



Rondomat Duo

Duplex Enthärtungsanlagen
Duplex softening unit
Duplex systèmes d'adoucissement d'eau

Duo-DVGW 2, 3, 6, 10

Duo-I 2, 3, 6, 10

Duo-I BOB 2, 3, 6, 10

Änderungen vorbehalten!
Changes reserved!
Sous réserve de modifications !

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



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1 Safety instructions



Indication

The complete power supply unit must be replaced in the event of damage to the mains cable.

GB

Important instructions

Notify residents of the installation of the unit and explain how it works and what regenerative is used.

Caution: Only the water supply company or a party registered in the water supply company's index of fitters may install the unit or modify its basic design.

Restrictions on use for retreated drinking water:

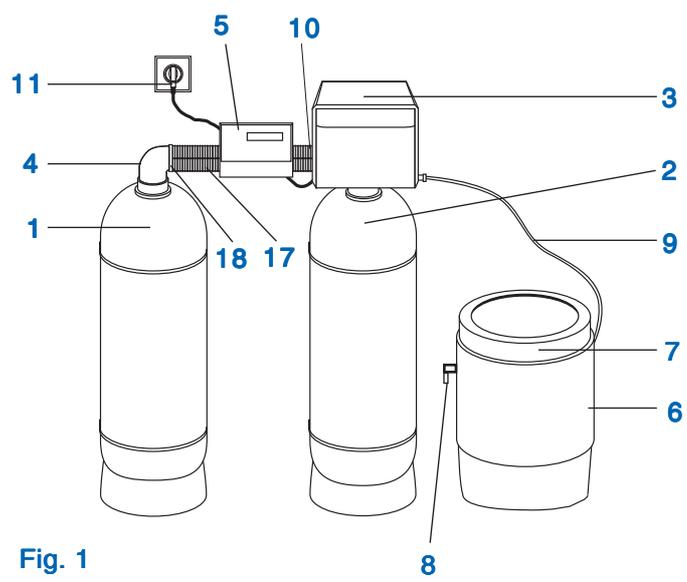
Each species of plant and aquatic animal requires water that contains a special combination of substances. Users of the unit should therefore consult the standard literature and check that, in their case, they can use retreated drinking water for watering plants or for filling ornamental lakes, aquariums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

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

Clean the regenerative container if it is dirty and at regular intervals.

Checking the hardness of blended water

The hardness of untreated water entering the unit as well as the set hardness of the blended water must be checked at regular intervals and corrected if need be.



2 Scope of supply

Quantity-controlled duplex softening unit, consists of:

- 1 Left softening column
 - 2 Right softening column
 - 3 Control valve
 - 4 Adapter
 - 5 Electronic controller
 - 6 Regenerative/brine container
 - 7 Screw lid
 - 8 Overflow
 - 9 Brine hose
 - 10 Flushing water connection
 - 11 Mains plug with 1.5 m mains cable
 - 12 Hard water inlet
 - 13 Softened water output
 - 14 Adjusting spindles for blended water
 - 15 Adjusting spindles for blended water
 - 16 Brine connection
 - 17 Two reinforced hoses
 - 18 Four support clamps
 - Low salt signal
 - Electrolysis cell (DVGW units only)
- and
- 3 m flushing-water hose 16 x 3
 - 2 m hose for overflow
 - 2 m brine hose
 - **100 g disinfectant powder**
 - 1 AQUATEST hardness tester

Soft-Control (5) electronic controller with:

- Mounting plate
- Transformer with fixing material
- Mains plug with 1.5 m mains cable
- Digital display in national language
- Sensor input for salt-low and pressure drop
- Outputs: Chlorine cell
- Building automation
- Pulse input for dosing pump

Optional equipment:

- Pulse distributor Order no.: 8-020446

Description of the type codes

Drinking water softening unit Rondonat Duo-DVGW 2, 3, 6, 10

Industrial water softening unit Rondonat Duo-I 2, 3, 6, 10

Industrial water softening unit BoB Rondonat Duo-I 2, 3, 6, 10 BOB
larger or two regenerative containers

Draufsicht Enthärterssäule

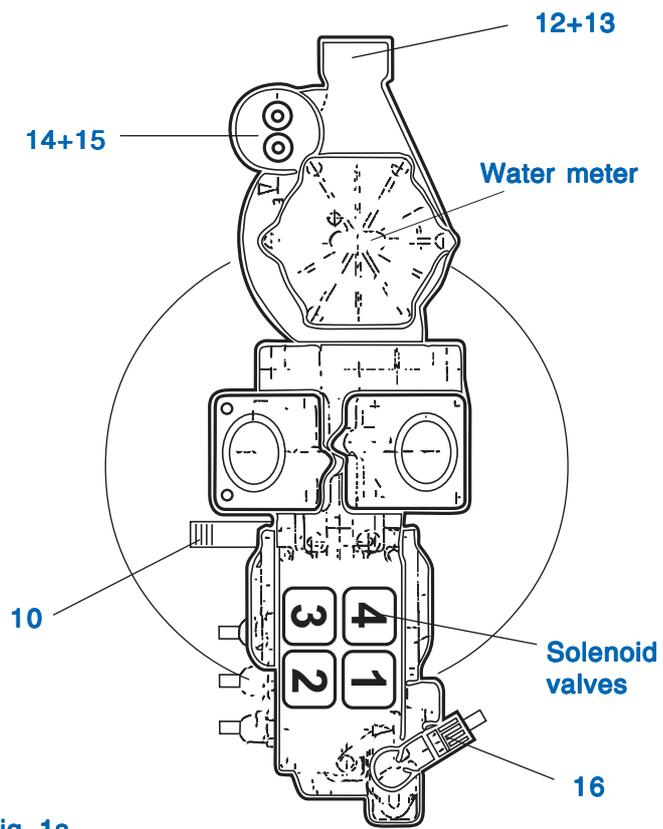


Fig. 1a

3 Intended use

For softening or partial softening of drinking water in multi-family houses, housing areas, hospitals, and service water, process water, boiler feed water, cooling water and air conditioning water and for reducing malfunctions and damage due to lime in water pipes and connected water-carrying system components.

4 Function

Rondomat Duo is a duplex softening unit which functions in accordance with the ion exchange principle. The unit is run with columns continually changed at short intervals. This method of operating ensures that softened water is even available during a regeneration procedure, while the frequent column change minimises stagnation times. In terms of chemical and microbiological parameters, this leads to significantly better water quality than with conventional alternating softening units.

