

Operating Instructions

Q-Solar



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Important!

It is in your own interest that we should know that you have an ATAG boiler. Please fill out the warranty card completely and send it back to us. Then we can be fully at your service.

Introduction



These operating instructions describe the functioning and the operating of the ATAG Q-Solar boilers. This manual is for the end user. For installation and servicing there is an installation & servicing instructions manual for the installer.

Read this manual fully before operating the boiler. In case of doubt or errors contact your installer.

ATAG Heating reserves the right to change the specifications and dimensions without prior notice.

Work on the boiler must be carried out by a competent person, (Ref: Gas Safe Register) using correctly calibrated instruments with current test certification.

When replacing parts use only ATAG Service parts.

Contact details for ATAG Heating UK Ltd can be found on the back page of this manual.

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Certification mark



The Benchmark Scheme

ATAG Heating UK Ltd is a licensed member of the Benchmark Scheme which aims to improve the standards of installation and commissioning of domestic heating and hot water systems in the UK and to encourage regular servicing to optimise safety, efficiency and performance.

Benchmark is managed and promoted by the Heating and Hotwater Industry Council. For more information visit www.centralheating.co.uk

Please ensure that the installer has fully completed the Benchmark Checklist on the inside back pages of the installation instructions supplied with the product and that you have signed it to say that you have received a full and clear explanation of its operation. The installer is legally required to complete a commissioning checklist as a means of complying with the appropriate Building Regulations (England and Wales).

All installations must be notified to Local Area Building Control either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer who should, on receipt, write the Notification Number on the Benchmark Checklist.

This product should be serviced regularly to optimise its safety, efficiency and performance. The service engineer should complete the relevant Service Record on the Benchmark Checklist after each service.

The Benchmark Checklist may be required in the event of any warranty work and as supporting documentation relating to home improvements in the optional documents section of the Home Information Pack.“

In case you smell gas:

- Do not use naked flames! Do not smoke!
- Do not operate electrical switches for lights or any other appliance.
- Do not use a telephone
- Turn off gas supply at meter
- Open windows and doors
- Notify any persons in the building and leave the building at once.
- Call Gas company or installer only when outside the building

Protection for corrosion

Do not use any sprays, chlorine containing agents, solvents, paint etc. around the boiler or around the air intake supply entrance of the boiler. These substances have negative influences on the boiler and can lead to corrosion resulting in failure of the boiler.

Checking the water pressure

Check the water pressure in the central heating installation regularly.

Use only potable water for filling.

System additives can only be used after clearance by ATAG Heating UK Ltd.

Contact your installer in case of doubt.

Description of the boiler

Room sealed boiler

The boiler retrieves its combustion air from outside then discharges the flue gasses to the outside.

Condensing

Retrieves heat from the flue gasses. Water condensates on the heat exchanger.

Modulating

Higher or lower burning according to the heat demand.

Stainless steel

Super solid kind of steel which keeps its quality for life. It will not rust or erode in contrast to composition materials, like aluminium.

Anti-legionella and solar cylinder

The adjustment of the DHW flow temperature must not be set lower than 60°C.

The ATAG Q-Solar boiler is a room sealed, condensing and modulating central heating boiler with an integrated hot water facility. The boiler uses free solar energy for central heating and domestic hot water.

The boiler anticipates the heat demand of the central heating system or the hot water facility. Solar heat stored within the cylinder is used for both domestic hot water and central heating. The solar heat is received by the absorber and transferred to the water in the cylinder. When there is insufficient sun light the boiler will switch on to meet the heat demand. The boiler will anticipate its power to the installation and will switch on as less as possible. This provides that the control strives for a maximum of comfort and efficiency.

The boiler is provided with an intelligent control system (CMS Control Management System). To anticipate possible installation noises, the boiler is provided with a so called gradient control. This control takes care that when the boiler fires it does not burn on full power, but slowly increases the power. This takes care of an even increase of the flow water temperature.

