Installation and operating manual EN



AQA therm MOVE Power

Mobile reverse osmosis unit

Changes reserved!

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BEST WATER TECHNOLOGY

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

EN

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1 Safety instructions

1.1 General safety instructions

The reverse osmosis unit AQA therm MOVE Power (hereinafter referred to as the “product”) has been manufactured according to the generally recognised rules and standards of technology and complies with the legal regulations in force when it was brought into circulation.
Nevertheless, there is still a risk of damage to persons or property if this chapter and the safety instructions in this documentation are not followed.

- Read this documentation thoroughly and in full before working with the product.
- Store this documentation so that it is accessible to all users at all times.
- Include the complete documentation if you transfer the product to a third party.
- Follow all instructions regarding proper use of the product.
- If you notice damage to the product or the cables, cease operation immediately and inform the service personnel.
- During all work on the product, switch off the product and secure it against restarting (pull the mains plug).
- Use only accessories, spare parts, and consumable materials that have been approved by BWT.
- Adhere to the environmental and operating conditions specified in the “Technical Data” section.
- Wear personal protective equipment. It ensures your safety and protects you from injury.
- Only perform tasks that are described in these operating instructions or if you have been trained to do so by BWT.
- Carry out all activities in accordance with all applicable standards and requirements.
- Instruct the operator of the product on the product’s function and how to use it.
- Inform the operator of the product about how to maintain the product.
- Instruct the operator in relation to potential dangers that may arise while operating the product.
- Once the work is complete, refit all the protective covers and fasten the connections. The product must not be operated unless the protective covers are fitted.

1.2 Scope of the documentation

This documentation applies exclusively to the product whose production number is listed on the title page and type plate.
This documentation is intended for operators, end users, fitters without training from BWT, fitters with training from BWT (e.g. drinking water specialists), and BWT service technicians.
This documentation contains important information for fitting the product safely and properly, starting up, operating, using, maintaining, and disassembling the product, and for correcting simple faults independently.
Read this documentation in full before working with the product. Pay particular attention to the safety instructions chapter.

1.3 Personnel qualifications

The installation work described in these instructions requires basic knowledge of mechanics, hydraulics, and electrical systems as well as knowledge of the corresponding specialist terms.
To ensure that the device is installed safely, this work must be performed only by a qualified specialist or a trained person under the guidance of a qualified specialist.
A qualified specialist is anyone who can assess the work assigned to him or her, identify potential risks, and take suitable safety measures thanks to his or her specialist training, knowledge, and experience as well as his or her knowledge of the applicable regulations. Specialists must comply with applicable, industry-specific regulations.

1.4 Transport, Installation

- Transport the product as a complete unit, if possible. If the product has to be dismantled for

transport, check the completeness of the individual parts.

- If there is a risk of frost, drain all components that convey water.
- The product must be installed or mounted on a sufficiently stable and level vertical or horizontal base and sufficiently protected against falling or overturning.
- Protect the product from excessive strain during transport.
- Check the product for damage following transport.

1.5 How safety instructions are displayed

In this document safety instructions precede any sequence of actions that could cause harm to persons or damage to property. All hazard prevention measures must be followed. Safety instructions are displayed as follows:

⚠ SIGNAL WORD!



Source of hazard (e.g. electric shock)

Type of hazard (e.g. risk of fatal injury)!

► Escape or prevent hazard
► Rescue measure (optional)

Signal word / colour	Indicates the severity of the hazard
Warning symbol	Calls attention to the hazard
Source / type of hazard	Indicates the type and the source of the hazard
Consequences of hazard	Explains the consequences of not following the safety instructions
Hazard prevention measure	Explains how to avoid the hazard

Signal word	Colour	Severity of the hazard
DANGER		**High-risk hazard.** Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
WARNING		**Hazard with a moderate degree of risk.** Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION		**Low-risk hazard.** Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.

1.6 Symbols used

	This symbol indicates general risks to persons, machines or the environment.
	This symbol indicates general risks due to the mains voltage. Risk of death by electric shock!
	This symbol indicates information or instructions that make your work easier and ensure safe operation.
	This symbol indicates information that is particularly important to follow.
	This symbol indicates that devices are to be unplugged before any service and repair work is performed.

1.7 Product-specific safety instructions

⚠ DANGER!



Mains voltage!

Risk of death by electric shock!

- ► **Unplug device before any service and repair work.**
- ► **If the mains cable of the product becomes damaged, you must replace it with an original BWT cable.**

In the chapters below, product-specific safety instructions can be found wherever an activity that is relevant to safety must be carried out.

1.8 Abbreviations and definitions

Inlet water
Drinking water quality of the local water supplier. Depends on the region and is described using the degrees of hardness soft, medium or hard. Ideally, it is subjected to pre-treatment (usually softening).

Outlet water
Purified water that has largely been desalinated by reverse osmosis, also referred to as permeate. The unit of measure is electrical conductivity.

Waste water
This is the waste water containing the salts and minerals that have been removed from the outlet water.

Conductivity
The value for the electrical conductivity of the water (µS/cm). The smaller the value measured for the electric conductivity of the water, the lower the concentration of ions in the water.

Reverse osmosis
Also referred to as hyperfiltration, where ions are removed from a fluid by pushing it through a membrane cartridge at high pressure.

Membrane cartridge
Selectively permeable, mechanical separating layer in which ions contained in the inlet water are separated through reverse osmosis and drained away through waste water.

Water conversion factor
The ratio between the amount of outlet water produced and the amount of inlet water required to do so is referred to as the “water conversion factor (WCF)”.

System pressure
The water pressure in the system to be filled.
The integrated pump in the product produces the outlet water pressure required to fill the system. When the preset system pressure is reached, the pump switches off.

Blended water
The product mixes (blends) fully desalinated water with inlet water to attain the desired outlet water quality.

RO
Abbreviation for reverse osmosis.

SDI
Abbreviation for “Silt Density Index”. The “Silt Density Index” is a measure for the level of inlet water impurity. The measurement system is a filtration process which determines the blocking tendency, measured over a period of 15 minutes.

TDS
Abbreviation for “total dissolved solids”. Total content of dissolved salt, measured in mg/l.

2 Scope of delivery

The scope of delivery may vary depending on the target market.

Check the scope of delivery for completeness and damage (e.g. cracks).

AQA therm MOVE Power, consisting of:

Item	Designation	Quantity
1	AQA therm MOVE Power	1
2	AQA therm MOVE cartridges	2
3	Star wheels, incl. installation kit	2
4	Waste water hose, 3 m (8 x 6 mm)	1

Item	Designation	Quantity
	Installation and operating instructions	1





3 Intended use

3.1 Proper use

AQA therm MOVE Power is a mobile reverse osmosis unit for producing low-salt water. The quality of the water produced complies with the standards VDI 2035 and ÖNORM H5195-1. The product is suitable for filling and replenishing heating and cooling systems.
The product must be operated only with regular functional checks while carrying out the maintenance measures required to ensure a safe operating condition. Proper use also includes following the installation and operating instructions. The product must be used only as intended, in a technically sound condition, and for the specified areas of application. The operator must also be aware of safety issues and dangers.
In addition to the operating instructions, the applicable binding accident prevention regulations in the country and location of use and the recognised technical rules for safe and proper work must be complied with.

