



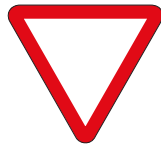
Be wamat 25A, 75A

Simplex Water Softener

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



Danger



Note



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Safety Instructions

The power supply unit in the controller is constructed according to DIN EN 60335. The complete power supply unit must be replaced in the event of damage to the mains cable.

Unclean regenerative containers can damage the unit and compromise the water quality.

The regenerative container must be cleaned with drinking water at least once a year and whenever it is dirty.

The unit must be installed by a specialised fitting company in accordance with the installation instructions.

Notify residents about the installation of the unit, explain how the water softener works and inform them of the regenerative being 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.

If a power failure occurs when regeneration waste water and overflow are being drained **into a pump**, flooding may occur.

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

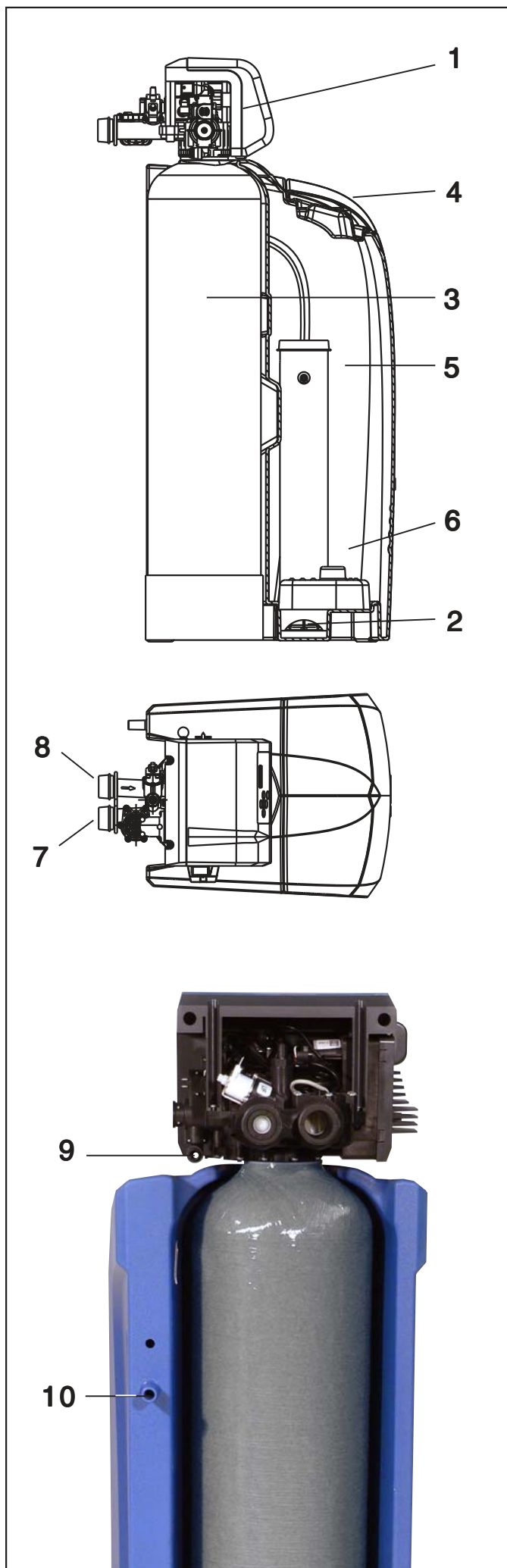
Optional extras:

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

Intended Use

Bewamat A is a system designed for softening or partially softening drinking and service water (in accordance with the relevant regulations – DIN 1988, parts 2 and 7 as well as DVGW [German Technical and Scientific Association for Gas and Water]).

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



Function

GB

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 (in compliance with the German Technical and Scientific Association for Gas and Water [DVGW]).

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.

Installation Requirements

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

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

The pipeline network must be flushed before the unit can be installed.

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.

Continuous operation of the water softener 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 exchange resin to age prematurely. A water softener reduces the concentration of free chlorine and chlorine dioxide. In other words, the concentration in the outflow of a water softener is generally considerably lower than in the inflow.

