

BAXI



Installation and user manual High-efficiency wall-hung gas boiler

Quinta Ace S
50 - 60 - 70

Dear Customer,

Thank you very much for buying this appliance. Please read through the manual carefully before using the product, and keep it in a safe place for later reference. In order to ensure continued safe and efficient operation we recommend that the product is serviced regularly. Our service and customer service organisation can assist with this. We hope you enjoy years of problem-free operation with the product.

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1 Safety

1.1 General safety instructions

1.1.1 For the installer

**Danger**

If you smell gas:

1. Do not use naked flames, do not smoke and do not operate electrical contacts or switches (doorbell, lighting, motor, lift etc.).
2. Shut off the gas supply.
3. Open the windows.
4. Trace possible leaks and seal them off immediately.
5. If the leak is upstream of the gas meter, notify the gas company.

**Danger**

If you smell flue gases:

1. Switch the boiler off.
2. Open the windows.
3. Trace possible leaks and seal them off immediately.

1.1.2 For the end user

**Danger**

If you smell gas:

1. Do not use naked flames, do not smoke and do not operate electrical contacts or switches (For example: doorbell, lighting, motor, lift).
2. Shut off the gas supply.
3. Open the windows.
4. Report any leaks immediately.
5. Evacuate the property.
6. Contact a qualified installer.

**Danger**

If you smell flue gases:

1. Switch off the appliance.
2. Open the windows.
3. Report any leaks immediately.
4. Evacuate the property.
5. Contact a qualified installer.

**Warning**

The use of the appliance and the installation by you as the end-user must be limited to the operations described in the chapter for the user. All other actions may only be undertaken by a qualified installer/engineer.

**Warning**

The condensate drain must not be modified or sealed. If a condensate neutralisation system is used, the system must be cleaned regularly in accordance with the instructions provided by the manufacturer.

**Caution**

Do not touch the flue gas pipes. Depending on the appliance settings, the temperature of the flue gas pipes can rise to over 60 °C.

**Caution**

Do not touch radiators for long periods. Depending on the appliance settings, the temperature of the radiators can rise to over 60 °C.

**Caution**

Be careful when using the domestic hot water. Depending on the appliance settings, the temperature of domestic hot water can rise to over 65 °C.

**Caution**

Ensure that the appliance is regularly serviced. Contact a qualified installer or arrange a maintenance contract for the servicing of the appliance.

**Notice**

Only genuine spare parts may be used.

**Important**

Regularly check the water level and pressure in the heating system.

1.2 Recommendations

**Danger**

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

**Danger**

For safety reasons, we recommend fitting smoke alarms at suitable places and a CO detector near the appliance.

**Warning**

Installation and maintenance of the appliance must be carried out by a qualified installer in accordance with local and national regulations.

**Warning**

The installation and maintenance of the appliance must be undertaken by a qualified installer in accordance with the information in the supplied manual, doing otherwise may result in dangerous situations and/or bodily injury.

**Warning**

Removal and disposal of the appliance must be carried out by a qualified installer in accordance with local and national regulations.

**Warning**

If the mains lead is damaged, it must be replaced by the original manufacturer, the manufacturer's dealer or another suitably skilled person to prevent hazardous situations from arising.

**Warning**

Always disconnect the mains power supply when working on the appliance.

**Warning**

Always close the main gas tap when working on the appliance.

**Warning**

Check the entire system for leaks after maintenance and servicing work.

**Caution**

Only remove the casing for maintenance and repair operations. Refit all panels when maintenance work and servicing are complete.

**Notice**

- Make sure the appliance can be reached at all times.
- The appliance must be installed in a frost-free area.
- Drain the appliance and central heating system if you are not going to use your home for a long time and there is a chance of frost.
- The frost protection does not work if the appliance is out of operation.
- The appliance protection only protects the appliance, not the system.
- Check the system water pressure regularly. If the water pressure is below the recommended pressure, the system must be topped up.

**Important**

Keep all delivered documentation near to the appliance.



Important

Instruction and warning labels must never be removed or covered and must be clearly legible throughout the entire service life of the appliance. Damaged or illegible instructions and warning stickers must be replaced immediately.



Important

Modifications to the appliance require the written approval of **BAXI**.

1.3 Liabilities

1.3.1 Manufacturer's liability

Our products are manufactured in compliance with the requirements of the various directives applicable. They are therefore delivered with the ^{UK} ~~CA~~ and ~~CE~~ marking and any documents necessary. In the interests of the quality of our products, we strive constantly to improve them. We therefore reserve the right to modify the specifications given in this document.

Our liability as manufacturer may not be invoked in the following cases:

- Failure to abide by the instructions on installing and maintaining the product.
- Failure to abide by the instructions on using the product.
- Faulty or insufficient maintenance of the product.

1.3.2 Installer's liability

The installer is responsible for the installation and initial commissioning of the product. The installer must observe the following instructions:

- Read and follow the instructions given in the manuals for the product.
- Install the product in compliance with prevailing legislation and standards.
- Carry out initial commissioning and any checks necessary.
- Explain the installation to the user.
- If maintenance is necessary, warn the user of the obligation to check the product and keep it in good working order.
- Give the user all safety and user instruction manuals provided with the product.

1.3.3 User's liability

To guarantee optimum operation of the system, you must abide by the following instructions:

- Read and follow the instructions given in the manuals for the product.
- Call on a qualified professional to carry out the installation and initial commissioning.
- Have your installer explain the installation to you.
- Have the required inspections and maintenance carried out by a qualified installer.
- Keep the provided manuals in good condition and close to the product.

2 About this manual

2.1 General

This manual is intended for the installer and end user of a Quinta Ace S boiler.

2.2 Additional documentation

The following documentation is available in addition to this manual:

- Cascade description
- Product information
- Service manual

2.3 Symbols used in the manual

This manual contains special instructions, marked with specific symbols. Please pay extra attention when these symbols are used.

**Danger of electric shock**

Risk of electric shock that will result in death or serious injury.

**Danger**

Risk of dangerous situations that will result in death or serious injury.

**Warning**

Risk of dangerous situations that could result in death or serious injury.

**Caution**

Risk of dangerous situations that could result in minor or moderate injury.

**Notice**

Risk of dangerous situations that could result in damage to the product or other property.

**Important**

Please note: important information.

The symbols mentioned below are of lower importance, but they can help you navigate or give useful information.

**See**

Reference to other manuals or pages in this manual.

►► Direct menu navigation, confirmations will not be shown. Use if you are familiar with the system.

3 Description of the product

3.1 General description

The Quinta Ace S boilers are high-efficiency wall-hung gas boilers with the following properties:

- High-efficiency heating.
- Stainless steel heat exchanger.
- Limited emissions of polluting substances.
- Ideal choice for cascade configurations.

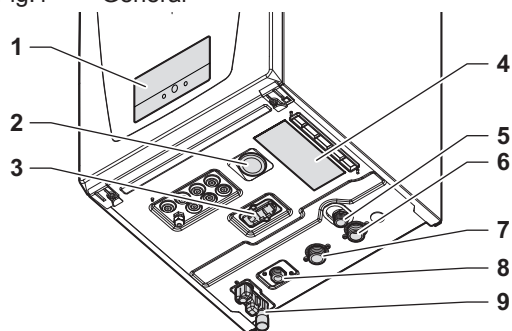
The following boiler types are available:

Tab.1 Boiler types

| Name | Rated heat output (<i>Prated</i>) |
|-----------------|--|
| Quinta Ace S 50 | 45 kW |
| Quinta Ace S 60 | 55 kW |
| Quinta Ace S 70 | 65 kW |

3.2 Main components

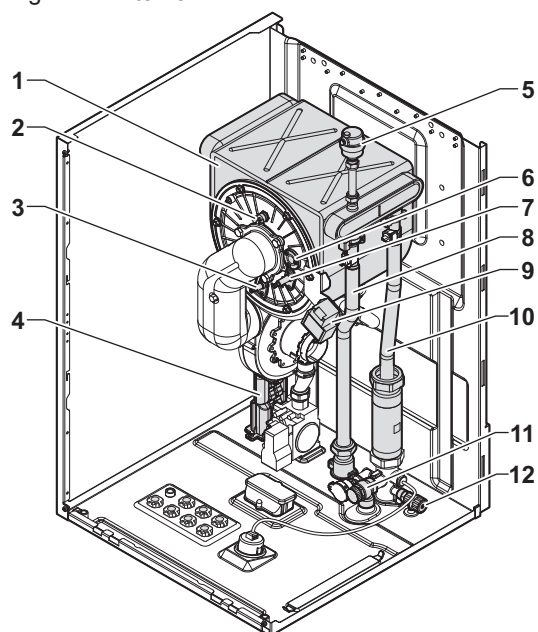
Fig.1 General



AD-3003369-01

- 1 Control panel
- 2 Pressure gauge
- 3 Quick connect
- 4 Data plate
- 5 Safety pressure relief valve outlet
- 6 Return pipe connection
- 7 Flow pipe connection
- 8 Gas pipe connection
- 9 Trap with condensate drain connection

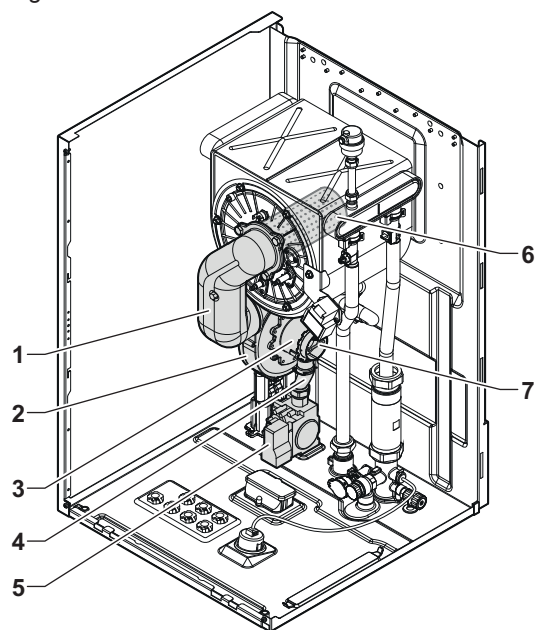
Fig.2 Internal



AD-3003075-02

- 1 Heat exchanger
- 2 Heat exchanger thermal switch
- 3 Ionisation electrode
- 4 Condensate trap
- 5 Automatic air valve
- 6 Flame inspection glass
- 7 Ignition electrode
- 8 Flow pipe
- 9 Ignition transformer
- 10 Return pipe
- 11 Safety pressure relief valve
- 12 Heat exchanger drain valve

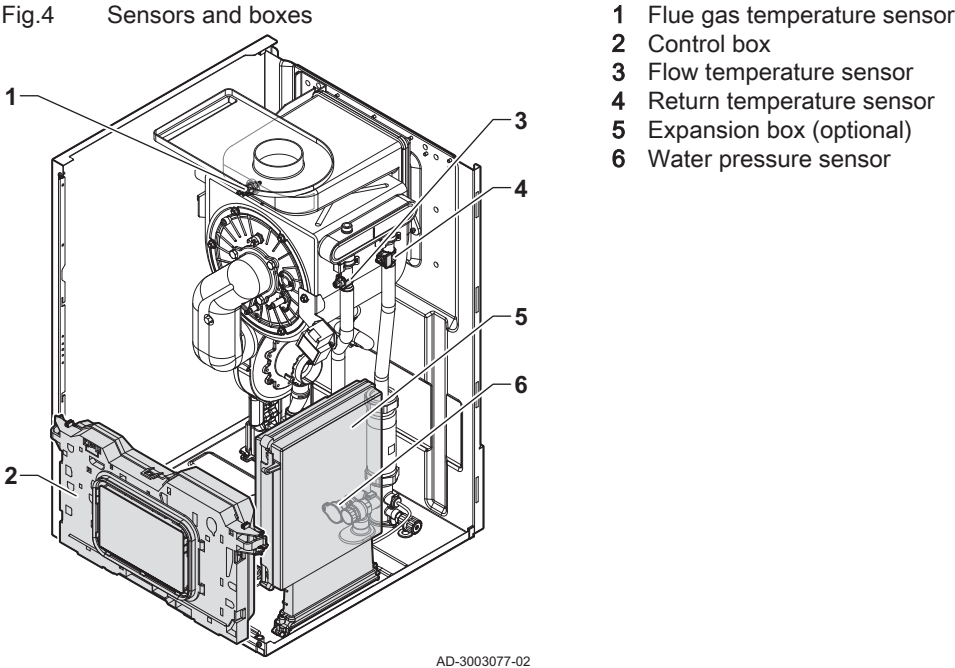
Fig.3 Gas-air



AD-3003076-01

- 1 Mixing tube
- 2 Fan
- 3 Venturi
- 4 Gas pipe
- 5 Gas control valve
- 6 Burner
- 7 Air inlet

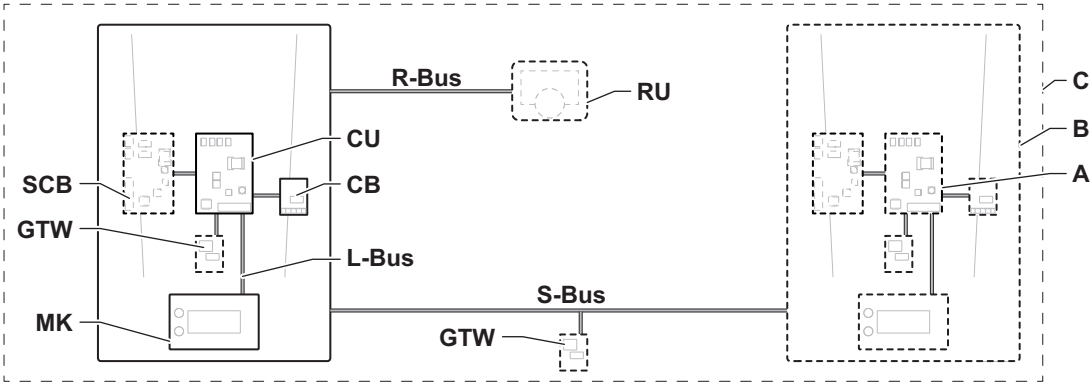
Fig.4 Sensors and boxes



3.3 Introduction to the BDR controls platform

The Quinta Ace S boiler is equipped with the BDR controls platform. This is a modular system, and offers compatibility and connectivity between all products that make use of the same platform.

Fig.5 Generic example



Tab.2 Components in the example

| Item | Description | Function |
|-------|--|--|
| CU | Control Unit: Control unit | The control unit handles all basic functionality of the appliance. |
| CB | Connection Board: Connection PCB | The connection PCB provides easy access to all connectors of the control unit. |
| SCB | Smart Control Board: Expansion PCB | An expansion PCB provides extra functionality, like an internal calorifier or multiple zones. |
| GTW | Gateway: Conversion PCB | A gateway can be fitted to an appliance or system, to provide one of the following: <ul style="list-style-type: none">• Extra (wireless) connectivity• Service connections• Communication with other platforms |
| MK | Control panel: Control panel and display | The control panel is the user interface to the appliance. |
| RU | Room Unit: Room unit (for example, a thermostat) | A room unit measures the temperature in a reference room. |
| L-bus | Local Bus: Connection between devices | The local bus provides communication between devices. |
| S-bus | System Bus: Connection between appliances | The system bus provides communication between appliances. |
| R-bus | Room unit Bus: Connection to a room unit | The room unit bus provides communication to a room unit. |

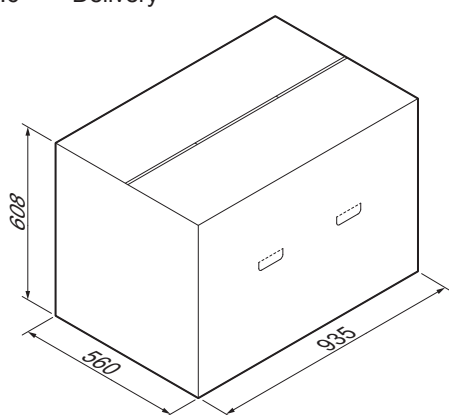
| Item | Description | Function |
|------|-------------|---|
| A | Device | A device is a PCB, control panel or a room unit. |
| B | Appliance | An appliance is a set of devices connected via the same L-bus |
| C | System | A system is a set of appliances connected via the same S-bus |

Tab.3 Specific devices delivered with the Quinta Ace S boiler

| Name visible in display | Software version | Description | Function |
|-------------------------|------------------|-----------------------------------|--|
| CU-GH20 | 1.0 | Control unit CU-GH20 | The CU-GH20 control unit handles all basic functionality of the Quinta Ace S boiler. |
| MK3 | 1.98 | Control panel HMI Advanced | The HMI Advanced is the user interface to the Quinta Ace S boiler. |

3.4 Standard delivery

Fig.6 Delivery



AD-3003028-03

The boiler is delivered in a packaging. The delivery includes:

- Quinta Ace S boiler
- Literature pack (including a mounting template)
- Wall mounting set

3.5 Accessories and options

Various accessories can be obtained for the boiler.



Important

Contact us for more information.

4 Before installation

4.1 Installation regulations



Important

The Quinta Ace S must be installed by a qualified installer in accordance with local and national regulations.



Warning

The installer must be registered with Gas Safe and have the correct ACS qualifications.



Important

Practical guidelines - see the latest version.

4.2 Location requirements



Danger

Never store combustible substances within 30 cm of the boiler, either temporarily or permanently.



Warning

- Fix the boiler to a solid wall capable of bearing the boiler when full of water and fully equipped.
- Do not place the boiler above a heat source or a cooking appliance.



Notice

The boiler must be installed in a frost-free area.



Important

- An earthed electrical connection must be available close to the boiler.
- A drain connection must be available close to the boiler.
- Do not locate the boiler in direct or indirect sunlight.

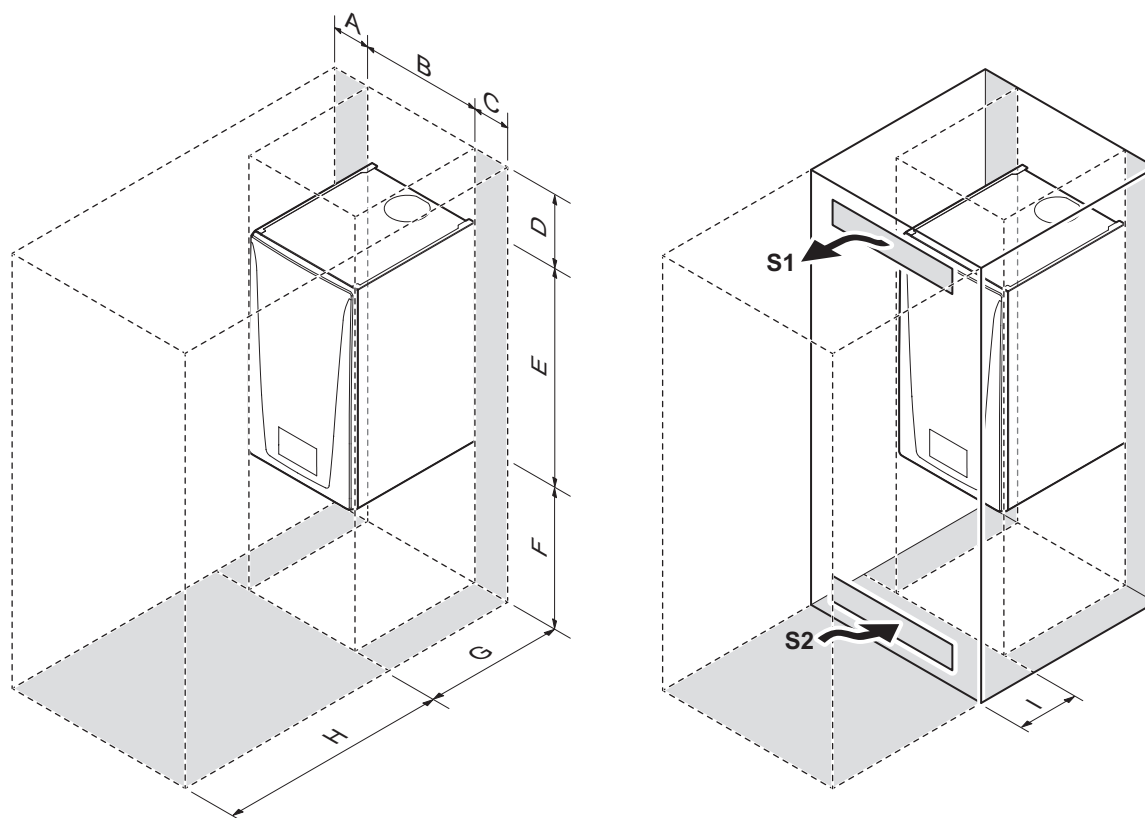
When choosing the best installation location, consider:

- The regulations.
- The required installation space.
- The permitted position of the flue gas outlet and/or air supply opening.
- The evenness of the surface.

When installing in a closed cupboard (or similar):

- Take the minimum distance between the boiler and the walls of the cupboard into account.
- Create ventilation openings with a minimum cross section: $S1 + S2 = 150 \text{ cm}^2$

Fig.7 Location requirements



A ≥ 30 mm
B 500 mm
C ≥ 30 mm
D ≥ 430 mm
E 766 mm

F ≥ 500 mm
G 560 mm
H ≥ 1000 mm
I ≥ 240 mm

AD-3003137-02

4.3 Requirements for the condensate drain

- The drain pipe must be Ø 32 mm or larger, terminating in the drain.
- Use only plastic material for the discharge pipe due to the acidity (pH 2 to 5) of the condensate.
- Fit a trap in the drain pipe.
- The drain pipe must slope down at least 30 mm per metre, the maximum horizontal length is 5 metres.
- Do not make a fixed connection in order to prevent an overpressure in the trap.

4.4 Requirements for water connections

- Before installation, check that the connections meet the set requirements.
- Carry out any welding work required at a safe distance from the appliance.
- If using synthetic pipes, follow the manufacturer's instructions.

4.4.1 Requirements for the central heating connections

- We recommend installing a central heating filter in the return pipe to prevent clogging of boiler components.

4.5 Requirements for the gas connection

- Carry out any welding work required at a safe distance from the boiler.
- Before installing, check that the gas meter has sufficient capacity. Take into account the consumption of all appliances. Notify the local energy company if the gas meter has insufficient capacity.
- An installed boiler gas cock must always be accessible.
- We recommend installing a gas filter to prevent clogging of the gas control valve.

4.6 Requirements for the flue gas discharge system

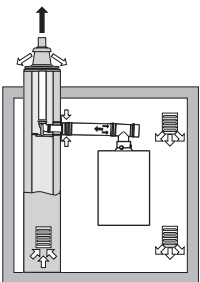
4.6.1 Classification



Important

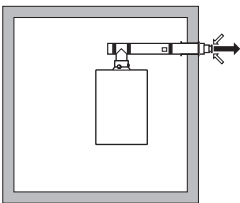
- The installer is responsible for choosing the correct type, diameter, and length of the flue system.
- Always use connection materials, roof terminal and/or horizontal flue terminal supplied by the same manufacturer. Consult the manufacturer for compatibility details.
- The use of flue systems from other manufacturers is allowed in addition to the recommended manufacturers listed in this manual. Use is only allowed when all our requirements are met and the description of flue system C₆₃ is respected.

Tab.4 Type of flue system: B₂₃

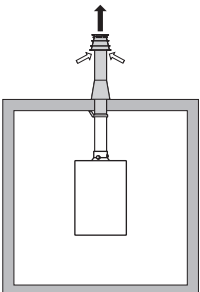
| Principle | Description | Recommended manufacturers ⁽¹⁾ |
|--|--|---|
|  <p>AD-3000924-01</p> | <p>Room-ventilated version.</p> <ul style="list-style-type: none"> • Without down-draught diverter. • Flue gas discharge via the roof. • Air supply from the installation area. • The air inlet connection of the boiler must stay open. • The installation area must be vented to ensure sufficient air supply. The vents must not be obstructed or shut off. • The IP rating of the boiler is lowered to IP20. | <p>Connection material and roof terminal:</p> <ul style="list-style-type: none"> • Centrotherm • Cox Geelen • Muelink & Grol • Natalini |

(1) The material must also satisfy the material property requirements from the relevant chapter.

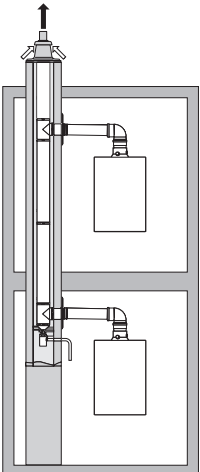
Tab.5 Type of flue system: C₁₃

| Principle | Description | Recommended manufacturers ⁽¹⁾ |
|--|--|---|
|  <p>AD-3000926-01</p> | <p>Room-sealed version.</p> <ul style="list-style-type: none"> • Flue gas discharge in the outside wall. • The air inlet is in the same pressure zone as the flue (for example a horizontal flue terminal). • Parallel wall terminal not permitted. | <p>Horizontal flue terminal and connection material:</p> <ul style="list-style-type: none"> • Cox Geelen • Muelink & Grol |
| (1) The material must also satisfy the material property requirements from the relevant chapter. | | |

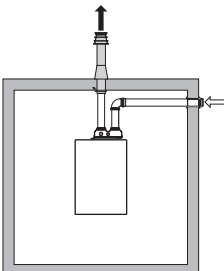
Tab.6 Type of flue system: C₃₃

| Principle | Description | Recommended manufacturers ⁽¹⁾ |
|---|--|--|
|  <p>AD-3000927-01</p> | <p>Room-sealed version.</p> <ul style="list-style-type: none"> • Flue gas discharge via the roof. • The air inlet is in the same pressure zone as the flue (for example a concentric roof terminal). | <p>Roof terminal and connection material</p> <ul style="list-style-type: none"> • Centrotherm • Cox Geelen • Muelink & Grol • Natalini |
| (1) The material must also satisfy the material property requirements from the relevant chapter. | | |

Tab.7 Type of flue system: C₄₃

| Principle ⁽¹⁾ | Description | Recommended manufacturers ⁽²⁾ |
|---|--|--|
|  <p>AD-3000928-01</p> | <p>Combined air inlet and flue system (common shared flue system) with overpressure.</p> <ul style="list-style-type: none"> • Concentric (preferably). • Parallel (if concentric is not possible). | <p>Connecting material to the common shared flue system:</p> <ul style="list-style-type: none"> • Centrotherm • Cox Geelen • Muelink & Grol • Natalini |
| <p>(1) EN 15502-2-1: 0.5 mbar suction due to negative pressure.</p> <p>(2) The material must also satisfy the material property requirements from the relevant chapter.</p> | | |

Tab.8 Type of flue system: C₅₃

| Principle | Description | Recommended manufacturers ⁽¹⁾ |
|--|---|---|
|  <p>AD-3000929-02</p> | <p>Connection in different pressure zones.</p> <ul style="list-style-type: none"> • Closed unit. • Separate air inlet and flue. • Discharging into various pressure areas. • The air inlet and flue must not be placed on opposite walls. | <p>Connection material and roof terminal:</p> <ul style="list-style-type: none"> • Centrotherm • Cox Geelen • Muelink & Grol • Natalini |

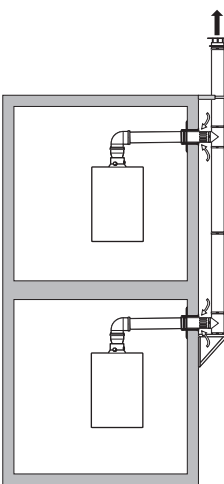
(1) The material must also satisfy the material property requirements from the relevant chapter.

Tab.9 Type of flue system: C₆₃

| Principle | Description | Recommended manufacturers ⁽¹⁾ |
|-----------|---|---|
| | <p>This system is supplied by us without an air inlet and flue. When selecting the material, please note the following:</p> <ul style="list-style-type: none"> • Condensed water must flow back to the boiler. • The material must be resistant to the flue gas temperature of this boiler. • Maximum permissible recirculation of 10%. • The air inlet and flue must not be placed on opposite walls. • Minimum permitted pressure difference between the air inlet and the flue is -200 Pa (including -100 Pa wind pressure). • A common shared flue system with overpressure is not permitted. | <p>Use is only allowed when all our requirements are met and the description of this flue system type is respected.</p> |

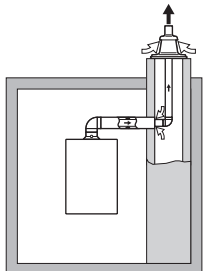
(1) The material must also satisfy the material property requirements from the relevant chapter.

Tab.10 Type of flue system: C₈₃

| Principle ⁽¹⁾ | Description | Recommended manufacturers ⁽²⁾ |
|--|--|--|
|  <p>AD-3000930-01</p> | <p>Individual air inlet and shared flue system (common shared flue system).</p> <ul style="list-style-type: none"> • Place a condensation drain, equipped with a trap, at the bottom of the duct. | <p>Connecting material to the common shared flue system:</p> <ul style="list-style-type: none"> • Centrotherm • Cox Geelen • Muelink & Grol • Natalini |

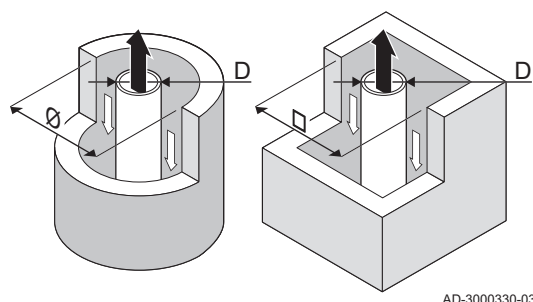
(1) 4 mbar negative pressure can occur.
(2) The material must also satisfy the material property requirements from the relevant chapter.

Tab.11 Type of flue system: C₉₃

| Principle ⁽¹⁾ | Description | Recommended manufacturers ⁽²⁾ |
|--|---|---|
|  <p>AD-3000931-02</p> | <p>Room-sealed version.</p> <ul style="list-style-type: none"> • Air inlet and flue in shaft or duct: <ul style="list-style-type: none"> - Concentric. - Air supply from existing shaft or duct. - Flue gas discharge via the roof. - Air inlet is in the same pressure zone as the flue. | <p>Connection material and roof terminal:</p> <ul style="list-style-type: none"> • Centrotherm • Cox Geelen • Muelink & Grol • Natalini |
| <p>(1) See table for shaft or duct requirements.</p> <p>(2) The material must also satisfy the material property requirements from the relevant chapter.</p> | | |

Tab.12 Minimum dimensions of shaft or duct C₉₃

| Version (D) | Without air supply | | With air supply | |
|----------------------|--------------------|----------------|-----------------|----------------|
| Rigid 80 mm | Ø 130 mm | □ 130 x 130 mm | Ø 140 mm | □ 130 x 130 mm |
| Concentric 80/125 mm | Ø 145 mm | □ 145 x 145 mm | Ø 145 mm | □ 145 x 145 mm |

Fig.8 Minimum dimensions of shaft or duct C₉₃**Important**

The shaft must comply with the airtightness requirements of the local regulations.

