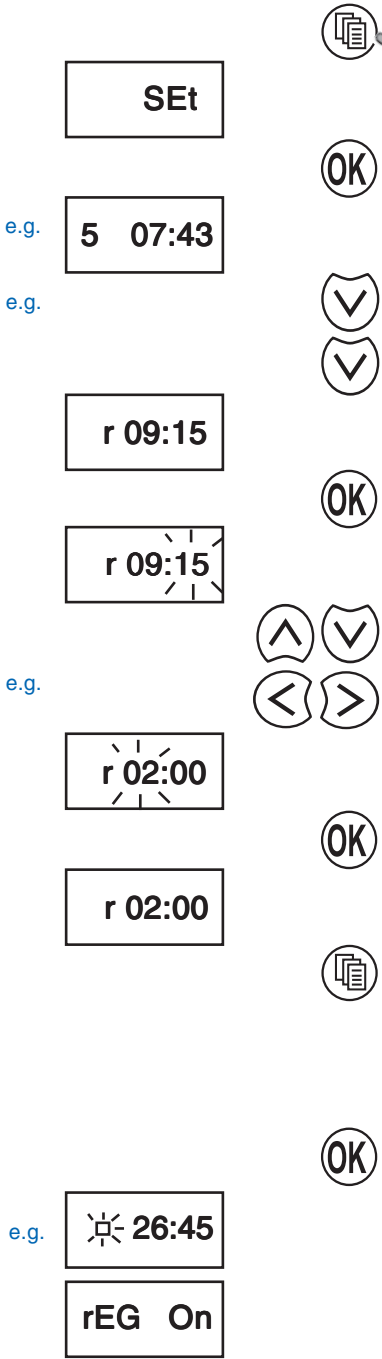
Current day of the week and time

OK

5 07:43



End the program



## Setting the regeneration time

The flashing numbers can be changed.

Changes the number

Moves the cursor

## New regeneration time

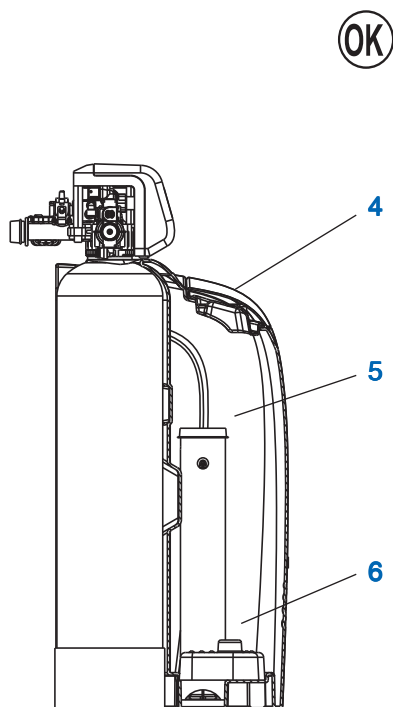
Ending the program

## Starting regeneration manually

Press and hold for about 4 sec. until regeneration begins

The display shows alternating remaining **regeneration period** in minutes (with flashing symbol) and **rEG On**

**SALt**



**4433 L**

## Adding regenerative

Refill the regenerative no later than when the sieve base becomes visible or when **SALt** is indicated on the display. All commonly available regeneration salts (salt tablets in accordance with DIN EN 973 type A, e.g. Clarosal or Sanisal/Sanitabs) can be used.

Open the cover (4). Pour regenerative into the storage area (5).

Press and hold until the **SALt** display goes out.

Refill the unit in such a way that no dirt can get into the storage area (5) (if necessary, clean the packages containing the regenerative before use).

Clean the storage area or brine cavity (6) with drinking water if dirt does get in.

## Service message

A flashing litre display indicates that it is time for servicing.

The service message appears after 150 regenerations.

Please contact after-sales service.

## 9 Operator Responsibilities Maintenance

You have purchased a product that is durable and easy to service. However, all technical equipment requires regular servicing in order to guarantee optimal functionality.

Keep yourself up to date with regard to the quality and pressure ratio of the water which is to be treated. If the water quality changes, the settings may need to be changed. Consult a specialist if this is the case.

**Regular inspections (every 2 months) by the operator and a six-monthly routine maintenance (EN 806-5) by the BWT customer service department or a fitter authorised to maintain the units on behalf of BWT are required to ensure the function of the unit and preserve the warranty.**

**A further condition to ensure the function of the unit and preserve the warranty is the replacement of any consumable parts in the prescribed maintenance intervals.**

### Inspection

**The following inspections must be regularly carried out by the operator.**

**Regenerating agent As consumption requires**  
Check and refill

**Check the water hardness Once a month**  
The drinking water hardness and preset blended water hardness must be checked and adjusted as required (see Commissioning).

**Visual inspection Every 2 months**  
Check connections and pipes for leaks.  
Check for dirt in the regenerating agent supply cavity and clean and rinse with clear water if required.

**Cleaning At least once a year**  
Hygienically clean the brine container and cabinet

The inspection intervals are minimum recommendations and must be shortened appropriately by the operator in the case of delicate consumer systems.