3.2 Foreseeable misuse

- Failure to maintain the ambient conditions and operating conditions (see chapter „17 Technical data“, Seite 27).
- Failure to follow the operator responsibilities specified in these instructions (see chapter „11 Operator responsibilities“, Seite 23).
- The use of unauthorised consumables and spare parts.

3.3 Disclaimer

The manufacturer is released from any liability if the customer intentionally or forcibly removes guards or safety devices, if the customer wilfully modifies or circumvents the same, or if the customer does not follow the instructions in this operating manual or on the product.

3.4 Other applicable documentation

- Material safety data sheets
- Installation and operating manuals for the installation accessories

4 Function

AQA therm MOVE Power is a mobile reverse osmosis unit for producing low-salt water.

4.1 Operation

- Outlet water is produced by two membrane cartridges that are flowed through in parallel
- Pressure is increased by the integrated pump, and the outlet water pressure is indicated
- The pump is activated automatically using the set switch-on/off point for pressure product
- Before each operation, lines and membrane cartridges are rinsed for approx. 60 seconds

4.2 Display

The product is equipped with an integrated display and four operator keys. This display gives the user a quick overview of all the product parameters.
Depending on the settings, the user sees the current parameters on the display during operation:

- Litres per day counter (l)
- Current flow (l/h)
- System pressure (bar)

The main screen on the display always shows the following data:

- Pump pressure (bar)
- Outlet water conductivity value (µS/cm) or (ppm)
- Water temperature (°C)
- Set switch-on/off point (bar) for pressure production

4.3 Interaction and connectivity

The functionality of the product is enhanced with the **BWT RO systems app**. The **BWT RO systems app** provides an overview of the current operating parameters as well as the settings for the operating parameters and service intervals.
You download the **BWT RO systems app** to your mobile device using the QR code and connect it to the product via Bluetooth. The range of the Bluetooth connection is 2 m.

5 Requirements for installation

5.1 General

Work on the product must be performed only by trained personnel (see chapter „1.3 Personnel qualifications“, Seite 4).
n Germany, the heating water must comply with the requirements of VDI 2035; in Austria, it must comply with ÖNORM H5195-1.
Local regulations for establishing the connection between the hot water system and heating system must be complied with. In accordance with EN 1717, a BA-type backflow prevention device must be installed upstream from the project (e.g. AQA therm HFB heating filling block).
Comply with the following regulations, guidelines, and rules for the connection of the product:

- Local installation and accident prevention regulations
- General standards and directives
- General hygiene conditions
- Technical data and rules

5.2 Installation site/location and environment

The following requirements must be permanently ensured:

- Drinking water system connection
- Waste water drain system connection with minimum nominal width (see chapter „17 Technical data“, Seite 27)
- Earthed mains connection (see chapter „17 Technical data“, Seite 27)
- Power supply and required inlet water pressure
- Dry and frost-free installation location

- Sufficient protection of the product against chemicals, dyes, solvents, and vapours
- If a floor drain is unavailable, a shut-off valve must be installed upstream from the product in the direction of flow

5.2.1 Installation conditions with pump

If the waste water is fed into a pump, the pump must be appropriately equipped and sized:

- The pump must be resistant to salt water
- Flow at least 450 l/h
- Appropriately larger sizing if the pump is simultaneously used for other systems

5.3 Inlet water

NOTE

Damage to the product and system!

Damage to the product and/or system due to impermissible connection or inlet water quality

- ► **Connect the product according to the technical data (see chapter „17 Technical data“, Seite 27).**
- ► **Comply with the values for the permissible inlet water (see the “Inlet water” table).**

The product must be connected according to the technical data (see chapter „17 Technical data“, Seite 27).
The water fed into the product must be cold water that conforms to statutory drinking water quality requirements and the requirements in the “Inlet water” table below.

Inlet water	
Inlet water temperature, min. to max.	5 °C – 25 °C
Silicate (SiO_2)	≤ 15 mg/l
Oxidants, chlorine	≤ 0.05 mg/l
Iron and manganese (Fe+Mn)	≤ 0.05 mg/l
Salt content, total dissolved solids (TDS)	≤ 1000 mg/l
Carbonate hardness	< 18 dH

Inlet water	
Silt Density Index (SDI)	≤ 3.0%/minute
pH value of the inlet water, min. – max.	pH 5 – pH 10

Values between 1.5 and 4 bar are permitted for the inlet water pressure. Install a pressure reducer if the inlet water pressure exceeds 4 bar.

The pressure of the inlet water that is fed in must be between 1.5 and 4 bar. A pressure reducer must be installed if the inlet water pressure exceeds 4 bar. If the inlet water pressure falls below 1.5 bar, the product automatically switches off and must not be operated.

5.4 Functional and warranty conditions

5.4.1 Pre-treatment

Install a particle filter max. 1 m upstream from the product in the flow direction.

For pre-treated inlet water (for example, with chlorine), we recommend installing an activated carbon filter upstream from the product as well.

A particle filter must be installed upstream of the product (separation accuracy ≤ 100 µm). If the inlet water has been treated with oxidising disinfectants (chlorine, chlorine dioxide, and so on), we recommend installing an activated carbon filter upstream from the product as well.

5.4.2 Impermissible operating methods

NOTE

Damage to the product and system!

Damage to the product and/or system due to contact with air and contamination of the membrane cartridges

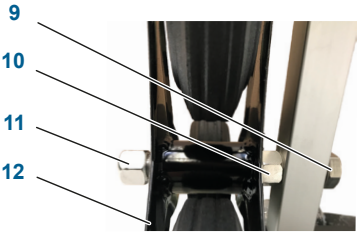
- ► **Do not remove the membrane cartridges unless you are replacing them.**
- ► **Do not reinstall partly drained membrane cartridges in the product.**

The following operating methods are prohibited:

- Failure to adhere to the technical specifications (see chapter „5.3 Inlet water“, Seite 9)
- The use of unauthorised consumables and spare parts
- The use of unauthorised sanitising agent
- Overdosage of authorised sanitising agent
- The use of unauthorised aggressive cleaning agents (e.g. chlorine)
- High fluctuations in the inlet water pre-pressure
- Operation without a grounded mains plug (PE)
- Heavy fluctuations in the electrical mains voltage
- Excessive product switching frequency because ON/OFF switching points are incorrectly positioned or too close to each other
- Operation near direct heat sources or open flame (e.g. radiators, exposure to sunlight)
- Incorrect installation of the hoses (e.g. excessive bends or a mechanical reducer)
- The use of desalinated outlet water as drinking water
- Structural modifications to the product
- Covering the product
- Operating the product without the housing
- Reinstalling partly drained membrane cartridges
- Operating the product without monitoring it

5.5 Fitting the wheels

1. Guide screw [9] from the inside out through the strut and lock it with the supplied nut [10].
2. Attach the wheels [12] and secure them with the supplied cap nut [11].



