BOSCH

Operating Instructions

Wall mounted gas condensing boilers

Condens 5000W

ZBR 70-3 | ZBR 100-3

6720813953 (2018/12) AU

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1 Explanation of symbols and safety instructions

1.1 Explanation of symbols

Warnings

In warnings, signal words at the beginning of a warning are used to indicate the type and seriousness of the ensuing risk if measures for minimising danger are not taken.

The following signal words are defined and can be used in this document:

DANGER:

DANGER indicates that severe or life-threatening personal injury will occur.

WARNING:

WARNING indicates that severe to life-threatening personal injury may occur.

CAUTION:

CAUTION indicates that minor to medium personal injury may occur.

NOTICE:

NOTICE indicates that material damage may occur.

Important information

The info symbol indicates important information where there is no risk to people or property.

Additional symbols

Symbol	Meaning
▶	a step in an action sequence
→	a reference to a related part in the document
•	a list entry
–	a list entry (second level)

Table 1

1.2 General safety instructions

⚠ Instructions for the target group

These operating instructions are intended for the heating system user.

All instructions must be observed. Failure to comply with instructions may result in material damage and personal injury, including possible loss of life.

- ▶ Read and retain the operating instructions (heat source, heating controller, etc.) prior to operation.
- ▶ Observe the safety instructions and warnings.

⚠ Determined use

The product may only be used for the heating of boiler water and for DHW heating.

Any other use is considered inappropriate. We assume no liability for damage occurring due to non-permitted use.

⚠ If you smell gas

A gas leak could potentially cause an explosion. If you smell gas, observe the following rules.

- ▶ Prevent flames or sparks:
  - – Do not smoke, do not use a lighter or strike matches.
  - – Do not operate any electrical switches or unplug any equipment.
  - – Do not use the telephone or ring doorbells.
- ▶ Turn off the gas supply at the main shut-off valve or at the gas meter.
- ▶ Open windows and doors.
- ▶ Warn your neighbours and leave the building.
- ▶ Prevent anyone from entering the building.
- ▶ Move well away from the building: call the emergency services and the gas supplier.

⚠ Danger to life from poisoning by flue gas

There is a danger to life from escaping flue gas.

- ▶ **Never modify any parts through which flue gas is routed**.

If flues are damaged or leaking, or if you smell flue gas, observe the following rules.

- ▶ Switch off the heat source.
- ▶ Open doors and windows
- ▶ Warn your neighbours and leave the building immediately.
- ▶ Prevent third parties from entering the building.
- ▶ Notify an approved contractor.
- ▶ Have any defects rectified.

⚠ Danger to life from carbon monoxide

Carbon monoxide (CO) is a poisonous gas, which arises during the incomplete combustion of fossil fuels such as oil, gas or solid fuels.

Dangers arise, if carbon monoxide escapes from the heating system due to a fault or a leak and collects unnoticed in enclosed spaces.

You can neither see, taste nor smell carbon monoxide.

To avoid danger from carbon monoxide:

- ▶ Have the heating system inspected and serviced regularly by an approved contractor.
- ▶ Use a CO detector, which gives an alarm in good time if CO escapes.
- ▶ If you suspect a CO leak:
  - – Warn your neighbours and leave the building immediately.
  - – Call an approved contractor.
  - – Have any defects rectified.

⚠ Inspection and maintenance

If there is a lack of cleaning, inspection or maintenance, or if these are carried out incorrectly, this may result in material damage and/or personal injury, including possible loss of life.

- ▶ Have work carried out only by an approved contractor.
- ▶ Have any defects rectified immediately.
- ▶ Have the heating system inspected once a year by an approved contractor, and have any required maintenance or cleaning work carried out.
- ▶ Have the heat source cleaned at least every two years.
- ▶ We recommend that you enter into a contract covering an annual inspection and needs-based maintenance with an approved contractor.

⚠ Conversion and repairs

Improper modifications to the heat source or other parts of the heating system can result in personal injury and/or material damage.

- ▶ Have work carried out only by an approved contractor.
- ▶ Never remove the casing of the heat source.
- ▶ Never carry out any modifications to the heat source or to other parts of the heating system.
- ▶ Never close the outlet of the pressure relief valves. Heating systems with DHW cylinder: During heat-up, water can escape from the pressure relief valve of the DHW cylinder.

⚠ Open flue operation

The installation location must be adequately ventilated, if the heat source draws its combustion air from the room.