**The following maintenance works must be carried out regularly by the BWT customer services.**

We recommend that you conclude a maintenance agreement with your fitter or the after-sales service department.

### Functional inspections

Brine extraction system	Twice a year
Water meter	Twice a year
Drive motor	Twice a year
Hydraulic inspection	Twice a year
Hygienic cleaning of the regenerating agent container	Twice a year

### Replacement

Dual valve with resin pressure cylinder	Every 10 years
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## 10 Warranty

If the product malfunctions during the warranty period, please contact your contract partner, the installation company, and quote the unit type and production number (see Technical specifications or the type plate on the unit).

Non-compliance with the installation conditions and the operator responsibilities voids the warranty.

The wearing parts defined in the "Operator Responsibilities" section and the consequences of failing to replace these parts on time are not covered by the 2-year legal warranty.

BWT assumes no liability in the event that the unit fails or if the capacity becomes deficient due to incorrect material selection/combination, floating corrosion products or iron and manganese deposits, or any resulting damage thereof.

The use of regenerative that does not comply with DIN EN 973 type A voids the warranty.



# 11 Troubleshooting

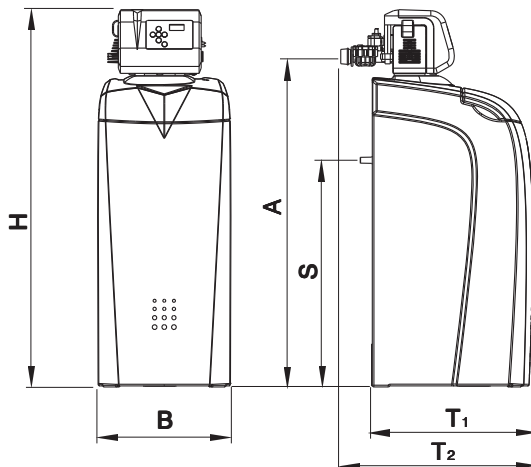
Fault	Cause	Action
<p><b>SALt</b> is indicated on the display.</p>	<p>Insufficient regenerative in the storage area (5).</p> <p>Insufficient pipeline pressure resulting in insufficient suction speed.</p>	<p>Refill regenerative and press the <b>OK</b> button until the <b>SALt</b> display goes out.</p> <p>Press the <b>OK</b> button to acknowledge the fault.</p> <p>If the fault occurs again, contact after-sales service.</p>
<p>Unit not supplying softened or blended water.</p>	<p>No regenerative in the storage area (5).</p> <p>Power supply interrupted.</p> <p>Blending adjusting spindle (V) not set correctly.</p>	<p>Refill regenerative, then press the <b>OK</b> button until the <b>SALt</b> display goes out. Wait three hours for the brine to form and start manual regeneration.</p> <p>Establish electrical connection.</p> <p>Set as described in the Start-up section "Setting the hardness of blended water".</p>
<p>Unit not supplying softened water or the flow is insufficient.</p>	<p>Inlet pressure is too low.</p>	<p>Increase inlet pressure (set pressure reducer if necessary) and start manual regeneration.</p>
<p>Coloured flushing water at start-up.</p>	<p>Abrasion particles of the exchanger resin.</p>	<p>Repeat start-up flush.</p>

**If the fault cannot be remedied by following these steps, please contact our after-sales service department and quote the series and production number (see type plate).**

# 12 Technical Specifications

GB

Bewamat	type	25 A	75 A
Nominal connection width	DN	32 (G 1 1/4" external threads)	
Nominal pressure (PN)	bar	10	
Operating pressure	bar	2.5 - 8.0	
Nominal flow according to EN 14743	m <sup>3</sup> /h	1.4	1.8
Pressure loss for nominal flow	bar	1.0	
Max. flowrate	m <sup>3</sup> /h	1,4	2,5
Nominal capacity according to EN 14743 m <sup>3</sup> x °d (mol)		25 (4.5)	75 (13.4)
Regenerative consumption per regeneration, ca.	kg	1.2	3.5
Regenerative water requirement, ca.	litres	55	128
Quantity of resin	litres	8	21
Max. supply of regenerative	kg	15	50
Power supply	V/Hz	230/50	
Power in watts	watts	20	
Unit voltage	V	18 ~	
Permissible voltage peaks, max.	KV	1	
Protection class		IP 53	
Water/ambient temperature	°C	5 - 30 / 5 - 40	
Humidity		non-condensing	
Height H x Width W x Depth D <sub>1</sub> /D <sub>2</sub> , ca.	mm	640 x 390	1090 x 390
Depth D <sub>1</sub> / D <sub>2</sub> , ca.	mm	460 / 560	460 / 560
Connection height A	mm	500	960
Height of overflow S	mm	280	650
Connection width	mm	60	
Min. sewage system connection	DN	50	
Approx. operating weight	kg	40	100
Production number		6-501156	6-501157





# Standards and Legal Regulations

in their most current amended version

The following standards and legal regulations must be observed depending on the intended use:

EN 806, Specifications for drinking water installations

DIN EN 1717, Protection of drinking water from contaminants in the drinking water supply system

The unit conforms to DIN EN 14743, Water conditioning systems inside buildings - Softeners

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