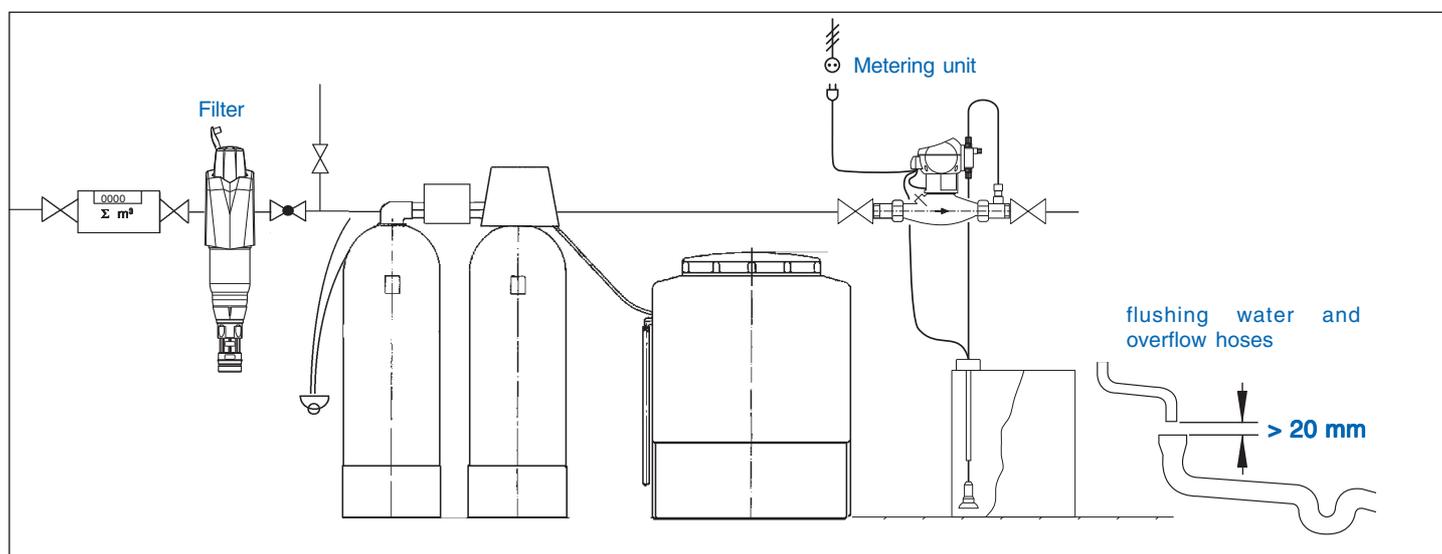
Regeneration is triggered volumetrically (depends on the quantity of water).

Very brief salt dilution times and short regeneration periods are achieved as a result of a salt hopper for storing and dissolving salt and a new quick-filling system for the brine container (patent pending).

The hardness of local untreated water is entered into the electronic system when the unit is started. All other unit parameters are stored in the electronic system. All unit data is preset and unit parameters can be queried. The remaining capacity is displayed in liters or in bar-graph form. The flow quantity is displayed in l/h during operation.

Additionally for Duo DVGW only: The unit is equipped with a disinfection device that disinfects the ion exchanger during the regeneration process. Spring-loaded non-return valves protect all connections on the upstream side of the unit. This eliminates the need for a system or a pipe isolator.

Additionally for Duo-I BOB only: The unit is equipped with larger or two regenerative containers to extend the refill intervals.



5 Installation Conditions

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.

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 EN 1717, 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 m³/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.

6 Installation

By the operator of the unit

Fit shut-off valves up- and downstream of the unit. The unit can be connected to the water-supply network with commercially available fittings and stop valves.

We recommend that you connect the unit using flexible hoses, e.g. with the connection set. Softening units with more than 90 litres of resin per bottle **must have flexible**, i.e. not rigid, piping.

A multiblock module can only be installed on Rondomat Duo 2 and 3 models if blended water is to be used (**not at a residual hardness of <math>< 0.1 \text{ }^\circ\text{d}</math>**).

If the residual hardness is less than 0.1°d , a GIT multiblock module can be used. Please note that there is a separate manual for the Multiblock/GIT Module and for connection set DN 32/32.

The univalve block $1\frac{1}{2}$ " order no.: 11822 can also be used for Rondomat 6 models.

Note: Be sure to observe the arrows on the control valve that indicate the direction of flow.

Units 6 and 10 only

Units 6 and 10 are delivered empty and in unassembled form.

1. Position softening columns (**1+2**) in a suitable location (see installation diagram), and remove the central pipes. **Note!** Do not mix up central pipes! The length of the central pipe with the distributor is designed precisely for the softening columns. Make sure that the softening columns are empty and clean.

2. The distributor at the lower end of the central pipe has an alignment. There is a counter piece at the bottom of the softener column. Place the central column with the distributor nozzle alignment downwards on the counter piece in the softener column. Seal the pipes using protective caps.

Note! During filling no chips may fall under the distributor nozzle. The control valve could break while it is being screwed on.

3. Put the filling cone in place and pour in the correct quantity of coarse chip, followed by fine chip and resin, making sure that they are evenly distributed around the central pipe. Flush in the last 1 - 2 sacks of ion exchanger with a disinfectant solution.

Disinfectant solution preparation:
6 g powder for 10 liters of water

Safety note! Wear disposable gloves when preparing and flushing.

Filling quantity per softening column

Model	Coarse chip	Fine chip	Resin	Desinf. solution
6	1 bag = 10 l	1 bag = 4 l	4 sacks = 100 l	approx. 40 l
10	1 bag = 10 l	1 bag = 7 l	6 sacks = 150 l	approx. 50 l

Refill disinfectant solution until it is approx. 2 cm above the resin.
The disinfectant solution must remain in the softening column for 1 hour. The unit may not be started for at least one hour after filling.

4. Clean softening column upper sections and threads of resin. **Remove the protective caps from the middle pipes. Do not pull the pipes upwards.**

5. Smear O-rings with high-quality grease (e.g. Vaseline), and screw the control valve (**3**) and the adapter (**4**) on the softening columns, ensuring a tight fit. The central pipes must engage in the openings sealed by the O-rings on the control valve and adapter respectively.

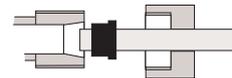
Turn the softening column into the connecting position. Pull the O-rings onto the reinforced hoses (**17**). Insert the reinforced hoses into the control valve and adapter and secure each one with two support clamps (**18**).

Secure the controller mounting-plate
Unscrew two screws on the control valve (see below) and secure the mounting plate using these screws. Screw the Soft-Control controller and the transformer onto the mounting plate.

Connect the unit to the local water-supply network

The local hard and soft water pipes should be connected to the input and output pipes on the unit respectively.

Insert the brine hose (**9**) into the tapered opening of the brine hose connection (**16**) and tighten the coupling ring.



Secure the flushing-water hose (16 x 3) to the flushing-water connection (**10**) using hose clamps. Route the hose with a natural incline to the sewage system connection and secure against sudden pressure-induced movement.

Fasten a hose (13 x 2) around the overflow (**8**) of the brine container. Secure it with hose clamps and route it with an incline to the sewage system connection (drain). There should be no constriction of the cross section of either hose.

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

Make electrical connections (see terminal connection diagram; 8-wire valve block, numbered cables; salt low, water meter, transformer).

Note: The power supply unit for the control valve is constructed according to EN 60335-1. The complete power supply unit must be replaced in event of damage to the mains cable.