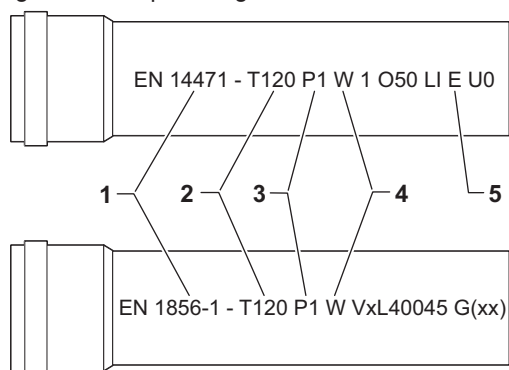
**Important**

- Always clean shafts thoroughly when using flue liners and/or an air inlet connection.
- It must be possible to inspect the flue liner.

4.6.2 Material

Use the string on the flue gas outlet material to check whether it is suitable for use on this appliance.

Fig.9 Sample string



- 1 EN 14471 or EN 1856-1:** The material is UKCA and CE approved according to this standard. For plastic this is EN 14471, For aluminium and stainless steel this is EN 1856-1.
- 2 T120:** The material has temperature class T120. A higher number is also allowed, but not lower.
- 3 P1:** The material falls into pressure class P1. H1 is also allowed.
- 4 W:** The material is suitable for draining condensation water (W='wet'). D is not allowed (D='dry').
- 5 E:** The material falls into fire resistance class E. Class A to D are also allowed, F is not allowed. Only applicable to plastic.



Warning

- The coupling and connection methods may vary depending on the manufacturer. It is not permitted to combine pipes, coupling and connection methods from different manufacturers. This also applies to roof terminal and common shared flue ducts.
- The materials used must comply with the prevailing regulations and standards.

Tab.13 Overview of material properties

| Version | Flue gas outlet | | Air supply | |
|---|---|---|---|---|
| | Material | Material properties | Material | Material properties |
| Single-wall, rigid | <ul style="list-style-type: none">• Plastic⁽¹⁾• Stainless steel⁽²⁾• Thick-walled, aluminium⁽²⁾ | <ul style="list-style-type: none">• With UKCA and/or CE marking• Temperature class T120 or higher• Condensate class W (wet)• Pressure class P1 or H1• Fire resistance class E or better⁽³⁾ | <ul style="list-style-type: none">• Plastic• Stainless steel• Aluminium | <ul style="list-style-type: none">• With UKCA and/or CE marking• Pressure class P1 or H1• Fire resistance class E or better⁽³⁾ |
| <p>(1) according to EN 14471 (2) according to EN 1856 (3) according to EN 13501-1</p> | | | | |

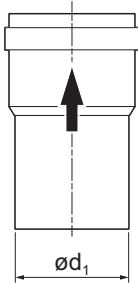
4.6.3 Dimensions of flue gas outlet pipe



Warning

The pipes connected to the flue gas adapter must satisfy the following dimension requirements.

Fig.10 Dimensions of open connection



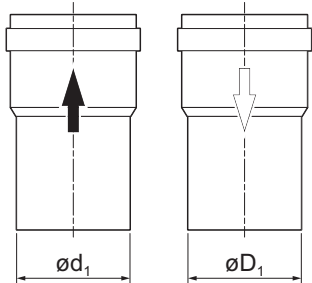
AD-3001094-01

d₁ External dimensions of flue gas outlet pipe

Tab.14 Dimensions of pipe

| | d ₁ (min-max) |
|-------|--------------------------|
| 80 mm | 79.3 - 80.3 mm |

Fig.11 Dimensions of parallel connection



AD-3000963-01

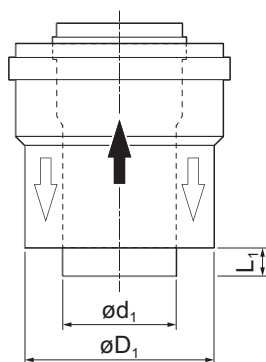
d₁ External dimensions of flue gas outlet pipe

D₁ External dimensions of air supply pipe

Tab.15 Dimensions of pipe

| | d ₁ (min-max) | D ₁ (min-max) |
|----------|--------------------------|--------------------------|
| 80/80 mm | 79.3 - 80.3 mm | 79.3 - 80.3 mm |

Fig.12 Dimensions of concentric connection



AD-3000962-01

- d_1 External dimensions of flue gas outlet pipe
 D_1 External dimensions of air supply pipe
 L_1 Length difference between flue gas outlet pipe and air supply pipe

Tab.16 Dimensions of pipe

| | d_1 (min-max) | D_1 (min-max) | $L_1^{(1)}$ (min-max) |
|---|-----------------|-----------------|-----------------------|
| 80/125 mm | 79.3 - 80.3 mm | 124 - 125.5 mm | 0 - 15 mm |
| (1) Shorten the inner pipe if the length difference is too great. | | | |

4.6.4 Length of the flue and air supply pipes

The maximum length of the flue and air supply vary per appliance type. Consult the relevant chapter for the correct lengths.

- If a boiler is not compatible with a specific flue system or diameter, it is indicated with "-" in the table.
- When using bends, the maximum flue length (L) must be shortened according to the reduction table.
- Use approved flue reducers for adaptation to another diameter.

■ Maximum flue lengths for B₂₃

L_B Length from the flue gas connection up to the terminal.

Calculation: $L = L_B$

Tab.17 Maximum length (L)

| Diameter ⁽¹⁾ | 80 mm |
|---|-------|
| Quinta Ace S 50 | 38 m |
| Quinta Ace S 60 | 23 m |
| Quinta Ace S 70 | 18 m |
| (1) While maintaining the maximum length, additional 5 times 90° or 10 times 45° bends can be used (indicated for each boiler type and diameter). | |

■ Maximum flue lengths for C₁₃, C₃₃, C₆₃, C₉₃

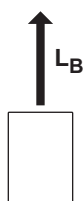
L_C Length from the air inlet connection and flue gas connection up to the terminal.

Calculation: $L = L_C$

Tab.18 Maximum length (L)

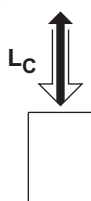
| Diameter ⁽¹⁾ | 80/125 mm |
|---|---------------------|
| Quinta Ace S 50 | 20 m ⁽¹⁾ |
| Quinta Ace S 60 | 14 m |
| Quinta Ace S 70 | 10 m |
| (1) While maintaining the maximum length, additional 5 times 90° or 10 times 45° bends can be used (indicated for each boiler type and diameter). | |

Fig.13 Flue system length



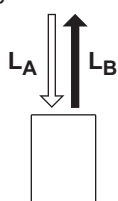
AD-3002009-01

Fig.14 Flue system length (Concentric)



AD-3002011-01

Fig.15 Flue system length (Parallel)



AD-3002010-01

L_A Length from the terminal up to the air inlet connection.

L_B Length from the flue gas connection up to the terminal.

Calculation: $L = L_A + L_B$

An 80/80 or 110/110 mm flue gas splitting kit (optional) must be fitted for this connection.

Tab.19 Maximum length (L)

| Diameter ⁽¹⁾ | 80 – 80 mm ⁽²⁾ |
|-------------------------|---------------------------|
| Quinta Ace S 50 | 32 m |
| Quinta Ace S 60 | 16 m |
| Quinta Ace S 70 | 10 m |

(1) While maintaining the maximum length, additional 5 times 90° or 10 times 45° bends can be used (indicated for each boiler type and diameter).
 (2) The maximum length was calculated with a concentric 80/125 mm terminal (indicated for each boiler type and diameter).

■ Maximum flue lengths for C₄₃

L_B Maximum of 2 m extra length of the flue can be added up to the common shared flue system.

L_C Length from the air inlet connection and flue gas connection up to the common shared flue system.

Calculation: $L = L_C$

Tab.20 Maximum chimney length (L)

| Diameter ⁽¹⁾ | 80/125 mm |
|-------------------------|---------------------|
| Quinta Ace S 50 | 20 m ⁽¹⁾ |
| Quinta Ace S 60 | 13 m |
| Quinta Ace S 70 | 10 m |

(1) While maintaining the maximum length, additional 5 times 90° or 10 times 45° bends can be used (indicated for each boiler type and diameter).

■ Maximum flue lengths for C₅₃

L_A Length from the terminal up to the air inlet connection.

L_B Length from the flue gas connection up to the terminal.

Calculation: $L = L_A + L_B$



Important

The maximum permitted height difference between the air inlet and the roof terminal is 36 m.

Tab.21 Maximum length (L)

| Diameter ⁽¹⁾ | 80 – 80 mm |
|-------------------------|------------|
| Quinta Ace S 50 | 30 m |
| Quinta Ace S 60 | 18 m |
| Quinta Ace S 70 | 13 m |

(1) While maintaining the maximum length, additional 5 times 90° or 10 times 45° bends can be used (indicated for each boiler type and diameter).

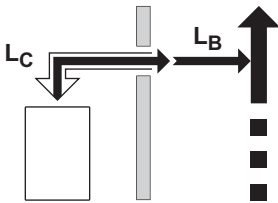
■ Maximum flue lengths for C₈₃

L_A Length from the terminal up to the air inlet connection.

L_B Length from the flue gas connection up to the common shared flue system.

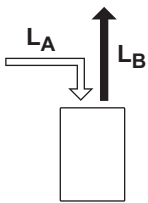
Calculation: $L = L_A + L_B$

Fig.16 Flue system length



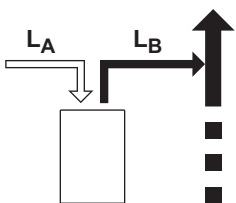
AD-3002012-01

Fig.17 Flue system length



AD-3002013-01

Fig.18 Flue system length



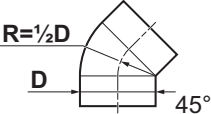
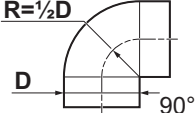
AD-3002015-01

Tab.22 Maximum length (L)

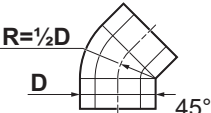
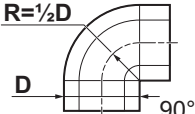
| Diameter ⁽¹⁾ | 80 – 80 mm |
|---|------------|
| Quinta Ace S 50 | 32 m |
| Quinta Ace S 60 | 18 m |
| Quinta Ace S 70 | 14 m |
| (1) While maintaining the maximum length, additional 5 times 90° or 10 times 45° bends can be used (indicated for each boiler type and diameter). | |

■ Reduction table

Tab.23 Pipe reduction for each bend - radius $\frac{1}{2}D$ (parallel)

| Diameter | 80 mm |
|---|-------|
|  | 1.2 m |
|  | 4.0 m |

Tab.24 Pipe reduction for each bend - radius $\frac{1}{2}D$ (concentric)

| Diameter | 80/125 mm |
|---|-----------|
|  | 1.0 m |
|  | 2.0 m |

4.6.5 Additional guidelines

■ Installation



Warning

If the flue gas outlet and air supply materials are not installed in accordance with the instructions, this can result in dangerous situations and/or physical injury.

- For installing the flue gas outlet and air supply materials, refer to the instructions of the manufacturer of the material. After installation, check at least all flue gas outlet and air supply parts for tightness.
- Install the flue gas outlet pipe towards the boiler with a sufficient gradient (at least 50 mm per metre).
- Install a sufficient condensate collector and discharge at least 1 m before the outlet of the boiler.
- The bends used must be larger than 90° to guarantee the gradient and a good seal on the lip rings.

■ Condensation

- Direct connection of the flue gas outlet to structural ducts is not permitted because of condensation.
- If condensate from a plastic or stainless steel pipe section can flow back to an aluminium part in the flue gas outlet, this condensate must be discharged via a trap before it reaches the aluminium.
- Newly installed aluminium flue gas pipes with longer lengths can produce relatively larger quantities of corrosion products. Also casting

sand and processing metal chips from new boilers can fill the boiler trap on short term after installation. Check and clean the trap more often for these reasons.

4.7 Requirements for the electrical connections

- Establish the electrical connections in accordance with all current local and national regulations and standards.
- Electrical connections must only be made by qualified installers, and only while the power supply is disconnected.
- The appliance is completely pre-wired. Never change the internal connections of the control panel.
- Always connect the appliance to a well-earthed installation.
- If the power cord is permanently connected, you must always install a main bipolar switch with an opening gap of at least 3 mm (BS EN 60335-1).
- The wiring must comply with the instructions in the electrical diagrams.
- Follow the recommendations in this manual.
- Separate the sensor cables from the 230 V cables

Make sure the following requirements are met when connecting the cables to the PCB connectors:

Tab.25 PCB connectors

| Wire cross section | Stripping length | Tightening torque |
|---|------------------|-------------------|
| solid wire: 0.14 – 4.0 mm ² (AWG 26 – 12) stranded wire: 0.14 – 2.5 mm ² (AWG 26 – 14) stranded wire with ferrule: 0.25 – 2.5 mm ² (AWG 24 – 14) | 8 mm | 0.5 N·m |

4.8 Water quality and water treatment



Notice

Water quality

Damage to the product.
Warranty void.

- Make sure the water quality requirements are fulfilled.

For this appliance, the quality of the heating water must comply with all requirements as listed in **VDI 2035**. If water quality requirements for other components in the system are stated, the most stringent requirements apply.

If water quality is not met, consult a specialist.

Tab.26 Water quality requirements according to VDI 2035

| Heat exchanger material | Unit | Stainless steel |
|---|--------|-----------------|
| Degree of acidity at 25 °C | pH | 8.2 - 10.0 |
| Electrical conductivity at 25 °C (for low saline water) | µS/cm | ≤ 100 |
| Electrical conductivity at 25 °C (for saline water) | µS/cm | 100 - 1500 |
| Oxygen (for low saline water) | mg/l | ≤ 0.1 |
| Oxygen (for saline water) | mg/l | ≤ 0.02 |
| Sum of alkaline earth metals | mmol/l | ≤ 0.02 |

5 Installation

5.1 Positioning the boiler



Caution

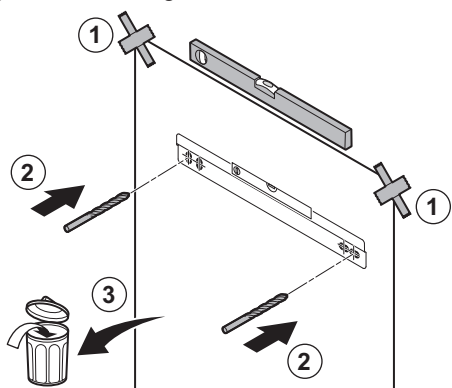
Cover the flue gas and air supply connections to protect the boiler against construction dust.

For this task, you will need the following tools:

- Mounting template (included)
- Wall bracket (included)
- Ø 10 mm plugs (included)
- Ø 8 mm screws (included)

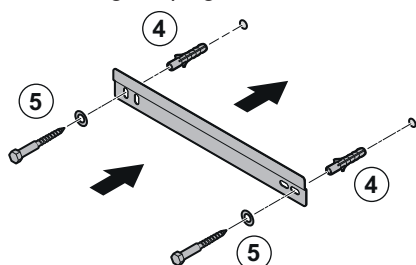
- Ø 8.4 mm washers (included)
- Adhesive tape
- Level
- Power drill
- Ø 10 mm drill bit
- Hex spanner 13

Fig.19 Mounting the boiler



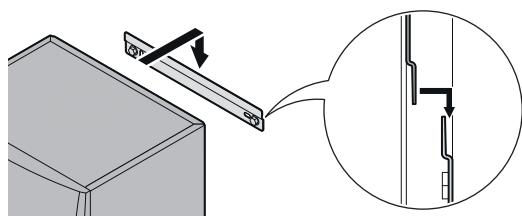
AD-3002768-01

Fig.20 Fitting the plugs



AD-3002723-01

Fig.21 Placing the boiler



AD-3002726-01

The rear of the boiler casing has a bracket that fits into the wall bracket.

1. Attach the mounting template of the boiler to the wall using adhesive tape.

**Caution**

Make sure the mounting template is hanging perfectly horizontal.

2. Drill 2 holes of Ø 10 mm at the marked spots on the template. .

**Important**

The extra holes in the bracket can be used if one of the holes is not suitable for correct fastening.

3. Remove the mounting template.

4. Fit the plugs.

5. Attach the wall bracket to the wall with the screws and washers.

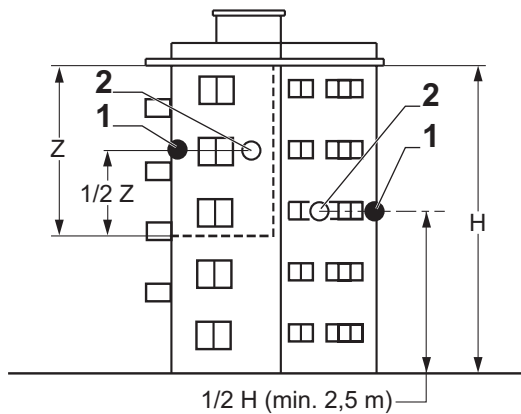
6. Hang the boiler on the wall bracket.

5.2 Mounting the outdoor temperature sensor

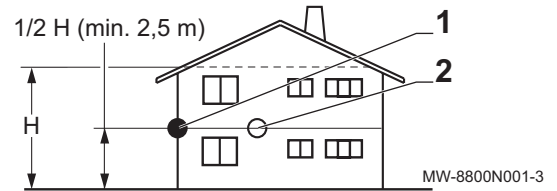
Place the outdoor temperature sensor in a position that covers the following characteristics:

- On a façade of the area to be heated, on the north if possible.
- Half way up the wall of the area to be heated.
- Under the influence of changes in the weather.
- Protected from direct sunlight.
- Easy to access.

Fig.22 Advised positions



- 1 Optimum location
2 Possible location

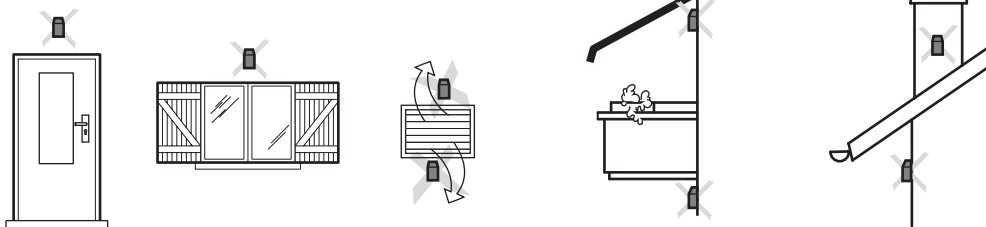


- H Inhabited height controlled by the sensor
Z Inhabited area controlled by the sensor

Avoid placing the outdoor temperature sensor in a position with the following characteristics:

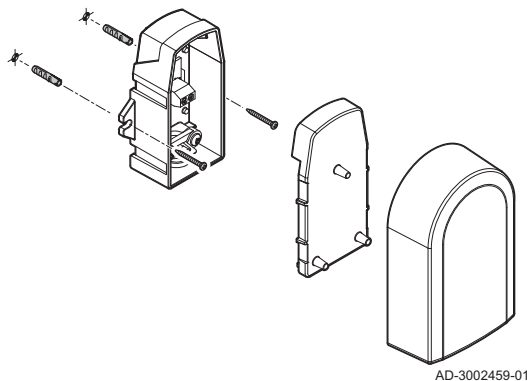
- Masked by part of the building (balcony, roof, etc.).
- Close to a disruptive heat source (sun, chimney, ventilation grid, etc.).

Fig.23 Positions to be avoided



MW-3000014-2

Fig.24 Mount the outdoor temperature sensor



1. Drill two holes with a diameter of 6 mm.
2. Put the two plugs in place.
3. Secure the sensor using two screws.
4. Connect the cable to the outdoor temperature sensor.

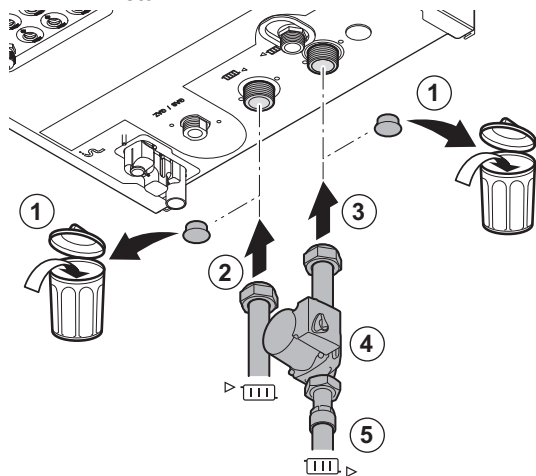
5.3 Flushing the system



Before a new appliance can be connected to a system, the entire system must be thoroughly cleaned by flushing it. The flushing will remove residue and dirt from the installation process. If applicable:

- Flush the heating system with at least 3 times the volume of the system.
- Flush the domestic hot water pipes with at least 20 times the volume of the pipes.

5.4 Connecting the heating circuit

Fig.25 Connecting the CH flow and CH return



1. Remove the dust caps from the flow  and return connections .
2. Fit the installation flow pipe to the flow connection.
3. Fit a pipe to the return connection.
4. Install the central heating pump to this pipe connection.
5. Fit the installation return pipe to the pump.

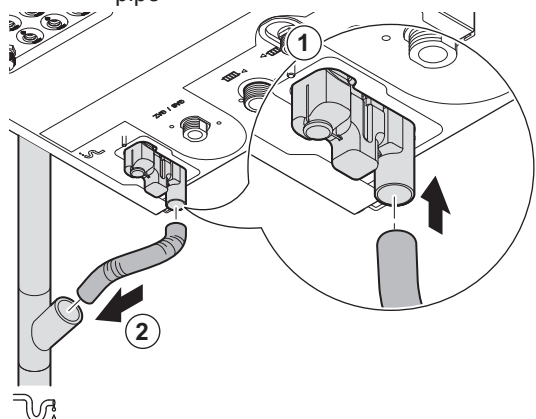


Important

When the pump is managed by the boiler's control unit, make sure that deaeration parameter **AP101** has been set to 1.

5.5 Connecting the condensate drain pipe

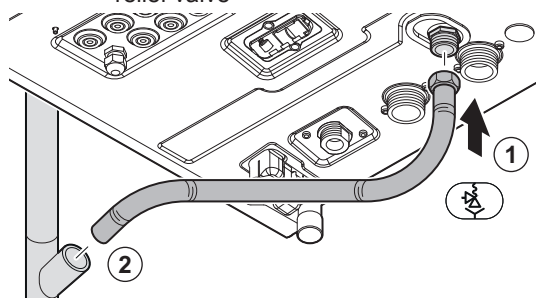
Fig.26 Connecting the condensate drain pipe



1. Fit a flexible condensate drain hose Ø 22 mm on the condensate outlet.
2. Lead this drain hose to a plastic drain pipe of Ø 32 mm or larger, terminating in the drain.

5.6 Connecting the safety pressure relief valve outlet

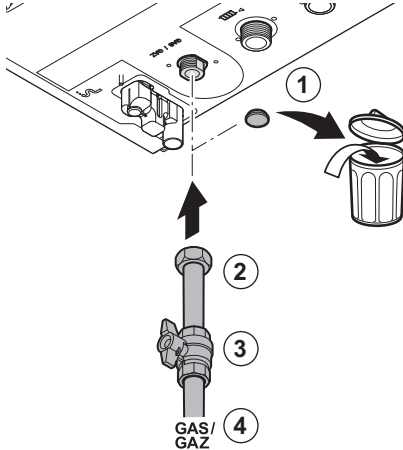
Fig.27 Connecting the safety pressure relief valve



1. Fit a flexible hose with a swivel nut on the safety relief valve outlet.
2. Lead this hose to a plastic drain pipe of Ø 32 mm or larger, terminating in the drain.

5.7 Gas connection

Fig.28 Connecting the gas pipe



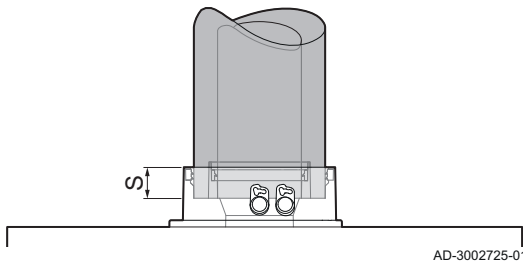
AD-3002736-01

1. Remove the dust cap from the gas connection ^{GAS/}GAZ.
2. Fit the gas supply pipe.
3. Fit a gas cock in this pipe, directly underneath the boiler (within 1 metre).
4. Fit the gas pipe to the gas cock.

5.8 Air inlet/flue gas outlet connections

5.8.1 Connecting the concentric flue gas/air inlet pipes

Fig.29 Connecting the flue gas/air inlet pipe



AD-3002725-01

S Insertion depth is 30 mm

1. Connect the flue gas/air inlet pipe to the boiler.
2. Fit the subsequent pipes in accordance with the manufacturer's instructions.

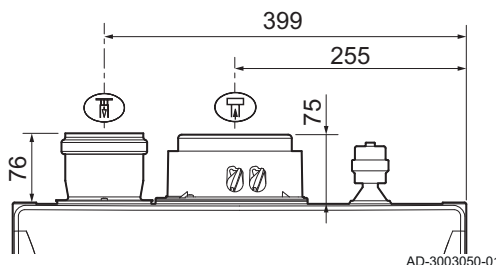


Caution

- The pipes must not be resting on the boiler.
- Fit the horizontal parts sloping down towards the boiler, with a gradient of 50 mm per metre.

5.8.2 Dimensions of the flue gas splitting kit

Fig.30 Dimensions of the flue gas splitting kit



AD-3003050-01

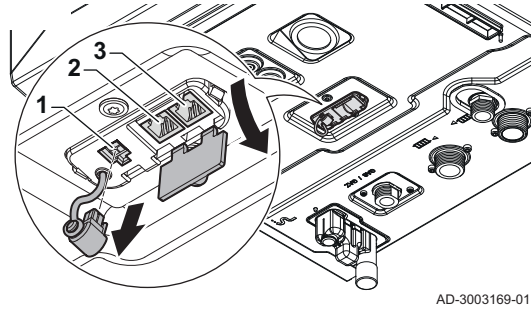
The boiler has a concentric flue gas/air inlet connection as standard. The flue gas splitting kit comprises a flue gas adaptor and an air inlet adaptor. The kit can be used to have the air inlet and flue gas discharge from different locations or pressure areas. A separate assembly instruction is available for this.

5.9 Electrical connections

5.9.1 Quick connect location

The Quick connect has L-Bus and S-Bus sockets for external connections. You can easily connect external devices and other appliances without opening the boiler:

Fig.31 The Quick connect location



AD-3003169-01

- 1 L-Bus socket for a 4 pin Molex Micro-Fit plug
- 2 S-Bus socket for a RJ12 plug
- 3 S-Bus socket for a RJ12 plug

Fig.32 L-Bus connector



AD-3003126-01

■ Quick connect L-Bus connector

You can connect an external device to the connector. This extends the local bus to a wall box or gateway. To use this connector, remove the L-Bus terminator.



- The L-Bus terminator has a retaining latch. Press the latch to remove the terminator.
- When you disconnect the external device, reconnect the L-Bus terminator.

Fig.33 S-Bus connectors (RJ12)



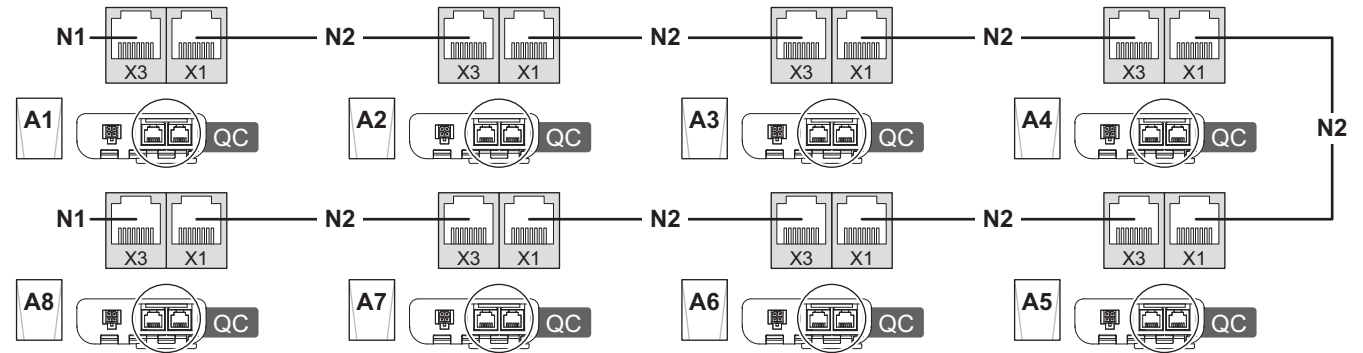
AD-3003127-01

■ Quick connect S-Bus connectors

You can build a cascade of boilers with the connectors. Use the S-Bus connectors to link up to 4 or 8 boilers in a cascade system. For more than 4 boilers in a cascade system, you will need to use an external cascade manager or SCB-10 expansion PCB's.

