BWT 322476-1 Druck: 050829TB

For more information refer to:

Installation and operating instructions

AQA total Energy

Typen: 5600, 8400, 11200, 14000

DIN DVGW

Important instructions:
To avoid errors, the installation and operating instructions should always be kept close at hand so that they can be read and complied with before implementing any work. Subject to change without notice. Our general business conditions apply.

www.bwt-group.com

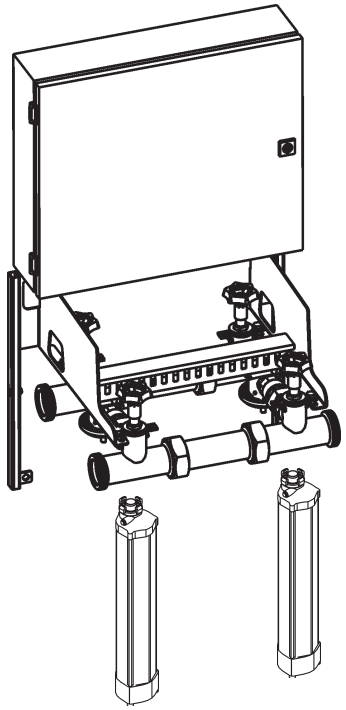
ANWO
ESPECIALISTAS EN CLIMATIZACIÓN

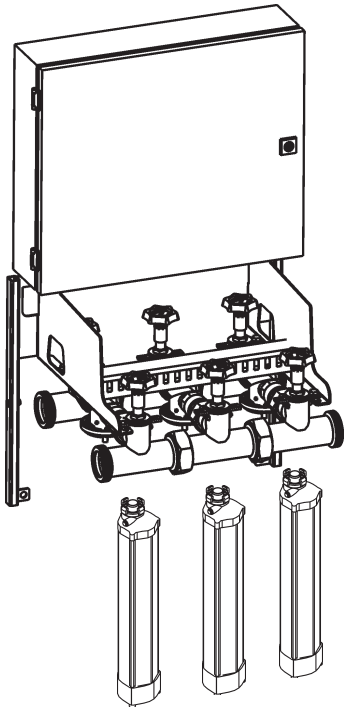
Table of contents

1. General information

Dear Customer,

Thank you for your confidence in our equipment. In order to ensure optimal function of the equipment, these installation and operating instructions should always be kept close at hand so that they can be read and complied with before implementing any work. If individual components and spare parts are issued with separate installation and operating instructions, please read and comply with these as well!
Our reference sheets will help you to the best of our knowledge; however, the contents are not legally binding. Our general business conditions apply.
These installation and operating instructions must be given to the system operator!

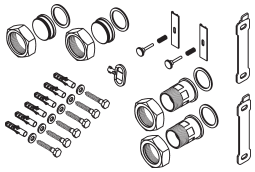




2. Scope of delivery

2.1. AQA total Energy 5600

2.1.1. Box with accessories consisting of:
- I. 2 mounting hooks
- II. 4 flat seals
- III. 2 screw connectors (screws & locking nuts)
- IV. 2 grub screw connectors (plates & locking nuts)
- V. 6 dowels with shims and screws
- VI. 2 Smounting brackets with mounting screws and clamping springs
- VII. Key for fuse box



2.1.2. AQA total Energy supply distributor with shut-off valves pre- fitted on wall-mounting system. Control box pre-fitted on wall-mounting system, includes permanently wired electronic control system.

2.1.3. 2 Working units

2.1.4. Plastic unit covers

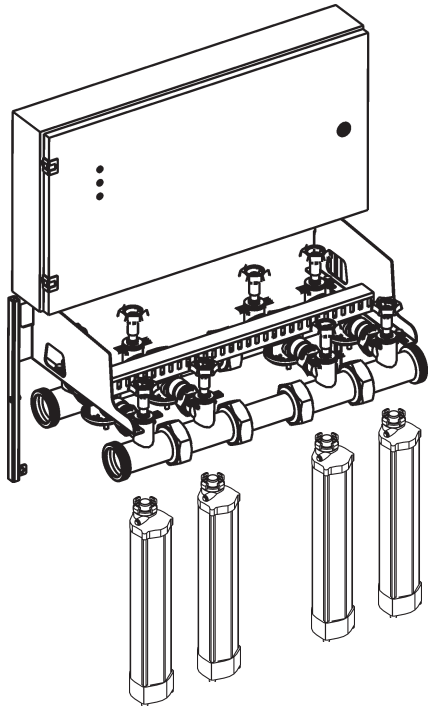
2.2. AQA total Energy 8400

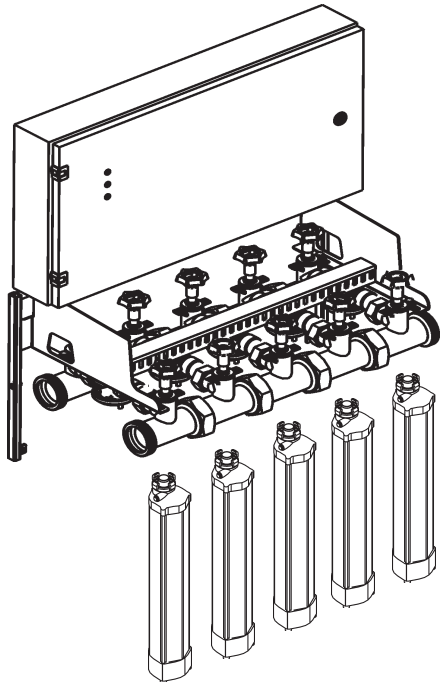
2.2.1. Box with accessories consisting of
- I. 2 mounting hooks
- II. 4 flat seals
- III. 2 screw connectors (screws & locking nuts)
- IV. grub screw connectors (plates & locking nuts)
- V. 6 dowels with shims and screws
- VI. 2 mounting brackets with mounting screws and clamping springs
- VII. Key for fuse box