Water meter

12+13

14+15

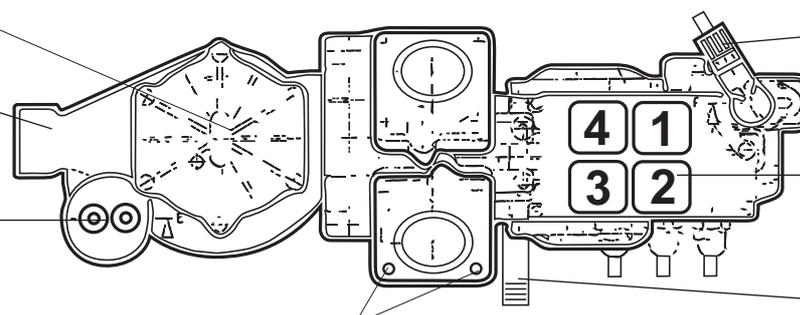
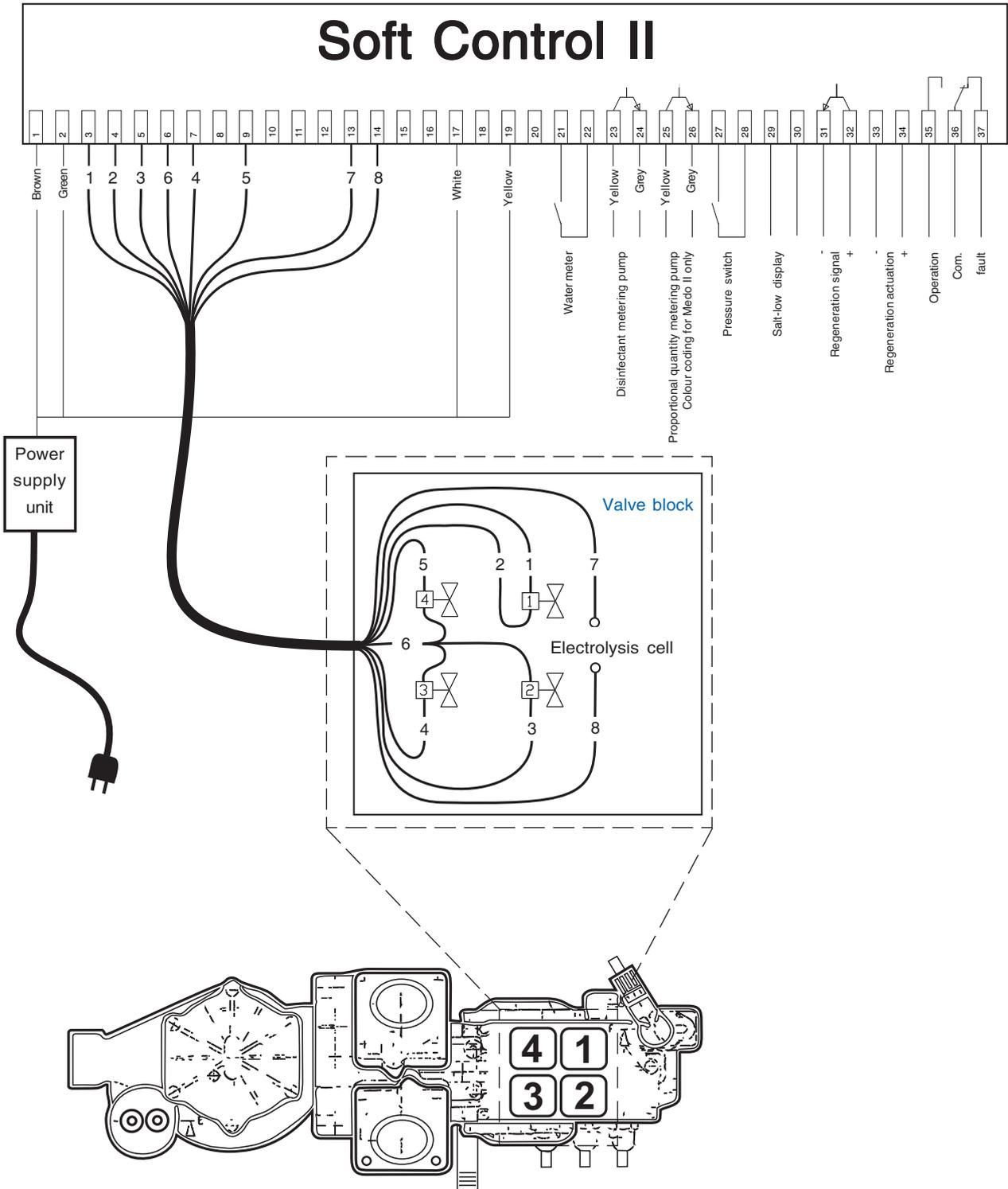
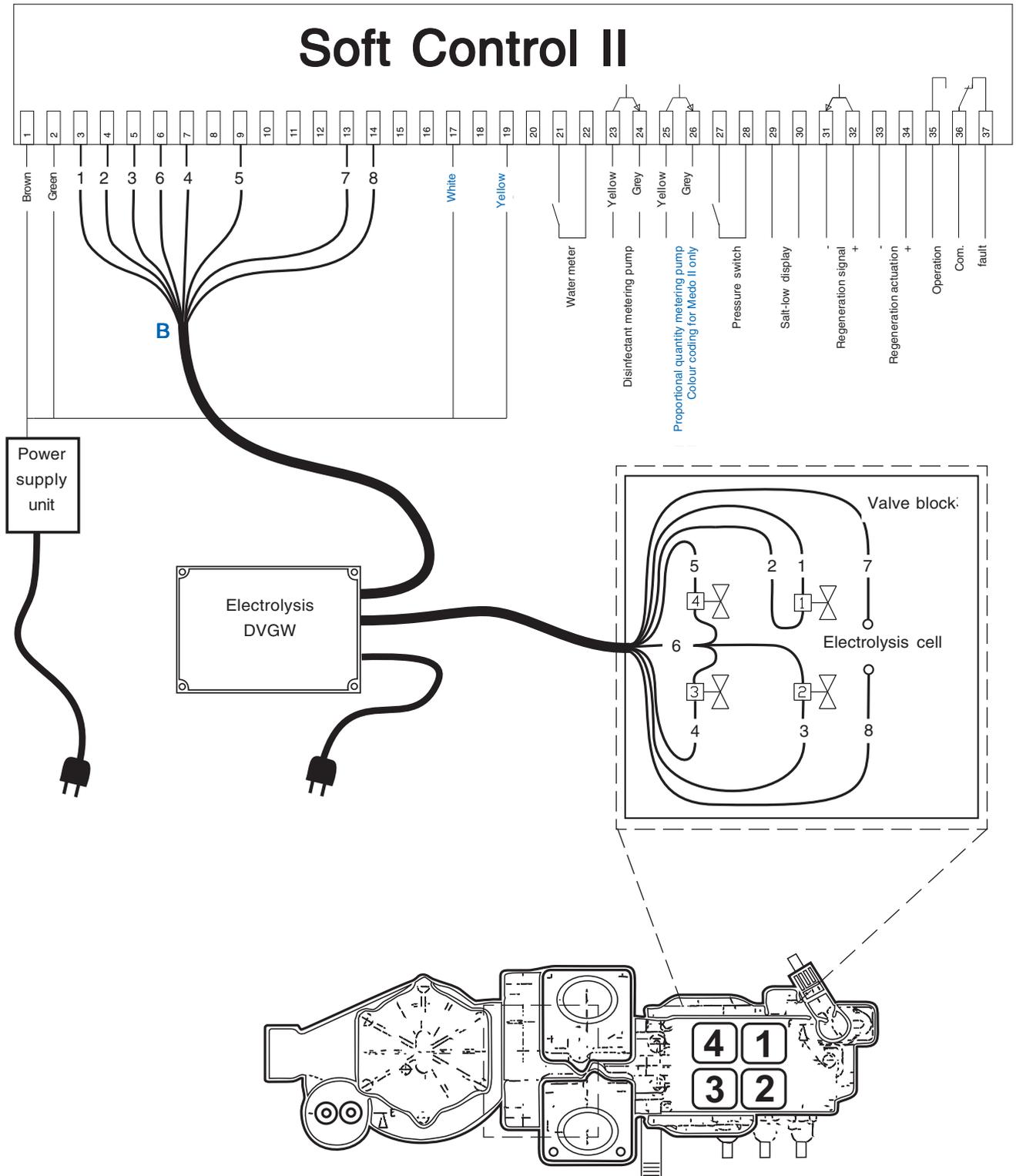


Fig. 1a

Mounting plate for Soft-Control screwed down here

GB Rondomat Duo DVGW 2 and 3
Industrial Rondomat Duo 2, 3, 6, 10





Remove mains plug.