The absorber pump is activated if the temperature in the absorber is approx. 10°C higher than the temperature in the cylinder. The absorber pump switches off automatically as soon as this temperature difference has dropped to approx. 2°C. The pump also switches off automatically as soon as the cylinder has reached a temperature of 80°C. The controller allows the pump to restart once the temperature of the cylinder has dropped to 75°C.



Normally the pipes between absorber and cylinder are insulated. However it needs your attention that the pipes during operation can be extremely hot (>120°C).

When there is a heat demand on CH and the cylinder contains sufficient heat (heated by the sun) the modulating 3-way valve will pass the CH-water via the Solar-CH coil in the cylinder. Sensor T8 and T9 will measure the temperature difference and together with the standard data from the CMS it decides if heat may be retrieved from the cylinder or that the boiler has to be fired.

DHW demand is always priority and if the cylinder contains insufficient heat from the solar absorber, the boiler will be fired.

When an outside sensor is connected to the boiler, the boiler works weather dependantly. This means that the boiler control measures the outside temperature and flow temperature. With this data the boiler calculates the optimal flow temperature for the installation.



Example SEDBUK ClassA

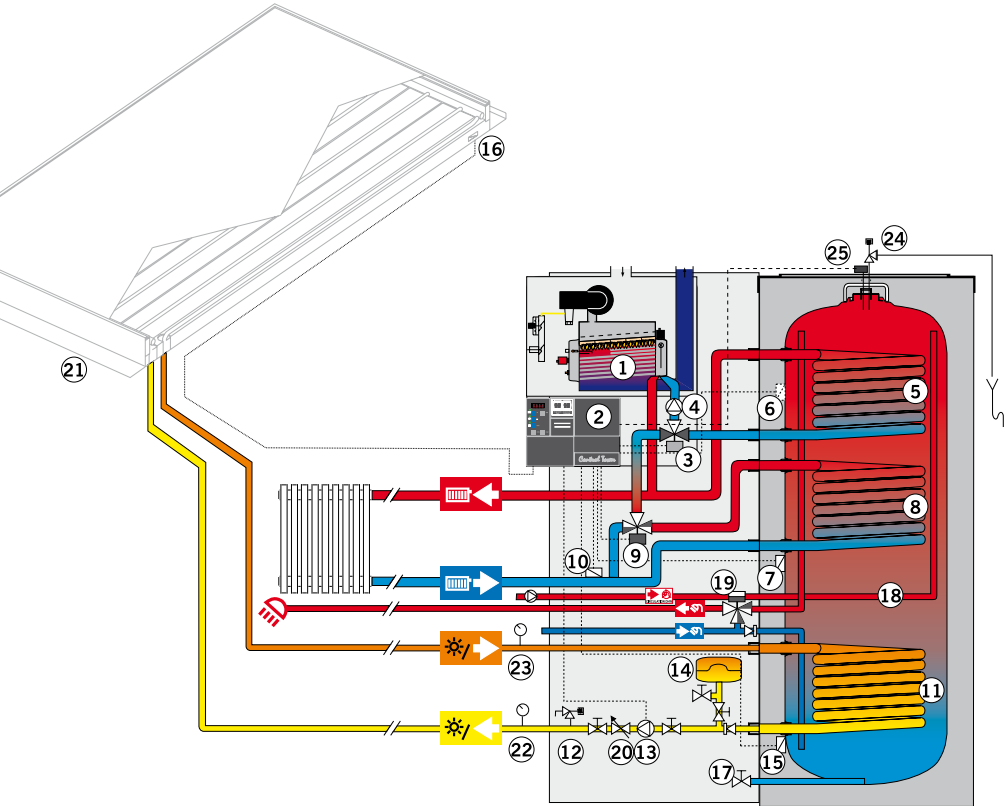
The efficiency of the boiler is very high and the radiation convection and standby losses very low. The emission of noxious substances is far below the fixed standards so the boiler meets the requirements of SEDBUK Class A.



ATAG BrainQ

When the boiler is connected to an ATAG BrainQ information interchange takes place between the boiler and the BrainQ. For more information regarding the ATAG BrianQ, please refer to the user manual.