- ▶ Never cover or reduce the size of ventilation openings in doors, windows and walls.
- ▶ Consult a contractor to ensure that ventilation requirements are met:
  - – If structural modifications are made (e.g. replacing windows and doors)
  - – If devices with an air discharge to the outside are subsequently installed (e.g. extractor fans, kitchen fans or air conditioning units).

⚠ Combustion air/ambient air

The air in the installation location must be free of flammable or chemically aggressive substances.

- ▶ Do not store or use any highly flammable or explosive materials (paper, petrol, thinners, paints etc.) within the vicinity of the heat source.
- ▶ Do not store or use any corrosive substances (solvents, adhesives, chlorinated cleaning agents, etc.) within the vicinity of the heat source.

Condensate tube

Condensate is produced in this wall mounted gas condensing boiler and removed via a condensate tube. Modification or blocking of the condensate tube is not permitted.

2 Product information

2.1 Declaration of conformity

The design and operating characteristics of this product comply with the European and national requirements.

CE The CE marking declares that the product complies with all the applicable EU legislation, which is stipulated by attaching this marking.

The complete text of the Declaration of Conformity is available on the Internet: www.bosch-climate.com.au.

2.2 Appliance types

This document refers to the following appliance types:

- Condens 5000W ZBR 70-3
- Condens 5000W ZBR 100-3

The designation of the wall mounted condensing boiler comprises the following:

- Bosch: manufacturer
- Condens 5000W ZBR-3: product name
- 70 or 100: type name

3 Commissioning

3.1 Overview of components

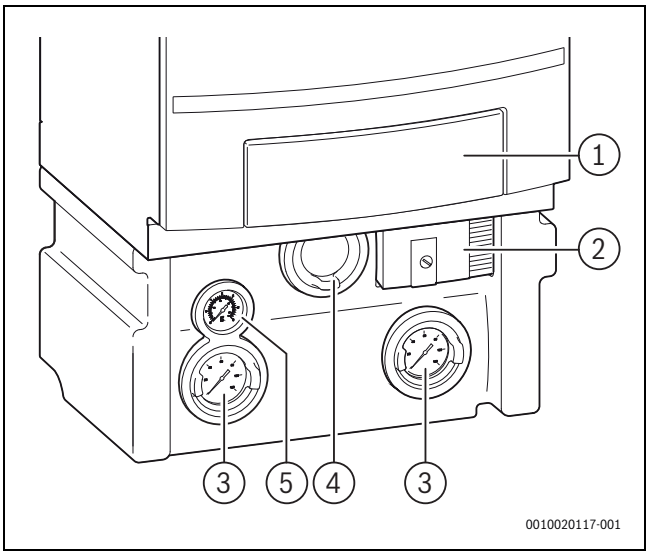


Fig. 1 Overview of components

[1] Control panel
[2] Pump
[3] Shut-off valve with temperature sensor
[4] Gas isolator
[5] Pressure gauge

3.2 Opening the gas tap

- ▶ Push in the gas isolator and turn to the left so the tap lines up with the gas line.

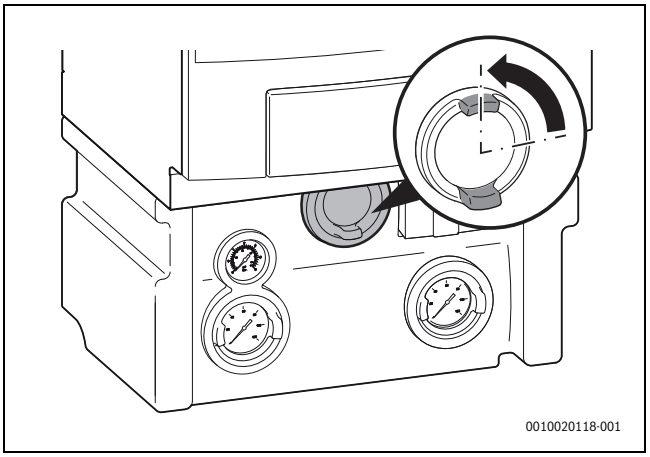


Fig. 2 Opening the gas tap

3.3 Opening service valves

▶ Open both service valves so that the tap lines up with pipework.