5.6 Fitting the new membrane cartridges

Replace the membrane cartridges when the conductivity value of the outlet water is > 80 µS/cm, or every 3 years.
Always replace both membrane cartridges at the same time.

During initial commissioning and after replacing the membrane cartridges, rinse the product for approx. 60 seconds. Guide the outlet water into a drain.

To track the new membrane capacity, reset the outlet water counter in the **BWT RO systems app** and save. 40 m³ of water can be treated per membrane cartridge.

1. Carefully tilt the product 90° to the rear.
2. Unscrew the old membrane cartridges from the holder.
3. Carefully remove the cap from the membrane cartridge.
4. Screw the new membrane cartridges [13] into the holder and tighten them in their end position by hand.
5. Reset the outlet water counter in the **BWT RO systems app**.



6 Installation

⚠ CAUTION!

Danger to health!

Danger to health due to drinking water impurity

► **To avoid drinking water impurities that may be caused if the heating water flows back into the drinking water line, a BA-type backflow preventer in accordance with DIN EN 1717 must be installed upstream from the product water inlet.**

We recommend installing a check valve upstream from the product water inlet for maintenance purposes.

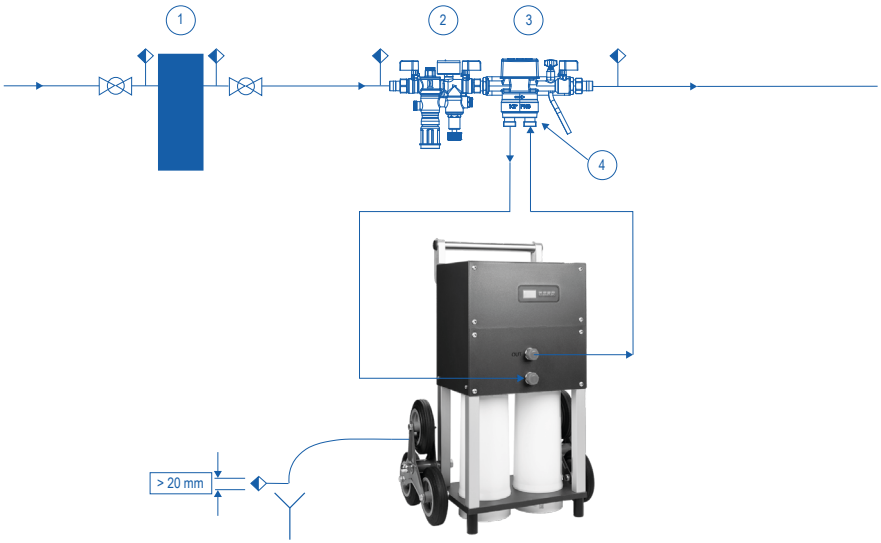
If there is a combination of different pipe materials (mixed installation), pay attention for corrosion-causing chemical properties upstream and downstream from the product.

For pre-treated inlet water (for example, with chlorine), we recommend installing an activated carbon filter upstream from the product as well.

Before installing the product:

- Rinse the pipeline network.
- Install a particle filter (separation accuracy ≤ 100 µm) max. 1 m upstream from the product in the direction of flow and check that it is functioning correctly to ensure that dirt or corrosive particles do not enter the product.
- Install a BA-type backflow preventer in accordance with DIN EN 1717 (e.g. AQA therm HFB - heating fill block) upstream from the product.
- Attach a waste water hose on the waste water drain connection at the stipulated distance (as defined by DIN EN 1717) from the highest possible waste water level. The distance must be greater than the diameter of the drain pipe.

6.1 Installation diagram



1. BWT particle filter 30µm ¾“ M
2. AQA therm HFB heating fill block (not contained in the scope of delivery)
3. AQA therm HES heating station (not contained in the scope of delivery)
4. AQA therm HES fill adapter 2 x 3/4"

6.2 Connecting the product

The following conditions must be met:

- ✔ All the components of the product are fully installed.
- ✔ The product is resting on a secure and level base.
- ✔ The product is secured against tipping over.
- ✔ A BA-type backflow preventer in accordance with DIN EN 1717 (not included in the scope of delivery) is installed upstream from the product.
- ✔ The inlet water pressure is at least 1.5 bar.
- ✔ If the inlet water pressure is too high (above 4 bar), a pressure reducer such as AQA therm HWG (not included in delivery) is installed.
- ✔ A check valve for maintenance purposes (not included in delivery) is installed upstream from the product.

NOTE

Impaired function and product damage!

Improper connection causes impaired function and damage to the product

- ► **When connecting the product, maintain the installation dimensions and bend radii for accessories (e.g. hoses, connection sets).**
- ► **Hoses must not have any cross-section constrictions.**

NOTE

Product damage!

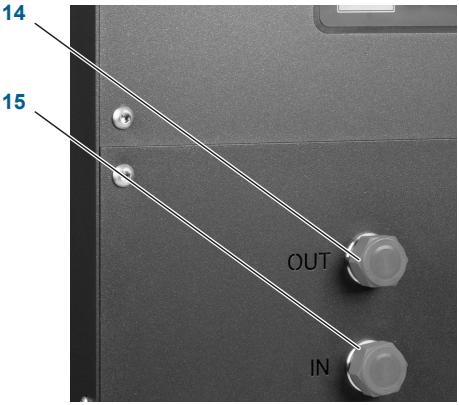
Product damage due to the impact of pressure from the heating system

- ► **Before startup, first open the check valve that is upstream from the product.**
- ► **After connecting the outlet water hose to the system, open the check valve that is downstream from the product.**

A distance ≥ 0.3 m between the product and the wall is recommended as a working space for activating the main power switch.

For stationary operation of the product, install the hoses in such a way that the product can be moved forward for maintenance and servicing purposes.

The water inlet is marked with IN [15].
The water outlet (for permeate) is marked with OUT [14].



► Connect the product with the connection hoses:

1. Connect the inlet water hose to the drinking water system connection and to the IN connection [15] on the product and ensure it is watertight.

2. Connect the outlet water hose to the OUT connection [14] on the product.

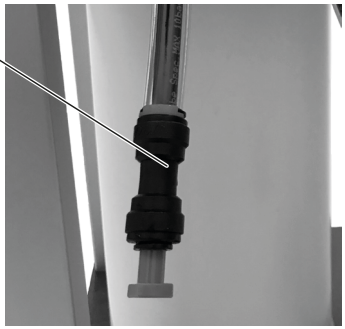
6.3 Establishing a sewage system connection

As per DIN EN 1717, the waste water hose must be connected to the drain system connection at least 20 mm above the highest possible waste water level (unimpeded drainage).