You can link the boilers to create the cascade system:

Fig.34 Cascade system

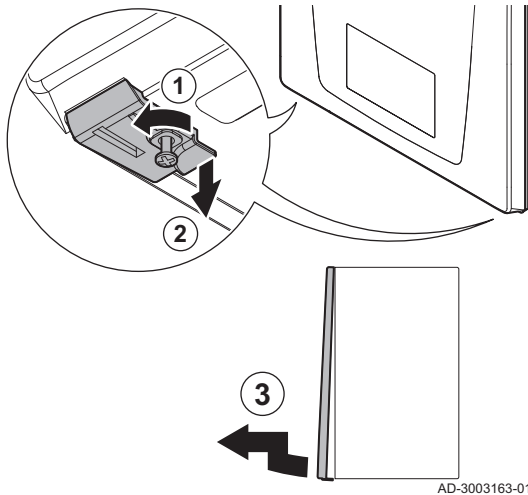


AD-3003417-01

- | | |
|---|--|
| <p>A1 Lead boiler with Quick connect</p> <p>A2 Lag boiler with Quick connect</p> <p>A3 Lag boiler with Quick connect</p> <p>A4 Lag boiler with Quick connect</p> <p>A5 Lag boiler with Quick connect Possible with SCB-10 expansion PCB (optional).</p> <p>A6 Lag boiler with Quick connect</p> | <p>Possible with SCB-10 expansion PCB (optional).</p> <p>A7 Lag boiler with Quick connect Possible with SCB-10 expansion PCB (optional).</p> <p>A8 Lag boiler with Quick connect Possible with SCB-10 expansion PCB (optional).</p> <p>N1 S-Bus terminator</p> <p>N2 S-Bus connection between appliances</p> |
|---|--|

5.9.2 Opening the boiler

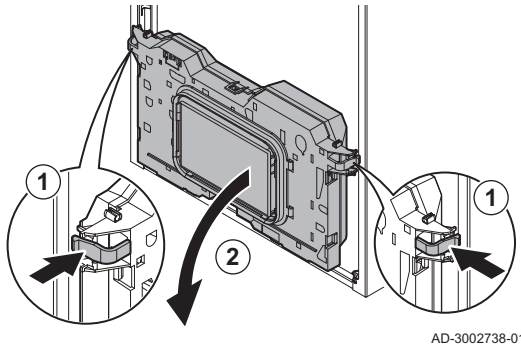
Fig.35 Opening the boiler



1. Unscrew the two screws located under the front panel.
⇒ The screws remain hanging in the clips.
2. Gently pull down the two clips to unlock them.
3. Remove the front panel.

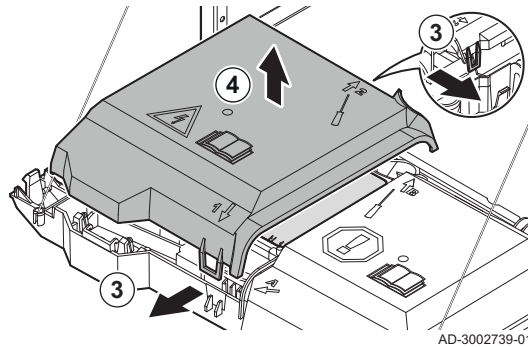
5.9.3 Access to the control box

Fig.36 Tilt the control box forward



1. Press the clips on the sides of the control box inwards slightly.
2. Tilt the control box forwards.

Fig.37 Lift the control box cover



3. Gently pull forward the clips on the front side 1 and back side 2 of the cover simultaneously.
4. Lift the cover.

⇒ The connectors on the connection boards are now accessible.

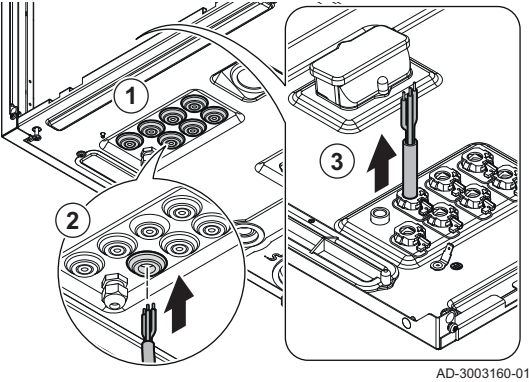


You can also access the control unit. Repeat the steps with the clips on the front side A and back side B of the other cover.

■ Cable routing to the control box

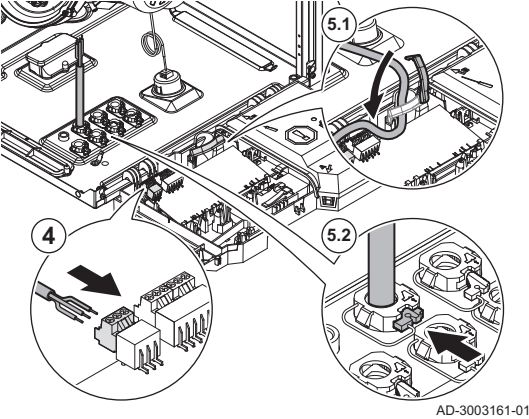
The boiler has seven cable grommets with cable strain reliefs and a power cable gland. You can use the cable grommets to route cables to the control box.

Fig.38 Cable routing



1. Select the desired cable grommet and make a hole in it.
2. Push the cable through the grommet.
3. Route the cable to the control box.

Fig.39 Connecting the cable

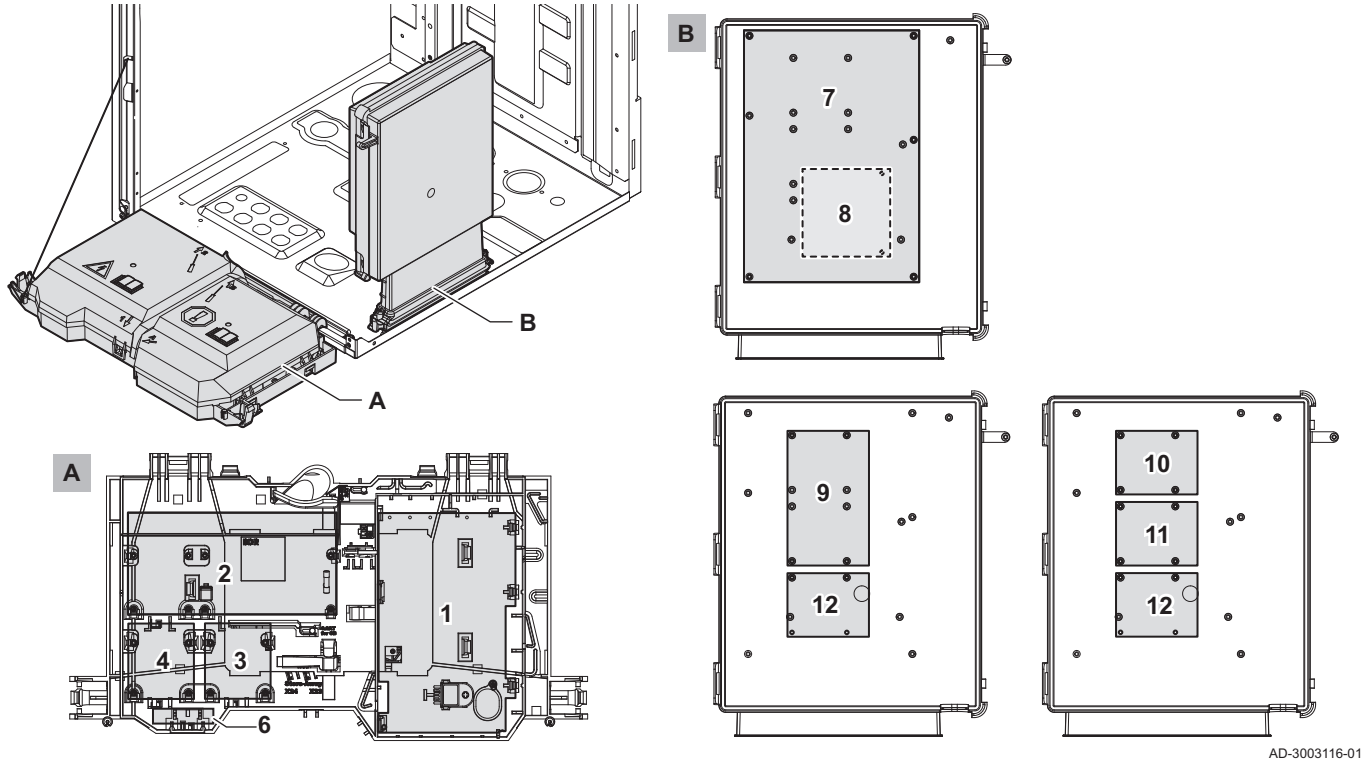


4. Connect the cable to the connection PCB.
5. Secure the cable:
 - 5.1. Close the clip in the control box.
 - 5.2. Place and secure the strain relief from the grommet.

5.9.4 PCB locations

The illustrations show the locations for each PCB. Both factory-fitted and optional PCBs are shown.

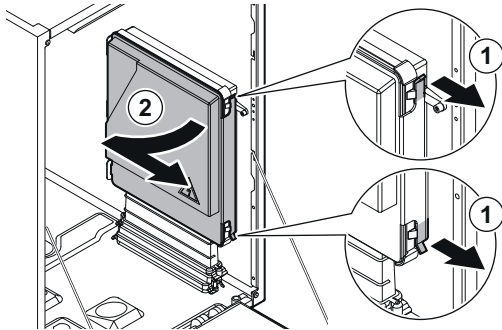
Fig.40 PCB locations in boiler types 50 - 60 - 70.



| Device | Primary location | Location option |
|------------------------------|------------------------|-----------------|
| CU-GH20 | 1 | - |
| CB-25 | 2 | - |
| SCB-09 (optional) | 10 | 11 / 12 |
| SCB-10 (optional) | 7 | - |
| SCB-13 (optional) | 10 | 11 / 12 |
| SCB-17+ (optional) | 7 | - |
| SCB-17B (optional) | 9 | - |
| GTW-08 Modbus (optional) | 3 | 4 |
| GTW-21 BACNet (optional) | 3 | 4 |
| BLE Smart Antenna (optional) | 6 (vertically mounted) | - |
| GTW-30 (optional) | 3 | 4 |

5.9.5 Access to the expansion box

Fig.41 Access to the expansion box in boiler types 50 - 60 - 70.



AD-3003052-01

If there is no space in the boiler's control box to install expansion PCBs, they can be installed in the optional expansion box.

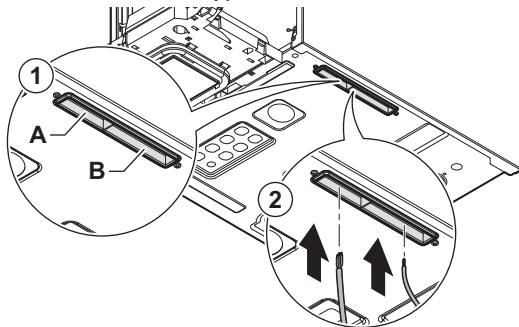
1. Gently unclip the housing cover.
2. Remove the cover.

■ Cable routing to the expansion box

The expansion box has two possible openings for cables. You can use these openings to route cables to the expansion box.

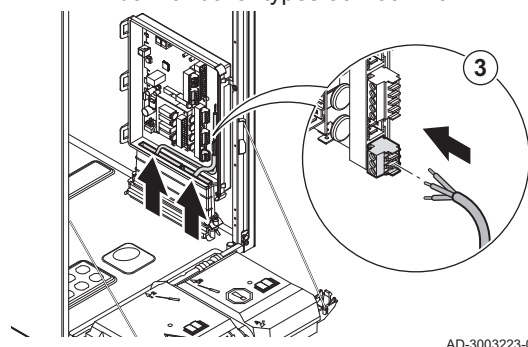
1. Cut the rubber seal in the desired opening.
 - A** Cable opening for power cables ($\approx 230\text{ V}$)
 - B** Cable opening for low voltage cables ($\leq 24\text{ V}$)
2. Route the cable to the expansion box.

Fig.42 Cable routing to the expansion box for boiler types 50 - 60 - 70



AD-3003221-01

Fig.43 Cable routing inside the expansion box for boiler types 50 - 60 - 70



AD-3003223-01

3. Connect the cable to the expansion PCB.

5.9.6 Introduction to the CB-25 connection PCB

The Quinta Ace S boiler is equipped with the new generation connection PCB. The **CB-25** offers more connection options and reduces the need for expansion PCBs.

Tab.27 Available options

| Options | Description |
|-------------------------------|---|
| Configurable input and output | This option makes it possible to configure the input and output connectors. Depending on the desired system, you can select and combine the available configurations. You can change the behaviour of the connectors with a parameter setting. |
| 0-10 V input | This option makes it possible to connect an external 0-10 V heat demand control. You can control the boiler based on temperature or power setpoint. |
| LIN-Bus | This option makes it possible to connect a LIN pump. The LIN-Bus protocol gives you more insight about the performance, diagnostics and failure detection of the pump. |
| Cascade management | This option makes it possible to link up to four boilers in a cascade system. You can link the boilers without the need for an external cascade manager or expansion boards. The S-Bus connections can be made externally on the Quick connect. |
| Domestic hot water | This option makes it possible to connect a DHW cylinder. Depending on the desired DHW system, you can connect different types of pumps and sensors. |

The combination of the extended connections and software features gives you more options as standard. The tables give an overview of the possible combinations.

- You can apply the desired fixed combination.
- You can extend the fixed combination with optional inputs and outputs.

Tab.28 Configurable inputs and outputs - Fixed combinations

| Connector ⁽¹⁾ | AUX N L | Status Nc C No | 1 | 2 | 1 Tsyst | 2 Tsyst |
|---|----------------|-------------------|---|---|----------------|----------------|
| Cascade management: • Cascade system pump (F ₁ or F ₂) • System temperature sensor (F ₅) | F ₁ | F ₂ | | | F ₅ | |
| DHW circulation: • DHW circulation pump (F ₁) • DHW circulation temperature sensor (F ₆) | F ₁ | | | | | F ₆ |
| DHW mixing: • DHW mixing pump (F ₁) • DHW mixing temperature sensor (F ₆) | F ₁ | | | | | F ₆ |

| Connector ⁽¹⁾ | AUX N L | Status Nc C No | 1 | 2 | 1 Tsyst | 2 Tsyst |
|---|------------|-------------------|---|----------------|------------|----------------|
| DHW layered: • DHW cylinder top temperature sensor (F ₆) | | | | | | F ₆ |
| Boiler room ventilation: • Extractor fan (F ₂) • Extractor fan signal (F ₄) | | F ₂ | | F ₄ | | |
| (1) The letter F indicates a fixed combination of two connectors for each configuration. | | | | | | |

Tab.29 Configurable inputs and outputs - Extend options

| Connector ⁽¹⁾⁽²⁾ | AUX N L | Status Nc C No | 1 | 2 | 1 Tsyst | 2 Tsyst |
|--|----------------|-------------------|----------------|----------------|------------|------------|
| Cascade system pump | B ₁ | A ₂ | | | | |
| Direct zone pump | B ₁ | A ₂ | | | | |
| Secondary pump | B ₁ | A ₂ | | | | |
| Hydraulic valve | B ₁ | A ₂ | | | | |
| External gas valve | B ₁ | A ₂ | | | | |
| Status contact | B ₁ | A ₂ | | | | |
| Heat demand signal | | | A ₃ | B ₄ | | |
| Boiler relief signal | | | A ₃ | B ₄ | | |
| Blocking input | | | A ₃ | B ₄ | | |
| Release input | | | A ₃ | B ₄ | | |
| Gas pressure switch | | | A ₃ | B ₄ | | |
| (1) The letter A indicates the first option for the connection of each input or output. | | | | | | |
| (2) The letter B indicates the second option for the connection of each input or output. | | | | | | |

Tab.30 Example of possible combinations

| Connector | AUX N L | Status Nc C No | 1 | 2 | 1 Tsyst | 2 Tsyst |
|--|----------------|-------------------|----------------|----------------|----------------|------------|
| Fixed combination: Boiler room ventilation: • Extractor fan (F ₂) • Extractor fan signal (F ₄) Extended with: • Gas pressure switch (A ₃) | | F ₂ | A ₃ | F ₄ | | |
| Fixed combination: Cascade management: • Cascade system pump (F ₁) • System temperature sensor (F ₅) Fixed combination: Boiler room ventilation: • Extractor fan (F ₂) • Extractor fan signal (F ₄) Extended with: • Boiler relief signal (A ₃) | F ₁ | F ₂ | A ₃ | F ₄ | F ₅ | |

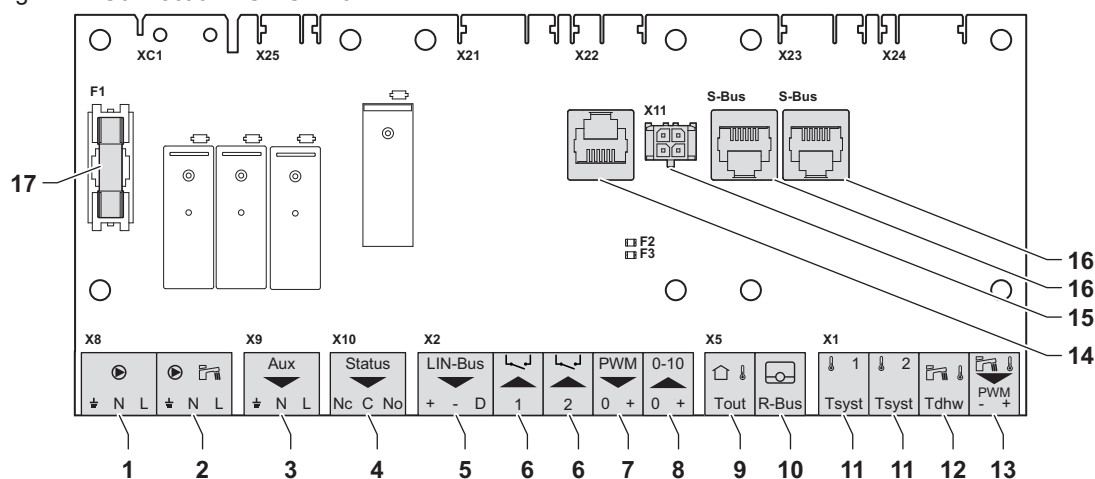
To connect and configure the desired installation, please refer to:

- The following chapter for the available connectors.
- The connecting diagrams in the manual or online.

5.9.7 The CB-25 connection PCB

The **CB-25** is placed in the control box. It provides easy access to all the standard connectors.

Fig.44 Connection PCB CB-25



AD-3002742-02

- 1** Pump connector, page 33
Connect a boiler pump.
- 2** DHW pump connector, page 34
Connect a DHW charge pump.
- 3** AUX connector, page 34
Connect a:
 - Cascade system pump, page 34
 - DHW circulation pump, page 34
 - DHW mixing pump, page 34
 - Direct zone pump, page 35
 - Secondary pump, page 35
 - Hydraulic valve, page 35
 - External gas valve, page 35
 - Status contact, page 35
- 4** Status connector, page 35
Connect a:
 - Extractor fan, page 35
 - Cascade system pump, page 36
 - Direct zone pump, page 36
 - Secondary pump, page 36
 - Hydraulic valve, page 36
 - External gas valve, page 36
 - Status contact, page 36
- 5** LIN-Bus connector, page 36
Connect a LIN pump.
- 6** Programmable input connectors, page 37
Connect a:
 - Extractor fan signal, page 37
 - Heat demand signal, page 37
 - Boiler relief signal, page 37
- 7** Pump PWM connector, page 38
Connect a PWM signal for the boiler pump.
- 8** 0-10 V connector, page 38
Connect a 0-10 V signal.
- 9** Tout connector, page 39
Connect an outdoor temperature sensor.
- 10** R-Bus connector, page 39
Connect a room thermostat.
- 11** Tsyst connectors, page 40
Connect a:
 - System temperature sensor, page 40
 - DHW circulation temperature sensor, page 40
 - DHW mixing temperature sensor, page 40
 - DHW cylinder top temperature sensor, page 40
- 12** Tdhw connector, page 40
Connect a DHW cylinder bottom temperature sensor.
- 13** DHW pump PWM connector, page 41
Connect a PWM signal for the DHW pump.
- 14** Service port connector, page 41
Connect a service tool.
- 15** L-Bus connector, page 41
Connect the expansion box (L-Bus).
- 16** S-Bus connectors, page 41
Do not use.
- 17** Fuse F1
Protects all connected components (for example, pumps, valves and PCBs).

■ Pump connector

You can connect a boiler pump to the connector.

Connect the pump as follows:

- ⏏ Earth
- N Neutral
- L Phase

Fig.45 Pump connector



AD-3001306-02



Important

The maximum power consumption is 300 VA.

You can change the post run time, maximum speed and minimum speed with parameters **PP015**, **PP016** and **PP018**.

Fig.46 DHW pump connector



AD-4000123-02

**See also**

Pump PWM connector, page 38

■ DHW pump connector

You can connect a DHW charge pump to the connector.

Connect the pump as follows:

- Earth
- N** Neutral
- L** Phase

**Important**

The maximum power consumption is 300 VA.

You can change the post run time, maximum speed and minimum speed with parameters **DP020**, **DP037** and **DP038**.

■ AUX connector

You can connect a range of pumps, two types of valves or a contact to the connector. You can configure it as required. Each configuration has a specific setting.



One connector is available on the connection PCB. For more connections, you will need to use an expansion PCB.

Fig.47 AUX connector



AD-3002666-01

Connect the pump, valve or contact as follows:

- Earth
- N** Neutral
- L** Phase

**Important**

The maximum power consumption is 300 VA.

Fig.48 Cascade system pump



AD-3002666-01

– Cascade system pump

You can connect a cascade system pump to the connector. If the appliance is part of a cascade system and does not have an internal pump, connect this pump. When you apply a low loss header or plate-heat exchanger, this pump creates flow on the primary side of the system.



Always connect this pump to the lead appliance.

**See also**

Activating cascade management, page 52

Fig.49 DHW circulation pump



AD-3002666-01

– DHW circulation pump

You can connect a DHW circulation pump to the connector. This pump will circulate the domestic hot water through the system.

**See also**

Activating DHW circulation, page 52

Fig.50 DHW mixing pump



AD-3002666-01

– DHW mixing pump

You can connect a DHW mixing pump to the connector. This pump mixes the water in the DHW cylinder to distribute the temperature evenly.

**See also**

Activating DHW mixing, page 52

Fig.51 Direct zone pump



AD-3002666-01

– Direct zone pump

You can connect a direct zone pump to the connector. This pump will create flow to the zone. The pump is active when there is a heat demand on the direct zone.



Always connect this pump to the lead appliance.



See also

Setting the output, page 55

Fig.52 Secondary pump



AD-3002666-01

– Secondary pump

You can connect a secondary pump to the connector. When you apply a low loss header or plate-heat exchanger, this pump creates flow on the secondary side of the system.



See also

Setting the output, page 55

Fig.53 Hydraulic valve



AD-3002666-01

– Hydraulic valve

You can connect a hydraulic valve to the connector. This valve isolates the appliance from the system.



See also

Setting the output, page 55

Fig.54 External gas valve



AD-3002666-01

– External gas valve

You can connect an external gas valve to the connector. This valve will follow the behaviour of the gas control valve in the appliance.



See also

Setting the output, page 55

Fig.55 Status contact



AD-3002666-01

– Status contact

You can connect a status contact to the connector. This contact will report the current status of the appliance to an external device or building management system.



See also

Setting the output, page 55

Fig.56 Status connector



AD-3002781-01

■ Status connector

You can connect a fan, range of pumps, two types of valves or a contact to the connector. You can configure it as required. Each configuration has a specific setting.

Connect the fan, pump, valve or contact as follows:

- Nc** Normally closed contact (contact will open when status occurs)
- C** Main contact
- No** Normally opened contact (contact will close when status occurs)



Important

The status connector functions as a potential free contact. Apply an external 230 V power supply for a fan, pump and valve.

– Extractor fan

You can connect an extractor fan for boiler room ventilation to the connector. When the appliance is active, the fan ventilates the room.



See also

Activating boiler room ventilation, page 53

Fig.57 Extractor fan



AD-3002781-01

Fig.58 Cascade system pump



AD-3002781-01

– Cascade system pump

You can connect a cascade system pump to the connector. If the appliance is part of a cascade system and does not have an internal pump, connect this pump. When you apply a low loss header or plate-heat exchanger, this pump creates flow on the primary side of the system.



Always connect this pump to the lead appliance.



See also

Activating cascade management, page 52

Fig.59 Direct zone pump



AD-3002781-01

– Direct zone pump

You can connect a direct zone pump to the connector. This pump will create flow to the zone. The pump is active when there is a heat demand on the direct zone.



Always connect this pump to the lead appliance.



See also

Setting the output, page 55

Fig.60 Secondary pump



AD-3002781-01

– Secondary pump

You can connect a secondary pump to the connector. When you apply a low loss header or plate-heat exchanger, this pump creates flow on the secondary side of the system.



See also

Setting the output, page 55

Fig.61 Hydraulic valve



AD-3002781-01

– Hydraulic valve

You can connect a hydraulic valve to the connector. This valve isolates the appliance from the system.



See also

Setting the output, page 55

Fig.62 External gas valve



AD-3002781-01

– External gas valve

You can connect an external gas valve to the connector. This valve will follow the behaviour of the gas control valve in the appliance.



See also

Setting the output, page 55

Fig.63 Status contact



AD-3002781-01

– Status contact

You can connect a status contact to the connector. This contact will report the current status of the appliance to an external device or building management system.



See also

Setting the output, page 55

■ LIN-Bus connector

You can connect a LIN-Bus pump to the connector. The LIN-Bus controls the pump and receives data from the pump.



The LIN-Bus pumps from Grundfos have been tested and approved to work with the appliance. Pumps from other brands may also work, but have not been tested.

Fig.64 LIN-Bus connector



AD-3002779-01

Connect the LIN-Bus wires as follows:

- + Plus
- Minus
- D Signal

■ Programmable input connectors

You can connect a range of input signals to each connector. The programmable input connectors function as a potential free contact.



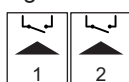
Two programmable connectors are available on the connection PCB. For more connections, you will need to use an expansion PCB.

You can configure it as required. Depending on the setting, a type of input signal can be connected.



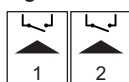
The wires are interchangeable. It does not matter which wire is connected to which clamp.

Fig.65 Programmable input connectors



AD-3002780-01

Fig.66 Extractor fan signal



AD-3002780-01

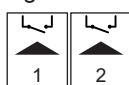
– Extractor fan signal

You can connect an extractor fan feedback signal for boiler room ventilation to the connector. When the extractor fan is on, the contact will close.



See also
Activating boiler room ventilation, page 53

Fig.67 Heat demand signal



AD-3002780-01

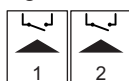
– Heat demand signal

You can connect an on/off contact for central heating to the connector. This will generate a heat demand for central heating to the system.



See also
Setting the input, page 54

Fig.68 Boiler relief signal



AD-3002780-01

– Boiler relief signal

You can connect a BMS to the connector. This will connect the appliance to a building management system that controls several heating appliances. Use this on/off contact to relieve the appliance for heat demands. The other appliances in the system can still take on heat production. For example:

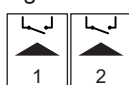
- When the input is active, the appliance will not produce heat for central heating.
- When the input is active, the appliance will not produce heat for domestic hot water.
- When the input is active, the appliance will not produce heat for central heating and domestic hot water.

The input can be set to opened or closed for the relief of the heat demand.



See also
Setting the input, page 54

Fig.69 Blocking input



AD-3002780-01

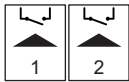
– Blocking input

You can use the connector as a blocking input. This will block the appliance on request for specific types of heat demands. You can configure it as required. For example:

- The appliance will block heat demands for central heating.
- The appliance will block heat demands for domestic hot water.
- The appliance will block heat demands for central heating and domestic hot water.

The input can be set to opened or closed for the blocking of the heat demand. It is also possible to have the appliance show an error code.

Fig.70 Release input



AD-3002780-01

**See also**

Setting the input, page 54

– Release input

You can use the connector as a release input. This will release the appliance on request for specific types of heat demands. You can configure it as required. For example:

- The appliance will activate for domestic hot water and must be released for central heating demands.
- The appliance will not activate for central heating or domestic hot water and must be released for both heat demands.

The input can be set to opened or closed for the release of the heat demand.

**See also**

Setting the input, page 54

Fig.71 Gas pressure switch



AD-3002780-01

– Gas pressure switch

You can connect a gas pressure switch to the connector.

- When the gas pressure is too low, the switch will activate. This will block the appliance for 10 minutes and show the error code **H.01.09**.
- When the gas pressure is too high, the switch will activate. This will block the appliance for 10 minutes and show the error code **H.01.26**.

The input can be set to opened or closed for the switch activation.

**See also**

Setting the input, page 54

Fig.72 Pump PWM connector



AD-3002782-01

■ Pump PWM connector

You can connect a PWM pump signal wire to the connector. The PWM signal modulates and controls the boiler pump.

Connect the PWM signal wires as follows:

- 0 Zero
- + Plus

■ 0-10 V connector

You can connect a 0-10 V heat demand to the connector. The 0-10 V signal has two modes:

- Control based on temperature setpoint.
- Control based on power setpoint.

Connect the 0-10 V signal as follows:

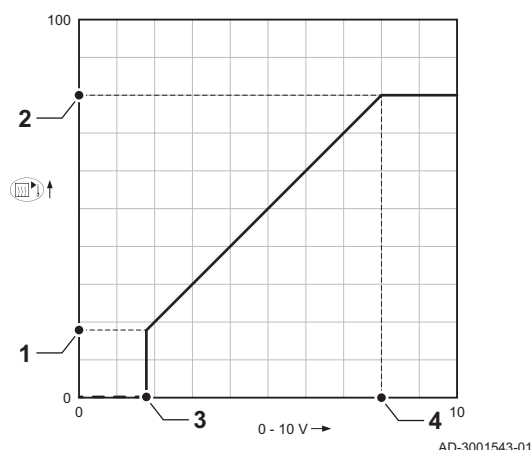
- Minus
- + Plus

Fig.73 0-10 V connector



AD-3001304-03

Fig.74 0-10 V control



You can change the mode of the analogue input with parameter **EP014**:

Temperature control: The 0-10 Volts controls the appliance flow temperature. The output varies between the minimum and maximum value on the basis of the flow temperature setpoint with a fixed power setpoint.

Power control: The 0-10 Volts controls the appliance heat output. The output will be converted towards a 0 – 100 % relative power setpoint with a fixed temperature setpoint. The minimum output is linked to the appliance modulation depth.

- 1 Minimum setpoint for temperature (parameter **EP030**) or power (parameter **EP032**)
- 2 Maximum setpoint for temperature (parameter **EP031**) or power (parameter **EP033**)
- 3 Minimum setpoint for voltage (parameter **EP034**)
- 4 Maximum setpoint for voltage (parameter **EP035**)


The measured values can be read with signals:

EM010 The voltage on the 0-10 V input.

EM018 When control based on temperature is set, the calculated temperature setpoint.


EM021 When control based on heat output is set, the calculated power setpoint.

■ Tout connector

-  Always connect the outdoor temperature sensor to the PCB that controls the zones. For example: when the zones are controlled by an SCB-10, connect the sensor to that PCB.


