AQA perla

Duplex soft water unit

1-510246 / 11189 / 2012-02 / © BWT Wassertechnik GmbH / Printed in Germany

For You and Planet Blue.

BWT
BEST WATER TECHNOLOGY

Vielen Dank für das Vertrauen, das Sie uns durch den Kauf eines BWT-Gerätes entgegengebracht haben.

BWT
BEST WATER TECHNOLOGY

Table of contents

	Page
Safety instructions	2
Important information	3
Scope of delivery	4
Intended use	5
Function	5
Installation preconditions	6
Installation	8
Short introduction	10
Commissioning	11
Checklist	18
Operation	19
Decommissioning	23
Operator's obligations	24
Warranty	24
Troubleshooting	25
Technical data	26
Unit protocol	27
Standards and legal regulations	
Adresses	last pages

Safety instructions

Caution mains voltage!
Before the housing of the electronic control unit is opened it must be disconnected from the mains!
If the mains connecting cable of the device is damaged, it must be replaced by the original BWT connecting cable.

Important information

The unit must be installed in keeping with the guidelines contained in AVB Water V, §12.2 by a water utility or by an installing company registered with a water utility.

Household members should be informed in keeping with Drinking Water Directive § 16 and § 21 on the installation and functioning of the soft water unit as well as on the regenerants used.

Use of post-treated drinking water for plants and aquatic animals
Plants and aquatic animals, depending on their species, have particular requirements as regards the composition of the dissolved matter. The user should therefore check – on the basis of the usual specialist literature concerning his particular case – whether post-treated drinking water can be used to water plants or fill decorative basins, aquariums or fish ponds.

The channelling of the regeneration wastewater and safety overflow **to a pumping station** entails a danger of flooding in the event of a power failure.

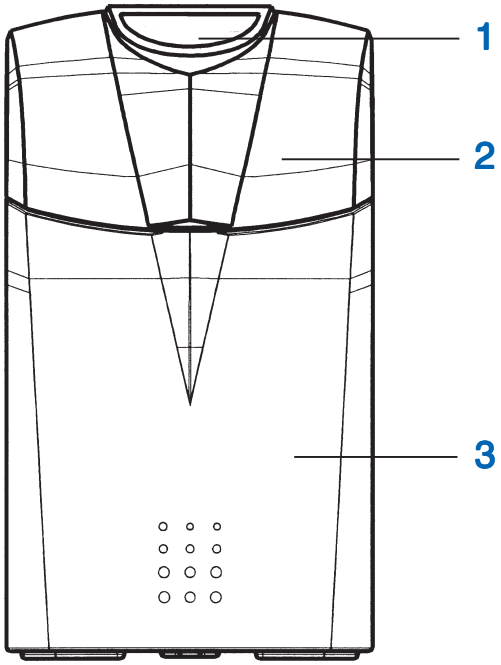
Your product's control unit contains a long-life battery.

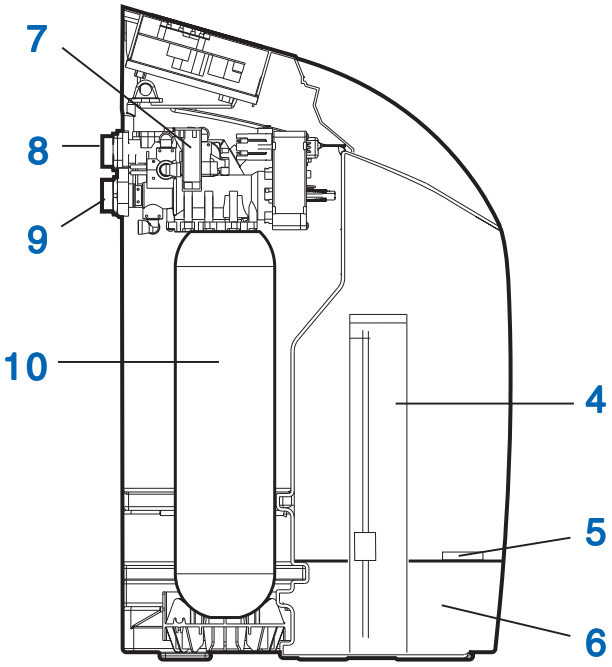
Accumulators and batteries must not be thrown away with the household waste!
You are obliged to take batteries to a suitable collection point or send them to BWT post-free. Old batteries contain valuable raw materials that can be recan be recycled.
can be recycled.

Microbiological and sensoric quality of the (partially) softened water
The quality of the treated water is decisively influenced by the installation and operating conditions of the unit. The main factors are listed in the following table.

	Disadvantageous conditions	BWT recommendations
Incoming water quality	Borderline quality of incoming water, which can get even worse in the unit	Contact your installing company about the installation of a protective filter
Contact your installing company about the installation of a protective filter	Long stagnation times and infrequent regeneration	Observe the operating instructions
Salt quality	Cheap regenerative salts with high levels of indissoluble matter	Use of Sanisal/Sanitabs
Unit and operating hygiene	Infrequent cleaning of the brine container / brine container left standing open	Conclusion of a maintenance agreement and/or regular cleaning of the brine container
Installation situation and installation conditions	High ambient temperatures, e.g. from standing next to a heater improperly executed regeneration wastewater discharge	

In all matters concerning the sensoric and microbiological quality of the treated water attention must always be paid to where that quality is evaluated. During evaluation at a tapping point, for example, the piping material, a water heater or warm water storage tank may decisively influence the water quality.





Scope of delivery

Duplex soft water unit AQA Perla with:

1 Microprocessor control with TFT touch screen
2 Protective hood
3 Storage chamber for regenerants
4 Brine shaft with brine extraction system
5 Sieve tray with floating switch for emptiness indicator
6 Brine chamber
7 Control valves
8 Soft-water outlet
9 Hard water inlet
10 Exchanger column with resin

- Multiblock Module X
- Connection Set DN 32/32 DVGW
- 2 m rinsing water hose
- 2 m overflow hose 18 x 24
- Fastening material
- AQUATEST hardness tester

Optional extras (not in scope of delivery):

- Aquastop 3/4" Order no.: 11825
  Order no. Austria: 082021

- Aquastop 1" Order no.: 11826
  Order no. Austria: 082022

- Brine Pumping Station Bewasol
  Order no.: 11808
  Order no. Austria: 082029

Mineral compound dosage devices

- Bewados Plus E3 Order no.: 17080
  Order no. Austria: 082026

- Bewados Plus E20 Order no.: 17081
  Order no. Austria: 082027

Connections
under the electronics housing

Central Process Control, ZLT connection (red cinch socket) for e.g. salt deficiency, etc.

Dosage pump control connection (white cinch socket)

Intended use

Proper handling

AQA Perla is intended for the softening or partial softening of drinking and non-drinking water for domestic purposes (in keeping with the relevant regulations – DIN 1988, Parts 2 and 7, and DVGW) and for the protection of water pipes and the fittings attached to them, equipment, boilers, etc. against malfunctions and damage caused by calcification.

If AQA Perla is to be used for industrial purposes expert advice must be sought.

Function

AQA Perla is a duplex soft water unit based on the ionic exchange principle. The unit is operated with columns permanently alternating at short intervals. This modus operandi ensures on the one hand that soft water is also available during a regeneration process, and that stagnation times are minimised by the frequent column exchange on the other. This leads to a significantly higher quality of water in relation to chemical and microbiological parameters than in the case of conventional shuttle soft water units.
A regeneration is triggered volumetrically (dependent on the water volume).

The unit is equipped with a device that disinfects the exchanger resin during the regeneration.

Thanks to the special salt-dissolving storage tank the shortest salt-dissolving times and hence extremely short regeneration intervals are achieved..

The microbiological quality of the softened water is determined by the quality of the regenerative salt used. We recommend that Sanisal/Sanitabs be used exclusively.

During commissioning the local drinking water hardness and the desired blended water hardness are entered in the electronics. All other unit parameters are stored. in the electronics. All unit data are preset; unit parameters may be called up. The residual capacity is displayed in litres and as a bar chart. During operation the through-flow volume is displayed in l/h.