► Connect the waste water hose [4] to the rear of the product and ensure it is watertight.

► Guide the waste water hose to the connection for the waste water drain system with the free outlet.

► Connect the waste water hose to the waste water drain system and secure the hose from “wagging”.



6.4 Establishing the electrical supply

The following conditions must be met:

✓ A Schuko socket for plug type F is available at the place of use.

⚠ DANGER!

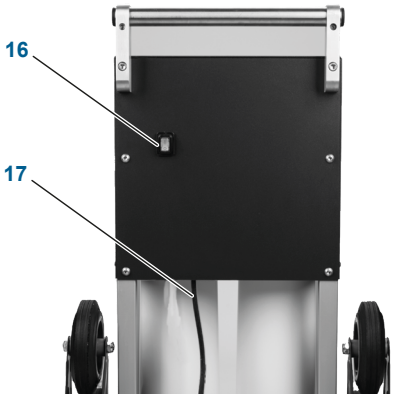
Mains voltage!

Risk of death by electric shock!

- ► Operate the product only with the values specified in the technical data.
- ► Work on electrical product equipment must be performed only by qualified electricians.
- ► Protect the product against the effect of humidity and unauthorised modifications of the mechanical or electrical components.
- ► If the mains cable of the product becomes damaged, you must replace it with an original BWT cable.

The product must be connected to a residual-current device (RCD) with a rated tripping current that does not exceed 30 mA.

There is a mains plug with a main power switch [16] on the rear of the product. The length of the connection cable [17] is 4 metres.



You can find the specifications for the current and voltage supply in the technical data (see chapter „17 Technical data“, Seite 27).

6.5 Setting the conductivity value for the outlet water

For certain types of use of the AQA therm MOVE Power, you can manually set a specific conductivity value for the outlet water.
The following conditions must be met:

- ✔ All the product components are fully installed.
- ✔ The electrical and hydraulic systems for the product are connected

⚠ DANGER!

High voltage!

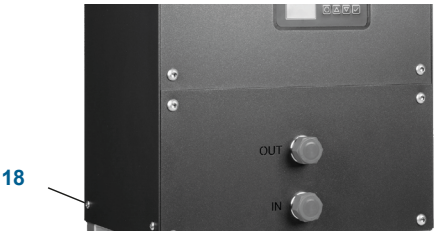
Risk of death by electric shock!

- ► **Disconnect the product from the power supply before all maintenance and repair work.**
- ► **There may still be voltage from external connections even when the mains voltage is disconnected.**
- ► **Discharge live components through earthing.**

Before making a manual setting, check the conductivity of the outlet water on the product display (see chapter „7.3 View and settings on the product display“, Seite 15).

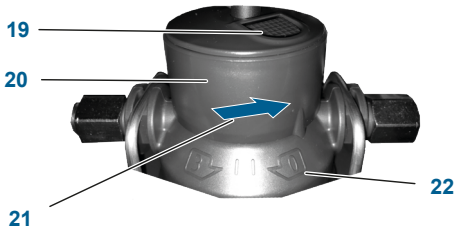
You set the desired conductivity value for the outlet water by turning the blending ring on the filter head:

1. Switch off the product on the main power switch and disconnect the mains plug.
2. Remove the four screws [18] on the cover panel of the product and remove the cover panel.



Set the blending ring for both filter heads to the same position.

3. Hold down the button [19] on the filter head and turn the blending ring [20] to the desired position in the direction of the arrow [21]. (In position “0” [22], no outlet water is blended. Turning the blending ring in the direction of the arrow increases the blending of the outlet water).
4. Close the product again using the cover panel and fasten the cover panel using four screws.
5. Reconnect the product to the electrical supply and restart the product.
6. Check the conductivity value of the outlet water on the product display (see chapter „7.3 View and settings on the product display“, Seite 15).



7 General operation and display

7.1 Operating concept

All the product operating parameters are shown on the display. You can configure all the settings that are relevant to operation using the display buttons.

7.2 Control unit

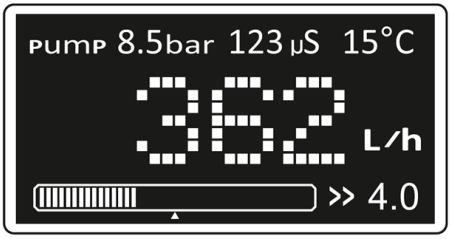
7.2.1 Display buttons

You operate the product using the four display buttons:

◯	Start/stop the pump
△ ▽	Change the display value Change the operating parameter
✓	Go to the information pages and input key

7.3 View and settings on the product display

Press any button on the display to activate the main screen. If no action is performed on the display for more than 10 minutes, the main display view goes out.



The main display view is divided into three rows:

Pump pressure (bar)	Outlet water conductivity value (µs/cm) or (ppm)	Water temperature (°C)
Current flow rate (l/h) You can also use the arrow buttons to select the counter for the litres per day (l) or system pressure (bar).		
System pressure (bar) on the charging bar. The arrow marking on the charging bar indicates the set switching point for pump pressure production.		

Product information view:



▶ Press and hold the checkmark button for three seconds.
The version levels of the software and firmware are shown on the display.

Operating information view:



▶ Press the checkmark button again.
The operating information view appears on the display:

- **Service DAYS**: Days of operation since initial startup
- **PUMP HOURS**: Pump operating hours
- **Lt IN**: Inlet water counter
- **Lt OUT**: Outlet water counter
- **TOT Lt OUT**: Amount of outlet water since first startup (cannot be reset)
- Time and date

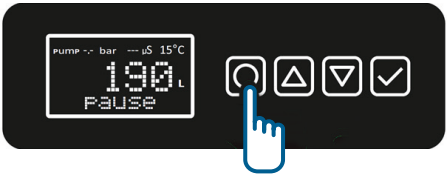
7.4 Calibrating the water counter



To calibrate the water counter (**FLOW METER**), contact BWT customer service.

7.4.1 Resetting the litres per day counter

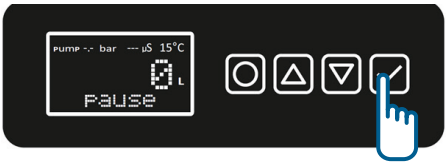
► Press the circle button.
The product is set to **PAUSE**.



► Press the checkmark button.
The prompt **RESET ?** appears on the display.



► Press the checkmark button again.
The litres per day counter is set to **ZERO LITRES**.



7.4.2 Setting the switch-on and switch-off point for pressure production

NOTE

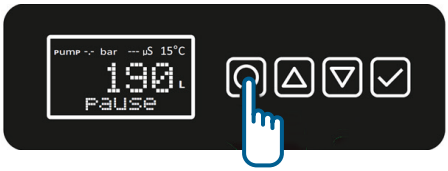
Membrane cartridge wear!