2.2.2. AQA total Energy supply distributor with shut-off valves pre-fitted on wall-mounting system. Control box pre-fitted on wall-mounting system, includes permanently wired electronic control system.

2.2.3. 3 Working units

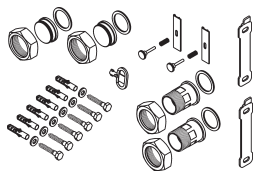
2.2.4. Plastic unit covers





2.3. AQA total Energy 11200

2.3.1. Box with accessories consisting of
- I. 2 mounting hooks
- II. 4 flat seals
- III. 2 screw connectors (screws & locking nuts))
- IV. 2 grub screw connectors (plates & locking nuts)
- V. 6 dowels with shims and screws
- VI. 2 mounting brackets with mounting screws and clamping springs
- VII. Key for fuse box



2.3.2. AQA total Energy supply distributor with shut-off valves pre-fitted on wall-mounting system Control box pre-fitted on wall-mounting system, includes permanently wired electronic control system.

2.3.3. 4 Working units

2.3.4. Plastic unit covers

2.4. AQA total Energy 14000

2.4.1. Box with accessories consisting of
- I. 2 mounting hooks
- II. 4 flat seals
- III. 2 screw connectors (screws & locking nuts)
- IV. 2 grub screw connectors (plates & locking nuts)
- V. 6 dowels with shims and screws
- VI. 2 mounting brackets with mounting screws and clamping springs
- VII. Key for fuse box

2.4.2. AQA total Energy supply distributor with shut-off valves pre-fitted on wall-mounting system. Control box pre-fitted on wall-mounting system, includes permanently wired electronic control system.

2.4.3. 5 Working units

2.4.4. Plastic unit covers

3. Application area

3.1. Purpose of the system

BWT Energy water.
Your daily drinking enjoyment – a must have pleasure for the entire family.
The revolutionary 3 phase technology in AQA total Energy brings you the new power of drinking water – personally in your home.
AQA total Energy from BWT with the revolutionary 3 phase technology:

- **Phase 1: Daily drinking enjoyment full of vital elements**
  AQA total Energy retains all valuable minerals in the drinking water. Conscious daily enjoyment of BWT Energy water is your healthy energy provider, full of vital elements with essential magnesium, calcium and oxygen for your body.

- **Phase 2: Best limescale protection for your drinking water installation**
  The bipolar technology - awarded international test marks (ÖVGW, DVGW, etc.) and winner of the Stiftung Warentest evaluation – stabilises the limescale in the water through the formation of nano-crystals.

- **Phase 3: Efficient corrosion protection for your drinking water installation**
  AQA total Energy supports the natural formation of an effective coating against surface corrosion.

AQA total Energy – environmentally-friendly, operation-free and maintenance-free limescale and corrosion protection system for the reduction of limescale precipitation and to protect against corrosion damage in drinking water pipes (40° German hardness) and the downstream, closed hot water heaters (80°C).

Best protection for your drinking water installation with AQA total Energy:

Rust protection can be efficiently used to combat surface corrosion in galvanised pipes and iron pipes (but not with copper pipes).

AQA total Energy promotes the formation of a coating. The EU directive 98/83 (dated 3.11.1998) applies to the composition of drinking water.
The WHO drinking water standards and the drinking water regulation also apply. Note: The pH value must be greater than 7.0 or S2 greater than 2. DIN 50930 must be complied with.

4. Function

The 3-phase technology in AQA total Energy:

1. **Drinking enjoyment with vital elements**
2. **Effective limescale protection**
3. **Effective corrosion protection**

The working unit consists of a base unit and a refill with a three-dimensional electrode composed of conducting and non-conducting particles. When a defined current/voltage pulse is applied, the lime-carbonic acid equilibrium is locally shifted.
Pulse height and width are dependent on the actual water properties and flow rates. They are automatically controlled by the electronic control system. Following the local shift in the lime-carbonic acid equilibrium, minute calcium crystals, so-called nano-crystals, are formed in the unit. The small size of these nano-crystals means that they carry an identical electric charge which prevents them from growing together. The nano-crystals are therefore capable of trapping the lime in the water and so reduce limescale deposits within pipes and water heaters.

For corrosion protection, the working unit (with a modification to the formation of conducting and non-conducting particles) stimulates the formation of a protective coating electrochemically.
A small amount of a known mineral used for drinking water treatment is used for the highly effective corrosion protection. This provides efficient protection against surface corrosion in waters with aggressive properties.

The gentle treatment by AQA total Energy retains all essential minerals in the water, above all calcium. In addition, it is improved with valuable magnesium and oxygen activation, thereby becoming an important energy provider.