Operation and display are done by means of a fully graphic-capable TFT screen with integrated touch panel. The combination of intelligent brine extraction and a regeneration period adapted to the input pressure ensures optimum use of resources.

A hygienic rinse after a longish down time is just as programmable as a reminder to rinse the backwash filter.

The AQUA-Watch function monitors the domestic water supply for persistent minor (<60l/h) percolations (persistent minor percolations are a sign of a problem in the distribution network).
In the event of an error the control unit will issue a warning. In the event of an error or power failure the contact will be opened. (max. pin assignment 24 VDC; 0.5 A).

The connection of a mineral compound dosage device and an error message system is possible at any time.
The installer can leave his telephone number as contact for the customer.

The unit stands out for its compliance with all relevant national and international standards.

Power failure

In the event of a power failure lasting more than 8 hours an automatic regeneration of both columns will be triggered when power is resumed.
The programmed parameters have been safely stored and are not affected by power failures.

ZLT connection

It is possible to connect a potential-free ZLT reporting system.

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. Install a bleed device if necessary.

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 softening unit.

A protective filter must be installed in the direction of flow no further than **1 m** upstream from the softening unit. The filter must be functional before the softening unit is installed. This is the only way to ensure that dirt and corrosive 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 [“Trinkwasserverordnung”], 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. **Note:** In accordance with DIN 1988, the flushing water and overflow hoses must be connected at 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 m^3/h or 35 l/min. If the pump is used for other units concurrently, it must be of a larger size to suit 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 from 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).

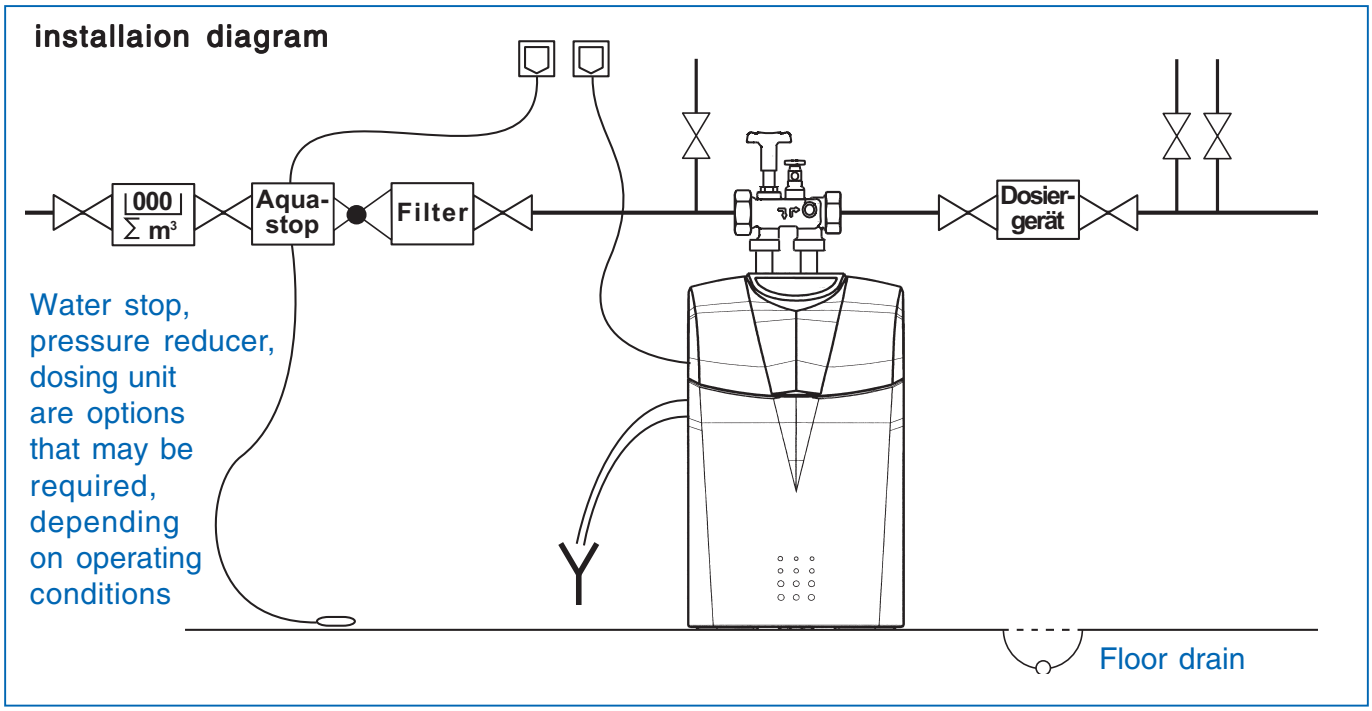
Exclusion of warranty

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

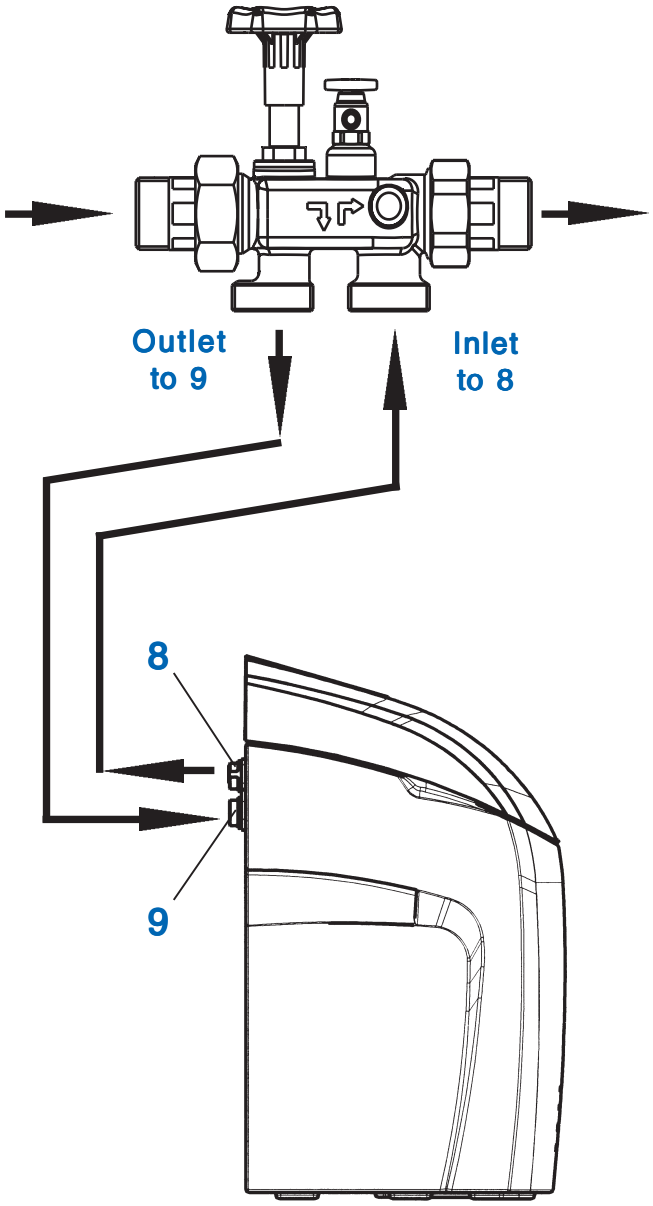
- The wearing parts defined in the "Operator responsibilities" section and the consequences of failing to replace these parts on time are not covered by the 2-year legal warranty.

- 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.



Multiblock X



Installation

Connect the unit according to the chart opposite.

A bypass is incorporated in the Multiblock X.

Installation is possible using both horizontal and vertical pipes.

Please note the separate installation instructions, as otherwise the warranty will lapse in the event of damage or loss.

Rinse out any dirt particles that may be present by opening the hand wheel on the Multiblock.