Fasten the DVGW electrolysis unit to the back of the Soft Control console using the supplied screws and fastenings.

Connect wire A to the valve block and to the electrolysis cell using plugs.
Connect wire B to the terminals on the Soft Control controller.

The mains plug of the Soft Control controller can be removed and the cable can be connected to terminals L, N of the DVGW electrolysis unit.

Inputs and outputs

The following can be connected to the Soft-Control controller if required:

Dosing output

The input and output pulse of the water meter have the same form. **Max. 5 V, 5 mA DC**

Regeneration start

If the switch connecting terminals 33 and 34 is closed, the unit will regenerate.

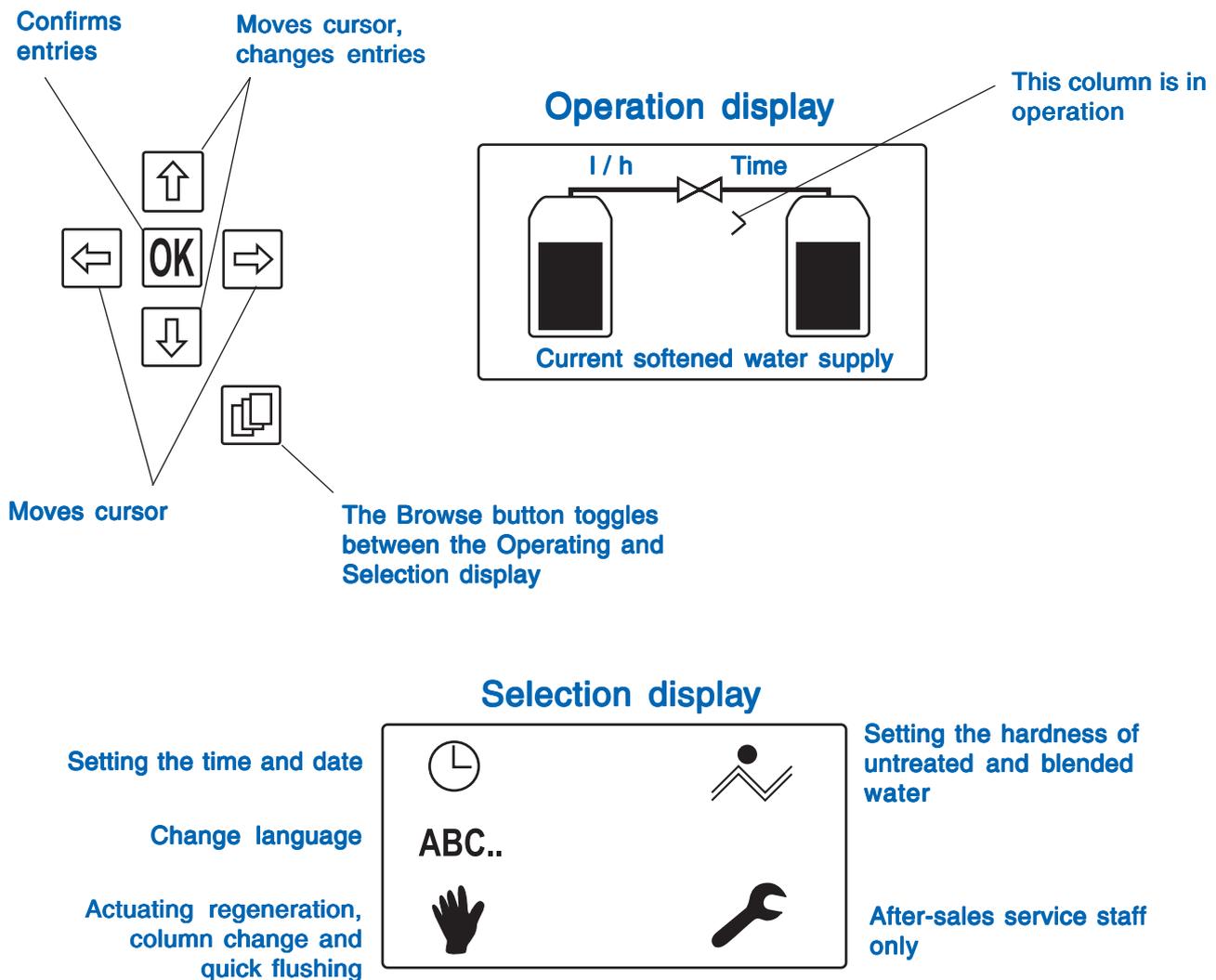
Regeneration signal

The regeneration signal output (terminals 31 and 32) is short-circuited while the unit regenerates. **Max. 5 V, 5 mA DC**

Pressure switch (optional)

If a pressure switch is built into the untreated water pipeline, regeneration is stopped if there is a pressure drop during regeneration and restarted when there is enough water pressure.

Quick guide to operation



7 Initial Start-up

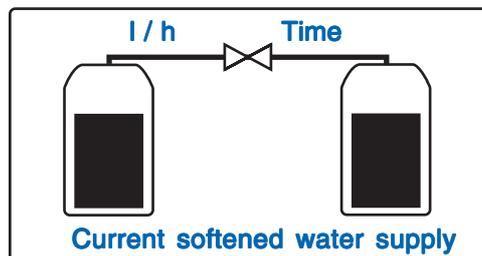
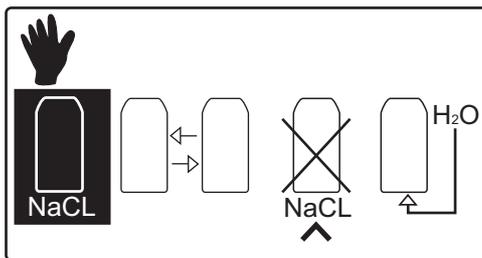
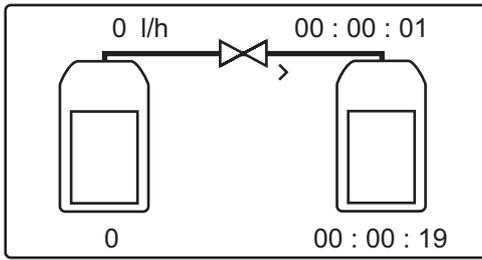
Check that the unit has been properly installed.

Units 6 and 10 only: The unit may not be started for at least one hour after filling the disinfectant solution (see Installation).