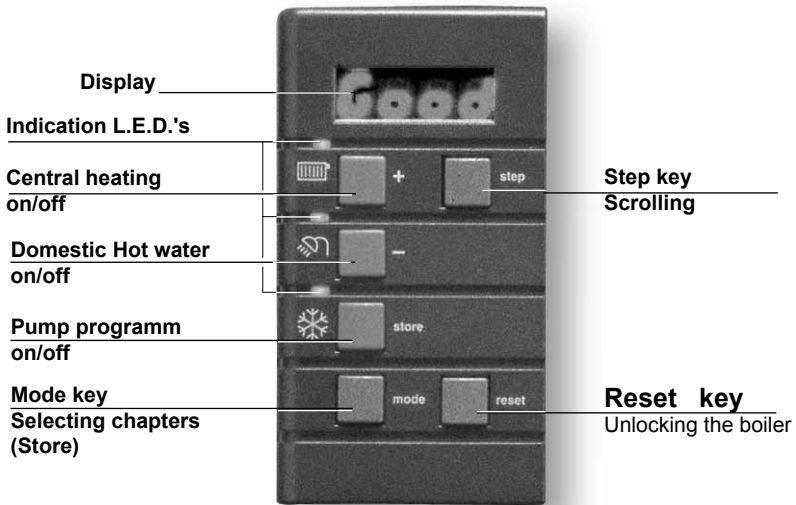
Hydraulic layout Q-Solar



- | | |
|--|---|
| 1. Stainless steel OSS heat exchanger | 13. Solar pump |
| 2. Control Management System (CMS) with Solar module | 14. Expansion vessel |
| 3. 3-Way valve (CH/DHW) | 15. Cylinder sensor Solar (Delta-T) |
| 4. Boiler pump | 16. Absorber sensor Solar (Delta-T) |
| 5. DHW coil | 17. Cylinder drain valve |
| 6. DHW sensor | 18. DHW circulation pipe |
| 7. CH-Solar sensor | 19. Thermostatic mixing valve |
| 8. CH coil | 20. Adjustable flow restrictor |
| 9. Modulating 3-way valve (CH-Solar) | 21. Solar absorber |
| 10. CH-Solar return sensor | 22. Pressure/temperature gauge |
| 11. Solar coil | 23. Pressure/temperature gauge |
| 12. Drain valve and relief valve solar circuit | 24. Temperature and pressure relief valve |
| | 25. High limit thermostat |

Explanation of the function keys and display

On the left side of the boiler there is a small door. Through the transparent part you can see the boiler status on the display. After opening this door you will find the function keys. On the right side of the door you will find an instruction card in a sleeve with an explanation of the display messages and function keys. This is described below.



On/off key Central heating.

When 'on' the indication L.E.D. is illuminated.



On/off key Domestic hot water (DHW)

When 'on' the indication L.E.D. is illuminated.



On/of key Pump programm. Continuously yes/no

When 'on' the indication L.E.D. is illuminated.

When the pump is switched on continuously it can lead to undesired heating up of the central heating system during the summer.

In most situations the pump can stay in position 'off'.

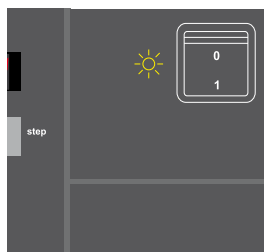
During severe frost It is possible (when there is no outside sensor connected), to choose manually to let the circulation pump circulate continually thus reducing the chance of freezing pipes (garage, attic or other cold spaces / rooms) which are sensitive to frost.

Frost protection

The Q-Solar is provided with a frost protection for boiler and cylinder as standard.

In case of frost we advise you to switch (☀) on the circulation pump of the boiler continuously to reduce the chance for freezing. This is not relevant for the solar circuit.

The solar circuit



With the solar main switch on the Control Tower the solar circuit can be switched on or off. Switching off the solar circuit can be necessary in case of maintenance activities by your installer. This switch will not shut off the heating and/or DHW supply.