You can connect an outdoor temperature sensor to the connector. The following sensors are available:

AF60 NTC 470 Ω /25 °C


-  The wires are interchangeable. It does not matter which wire is connected to which clamp.

You can change the outdoor temperature sensor type, building inertia and sensor connection type with parameters **AP056**, **AP079** and **AP091**.

Outdoor temperature sensor only: The flow temperature is determined by the outdoor temperature, together with the internal heating curve of the appliance.

-  When you only connect an outdoor temperature sensor, place a bridge on the R-Bus connector. Also change the control strategy parameter **CP780** to **Outdoor temp based (2)**.

Outdoor temperature sensor with a thermostat: The flow temperature is determined by the outdoor temperature, together with the internal heating curve of the appliance. This internal heating curve is shifted upwards when the measured room temperature deviates from the desired room temperature. With an OpenTherm thermostat, the desired heating curve must be set on the thermostat.

-  You can change the influence of the room temperature with parameter **CP240**. Also change the control strategy parameter **CP780** to **Outdoor & room based (3)**.

■ R-Bus connector

You can connect a room thermostat to the connector. The following types are possible:

- R-Bus thermostat (for example, the **uSense**)
- OpenTherm thermostat
- OpenTherm Smart Power thermostat
- On/off thermostat

Fig.75 Tout connector



AD-4000006-04

Fig.76 R-Bus connector



AD-3001314-03

Connect the room thermostat as follows:



The wires are interchangeable. It does not matter which wire is connected to which clamp.

Connect the desired thermostat and the type of thermostat is automatically recognised.

■ Tsyst connectors

You can connect a system temperature sensor to each connector. The following types are possible:

- System temperature sensor (NTC 10k Ω /25 °C)
- DHW circulation temperature sensor (NTC 10k Ω /25 °C)
- DHW mixing temperature sensor (NTC 10k Ω /25 °C)
- DHW cylinder top temperature sensor (NTC 10k Ω /25 °C)

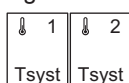
You can configure it as required. Depending on the setting, a type of sensor can be connected.

Connect the sensor as follows:



The wires are interchangeable. It does not matter which wire is connected to which clamp.

Fig.77 Tsyst connectors



AD-4000008-03

Fig.78 System temperature sensor



AD-3003105-01

– System temperature sensor

You can connect a system temperature sensor to the Tsyst 1 connector.



See also

Activating cascade management, page 52

Fig.79 DHW circulation temperature sensor



AD-3003349-01

– DHW circulation temperature sensor

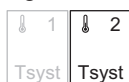
You can connect a DHW circulation temperature sensor to the Tsyst 2 connector.



See also

Activating DHW circulation, page 52

Fig.80 DHW mixing temperature sensor



AD-3003349-01

– DHW mixing temperature sensor

You can connect a DHW mixing temperature sensor to the Tsyst 2 connector.



See also

Activating DHW mixing, page 52

Fig.81 DHW cylinder top temperature sensor



AD-3003349-01

– DHW cylinder top temperature sensor

You can connect a DHW cylinder top temperature sensor to the Tsyst 2 connector.



See also

Activating DHW layered, page 53

Fig.82 Tdhw connector



AD-3000971-03

■ Tdhw connector



Important

For appliances with an **SCB-10** expansion PCB, please refer to the connection diagrams in this manual.

You can connect a DHW cylinder bottom temperature sensor (NTC 10k Ω /25 °C) to the connector.



The wires are interchangeable. It does not matter which wire is connected to which clamp.

Fig.83 DHW pump PWM connector



AD-3002783-01

■ DHW pump PWM connector

You can connect a DHW pump PWM signal wire to the connector. The PWM signal modulates and controls the DHW pump.

Connect the PWM signal as follows:

- Minus
- + Plus

Fig.84 Service port connector (RJ12)



AD-3003112-01

■ Service port connector

You can connect a service tool to the connector. The service tool connects to the following devices:

- Laptop
- Smart phone
- Tablet

You can use the Recom Smart Service app to enter, change and read out various settings.

Fig.85 L-Bus connector

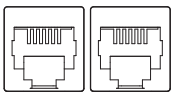


AD-3003113-01

■ L-Bus connector

You can connect the cable for the expansion box to the connector. This extends the local bus to the expansion box.

Fig.86 S-Bus connectors (RJ12)



AD-3003114-01

■ S-Bus connectors

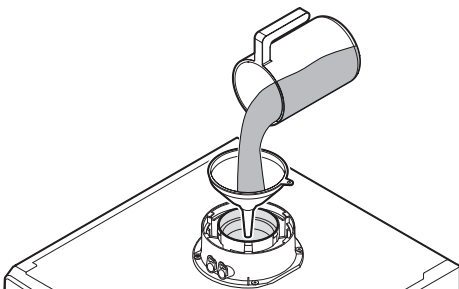
Do not use these internal S-Bus connectors. You can use the Quick connect for the S-Bus connections.

6 Before commissioning

6.1 Checklist before commissioning

6.1.1 Filling the condensate trap

Fig.87 Filling the trap



AD-3002732-01



Danger

The trap must always be sufficiently filled with water. This prevents flue gases from entering the room.

1. Fill the trap with water via the flue gas outlet by use of a funnel.
⇒ The trap is fully filled when water is leaving the condensation outlet.

6.1.2 Filling the system



Caution

Before filling, open the valves on every radiator in the installation.



Important

In order to be able to read off the water pressure from the boiler display, the boiler must be switched on.

1. Fill the central heating system with clean tap water.

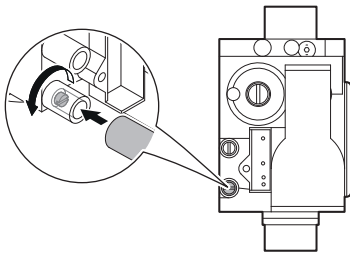
**Important**

The recommended water pressure is between 1.0 bar and 1.5 bar.

2. Check the water-side connections for tightness.

6.1.3 Preparing the gas circuit

Fig.88 Gas control valve 50 - 60 - 70



AD-3003047-01

**Warning**

Make sure that the boiler is disconnected from the power supply.

1. Open the main gas cock.
2. Open the boiler gas cock.
3. Check the tightness of the gas circuit with a gas detector.
4. Vent the gas supply pipe by either unscrewing or removing the screw of the measuring point nipple.
The screw position differs per boiler type. Refer to the illustration of the boiler type for the screw position.

⇒ The gas supply pipe is properly vented when a gas smell can be noticed.

5. Slide the tube of the gas pressure meter over the measuring point nipple.
6. Measure the gas inlet pressure.
The recommended inlet pressure is shown on the data plate.

**Caution**

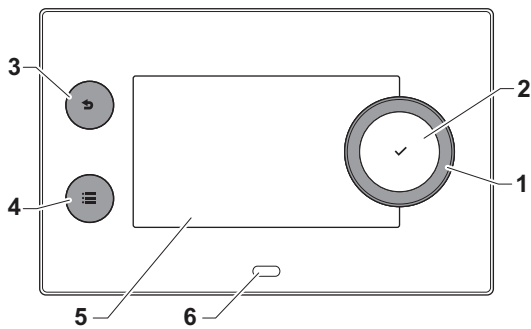
The inlet pressure may never exceed the maximum pressure mentioned in the technical data table.

7. Replace or retighten the screw plug on the measuring point nipple.

6.2 Control panel description

6.2.1 Control panel components

Fig.89 Control panel components



AD-3000932-02

- 1 Rotary knob to select a tile, menu or setting
- 2 Confirm button ✓ to confirm the selection
- 3 Back button ←:
 - **Short button press:** Return to the previous level or previous menu
 - **Long button press:** Return to home screen
- 4 Menu button ≡ to go to the main menu
- 5 Display
- 6 Status LED

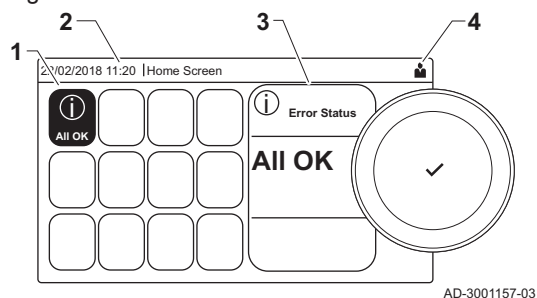
6.2.2 Description of the home screen

This screen is shown automatically after start-up of the appliance. The control panel automatically enters standby mode (black screen) if the buttons are not used for 5 minutes. Press one of the buttons on the control panel to activate the screen again.

You can navigate from any menu to the home screen by pressing the back button ← for several seconds.

The tiles on the home screen provide quick access to the corresponding menus. Use the rotary knob to navigate to the desired item and press the button ✓ to confirm the selection.

Fig.90 Icons on home screen

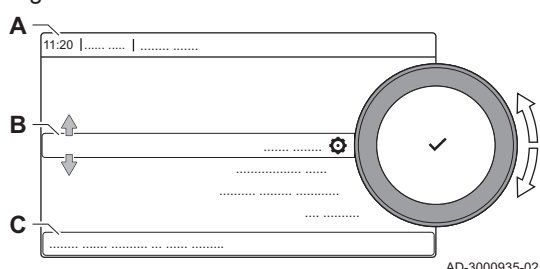


AD-3001157-03

6.2.3 Description of the main menu

You can navigate from any menu directly to the main menu by pressing the menu button . The number of accessible menus depends on the access level (user or installer).

Fig.91 Items in the main menu



AD-3000935-02

- A Date and time | Name of the screen (actual position in the menu)
- B Available menus
- C Brief explanation of the selected menu

Tab.31 Available menus for the user

| Description | Icon |
|-------------------------|------|
| Enable installer access | |
| System Settings | |
| Version Information | |

Tab.32 Available menus for the installer

| Description | Icon |
|--------------------------|------|
| Disable installer access | |
| Installation Setup | |
| Commissioning Menu | |
| Advanced Service Menu | |
| Error History | |
| System Settings | |
| Version Information | |

6.2.4 Description of the icons in the display

Tab.33 Icons

| Icon | Description |
|------|---|
| | User menu: user-level parameters can be configured. |
| | Installer menu: installer-level parameters can be configured. |
| | Information menu: read out various current values. |
| | System settings: system parameters can be configured. |
| | Error indicator. |
| | Gas boiler indicator. |
| | Domestic hot water tank is connected. |
| | The outdoor temperature sensor is connected. |
| | Boiler number in cascade system. |
| | The solar calorifier is on and its heat level is displayed. |
| | Burner output level (1 to 5 bars, with each bar representing 20% output). |

| Icon | Description |
|------|---|
| | The pump is running. |
| | Three-way valve indicator. |
| | Display of the system water pressure. |
| | Chimney sweep mode is enabled (forced full load or low load for O ₂ measurement). |
| | Energy saving mode is enabled. |
| | DHW boost is enabled. |
| | Time program is enabled: The room temperature is controlled by a time program. |
| | Manual mode is enabled: The room temperature is set to a fixed setting. |
| | Temporary overwrite of the time program is enabled: The room temperature is changed temporarily. |
| | The holiday program (including frost protection) is active: The room temperature is reduced during your holiday to save energy. |
| | Frost protection is enabled: Protect the boiler and installation from freezing during winter. |
| | Service notification: service needed. Installer contact details are displayed or can be filled in. |

Tab.34 Icons - On/off

| Icon | Description | Icon | Description |
|------|--|------|---|
| | CH operation is enabled. | | CH operation is disabled. |
| | DHW operation is enabled. | | DHW operation is disabled. |
| | The burner is on. | | The burner is off. |
| | Bluetooth enabled and connected (icon is non-transparent). | | Bluetooth enabled and disconnected (icon is transparent). |
| | Heating enabled. | | |
| | Cooling enabled. | | |
| | Heating/cooling enabled. | | Heating/cooling disabled. |

Tab.35 Icons - Zones

| Icon | Description |
|------|--------------------------|
| | All zones (groups) icon. |
| | Living room icon. |
| | Kitchen icon. |
| | Bedroom icon. |
| | Study icon. |
| | Cellar icon. |

7 Commissioning

7.1 Commissioning procedure



Warning

- Commissioning must be done by a qualified installer.
- If adapting to another gas type, the gas control valve must be adjusted before switching on the boiler.

1. Open the main gas valve.
2. Open the appliance gas valve.
3. Switch on the power with the boiler's on/off switch.
4. Configure the settings shown on the display.
⇒ The start-up program will start and cannot be interrupted.

- Set the components (thermostats, controller) so that heat is demanded.

**Important**

In the event of an error during the start-up, a message with the corresponding code is displayed. The meaning of the error codes can be found in the error table.

7.2 Gas settings

7.2.1 Gas factory setting

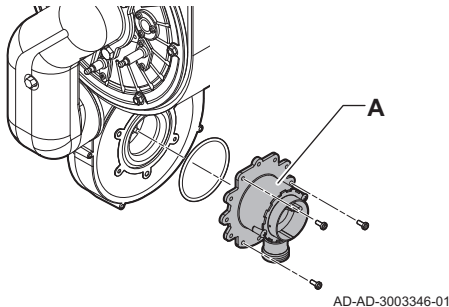
The factory setting of the boiler is for operation with the natural gas group G20 (H gas).

Tab.36 Factory settings G20 (H gas)

| Code | Display text | Description | Adjustment range | 50 | 60 | 70 |
|-------|-----------------|--|------------------|------|------|------|
| DP003 | Abs max fan DHW | Maximum fan speed on Domestic Hot Water | 1000 - 6900 Rpm | - | - | - |
| GP007 | Fan RPM Max CH | Maximum fan speed during Central Heating mode | 1400 - 7000 Rpm | 6650 | 6750 | 6450 |
| GP008 | Fan RPM Min | Minimum fan speed during Central Heating + Domestic Hot Water mode | 1250 - 4000 Rpm | 1500 | 1420 | 1270 |
| GP009 | Fan RPM Start | Fan speed at appliance start | 1000 - 4000 Rpm | 2300 | 2200 | 2100 |

7.2.2 Adapting to another gas

Fig.92 Position of the venturi A



Before operating with a different type of gas, carry out the following steps.

- Replace the venturi (**A**) to adapt the boiler to another gas type. The required venturi is listed in the table. Replace the venturi according to the instructions supplied with the gas conversion set.

Tab.37 Gas venturi types

| Quinta Ace S | 50 | 60 | 70 |
|--|---------|---------|---------|
| Venturi for G20 (H gas) ⁽¹⁾ | 24/3.7 | 28/4.6 | 30/5.3 |
| Venturi for G31 (propane) | 24/2.95 | 28/3.45 | 28/3.45 |
| (1) Factory fitted. | | | |

- Write the boiler operating gas type down on the sticker supplied.

**Important**

This sticker must be affixed next to the data plate.

■ Adjusting fan speed parameters for different gas types



The factory fan speed settings can be adjusted for a different type of gas at installer level.

►► > Parameters, counters, signals > Parameters



Use the rotary knob to navigate.

Use the button to confirm your selection.

1. Enable Installer access.
 - 1.1. Select the tile [].
 - 1.2. Enter code: **0012**.
2. Select the tile [].
3. Select **Parameters, counters, signals**.
4. Select **Parameters**.
5. Select the required parameter.
6. Change the setting.

■ Fan speed for different gas types

1. Adjust the fan speed parameters for the gas type used according to the table.
If a boiler is not suitable for a certain gas type, it is indicated with "-" in the table.

Tab.38 Adjustment for gas type G31 (propane)

| Code | Display text | Description | Adjustment range | 50 | 60 | 70 |
|-------|-----------------|--|------------------|------|------|------|
| DP003 | Abs max fan DHW | Maximum fan speed on Domestic Hot Water | 1000 - 6900 Rpm | - | - | - |
| GP007 | Fan RPM Max CH | Maximum fan speed during Central Heating mode | 1400 - 7000 Rpm | 6400 | 6600 | 6800 |
| GP008 | Fan RPM Min | Minimum fan speed during Central Heating + Domestic Hot Water mode | 1250 - 4000 Rpm | 1500 | 1420 | 1500 |
| GP009 | Fan RPM Start | Fan speed at appliance start | 1000 - 4000 Rpm | 3000 | 3500 | 4000 |

2. Check the setting of the gas/air ratio.

■ Fan speeds for BREEAM compliance

1. Adjust the fan speed parameters according to the table.

Tab.39 Adjustment for BREEAM with gas type G20 (H gas)

| Code | Display text | Description | Adjustment range | 50 | 60 | 70 |
|-------|-----------------|--|------------------|------|------|------|
| DP003 | Abs max fan DHW | Maximum fan speed on Domestic Hot Water | 1000 - 6900 Rpm | - | - | - |
| GP007 | Fan RPM Max CH | Maximum fan speed during Central Heating mode | 1400 - 7000 Rpm | 6650 | 6750 | 6450 |
| GP008 | Fan RPM Min | Minimum fan speed during Central Heating + Domestic Hot Water mode | 1250 - 4000 Rpm | 1500 | 1420 | 1270 |
| GP009 | Fan RPM Start | Fan speed at appliance start | 1000 - 4000 Rpm | 2300 | 2200 | 2100 |

2. Check the setting of the gas/air ratio.

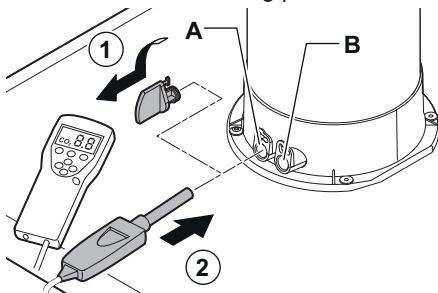


Important

Make sure to apply the O₂ values specified for BREEAM.

7.2.3 Combustion control and setting

Fig.93 Flue gas measuring point and air inlet measuring point



AD-3002722-01

A Flue gas measuring point

B Air inlet measuring point

Use the air inlet measuring point to check any recycling of the combustion products.

Use the flue gas measuring point to measure the quality of the combustion and the temperature of the flue gasses. For combustion control proceed as follows:

1. Remove the cap from the flue gas measuring point.

2. Insert the probe for the flue gas analyser into the measurement opening by about 8.5 cm.

**Warning**

During measurement, seal the opening around the sensor fully.

**Caution**

The flue gas analyser must have a minimum accuracy of $\pm 0.25\%$ O_2 .

**Important**

- The flue gas analyser must have a minimum accuracy of $\pm 0.25\%$ O_2 .
- The flue gas analyser must meet the requirements of BS 7927 or BS-EN 503793 and be calibrated according to the manufacturer's requirements.

3. Measure the percentage of O_2 in the flue gases. Take measurements at full load and at part load.

**Important**

Measurements must be taken with the front panel removed.

■ Performing the full load test

1. Select the tile [🔧].
⇒ The **Change load test mode** menu appears.
2. Select the test **Medium power**.

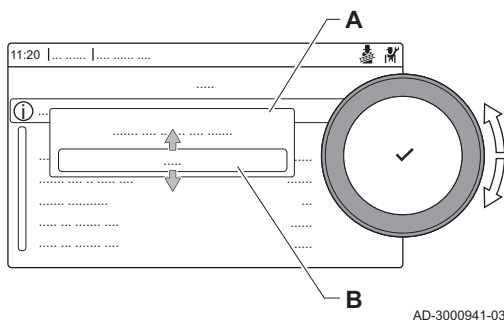
A Change load test mode

B Medium power

⇒ The full load test starts. The selected load test mode is shown in the menu and the icon 🧹 appears in the top right of the screen.

3. Check the load test settings and adjust if necessary.
⇒ Only the parameters shown in bold can be changed.

Fig.94 Full load test



AD-3000941-03

■ Performing the low load test

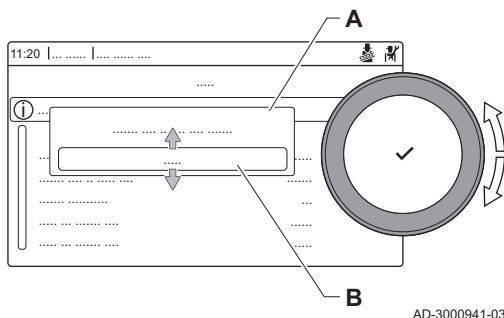
1. If the full load test is still running, press the ✓ button to change the load test mode.
2. If the full load test was finished, select the tile [🔧] to restart the chimney sweep menu.

A Change load test mode

B Low power

3. Select the **Low power** test in the menu **Change load test mode**.
⇒ The low load test starts. The selected load test mode is shown in the menu and the icon 🧹 appears in the top right of the screen.
4. Check the load test settings and adjust if necessary.
⇒ Only the parameters shown in bold can be changed.
5. End the low load test by pressing the ⏮ button.
⇒ The message **Running load test(s) stopped!** is displayed.

Fig.95 Low load test



AD-3000941-03

■ Checking/setting values O_2 at full load and low load

1. Set the boiler to full load.
2. Measure the percentage of O_2 in the flue gases.
3. Compare the measured value with the target values in the table.
The nominal full load value is shown in bold.

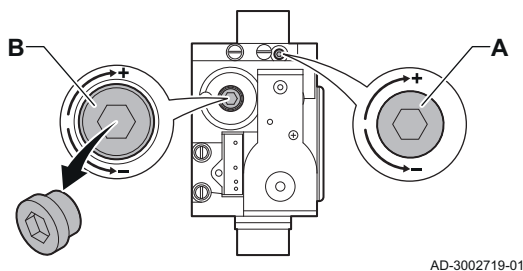
Tab.40 Target O₂ values for full load - (low load range) for G20 (H gas)

| Quinta Ace S 50 | Quinta Ace S 60 | Quinta Ace S 70 |
|--------------------------|--------------------------|--------------------------|
| 3.9 - (4.6 – 5.2) | 3.9 - (4.6 – 5.2) | 3.9 - (4.6 – 5.2) |
| 4.1 - (4.8 – 5.4) | 4.1 - (4.8 – 5.4) | 4.1 - (4.8 – 5.4) |
| 4.3 - (5.0 – 5.6) | 4.3 - (5.0 – 5.6) | 4.3 - (5.0 – 5.6) |
| 4.5 - (5.2 – 5.8) | 4.5 - (5.2 – 5.8) | 4.5 - (5.2 – 5.8) |
| 4.7 - (5.4 – 6.0) | 4.7 - (5.4 – 6.0) | 4.7 - (5.4 – 6.0) |
| 4.8 - (5.5 – 6.1) | 4.8 - (5.5 – 6.1) | 4.8 - (5.5 – 6.1) |
| 4.9 - (5.6 – 6.2) | 4.9 - (5.6 – 6.2) | 4.9 - (5.6 – 6.2) |
| 5.1 - (5.8 – 6.4) | 5.1 - (5.8 – 6.4) | 5.1 - (5.8 – 6.4) |
| 5.3 - (6.0 – 6.6) | 5.3 - (6.0 – 6.6) | 5.3 - (6.0 – 6.6) |
| 5.5 - (6.2 – 6.8) | 5.5 - (6.2 – 6.8) | 5.5 - (6.2 – 6.8) |
| 5.7 - (6.4 – 7.0) | 5.7 - (6.3 – 7.0) | 5.7 - (6.3 – 7.0) |

Tab.41 Target O₂ values for full load - (low load range) for BREEAM with G20 (H gas)

| Quinta Ace S 50 | Quinta Ace S 60 | Quinta Ace S 70 |
|--------------------------|--------------------------|--------------------------|
| -- (-) | -- (-) | -- (-) |
| -- (-) | -- (-) | -- (-) |
| 4.5 - (5.2 – 5.8) | 4.9 - (5.6 – 6.2) | 5.4 - (6.4 – 7.0) |
| 4.6 - (5.3 – 5.9) | 5.0 - (5.7 – 6.3) | 5.5 - (6.5 – 7.1) |
| 4.7 - (5.4 – 6.0) | 5.1 - (5.8 – 6.4) | 5.6 - (6.6 – 7.2) |
| 4.8 - (5.5 – 6.1) | 5.2 - (5.9 – 6.5) | 5.7 - (6.7 – 7.3) |
| 4.9 - (5.6 – 6.2) | 5.3 - (6.0 – 6.6) | 5.8 - (6.8 – 7.4) |
| 5.0 - (5.7 – 6.3) | 5.4 - (6.1 – 6.7) | 5.9 - (6.9 – 7.5) |
| 5.1 - (5.8 – 6.4) | 5.5 - (6.2 – 6.8) | 6.0 - (7.0 – 7.6) |
| -- (-) | -- (-) | -- (-) |
| -- (-) | -- (-) | -- (-) |

Fig.96 Gas control valve in boiler types: 50 - 60 - 70



4. If the measured value is outside of the values given in the table, correct the O₂ percentage.

4.1. Use the full load adjusting screw **A** to set the percentage of O₂ for the gas type being used within the range given in the table.



- Turning the full load screw **A** clockwise (+) increases O₂.
- Turning the full load screw **A** anti-clockwise (-) decreases O₂.

5. Use the full load adjusting screw **A** to set the percentage of O₂ for the gas type being used within the range given in the table.

6. Set the boiler to low load.

7. Measure the percentage of O₂ in the flue gases.

8. Find the low load value range in the table that matches the measured full load value.

The low load range is shown in brackets directly next to the full load value.

9. Compare the measured value with the low load range in the table.

10. If the measured value is outside of the range given in the table, correct the O₂ percentage.

10.1. Use the low load adjusting screw **B** to set the percentage of O₂ for the gas type being used within the range given in the table.



- Turning the low load screw **B** clockwise (+) decreases O₂.
- Turning the low load screw **B** anti-clockwise (-) increases O₂.

11. Check the flame through the inspection glass. The flame must not blow off.

12. Measure the CO value in the flue gases. If the CO level is above 400 ppm perform the following actions:

**Important**

The CO-concentration in the flue gases must always comply with the installation regulations of the country in which the boiler is installed.

- 12.1. Make sure that the flue gas discharge system is installed correctly.
- 12.2. Make sure that boiler settings match with the gas type used.
- 12.3. Check the burner for damage and clean the burner.
- 12.4. Recheck the gas/air ratio setting.
- 12.5. Contact your supplier if the CO level is still above 400 ppm.

**Danger**

If the CO level is above 1000 ppm, switch off the boiler and contact your supplier.

7.3 Final instructions

1. Remove the measuring equipment.
2. Screw the cap on to the flue gas measuring point.
3. Seal the gas control valve.
4. Put the front panel back.
5. Heat up the central heating system to approximately 70°C.
6. Switch the boiler off.
7. Vent the central heating system after approx. 10 minutes.
8. Turn on the boiler.
9. Check the water pressure. If necessary, top up the central heating system.
10. Fill in the following data on the sticker included, and attach it next to the data plate on the appliance.
 - The gas type, if adapted to another gas;
 - The gas supply pressure;
 - The flue type, if set to overpressure application;
 - The parameters modified for the changes mentioned above;
 - Any fan speed parameters modified for other purposes.
11. Complete the commissioning form, which can be found in annex.
12. Optimise the settings as required for the system and user preferences.

**See**

For more information; Settings, page 50 and User instructions, page 76.

13. Save the commissioning settings on the control panel, so they can be restored after a reset.
14. Instruct the user in the operation of the system, boiler and controller.
15. Inform the user of the maintenance to be performed.
16. Hand over all manuals to the user.
17. Confirm the commissioning with a signature and a company stamp.
 - ⇒ The boiler is now ready for operation.

Fig.97 Example filled-in sticker

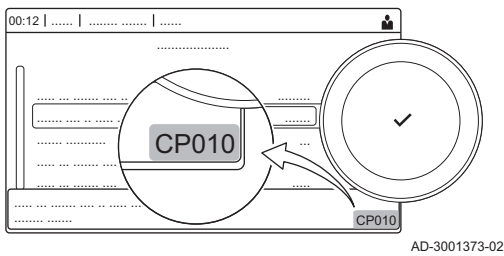
| | |
|---|--|
| <p>Adjusted for / Réglée pour / Ingesteld op / Eingestellt auf / Regolato per / Ajustado para / Ρυθμισμένο για / Nastawiony na / настроен для / Reglat pentru / настроен за / ayarlanmıştır / Nastavljen za / beállítva / Nastaveno pro / Asetettu kaasulle / Justert for / indstillet til / ل طيبحض :</p> <p><input checked="" type="checkbox"/> Gas <u>G20</u></p> <p><u>20</u> mbar</p> <p><input checked="" type="checkbox"/> C_{(10)3(X)}</p> <p><input type="checkbox"/> C_{(11)3(X)} <input type="checkbox"/> C_{(13)3(X)}</p> <p><input type="checkbox"/> C_{(12)3(X)} <input type="checkbox"/></p> | <p>Parameters / Paramètres / Parameter / Parametri / Parámetros / Παράμετροι / Parametry / Параметры / Parametrii / Параметри / Parametreler / Paraméterek / Parametrit / Parametere / Parametre / تامل عمل :</p> <p><u>DP003 - 3300</u></p> <p><u>GP007 - 3300</u></p> <p><u>GP008 - 2150</u></p> <p><u>GP009 -</u></p> |
|---|--|

AD-3001124-02

8 Settings

8.1 Introduction to parameter codes

Fig.98 Code on a HMI Advanced



The controls platform makes use of an advanced system to categorise parameters, measurements and counters. Knowing the logic behind these codes, makes it easier to identify them. The code consists of two letters and three numbers.

Fig.99 First letter



The first letter is the category the code relates to.

- A Appliance: Appliance
- B Buffer: Hot water tank
- C Circuit: Zone
- D Domestic hot water: Domestic hot water
- E External: External options
- G Gas fired: Gas-fired heat engine
- N Network: Cascade
- P Producer: Central heating
- Z Zone: Zone

Category D codes are appliance controlled only. When the domestic hot water is controlled by an SCB, it is handled like a circuit, with C-category codes.

Fig.100 Second letter



The second letter is the type.

- P Parameter: Parameters
- C Counter: Counters
- M Measurement: Signals

Fig.101 Number



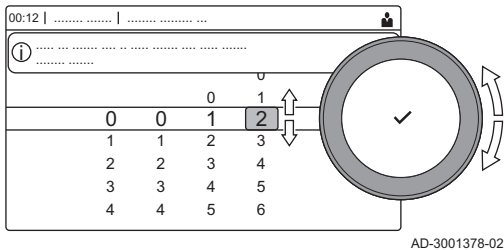
The number is always three digits. In certain cases, the last of the three digits relates to a zone.

8.2 Accessing the installer level

Some settings are protected by installer access. Enable installer access in order to change these settings.