The membrane cartridges are worn down quickly if the operating times are too short (frequent starting and stopping)

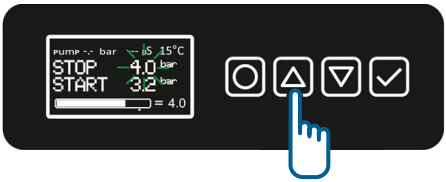
► **When setting the switch-on and switch-off point for pressure production, a difference of at least 1 bar must be maintained.**

The integrated pump in the product produces the outlet water pressure required to fill the system.
When the preset system pressure is reached, pressure production stops. This pressure value is referred to as the switch-off point (**STOP**).
If the system pressure falls to a preset value, the pump begins to produce the outlet water pressure again. This pressure value is referred to as the switch-on point (**START**).
The switch-off point (**STOP**) and switch-on point (**START**) for pressure production are set as follows:

► Press the circle button.
The product is set to **PAUSE**.



► Press and hold one of the two arrow buttons for three seconds.



► Press the checkmark button to switch between the switch-off point (**STOP**) and switch-on point (**START**).



► Press the arrow buttons to increase or lower the point selected earlier.

8 Additional functions in the BWT RO systems app

To install the **BWT RO systems app**, you require a scanner app on your mobile device. Some of the scanner apps available on the market are not compatible.
The **BWT RO systems app** displays all the values from the product display. You can set limit values and reset the litres per day counter in the technician menu in the **BWT RO systems app**.
The **BWT RO systems app** is connected to the product via Bluetooth.

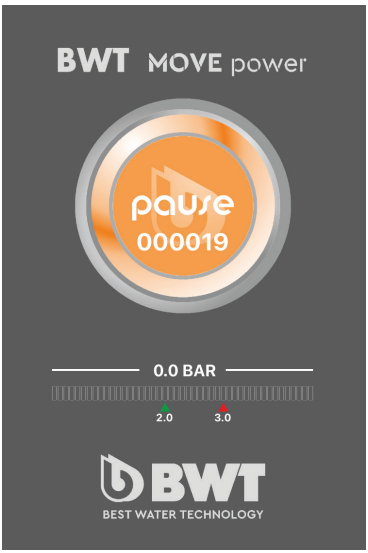
8.1 Installing the BWT RO systems app

The following conditions must be met:

- ✓ AQA therm MOVE Power is connected to the power supply and switched on.
- ✓ A scanner app is installed on the mobile device.
- ✓ The mobile device has an internet connection.

1. Scan the QR code opposite using a scanner app. The QR code is located on the rear of the product.
2. Download the **BWT RO systems app**.





For the iOS version:

- ► Open the settings on the mobile device.
- ► Select the “General” menu and open “Device Management”
- ► Trust “BWT Holding GmbH”.

3. Open the **BWT RO systems app**.
4. Allow the **BWT RO systems app** to use Bluetooth on the mobile device. The product is automatically displayed in the **BWT RO systems app** if it is connected to the power and within range of the Bluetooth connection (2 m).
5. Select **AQA therm MOVE Power** in the list to establish a connection.

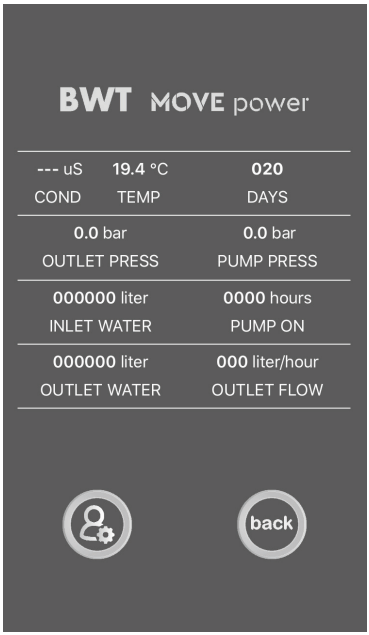
8.2 Display and settings in the BWT RO systems app

8.2.1 Start screen

The (central) circle button displays the current status of the product and the litres per day counter. The set switch-on and switch-off points for pressure production are indicated by the arrows on the charging bar.

Product status display – (central) circle button:

Status	Meaning
WORKING	Product is in operation
READY	Product is in standby mode
PAUSE	Product is set to “Pause”
RINSING	The membrane cartridges are being rinsed (this is done automatically after each production run and each time that the product is started)
SERVICE	When one or more service limits are reached (days, incoming litres, outgoing litres)
W C F - ALARM	The outlet water conversion factor is below 40% or 30%



8.2.2 Main screen

The information on the main screen is divided into four rows:

Conductivity value for the outlet water (µS)	Water temperature (°C)	Service days (days)
	Switch-off point for pressure production (bar)	Pump pressure (bar)
	Inlet water counter (litres)	Pump operating hours (hours)
	Outlet water counter (litres)	Current outlet water production (litres per hour)

If the set counter levels for **DAYS**, **INLET WATER** and **OUTLET WATER** are exceeded, the respective value is displayed in red.

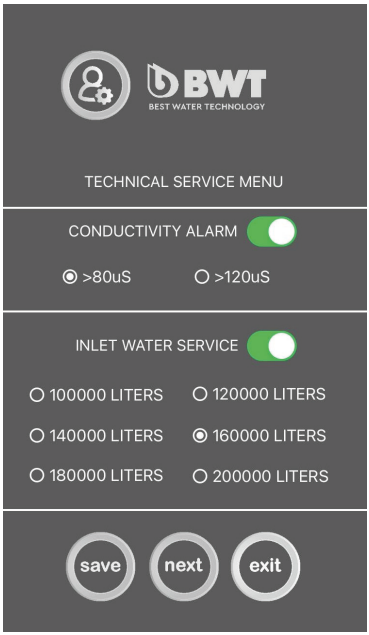


8.2.3 Settings in the technician menu

► To access the "**TECHNICIAN MENU**" view, press the button on the left of the screen.

To change settings for the product in the technician menu, you must first enter the password "05310" and confirm. This prevents any unintentional changes to the limit values.

To confirm an entry, you must press **SAVE**. A signal tone confirms the switch to the next level.

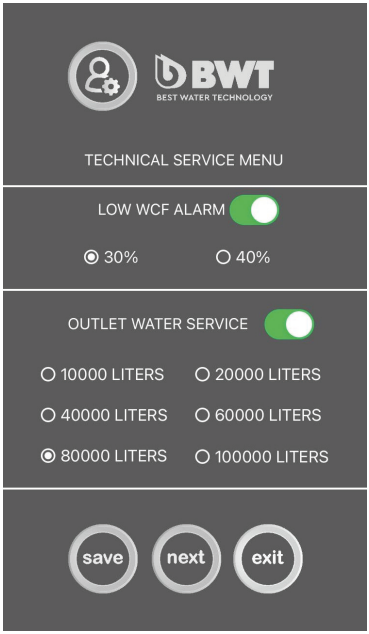


Exceeding a set conductivity value (CONDUCTIVITY ALARM)

The message **CONDUCTIVITY ALARM** appears if the set conductivity value is exceeded. 80 µS or 120 µS can be set as the maximum conductivity value.