Open the water supply slowly and plug in mains plug.

The display shows **BWT** followed by the **Regeneration** screen.

The current water flow, the time and the regeneration procedure are shown here.



Cancel regeneration.

Press the **Browse** button

Set the cursor to **Manual**

Press **OK**

Set the cursor to **Cancel regeneration**

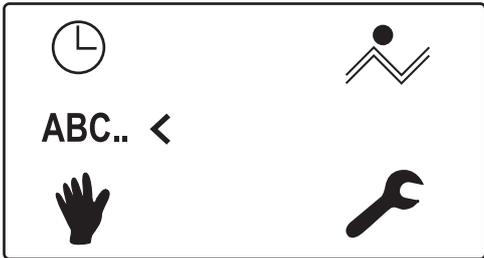
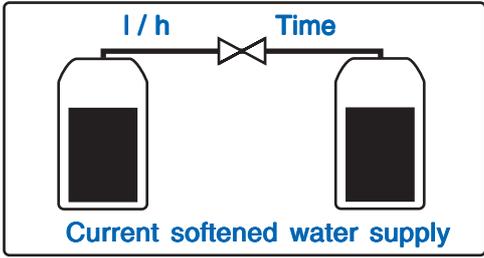
Press **OK** to confirm for **1. Column**

Press **OK** to confirm for **2. Column**
Regeneration is cancelled.

Press the **Browse** button twice

The current water flow, the time and the supply of softened water are now displayed.

See the following page for further Start-up steps



Select national language

Only change this setting if another language is required.

Press the **Browse** button

Set the cursor to **ABC..**

Press **OK**

Place the cursor on the required language

Confirm by clicking **OK**; the language selected becomes negative.

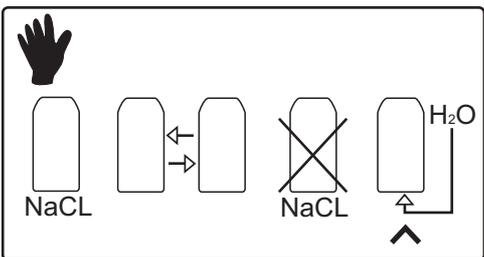
Rinse undersize resin-particles out of the softening column.

During the first rinse undersized particles smaller than 0.2 mm (can be recognized by the reddish-brown color of the flushing water) are rinsed out.

Press the **Browse** button

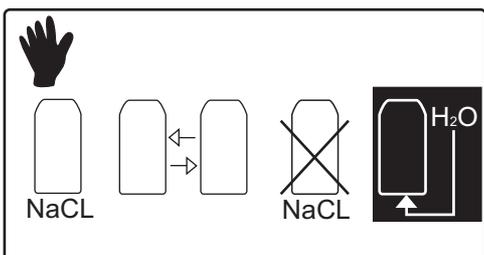
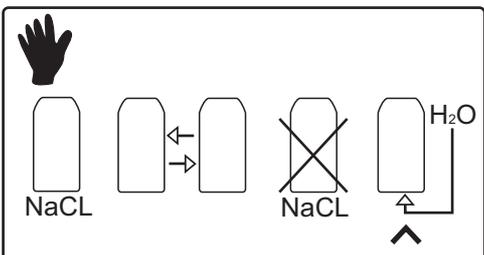
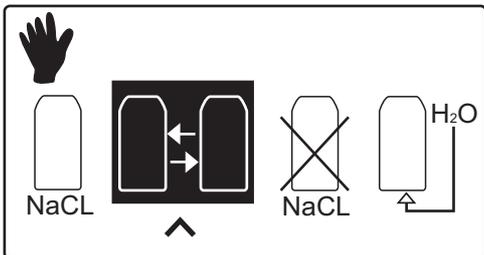
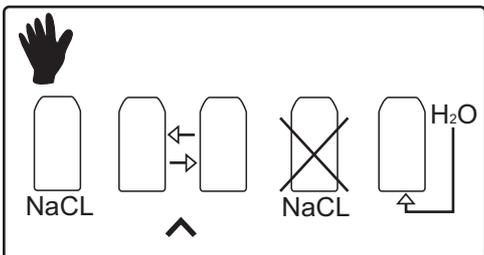
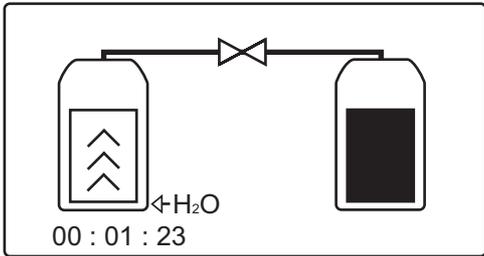
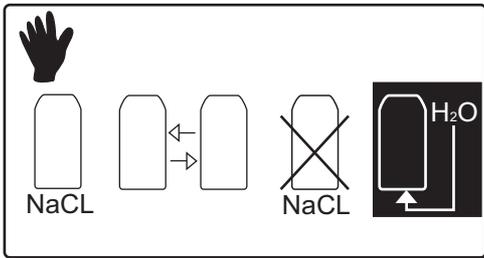
Set the cursor to **Manual**

Press **OK**.



Set the cursor to **Flush**

Press **OK** to confirm.



The Quick flush symbol becomes negative
Quick flushing the 1st softening column takes 2 or 3 minutes.

Repeat the process until the water flowing to the sewage connection is clean and there are no bubbles.

Quick flushing is completed as soon as the negative symbol disappears.

You can view any procedure as a diagram with progressing time by pressing **Browse** twice.

Set the cursor to **Manual**

Press **OK** to confirm.

Changing the softening column

Set the cursor to **Change column**

Press **OK** to confirm.

The Column change symbol becomes negative

Column changes take 1 minute.
The column change is completed as soon as the negative symbol disappears.

Quick flushing the 2nd softening column

Set the cursor to **Flush**

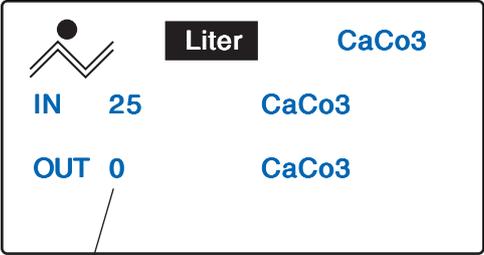
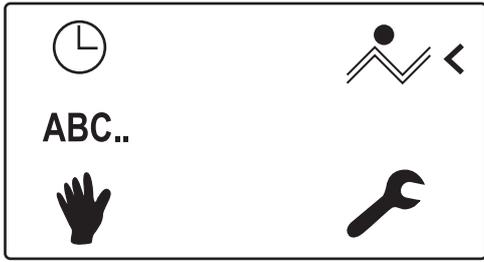
and

The Quick flush symbol becomes negative
Quick flushing the 2nd softening column takes 2 or 3 minutes.

Repeat the process until the water flowing to the sewage connection is clean and there are no bubbles.

Quick flushing is completed as soon as the negative symbol disappears.

For Rondomat 6 und 10 only:
Each softening column must be flushed 4 times.
I.e. Quick flushing must be run 8 times.



Note! Do not change 0!

Setting the hardness of water

Press the **Browse** button

Set the cursor to **Settings**

Press **OK**

You can make the following settings here:

Move the arrow horizontally to the required field.
The field becomes negative.