The Reset key

The control panel is provided with a reset key. When a fault occurs it will be shown by the flashing E (Error) with a number code after which the boiler is shut down. After pressing the reset key you can try to start the boiler again. If the error message keeps occurring contact your installer.

The boiler display

The reading of the boiler display can be done in two ways.

The Good reading

During this reading the display will only show what is necessary. Under normal circumstances the display will give a **Good** reading. If a fault is detected the boiler will be blocked. This will be shown with, alternate display of **Good**, with an **E** of Error or a **BL** of Blocking and a number code. For further information refer to page 13 "Errors, maintenance and warranty" .

A digital display showing the word "Good" in a stylized, blocky font.

The technical reading

During this reading the display will show in which operating status the boiler is active. The technical reading is shown alternately with the water pressure. The first figure in the technical read out indicates the status in which the boiler is active and the third and fourth figure indicate the water temperature of the boiler. For example in the reading **P 1.9** the character **P** stands for pressure which represents the water pressure. The third and fourth figure indicate the water pressure in bar.

A digital display showing the number "0 49" in a stylized, blocky font.

A digital display showing the text "P 1.9" in a stylized, blocky font.

If a fault is found, the same is shown as described under "The Good reading".



Selecting the Technical or **Good** reading.

- Press the Step key for 5 seconds.
The display will change from the Good reading to the technical reading or vice versa.

A diagram showing two digital displays. The left display shows "Good" and the right display shows "0 49". A double-headed horizontal arrow connects the two displays, indicating they alternate between these two states.

Water pressure in the central heating system

P 1.9

The installation will function optimally with a water pressure of between 1,5 and 1,7 bar.

FILL

If the water pressure drops below 1 bar, the display will show **FILL**. During this message the boiler will remain functioning at a reduced level. After replenishing the system just above 1,5 bar the message **FILL** will disappear and the boiler will function normally again.



When the water pressure drops below 0,7 bar, the display will show a flashing **FILL** text.

The boiler will shut down and will function normally again after replenishing the system to just above 1,5 bar.

Message 'Water pressure too low' on your ATAG thermostat.

On the display of the ATAG Brain Q a low water pressure can be indicated. For further information see the relevant user manual.

To retrieve the water pressure on the display from the **Good** reading:

- Press the Step key once briefly.




The water pressure will be shown.

Press the Step key briefly to return to the **Good** reading.

Replenishing the central heating system

The central heating installation needs to be filled with potable (drinking) water. For topping up the installation you use the filling loop according to the following procedure:

(If in any doubt please contact your dealer)

- 1 Switch all functions off (heating, DHW and pump); _____
- 2 Briefly push the 'STEP'-button: P x.x = water pressure in bar;
- 3 Slowly open the filling loop (Indication on display increases); _____
- 4 Fill up slowly to 1.5 to 1.7 bar;
- 5 STOP appears on the display; _____
- 6 Close the filling loop;
- 7 De-aerate the complete installation, start at the lowest point; _____
- 8 Check the water pressure and if necessary top it up;
- 9 Close the filling loop; _____
- 10 Activate functions required (heating , DHW  and/or pump );
- 11 If A xx appears on the display, wait for 17 minutes; _____
- 12 Check the water pressure and if necessary top it up to 1,5 to 1,7 bar
- 13 Close the filling loop; _____
- 14 Press the 'STEP'-button;
- 15 Be sure that the filling loop is closed. _____

After the automatic de-aeration programm (A xx) is finished the boiler will return to the **Good** reading or Technical reading.



The boiler will not function directly. The automatic de-aeration program of about 17 minutes will start after one of the three program keys is pressed. The display will show **A 20** where A stands for Automatic de-aeration program Active and the number on the right indicates the actual water temperature of the boiler.