Connect corrugated tube to the Multiblock outlet and link to the **hard water inlet** (**9**). **Note flow-direction arrows**!

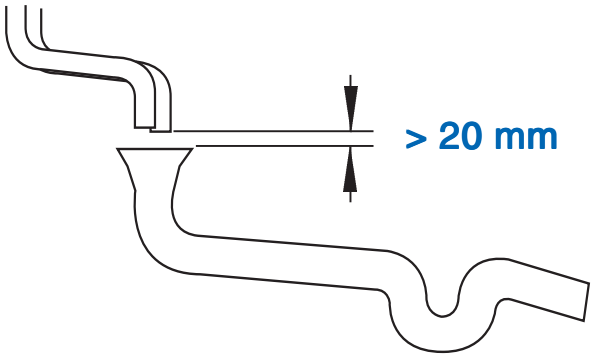
Attach corrugated tube to the Multiblock **inlet** and seal connect with the **soft-water outlet** (**8**).

Attach the rinsing water hose (**11**) firmly to the Y piece.

Lead the rinse water hose (**11**) with the gradient to the drain and secure the end against “pressure wobble” with the enclosed fastening material.

Attach overflow hose (18 x 24) to the safety overflow (**12**), secure with cable connector and lead with a gradient of at least 10 cm to the drain.

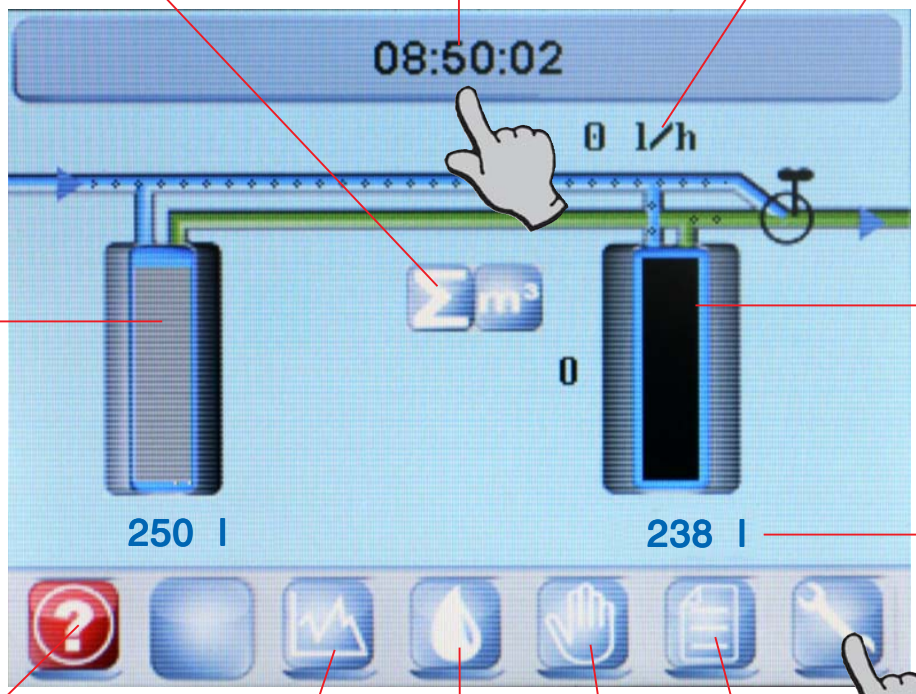
The two hoses leading to the drain must neither be connected nor show any cross-section constrictions.



Please note: According to EN 1717 the rinse-water and overflow hoses must be attached with at least a 20mm clearance of the highest possible waste-water level at the drain (free outflow).

Operation and display of the control unit

Operating display



Water consumption since commisiioning

Set time and date

Current water flow rate

Column on standby

Column in operation

Residual capacity

Help

Trend display

Set water hardness

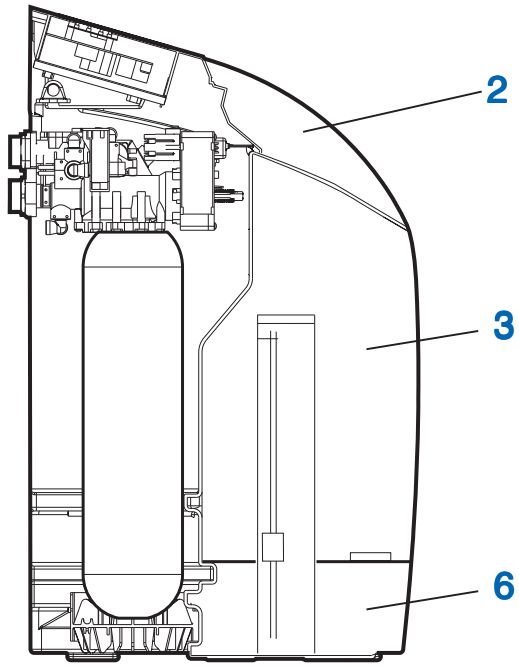
Manual operation

Unit history and consumption data

Unit set up

Commissioning

Check that unit has been properly installed (in compliance with DIN 1988, Part 4).
Use AQUATEST to measure and record the hardness of the drinking water before it enters the soft water unit.



Brine preparation

Remove protective hood (2).

Fill the storage chamber **with max. 50 kg of regenerants** (salt tablets complying with DIN EN 973 type A, e.g. Clarosal or Sanisal/Sanitabs) (**3**).

The brine chamber (**6**) is automatically filled with drinking water during commissioning.

N.B.: If a major soft water withdrawal is envisaged after commissioning, it should be noted that the unit requires about three hours for brine to form.

Insert mains plug.

Water supply must remain off.

The display shows the **start screen** with the version number.

Let basic fixing take place.

The running noise stops after about 40 sec.

The **What do you want to do?** image appears.

If no key is pressed, the unit automatically regenerates both columns in turn after 3 minutes. If the key is pressed, the unit regenerates immediately.

Type in Execute commissioning
The unit carries out a commissioning rinse.

Turn on water supply (open Multiblock)

Start **commissioning rinse**

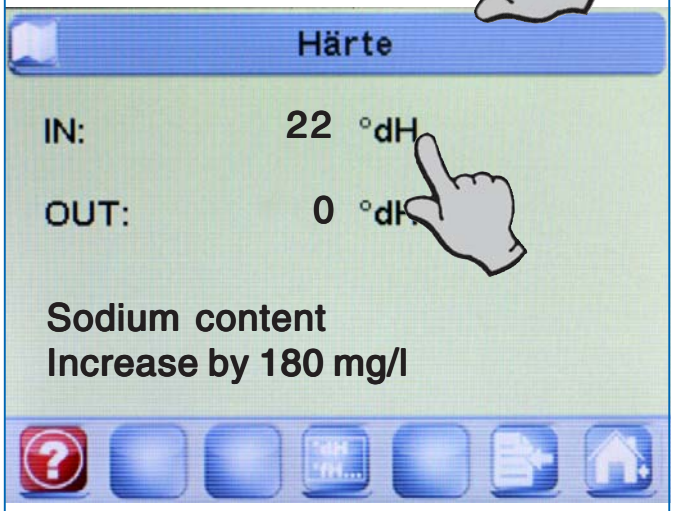
Both exchanger columns are rinsed.
The process lasts about 4 minutes and its end must be awaited.

These data are displayed on the screen saver.

Insert company name and telephone number

Correct figures

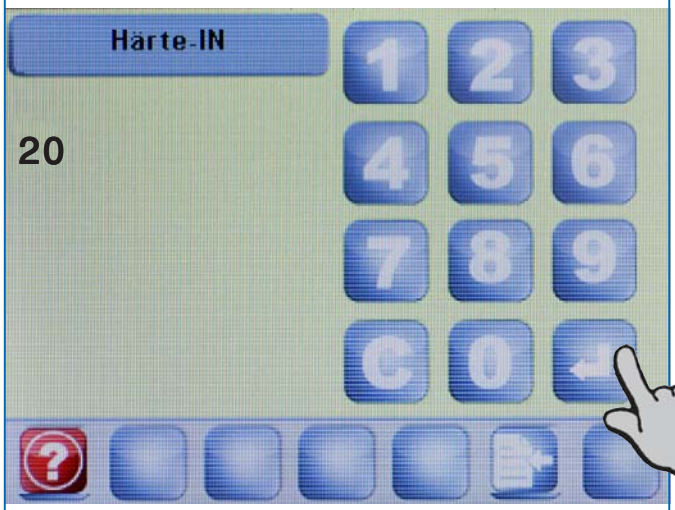
Confirm



Set water hardness

The drinking water hardness as measured on the spot and the desired blended water hardness (residual hardness) must be entered here.