Inlet water counter (INLET WATER SERVICE)

A value between 100,000 and 200,000 litres can be set for the inlet water counter. The inlet water counter is activated at the factory and set to 160,000 litres.

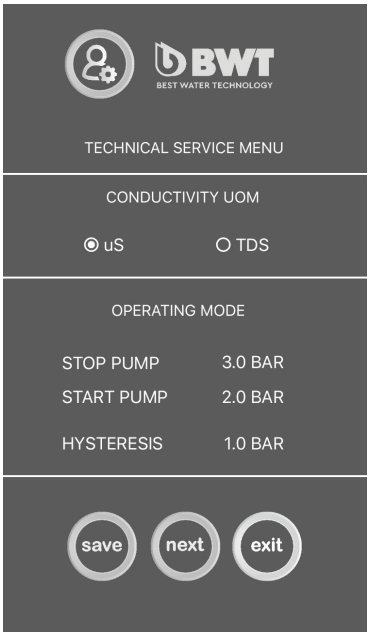


WCF alarm (LOW WCF ALARM)

The message **LOW WCF ALARM** appears when limescale deposits form on the membrane cartridges after large quantities are produced. This reduces the water conversion factor (quantity of outlet water in comparison to the quantity of inlet water). If the water conversion factor falls to 40% or 30%, the status indicator on the product display lights up yellow and the view in the **BWT RO systems app** turns yellow. We recommend replacing the membrane cartridges at this point. The WCF alarm is activated at the factory and set to 30%.

Outlet water counter (OUTLET WATER SERVICE)

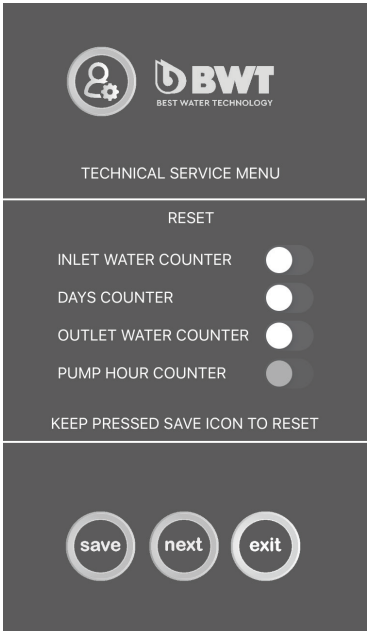
The message **OUTLET WATER SERVICE** appears when the membrane cartridges need to be replaced. The membrane cartridges need to be replaced after a specific amount of outlet water is produced. Depending on the inlet water hardness, a value between 10,000 and 100,000 litres can be set for the outlet water counter. The outlet water counter is activated at the factory and set to 80,000 litres.



Setting the unit of measure for the outlet water conductivity value (CONDUCTIVITY UOM)
The product is set to µS/cm at the factory.
The value TDS (Total Dissolved Solids) is specified in mg/l.

Operating mode (OPERATING MODE)
The respective switch-on and switch-off points set for pressure production (bar) and the resulting differential pressure (hysteresis) are displayed here.

The switch-off and switch-on point for pressure production are set directly on the product display.

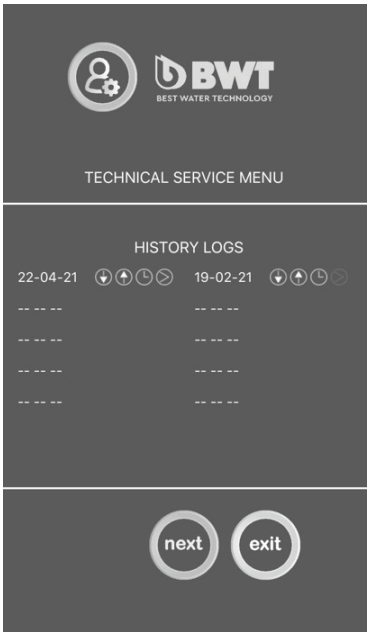


Reset (RESET)
You can reset the set counter and pump operating hours here.

To confirm an entry, you must press **SAVE**. A signal tone confirms the switch to the next level.

A password is required to reset them:
Password "**05310**" for:

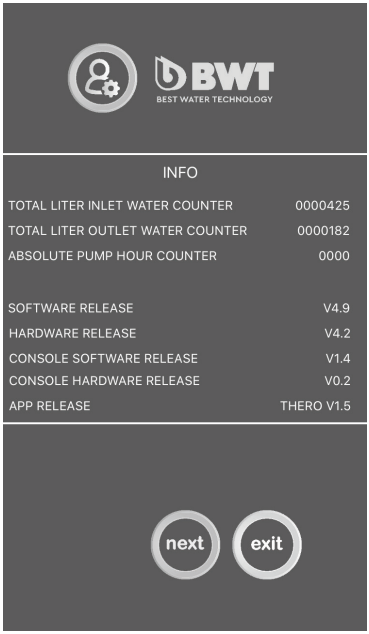
- Inlet water counter (**INLET WATER COUNTER**)
- Operating days counter **DAYS COUNTER**
- Outlet water counter (**OUTLET WATER COUNTER**)



Reset history (HISTORY LOGS)

If one or more counters have been reset, this level shows which counters were reset and when (date):

Symbol	Designation
⬇	Inlet water counter (**INLET WATER COUNTER**)
⬆	Outlet water counter (**OUTLET WATER COUNTER**)
🕒	Operating hours counter (**SERVICE TIMER**)
▷	Pump operating hours (**OPERATING HOURS**) (can be reset only by BWT)



Information (INFO)

The upper area displays the following information:

- Total quantity of inlet water
- Total quantity of outlet water
- Total pump operating hours

These values cannot be reset.
The lower area displays the current version of the:

- Software
- Hardware
- Firmware
- App

9 Start-up

The following conditions must be met:

- ✓ Both membrane cartridges are installed.
- ✓ The product is correctly connected to the hydraulics system (see chapter „6.2 Produkt anschließen“, Seite 12).
- ✓ The product is correctly connected to the electrical system (see chapter „6.4 Elektrische Versorgung herstellen“, Seite 13).

NOTE

Damage to the product!

Product damage due to the impact of pressure from the heating system

- ► **Before startup, first open the check valve that is upstream from the product.**
- ► **After connecting the outlet water hose, open the check valve that is downstream from the product.**

The product must be commissioned only by qualified staff (see chapter „1.3 Qualifikation des Personals“, Seite 4).
During commissioning and after replacing the membrane cartridges, the outlet water hose must first be guided into the waste water drain system and a watertight connection with the system to be filled must be re-established only after thorough rinsing (approx. 60 seconds).