5. Installation

Caution: The system must be installed, in compliance with these installation instructions and as per the AVB Wasser V, §12.2 (German water law), by a water supply company or by an installation company listed by a water supply company (comply with applicable national requirements in other countries).

Caution: Working on the electrical system can endanger life. The AQA total Energy system must be disconnected from the mains before any work is carried out on the system. Always comply with the national legal requirements for the connection of and work on the electrical systems. If necessary, this means that the electrical installation must be implemented by a registered electrical installation company.

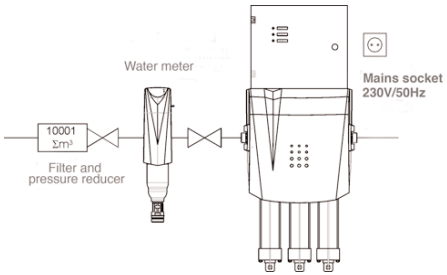
5.1. Installation conditions

Comply with local installation regulations, general guidelines, general hygiene conditions and technical data.

The installation location must be protected against frost and provide protection against chemicals, dyes, solvents, vapours and environmental influences. The ambient temperature must not exceed 40°C.
Protect the unit from direct sunshine and UV light.
The AQA total Energy unit should always be installed downstream of a drinking water filter.

A pressure reducer should be installed upstream to protect the entire installation and system if there is a network pressure > 6 bar. A pressure reducer must be installed upstream if the pressure > 10 bar.

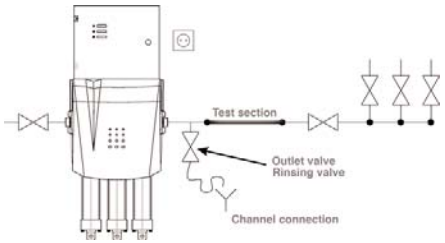
A mains connection (230V / 50 Hz fuse contact socket) must be available nearby.



Caution: If pressure surges from neighbouring pipe systems that exceed the actual test pressure of the unit cannot be excluded, a suitable water surge damper must be installed to protect the unit in compliance with applicable national standards and regulations.

5.2. Test section/rinsing valve

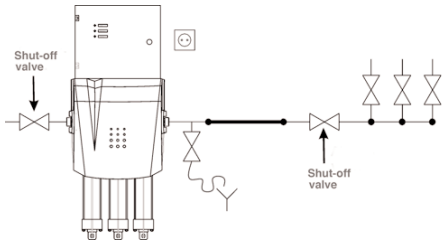
The installation of a test section is a requirement for the warranty – particularly when retrofitting the AQA total Energy unit into an existing installation.
The test section is an easily removable, new pipe section, which should have a pipe length/pipe diameter of approximately 6:1.
It must be fitted downstream of the AQA total Energy system.



In addition to the test section, a water sampling point must be installed downstream of the AQA total Energy unit. This outlet valve is used as the rinsing valve and drinking water sampling point and it must have a minimum nominal diameter of DN 15.

5.3. Shut-off valves/bypass circuit

A shut-off valve must be installed upstream and downstream of the unit.
If a bypass circuit is required by national installation regulations, it must be installed as per these requirements.
As the branch of each working unit in the AQA total Energy supply distributor can be individually closed by the supplied shut-off valves, the water supply can be ensured during Refill replacement even without a bypass circuit.

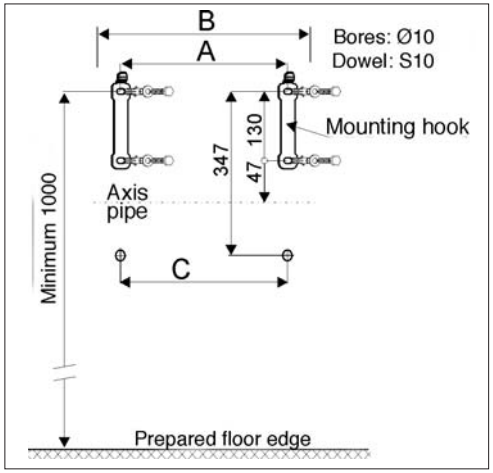


5.4. Installation/assembly

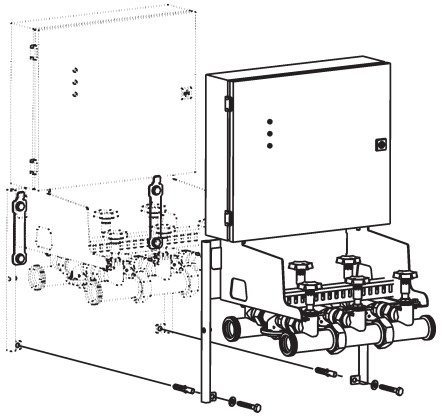
5.4.1. Remove unit from packaging and check for completeness.

5.4.2. Attach mounting hooks to wall as per diagram (used to mount the AQA total Energy unit) using the supplied dowels and screws, then check for tightness.