The raising of the sodium content is displayed in accordance with the hardness setting.



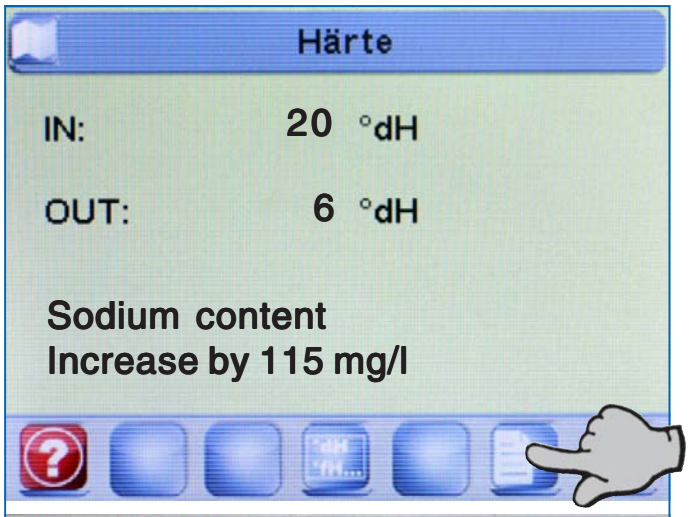
IN Drinking water hardness
Enter hardness reading for drinking water.

Correct figures

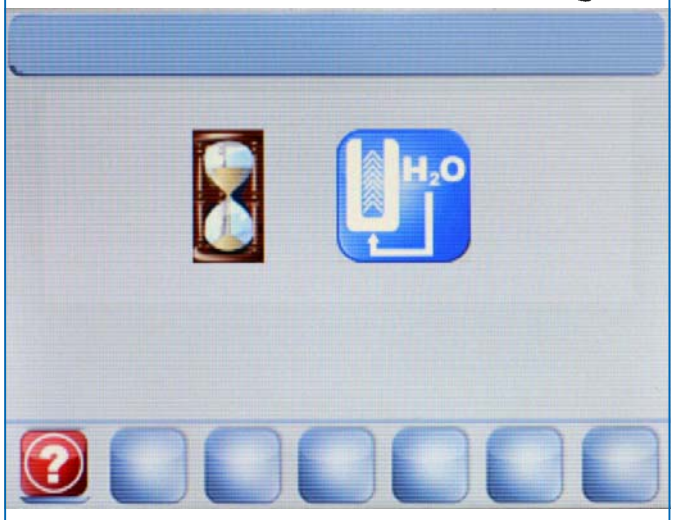
Confirm

OUT Blended water hardness
Enter desired blended water hardness (residual hardness). (BWT recommendation 4° - 8° dH. In Austria a residual hardness of > 8.4 °dH is prescribed).

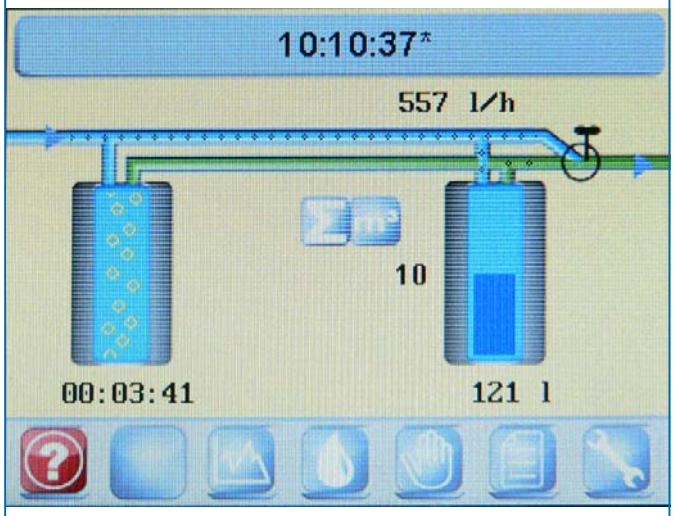
Confirm



Store and continue

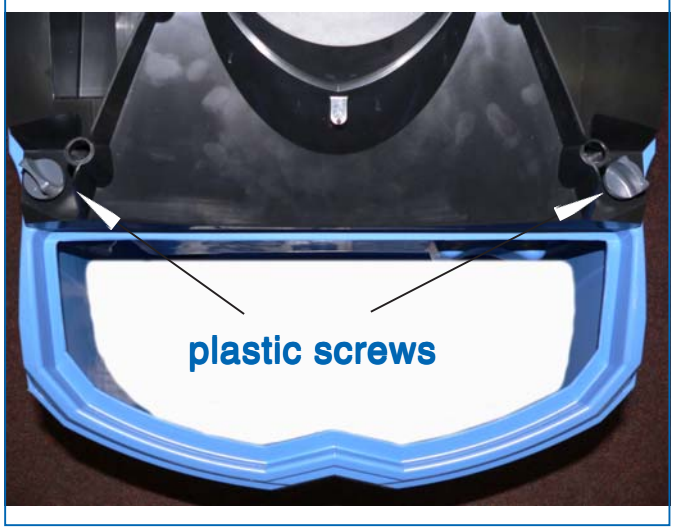


Commissioning rinse is executed



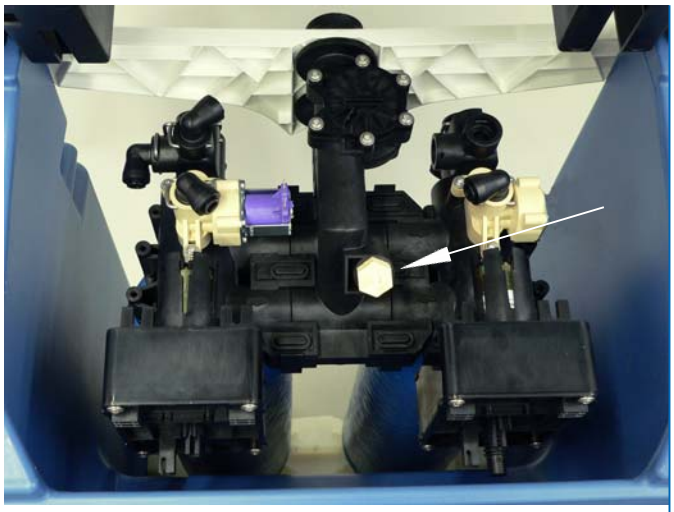
The brine chamber is automatically filled with drinking water (takes about 25 minutes).

During this time the functions in the Manual Operation menu are disabled.



Set blended water hardness
Remove protective hood **(2)**.

Remove 2 plastic screws.
Open flap of electronics and hold in place.



Location of blending valve (**V**).

Close the blending valve in a clockwise direction and then increase the hardness of the blended water by gradually opening it (expanding arrow).

To check run off > 500 l/h water at the nearest cold water tapping point, check the hardness of the blended water (residual hardness) using the AQUATEST hardness tester, and adjust it at the blending valve (**V**) until the desired level has been reached.
(In Austria a residual hardness of > 8.4 °dH is prescribed).

The Drinking Water Directive prescribes a threshold value of 200 mg/l for sodium. The threshold value has been set so low in order to enable the water to be used for drinking and cooking purposes by people on a low-sodium diet.

Sodium content of partially softened water
A reduction of the drinking water hardness by 1 °dH causes a rise in the sodium content of 8.2 mg/l.