The unit should be sized in such a way that regeneration is necessary at least once a day based upon the throughput. If water consumption is reduced, e.g. during holidays, a shut-off device must be fully opened for at least 5 minutes before water can be used again (DIN 1988, parts 4 and 8).

Use corrosion-resistant pipe materials for installation. Pay attention to corrosion-causing chemical properties when different pipe materials are combined (mixed installation), even in the direction of flow upstream of the water softener.

A protective filter must be installed in the direction of flow no further than **1 m** upstream from the water softener. The filter must be functional before the water softener is installed. This is the only way to ensure that dirt and corrosion products do not enter the water softener.

You must check whether a mineral substance metering device needs to be installed downstream from the water softener for the purpose of preventing corrosion.

When installing the water softener, select a location where the unit can easily be connected to the water supply network. A connection to the sewage system (at least DN 50), a floor drain and a separate power supply (230 V/50 Hz) must be located in the immediate vicinity.

The emission of interference (voltage peaks, high-frequency electromagnetic fields, interference voltages, voltage fluctuations etc.) by the surrounding electrical systems may not exceed the maximum values specified in EN 61000-6-4.

The rated mains power (230 V/50 Hz) and the required operating pressure must be present at all times. A separate means of protection against a shortage of water is not provided and must be installed on site if desired.

If no floor drain and/or structural waterproofing compliant with DIN 18195-5 is present, a separate safety device (e.g. a hydrostop) must be used.

The installation site must be protected against frost and provide protection against chemicals, paints, solvents, fumes and excessive ambient temperatures.

If the softened water is intended for human consumption as defined in the German Drinking Water Ordinance, the ambient temperature must not exceed 25°C.

If the softened water is intended for technical purposes only, the ambient temperature must not exceed 40°C.

The hose attached to the overflow of the brine container and the flushing water hose must be routed at an incline to the sewage system or connected to a pump. **Please note:** The flushing water and overflow hoses must be least 20 mm above the highest possible waste water level (unimpeded drainage).

If flushing water is fed into a pump, it must be designed for a water volume of at least 2 m³/h or 35 l/min. If the pump is used for other units concurrently, it must be sized larger appropriate to the units' water output volumes.

The pump must be salt-water resistant.

The unit's maximum operating pressure must never be exceeded (see Technical Specifications). If the network pressure is higher, a pressure reducer must be installed upstream of the unit.

A minimum operating pressure is required for the unit to function (see Technical Specifications).

During pressure fluctuations and surges, the sum of the pressure surge and the standing pressure must not exceed the nominal pressure. The positive pressure surge must not exceed 2 bar and the negative pressure surge must not be less than 50% of the self-adjusting flow pressure (see DIN 1988 part 2.2.4).

Exclusion of warranty

- 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.



Installation

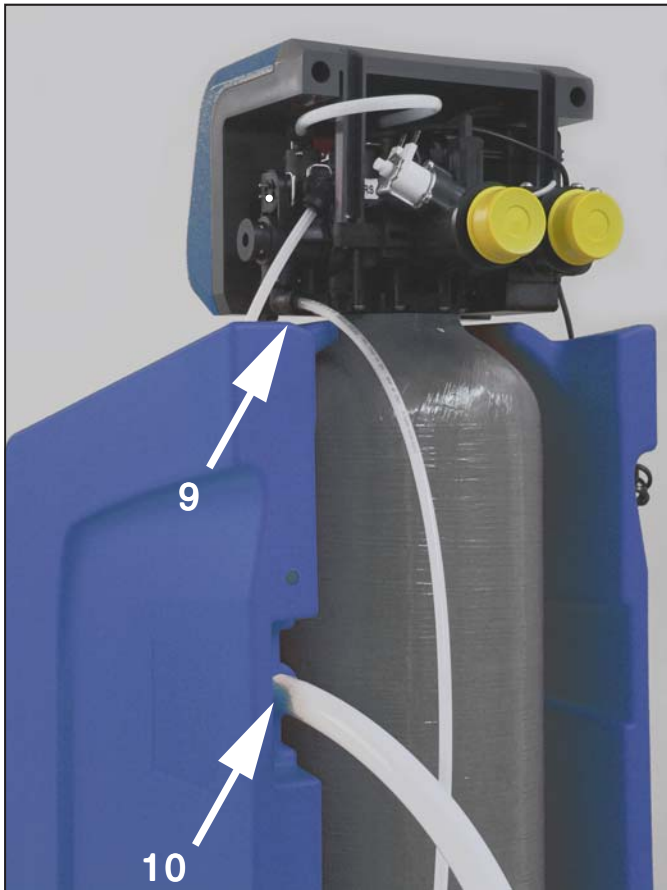
Place and align the softening column with control valve behind the cabinet.