	A	B	C
AQA total Energy 5600	405	495	425
AQA total Energy 8400	405	495	425
AQA total Energy 11200	690	780	710
AQA total Energy 14000	690	780	710

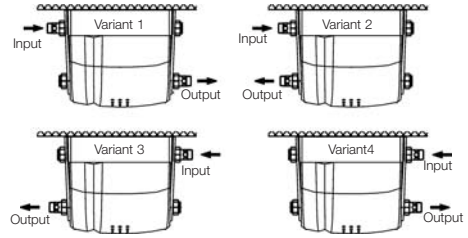


5.4.3. Attach AQA total Energy supply distributor to mounting hooks as shown in diagram and secure with supplied screws.



5.4.4.Connect the AQA total Energy supply distributor

Connection options
The AQA total Energy unit water supply can be fed in from either direction. The water outlet can also be on either side of the unit.

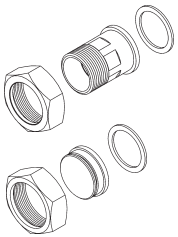


Important:
The water inlet must always be on the back of the unit. Note the “IN” sticker on the AQA total Energy supply distributor.

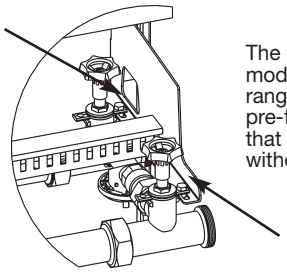
The water outlet must always be on the front of the unit. Note the “OUT” sticker on the AQA total Energy supply distributor.

The scope of delivery includes:
- 2 grub screw connections each consisting of a plate, locking nut and flat seal
- 2 screw connections each consisting of a screw, locking nut and flat seal
  - AQA total Energy 5600 6/4“ external thread
  - AQA total Energy 8400 6/4“ external thread
  - AQA total Energy 11200 2“ external thread
  - AQA total Energy 14000 2“ external thread

Connect the AQA total Energy supply distributor while switched off with the pipes using the supplied screw connections.

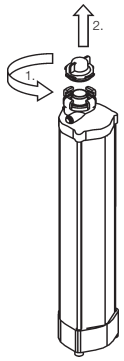


The vacant, open connections of the AQA total Energy supply distributor should be sealed with the grub screws.



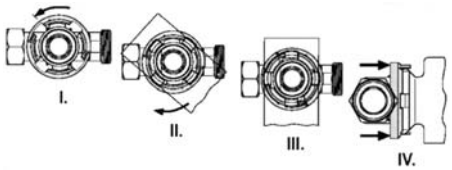
The wall distance can be modified within a certain range by loosening the pre-fixed fixing screws so that the unit is mounted without any stresses.

5.4.5. Take the working unit included in the scope of delivery out of the packaging and remove the transportation sealing caps.



Connect the working unit to the AQA total Energy supply distributor.

I. Turn the retaining ring to the left until the stop is reached.
II. Press the working unit claws into the slots until the stops are reached.
III. Turn the working unit clockwise 45° until the stop is reached.
IV. Pull the retaining ring with both hands in the direction of the working unit until it engages. The working unit is now secured against unintentional rotation.



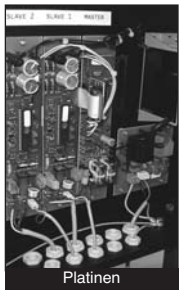
To release the rotation safety, press both clips on the retaining ring together and push upwards with both hands.

5.4.6. Plug the electrode cable, using the plastic plug, into the underside of the working unit.

Important: Numbers are displayed on the cable channel and plastic plug.
Only plug a plastic plug into the working unit that has the same number displayed on the cable channel above the working unit. (Note: Each working unit is assigned a slave circuit board with the corresponding number in the control box)


Kunststoffstecker

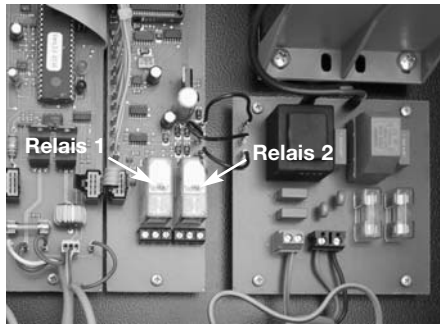

Kabelkanal


Platinen

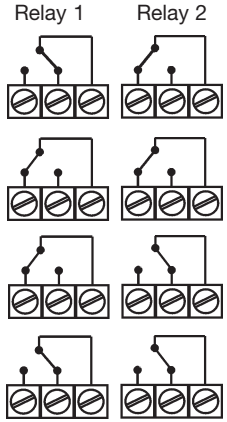
5.4.7. OPTIONAL:
Transmitting ZLT signals: The unit control system is equipped with 2 floating relays. Open the control box with the supplied key. The relays are located on the master circuit board (labelled “MASTER”).

The following ZLT signals are available:
1. Signal for "Early warning refill replacement" and "Refill replacement"

2. Signal for fault



The ZLT relays trigger if a signal is output or if there is a power failure.

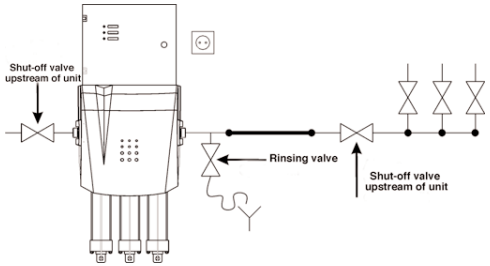


4.4.8. Check system for correct installation!

6. Commissioning

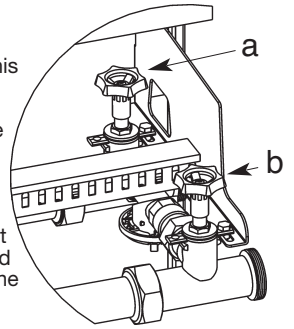
We recommend that commissioning is implemented by our factory customer services.
Important: The commissioning sequence must be followed!