(Drinking water hardness – blended water hardness) x 8.2 mg/l = Raising the sodium content.

Check once again that all pipe connections are watertight.

Commissioning has been completed

The unit is ready for use.

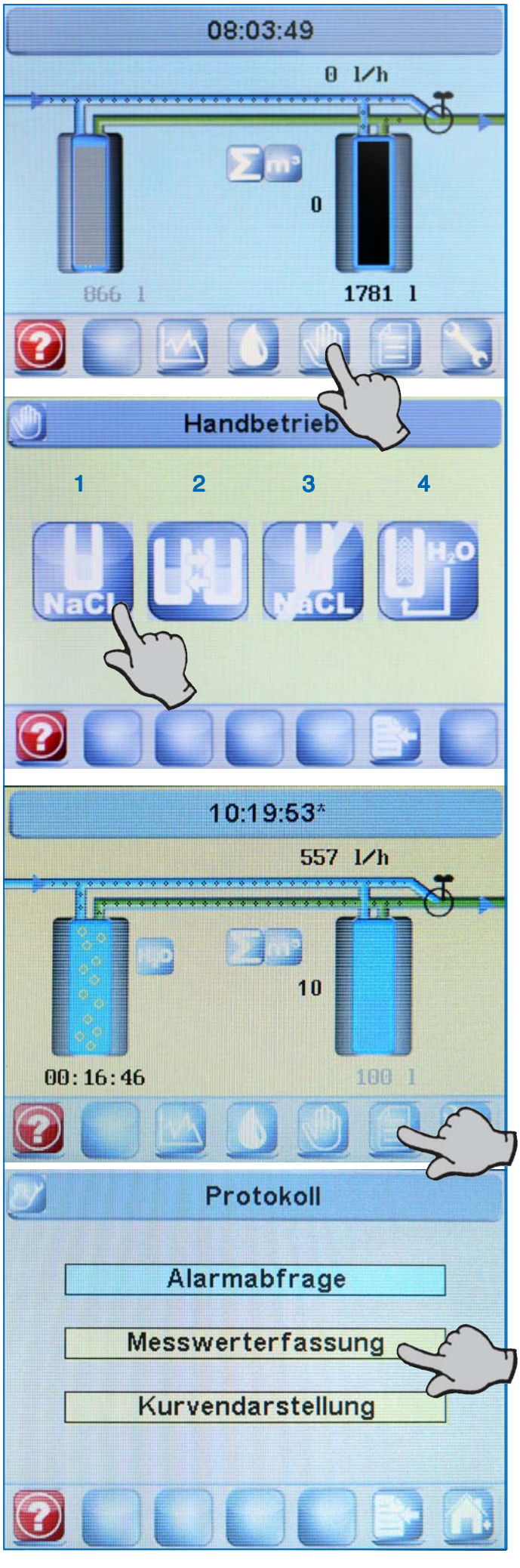
Handover of unit to operator:
In the event of a delay between installation/ commissioning and handover to the operator a manual regeneration of both exchanger columns in succession must be carried out.
The operator must be informed about the functioning, operation and control of the unit. Hand over installation and operating instructions to the operator.

After installation and commissioning you can use this list to check your operations once again.

Checklist

for proper installation by a professional installer

- ☐ Has all packaging material been removed from the brine cabinet?
- ☐ Is a protective filter connected in series to the unit in the immediate vicinity?
- ☐ Is the unit permanently supplied with electricity and water (mains system pressure of at least 2 bar)?
- ☐ Have you opened the Multiblock as far as it will go?
- ☐ Have the connecting hoses been properly connected? (Note flow-direction arrows, drinking water inlet at the unit's return flow inhibitor.)
- ☐ Has the unit filled itself with water?
- ☐ Have the rinsing water hose and the safety overflow been laid to the drain separately and connected in keeping with DIN standards? (see Installation)
- ☐ Have you entered the drinking water hardness and correctly set the blended water hardness at the blending valve? (see Commissioning)
- ☐ Is the unit metering the blended water supply? (Open tapping point after the unit and observe metering of the blended water unit on the display)
- ☐ Have you completed the unit log on the back of these instructions?
- ☐ Have you drawn the operator's attention to the necessary inspection in accordance with DIN 1988? (check salt supply and blended water hardness at least every two months)
- ☐ Have you drawn the operator's attention to the necessary maintenance in accordance with DIN 1988?
  (Work according to manufacturer's specifications at intervals stipulated by DIN 1988: once a year, twice a year in the case of communal units)



Operation

Please note separate operating instructions for Multiblock Module and DN 32/32 Connection Set.

For regular regenerations (after volume control or time-priority control) an additional disinfection is not necessary.
Under unfavourable circumstances, e.g. longish down times in warm installation rooms, an additional disinfection operation by the customer service may become necessary for regeneration purposes.

1 Initiating regeneration manually

2 Column exchange

3 Cancel regeneration

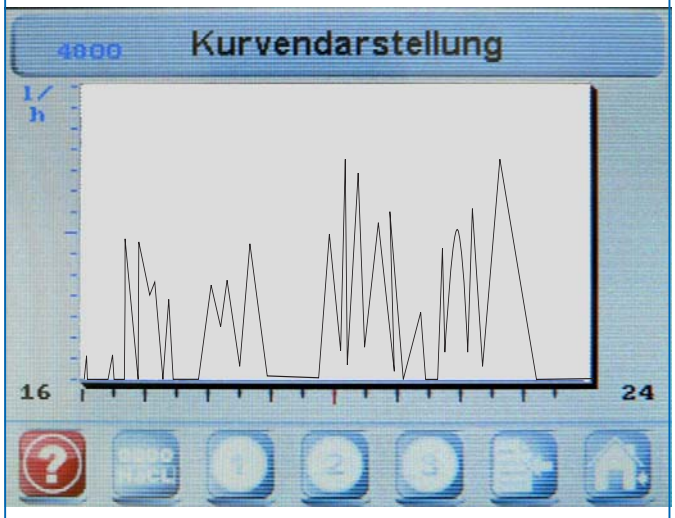
4 Execute commissioning rinse
(for more information see Commissioning)

The individual regeneration stages are displayed together with the remaining time available.

The regeneration is automatically adjusted to the incoming water pressure and lasts about 17 minutes.

Call up Data acquisition

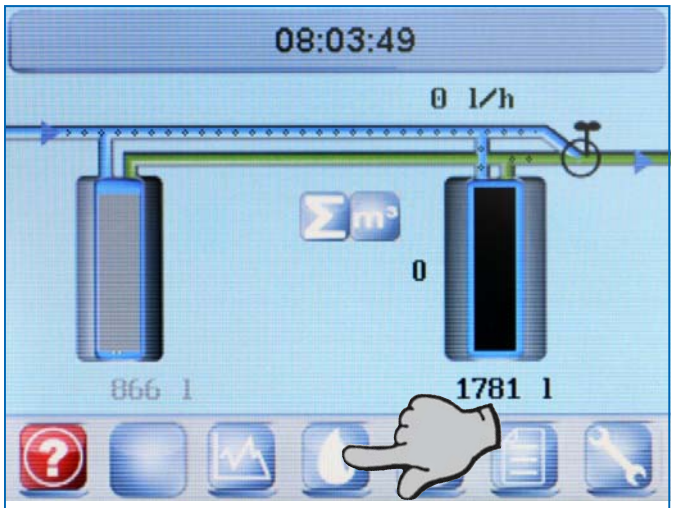
Data acquisition displays the consumption values for water and regenerants.



The curve shows the through-flow over the period of the past 24 hours, in 3 sections of 8 hours each.