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.



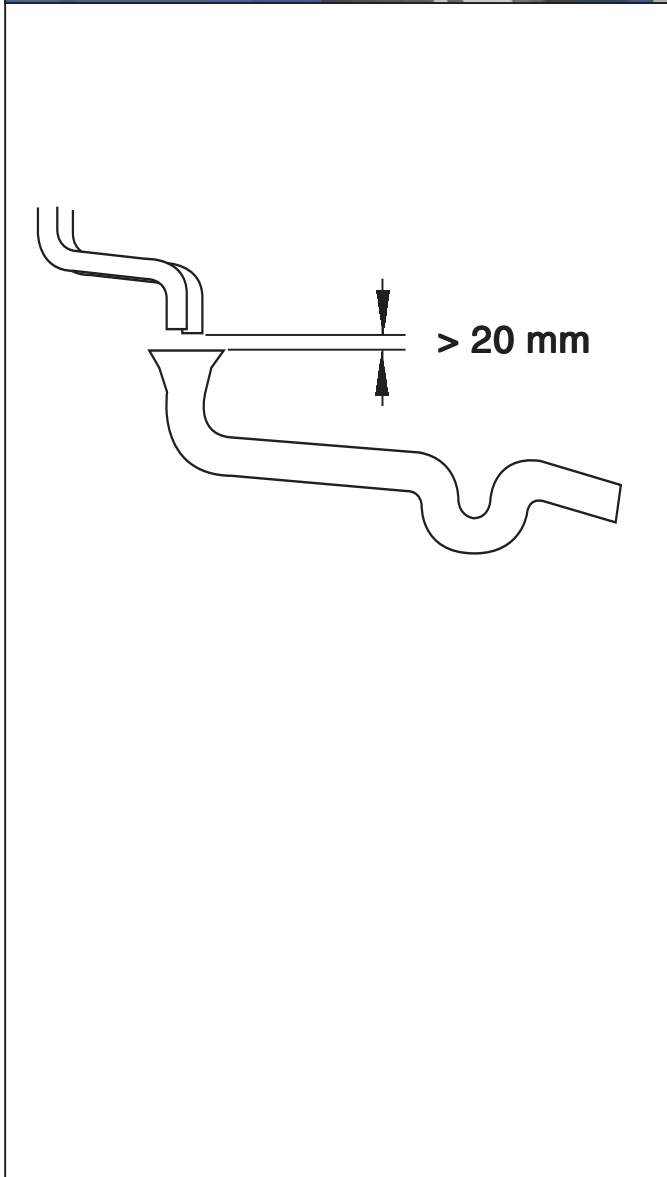
Put the grey cover onto the left side of the control valve.



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).