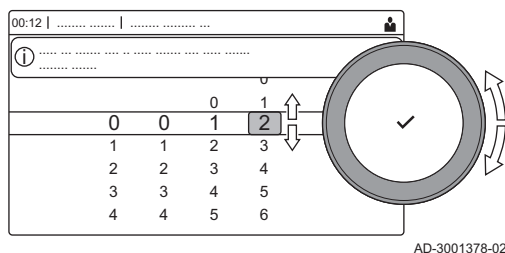
- Use the rotary knob to navigate.
- Use the ✓ button to confirm your selection.

Fig.102 Installer level



- Access the installer level via the tile:
 - Select the tile [⚙️].
 - Use code: **0012**.
 - ⇒ The tile [⚙️] shows that the installer access is **On**, and the icon in the top right of the display changes into [⚙️].
- Access the installer level via the menu:
 - Select **Enable installer access** from the **Main Menu**.

Fig.103 Installer level



2.2. Use code: **0012**.

⇒ When the installer level is enabled or disabled, the status of the tile [] changes into **On** or **Off**.

When the control panel is not used for 30 minutes, the installer access is disabled automatically. You can manually disable installer access via the tile [] or the **Main Menu** by selecting **Disable installer access**.

8.3 Searching the parameters, counters and signals

You can search and change data points (Parameters, counters, signals) of the appliance, connected control boards and sensors.

▶▶ > **Installation Setup** > **Search datapoints**



Use the rotary knob to navigate.

Use the button to confirm your selection.

1. Press the button.
2. Select **Installation Setup**.
3. Select **Search datapoints**.
4. Select the search criteria (code):
 - 4.1. Select the first letter (datapoint category).
 - 4.2. Select the second letter (datapoint type).
 - 4.3. Select the first number.
 - 4.4. Select the second number.
 - 4.5. Select the third number.



The * symbol can be used to indicate any character within the search field.

Fig.104 Search

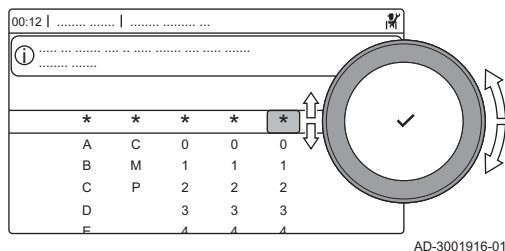
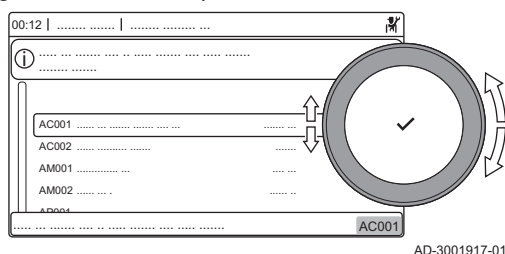


Fig.105 List of datapoints



⇒ The list of datapoints appears in the display. Only the first 30 results are shown when searching.

5. Select the desired datapoint.

8.4 Setting the fixed combinations

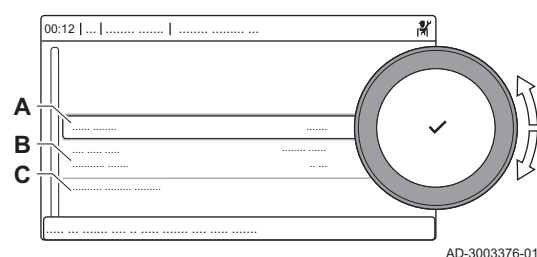
You can configure the functionality of the configurable input and output connectors with the following preconfigured settings.



Important

Some of the configurable input and output connectors will be used by these configurations. You will no longer be able to manually configure these inputs/outputs when enabling these configurations.

Fig.106 Setting the fixed combinations



- A** Enable or disable the function
- B** List of relevant settings
- C** Quick access to relevant parameters and signals

8.4.1 Activating cascade management

Enable the cascade manager functionality by enabling **Cascade management B** and configuring the relevant parameters.

▶▶ ≡ > **Installation Setup** > **Cascade management B** > **Enabled** > **Enable master func** > **Yes**



Use the rotary knob to navigate.

Use the ✓ button to confirm your selection.



Important

This function uses Multifunctional out 1.

1. Press the ≡ button.
2. Select **Installation Setup**.
3. Select **Cascade management B**.
4. Select **Toggle function**.
5. Select **Enabled**.
6. Enable cascade manager functionality:
 - 6.1. Select **Enable master func**.
 - 6.2. Select **Yes**.

Only enable this functionality on the lead appliance. Verify the configuration for each appliance in the cascade system.

8.4.2 Activating DHW circulation

Activate DHW circulation by enabling the **DHW circulation** function.

▶▶ ≡ > **Installation Setup** > **DHW Mix/Circulation** > **Enabled** > **DHW circulation** > **On**



Use the rotary knob to navigate.

Use the ✓ button to confirm your selection.



Important

This function uses Multifunctional out 1.

1. Press the ≡ button.
2. Select **Installation Setup**.
3. Select **DHW Mix/Circulation**.
4. Select **Toggle function**.
5. Select **Enabled**.
6. Select **DHW circulation**.
7. Select **On**.

8.4.3 Activating DHW mixing

Activate DHW mixing by enabling the **DHW tank mixing** function.

▶▶ ≡ > **Installation Setup** > **DHW Mix/Circulation** > **Enabled** > **DHW tank mixing** > **On**



Use the rotary knob to navigate.

Use the ✓ button to confirm your selection.



Important

This function uses Multifunctional out 1.

1. Press the ≡ button.
2. Select **Installation Setup**.
3. Select **DHW Mix/Circulation**.
4. Select **Toggle function**.
5. Select **Enabled**.
6. Select **DHW tank mixing**.



7. Select On.

8.4.4 Activating DHW layered

You can enable the DHW layered functionality by configuring the **DHW load type**.

►► ≡ > Installation Setup >  > Parameters, counters, signals > Parameters > DHW load type > Layered cylinder

- Use the rotary knob to navigate.
- Use the button to confirm your selection.

1. Press the  button.
2. Select **Installation Setup**.
3. Select .
4. Select **Parameters, counters, signals**.
5. Select **Parameters**.
6. Select **DHW load type**.
7. Select **Layered cylinder**.


8.4.5 Activating boiler room ventilation

Activate boiler room ventilation by enabling the **Boiler room ventilation** function.

►► ≡ > Installation Setup > Boiler room ventilation > Enabled

- Use the rotary knob to navigate.
- Use the button to confirm your selection.

i Important
This function uses Digital input 2 and Multifunctional out 2.

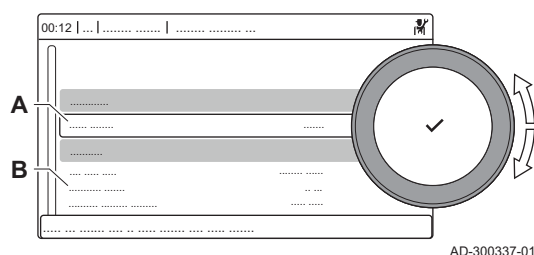
1. Press the  button.
2. Select **Installation Setup**.
3. Select **Boiler room ventilation**.
4. Select **Toggle function**.
5. Select **Enabled**.

8.5 Setting the inputs and outputs

You can configure the functionality of the configurable input and output connectors manually.

i Important Some of the configurable input and output connectors could be in use by the preconfigured fixed combinations. Disable the conflicting fixed configuration if you encounter an error while configuring the inputs or outputs.

Fig.107 Setting the inputs and outputs



- A** Configure the function
- B** List of relevant settings

8.5.1 Setting the input

You can configure the input to support a wide range of different functionalities.

►► ≡ > **Installation Setup > Digital input**



Use the rotary knob to navigate.

Use the ✓ button to confirm your selection.

1. Press the ≡ button.
2. Select **Installation Setup**.
3. Select **Digital input 1** or **Digital input 2**.
This menu lists all parameters for configuring the input.

■ Input settings

Tab.42 Input settings

| Setting | Description | Use |
|------------------|---------------------------------------|--|
| None | No feature selected. | - |
| Min gas pressure | Minimum gas pressure switch function. | Gas pressure switch: On/off contact to connect a gas pressure switch for low gas pressure detection. When the gas pressure is too low, all heat demands are blocked. |
| Max gas pressure | Maximum gas pressure switch function. | Gas pressure switch: On/off contact to connect a gas pressure switch for high gas pressure detection. When the gas pressure is too high, all heat demands are blocked. |
| Block CH | Block CH. | Blocking input: On/off contact to block the central heating function of the appliance. |
| Block DHW | Block DHW. | Blocking input: On/off contact to block the domestic hot water function of the appliance. |
| Block CH+DHW | Block CH+DHW. | Blocking input: On/off contact to block both the central heating and domestic hot water function of the appliance. |
| Lock appliance | Lock appliance. | Blocking input: On/off contact to generate a lock-out error. |
| Release CH | Release CH | Release input: On/off contact to release the central heating function. The release of the contact will activate the appliance to produce heat for central heating. |
| Release CH+DHW | Release CH+DHW | Release input: On/off contact to release the central heating and domestic hot water function. The release of the contact will activate the appliance to produce heat for central heating and domestic hot water. |
| Relieve from CH | Relieve from CH demand. | Boiler relief signal: On/off contact to relieve the appliance for central heating. Use this when other appliances can also produce heat for central heating. When the appliance is relieved for a heat demand, the pump activates only the appliance will not produce heat. |
| Relieve from DHW | Relieve from DHW demand. | Boiler relief signal: On/off contact to relieve the appliance for domestic hot water. Use this when other appliances can also produce heat for domestic hot water. When the appliance is relieved for a heat demand, the pump activates only the appliance will not produce heat. |

| Setting | Description | Use |
|---------------------|-----------------------------|--|
| Relieve CH+DHW | Relieve from CH+DHW demand. | Boiler relief signal: On/off contact to relieve the appliance for central heating and domestic hot water. Use this when other appliances can also produce heat for central heating and domestic hot water. When the appliance is relieved for a heat demand, the pump activates only the appliance will not produce heat. |
| Extern heat request | External heat request. | Heat demand signal: On/off contact to generate a heat demand from the appliance. |

8.5.2 Setting the output

You can configure the output to support a wide range of different functionalities.

►► ≡ > **Installation Setup** > **Multifunctional out**



Use the rotary knob to navigate.

Use the ✓ button to confirm your selection.

1. Press the ≡ button.
2. Select **Installation Setup**.
3. Select **Multifunctional out 1** or **Multifunctional out 2**.
This menu lists all parameters for configuring the output.

■ Output settings

Tab.43 Output settings

| Setting | Description | Use |
|---------------------|---|--|
| None | None | - |
| External gas valve | External gas valve (EGV) function. | External gas valve. |
| Hydraulic valve | Hydraulic valve (HDV) function. | Hydraulic valve. |
| Secondary pump | Secondary pump feature | Secondary pump. |
| Locking | Notify external system when there is a locking error. | Status contact to report a lock-out error. |
| Locking or blocking | Notify external system when there is a locking or blocking error. | Status contact to report a lock-out or blocking error. |
| Burning | Notify external system if the burner is burning. | Status contact to report that the burner is active. |
| Service request | Notify external systems when there is a service request. | Status contact to report that there is a service request. |
| Boiler on CH | Notify external system when the boiler is producing for central heating. | Status contact to report that there is a request for central heating. |
| Boiler on DHW | Notify external system when the boiler is producing for domestic hot water. | Status contact to report that there is a request for domestic hot water. |
| CH pump on | Notify external system when the central heating pump is on. | Status contact to report that the central heating pump is on. |
| DHW pump on | Notify external system when the DHW pump is on. | Status contact to report that the domestic hot water pump is on. |
| Direct zone pump on | Control the direct zone pump. | On/off contact to connect the pump of a direct zone. When the boiler pump is active the zone pump will also be active. You can use this when there is a hydraulic separator between the primary and secondary side of the system (for example: a low loss header or plate heat exchanger). If used in a cascade system, this feature is only available on the lead boiler. |

8.6 List of parameters

8.6.1 CU-GH20 control unit parameters

All tables show the factory setting for the parameters.



Important

The tables also list parameters that are only applicable if the boiler is combined with other equipment.

Tab.44 Navigation for basic installer level

| Level | Menu path |
|---|--|
| Basic installer | ☰ > Installation Setup > CU-GH20 > Submenu ⁽¹⁾ > Parameters, counters, signals > Parameters > General ⁽²⁾ |
| (1) See the column "Submenu" in the following table for the correct navigation. The parameters are grouped in specific functionalities. | |
| (2) The parameters can also be accessed directly via the Search datapoints function: ☰ > Installation Setup > Search datapoints | |

Tab.45 Factory settings at basic installer level

| Code | Display text | Description | Adjustment range | Submenu | 50 | 60 | 70 |
|--|----------------------|---|---|---|---------------------------------|---------------------------------|---------------------------------|
| AP016 | CH function on | Enable central heating demand processing | 0 = Off 1 = On | Gas fired appliance | 1 | 1 | 1 |
| AP017 | DHW function on | Enable domestic hot water heat demand processing | 0 = Off 1 = On | Gas fired appliance | 1 | 1 | 1 |
| AP073 | Summer Winter | Outdoor temperature; Upper limit for heating | 10 – 30 °C | Outdoor temperature | 22 | 22 | 22 |
| AP074 | Force summer mode | The heating is stopped, Hot water is maintained, Force summer mode | 0 = Off 1 = On | Outdoor temperature | 0 | 0 | 0 |
| AP083 | Enable master func | Enable the master functionality of this device on the S-Bus for system control | 0 = No 1 = Yes | Mandatory bus master Producer Manager Cascade management B Cascade management B | 0 | 0 | 0 |
| AP089 | Installer name | Name of the installer | | Mandatory bus master | None | None | None |
| AP090 | Installer phone | Telephone number of the installer | | Mandatory bus master | 0 | 0 | 0 |
| AP107 | Color display Mk2 | Color display Mk2 | 0 = White 1 = Red 2 = Blue 3 = Green 4 = Orange 5 = Yellow | Mandatory bus master | 2 | 2 | 2 |
| CP010 | Tflow setpoint zone | Zone flow temperature setpoint, used when the zone is set to a fixed flow setpoint. | 0 – 90 °C | CIRCA | 80 | 80 | 80 |
| CP080 CP081 CP082 CP083 CP084 CP085 | User T.Room Activity | Room setpoint temperature of the user zone activity | 5 – 30 °C | CIRCA | 16 20 6 21 22 20 | 16 20 6 21 22 20 | 16 20 6 21 22 20 |
| CP200 | Manu ZoneRoomTempSet | Manually setting the room temperature setpoint of the zone | 5 – 30 °C | CIRCA | 20 | 20 | 20 |

| Code | Display text | Description | Adjustment range | Submenu | 50 | 60 | 70 |
|-------|----------------------|--|---|--------------------------|----|----|----|
| CP320 | OperatingZoneMode | Operating mode of the zone | 0 = Scheduling 1 = Manual 2 = Off | CIRCA | 1 | 1 | 1 |
| CP510 | Temporary Room Setp | Temporary room setpoint per zone | 5 – 30 °C | CIRCA | 20 | 20 | 20 |
| CP550 | Zone, fire place | Fire Place mode is active | 0 = Off 1 = On | CIRCA | 0 | 0 | 0 |
| CP660 | Icon display zone | Choice icon to display this zone | 0 = None 1 = All 2 = Bedroom 3 = Livingroom 4 = Study 5 = Outdoor 6 = Kitchen 7 = Basement | CIRCA | 0 | 0 | 0 |
| DP060 | DHW timeprog select | Time program selected for DHW. | 0 = Schedule 1 1 = Schedule 2 2 = Schedule 3 | Internal DHW | 0 | 0 | 0 |
| DP070 | DHW comfort setpoint | Comfort temperature setpoint for the Domestic Hot Water tank | 40 – 65 °C | Internal DHW | 60 | 60 | 60 |
| DP080 | DHW eco setpoint | Eco friendly temperature setpoint from the Domestic Hot Water tank | 10 – 60 °C | Internal DHW | 10 | 10 | 10 |
| DP200 | DHW mode | DHW primary mode current working setting | 0 = Scheduling 1 = Manual 2 = Off | Internal DHW | 1 | 1 | 1 |
| DP337 | DHW holiday setpoint | Holiday temperature setpoint from the Domestic Hot Water tank | 10 – 60 °C | Internal DHW | 10 | 10 | 10 |
| DP410 | DHW anti-leg runtime | Duration of the DHW anti-legionella program | 5 – 60 Min | Internal DHW Tank DHW | 10 | 10 | 10 |
| DP455 | DHW charge pump post | The post operating time of the DHW charge pump | 0 – 99 Sec | Tank DHW | 15 | 15 | 15 |

Tab.46 Navigation for installer level

| Level | Menu path |
|---|--|
| Installer | ≡ > Installation Setup > CU-GH20 > Submenu ⁽¹⁾ > Parameters, counters, signals > Parameters > General ⁽²⁾ |
| (1) See the column "Submenu" in the following table for the correct navigation. The parameters are grouped in specific functionalities. | |
| (2) The parameters can also be accessed directly via the Search datapoints function: ≡ > Installation Setup > Search datapoints | |

Tab.47 Factory settings at installer level

| Code | Display text | Description | Adjustment range | Submenu | 50 | 60 | 70 |
|-------|----------------------|--|---|---------------------|-------|-------|-------|
| AP006 | Min water pressure | The appliance will report low water pressure below this value | 0.8 – 6 bar | Gas fired appliance | 0.8 | 0.8 | 0.8 |
| AP009 | Service hours | Number of heat generator operating hours before raising a service notification | 0 – 51000 Hours | Gas fired appliance | 6000 | 6000 | 6000 |
| AP010 | Service notification | Select the type of service notification | 0 = None 1 = Custom notification 2 = ABC notification | Gas fired appliance | 2 | 2 | 2 |
| AP011 | Service hours mains | Hours powered to raise a service notification | 0 – 51000 Hours | Gas fired appliance | 35000 | 35000 | 35000 |

| Code | Display text | Description | Adjustment range | Submenu | 50 | 60 | 70 |
|-------|-----------------------|--|---|--------------------------------------|-----|-----|-----|
| AP063 | Max CH flow setpoint | Maximum central heating flow temperature setpoint | 20 – 90 °C | Producer Generic Gas fired appliance | 90 | 90 | 90 |
| AP079 | Building Inertia | Inertia of the building used for heat up speed | 0 – 15 | Outdoor temperature | 3 | 3 | 3 |
| AP080 | Frost min out temp | Outdoor temperature below which the antifreeze protection is activated | -60 – 25 °C | Outdoor temperature | -10 | -10 | -10 |
| AP082 | Enable daylight save | Enable daylight saving for the system to save energy during winter | 0 = Off 1 = On | Mandatory bus master | 0 | 0 | 0 |
| AP091 | Outdoor sens source | Type of outdoor sensor connection to be used | 0 = Auto 1 = Wired sensor 2 = Wireless sensor 3 = Internet measured 4 = None | Outdoor temperature | 0 | 0 | 0 |
| AP178 | Pump output profile | Output profile of the 0-10V/PWM pump | 0 = 0-10V 1 (Wilo) 1 = 0-10V 2 (Gr GENI) 2 = PWM signal (Solar) 3 = 0-10V 1 limited 4 = 0-10V 2 limited 5 = PWM signal limited 6 = PWM signal (UPMXL) | Pump Configuration | 0 | 0 | 0 |
| CP000 | MaxZoneT-FlowSetpoint | Maximum Flow Temperature setpoint zone | 0 – 90 °C | CIRCA | 80 | 80 | 80 |
| CP020 | Zone Function | Functionality of the zone | 0 = Disable 1 = Direct | CIRCA | 1 | 1 | 1 |
| CP060 | Room T holiday | Wished room zone temperature on holiday period | 5 – 20 °C | CIRCA | 6 | 6 | 6 |
| CP070 | MaxReduce-dRoomT.Lim | Max Room Temperature limit of the circuit in reduced mode, that allows switching to comfort mode | 5 – 30 °C | CIRCA | 16 | 16 | 16 |
| CP210 | Zone HCZP Comfort | Comfort footpoint of the temperature of heat curve of the circuit | 15 – 90 °C | CIRCA | 15 | 15 | 15 |
| CP220 | Zone HCZP Reduced | Reduced footpoint of the temperature of heat curve of the circuit | 15 – 90 °C | CIRCA | 15 | 15 | 15 |
| CP230 | Zone Heating Curve | Heating curve temperature gradient of the zone | 0 – 4 | CIRCA | 1.5 | 1.5 | 1.5 |
| CP340 | TypeReduced-NightMode | Type of reduced night mode, stop or maintain heating of circuit | 0 = Stop heat demand 1 = Continue heat demand | CIRCA | 1 | 1 | 1 |
| CP570 | ZoneTimeProg Select | Time Program of the zone selected by the user | 0 = Schedule 1 1 = Schedule 2 2 = Schedule 3 | CIRCA | 0 | 0 | 0 |
| CP730 | Zone Heat up speed | Selection of heat up speed of the zone | 0 = Extra Slow 1 = Slowest 2 = Slower 3 = Normal 4 = Faster 5 = Fastest | CIRCA | 3 | 3 | 3 |
| CP740 | Zone cool down speed | Selection of cool down speed of the zone | 0 = Slowest 1 = Slower 2 = Normal 3 = Faster 4 = Fastest | CIRCA | 2 | 2 | 2 |

| Code | Display text | Description | Adjustment range | Submenu | 50 | 60 | 70 |
|-------|-----------------------|---|--|--|----|----|----|
| CP750 | MaxZone Pre-heat time | Maximum zone preheat time | 0 – 240 Min | CIRCA | 0 | 0 | 0 |
| CP780 | Control strategy | Selection of the control strategy for the zone | 0 = Automatic 1 = Room temp based 2 = Outdoor temp based 3 = Outdoor & room based | CIRCA | 0 | 0 | 0 |
| DP004 | Anti-legionella | Anti-legionella protection of the calorifier | 0 = Disabled 1 = Weekly 2 = Daily | Internal DHW Tank DHW | 0 | 0 | 0 |
| DP024 | Mix anti-leg mode | DHW mixing pump anti- legionella mode | 0 = Off 1 = During charging 2 = Charging + disinfect | DHW mixing DHW Mix/ Circulation | 0 | 0 | 0 |
| DP025 | DHW mixing pump | DHW mixing pump enable | 0 = Off 1 = On | DHW mixing DHW Mix/ Circulation | 0 | 0 | 0 |
| DP026 | Delta DHW tank temp | Maximum temperature difference between the top and bottom of the DHW tank | 0 – 100 °C | DHW mixing DHW Mix/ Circulation | 6 | 6 | 6 |
| DP034 | DhwCalorifier-Offset | Offset for calorifier sensor | 0 – 10 °C | Tank DHW | 0 | 0 | 0 |
| DP044 | Min DHW tank temp | Minimum bottom temperature DHW tank | 0 – 120 °C | DHW mixing DHW Mix/ Circulation | 70 | 70 | 70 |
| DP045 | Mix pump hysteresis | DHW mixing pump hysteresis temperature | 0 – 20 °C | DHW mixing DHW Mix/ Circulation | 2 | 2 | 2 |
| DP049 | DHW tank mixing | Enable/disable domestical hot water tank mixing | 0 = Off 1 = On | DHW mixing DHW Mix/ Circulation | 0 | 0 | 0 |
| DP050 | Circulation mode | DHW circulation pump mode selection | 0 = Pump is off 1 = Pump on time program 2 = Pump for DHW comfort | DHW circulation DHW Mix/ Circulation | 0 | 0 | 0 |
| DP052 | Circ pump on time | DHW circulation pump cyclic ON time | 0 – 20 Min | DHW circulation DHW Mix/ Circulation | 0 | 0 | 0 |
| DP053 | Circ pump off time | DHW circulation pump cyclic OFF time | 0 – 20 Min | DHW circulation DHW Mix/ Circulation | 0 | 0 | 0 |
| DP054 | Circ pump anti leg | DHW circulation pump anti legionella | 0 = Off 1 = On | DHW circulation DHW Mix/ Circulation | 0 | 0 | 0 |
| DP055 | DHW TAS protection | Enable/disable the TAS protection of the DHW tank | 0 = No 1 = Yes | Tank DHW | 1 | 1 | 1 |
| DP057 | Circulation Toffset | DHW circulation offset temperature | 0 – 20 °C | DHW circulation DHW Mix/ Circulation | 0 | 0 | 0 |

| Code | Display text | Description | Adjustment range | Submenu | 50 | 60 | 70 |
|-------|----------------------|---|--|--|-----|-----|-----|
| DP150 | DHW Thermo-stat | Enable DHW Thermostat function | 0 = Off 1 = On | Tank DHW | 1 | 1 | 1 |
| DP160 | DHW AntiLeg Setpoint | Setpoint for DHW anti legionella | 60 – 80 °C | Internal DHW Tank DHW | 65 | 65 | 65 |
| DP336 | DHW pump hysteresis | DHW circulation pump hysteresis temperature | 1 – 60 °C | DHW circulation DHW Mix/ Circulation | 6 | 6 | 6 |
| DP430 | Start day anti-leg | Day to start the DHW anti-le-gionella program | 1 = Monday 2 = Tuesday 3 = Wednesday 4 = Thursday 5 = Friday 6 = Saturday 7 = Sunday | Internal DHW Tank DHW | 6 | 6 | 6 |
| DP440 | Start time anti-leg | Starting time for the DHW anti-legionella program | 0 – 143 HoursMinutes | Internal DHW Tank DHW | 18 | 18 | 18 |
| DP450 | DHW circulation | DHW circulation zone enabled | 0 = Off 1 = On | DHW circulation DHW Mix/ Circulation | 0 | 0 | 0 |
| DP452 | DHW priority | Selects the DHW priority | 0 = Total 1 = Relative 2 = None | Tank DHW | 0 | 0 | 0 |
| DP473 | Circulation Tsensor | DHW circulation temperature sensor connected | 0 = No 1 = Yes | DHW circulation DHW Mix/ Circulation | 1 | 1 | 1 |
| EP014 | SCB func 10V PWMIn | Smart Control Board function 10 Volt PWM input | 0 = Off 1 = Temperature control 2 = Power control | 0-10 volt input | 0 | 0 | 0 |
| EP030 | Min Setp Temp 0-10V | Sets the minimum set point temperature for 0 - 10 volts for the Smart Control Board | 0 – 100 °C | 0-10 volt input | 0 | 0 | 0 |
| EP031 | Max Setp Temp 0-10V | Sets the maximum set point temperature for 0 - 10 volts for the Smart Control Board | 0.5 – 100 °C | 0-10 volt input | 100 | 100 | 100 |
| EP032 | Min Setp Power 0-10V | Sets the minimum set point power for 0 - 10 volts for the Smart Control Board | 0 – 100 % | 0-10 volt input | 0 | 0 | 0 |
| EP033 | Max Setp Power 0-10V | Sets the maximum set point power for 0 - 10 volts | 5 – 100 % | 0-10 volt input | 100 | 100 | 100 |
| EP034 | Min Setp Volt 0-10V | Sets the minimum set point voltage for 0 - 10 volts for the Smart Control Board | 0.5 – 10 V | 0-10 volt input | 0.5 | 0.5 | 0.5 |
| EP035 | Max Setp Volt 0-10V | Sets the maximum set point voltage for 0 - 10 volts | 0 – 10 V | 0-10 volt input | 10 | 10 | 10 |
| GP094 | Chimney sweep power | Custom power setpoint for the chimney sweep mode | 0 – 100 % | Gas fired appliance | 50 | 50 | 50 |
| NP005 | Cascade Permutation | Choice of the leading generator, Default = Switching of order every 7 days | 0 – 127 | Cascade management B Cascade management B | 0 | 0 | 0 |

| Code | Display text | Description | Adjustment range | Submenu | 50 | 60 | 70 |
|-------|-----------------------|--|---|--|----|----|----|
| NP006 | Cascade Type | Cascading boilers by adding successively or in parallel, the boilers function simultaneously | 0 = Traditional 1 = Parallel | Cascade management B Cascade management B | 0 | 0 | 0 |
| NP007 | CascTOldoor-HeatParl | Outdoor start temperature heating of all stages in parallel mode | -10 – 20 °C | Cascade management B Cascade management B | 10 | 10 | 10 |
| NP008 | CascPrim-PumpPostRun | Duration of post operation of the cascade primary circulation pump | 0 – 30 Min | Cascade management B Cascade management B | 4 | 4 | 4 |
| NP009 | CascInterStageTime | Switch on and switch off timing for the producer of the cascade | 1 – 60 Min | Cascade management B Cascade management B | 10 | 10 | 10 |
| NP010 | CascTOldoor-CoolPara | Outdoor start temperature cooling of all stages in parallel mode | 10 – 40 °C | Cascade management B Cascade management B | 30 | 30 | 30 |
| NP011 | Cascade algorithm | Type of cascade management which is requested. | 0 = Temperature 1 = Power | Cascade management B Cascade management B | 0 | 0 | 0 |
| NP012 | CascPowerRiseTime | Cascade, Time to reach Temperature Setpoint | 1 – 10 | Cascade management B Cascade management B | 1 | 1 | 1 |
| NP013 | CascForce-Stop Pprim | Force Primary Pump to Stop on cascade | 0 = No 1 = Yes | Cascade management B Cascade management B | 0 | 0 | 0 |
| NP014 | Cascade Mode | Functionnement mode of cascade; Automatic, heating or cooling | 0 = Automatic 1 = Heating 2 = Cooling | Cascade management B Cascade management B | 0 | 0 | 0 |
| PP015 | CH Pump post-run time | Central heating pump postrun time | 0 – 99 Min | Gas fired appliance | 2 | 2 | 2 |

Tab.48 Navigation for advanced installer level

| Level | Menu path |
|---|---|
| Advanced installer | ≡ > Installation Setup > CU-GH20 > Submenu ⁽¹⁾ > Parameters, counters, signals > Parameters > Advanced ⁽²⁾ |
| (1) See the column "Submenu" in the following table for the correct navigation. The parameters are grouped in specific functionalities. | |
| (2) The parameters can also be accessed directly via the Search datapoints function: ≡ > Installation Setup > Search datapoints | |