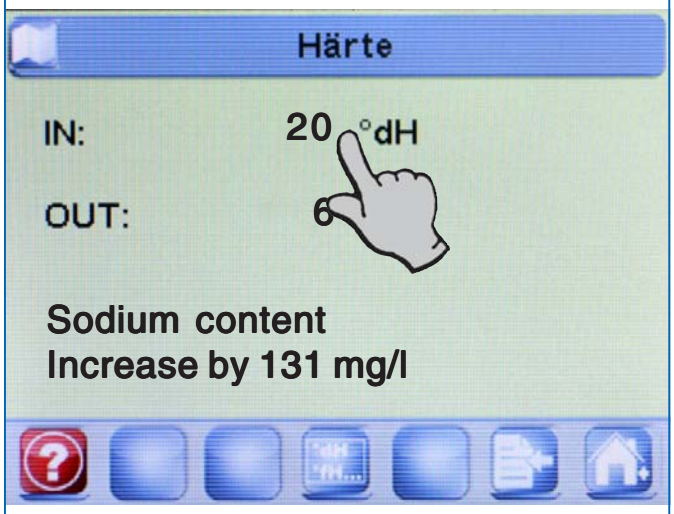
After 15 minutes the screen saver appears with the data of the contact person.

The appropriate entries make the operating mode display re-appear.



Check and set water hardness

Check drinking water hardness and the blended water hardness (residual hardness) and correct if necessary.

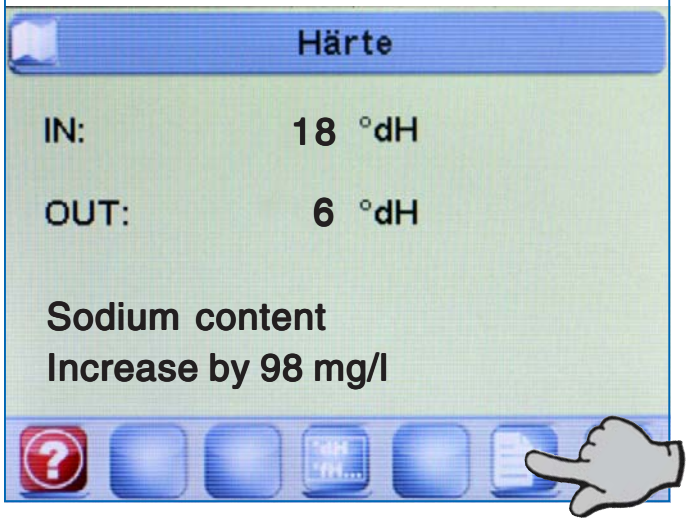


IN Drinking water hardness
Enter hardness reading for drinking water.

OUT Blended water hardness
Enter desired blended water hardness (residual hardness). (BWT recommendation 4° - 8° dH. In Austria a residual hardness of > 8.4 °dH is prescribed).

Correct figures

Confirm



Store the amended values.

In addition, the blending valve must be re-regulated.

Pour in regenerants

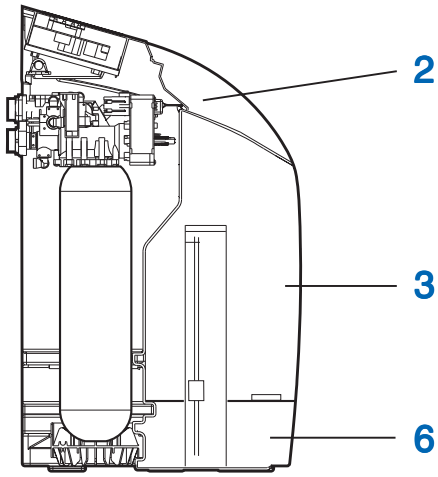
Replenish regenerants at the latest when the sieve tray (**5**) becomes visible or when the message **salt deficiency** is displayed. Any commonly available regenerative salts (salt tablets complying with DIN EN 973 type A, e.g. Clarosal or Sanisal/ Sanitabs) may be used.

Open protective hood **(2)**. Pour regenerants into the storage chamber (**3**).

Press key until the **salt deficiency** display disappears.

After a salt deficiency the first two regenerations are prolonged by 5 minutes.

The replenishment must be done in such a way that no contaminants get into the storage chamber (**3**) (clean regenerant packaging before use if necessary).
If contaminants appear in the storage chamber (3) or brine chamber (6), the relevant chamber must be cleaned with drinking water.



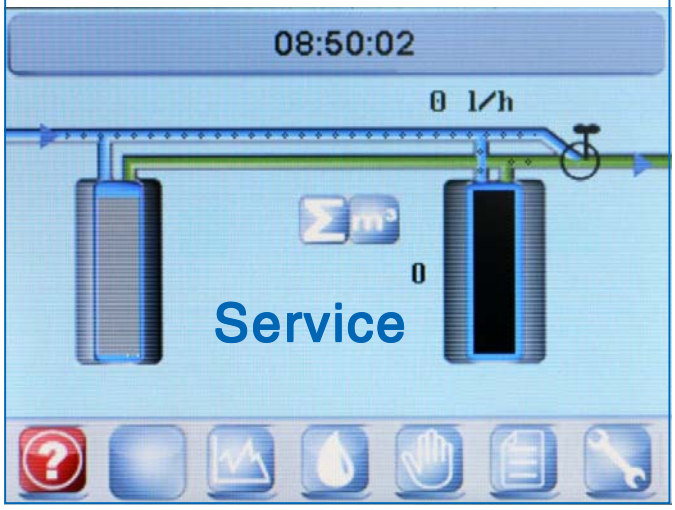
Error messages

Error messages are displayed in red with a brief description of what has happened.

Caution! If problems persist pull out the mains plug and click the hand wheel on the Multiblock Module shut (this opens the bypass to the water supply).

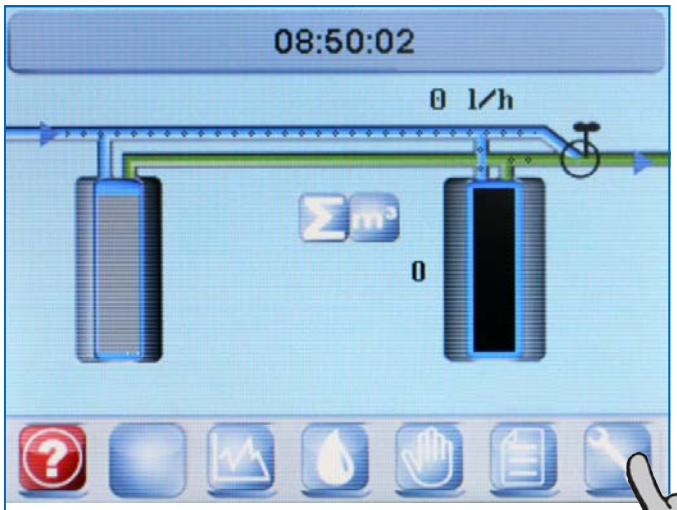
Acknowledge error

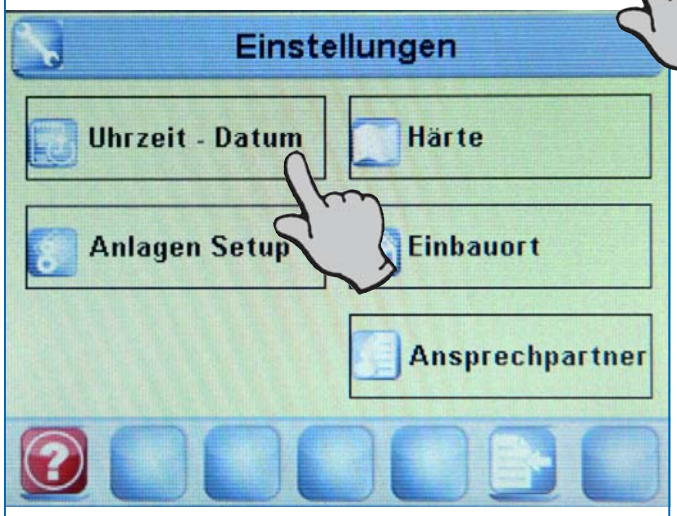
If the error continues to be displayed, call customer service.



Service
The **Service** display appears after 500 regenerations or after 12 months.
Maintenance must be performed by BWT Customer Service.

Change settings





Here you can change the time, date, water hardness, language (installation site) and settings (Unit Setup).