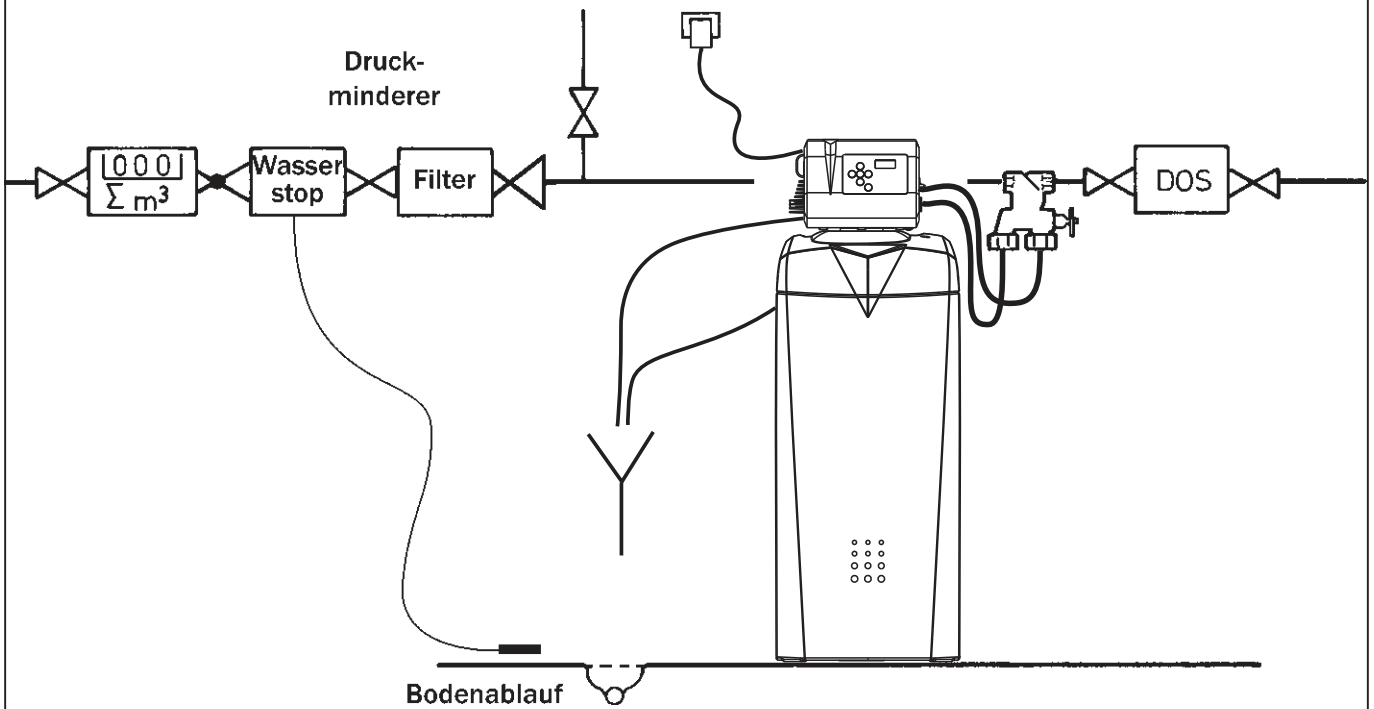


Connect the unit as shown in the installation diagram.

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

Please note: 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).

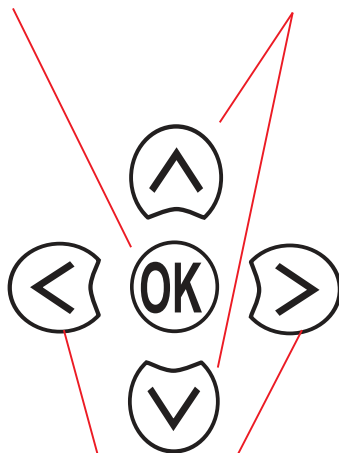
Installation diagram



Operation and Display of the Controller

Confirms entries

Moves cursor, changes entries



Moves cursor

1 = Monday
2 = Tuesday

2 14.:49

4448 L

Operating display

The points flash in the programming mode



Change mode between operation and programming

Start-up

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.