Tab.49 Factory settings at advanced installer level

| Code | Display text | Description | Adjustment range | Submenu | 50 | 60 | 70 |
|-------|----------------------|---|---|---------------------------------|------|------|------|
| AP002 | Manual Heat Demand | Enable manual heat demand function | 0 = Off 1 = With setpoint | Gas fired appliance | 0 | 0 | 0 |
| AP004 | Hydr valve wait time | Heat generator wait time to open the hydraulic valve | 0 – 255 Sec | Gas fired appliance | 1 | 1 | 1 |
| AP026 | Setpoint manual HD | Flow temperature setpoint for manual heat demand | 10 – 90 °C | Gas fired appliance | 40 | 40 | 40 |
| AP056 | Outdoor sensor | Enable outdoor sensor | 0 = No outdoor sensor 1 = AF60 2 = QAC34 | Outdoor temperature | 0 | 0 | 0 |
| AP101 | Deaeration program | Deaeration program settings | 0 = No deair at power up 1 = Always deair at pwr 2 = Deair only at 1 pwr | Deaeration control | 2 | 2 | 2 |
| AP102 | Appliance pump funct | Configuration of the appliance pump as zone pump or system pump (feed lowloss header) | 0 = No 1 = Yes | Gas fired appliance | 0 | 0 | 0 |
| AP173 | Pump control | Pump control signal/comms types | 0 = LIN pump 1 = PWM pump 2 = PWM/0-10V profiles 3 = On/Off pump control | Pump Configuration | 1 | 1 | 1 |
| AP200 | Temperature setpoint | Temperature setpoint requested when the input is active | 7 – 100 °C | Multifunctional in | 90 | 90 | 90 |
| AP201 | Temperature setpoint | Temperature setpoint requested when the input is active | 7 – 100 °C | Multifunctional in | 90 | 90 | 90 |
| CP240 | ZoneRoomUnitInfl | Adjustment of the influence of the zone room unit | 0 – 10 | CIRCA | 3 | 3 | 3 |
| CP250 | Calibration sensor | Adjust the measured room temperature | -5 – 5 °C | CIRCA | 0 | 0 | 0 |
| CP450 | Pump type | The connected pump type | 0 = On/Off 1 = Modulating PWM 2 = Modulating LIN | CIRCA | 1 | 1 | 1 |
| CP770 | Zone Buffered | The zone is after a Buffer tank | 0 = No 1 = Yes | CIRCA | 0 | 0 | 0 |
| CP850 | Hydronic balancing | Hydronic balancing operation possible | 0 = No 1 = Yes | CIRCA | 0 | 0 | 0 |
| DP003 | Abs max fan DHW | Maximum fan speed on Domestic Hot Water | 1000 – 6900 Rpm | Gas fired appliance GVC Generic | 6650 | 6750 | 6450 |
| DP005 | Calorifier Tf offset | Flow setpoint offset for loading calorifier | 0 – 30 °C | Tank DHW | 15 | 15 | 15 |
| DP006 | Hyst calorifier | Hysteresis to start heating calorifier | 2 – 15 °C | Tank DHW | 6 | 6 | 6 |
| DP007 | Dhw 3wv Standby | Position of three way valve during standby | 0 = CH position 1 = DHW position | Tank DHW | 0 | 0 | 0 |
| DP020 | Postrun DHW pump/3wv | Post run time of the DHW pump/3 way valve after DHW production | 0 – 99 Sec | Gas fired appliance | 15 | 15 | 15 |

| Code | Display text | Description | Adjustment range | Submenu | 50 | 60 | 70 |
|-------|----------------------|--|-------------------|---|------|------|------|
| DP035 | Start pump DHW calo | Start pump for Domestic Hot Water calorifier | -20 – 20 °C | Tank DHW | -3 | -3 | -3 |
| DP046 | DhwMaxTemp | Maximum Domestic Hot Water temperature | 0 – 95 °C | Tank DHW | 90 | 90 | 90 |
| DP140 | DHW load type | DHW load type (0 = Combi, 1 = Solo) | 1 = Solo | Internal DHW Tank DHW Gas fired appliance | 1 | 1 | 1 |
| DP474 | DHW cylinder as zone | Domestic hot water cylinder connected as zone | 0 = No 1 = Yes | Tank DHW | 0 | 0 | 0 |
| DP480 | Pump on when DHW | Turn the pump on immediately for DHW heat demand | 0 = No 1 = Yes | Tank DHW | 1 | 1 | 1 |
| GP007 | Fan RPM Max CH | Maximum fan speed during Central Heating mode | 1400 – 7000 Rpm | Gas fired appliance GVC Generic | 6650 | 6750 | 6450 |
| GP008 | Fan RPM Min | Minimum fan speed during Central Heating + Domestic Hot Water mode | 1250 – 4000 Rpm | Gas fired appliance GVC Generic | 1500 | 1420 | 1270 |
| GP009 | Fan RPM Start | Fan speed at appliance start | 1000 – 4000 Rpm | Gas fired appliance GVC Generic | 2300 | 2200 | 2100 |
| GP010 | GPS Check | Gas Pressure Switch check on/off | 0 = No 1 = Yes | Gas fired appliance | 0 | 0 | 0 |
| GP017 | Max power | Maximum power percentage in kilo Watt | 0 – 260 kW | Gas fired appliance | 49.1 | 59 | 73.2 |
| GP021 | Temp diff Modulating | Modulate back when delta temperature is larger than this threshold | 10 – 40 °C | Gas fired appliance | 35 | 35 | 35 |
| GP022 | Tfa Filter Tau | Tau factor for average flow temperature calculation | 0 – 255 | Gas fired appliance | 0 | 0 | 0 |
| GP038 | Flow test gradient | Gradient used for circulation test | 0 – 30 °C | Circulation test | 1 | 1 | 1 |
| GP039 | Flow test duration | Duration of the circulation test | 0 – 25 Sec | Circulation test | 15 | 15 | 15 |
| GP040 | Deair grad check en | Enable deaeration gradient | 0 – 240 Sec | Circulation test | 120 | 120 | 120 |
| GP042 | Fan RPM Max | Maximum fan speed | 0 – 65535 Rpm | GVC Generic | 7000 | 7000 | 7000 |
| GP050 | Power min | Minimum power in kilo Watt for RT2012 calculation | 0 – 80 kW | Gas fired appliance | 3.1 | 4.7 | 7.2 |
| GP082 | Chimney over DHW | Enable the DHW circuit during chimney sweep | 0 = Off 1 = On | Gas fired appliance | 0 | 0 | 0 |
| NP001 | CascProdMan Hys.High | Hysteresis high for Producer Manager | 0.5 – 10 °C | Cascade management B Cascade management B | 3 | 3 | 3 |
| NP002 | CascProdMan Hys.Low | Hysteresis low for Producer Manager | 0.5 – 10 °C | Cascade management B Cascade management B | 3 | 3 | 3 |

| Code | Display text | Description | Adjustment range | Submenu | 50 | 60 | 70 |
|-------|--------------------------|---|------------------|--|-----|-----|-----|
| NP003 | CascProdMa- nErrRange | Maximum error gain for Producer Manager | 0 – 10 °C | Cascade management B Cascade management B | 10 | 10 | 10 |
| NP004 | CascPFactor- AlgoTemp | Proportional Factor for cascade with Temperature algorithm | 0 – 10 | Cascade management B Cascade management B | 1 | 1 | 1 |
| PP014 | ChPumpDTReduction | Reduction of temperature delta modulating for pump modulation | 0 – 40 °C | Gas fired appliance | 7 | 7 | 7 |
| PP016 | Max CH pump speed | Maximum central heating pump speed (%) | 55 – 100 % | Gas fired appliance | 100 | 100 | 100 |
| PP017 | ChPump-SpeedMaxFactor | Maximum central heating at minimum load as percentage of max pump speed | 0 – 100 % | Gas fired appliance | 55 | 55 | 55 |
| PP018 | Min CH pump speed | Minimum central heating pump speed (%) | 45 – 100 % | Gas fired appliance | 55 | 55 | 66 |
| PP023 | CH Hysteresis | Temperature hysteresis for the generator to start on central heating | 1 – 10 °C | Gas fired appliance | 10 | 10 | 10 |

9 Maintenance

9.1 Maintenance regulations



Danger of electric shock

Make sure that the boiler is switched off before starting any maintenance work.



Caution

Always wear safety goggles and a dust mask during cleaning work (involving compressed air).



Notice

During inspection and maintenance work:

- Replace defective or worn parts with original spare parts.
- Always replace all gaskets on the parts removed.
- Make sure that all gaskets have been positioned properly.
- Make sure that water never comes into contact with the electrical parts.



Important

Adjust the frequency of inspection and service to the conditions of use, especially if the appliance is:

- In constant use (for example as process heat).
- Used with a low supply temperature.
- Used with a high ΔT .

9.2 Maintenance message

The boiler display will clearly indicate that a service is required at the appropriate time. Use the automatic maintenance message for preventive maintenance, to keep faults to a minimum. The service messages show which service kit must be used. These service kits contain all parts and gaskets that are required for the relevant service. These service kits (A, B or C) put together by BAXI are available from spare parts suppliers.

**Important**

Maintenance messages must be followed up within 2 months.

**Caution**

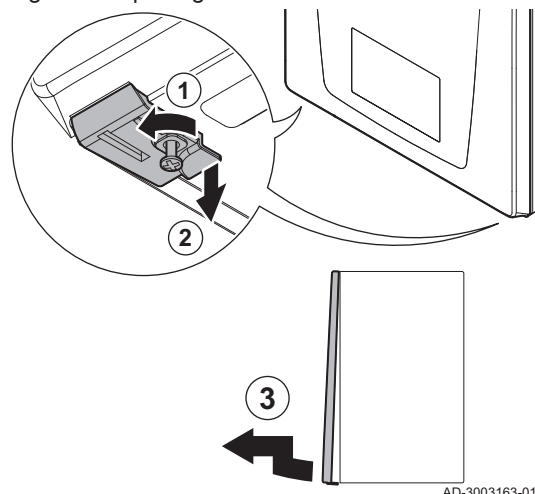
Reset the maintenance message following every service.

**See**

The service manual of the boiler.

9.3 Opening the boiler

Fig.108 Opening the boiler

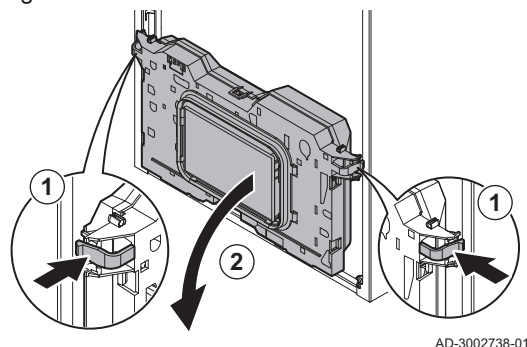


1. Unscrew the two screws located under the front panel.
⇒ The screws remain hanging in the clips.
2. Gently pull down the two clips to unlock them.
3. Remove the front panel.

9.4 Access to the boiler components

For easier access to the lower boiler components, the control box can be tilted.

Fig.109 Tilt the control box forwards



1. Gently press the clips on the sides of the control box.
2. Tilt the control box forwards.

9.5 Standard inspection and maintenance operations

9.5.1 Preparation

Carry out the following steps before commencing inspection and maintenance activities:

1. Set the boiler to full load until the return temperature is around 65 °C, to dry the heat exchanger on the flue gas side.
2. Check the water pressure.
The minimum water pressure is 0.8 bar. The recommended water pressure is between 1.0 bar and 1.5 bar.
2.1. If necessary, top up the central heating system.
3. Check the ionisation current at full load and at low load.
The value is stable after 1 minute.
3.1. If the value is lower than 4 µA, clean or replace the ionisation and ignition electrode.

4. Check the condition and tightness of the flue gas outlet and air supply system.
5. Check the combustion by measuring the O₂ percentage in the flue gasses.

9.5.2 Checking the water quality

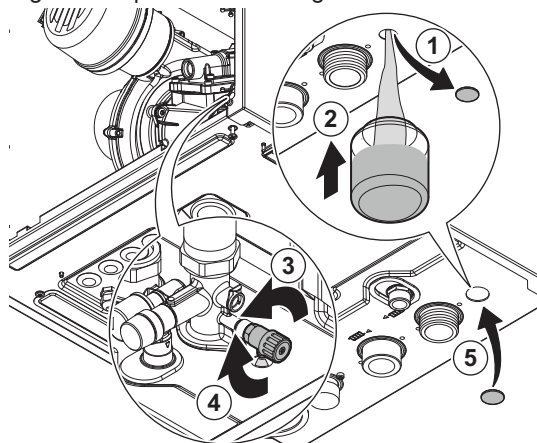


Caution

Not fulfilling the water quality requirements can damage the boiler and will void the warranty.

1. Remove the protection cap at the bottom of the boiler.
2. Place a water sample bottle under the heating drain valve opening under the boiler.
3. Open the heat exchanger drain valve.
4. Close the valve when the sample bottle is filled.
5. Replace the protection cap.
6. Check the quality of this water sample or have it checked.

Fig.110 Open heat exchanger drain valve



AD-3003170-02

9.5.3 Cleaning the trap

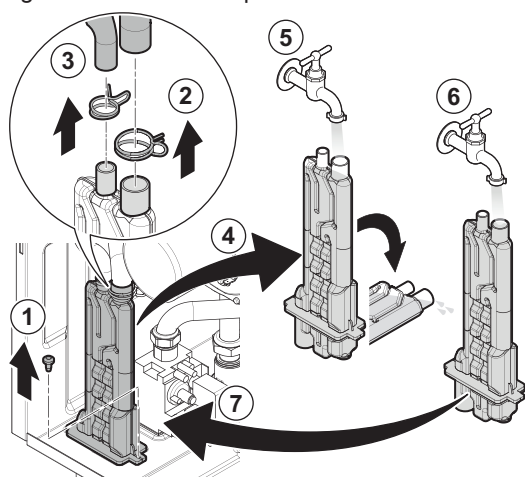


Danger

The trap must always be sufficiently filled with water. This prevents flue gases from entering the room.

1. Remove the trap fixing screw.
2. Undo the clip from the front water tube and remove it from the trap.
3. Undo the clip from the back water tube and remove it from the trap.
4. Remove the trap.
5. Clean the trap with water.
6. Fill the trap just below the top with water.
7. Fit the trap.
8. Check for leaks.

Fig.111 Clean the trap



AD-3003172-01

10 Troubleshooting

10.1 Error codes

The Quinta Ace S is fitted with an electronic regulation and control unit. The heart of the control is a **BDR** microprocessor, which controls and also protects. In the event of an error, a corresponding code is displayed.

Tab.50 Error codes are displayed at three different levels

| Code | Type | Description |
|--------------------------------|----------|--|
| A .00.00 ⁽¹⁾ | Warning | The controls continue to operate, but the cause of the warning must be investigated. A warning can change into a blocking or lock-out. |
| H .00.00 ⁽¹⁾ | Blocking | The controls will stop normal operation, and will check with set intervals if the cause of the blocking still exists. ⁽²⁾ Normal operation will resume when the cause of the blocking has been rectified. A blocking can become a lock-out. |
| E .00.00 ⁽¹⁾ | Lock out | The controls will stop normal operation. The cause of the lock-out must be rectified and the controls must be reset manually. |

(1) The first letter indicates the type of error.
(2) For some blocking errors, this checking interval is ten minutes. In those cases, it may seem that the controls do not start automatically. Wait ten minutes before resetting.

The meaning of the code can be found in the various error code tables.

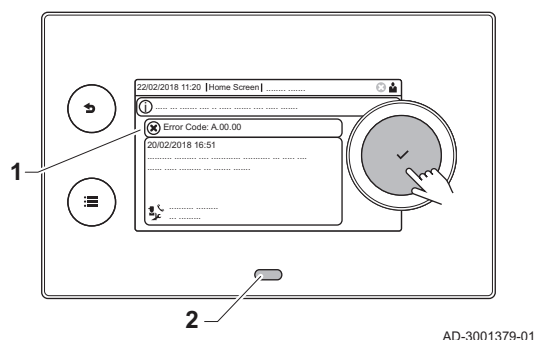


Important

The error code is needed to find the cause of the error quickly and correctly and for any support from BAXI.

10.1.1 Display of error codes

Fig.112 Error code display on HMI
Advanced



When an error occurs in the installation, the control panel will show the following:

- 1 The display will show a corresponding code and message.
- 2 The status LED of the control panel will show:
 - Continuous green = Normal operation
 - Flashing green = Warning
 - Continuous red = Blocking
 - Flashing red = Lock out

When an error occurs, proceed as follows:

1. Press and hold the ✓ button to reset the appliance.



Important

You can reset the appliance for a maximum of 10 times. After that the appliance will be blocked for one hour. Do a restart (disconnect the power) to avoid the one hour delay.

⇒ The appliance starts up again.

2. If the error code reappears, correct the problem by following the instructions in the error code tables.



Important


Only qualified professionals are authorised to work on the appliance and system.

⇒ The error code remains visible until the problem is solved.

3. Note the error code when the problem cannot be resolved.
4. Contact your installer or BAXI for support.

10.1.2 Warning

Tab.51 Warning codes

| Code | Display text | Description | Solution |
|---------|----------------------|---|--|
| A.00.34 | TOutdoor Missing | Outdoor temperature sensor was expected but not detected | Outdoor sensor not detected: <ul style="list-style-type: none"> Outdoor sensor is not connected: Connect the sensor Outdoor sensor is not connected correctly: Connect the sensor correctly |
| A.00.40 | WaterPressureOpen | Water pressure sensor is either removed or measures a temperature below range | - |
| A.01.23 | Poor Combustion | Poor combustion | Configuration error: No flame during operation: <ul style="list-style-type: none"> No ionisation current: <ul style="list-style-type: none"> Purge the gas supply to remove air. Check whether the gas tap is properly open. Checking the gas supply pressure. Check the operation and setting of the gas valve unit. Check that the air inlet and flue gas discharge flues are not blocked. Check that there is no recirculation of flue gases. |
| A.02.06 | Water Press Warning | Water Pressure Warning active | Water pressure warning: <ul style="list-style-type: none"> Water pressure too low; check the water pressure |
| A.02.18 | OBD Error | Object Dictionary Error | Configuration error: <ul style="list-style-type: none"> Reset CN1 and CN2 <div>  See The data plate for the CN1 and CN2 values. </div> |
| A.02.36 | Funct device lost | Functional device has been disconnected | SCB not found: <ul style="list-style-type: none"> Bad connection: check the wiring and connectors Faulty SCB: Replace SCB |
| A.02.37 | Uncritic device lost | Uncritical device has been disconnected | SCB not found: <ul style="list-style-type: none"> Bad connection: check the wiring and connectors Faulty SCB: Replace SCB |
| A.02.45 | Full Can Conn Matrix | Full Can Connection Matrix | SCB not found: <ul style="list-style-type: none"> Carry out an auto-detect |
| A.02.46 | Full Can Device Adm | Full Can Device Administration | SCB not found: <ul style="list-style-type: none"> Carry out an auto-detect |
| A.02.49 | Failed Init Node | Failed Initialising Node | SCB not found: <ul style="list-style-type: none"> Carry out an auto-detect |
| A.02.55 | Inval or miss SerNR | Invalid or missing device serial number | Contact your supplier. |
| A.02.69 | Fair mode active | Fair mode active | Contact your supplier. |
| A.02.76 | Memory full | The reserved space in memory for custom parameters value is full. No more user changed possible | Configuration error: <ul style="list-style-type: none"> Reset CN1 and CN2 Faulty CSU: Replace CSU Replace the CU-GH |

| Code | Display text | Description | Solution |
|---------|----------------------|--|--|
| A.02.80 | Missing Cascade Ctrl | Missing Cascade controller | Cascade controller not found: <ul style="list-style-type: none"> • Reconnect the cascade master • Carry out an auto-detect |
| A.08.06 | LIN pump 1 warning | LIN pump 1 warning operating on limited conditions | - |

10.1.3 Blocking

Tab.52 Blocking codes

| Code | Display text | Description | Solution |
|---------|-----------------|--|---|
| H.00.81 | RoomTempMissing | Room Temperature sensor was expected but not detected | Room temperature sensor not detected: <ul style="list-style-type: none"> • Room temperature sensor is not connected: Connect the sensor • Room temperature sensor is not connected correctly: Connect the sensor correctly |
| H.01.00 | Comm Error | Communication Error occurred | Communication error with the security kernel: <ul style="list-style-type: none"> • Restart the boiler • Replace the CU-GH |
| H.01.05 | Max Delta TF-TR | Maximum difference between flow temperature and return temperature | Maximum difference between the flow and return temperature exceeded: <ul style="list-style-type: none"> • No flow or insufficient flow: <ul style="list-style-type: none"> - Check the flow (direction, pump, valves) - Check the water pressure - Check the cleanliness of the heat exchanger • Sensor error: <ul style="list-style-type: none"> - Check that the sensors are operating correctly - Check that the sensor has been fitted properly |
| H.01.06 | Max Delta TH-TF | Maximum difference between heat exchanger temperature and flow temperature | Maximum difference between heat exchanger and flow temperature exceeded: <ul style="list-style-type: none"> • No flow or insufficient flow: <ul style="list-style-type: none"> - Check the circulation (direction, pump, valves). - Check the water pressure. - Check the cleanliness of the heat exchanger. - Check that the installation has been de-aired. - Check water quality according to supplier's specifications. • Sensor error: <ul style="list-style-type: none"> - Check that the sensors are operating correctly. - Check that the sensor has been fitted properly. |
| H.01.07 | Max Delta TH-TR | Maximum difference between heat exchanger temperature and return temperature | Maximum difference between heat exchanger and return temperature exceeded: <ul style="list-style-type: none"> • No flow or insufficient flow: <ul style="list-style-type: none"> - Check the circulation (direction, pump, valves). - Check the water pressure. - Check the cleanliness of the heat exchanger. - Check that the installation has been correctly vented to remove air. • Sensor error: <ul style="list-style-type: none"> - Check that the sensors are operating correctly. - Check that the sensor has been fitted properly. |

| Code | Display text | Description | Solution |
|---------|---------------------|---|---|
| H.01.08 | CH temp grad level3 | Maximum CH temperature gradient level3 exceeded | <p>Maximum heat exchanger temperature increase has been exceeded:</p> <ul style="list-style-type: none"> • No flow or insufficient flow: <ul style="list-style-type: none"> - Check the circulation (direction, pump, valves) - Check the water pressure - Check the cleanliness of the heat exchanger - Check that the central heating system has been correctly vented to remove air • Sensor error: <ul style="list-style-type: none"> - Check that the sensors are operating correctly - Check that the sensor has been fitted properly |
| H.01.09 | Gas Pressure Switch | Gas Pressure Switch | <p>Gas pressure too low:</p> <ul style="list-style-type: none"> • No flow or insufficient flow: <ul style="list-style-type: none"> - Make sure that the gas valve is fully opened - Check the gas supply pressure - If a gas filter is present: Make sure that the filter is clean • Wrong setting on the gas pressure switch: <ul style="list-style-type: none"> - Make sure that the switch has been fitted properly - Replace the switch if necessary |
| H.01.13 | Max THeat Ex | Heat Exchanger temperature has exceeded the maximum operating value | <p>Maximum heat exchanger temperature exceeded:</p> <ul style="list-style-type: none"> • Check the circulation (direction, pump, valves). • Check the water pressure. • Check that the sensors are operating correctly. • Check that the sensor has been fitted properly. • Check the cleanliness of the heat exchanger. • Check that the central heating system has been correctly vented to remove air. |
| H.01.14 | Max Tflow | Flow temperature has exceeded the maximum operating value | <p>Flow temperature sensor above normal range:</p> <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors • No flow or insufficient flow: <ul style="list-style-type: none"> - Check the circulation (direction, pump, valves) - Check the water pressure - Check the cleanliness of the heat exchanger |
| H.01.15 | Max Tflue Gas | Flue gas temperature has exceeded the maximum operating value | <p>Maximum flue gas temperature exceeded:</p> <ul style="list-style-type: none"> • Check the flue gas outlet system • Check the heat exchanger to ensure that the flue gas side is not clogged • Faulty sensor: replace the sensor |
| H.01.21 | Dhw Temp GradLevel3 | Maximum Dhw Temperature Gradient Level3 Exceeded | <p>The flow temperature has risen too fast:</p> <ul style="list-style-type: none"> • Check the flow (direction, pump, valves) • Check that the pump is operating correctly |
| H.01.26 | Gas pressure max | Gas pressure exceeded | <p>Gas pressure too high:</p> <ul style="list-style-type: none"> • Check the gas supply pressure • Wrong setting on the gas pressure switch: <ul style="list-style-type: none"> - Make sure that the switch has been fitted properly - Replace the switch if necessary • No gas pressure switch available: <ul style="list-style-type: none"> - Make sure that parameter GP010 is set to No (0) |

| Code | Display text | Description | Solution |
|---------|----------------------|---|---|
| H.02.00 | Reset In Progress | Reset In Progress | Reset procedure active: <ul style="list-style-type: none"> • No action |
| H.02.02 | Wait Config Number | Waiting For Configuration Number | Configuration error or unknown configuration number: <ul style="list-style-type: none"> • Reset CN1 and CN2 |
| H.02.03 | Conf Error | Configuration Error | Configuration error or unknown configuration number: <ul style="list-style-type: none"> • Reset CN1 and CN2 |
| H.02.04 | Parameter Error | Parameter Error | Factory settings incorrect: <ul style="list-style-type: none"> • Parameters are not correct: <ul style="list-style-type: none"> - Restart the boiler - Reset CN1 and CN2 - Replace the CU-GH PCB |
| H.02.05 | CSU CU mismatch | CSU does not match CU type | Configuration error: <ul style="list-style-type: none"> • Reset CN1 and CN2 |
| H.02.12 | Release Signal | Release Signal input of the Control Unit from device external environment | Waiting time release signal has elapsed: <ul style="list-style-type: none"> • External cause: remove external cause • Wrong parameter set: check the parameters • Bad connection: check the connection |
| H.02.91 | CH blocked | CH heatdemand is blocked by the multifunctional input | The blocking input (Block CH) is active. <ul style="list-style-type: none"> • If the error code must not be shown: Make sure Display error is set to No (0). |
| H.02.92 | DHW blocked | DHW heatdemand is blocked by the multifunctional input | The blocking input (Block DHW) is active. <ul style="list-style-type: none"> • If the error code must not be shown: Make sure Display error is set to No (0). |
| H.02.93 | CH and DHW blocked | CH and DHW heatdemands are blocked by the multifunctional input | The blocking input (Block CH+DHW) is active. <ul style="list-style-type: none"> • If the error code must not be shown: Make sure Display error is set to No (0). |
| H.03.00 | Parameter Error | Safety parameters level 2, 3, 4 are not correct or missing | Parameter error: security kernel <ul style="list-style-type: none"> • Restart the boiler • Replace the CU-GH |
| H.03.01 | CU to GVC data error | No valid data from CU to GVC received | Communication error with the CU-GH: <ul style="list-style-type: none"> • Restart the boiler |
| H.03.02 | Flame loss detected | Measured ionisation current is below limit | No flame during operation: <ul style="list-style-type: none"> • No ionisation current: <ul style="list-style-type: none"> - Vent the gas supply to remove air - Check that the gas valve is fully opened - Check the gas supply pressure - Check the operation and setting of the gas valve unit - Check that the air supply inlet and flue gas outlet are not blocked - Check that there is no recirculation of flue gases |
| H.03.05 | Internal blocking | Gas Valve Control internal blocking occurred | Security kernel error: <ul style="list-style-type: none"> • Restart the boiler • Replace the CU-GH |
| H.03.07 | Parameter error | Not matching parameter set detected (P-type) | - |
| H.03.09 | Mains voltage low | Supply voltage is below the minimum operating value | - |
| H.08.07 | LIN pump 1 error | LIN pump 1 operation in error | - |

| Code | Display text | Description | Solution |
|---------|----------------------|---|----------|
| H.08.08 | LIN pump 1 lock out | LIN pump 1 operation lock out error | - |
| H.08.09 | LIN pump 1 comm lost | LIN pump 1 communication lost due to failure to communicate with bus master (BDR devices) | - |