Check the water pressure regularly and top up the installation when necessary. The working pressure of the installation should be between 1.5 and 1.7 bar




It can take a while before all air has disappeared from a filled installation. Especially in the first week noises can be heard which indicate the presence of air. The automatic air vent in the boiler will make this air disappear, which means the water pressure will reduce during this period and therefore topping up with water will be necessary to adjust the flow water temperature

Turning the boiler off




Holiday

The ATAG BrainQ room thermostat is provided with a holiday program. The holiday period can be adjusted on the thermostat itself. The central heating and DHW supply are switched off during that period. There is also the option that only the central heating is switched off. With all of these possibilities the frost protection system is active.

Holiday period:

Adjust the thermostat to the holiday period. See the BrainQ user manual. The hot water facility can be switched off by means of the program key  on the control panel.

Re-setting the central heating system:

Switch off the three program keys , ,  when these are activated. Switch off the power supply. When the boiler is being drained one should take into account that a part of the heating water will remain in the boiler. When risk of frost arises one should take care that the remaining central heating water in the boiler does not freeze.

Error, maintenance and warranty

E 11

If a fault is detected the boiler will be blocked. This will be reflected, by an alternate display of **Good**, with an **E** of Error or a **BL** of Blocking and a number code.

bL60

You can try to reset the boiler by pressing the Reset key once. If the problem remains please contact your installer and inform them about the fault and give them the number code.

If you discover any leaks from the boiler contact your installer.

We advise you to obtain a service contract with your installer for regular maintenance and adjustment to keep your boiler safe and in good condition.

The casing of the boiler consists of metal and plastic parts which can be cleaned with a normal non abrasive cleaning agent.

You can find the warranty conditions in the warranty card which is supplied with the boiler.

Checking the solar pump

When there is sufficient sun light to heat the cylinder the solar pump will switch on. When the display is set to the Technical readout it will show **Sun**. After sun set the solar pump may not run. In case the pump still runs switch off (0) the solar system by means of the main sun switch on the Control Tower and contact your installer.



All maintenance activities should be carried out by a qualified and certified installer only.

Adjustments

The boiler has a large number of settings options. We advise you to contact your installer for adjusting the boiler to the required settings.

Adjusting the flow water temperature (CH)

PARA

- Press the Mode key briefly (from the Technical reading).
The display will show PARA .

1 85

- Press the Step key once.
The display will show 1 85 .
- Press the + or the - key to alter the adjustments, if necessary.
- Press the Store key to confirm the setting.
The display will flash once.

StbY

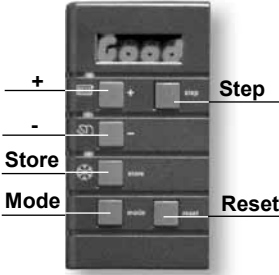
0 49

- Press the Mode key briefly.
*The display will show **StbY** for a short while and will return to the Technical reading.*



The flow water temperature that has been adjusted only applies to the central heating and is independent of the hot water facility for the cylinder.

Adjusting the type of installation



1 85

The boiler is designed in such a way that it will adjust itself automatically to what is necessary for a normal heating system. In some cases the installation may have convectors or complete underfloor heating.

One can easily choose heating installation adjustments appropriate for the system such as maximum water-flow temperature or for the warming up of the installation after a night period. Adjustment goes as follows:

- Press (from the Technical reading) the Mode key once;

- Press the Step key twice;

2 01

The display will show 2 01.

- Press the + or the - key to alter the type of installation according to the table below;

- Press the Store key to confirm the setting;

The display will flash once.

- Press the Mode key once;

StbY

*The display will show **StbY** for a short while and will return to the Technical reading.*

Selection	Type of installation	Flow water temperature
01	Radiators; air heating; convectors	85°C
02	Radiators with large surface areas or under floor heating as additional heating	70°C
03	Under floor heating with radiators as additional heating	60°C
04	full under floor heating	50°C

○ = factory setting



When a type of installation has been chosen with a low water-flow temperature it is possible that in case of a severe winter period the temperature of the heating system will need to be increased slightly. In such situations the installation choice may need to be changed, so that a higher flow temperature can be chosen. This adjustment would normally be carried out by your installer during the installation and commissioning.



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E. & O. E.

This renewed publication cancels all previous installation instructions. The company reserves the right to change the specifications and dimensions without prior notice.