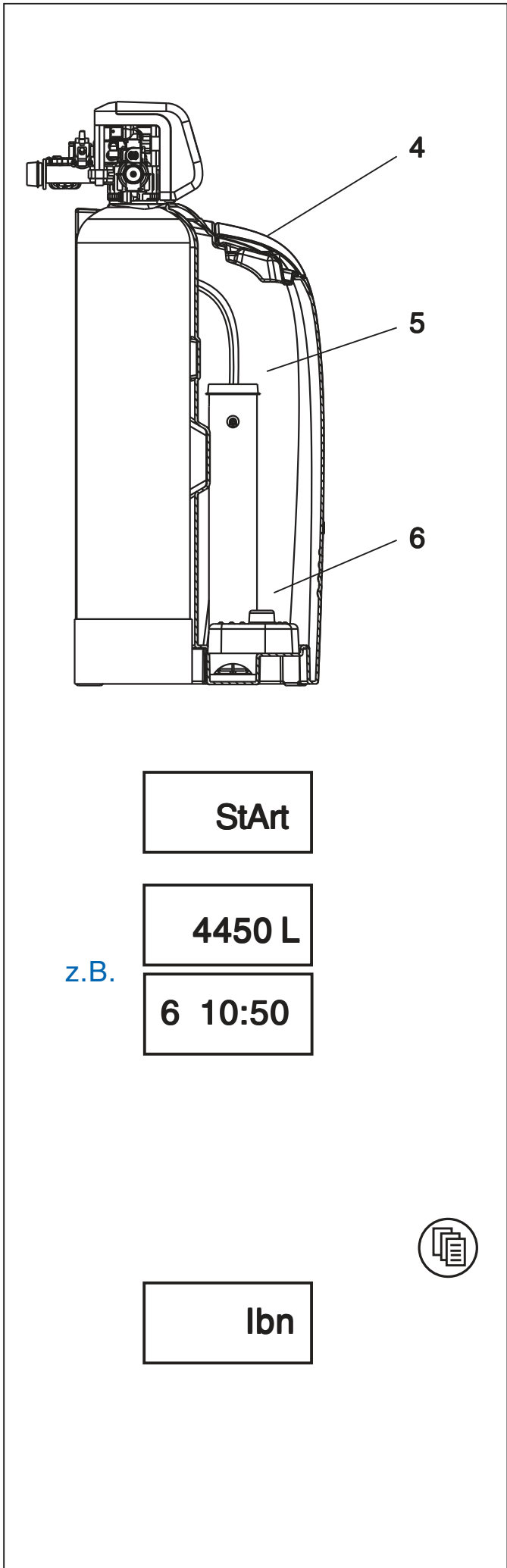
Initiating a start-up flush

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).



You can use this list to check your work once again after you have installed and started up the unit.

Checklist

for professional installation by a qualified fitter

- Has all packaging material} been removed from the brine cabinet?
- Is there a protective filter upstream from the unit in the immediate vicinity?
- Is the water and power supply to the unit continuous (network pressure of at least 2 bar)?
- Have you opened the Multiblock to the limit stop?
- Have the connection hoses been properly connected? (Observe the flow direction arrows, hard water inlet at the non-return valve of the unit).
- Have you filled the unit with drinking water?
- Have the flushing water hose and the overflow been routed separately to the sewage system and connected in compliance with DIN standards? (See Installation)
- Have you filled out the machine log on the back page of this manual?
- Have you informed the operator of the inspection schedule required to comply with DIN 1988? (Check supply of salt and hardness of blended water at least every two months)
- Have you informed the operator of the maintenance schedule required to comply with DIN 1988?
(Tasks in accordance with manufacturer's instructions. Interval according to DIN 1988: annually; semi-annually for communal units)

Check connections and pipeline junctions for leaks.

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.

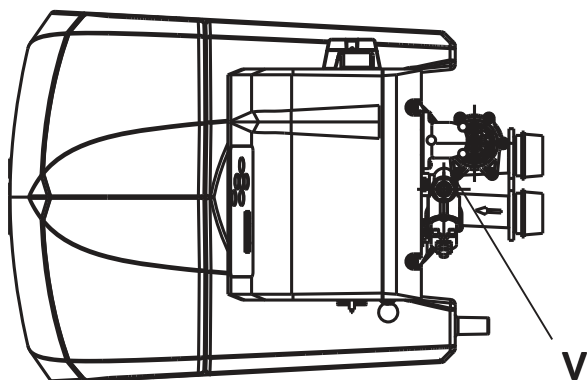
The operator must be told how the unit works as well as how to operate and inspect it. Ensure that the operator receives the installation and operating manual.

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.

Check connections and pipeline junctions for leaks once again.

The unit is now ready for use.

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:

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

in litres

K for **Bewamat 25 A** = 25 m³ x °d
K for **Bewamat 75 A** = 75 m³ x °d

E = Inlet water hardness in °d

V = desired and set blended water hardness in °d

SEt



Display indicates **SEt**

Time



4688 L



-4688 L-



Display flashes

e.g.

-3750 L-



Set the calculated soft-water supply

3750 L



The **new** supply of softened water is not displayed until **after** the next regeneration.