10.1.4 Locking

Tab.53 Locking codes

| Code | Display text | Description | Solution |
|---------|--------------------|--|--|
| E.00.04 | TReturn Open | Return temperature sensor is either removed or measures a temperature below range | Return temperature sensor open: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors • Incorrectly fitted sensor: check that the sensor has been correctly fitted • Faulty sensor: replace the sensor |
| E.00.05 | TReturn Closed | Return temperature sensor is either shorted or measures a temperature above range | Return temperature sensor short-circuited: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors • Incorrectly fitted sensor: check that the sensor has been correctly fitted • Faulty sensor: replace the sensor |
| E.00.06 | TReturn Missing | Return temperature sensor was expected but not detected | No connection to temperature return sensor: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors. • Faulty sensor: replace the sensor |
| E.00.08 | THeat Ex Open | Heat exchanger temperature sensor is either removed or measures a temperature below range | Heat exchanger temperature sensor open: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors. • Incorrectly fitted sensor: check that the sensor has been correctly fitted. • Faulty sensor: replace the sensor. |
| E.00.09 | THeat Ex Closed | Heat exchanger temperature sensor is either shorted or measures a temperature above range | Heat exchanger temperature sensor short-circuited: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors. • Incorrectly fitted sensor: check that the sensor has been correctly fitted. • Faulty sensor: replace the sensor. |
| E.00.16 | DHW sensor Open | Domestic Hot Water tank temperature sensor is either removed or measures a temperature below range | Calorifier sensor open: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors • Faulty sensor: replace the sensor |
| E.00.17 | DHW sensor Closed | Domestic Hot Water tank temperature sensor is either shorted or measures a temperature above range | Calorifier sensor short-circuited: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors • Faulty sensor: replace the sensor |
| E.00.18 | DHW sensor Missing | Domestic Hot Water tank temperature sensor was expected but not detected | - |
| E.00.20 | TFlue Gas Open | Flue gas temperature sensor is either removed or measures a temperature below range | Open circuit in flue gas sensor: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors. • Incorrectly fitted sensor: check that the sensor has been correctly fitted. • Faulty sensor: replace the sensor. |

| Code | Display text | Description | Solution |
|---------|----------------------|---|---|
| E.00.21 | TFlue Gas Closed | Flue gas temperature sensor is either shorted or measures a temperature above range | Flue gas sensor short-circuited: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors. • Incorrectly fitted sensor: check that the sensor has been correctly fitted. • Faulty sensor: replace the sensor. |
| E.01.04 | 5x Flame Loss Error | 5x Error of unintended Flame Loss occurrence | Flame loss occurs 5 times: <ul style="list-style-type: none"> • Vent the gas supply to remove air • Check that the gas valve is fully opened • Check the gas supply pressure • Check the operation and setting of the gas valve unit • Check that the air supply inlet and flue gas outlet are not blocked • Check that there is no recirculation of flue gases |
| E.01.11 | Fan Out Of Range | Fan speed has exceeded normal operating range | Fan fault: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors. • Faulty fan: replace the fan • Fan operates when it should not be operating: check for excessive chimney draught |
| E.01.12 | Return Higher Flow | Return temperature has a higher temperature value than the flow temperature | Flow and return reversed: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors • Water circulation in wrong direction: check the circulation (direction, pump, valves) • Incorrectly fitted sensor: check that the sensor has been correctly fitted • Malfunctioning sensor: check the Ohmic value of the sensor • Faulty sensor: replace the sensor |
| E.01.24 | Combustion Error | Several combustion errors occurs with 24 hours | Low ionisation current: <ul style="list-style-type: none"> • Vent the gas supply to remove air. • Check that the gas valve is fully opened. • Check the gas supply pressure. • Check the operation and setting of the gas valve unit. • Check that the air supply inlet and flue gas outlet are not blocked. • Check that there is no recirculation of flue gases. |
| E.02.13 | Blocking Input | Blocking Input of the Control Unit from device external environment | Blocking input is active: <ul style="list-style-type: none"> • External cause: remove external cause • Wrong parameter set: check the parameters |
| E.02.15 | Ext CSU Timeout | External CSU Timeout | CSU time out: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors • Faulty CSU: Replace CSU |
| E.02.17 | GVC CommTimeout | Gas Valve Control unit communication has exceeded feedback time | Communication error with the security kernel: <ul style="list-style-type: none"> • Restart the boiler • Replace the CU-GH |
| E.02.35 | Safety device lost | Safety critical device has been disconnected | Communication fault <ul style="list-style-type: none"> • Carry out an auto-detect |
| E.02.47 | Failed Conn Funct Gr | Failed Connecting Function Groups | Function group not found: <ul style="list-style-type: none"> • Carry out an auto-detect • Restart the boiler • Replace the CU-GH |

| Code | Display text | Description | Solution |
|---------|------------------|--|---|
| E.02.90 | Room ventilation | Boiler room ventilation timeout. The ventilator did not start or stop in time. | - |
| E.04.00 | Parameter error | Safety parameters Level 5 are not correct or missing | Replace the CU-GH. |
| E.04.01 | TFlow Closed | Flow temperature sensor is either shorted or measuring a temperature above range | Flow temperature sensor short circuited: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors • Incorrectly fitted sensor: check that the sensor has been correctly fitted • Faulty sensor: replace the sensor |
| E.04.02 | TFlow Open | Flow temperature sensor is either removed or measuring a temperature below range | Flow temperature sensor open: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors • Faulty sensor: replace the sensor |
| E.04.03 | Max Flow temp | Measured flow temperature above safety limit | No flow or insufficient flow: <ul style="list-style-type: none"> • Check the circulation (direction, pump, valves) • Check the water pressure • Check the cleanliness of the heat exchanger |
| E.04.04 | TFlue Closed | Flue temperature sensor is either shorted or measuring a temperature above range | Flue gas temperature sensor short-circuited: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors • Incorrectly fitted sensor: check that the sensor has been correctly fitted • Faulty sensor: replace the sensor |
| E.04.05 | TFlue Open | Flue temperature sensor is either removed or measuring a temperature below range | Flue gas temperature sensor open: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors • Incorrectly fitted sensor: check that the sensor has been correctly fitted • Faulty sensor: replace the sensor |
| E.04.06 | Max Flue temp | Measured flue temperature above limit | - |
| E.04.07 | TFlow Sensor | Deviation in flow sensor 1 and flow sensor 2 detected | Flow temperature sensor deviation: <ul style="list-style-type: none"> • Bad connection: check the connection • Faulty sensor: replace the sensor |
| E.04.08 | Safety input | Safety input is open | Air pressure differential switch activated: <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors • Pressure in flue gas duct is or was too high: <ul style="list-style-type: none"> - Non-return valve does not open - Trap blocked or empty - Check that the air supply inlet and flue gas outlet are not blocked - Check the cleanliness of the heat exchanger |
| E.04.09 | TFlue Sensor | Deviation in flue sensor 1 and flue sensor 2 detected | Flue gas temperature sensor deviation: <ul style="list-style-type: none"> • Bad connection: check the connection • Faulty sensor: replace the sensor |

| Code | Display text | Description | Solution |
|----------|----------------------|--|--|
| E.04.10 | Unsuccessful start | 5 Unsuccessful burners starts detected | <p>Five failed burner starts:</p> <ul style="list-style-type: none"> • No ignition spark: <ul style="list-style-type: none"> - Check the wiring between the CU-GH and the ignition transformer - Check the ionisation/ignition electrode - Check breakdown to earth - Check the condition of the burner cover - Check the earthing - Replace the CU-GH • Ignition spark but no flame: <ul style="list-style-type: none"> - Vent the gas pipes to remove air - Check that the air supply inlet and flue gas outlet are not blocked - Check that the gas valve is fully opened - Check the gas supply pressure - Check the operation and setting of the gas valve unit - Check the wiring on the gas valve unit - Replace the CU-GH • Flame present, but ionisation has failed or is inadequate: <ul style="list-style-type: none"> - Check that the gas valve is fully opened - Check the gas supply pressure - Check the ionisation/ignition electrode - Check the earthing - Check the wiring on the ionisation/ignition electrode. |
| E.04.12 | False flame | False flame detected before burner start | <p>False flame signal:</p> <ul style="list-style-type: none"> • The burner remains very hot: Set the O₂ • Ionisation current measured but no flame should be present: check the ionisation/ignition electrode • Faulty gas valve: replace the gas valve • Faulty ignition transformer: replace the ignition transformer |
| E.04.13 | Fan | Fan speed has exceeded normal operating range | <p>Fan fault:</p> <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors. • Fan operates when it should not be operating: check for excessive chimney draught • Faulty fan: replace the fan |
| E.04.15 | FlueGas Pipe Blocked | The flue gas pipe is blocked | <p>Flue gas outlet is blocked:</p> <ul style="list-style-type: none"> • Check that the flue gas outlet is not blocked • Restart the boiler |
| E.04.17 | GasValve Driver Err. | The driver for the gas valve is broken | <p>Gas valve unit fault:</p> <ul style="list-style-type: none"> • Bad connection: check the wiring and connectors • Faulty gas valve unit: Replace the gas valve unit |
| E.04.18 | Min Temp Flow Error | The flow temperature is less than the minimum defined by the GVC parameter | - |
| E.04.23 | Internal Error | Gas Valve Control internal locking | <ul style="list-style-type: none"> • Restart the boiler • Replace the CU-GH |
| E.04.29 | Out of reset | Safety maximum amount of resets exceeded | - |
| E.04.44 | Gas pressure switch | The gas pressure switch is open | - |
| E.04.254 | Unknown | Unknown | <p>Unknown error:</p> <ul style="list-style-type: none"> • Replace the PCB. |

10.2 Error history

The control panel has an error history that stores the last 32 errors. Specific details are stored for each error, for example:

- Status
- Sub-status
- Flow temperature
- Return temperature

These details and others can contribute to the error solution.

10.2.1 Reading out and clearing the error history

You can read out the errors on the control panel. The error history can also be cleared.

▶▶ ≡ > Error History

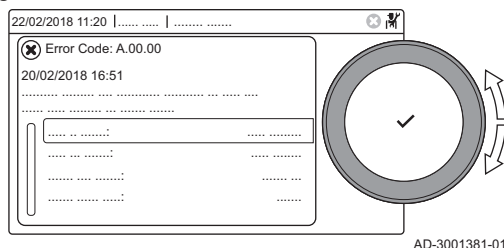


Use the rotary knob to navigate.

Use the ✓ button to confirm your selection.

1. Press the ≡ button.
2. Select **Error History**.
Enable installer access if **Error History** is not available.
 - 2.1. Select **Enable installer access**.
 - 2.2. Use code **0012**.
 - ⇒ A list up to 32 most recent errors is displayed with:
 - The error code.
 - A short description.
 - The date.
3. Select the error code you want to investigate.
 - ⇒ The display shows an explanation of the error code and several details of the appliance when the error occurred.
4. To clear the error memory, press and hold the ✓ button.

Fig.113 Error details



11 User instructions

11.1 Start-up

Start up the boiler as follows:

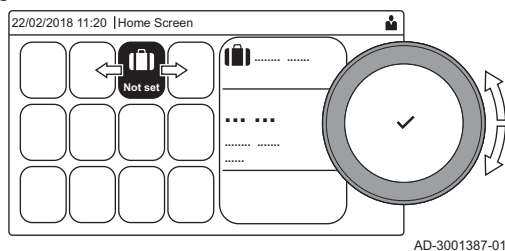
1. Open the boiler gas tap.
2. Power up the boiler.
3. Check the water pressure of the system. If necessary, top up the system.

The current operating condition of the boiler is shown on the display.

11.2 Accessing the user level menus

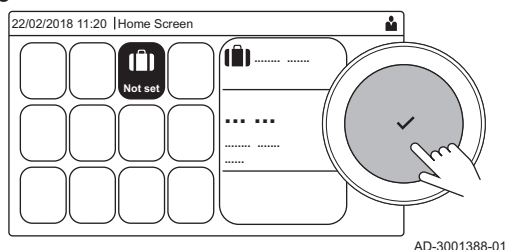
The tiles on the home screen provide quick access for the user to the corresponding menus.

Fig.114 Menu selection



1. Use the rotary knob to select the required menu.

Fig.115 Confirm menu selection



2. Press the ✓ button to confirm the selection.
⇒ The available settings of this selected menu appear in the display.
3. Use the rotary knob to select the desired setting.
4. Press the ✓ button to confirm the selection.
⇒ All options for change will appear in the display (if a setting cannot be changed, **Cannot edit read-only datapoint** will appear in the display).
5. Use the rotary knob to change the setting.
6. Press the ✓ button to confirm the selection.
7. Use the rotary knob to select the next setting or press the ↺ button to return to the home screen.

11.3 Home screen

The tiles on the home screen provide quick access to the corresponding menus. Use the rotary knob to navigate to the menu of your choice and press the ✓ button to confirm the selection. All options for change will appear in the display (**Cannot edit read-only datapoint** will appear in the display if a setting cannot be changed).

Tab.54 Selectable tiles for the user

| Tile | Menu | Function |
|---------------------|--------------------------|---|
| ❗ | Information menu | Read out various current values. |
| ⊗ | Error indicator | Read out details about the current error. With some errors the 🛠 icon will appear with installer contact details (when filled in). |
| 🏠 | Holiday Mode | Set the start and end date of your holiday to lower the room and domestic hot water temperatures of all zones. |
| 🔥, 🏠, 🏠, 🏠 | Operating mode | Change whether your appliance is set to heating, or both, or is turned off. |
| 🔥 | Gas boiler indicator | Read out burning details of the boiler and switch the heating function of the boiler on or off. |
| 💧 | Water pressure indicator | Shows the water pressure. Top-up the installation when the water pressure is too low. |
| 🏠, 🏠, 🏠, 🏠, 🏠, 🏠, 🏠 | Zone setup | Configure the settings per heating circuit. |
| 🏠 | DHW setup | Configure the settings for domestic hot water. |
| 🌡 | Outdoor sensor setup | Configure the temperature regulation using the outdoor temperature sensor. |
| 🏠 | Cascade settings | Configure the settings for the cascade. |

11.4 Activating holiday programs for all zones

When you go on holiday, the room temperature and domestic hot water temperature can be reduced to save energy. Using the following procedure you can activate the holiday mode for all zones and domestic hot water temperature.



Use the rotary knob to navigate.

Use the button to confirm your selection.

1. Select the tile .
2. Select **Start date holiday**.
3. Configure the start date.
4. Select **End date holiday**.
⇒ The day after the start date of your holiday is displayed.
5. Configure the end date.
6. Select **Wished room zone temperature on holiday period**.
7. Configure the temperature.

You can reset or cancel the holiday program by selecting **Reset** in the holiday mode menu.

11.5 Heating circuit configuration

For every heating circuit there is a quick user settings menu available. Select the heating circuit you want to configure by selecting the tile , , , , or .

Tab.55 Menu to configure heating circuit

| Menu | Function |
|---------------------------------|---|
| Set heating temperatures | Set the temperatures for the time program. |
| Operating mode | Set the operating mode. |
| Time programs heating | Set and configure the time programs used when in operating mode Scheduling . |
| Zone configuration | Configure the settings of the zone circuit. |

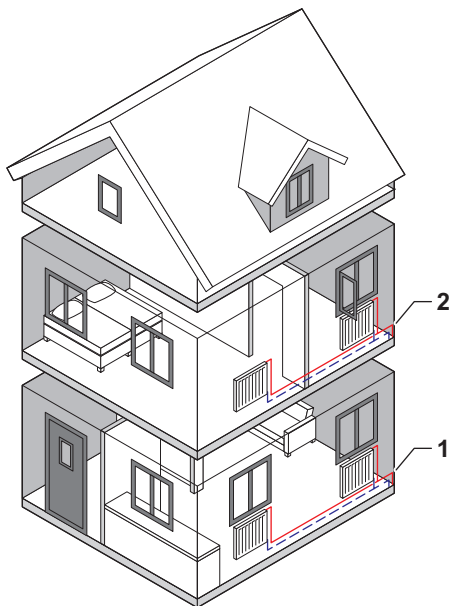
Tab.56 Extended menu to configure a heating circuit **Zone configuration**

| Menu | Function |
|---------------------------------|---|
| Short temperature change | Change the room temperature temporarily. |
| OperatingZoneMode | Select the heating operating mode: Scheduling, Manual. |
| Manu ZoneRoomTempSet | Set the room temperature manually to a fixed setting. |
| Holiday Mode | Set the start and end date of your holiday and the reduced temperature for this zone. |
| Zone friendly Name | Create or change the name of the heating circuit. |
| Icon display zone | Select the icon of the heating circuit. |
| ZoneCurrentActivity | Current activity of the zone |
| ZoneCurrentHeatMode | Displaying current operating mode of the zone |

11.6 Changing the heating temperature of a zone

11.6.1 Definition of zone

Fig.116 Two zones



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Zone is the term given to the different hydraulic circuits CIRCA, CIRCB and so on. It designates several areas of a building served by the same circuit.

Multiple zones are only possible with an expansion PCB.

Tab.57 Example of two zones

| | Zone | Factory name |
|---|--------|--------------|
| 1 | Zone 1 | CIRCA |
| 2 | Zone 2 | CIRCB |

11.6.2 Changing the name and symbol of a zone

The zones have a factory set symbol and name. Depending on your appliance you can change the symbol and name for the zones, not all appliances and zone types will support changing the symbol and name.

- Select zone > **Zone configuration** > **Zone friendly Name** or **Icon display zone**
 Installer access enabled: Select zone > **Zone friendly Name** or **Icon display zone**



Use the rotary knob to navigate.
 Use the ✓ button to confirm your selection.

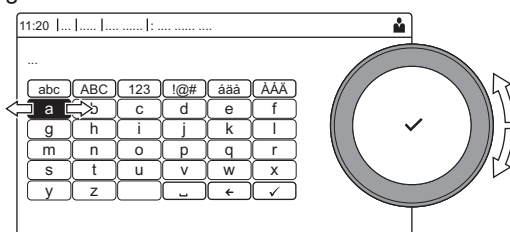
1. Select the tile of the zone you want to change.
2. Select **Zone configuration**



This menu will not appear if you have installer access enabled, continue to the next step.

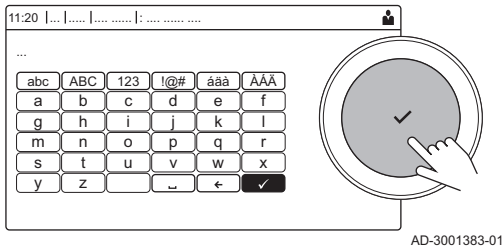
3. Select **Zone friendly Name**
 ⇒ A keyboard with letters, numbers and symbols (characters) is shown.
4. Change the name of the zone (20 characters maximum):
 - 4.1. Use the top row to change between capitalisation, numbers, symbols or special characters.
 - 4.2. Select a character or action.
 - 4.3. Select ← to delete a character.
 - 4.4. Select ␣ to add a space.

Fig.117 Letter selection



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Fig.118 Finish changing the zone name



- 4.5. Select ✓ to finish changing the zone name.
5. Select **Icon display zone**.
⇒ All available icons appear in the display.
6. Select the desired icon of the zone.

11.6.3 Changing the operating mode of a zone

To regulate the room temperature of the different areas of the house, you can choose from 5 operating modes:

▶▶ Select zone > **Operating mode**

💡 Use the rotary knob to navigate.
Use the ✓ button to confirm your selection.

1. Select the tile of the zone you want to change.
2. Select **Operating mode**.
3. Select the desired operating mode:

Tab.58 Operating modes

| Icon | Mode | Description |
|------|---------------------------------|--|
| | Scheduling | The room temperature is controlled by a time program |
| | Manual | The room temperature is set to a fixed setting |
| | Short temperature change | The room temperature is changed temporarily |
| | Holiday | The room temperature is reduced during your holiday to save energy |
| | Off | Protect the boiler and installation from freezing in winter |

11.6.4 Time program to control the zone temperature

■ Creating a time program

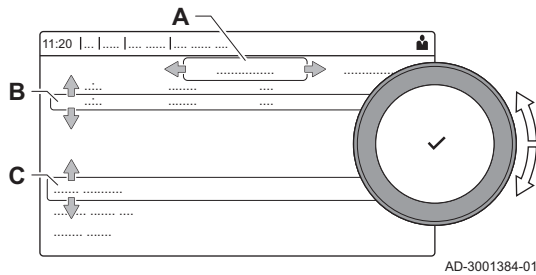
A time program allows you to vary the room temperature per hour and per day. The room temperature is linked to the activity of the time program. You can create up to three time programs per zone. For example, you can create a program for a week with normal working hours and a program for a week when you are at home most of the time.

▶▶ Select zone > **Time programs heating**

💡 Use the rotary knob to navigate.
Use the ✓ button to confirm your selection.

1. Select the tile of the zone you want to change.
2. Select **Time programs heating**.
3. Select the time program you want to modify: **Schedule 1**, **Schedule 2** or **Schedule 3**.
⇒ Activities scheduled for Monday are displayed. The last scheduled activity of a day is active until the first activity of the next day. At initial start-up, all weekdays have two standard activities; **Home** starting at 6:00 and **Sleep** starting at 22:00.

Fig.119 Weekday



4. Select the weekday you want to modify.

- A Weekday
- B Overview of scheduled activities
- C List of actions

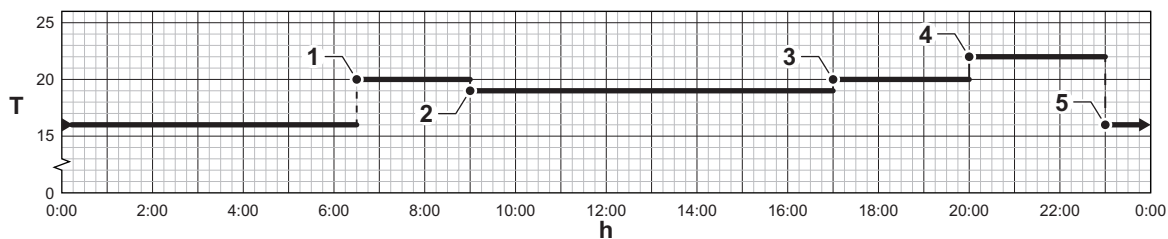
5. Choose one of the following actions:

- 5.1. Select scheduled activity to edit the time this activity will start, change the temperature or delete the selected activity.
- 5.2. **Add time and Activity** to add a new activity to the scheduled activities. Deleting times or activities can be done here.
- 5.3. **Copy to other day** to copy the scheduled activities of the weekday to other days. The activities including the configured time and temperature will be copied to the selected days.
- 5.4. **Set activity temperatures** to change the temperature.

■ Definition of activity

Activity is the term used when programming time slots in a time program. The time program sets the room temperature for different activities during the day. A temperature setpoint is associated with each activity. The last activity of the day is valid until the first activity of the next day.

Fig.120 Activities of a time program



Tab.59 Example of activities

| Activity | Start of the activity | Standard name | Temperature setpoint |
|----------|-----------------------|---------------|----------------------|
| 1 | 6:30 | Morning | 20 °C |
| 2 | 9:00 | Away | 19 °C |
| 3 | 17:00 | Home | 20 °C |
| 4 | 20:00 | Evening | 22 °C |
| 5 | 23:00 | Sleep | 16 °C |
| 6 | - | Custom | - |

■ Changing the name of an activity

You can change the names of the activities in the time program.

► ► ≡ > **System Settings > Set Heating Activity Names**

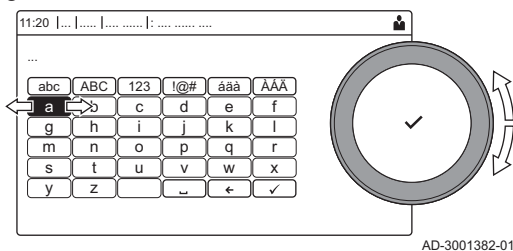


Use the rotary knob to navigate.

Use the ✓ button to confirm your selection.

1. Press the ≡ button.
2. Select **System Settings** ⚙️.
3. Select **Set Heating Activity Names**.
⇒ A list of 6 activities and their standard names is shown.
4. Select an activity.
⇒ A keyboard with letters, numbers and symbols is shown.

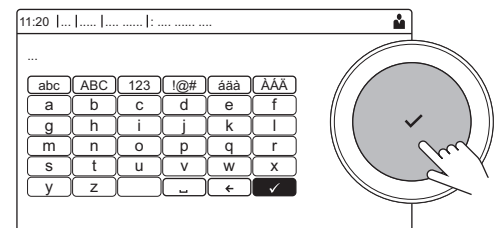
Fig.121 Letter selection



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5. Change the name of the activity (20 characters maximum):
 - 5.1. Use the top row to change between capitalization, numbers, symbols or special characters.
 - 5.2. Select a letter, number or action.
 - 5.3. Select ← to delete a letter, number or symbol.
 - 5.4. Select [space] to add a space.
 - 5.5. Select ✓ to finish changing the activity name.

Fig.122 Confirm sign



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■ Activating a time program

In order to use a time program, it is necessary to activate the operating mode **Scheduling**. This activation is done separately for each zone.

- Select zone > **Operating mode** > **Scheduling**



Use the rotary knob to navigate.
Use the ✓ button to confirm your selection.

1. Select the tile of the zone you want to change.
2. Select **OperatingZoneMode**.
3. Select **Scheduling**.
4. Select the time program **Schedule 1**, **Schedule 2** or **Schedule 3**.

11.6.5 Changing the heating activity temperatures

You can change the heating temperatures of each activity.

- Select zone > **Set heating temperatures**



Use the rotary knob to navigate.
Use the ✓ button to confirm your selection.

1. Select the tile of the zone you want to change.
2. Select **Set heating temperatures**.
⇒ A list of 6 activities and their temperatures is shown.
3. Select an activity.
4. Set the heating activity temperature.

11.6.6 Changing the room temperature temporarily

Regardless of the operating mode selected for a zone, it is possible to change the room temperature for a short period. After this period has elapsed, the selected operating mode resumes.


- Select zone > **Operating mode** > **Short temperature change**



Use the rotary knob to navigate.
Use the ✓ button to confirm your selection.



The room temperature can only be adjusted in this way if a room temperature sensor/thermostat is installed.

1. Select the tile of the zone you want to change.
2. Select **Operating mode**
3. Select  **Short temperature change**.

4. Set the duration in hours and minutes.
5. Set the temporary room temperature.

11.7 Changing the domestic hot water temperature

11.7.1 Domestic hot water configuration

Configure the domestic hot water settings by selecting the tile .



This menu is only available when a domestic hot water system is installed.

Tab.60 Menu to configure domestic hot water

| Menu | Function |
|--------------------------------------|---|
| Domestic Hot Water Setpoints | Set the DHW temperatures for the time program. |
| DHW mode | Set the operating mode. |
| Time programs | Set and configure the time programs used when in operating mode Scheduling . |
| Parameters, counters, signals | Configure the settings of the DHW circuit. |

Tab.61 Extended menu to configure the domestic hot water circuit **DHW configuration**


| Menu | Function |
|------------------------|--|
| Hot water boost | Change the DHW temperature temporarily. |
| Holiday Mode | Set the start and end date of your holiday. |
| DHW mode | Select the DHW operating mode: Scheduling, Manual. |

11.7.2 Changing the domestic hot water operating mode

You can change the operating mode for hot water production. You can choose from 5 operating modes.

▶▶  > **Operating mode**



Use the rotary knob to navigate.
Use the  button to confirm your selection.






1. Select the tile .
2. Select **Operating mode**



This option is not available when installer access is enabled.

3. Select the desired operating mode:

Tab.62 Operating modes

| Icon | Mode | Description |
|---|------------------------|--|
|  | Scheduling | The domestic hot water temperature is controlled by a time program |
|  | Comfort | The domestic hot water temperature is set to a fixed setting |
|  | Hot water boost | The domestic hot water temperature is increased temporarily |
|  | Holiday | The domestic hot water temperature is reduced during your holiday to save energy |
|  | Eco | Protect the appliance and installation from freezing. |

11.7.3 Time program to control the DHW temperature

■ Creating a time program

A time program allows you to vary the domestic hot water temperature per hour and per day. The hot water temperature is linked to the activity of the time program.

▶▶ > Operating mode



Use the rotary knob to navigate.
Use the ✓ button to confirm your selection.



You can create up to three time programs. For example, you can create a program for a week with normal working hours and a programme for a week when you are at home most of the time.


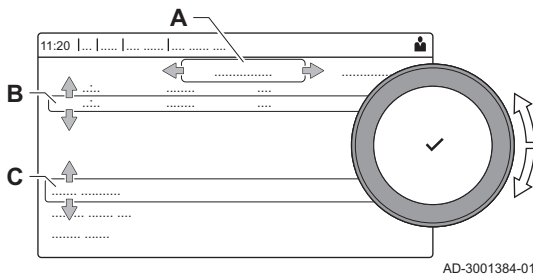
1. Select the tile .
2. Select **Time programs**.
3. Select the time program you want to modify: **Schedule 1**, **Schedule 2** or **Schedule 3**.
⇒ Activities scheduled for Monday are displayed. The last scheduled activity of a day is active until the first activity of the next day. The scheduled activities are shown. At initial start-up, all weekdays have two standard activities; **Comfort** starting at 6:00 and **Eco** starting at 22:00.
4. Select the weekday you want to modify.
 - A Weekday
 - B Overview of scheduled activities
 - C List of actions
5. Perform the following actions:
 - 5.1. **Select scheduled activity** to edit the time this activity will start, change the temperature or to delete the selected activity.
 - 5.2. **Add time and Activity** to add a new activity to the scheduled activities.
 - 5.3. **Copy to other day** to copy the scheduled activities of the weekday to other days.
 - 5.4. **Set activity temperatures** to change the temperature.

Fig.123 Weekday



■ Activating a DHW time program

In order to use a DHW time program, it is necessary to activate the operating mode **Scheduling**. This activation is done separately for each zone.

▶▶ > Operating mode > Scheduling



Use the rotary knob to navigate.
Use the ✓ button to confirm your selection.

1. Select the tile .
2. Select **DHW mode**.
3. Select **Scheduling**.
4. Select **Time programs Schedule 1**, **Schedule 2** or **Schedule 3**.

11.7.4 Changing the comfort and reduced hot water temperature

You can change the comfort and reduced hot water temperature for the time program.

▶▶ > Domestic Hot Water Setpoints



Use the rotary knob to navigate.
Use the ✓ button to confirm your selection.

1. Select the tile .
2. Select **Domestic Hot Water Setpoints**.


3. Select the setpoint you want to change:
 - **DHW comfort setpoint:** The temperature when the hot water production is switched on.
 - **DHW eco setpoint:** The temperature when the hot water production is switched off.
4. Set the desired temperature.

11.7.5 Increasing the domestic hot water temperature temporarily

Regardless of the operating mode selected for domestic hot water production, it is possible to increase the domestic hot water temperature for a short period. After this period the hot water temperature decreases to the **Eco** setpoint. This is called a hot water boost.

▶▶  > **Operating mode > Hot water boost**





Use the rotary knob to navigate.
Use the  button to confirm your selection.



Important

The domestic hot water temperature can only be adjusted in this way if a domestic hot water sensor is installed.

1. Select the tile .
2. Select **Operating mode**.
3. Select  **Hot water boost**.
4. Set the duration in hours and minutes.
 - ⇒ The temperature is increased to the **DHW comfort setpoint** for the duration of the boost.

11.8 Switching the central heating on or off


You can switch off the central heating function to save energy.




When an outdoor sensor is connected to the installation, it's also possible to use the summer mode function for switching the central heating on or off.

▶▶  > **CH function on**



Use the rotary knob to navigate.
Use the  button to confirm your selection.

1. Select the tile .
2. Select **CH function on**.
3. Select the following setting:
 - **Off** to switch off the central heating function.
 - **On** to switch on the central heating function.



Caution

Frost protection is not available when the central heating function is switched off.

11.9 Switching the summer mode on or off

You can use summer mode to switch off the central heating function. While summer mode is active central heating will be turned off but hot water remains available.



The summer mode function is only available when an outdoor temperature sensor is connected to the installation.

▶▶  > **Force summer mode**



Use the rotary knob to navigate.

Use the button to confirm your selection.

1. Select the tile .
2. Select **Force summer mode**.
3. Select the following setting:
 - **On** to switch on summer mode.
 - **Off** to switch off summer mode.

11.10 Changing the operating mode

You can set the operating mode of your appliance. The modes available may vary per appliance.



Use the rotary knob to navigate.

Use the button to confirm your selection.

1. Select the tile .
 2. Select an operating mode:
 - **Off** Disable the appliance, does not affect hot water production.
 - **Heating (auto)** Enable heating.
- ⇒ The operating mode tile will update to reflect the selected operating mode.

11.11 Changing the control panel settings

You can change the control panel settings within system settings.



> **System Settings**



Use the rotary knob to navigate.

Use the button to confirm your selection.