The value or the unit can be changed with the arrow up/down arrows.

The **softened water supply** can be displayed in **liters, m³ or US-gallons**.

Water hardness can be displayed in **°dH, °fH, °eH, CaCo3 (ppm)**.

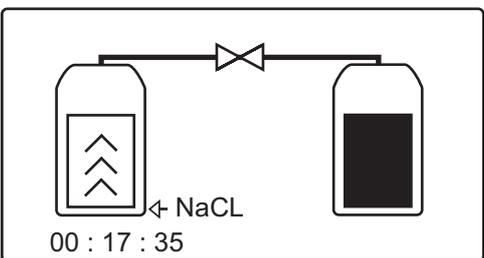
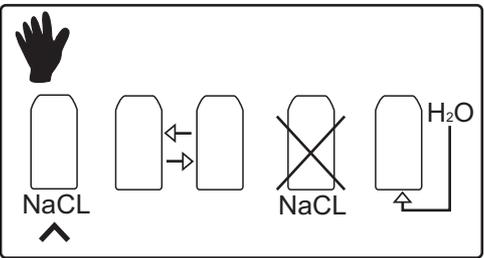
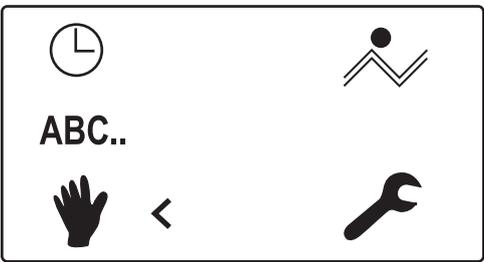
Hardness of untreated water **IN**

You must set the hardness of the untreated water measured locally here.

Hardness of blended water **OUT**

The 0 may not be changed here. The water meter only counts water softened to 0° dH.

The values changed are saved immediately.



Press the **Browse** button

Set the cursor to **Manual regeneration**

and press the **OK** to confirm.

The unit is regenerating.

You can view any procedure as a diagram with progressing time by pressing **Browse** twice.

As this happens each stage of the regeneration process is displayed. The regeneration process lasts between 28 and 52 minutes depending on the unit. The brine container fills up (see brine preparation)

The programming necessary for starting the unit is complete.

Preparing the brine

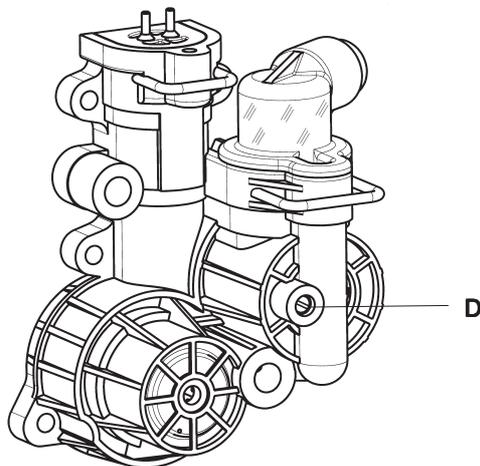
All commercially available regenerative salts conforming to EN 973 can be used (in loose or tablet form).

Unscrew the lid (7) of the salt/brine container (6) and remove. Fill the regenerative to a filling height of 250–350 mm (see Technical specifications). The brine cavity automatically fills with water during the “disinfection” stage. Wait and then check that the automatic water refilling turns off as soon as the water has risen above the sieve base. Pour in the regenerative (always adding whole units) up to a maximum of 75–150 kg. Close the cover and lock it.

Note: Allow hours for the brine to form, unless large immediate water consumption is expected (e.g. filling a swimming pool).

Duo 2 and 3 only

During installation, it is possible to initiate a water refilling process manually to supplement the automatic process. Do this by pressing the button in recess D for 3 seconds. Filling will continue automatically.



Setting the hardness of blended water

For Duo 2 and 3, shut the adjusting spindles (14+15) by turning them in a clockwise direction and then set the optimal blended water hardness of 8 °d (only use an AQUATEST hardness tester to set, check and correct hardness), ensuring that each spindle is opened by the same amount.

For Duo 6 and 10, shut both adjusting spindles (14+15) by turning them in a clockwise direction. Open the large spindle until the hardness of the blended water equals approximately 8 °d. Fine adjust the hardness of the blended water using the small spindle (black turning knob). The small spindle should never be opened completely, since only untreated water could be drawn via this opening in the case of limited water use. (Only use an AQUATEST hardness tester to set, check and correct hardness.)

Drinking water regulations stipulate 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.

Calculating the sodium content of partially softened water

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

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

Ask at the water works what the sodium content of untreated water is (e.g. 10 mg/l).

Sodium content of untreated water + increase of sodium content (due to softening) = sodium content of partially softened water.

Repeated dosage further increases the sodium content by approx. 5 mg/l.

Drinking water regulations stipulate a sodium limit of 200 mg/l. We recommend setting the treated water to a hardness between 4 °d and 8 °d. If the mandatory sodium limit of 200 mg/l is exceeded, the blended water hardness may have to be set at more than 8 °d.

The unit is now ready for use.

Handing over the unit to the operator

If there is a delay between the installation of the unit and handover to the user, 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.

Example:

24°d Hardness of untreated water
- 8°d Hardness of blended water

= 16 °d Reduction in hardness of untreated water
16 °d x 8.2mg/l = 131.2 mg/l increase in the sodium content.

10 mg/l Sodium content of untreated water
+131.2 mg/l Increase in sodium content
+ 5 mg/l Increase due to metering

=146.2 mg/l Sodium content of partially softened water.

Note:

The fill level should never fall below this mark.



8 Operation

Refilling the regenerative

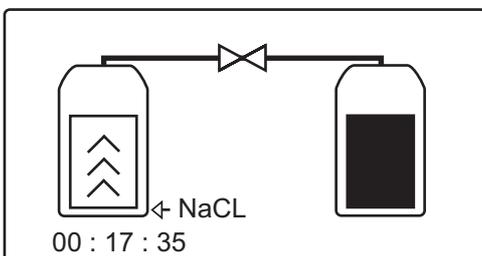
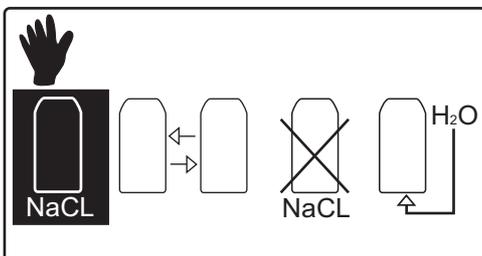
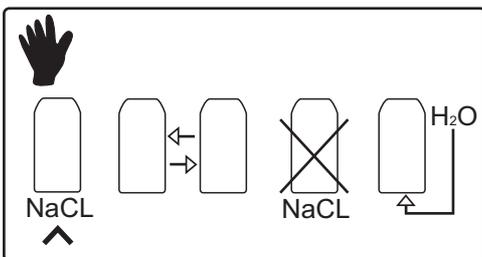
Important: The amount of regenerative should never fall below the minimum level.

At the latest, regenerative must added when the minimum level in the regenerative container is reached.

All commercially available regenerative salts conforming to EN 973 can be used (in loose or tablet form).