10 Operation

NOTE

Product damage!

Damage to the product due to the impact of pressure from the heating system

- ► **Before startup, open the check valve that is upstream from the product.**
- ► **After connecting the outlet water hose, open the check valve that is downstream from the product.**

NOTE

Damage to property!

Damage to property due to escaping water

- ► **Always operate the product under observation.**
- ► **Check on a regular basis that connections and hoses are leak-tight.**

NOTE

Damage to the product and system!

Damage to the product and/or system due to microbial contamination

- ► **Operate the product or trigger rinsing at least once every two weeks.**

During initial commissioning and after replacing the membrane cartridges, rinse the product for approx. 60 seconds. Guide the outlet water into a waste water drain system.

Check on a regular basis that all water connections are leak-tight.

1. Open the check valve positioned upstream from the product.
2. Guide the outlet water hose to the waste water drain system first.
3. Press the main power switch on the rear of the product. The product emits a signal tone and the display lights up. The product starts a self-test.

   Following the self-test, pause mode is automatically triggered in the product and the LED indicator flashes green. The display shows the main screen without the pump and conductivity value.



4. Press the circle button to start the rinsing process. The rinsing process takes approx. 60 seconds. Following the rinsing process, the production of outlet water begins and the LED indicator remains lit up in green.

5. Let the outlet water flow into a waste water drain system for approx. 60 seconds until a consistently low conductivity value (below 80 µS/cm) is set.



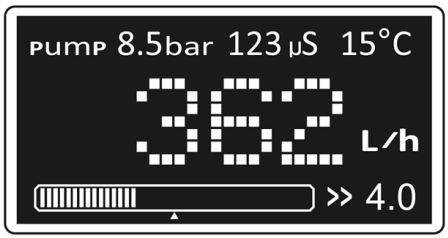
6. Then pause the rinsing process and connect the outlet water hose to the system to be filled.

7. Open the check valve positioned downstream from the product.

Reset and save the outlet water counter (**Outlet Water Counter**) in the app to track the new capacity of the membrane cartridges.

8. Resetting the outlet water counter in the **BWT RO systems app**:
   ► Press and hold the checkmark signal and then press the button again to confirm the prompt "**RESET?**".

9. Restart the AQA therm MOVE Power.



The charging bar on the product display shows the system pressure. When the set switch-off point for pressure production is reached, the pump switches off.

✓ The system is filled.
✓ You can read the fill level on the daily litres counter on the display.

10.1 Changing the water conversion factor (WCF)

To change the water conversion factor, contact BWT customer service.

The factory setting for the water conversion factor (WCF) in the product is below 50% at a water temperature of 15 °C. This minimises blockages and increases the service life of the membrane cartridges.
In some application scenarios, it may make sense to increase the water conversion factor. For example, if there is a softening unit downstream from the product in a stationary application, then you can assume there will be minimal blocking of the membrane cartridges and the water conversion factor can be increased without any issues.

11 Operator responsibilities

Flawless function requires:

- The correct operation of the product.
- Operation or rinsing of the product at least once every two weeks.
- Regular checks and servicing of the product. Wearing parts must be replaced regularly within the prescribed maintenance intervals.
- Before using the product, check with the water supplier regarding the quality and pressure conditions of the inlet water. If the water quality varies, you may have to change the product settings.
- Check the product and connection lines for damage before each use.
- Replace membrane cartridges if the conductivity value of the outlet water is > 80 µS/cm or every 3 years (see chapter „5.6 Fitting the new membrane cartridges“, Seite 10).
- Regular product checks by an electrician in accordance with DIN VDE 0701.

- The product must be connected to a residual-current device (RCD) with a rated tripping current that does not exceed 30 mA.
- Regular cleaning of the external surfaces of the product.

11.1 Intended operation

The intended operation of the product includes commissioning, operation, decommissioning and, if necessary, recommissioning.
The intended operation of the product includes regular checks, servicing work and operation (where water flows through the product).

11.2 Checks

BWT recommends that the operator regularly carry out the following checks and record the results:

- Water quality: outlet water quality check
- Inlet water pressure: if the pressure conditions change, the settings may have to be changed
- Operating condition of the product
- Check of display functions
- Check for leak-tightness

11.3 Replacing parts

- We recommend replacing filter heads after 5 years. They must be replaced after 10 years at the latest.
- You must replace the two membrane cartridges if the conductivity value of the outlet water rises above 80 µS/cm or every 3 years (see chapter „5.6 Fitting the new membrane cartridges“, Seite 10).

12 Troubleshooting

Faults	Error code	Cause	Remedy
The conductivity measurement range is exceeded	0	The set limit value is fallen below	Acknowledge using the checkmark button and continue by pressing the circle button; if it occurs repeatedly, replace the membrane cartridges
Pump pressure too high	1	Waste water hose kinked or blocked	Check the waste water hose, acknowledge with the checkmark button and restart the pump with the circle button
Pump overheating	2	Poor heat dissipation because ambient temperatures are too high	Product starts automatically after a cooling-down phase
Ventilation fault	3	Product ventilation overheating	After cooling down sufficiently, the product restarts itself
WCF limit value exceeded	4	Membrane cartridges are blocked due to increased service life	Replace the two membrane cartridges and reset the outlet water counter
Vacuum in the outlet water line	5	• Outlet water is drawn into the system, for example, if the elevation of the system is too low, an evaporator is being used or a tap is opened • Pressure sensor for outlet water is damaged	• Check the system; use a vacuum breaker if necessary • Switch off the product, interrupt the water supply and contact BWT customer service

Faults	Error code	Cause	Remedy
Pump cools down	6	After overheating, the pump cools down	After cooling down sufficiently, the product restarts itself
Inlet water counter fault	7	The inlet water counter is damaged and disrupts the flow of water	Switch off the product and contact BWT customer service
Internal error	8	-	Switch off the product, interrupt the water supply and contact BWT customer service
Communication error	9	-	Switch off the product, interrupt the water supply and contact BWT customer service
Error	FAULT	-	Switch off the product, interrupt the water supply and contact BWT customer service
No water supply	NO WATER	Water supply is shut off or flow is too low	Check the tap and lines and fully open the water supply Make the supply line larger
Water supply is insufficient	NO FLOW	The water supply for the product is insufficient. NO WATER has been triggered five times	• Check the filter upstream from the water inlet for the product and clean it if necessary • Piping dimensions are insufficient • Use a different tap
Pump sensor malfunction	A	The pump pressure sensor is damaged	Switch off the product, disconnect it from the mains power and contact BWT customer service

13 Warranty

If the product malfunctions during the warranty period, contact your contractual partner and indicate the product type and production number (see the title page or the type plate on the product).
Failure to comply with the installation conditions and operator responsibilities and improper operation lead to the loss of warranty and exclusion of liability.