6.1. Close shut-off valves upstream/downstream of APA total Energy unit and rinsing valve.



6.2. If the system is equipped with a bypass circuit, this can be left open during commissioning to ensure the water supply is continued.

Caution – when the bypass circuit is open, untreated water will enter the pipe system.



a) Shut-off valve of the AQA total Energy distributor
b) Shut-off valve of the AQA total Energy distributor

6.3. Close all shut-off valves of the AQA total Energy distributor

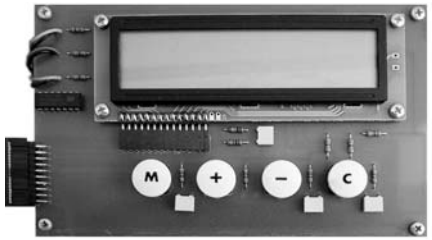
6.4. Slowly open the shut-off valve upstream of the APA total Energy unit.

6.5. The system is pressurized by slowly opening all shut-off valves in the AQA total Energy distributor.

6.6. The system is pressurized by slowly opening all shut-off valves in the AQA total Energy distributor.

6.7. Check the electrical installation again for any damage and correct connection.

Open the control box of the AQA total Energy unit and check the LC display.



Plug the mains cable into the protective contact socket provided.

The AQA total Energy unit requires ca. 10 seconds to initialize. During this time, the LCD in the control box displays:

```
AQA total
Vers. 5.Ø
```

(a different number may appear, depending on the software version)

After ca. 10 seconds the display changes to the standby mode:

AQA total Energy 5600
```
standby
chan. 1 2
```

AQA total Energy 8400
```
standby
chan. 1 2 3
```

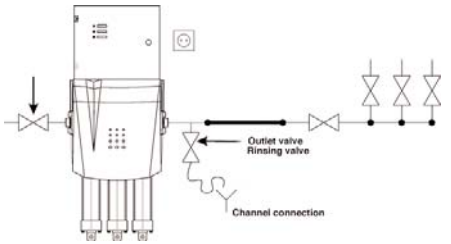
AQA total Energy 11200
```
standby
chan. 1 2 3 4
```

AQA total Energy 14000
```
standby
chan. 1 2 3 4 5
```

The yellow “POWER” lamp (on the control box) lights up to indicate the electrical supply is on.

6.8. Changing the operating language:
The language is set at the factory to the country of sale language. If the language needs changing after commissioning, please refer to Operation: “Changing the operating language”.

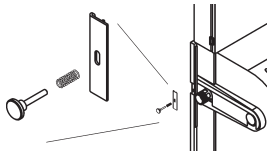
6.9. Rinsing the AQA total energy unit:
Open the rinsing valve and rinse each AQA total Energy distributor branch (each individual working unit) for ca. 3 minutes. To do this open or close the corresponding distributor shut-off valve.



6.10. Close the rinsing valve and open all shut-off valves of the AQA total Energy distributor.

6.11. Close bypass circuit if present and open shut-off valve downstream of AQA total Energy unit.

6.12. Insert unit covers and fix in place with mounting bracket



6.13. Check function: The green “IN OPERATION” lamp on the control box must light up during water consumption (open a consumer: e.g. a water tap).

In addition, the following text must appear on the LCD in the control box during water consumption:

AQA total Energy 5600

```
Operation
Channel 1 2
```

AQA total Energy 8400

```
Operation
Channel 1 2 3
```

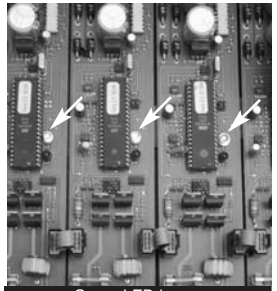
AQA total Energy 11200

```
Operation
Channel 1 2 3 4
```

AQA total Energy 14000

```
Operation
Channel 1 2 3 4 5
```

In addition, the green lamps on the individual slave circuit boards (the number depends on the actual unit type) light up during water consumption.



Green LED lamps

6.14. Close control box and lock with supplied key. Store key safely away from unauthorized persons.

6.15. The AQA total Energy unit is now ready for operation!

7. Maintenance

The system operator is required to carry out a visual inspection of the system at regular intervals (every 1 or 2 days). This should concentrate on any installation leaks and the functionality of the AQA total Energy unit.

Regular maintenance is essential to ensure correct functionality of the AQA total Energy system.

7.1. Regular tests by operator

The system operator is required to carry out a visual inspection of the system at regular intervals (every 1 or 2 days). This should concentrate on any installation leaks and the functionality of the AQA total Energy unit.

- Check the hydraulic installation for leaks and tight fit
- Check the electrical installation for correct fit and possible rust spots caused by condensate
- Check the lamps on the control unit:

Lamp signals:

POWER
Colour: yellow
Type: Permanently lit
-AQA total Energy is connected to mains

CHECK SYSTEM
Colour: red
I.) Mode: Permanently litt
- Refill must be replaced or system error

IN OPERATION
Colour: green
Type: Permanently lit
-must light up with water consumption; AQA total Energy is treating water

Check on the LC display whether the yellow and the green light are lit up when water is consumed. If this is not the case or the red lamp is lit up, please contact your specialist installer or our factory customer services.