Unscrew the lid (7) of the salt/brine container and remove. Pour in the regenerative (always adding whole units) up to a maximum of 75 / 150 kg. Close the lid.

Drain excess brine off through the overflow.



Actuating manual regeneration

Press the **Browse** button

Set the cursor to **Manual**

Press **OK**.

Set the cursor to **Regeneration**

Press **OK** to confirm.

The unit is regenerating.

Press the **Browse** button twice

Each stage of the regeneration process is displayed with the progressing time.

The regeneration process lasts between 28 and 52 minutes depending on the unit.

Cleaning

Clean the regenerative container with drinking water if it is dirty.

For hygienically demanding applications
For standard applications

Twice a year
Once a year

Disinfection

For Rndomat DVGW only:

Disinfection if not used for more than 4 days

Power failure

If there is an extended power failure (8 hours), the unit starts operation with a regeneration when the power returns.

If the power failure occurred during a regeneration, the controller regenerates the column in which the regeneration process was interrupted when power returns.

Shutting down

BWT drinking water softening units are produced and supplied hygienically. After start-up the ion exchanger resin tends to become infected if shut down incorrectly and therefore to release organic substances.

Therefore, the procedure described below is required under the following conditions:

If no water is available for more than 48 h (e.g. for modifications, the softening unit is disconnected from the drinking water network).

If the softening unit is not required for an extended period (more than 4 weeks, e.g. seasonal operation in a hotel).

Ideally, the softened water supply should be almost completely used up before shutting the unit down.

The columns should only be flushed and not regenerated.

If this is not possible, the unit should be regenerated completely.

The water supply to the unit can now be shut off and the unit can be disconnected from the power supply.

Reactivating the unit

after shutting down

See the Start-up item

The unit must be completely regenerated anyway (both columns for 2 column units).

We recommend hygienic maintenance by our after-sales service team after the unit is shut down.

9 Operator responsibilities

You have purchased a durable and service-friendly product.

However, all technical equipment requires regular servicing to guarantee optimal functioning.

Regular checks performed by the operator are required for the warranty and proper functioning of the unit. The unit must be inspected regularly or, at the latest, every 2 months depending on service and operating conditions.

On a regular basis, find out about the quality/pressure ratio of the water to be treated. If the water quality changes, the settings may need to be changed. Consult a specialist if this is the case.

Checks

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

Check the network pressure/flow pressure **Once a week**

Check/refill regenerative **According to use**

Check brine containers for soiling **Every 2 months**

Check for leaks, visual inspection **Every 2 months**

Functional test/control unit displays **Every 2 months**

Checking the water hardness

The hardness of untreated water entering the unit as well as the set hardness of the blended water must be checked, logged at regular intervals and corrected if need be (see Safety instructions and Starting the unit).

Checking the hardness of untreated water

Residential / Commercial buildings **Monthly**

Industry / Boiler / Air conditioning **Once a week**

Pre-treatment for membrane processes **Once a week**

Checking the hardness of softened water / blended water

Residential / Commercial buildings **Monthly**

Industrial **Depending on the requirement, daily for softened water**

Boiler/air conditioning **Daily**

Pre-treatment for membrane processes **Daily**

Option

A Testomat F-BOB automatic hardness tester can be used to check the hardness of the softened water / blended water and monitored via CIC.

Order no.: 11987

Maintenance

The replacement of wearing parts within the prescribed maintenance intervals is also required for the warranty and proper functioning of the unit.

The unit must be serviced once a year. Communal units must be serviced twice a year.

Maintenance and wearing parts

Hygienic cleaning of the brine container at least **Once a year**

Inspect regeneration block **Once a year**

Inspect non-return valve **Once a year**

Inspect brine valve **Once a year**

Inspect electrolysis cell **Once a year**

Check low-salt level **Once a year**

Charge Soft-Control battery **Once a year**

Main membrane **Every 3 years**

Electrolysis cell **Every 3 years**

Regeneration block non-return valve **Every 3 years**

Waste water valves **Every 3 years**

Regeneration block **Every 5 years**

Gauge slide **Every 5 years**

Water meter cover **Every 5 years**

Dilution unit **Every 5 years**

Connection hoses **Every 5 years**

Brine valve **Every 5 years**

Brine pipeline **Every 5 years**

Waste water hose **Every 5 years**

Container **Every 10 years**

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

10 Warranty

GB If the product malfunctions during the warranty period, please contact your contract partner, the installation company, and indicate the model type and production number (see 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

Malfunction	Cause	Action
Unit not supplying softened or blended water	No regenerative in salt/brine container (6). Power supply cut off	Refill regenerative. Wait approx. 1 hour and then regenerate manually. Re-establish electrical connection.
Unit not supplying sufficient water or the flow is insufficient.	Inlet pressure is too low. Compressed air pressure too low.	Increase inlet pressure (adjust pressure reducer if necessary) and start manual regeneration. Check inlet pressure and start regeneration.
Display indicates low salt (low salt! date time)  Salz mangel ! Datum Uhrzeit	Regenerative was not refilled in time. Note: If the regenerative is refilled too late or is not refilled (meaning that the level of regenerative falls below the minimum or the display indicates "low-salt"), a malfunction will occur after the next regeneration.	The brine must be siphoned off or extracted to the level of the sieve base. Only after this has been done can the regenerative be refilled. If this is done incorrectly, the softened water will be salty.
Display indicates Valve 1, 2, 3, or 4 is defective  Sichg. Vent1 - 4 ! Datum Uhrzeit	Cable to the valve block is defective.	Check the cable to the valve block and press OK to confirm. Contact the after-sales service staff if the malfunction is still displayed.
Display indicates Elyse  Sichg. Elyse Datum Uhrzeit	Electrolysis cell overcurrent	Check the cable to the valve block for short circuits and press OK to confirm. Contact the after-sales service staff if the malfunction is still displayed.
	Maintenance must be performed after every 500 regenerations.	Contact after-sales service.

If the fault cannot be rectified by following the above instructions, please contact a specialist or our after sales service.

12 Technical specifications

GB

Rondomat® Duo	Model	2	3	6	10
Nominal connection width	DN	32 (1 1/4" male thread)		50 (2" female thread)	
Nominal pressure (PN)	bar	10			
Operating pressure	bar	2.5 – 8.0			
Flow pressure, at least	bar	2.5			
Rated capacity to DIN 19636	mol (°d x m³)	6.4 (36)	17,2 (96)	44.7 (250)	64.4 (360)
Capacity / kg regenerative	mol	4.5	5,0	5.6	5.2
Max. supply of regenerative	kg	75	75	150	150
Regenerative consumption per regeneration	kg	1.44	3,4	8.0	12.5
Flushing water consumption per regeneration at 4 bar, ca.	Liter	75	140	350	440
Flushing capacity, max.	l/s	0.14	0.14	0.31	0.31
Mains power	V/Hz	230/50-60			
Degree of protection	IP	54			
Max. water/ambient temperature, DVGW / I	°C	20/25 / 30/40			
Rondomat® Duo - DVGW	Model	2	3	6	10
Number of housing units		12 - 40	40 - 60	50 - 100	100 - 200
Nominal flow without dilution *	m³/h	2,0	3,0	6,0	10,0
Pressure drop at nominal flow without dilution *	bar	0,7	1,0	1,0	1,0
Momentary peak flow at dilution 8 °d **	m³/h	3,5	5,0	10,0	17,0
Pressure drop at dilution 8 °d **	bar	0,6	0,8	0,7	0,8
Electrical connection capacity	Watts	55	55	75	120
PNR (=Production number)		6-512600	6-512601	6-512632	6-512573
Rondomat® Duo - I	Model	2	3	6	10
Continuous flow at residual hardness < 0.1 °d *, max.	m³/h	2.0	3.0	6.0	10.0
Pressure drop at flow *	bar	0.5	1.0	0.7	0.9
Electrical connection capacity	Watts	20			
PNR (= Production number)		6-512602	6-512603	6-512633	6-512577
Rondomat® Duo-I BOB	Model	2	3	6	10
Continuous flow at residual hardness < 0.1 °d *, max.	m³/h	2.0	3.0	6.0	10.0
Max. supply of regenerative	kg	150	150	300	300
Electrical connection capacity	Watts	20			
PNR (= Production number)		6-512606	6-512607	6-512635	6-512585