13.1 Product returns

Product returns will not be processed without a return number (RMA no.).
In Germany, call BWT after-sales service in Schriesheim to receive a return number.
Unauthorised returns of goods will not be accepted. Always contact your contractual partner first.

13.2 Contacting BWT

Service reception +49 6203 7373
Monday to Thursday: 6:30 a.m. to 6:00 p.m.
Friday: 6:30 a.m. to 4:00 p.m.

14 Decommissioning

When the preset system pressure is reached, the pump stops automatically. The product can be switched off.

14.1 Disassembling the product

⚠ DANGER!



High voltage!

Risk of death by electric shock!



- ► Disconnect the product from the power supply before all maintenance and repair work.
- ► There may still be voltage from external connections even when the mains voltage is disconnected.
- ► Discharge live components through earthing.

⚠ WARNING!



Risk of injury!

Severe injury due to impact caused by water pressure

- ► Before disassembling the product, first close the check valve located downstream from the product.
- ► Before disassembling the product, close the check valve that is upstream from the product.

⚠ WARNING!



Risk of injury!

Severe injuries due to slipping on damp surfaces

- ► Before disassembling the product or components, remove the residual water from the product through the waste water connection.
- ► Remove any water that escapes immediately.

1. Switch off the product on the main power switch at the rear of the product and then disconnect the mains plug.
2. Close the check valve positioned downstream from the product.
3. Close the check valve positioned upstream from the product.
4. Provide a collecting container for residual water.
5. Remove and drain the hoses.
6. Close the connection points on the product with protective caps or plugs.

15 Disposal

The product consists of various materials that need to be disposed of properly. Please contact the manufacturer's customer service department for expert and environmentally friendly disposal. All electronic parts should be disposed of only at an authorised recycling centre.

NOTE





- ► This product must not be disposed of in household waste.
- ► At the end of the product's life cycle, ensure that it is properly disposed of or recycled.
- ► Observe the legal disposal guidelines for the country in which the product is used.
- ► The following materials are used in the product: metal, plastics, electronic components.

Disposal of the transport packaging

Recycling the packaging materials saves resources and reduces waste. The packaging can be returned to your specialist dealer.

Disposal of the old device

Do not dispose of the product through household waste. To dispose of the product, use the official municipal collection and returns facilities for electrical and electronic waste or return it to your dealer.

Disposal of used batteries

Batteries may not be disposed of in household waste under any circumstances. Old batteries that are not sealed inside the product must be removed and brought to a suitable collection point (such as your dealer) for disposal.

16 Standards and legal provisions

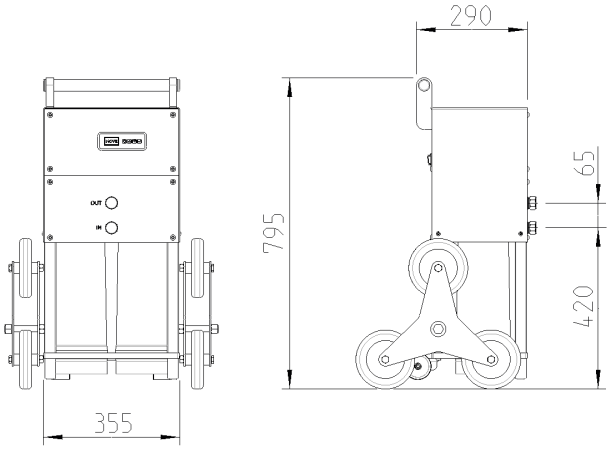
Standards and legal provisions shall always be applied in the most recent version.
VDI 2035 Part 1, "Prevention of damage in water heating installations"
EN 1717 "Protection against pollution of potable water installations and general requirements of devices to prevent pollution by backflow"
ÖNORM H-5195-1 "Wärmeträger für haustechnische Anlagen" (EN: heat carriers for domestic service facilities).

17 Technical data

Designation	Unit/type	AQAthermMOVEPower
Nominal connection width	DN/inch	DN20 / 3/4"
Pipe water connection	DN	20
Connection for waste water	DN	6
Connection for outlet water	DN	20
Nominal pressure (PN)	bar	PN10
Max. operating pressure	bar	9
Inlet water supply pressure, min. – max.	bar	1.5 – 4
Water temperature, min./max.	°C	5 – 25
Ambient temperature, min./max.	°C	5 – 40
Outlet water capacity at 15 °C with free discharge, at start of service life	l/h	Approx. 360
Outlet water capacity at 15 °C and 2.5 bar counter-pressure, at start of service life.	l/h	Approx. 320
Outlet water capacity at 15 °C with free discharge, at end of service life, approx.	l/h	300
Outlet water capacity at 15 °C and 2.5 bar counter-pressure, at end of service life, approx.	l/h	250
Outlet water conversion factor	%	< 50
Salt retention rate, min.	%	95
Capacity per membrane cartridge	m³	40
Protection class	IP	54
Power supply	V/Hz	230 / 50
Connected load, max.	W	450
External fuse	A, time-delay	2 x 2.0
Pump capacity	m³/h	0.8
High-pressure pump motor capacity.	W	350

Designation	Unit/type	AQAthermMOVEPower
Connection load, pump	VAC / A	230 / 2.3
Dimensions without wheels, width x height x depth	mm	355 x 795 x 290
Operating weight, approx.	kg	44
Net weight (without packaging)	kg	38.6
For the production number, see the sticker on the title page in these instructions or the type plate on the product		

17.1 Dimensions



EU-Konformitäts-Erklärung
EU Declaration of Conformity
UE Certificat de conformité

im Sinne der Richtlinien	Maschinen	2006/42/EU
	Niederspannung	2014/35/EU
	EMV	2014/30/EU
	RoHS	2011/65/EU
according to the directives	Machinery	2006/42/EU
	Low voltage	2014/35/EU
	EMC	2014/30/EU
	RoHS	2011/65/EU
en accord avec les directives	Machines	2006/42/UE
	Basse tension	2014/35/UE
	CEM	2014/30/UE
	RoHS	2011/65/UE

Produkt/Product/Produit:

Mobile Umkehrosmoseanlage
Mobile reverse osmosis unit
Osmoseur mobile

Typ/Type/Type:

AQA therm MOVE Power

ist entwickelt, konstruiert und gefertigt in Übereinstimmung mit den oben genannten Richtlinien, in alleiniger Verantwortung von

is developed, designed and produced according to the above mentioned guidelines at the entire responsibility of

est développé, conçu et fabriqué en accord avec les instructions mentionnées ci-dessus sous l'entière responsabilité de

BWT Wassertechnik GmbH, Industriestr. 7, 69198 Schriesheim

(WEEE-Reg.-Nr. DE 80428986)

Schriesheim, Dezember 2020

Ort, Datum / Place, date / Lieu et date

Lutz Hübner

Unterschrift (Geschäftsleitung)
Signature (Management)
Signature (Direction)

BWT
BEST WATER TECHNOLOGY

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BEST WATER TECHNOLOGY