7.2. Refill replacement:

The AQA total Energy reliably indicates when a refill replacement is due, ensuring that the unit is always operated at full capacity.

Recognising an imminent refill replacement:
When the red CHECK SYSTEM lamp lights up, open the control box and check the status on the LCD.

```
Prepare for refill
replacement
```

This can be seen as an early warning for a refill replacement that is soon due. You have sufficient time to contact your dealer and order replacement cartridges.

Recognising a necessary refill replacement:
The red CHECK SYSTEM lamp lights up and the LCD status changes to:
Important: Always replace all refills in the working units at the same time!

```
Efficiency low
Replace refill(s)
```

Please note that water can leak out when changing the refills. Always have a bucket ready.

Implementing the refill replacement:

I. Disconnect the mains plug

II. Close the shut-off valves upstream and downstream of the unit

III. Depressurise the unit with the rinsing valve

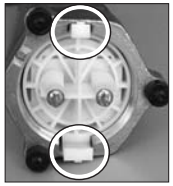
IV. Remove the unit cladding

V. Disconnect the electrode plug on the underside of the working unit

VI. Remove the working unit and discharge the filling water .

VII. Open the spinner nut at the end of the working unit with the octagonal wrench provided and dispose of the old refill. (general waste)

VIII. Insert the new refill in the working unit in the correct installation position.



IX. Tighten the spinner nut up to the stop.

X. Connect the prepared working unit as per the unit model as described in "6.4 Mounting".

Implement the reset procedure:

I. Disconnect the mains plug and wait ca. 5 – 10 seconds.

II. Reconnect the display mains plug while keeping the reset button pressed down (+).

III. Only let the (+) button go when standby appears on the display.

```
standby
Channel 1 2 3 4 5
```

IV. If the yellow lamp on the slave lights up or flashes after the refill replacement, there is probably a system error present. Rectify the error as follows:

1. Enter the code key:

Press the “M” button to switch to the mode where settings can be made in the electronic control system. You will be requested to enter the code. Press the “C” button so that you can enter the code.

```
Code     (-key)     ← M
000      ok =  -   (+/c)
```

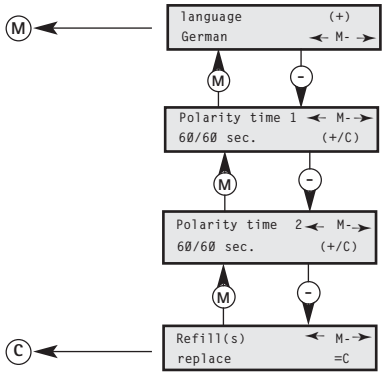
Use the “+” button to change the value of each number in the 3 digit numerical code. Use the “C” button to move to the next number in the 3 digit numerical code.

The 3 digit numerical code is: 369

```
Code                ← M
369      ok =  -   (+/c)
```

Confirm your entry with the “-” key.
The numerical code authorizes you to change settings in the AQA total Energy unit. Please remember that incorrect settings can reduce the performance of the unit. The code should therefore be stored safely and protected against unauthorized access.

IV.) Menu Control
Use the “-” button to go forward in the menu or the “M” button to go back.



After the refill replacement (in normal cases, all of them), this action must be confirmed in the electronic control system.

I.) Navigate through the menu until the following text appears in the LC display:

```
Refill                M-
replace          ◄ =C ►
```

II.) Press the “C” button

```
Refill(s)        ◄ M- ►
all                =C
```

III.) Use the “+” button to select which refill was replaced. Normally all refills are replaced.

IV.) Confirm the refill replacement with the “C” button.

V.) After a moment, the unit switches back to the operating mode and is fully functional.

Display on standby or operation goes out.

If the red "Check System" lamp does not go out after commissioning or if the green "Operation" lamp does not light up during water consumption, there is a system error.

If the red "Check System" lamp does not go out after commissioning or if the green "Operation" lamp does not light up during water consumption, there is a system error.

7.4. Regular maintenance/service by trained personnel.

The system must be maintained by trained personnel at regular intervals (every six months is recommended) to ensure functionality of the system. We recommend you have a maintenance contract with our factory customer services or with your specialist installer.

8. Operation

8.1. Operation not required

During operation, the AWA total Energy unit does not need operating (apart from the refill replacement).
The unit adapts itself to the water properties by means of the electronic control system.

8.2. Implementing settings

The following settings in the electronic control system can be modified/input:
- Changing the operating language
- Changing the polarity times
- Confirm refill replacement
- Reset to default settings

In order to change settings in the electronic control system, proceed as follows:

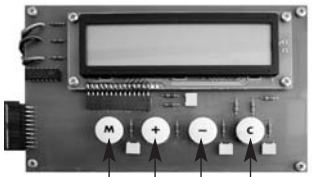
I.) Open the control box.

II.) The LCD in the control box will display:

```
standby
Channel  1 2 3 4 5
```

or the number of cartridges according to the unit type.

Use the buttons below the LCD to implement changes in the control system.
The settings are protected against unauthorized access by a code that must be input.