End the program

Setting the time/day of the week

GB

SEt

4 08:32

Day of week
1 = Monday
2 = Tuesday
3 = Wednesday
etc.

e.g. -5- 07:43

5 07:43

The flashing numbers can be changed.

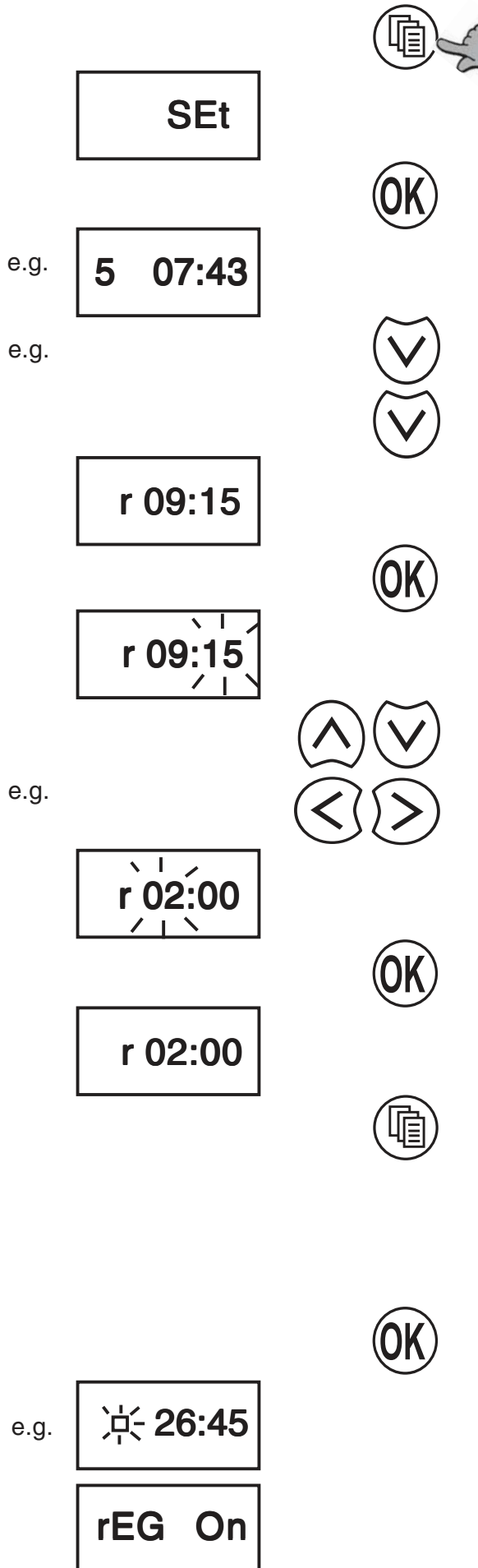
Changes the number

Moves the cursor

Current day of the week and time

End the program

Changing the time of regeneration



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**

Adding regenerative

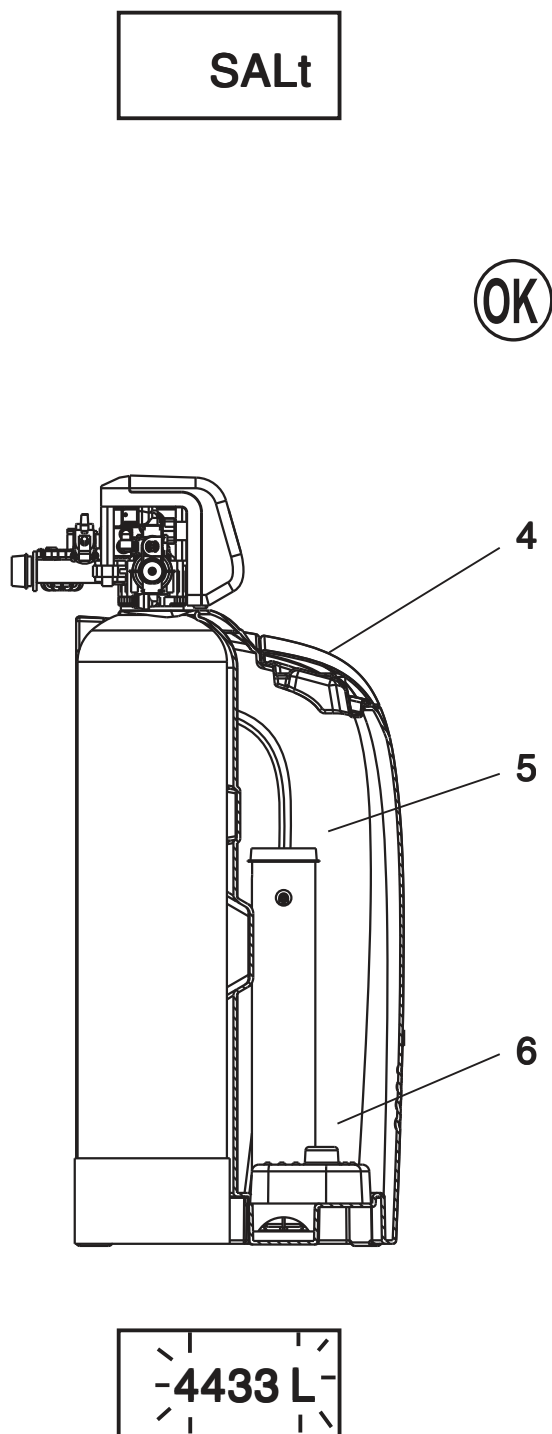
Refill the regenerative no later than when the sieve base becomes visible or when **SALt** is indicated on the display. All commonly available regeneration salts (salt tablets in accordance with DIN EN 973 type A, e.g. Clarosal or Sanisal/Sanitabs) can be used.

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.

Checks

GB

The operator must regularly perform the following checks to guarantee that the unit functions properly.

Check and refill the regenerative once a month.

Checking the hardness of water

The hardness of drinking water and the set hardness of the blended water must be checked once a month and the hardness of the blended water should be corrected if need be (see Start-up).

Check for leaks, visual inspection

Check connection lines and connections for leaks. Check for dirt in the regenerative storage area and brine cavity every two months and clean and flush with clear water if necessary.

The intervals between checks are recommended minimums and must be reduced accordingly for sensitive consumer systems.

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).

Operator Responsibilities

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.

Hygienic cleaning of the cabinet at least once per year.

Regular checks by the operator are required for the warranty and proper functioning of the unit.

The unit must be checked regularly in accordance with the operating conditions; at least every two months.

Wearing parts must also be replaced within the prescribed maintenance intervals in order to guarantee functionality and fulfil the warranty conditions.

Maintenance

Inspect non-return valve	Once a year
Check electrolysis cell	Once a year
Check water meter	Once a year
Check drive motor	Once a year

Check/clean/replace

Flat gasket, injector ball	Every 2 years
Injector	Every 5 years
Electrolysis cell	Every 5 years
Water meter	Every 5 years
Brine valve	Every 5 years
Waste water hose	Every 5 years
Non-return valve	Every 5 years
Blending unit	Every 5 years
Valve incl. containers	Every 10 years

Wearing parts may only be replaced by qualified personnel (fitters or after-sales service team).

We recommend that you enter into a maintenance agreement with your fitter or the after-sales service team.

Troubleshooting

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

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).

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 1988, Specifications for drinking water installations