Under Contact you will find the relevant customer service and installing company.

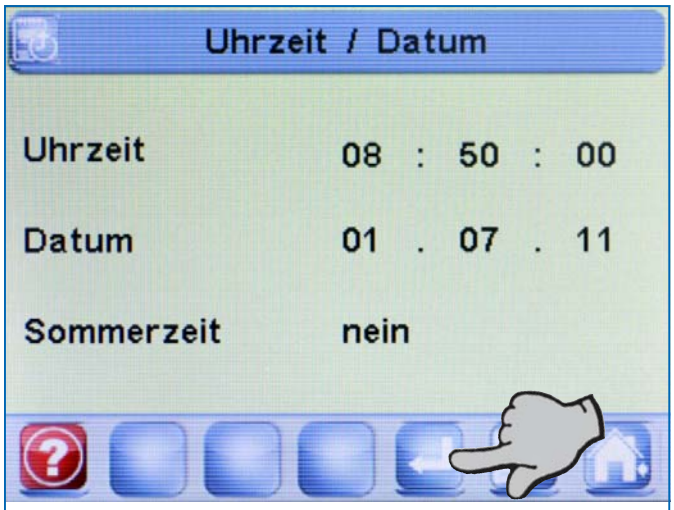
Changing the time

Example:

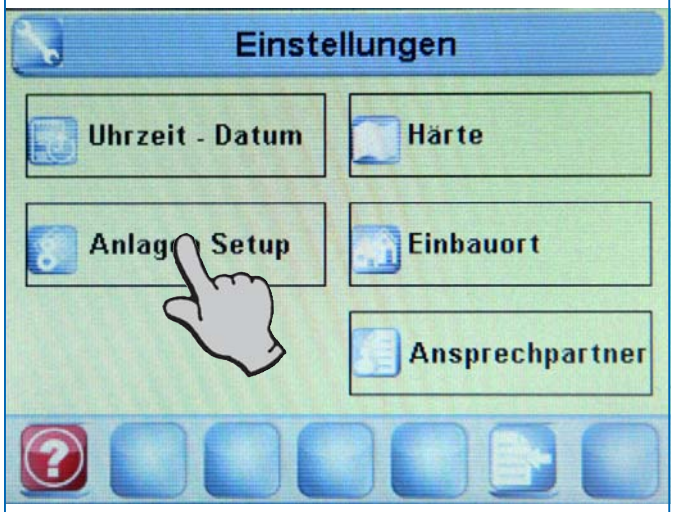
Type in the figures to be changed directly

Correct figures

Confirm



Once setting is complete press Confirm



Technical work is reserved for Customer Service (password-protected)

Setting options in Unit Setup:

Alarm: Alarm signal on/off
Online measuring: Not yet available
Aquastop: Not yet available
Pressure switch: Option, if no water pressure is present, no regeneration will be triggered.
Rinse/hygiene:
R: Rinse function = additional rinse with soft water. Not recommended for HVACR systems.
H: Hygienic rinsing after 24 hours without water flowing through (1 min, both exchanger columns).
R+H: Both functions active.

The **AQUA-Watch** function monitors the domestic water supply for persistent minor (<60l/h) percolations (persistent minor percolations are a sign of a problem in the distribution network).
In the event of an error the control unit will issue a warning. In the event of an error or power failure the contact will be opened (max. pin assignment 24 VDC; 0.5 A).

Filter: Reminder to check a protective filter connected in series (change backwash/filter element).

Screen saver: Switch on / Switch off

Decommissioning

Close Multiblock. The drinking water network is supplied with untreated water via the bypass in the Multiblock.

Press **manual operation** key

Press **right-hand key**

Press Execute commissioning rinse

Press **left-hand key** for Commissioning, Rinse
A rinse is carried out until the water has been rinsed out to relieve the pressure.

Wait about 5 minutes until the Operating mode display appears.

Pull out the mains plug.

Breakdowns & recommissioning

To avoid stagnation phases when the water-softening unit is not in use the hygienic rinse function may be used, in which after a set time has elapsed the unit automatically performs a hygienic rinse with freshwater without water throughput.

In the event of foreseeable stagnation phases the following precautions should be taken:	**BWT recommendation concerning recommissioning after stagnation phases:**
Less than 3 days None	Commissioning rinse of the soft water unit. Then open all tapping points to wash out the installation.
3 to 30 days Close main isolation valve. Disconnect soft water unit from mains (close Multiblock).	Open main isolation valve and Multiblock. Regenerate both exchanger resin columns. Then open all tapping points to rinse out the installation.
1 to 6 months Close main isolation valve. Disconnect soft water unit from mains (close Multiblock) and decommission.	Open main isolation valve and Multiblock. Have BWT Customer Service perform a regeneration of both exchanger resin columns using Dioxal disinfectant. Then open all tapping points to rinse out the installation.
Longer than 6 months Disconnect domestic water installation from public drinking water network. Disconnect soft water unit from mains (close Multiblock) and decommission.	Restore connection to the public drinking water network. Have BWT Customer Service perform a regeneration of both exchanger resin columns using Dioxal disinfectant.

Operator's obligations

You have bought a long-life and easy-to-service product.
However, every technical system requires regular servicing in order to keep in perfect functioning order.

Keep yourself regularly informed about the water quality and the pressure of the water to be treated. Changes in water quality may necessitate changes in the settings, in which case a specialist should be consulted.

Functioning and warranty are subject to the following checks being regularly performed by the operator:
Under DIN 1988 Part 8 Appendix B the unit must be checked regularly, depending on the conditions under which it is operated and used, but not less frequently than every two months.
The control intervals are minimum recommendations and must be shortened by the operator accordingly in dealing with sensitive consumer systems.

Check and replenish
regenerants according to consumption

Check water hardness once a month
The drinking water hardness and the set blended water hardness must be checked and if necessary corrected (see Commissioning).

Visual check every two months
Check connecting pipes and links to ensure they are watertight.
Check contamination in storage chamber for regenerants and brine chamber and, if necessary, clean and rinse with clear water.

Cleaning at least once a year
Clean brine container and cabinet hygienically

Another requirement for function and warranty is the replacement of worn parts at the intervals prescribed in the maintenance manual.
Under DIN 1988 Part 8, Appendix B, maintenance must be carried out once a year, and twice a year in the case of communal units.

Maintenance checks

Return flow inhibitor	Once a year
Brine extraction	Once a year
Electrolytic cell	Once a year
Water meter	Once a year
Salt deficiency	Once a year
Driving motor	Once a year
Hydraulic check	Once a year

Replacing parts
Double valve with resin pressure bottles Every ten years
See also maintenance instructions.

The replacement of worn parts must carried out by qualified specialists (installing company or BWT Customer Service). We recommend concluding a maintenance agreement with your installing company or the BWT Customer Service.

Warranty

In the event of a fault occurring during the warranty period please approach your contractual partner, the installing company, specifying the unit type and the production number (see technical data or nameplate of the unit).