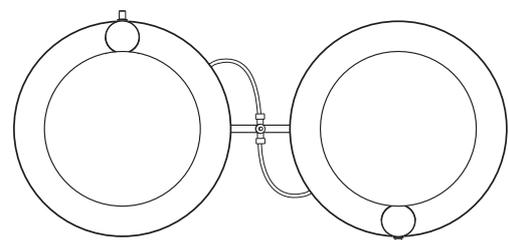
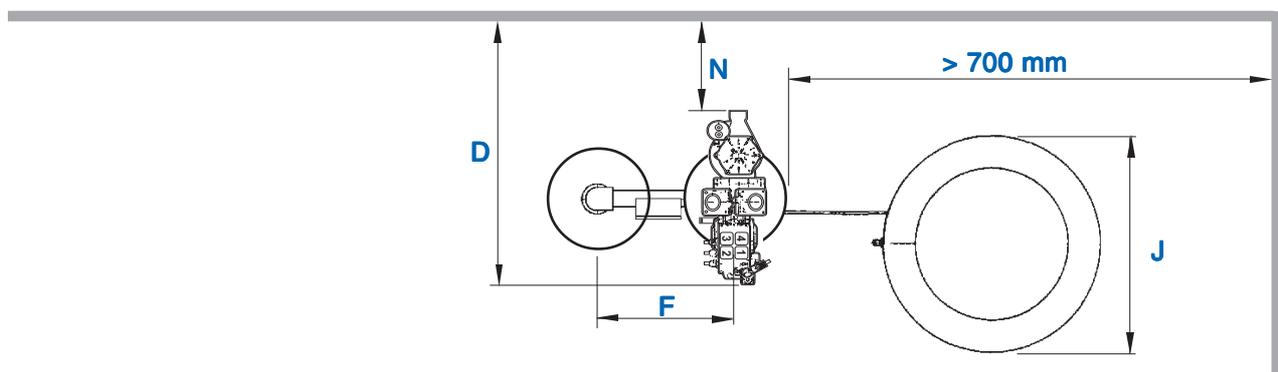
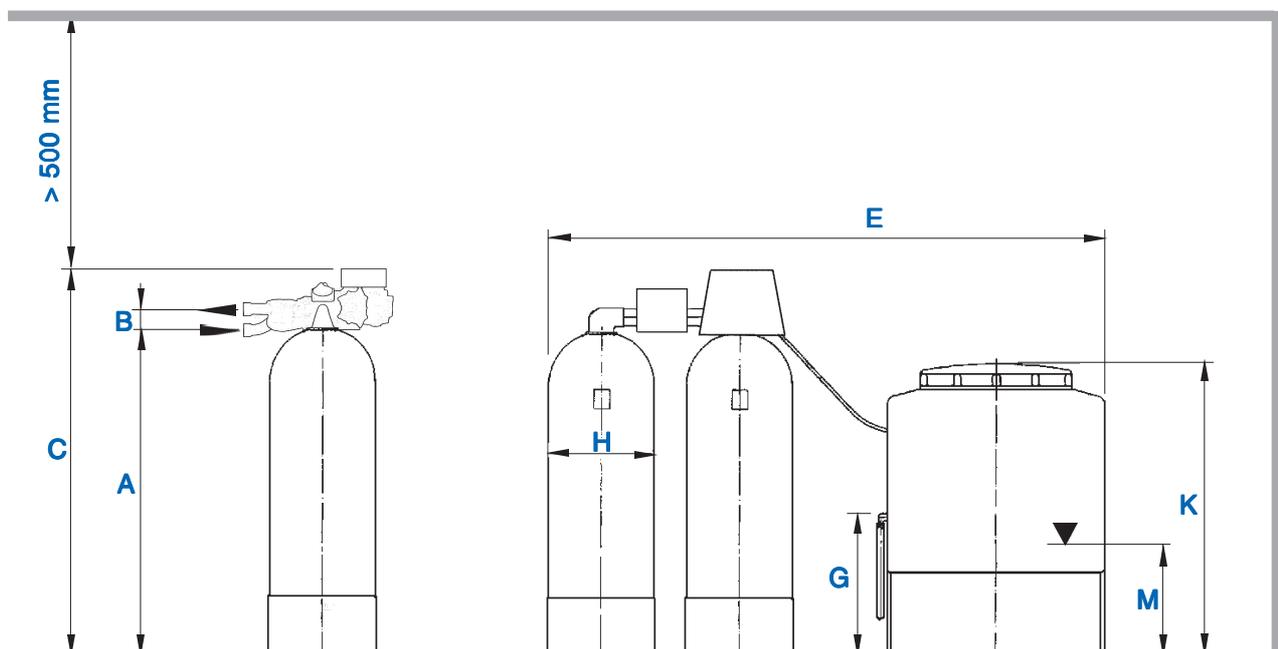
* According to DIN EN 14743

** Entries assume an untreated-water hardness of 20 °d

Dimensions

Rondomat® Duo		Model	2	3	6	10
Connection height (hard-water input), DVGW / I	A	mm	610	610 / 1125	1300	1250
Dist. between hard-water and soft-water outputs	B	mm	67	67	108	108
Total height, DVGW / I	C	mm	880	880 / 1400	1650	1550
Total depth	D	mm	900	900	1200	1200
Total width (BOB design)	E	mm	1200 (1500)	1200 (1500)	1900 (2800)	2050 (2950)
Dist. between axes of ionizing bottles (for DVGW)	F	mm	355	355	815 (605)	815 (605)
Height of overflow (BOB design)	G	mm	295 (375)	295 (375)	375	375
Diameter of ionizing bottles	H	mm	269	269	400	552
Diameter of brine container (BOB design)	J	mm	470 (650)	470 (650)	2 x 650	2 x 650
Height of brine container (BOB design)	K	mm	630 (880)	630 (880)	880	880
Min. filling height (BOB design)	M	mm	250 (350)	250 (350)	350	350
Wall distance, approx.	N	mm	400	400	600	600
Minimum sewage system connection		DN	50	50	70	70
Approx. operating weight, DVGW / I		kg	200	200 / 280	650	780
Approx. operating weight, IBOB		kg	320	400	860	990

GB



Rondomat Duo 6 / 10 BOB

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