Operating keys

III.) Input code
Press the “M” button to switch to the mode where settings can be made in the electronic control system. You will be requested to enter the code. Press the “C” button so that you can enter the code.

```
Code (-key)        ◄ M
000     ok =  -   (+/c)
```

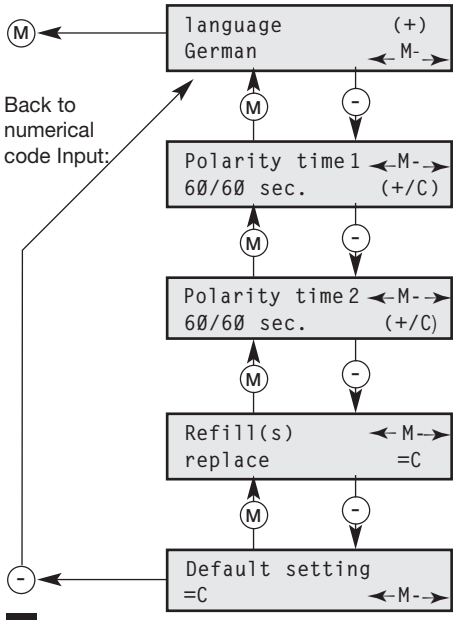
Use the “+” button to change the value of each number in the 3 digit numerical code. Use the “C” button to move to the next number in the 3 digit numerical code.

The 3 digit numerical code is: 369

```
Code               ◄ M
369     ok =  -   (+/c)
```

Confirm your entry with the “-” key.
The numerical code authorizes you to change settings in the AQA total Energy unit. Please remember that incorrect settings can reduce the performance of the unit. The code should therefore be stored safely and protected against unauthorized access.

IV.) Menu Control
Use the “-” button to go forward in the menu or the “M” button to go back.



8.2.1. Change of language

Changing the operating language
The following languages are available:
English, French, Spanish, Italian, German

I.) Navigate as described above until the following text appears in the LC display:

```
language:             (+)
German           ◄ M- ►
```

II.) Use the “+” button to select the language.

III.) Confirm the entry by pressing the “M” button twice.

IV.) The operating language has been changed and the AQA total Energy unit should now be back in Standby mode.

8.2.2. Changing the polarity times

Changing the polarity time can affect the performance of the AQA total Energy unit and should therefore only be implemented by specially trained technicians or our factory customer services.

9. Troubleshooting

The AQA total Energy unit is user-friendly and problem-free during normal operation.
However, error messages may occur in exceptional cases under unexpected working conditions.
Error messages are reliably indicated by a red lamp on the control box.
Open the control box and check what type of error is displayed on the LCD.

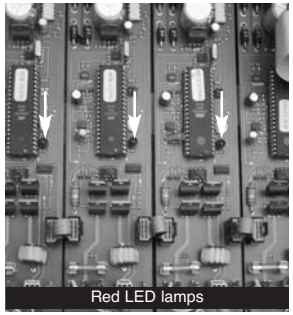
Reasons for error messages:
A cause of error messages are burst signals. These are voltage peaks in the power network that are produced when inductive mains loads are disconnected from the mains. This problem can be resolved by using commercial, high quality mains filters.

The hydraulic conditions can be affected by poor water quality (high contamination load, water does not comply with drinking water regulation).
Ensure that a drinking water filter is installed upstream of the system and that the water complies with the national regulations for drinking water.

9.1. Error messages/troubleshooting

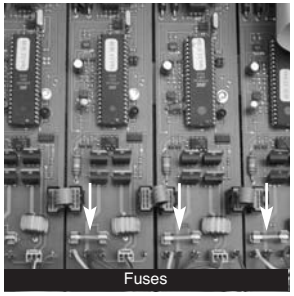
9.1.1. Rectifying system errors

```
Current too low
crt. 1 2 3   (+)
```


Red LED lamps

Low current is usually an indication of a poor connection contact or faulty fuse. To find out which slave circuit board the error is on:
Check which slave circuit board (number above the board) the yellow LED lamp is flashing on (8 x per second).
Check the fuse on this board.

Then check all connectors on this board and the connection of the electrode plug on the corresponding cartridge.
If the connections are ok, this working unit must be replaced due to the poor water quality. Normally, however, all refills should be replaced at the same time (see refill replacement).


Fuses

9.1.2. Turbine error
A turbine error may result from contaminated

```
Turbinenfehler
crt. 1 2 3   (+)
```

load, which can be caused by poor water quality or the lack of an upstream pre-filter.
The turbine measures the volume of flowing water and is located in the connection piece on which the working unit is attached.
Check first of all that the cable screwed into the connection piece is correctly fitted (Hall sensor) or whether the Hall sensor itself is contaminated.


Hall-Sensor


Hall sensor

When screwing in the sensor, correct fit is essential as otherwise the sensor could be damaged.

If the error is not resolved by these measures, the turbine must be serviced (usually due to contamination). Please contact our works customer services.

9.1.3. Several errors

```
Several errors
crt. 1 2 3   (+)
```

Please contact our works customer services.

10. Warranty

In the case of a fault during the warranty period, please contact your contract partner, the installation company with details of the unit type and production number (see technical data or rating plate on unit). The current national legal warranty conditions apply.