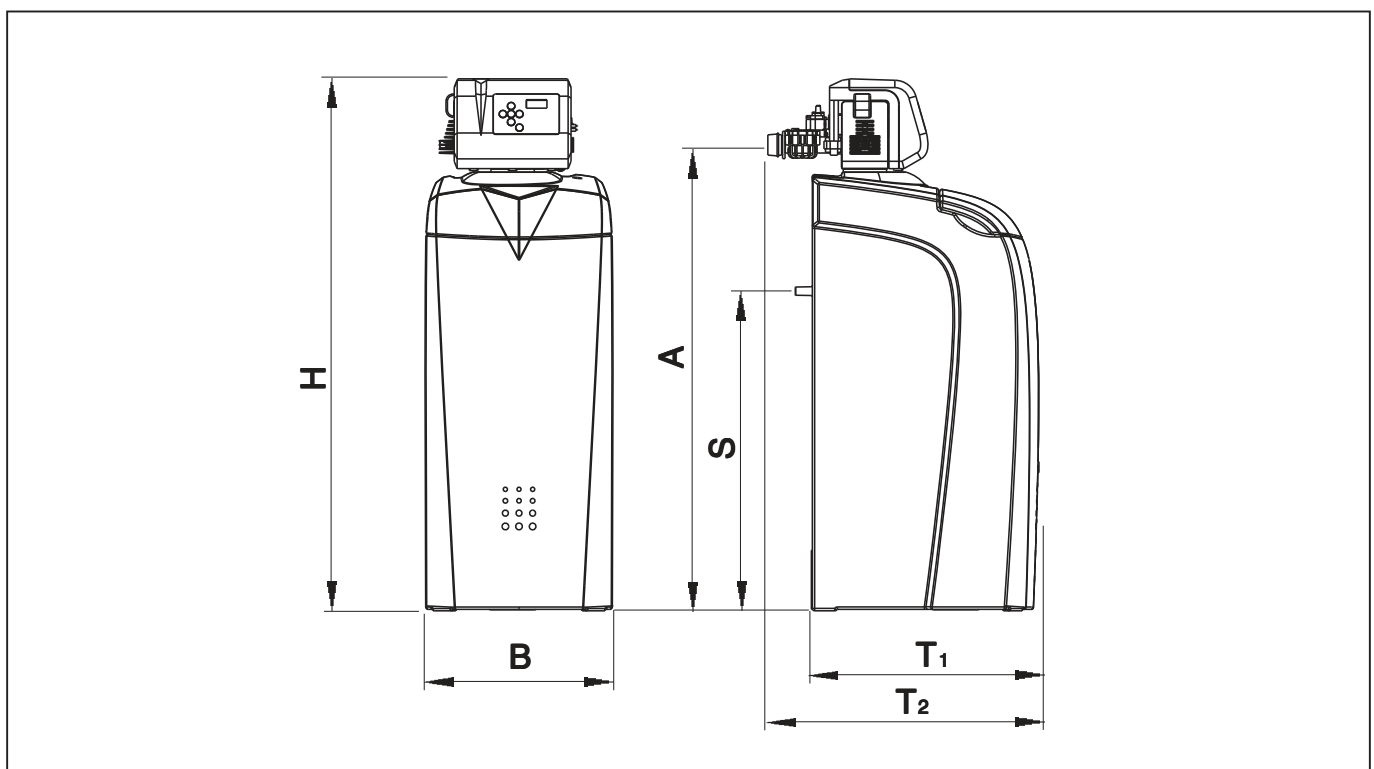
DIN EN 1717, Protection of drinking water from contaminants in the drinking water supply system

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

Technical Specifications

GB

Bewamat	type	25 A	50 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 ³ /h	1.4	1.8	1.8
Pressure loss for nominal flow	bar	1.0		
Nominal capacity according to EN 14743 m ³ x °d (mol)		25 (4.5)	50 (8.9)	75 (13.4)
Regenerative consumption per regeneration, ca.	kg	1.2	1.8	3.5
Regenerative water requirement, ca.	litres	55	103	128
Quantity of resin	litres	8	21	21
Max. supply of regenerative	kg	15	50	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 D₁/D₂ , ca.	mm	640 x 390	1090 x 390	
Depth D₁ / D₂ , 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	



Machine and Maintenance Log

Start-up: Hardness of drinking water at inlet _____ °d Network pressure _____ bar

Water meter reading _____ m³ Date of initial start-up _____

Personnel trained _____

Maintenance: (After-sales service)	Hardness of drinking water Inlet (°d)																					
	Hardness of drinking water Outlet (°d)																					
	Water meter reading (m ³)																					
	Brine extraction time (min.)																					
	Fault memory read out?																					
	Date/name																					
Operator:	Regenerative refilled on (date)																					
	Water meter reading (m ³)																					

Comments _____

Contact

BWT UK Limited

BWT House, The Gateway Centre,
Coronation Road, High Wycombe,
Buckinghamshire, HP12 3SU

Tel: 01494 838 100

Email: sales@bwt-uk.co.uk

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