1. Press the button.
2. Select **System Settings** .
3. Perform one of the operations described in the table below:

Tab.63 Control panel settings

| System Settings menu | Settings |
|------------------------------------|--|
| Set Date and Time | Set the current date and time |
| Select Country and Language | Select your country and language |
| Daylight Saving Time | Enable or disable daylight saving time. When enabled daylight saving time will update the systems internal time to correspond with summer and winter time. |
| Installer Details | Read out the name and phone number of the installer |
| Set Heating Activity Names | Create the names for the activities of the time program |
| Set Screen Brightness | Adjust the brightness of the screen |
| Set click sound | Enable or disable the click sound of the rotary knob |
| License Information | Read out detailed license information from the appliance |

11.12 Reading the installer's name and phone number

The installer can set his name and phone number in the control panel for your reference. You can find this information by following the steps below:.



> **System Settings** > **Installer Details**



Use the rotary knob to navigate.

Use the button to confirm your selection.

1. Press the button.
2. Select **System Settings** .

3. Select **Installer Details**.

⇒ The installer's name and phone number is shown.

11.13 Frost protection



Caution

- Drain the boiler and central heating system if you are not going to use your home or the building for a long time and there is a chance of frost.
- The frost protection does not work if the boiler is out of operation.
- The built-in boiler protection is only activated for the boiler and not for the system and radiators.
- Open the valves of all the radiators connected to the system.

Set the temperature control low, for example to 10°C.

If the temperature of the central heating water in the boiler drops too low, the built-in boiler protection system is activated. This system works as follows:

- If the water temperature is lower than 7°C, the pump switches on.
- If the water temperature is lower than 4°C, the boiler switches on.
- If the water temperature is higher than 10°C, the burner shuts down and the pump continues to run for a short time.

To prevent the system and radiators freezing in frost-sensitive areas (e.g. a garage), a frost thermostat or, if feasible, an outdoor sensor can be connected to the boiler.

11.14 Cleaning the casing

1. Clean the outside of the appliance using a damp cloth and a mild detergent.

11.15 Shut-down

Shut-down the boiler as follows:

1. Switch off the boiler's electrical connection.
2. Shut off the gas supply.
3. Keep the installation frost-free.

Do not shut-down the boiler if the installation can't be kept frost-free.

12 Technical specifications

12.1 Homologations

12.1.1 Certifications

Tab.64 Certifications

| | |
|---|---|
| CE identification number | CE-0085DP0589 |
| Class NOx ⁽¹⁾ | 6 |
| Type of flue gas connection | B ₂₃ ⁽²⁾ C ₁₃ , C ₃₃ , C ₄₃ , C ₅₃ , C ₆₃ , C ₈₃ , C ₉₃ |
| (1) EN 15502-1 (2) When installing a boiler with connection type B ₂₃ , the IP rating of the boiler is lowered to IP20. | |

12.1.2 Gas categories

Tab.65 Unit categories

| Country | Category | Gas type | Connection pressure Pn (mbar) | Connection pressure Pn (kPa) |
|---------------|--------------------|------------------------------|-------------------------------|------------------------------|
| Great Britain | II _{2H3P} | G20 (H gas) G31 (propane) | 20 37/50 | 2.0 3.7/5.0 |
| Ireland | II _{2H3P} | G20 (H gas) G31 (propane) | 20 37 | 2.0 3.7 |

12.1.3 BREEAM compliance

The Quinta Ace S complies with the BREEAM emission requirements. In order to meet these requirements, some boiler parameter values need to be changed.


Important

Refer to the chapter for the boiler's BREEAM settings.

12.1.4 Directives

In addition to the legal requirements and guidelines, the supplementary guidelines in this manual must also be followed.

Supplements or subsequent regulations and guidelines that are valid at the time of installation shall apply to all regulations and guidelines specified in this manual.

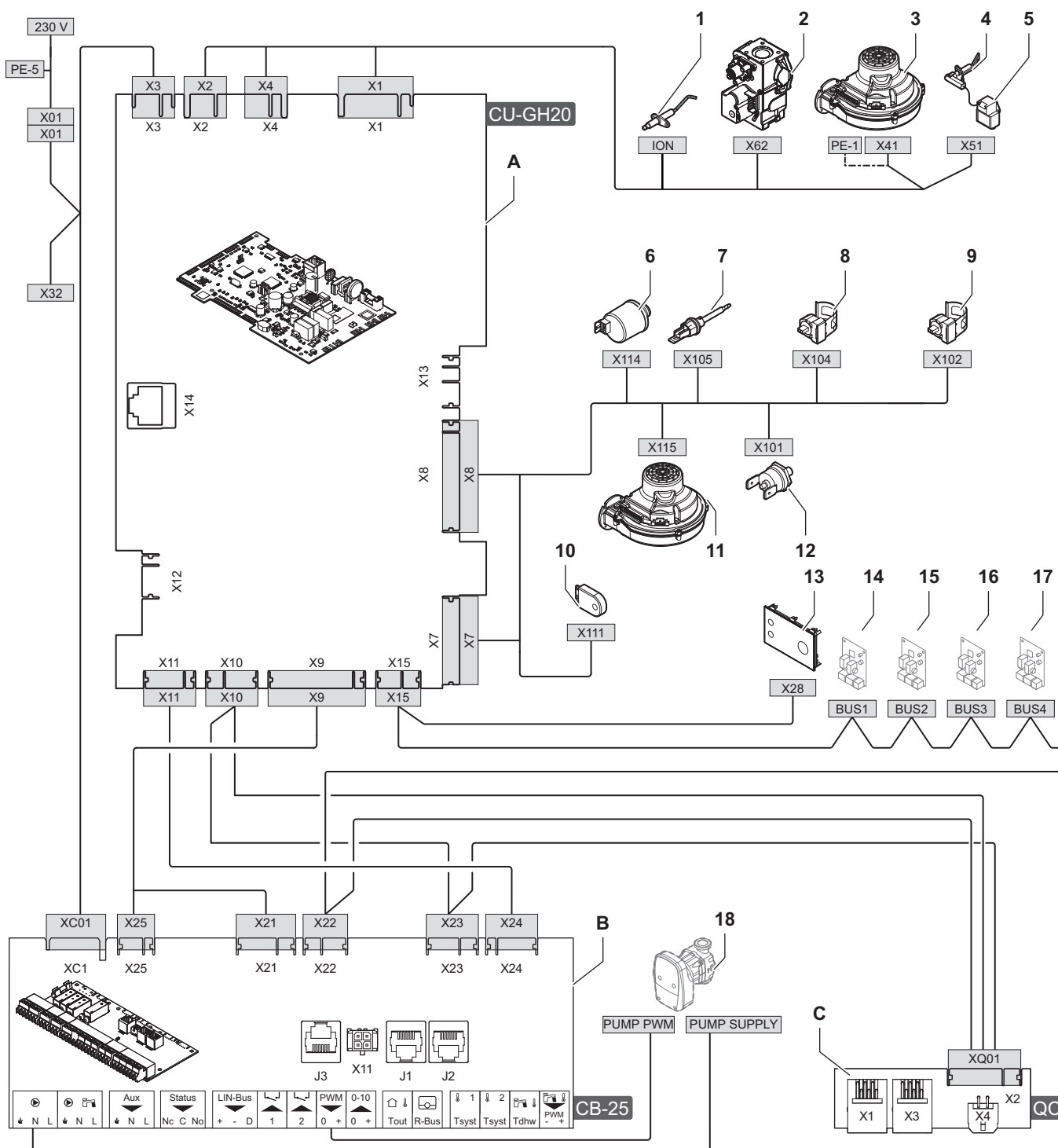
12.1.5 Factory test

Before leaving the factory, each boiler is optimally set and tested for:

- Electrical safety.
- Adjustment of O₂.
- Water tightness.
- Gas tightness.
- Parameter setting.

12.2 Electrical diagram

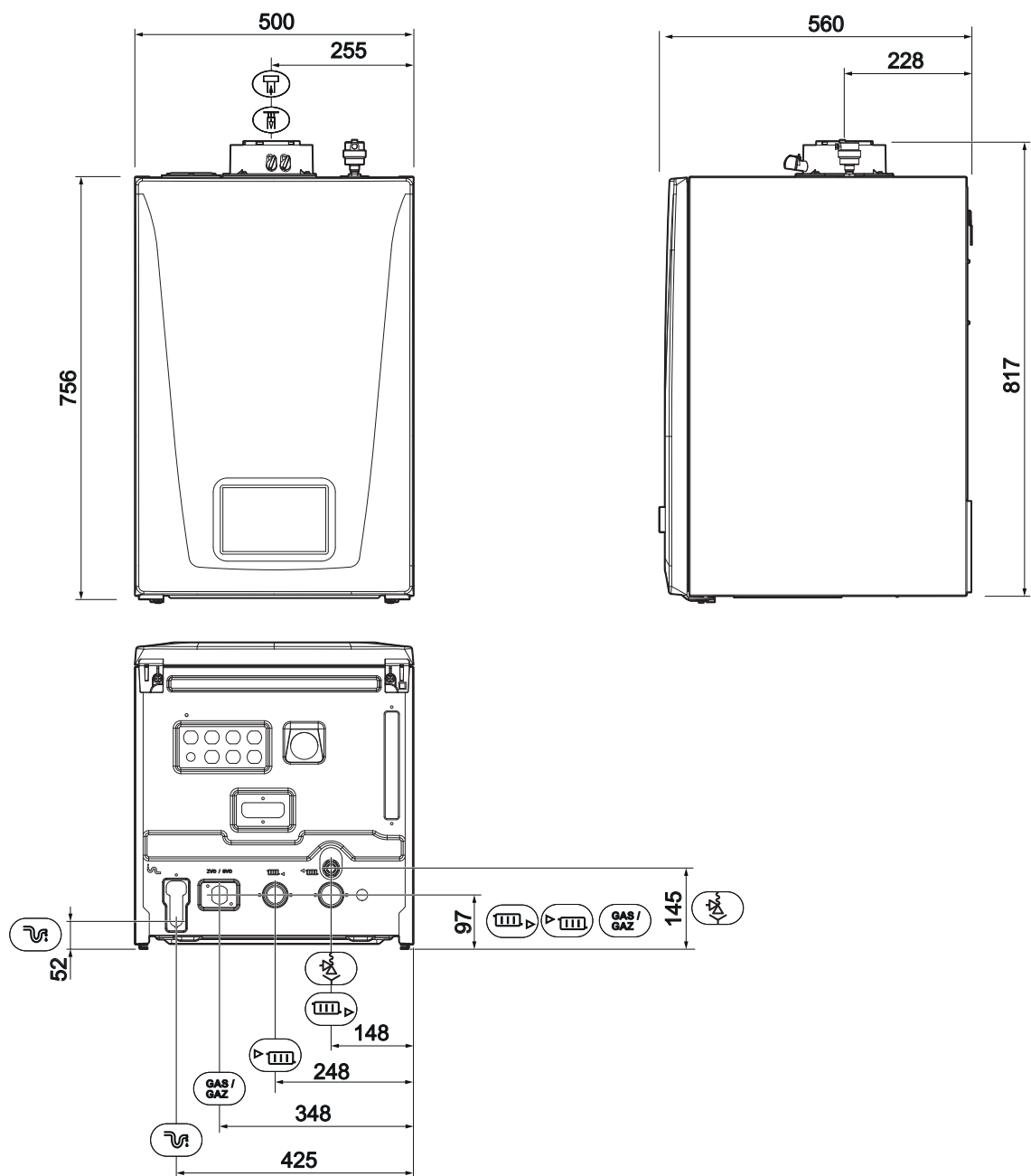
Fig.124 Electrical diagram for boiler types 50 - 60 - 70



AD-3003111-01

- | | |
|---|--|
| A Control unit - CU-GH20 | 9 Return temperature sensor |
| B Connection board - CB-25 | 10 Configuration storage unit (CSU) |
| C Quick connection board - Quick connect | 11 PWM signal fan |
| 1 Ionisation electrode | 12 Thermal switch |
| 2 Gas control valve | 13 Control panel (HMI) |
| 3 Fan power supply | 14 CAN connection for expansion PCB |
| 4 Ignition electrode | 15 CAN connection for expansion PCB |
| 5 Ignition transformer | 16 CAN connection for expansion PCB |
| 6 Water pressure sensor | 17 CAN connection for expansion PCB |
| 7 Flue gas temperature sensor | 18 Boiler pump |
| 8 Flow temperature sensor | |

12.3 Dimensions and connections



AD-3002659-04


Tab.66 Dimensions and connections

| Symbol | Description | Dimension |
|-----------|-------------------------------------|------------------|
| ▶ IIII | Flow connection | 1" male thread |
| IIII ▶ | Return connection | 1" male thread |
| GAS / GAZ | Gas connection | ¾" male thread |
| S | Condensation outlet | Ø 22 mm external |
| ⚡ | Safety pressure relief valve outlet | ¾" male thread |
| H | Flue gas outlet ⁽¹⁾ | Ø 80 mm |
| H | Air inlet ⁽²⁾ | Ø 125 mm |

(1) This is the inner pipe of the concentric flue gas adapter.
(2) This is the outer pipe of the concentric flue gas adapter.

12.4 Technical data

Tab.67 General

| Quinta Ace S | | | | 50 | 60 | 70 |
|--|---|----|---------------------------|-------------|-------------|-------------|
| Nominal output | P_n 80/60 °C | kW | min max ⁽¹⁾ | 5.0 45.0 | 6.1 55.0 | 7.2 65.0 |
| Nominal output | P_{nc} 50/30 °C | kW | min max ⁽¹⁾ | 5.4 48.6 | 6.6 59.4 | 7.8 70.2 |
| Nominal input | Q_{nh} (H_i) | kW | min max ⁽¹⁾ | 5.1 46.3 | 6.3 56.6 | 7.4 66.9 |
| Nominal input | Q_{nh} (H_s) | kW | min max ⁽¹⁾ | 5.7 51.4 | 7.0 62.8 | 8.2 74.3 |
| Nominal input G31 | Q_{nh} (H_i) | kW | min max ⁽¹⁾ | 5.1 46.3 | 6.3 56.6 | 7.4 66.9 |
| Nominal input G31 | Q_{nh} (H_s) | kW | min max ⁽¹⁾ | 5.7 51.4 | 7.0 62.8 | 8.2 74.3 |
| Full load central heating efficiency | P_n (H_i) 80/60 °C | % | | 97.4 | 97.2 | 97.2 |
| Full load central heating efficiency | H_i 50/30 °C | % | | 105.0 | 105.0 | 105.0 |
| Part load central heating efficiency | P_n (H_i) RT=30 °C ⁽²⁾ | % | | 107.8 | 107.5 | 107.1 |
| Full load central heating efficiency | P_n (H_s) 80/60 °C | % | | 87.7 | 87.5 | 87.5 |
| Full load central heating efficiency | H_s 50/30 °C | % | | 94.5 | 94.5 | 94.5 |
| Part load central heating efficiency | P_n (H_s) RT=30 °C ⁽²⁾ | % | | 97.1 | 96.8 | 96.4 |
| (1)  Factory setting. | | | | | | |
| (2) Return temperature. | | | | | | |

Tab.68 Details of gas and flue gas

| Quinta Ace S | | | | 50 | 60 | 70 |
|---|------------------|--------|-------------------------|----------------|----------------|----------------|
| Gas test pressure | G20 | mbar | min max | 17 25 | 17 25 | 17 25 |
| Gas test pressure | G31 | mbar | min max | 30 50 | 30 50 | 30 50 |
| Gas consumption | G20 | m³/h | min max | 0.54 4.90 | 0.70 5.99 | 0.78 7.08 |
| Gas consumption | G31 | m³/h | min max | 0.21 1.89 | 0.26 2.31 | 0.30 2.73 |
| Gas consumption | G31 | kg/h | min max | 0.40 3.59 | 0.49 4.39 | 0.57 5.18 |
| NOx annual emissions | G20 (EN15502) | mg/kWh | H_i H_s Class | 21 19 6 | 31 28 6 | 35 32 6 |
| CO annual emissions | G20 (EN15502) | mg/kWh | H_i | 13 | 17 | 11 |
| NOx annual emission (BREEAM) | G20 (EN15502) | mg/kWh | H_s Credits | 19 2 | 22 2 | 22 2 |
| Flue gas amount | | kg/s | min max | 0.002 0.021 | 0.003 0.026 | 0.004 0.031 |
| Flue gas temperature | | °C | max | 92 | 96 | 76 |
| Maximum counter pressure for flue gas out-let | | Pa | | 185 | 175 | 192 |

Tab.69 Central heating circuit data



| Quinta Ace S | | | | 50 | 60 | 70 |
|--------------------------|--|-----|-----|-----|-----|-----|
| Water content | | l | | 4 | 5 | 6 |
| Water operating pressure | | bar | min | 0.8 | 0.8 | 0.8 |

| Quinta Ace S | | | | 50 | 60 | 70 |
|--|------------------|------|-----|------|------|------|
| Water operating pressure (PMS) | <i>PMS</i> | bar | max | 4 | 4 | 4 |
| Water temperature | | °C | max | 110 | 110 | 110 |
| Operating water temperature | | °C | max | 90 | 90 | 90 |
| Hydraulic resistance | $\Delta T=20$ K | mbar | | 470 | 520 | 455 |
| Water flow | $\Delta T=11$ K | m³/h | | 3.52 | 4.30 | 5.08 |
| Water flow at maximum CH input | 80/60 °C | m³/h | nom | 1.94 | 2.37 | 2.80 |
| Water flow at minimum CH input | 80/60 °C | m³/h | nom | 0.22 | 0.26 | 0.31 |
| Water flow at maximum CH input | 50/30 °C | m³/h | nom | 2.09 | 2.55 | 3.02 |
| Water flow at minimum CH input | 50/30 °C | m³/h | nom | 0.23 | 0.28 | 0.34 |
| Casing-related losses (without insulation) | $\Delta T=30$ °C | W | | 89 | 97 | 104 |
| Casing-related losses (without insulation) | $\Delta T=50$ °C | W | | 143 | 150 | 158 |

Tab.70 Electrical data

| Quinta Ace S | | | | 50 | 60 | 70 |
|--|-----------------------|-------------------|---------------------------|-----------|-----------|-----------|
| Supply voltage | | V~/Hz | | 230/50 | 230/50 | 230/50 |
| Power consumption – full load ⁽¹⁾ | | W | max ⁽¹⁾ min | 102 21 | 110 19 | 113 19 |
| Power consumption – standby ⁽¹⁾ | <i>P_{SB}</i> | W | | 3 | 3 | 3 |
| Electrical protection index | | IP ⁽²⁾ | | X5D | X5D | X5D |
| Fuse – main (power connector) | | (AT) | | 1.6 | 1.6 | 1.6 |
| Fuse – CU-GH20 | | (AT) | | 2.5 | 2.5 | 2.5 |
| Fuse – CB | | (AT) | | 6.3 | 6.3 | 6.3 |
| (1) Without pump. (2) When installing a boiler with connection type B ₂₃ , the IP rating of the boiler is lowered to IP20. | | | | | | |

Tab.71 Other data

| Quinta Ace S | | | 50 | 60 | 70 |
|--|--|-------|------|------|------|
| Total weight (including packaging) | | kg | 43.8 | 43.8 | 45.3 |
| Total weight (netto) | | kg | 37.3 | 37.3 | 38.8 |
| Minimum mounting weight ⁽¹⁾ | | kg | 35.5 | 35.5 | 37.0 |
| Average acoustic level ⁽²⁾ at a distance of 1 metre from the boiler (LpA) |  ⁽³⁾ | dB(A) | 53.3 | 52.6 | 56.9 |
| Average sound power level (LwA) |  ⁽³⁾ | dB(A) | 63.9 | 63.3 | 67.6 |
| (1) Without front panel. (2) Maximum. (3) Central heating operation. | | | | | |

Tab.72 Technical parameters

| Quinta Ace S | | | 50 | 60 | 70 |
|--|----------------------|----|------|------|------|
| Condensing boiler | | | Yes | Yes | Yes |
| Low-temperature boiler ⁽¹⁾ | | | No | No | No |
| B1 boiler | | | No | No | No |
| Cogeneration space heater | | | No | No | No |
| Combination heater | | | No | No | No |
| Rated heat output | <i>Prated</i> | kW | 45 | 55 | 65 |
| Useful heat output at nominal heat output and high temperature operation ⁽²⁾ | <i>P₄</i> | kW | 45.0 | 55.0 | 65.0 |
| Useful heat output at 30% of rated heat output and low temperature regime ⁽¹⁾ | <i>P₁</i> | kW | 14.9 | 18.2 | 21.5 |
| Seasonal space heating energy efficiency | η_s | % | 92 | 92 | 92 |

| Quinta Ace S | | | 50 | 60 | 70 |
|---|------------|--------|-------|-------|-------|
| Useful efficiency at rated heat output and high temperature regime ⁽²⁾ | η_4 | % | 87.8 | 87.6 | 87.6 |
| Useful efficiency at 30% of rated heat output and low temperature regime ⁽¹⁾ | η_1 | % | 97.1 | 96.9 | 96.5 |
| Auxiliary electricity consumption | | | | | |
| Full load | e_{lmax} | kW | 0.102 | 0.110 | 0.113 |
| Part load | e_{lmin} | kW | 0.021 | 0.019 | 0.019 |
| Standby mode | P_{SB} | kW | 0.003 | 0.003 | 0.003 |
| Other items | | | | | |
| Standby heat loss | P_{stby} | kW | 0.089 | 0.097 | 0.104 |
| Ignition burner power consumption | P_{ign} | kW | - | - | - |
| Annual energy consumption | Q_{HE} | GJ | 141 | 172 | 203 |
| Sound power level, indoors | L_{WA} | dB | 64 | 63 | 68 |
| Emissions of nitrogen oxides | NO_x | mg/kWh | 29 | 31 | 31 |
| (1) Low temperature means 30 °C for condensing boilers, 37 °C for low temperature boilers and 50 °C (at heater inlet) for other heating appliances. | | | | | |
| (2) High temperature operation means 60 °C return temperature at heater inlet and 80 °C feed temperature at heater outlet. | | | | | |

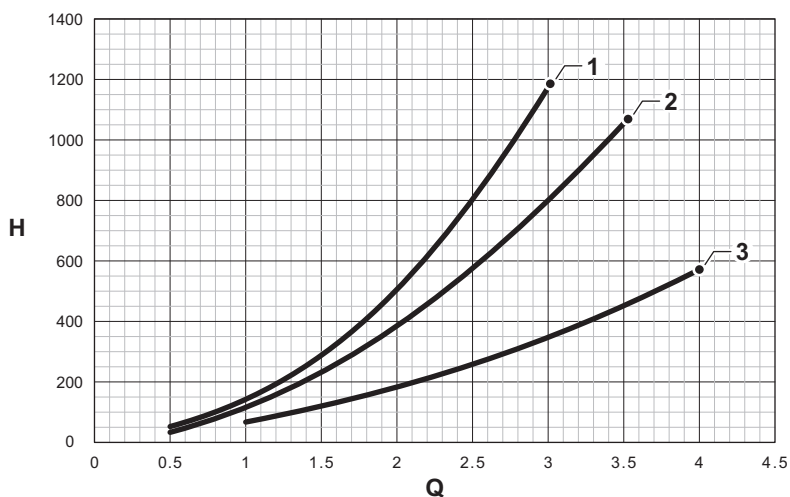
**See**

The back cover for contact details.

12.5 Hydraulic resistance

Take the boiler resistance and system resistance into account when selecting a pump. The graphs show the resistance curves for the entire boiler range. The models shown in the graph's legend apply to your market. The table shows nominal flow data and the corresponding hydraulic resistance.

Fig.125 Hydraulic resistance



AD-3002745-01

Q Water flow (m³/h)
H Hydraulic resistance (mbar)
1 Quinta Ace S 50

2 Quinta Ace S 60
3 Quinta Ace S 70

Tab.73 Water flow rate data

| | Unit | 50 | 60 | 70 |
|--------------------------------|------|------|------|------|
| Minimum flow rate | m³/h | 0.80 | 1.00 | 1.50 |
| Maximum flow rate | m³/h | 2.45 | 3.00 | 3.50 |
| H at $\Delta T = 15\text{ °C}$ | mbar | 910 | 795 | 527 |
| Q at $\Delta T = 15\text{ °C}$ | m³/h | 2.7 | 3.3 | 3.8 |

| | Unit | 50 | 60 | 70 |
|--|-------------------|------|------|------|
| H at $\Delta T = 20\text{ }^{\circ}\text{C}$ | mbar | 513 | 533 | 310 |
| Q at $\Delta T = 20\text{ }^{\circ}\text{C}$ | m ³ /h | 1.95 | 2.35 | 2.75 |
| H at $\Delta T = 30\text{ }^{\circ}\text{C}$ | mbar | 218 | 262 | 167 |
| Q at $\Delta T = 30\text{ }^{\circ}\text{C}$ | m ³ /h | 1.3 | 1.6 | 1.9 |

13 Appendix

13.1 ErP information

13.1.1 Product fiche

Tab.74 Product fiche

| BAXI – Quinta Ace S | | 50 | 60 | 70 |
|---|-------|----------|----------|----------|
| Seasonal space heating energy efficiency class | | A | A | A |
| Rated heat output (<i>Prated</i>) | kW | 45 | 55 | 65 |
| Annual energy consumption(Q _{HE}) | GJ | 141 | 172 | 203 |
| Seasonal space heating energy efficiency (η_s) | % | 92 | 92 | 92 |
| Sound power level L _{WA} indoors | dB(A) | 62 | 59 | 62 |

13.1.2 Package sheet

Fig.126 Package sheet for boilers indicating the space heating energy efficiency of the package

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------|----------|----------|----------|----------|----------|----------|----------------------|-----------------------|------------------------|------|------|------|------|------|------|------|------|-------|-------|
| Seasonal space heating energy efficiency of boiler | | ① | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | ‘I’ % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature control | <div style="border: 1px solid black; padding: 5px; font-size: 0.8em;"> Class I = 1%, Class II = 2%, Class III = 1.5%, Class IV = 2%, Class V = 3%, Class VI = 4%, Class VII = 3.5%, Class VIII = 5% </div> | ② | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| from fiche of temperature control | | + [] % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Supplementary boiler | <div style="border: 1px solid black; padding: 5px; font-size: 0.8em;"> Seasonal space heating energy efficiency (in %) </div> | ③ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| from fiche of boiler | | ([] - ‘I’) x 0.1 = ± [] % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Solar contribution | <div style="border: 1px solid black; padding: 5px; font-size: 0.8em;"> Tank rating ⁽¹⁾ A* = 0.95, A = 0.91, B = 0.86, C = 0.83, D - G = 0.81 </div> | ④ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| from fiche of solar device | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-around; font-size: 0.8em;"> <div style="border: 1px solid black; padding: 2px;">Collector size (in m²)</div> <div style="border: 1px solid black; padding: 2px;">Tank volume (in m³)</div> <div style="border: 1px solid black; padding: 2px;">Collector efficiency (in %)</div> </div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $('III' \times [] + 'IV' \times []) \times 0.9 \times ([] / 100) \times [] = + [] \%$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (1) If tank rating is above A, use 0.95 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Supplementary heat pump | <div style="border: 1px solid black; padding: 5px; font-size: 0.8em;"> Seasonal space heating energy efficiency (in %) </div> | ⑤ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| from fiche of heat pump | | ([] - ‘I’) x ‘II’ = + [] % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Solar contribution AND Supplementary heat pump | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| select smaller value | $0.5 \times [] \text{ OR } 0.5 \times [] = - [] \%$ | ⑥ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Seasonal space heating energy efficiency of package | | ⑦ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | [] % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Seasonal space heating energy efficiency class of package | <div style="border: 1px solid black; padding: 10px; text-align: center; font-size: 0.8em;"> <table style="margin: 0 auto; border-collapse: separate; border-spacing: 10px;"> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>G</td><td>F</td><td>E</td><td>D</td><td>C</td><td>B</td><td>A</td><td>A⁺</td><td>A⁺⁺</td><td>A⁺⁺⁺</td> </tr> <tr> <td><30%</td><td>≥30%</td><td>≥34%</td><td>≥36%</td><td>≥75%</td><td>≥82%</td><td>≥90%</td><td>≥98%</td><td>≥125%</td><td>≥150%</td> </tr> </table> </div> | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | G | F | E | D | C | B | A | A⁺ | A⁺⁺ | A⁺⁺⁺ | <30% | ≥30% | ≥34% | ≥36% | ≥75% | ≥82% | ≥90% | ≥98% | ≥125% | ≥150% |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | |
| G | F | E | D | C | B | A | A⁺ | A⁺⁺ | A⁺⁺⁺ | | | | | | | | | | | | | | | | | | | | | | | |
| <30% | ≥30% | ≥34% | ≥36% | ≥75% | ≥82% | ≥90% | ≥98% | ≥125% | ≥150% | | | | | | | | | | | | | | | | | | | | | | | |
| Boiler and supplementary heat pump installed with low temperature heat emitters at 35°C ? | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| from fiche of heat pump | $[] + (50 \times 'II') = [] \%$ | ⑦ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

The energy efficiency of the package of products provided for in this fiche may not correspond to its actual energy efficiency once installed in a building, as this efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

AD-3000743-01

- I The value of the seasonal space heating energy efficiency of the preferential space heater, expressed in %.
- II The factor for weighting the heat output of preferential and supplementary heaters of a package as set out in the following table.
- III The value of the mathematical expression: $294/(11 \cdot \text{Prated})$, whereby 'Prated' is related to the preferential space heater.
- IV The value of the mathematical expression $115/(11 \cdot \text{Prated})$, whereby 'Prated' is related to the preferential space heater.

Tab.75 Weighting of boilers

| $\text{P}_{\text{sup}} / (\text{Prated} + \text{P}_{\text{sup}})^{(1)(2)}$ | II, package without hot water storage tank | II, package with hot water storage tank |
|--|--|---|
| 0 | 0 | 0 |
| 0.1 | 0.3 | 0.37 |
| 0.2 | 0.55 | 0.70 |
| 0.3 | 0.75 | 0.85 |
| 0.4 | 0.85 | 0.94 |
| 0.5 | 0.95 | 0.98 |
| 0.6 | 0.98 | 1.00 |
| ≥ 0.7 | 1.00 | 1.00 |

(1) The intermediate values are calculated by linear interpolation between the two adjacent values.
(2) Prated is related to the preferential space heater or combination heater.

13.2 EC Declaration of conformity

This appliance complies with the standard type described in the EC declaration of conformity. It has been manufactured and commissioned in accordance with European and British directives.



You can go to the website for the declaration of conformity: <https://declaration-of-conformity.bdrthermeagroup.com>

Fig.127 QR code




AD-3001616-01

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