6 year guarantee

You have received a high quality product from our company with your purchase of the AQA total Energy product. We offer a **6 year guarantee** for all new units that are installed and commissioned in your house by a specialist firm. This requires the posting of the registration card with all necessary information filled in (name, installation address, installation firm and commissioning date).

The guarantee applies to the new unit whose serial number is printed on the guarantee card. Used and display units are excluded from this guarantee. **The guarantee is only valid if the fully completed registration card is received by us within one month of commissioning.**

The guarantee applies to fault rectification for the unit. If a fault occurs in the unit within the 6 year guarantee period after commissioning, the BWT customer service will provide free of charge fault rectification within Germany or Austria.

The guarantee includes the replacement of faulty components. We may decide, instead of repairs, to replace the old unit with an equivalent new unit. Replaced components and units become our property.
Guarantee services do not extent the guarantee period.

The guarantee does not include consumables or the working unit refill (note: We offer all refill replacements required after every 575±25 m3 for a lump sum price. The refill replacement is then implemented by our customer service).

The guarantee excludes follow-up damages and damages due to errors during installation, excessive water pressure, incorrect operation, natural catastrophes and intentional damage. If our customer service determines that there is no fault in the unit, but e.g. incorrect operation or lack of consumables, we will invoice you for the intervention, including when the faulty unit is not the unit in question.

Operator obligations

You have purchased a durable and service-friendly product. Nevertheless, every technical system requires regular servicing and maintenance to ensure correct functionality. A prerequisite for functionality and the warranty is compliance with the specifications set out in these operating instructions. .

This concerns, in particular:

- The intended use of the AQA total Energy units
- Operation within application limits
- Correct installation by an authorised specialist firm
- Implementation of regular inspections
- Implementation of service and maintenance works by your installation company or our service engineers (specialist experts) during every refill replacement.

All servicing and maintenance work, and the replacement of wear or spare parts, must be carried out by trained personnel only (unit installation company or our works customer services). Only original BWT spare and wear parts may be used! We recommend that you agree a maintenance contract with your installer or with BWT works customer services.

Addresses/customer service

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12. Technical data

AQA total Energy Mod.	Mod. 5600	Mod. 8400	Mod. 1120	Mod. 14000
Connection diameter DN [mm]	40	40	50	50
Connection thread [inch]	6/4"AG	6/4"AG	2"AG	2"AG
Treatment output [l/min]	93	140	187	233
max. simultaneous [m³/h]	5,6	8,4	11,2	14
Residential units/persons	5-8 RU	9-16 RU	17-28 RU	29-44 RU
No. of cartridges [No.]	2	3	4	5
Cartridge capacity per cartridge [m³]	575±25	575±25	575±25	575±25
Treatment capacity total [m³]	1150±50	1725±75	2300±100	2875±125
Pressure drop at nominal flow rate [bar]	0,8	0,8	0,8	0,8
Nominal pressure/operating pressure [bar]	2 / 10	2 / 10	2 / 10	2 / 10
Operating pressure min./max. [bar]	40	40	40	40
Water hardness max. [°dH]	30	30	30	30
Max. water temperature [°C]	40	40	40	40
Ambient temperature [°C]	80	80	80	80
Max. boiler temperature [°C]	1280	1280	1280	1280
Unit height total [mm]	560	560	825	825
Unit width [mm]	57	64	94	101
Operating weight [kg]				
Mains connection [V/Hz]	230/50	230/50	230/50	230/50
Protection class	IP 54	IP 54	IP 54	IP 54
Electrical connection output [W]	120	180	240	300
Energy consumption [kWh/m³]	0,055	0,055	0,055	0,055
Output in standby operation [Wh]	13	13	15	15

11. System logbook

For your own information and to facilitate maintenance work, we request that you use the system logbook and always keep it near the unit.

Unit type: AQA total Energy _____ dealer: _____

Serial number: _____ _____

Purchase date: _____ . _____ . _____ _____

System installer: _____

_____

_____

Commissioned by: _____

_____

_____

Operator: _____

_____

_____

Officially designated person(s), responsible for the system

The system installer or the person commissioning the system must instruct the system operator about the function, operation and necessary maintenance.

Operator instruction implemented on _____ . _____ . _____ by:

_____

_____ _____

Signature of instructor Signature of operator

Maintenance:

Date: _____ . _____ . _____ implemented by: _____

Determined defect: _____

_____

_____

Actions implemented: _____

_____

_____

Next maintenance recommended:

_____

Maintenance:

Date: _____ . _____ . _____ implemented by: _____

Determined defect: _____

_____

_____

Actions implemented: _____

_____

_____

Next maintenance recommended:_____

General data:

Water data:

Conductivity: _____ µS/cm

Temperature during conductivity measurement: _____ °C

pH value: _____

Temperature during pH measurement: _____ °C

Calcium concentration: _____ mg/l

Total hardness: _____ °dH

Carbonate hardness: _____ °dh

Water complies with national drinking water regulations: ❑ yes ❑ no

Water originates from a ❑ public ❑ private drinking water supply.

Installation data:

Pipe material: ❑ Galvanized steel

❑ Copper

❑ Plastic

❑ Stainless steel

Pre-filter: Brand: _____

Dimensions: _____

Has a test section been installed as per installation and operating instructionst: ❑ yes ❑ no

Are other treatment units installed: ❑ yes ❑ no

If yes, which type: _____

_____

_____