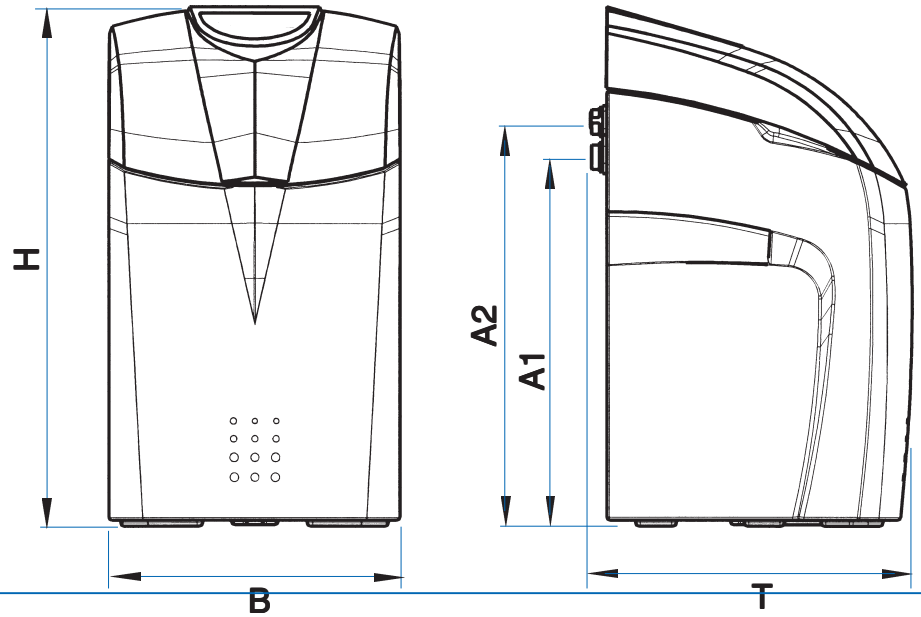
Troubleshooting

Fault	Cause	Remedy
Salt deficiency is displayed.	Too little regenerant in the storage chamber (**3**).	Replenish with regenerant and press OK key until Salt deficiency disappears.
Unit supplies no soft or blended water.	No regenerant in the storage chamber (**3**).	Replenish with regenerant, Press OK key till Salt deficiency disappears. Wait 3 hours for brine to form and trigger regeneration manually for both exchanger columns in succession.
	Power supply cut.	Restore electricity connection.
	Adjusting spindle Blend (**V**) not set properly.	Set according to Commissioning section “Setting of blended water hardness”.
Unit supplies no soft water, or flow rate too low	Primary pressure too low.	Raise primary pressure (if necessary, set pressure reducer) and trigger Manual regeneration.
Coloured rinsing water during commissioning.	Abrasion particles from the exchanger resin	Repeat Commissioning rinse.

If the fault cannot be remedied with the aid of these instructions, our Factory Customer Service must be consulted, giving the serial and production number (see nameplate on the back of the unit).

Technical Data

Soft water unit	Type	AQA Perla
Nominal connection width	DN	32 (G 1 1/4")
Nominal pressure	PN	10
Operating range	bar	2 - 8
Nomimal flow rate in acc. with DIN 19636 (EN 14743)	l/h	1700 (1400)
Pressure loss at nominal flow rate in acc. with DIN 19636 (EN 14743)	bar	0,8 (1,0)
Nomimal capacity in acc. with DIN 19636 (EN 14743)	mol	2 x 1,3 (2x 1,2)
Resin volume	l	2 x 5,4
Regeneration medium per regeneration	kg	0,25
Wastewater volume per regeneration at 4 bar	l	24
Regeneration medium reserve in the cabinet	max. kg	50
Mains connection	V/Hz	230/50 - 60
Connection capacity I operation/ regeneration, max	W	2,6 / 40
Unit voltage	V	24
Fault alarm outlet, max	V/ A	24 / 0,5
Protection class	IP	54
Water/Ambient temperature, min-max	°C	5 – 30/40
Dimensions (HxWxD)	mm	890 x 500 x 520
Connection external thread		G 1¼"
Connection height A1 and A2	mm	630 and 690
Connection height rinsing water and overflow hose	mm	580
Sewage connection	DN	50
Operating weight, approx	kg	102
Production number	**PNR**	**6-500076**
Production number/order number Austria		**6-500082 / 082028**



Unit protocol

(to be completed during commissioning)

Drinking water hardness inflow _____°d

Commissioning date _____ Mains system pressure _____bar

Water meter reading _____m^3

Authorised personnel _____

Regenerant replenished												
Maintenance carried out												
Date/name												
Regenerant replenished												
Maintenance carried out												
Date/name												

Comments_____

_____

Standards and legal regulations

(latest versions only)

Depending on the intended use, the following standards and legal regulations must be complied with:

General Framework Administrative Regulation on the Minimum Requirements for the Release of Sewage into Water Bodies (Framework Wastewater Administrative Regulation) Appendix 31-Water Treatment, Cooling Systems, Steam Generation
Law on the Promotion of Recycling Management and Securing the Environmentally Friendly Disposal of Refuse (Recycling-Management and Waste Disposal Act)
Law governing Water Management (Federal Water Act)
Directive on the Quality of Water for Human Consumption (Drinking Water Directive)
EN 806, Technical Regulations for Drinking Water Installations
DIN 1988, Technical Regulations for Drinking Water Installations
DIN EN 1717, Protection of Drinking Water against Contaminants in Drinking Water Installation

The unit corresponds to DIN EN 14743, Systems for the Treatment of Drinking Water in Buildings – Softening Agents
and DIN 19636-100, Water-softening Systems (cation exchange) in Drinking Water Installation - Part 100: Requirements to be met when using water-softening systems in accordance with DIN EN 14743.

Further information:

BWT Austria GmbH
Walter-Simmer-Straße 4
A-5310 Mondsee
Phone: +43 / 6232 / 5011 0
Fax: +43 / 6232 / 4058
E-Mail: office@bwt.at

BWT Wassertechnik GmbH
Industriestraße 7
D-69198 Schriesheim
Phone: +49 / 6203 / 73 0
Fax: +49 / 6203 / 73 102
E-Mail: bwt@bwt.de

Cillichemie Italiana SRL
Via Plinio 59
I-20129 Milano
Phone: +39 / 02 / 204 63 43
Fax: +39 / 02 / 201 058
E-Mail: info@cillichemie.com

BWT France SAS
103, Rue Charles Michels
F-93206 Saint Denis Cedex
Phone: +33 / 1 / 4922 45 00
Fax: +33 / 1 / 4922 45 45
E-Mail: bwt@bwt.fr

BWT Belgium N.V.
Leuvensesteenweg 633
B-1930 Zaventem
Phone: +32 / 2 / 758 03 10
Fax: +32 / 2 / 758 03 33
E-Mail: bwt@bwt.be

BWT Ceská Republika s.r.o.
Lipová 196 -Cestlice
CZ-251 01 Rícany
Phone: +42 / 272 680 300
Fax: +42 / 272 680 299
E-Mail: info@bwt.cz

BWT Polska Sp. z o.o.
ul. Polczyńska 116
PL-01-304 Warszawa
Phone: +48 / 22 / 6652 609
Fax: +48 / 22 / 6649 612
E-Mail: bwt@bwt.pl

BWT Hungária Kft
Keleti út. 7.
H-2040 Budaörs
Phone: +36 / 23 / 430 480
Fax: +36 / 23 / 430 482
E-Mail: bwtchrist@bwtchrist.hu

BWT AQUA AG
Hauptstraße 192
CH-4147 Aesch/BL
Phone: +41 / 61 / 755 88 99
Fax: +41 / 61 / 755 88 90
E-Mail: info@bwt-aqua.ch

BWT UK Ltd.
Coronation Road, BWT House
High Wycombe
Buckinghamshire, HP12, 3SU
Phone: +44 / 1494 / 838 100
Fax: +44 / 1494 / 838 101
E-Mail: info@bwt-uk.co.uk

BWT Nederland B.V.
Centraal Magazijn
Energieweg 9
NL-2382 NA Zoeterwoude
Phone: +31 / 71 750 36 66
Fax: +31 / 71 589 74 29
E-Mail: sales@bwtnederland.nl

HOH Water Technology A/S
Geminivej 24
DK-2670 Greve
Phone: +45 / 43 / 600 500
Fax: +45 / 43 / 600 900
E-Mail: hoh@hoh.dk

Cilit S.A.
C/Silici, 71 - 73
Poligono Industrial del Este
E-08940 Cornella de Llobregat
Phone: +34 / 93 / 440 494
Fax: +34 / 93 / 4744 730
E-Mail: cillit@cillit.com

OOO Russia BWT
Ul. Kasatkina 3A
RU-129301 Moscow
Russian Federation
Phone: +7 / 495 686 6264
Fax: +7 / 495 686 7465
E-Mail: info@bwt.ru

www.bwt-group.com

BWT
BEST WATER TECHNOLOGY