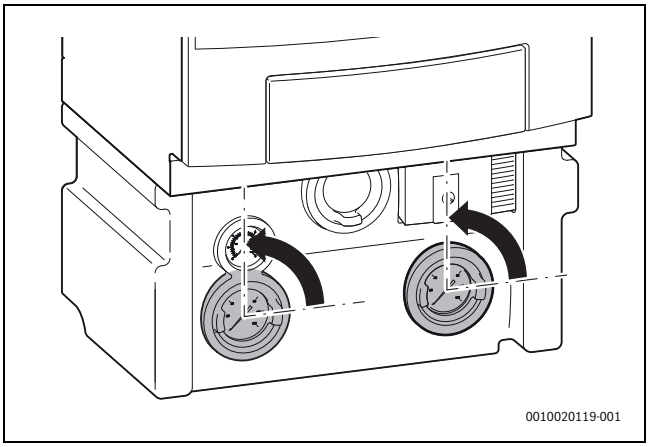


Fig. 3 Opening service valves

3.4 Switch on the wall mounted gas condensing boiler

▶ Put the ON/OFF switch to position “1” (→ figure 5, [1]).

3.5 Check water pressure

For the wall mounted gas condensing boiler to work efficiently, the normal water pressure must be between 1.0 and 2.0 bar.

▶ Ask the installer whether a higher pressure is necessary.
▶ Read off the water pressure on the display.
▶ Top up the heating system if necessary (→ Chapter 6.1, page 7).

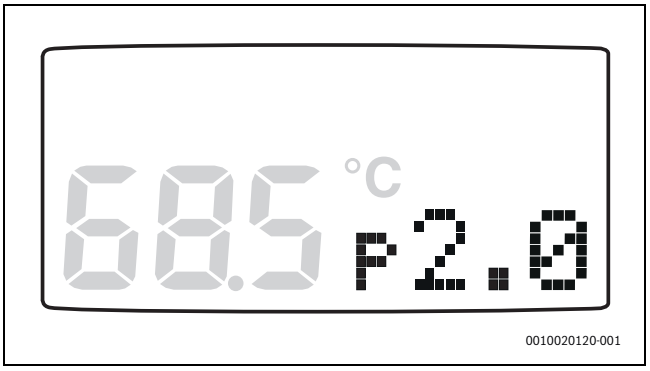


Fig. 4 Read off the water pressure

3.6 Setting the maximum boiler temperature

▶ Set the maximum boiler temperature required in the setup menu (→ Chapter 4.2).

The heating and DHW operations can be switched on and off independently of one another.

3.7 Setting the user interface

Some of the functions described in this document change when connecting a user interface. The user interface exchanges parameters with the wall mounted gas condensing boiler.

▶ You should therefore carefully read the operating instructions for the user interface.

4 Operating the appliance

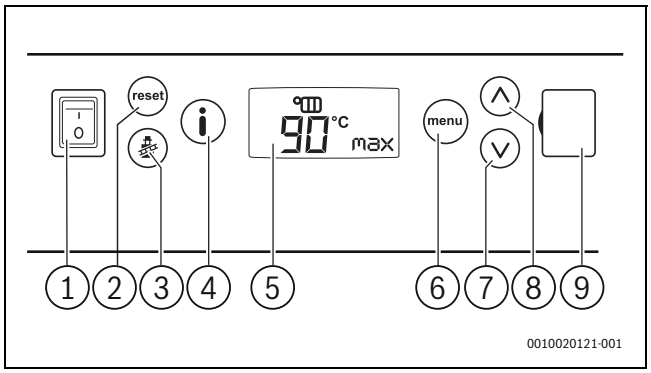


Fig. 5 Control panel

[1] Appliance on/off switch
[2] “Reset” key
[3] “Emissions test” key
[4] “Help” key
[5] Display
[6] “Menu” key
[7] “Down” key
[8] “Up” key
[9] Diagnostic plug

The front of the wall mounted gas condensing boiler contains a control panel with the following elements:

Appliance on/off switch

The wall mounted gas condensing boiler can be switched on or off via the ON/OFF switch. The power supply is not interrupted.

“reset” key

The wall mounted gas condensing boiler can be restarted via the key in the event of blocking faults (→ Chapter 7).

“chimney sweep” key

The wall mounted gas condensing boiler can be brought into operation via key in order to carry out measurements.

“info” key

The status of the wall mounted gas condensing boiler can be read out via the key

Display

Display values, settings and codes can be read off the display. If the wall mounted gas condensing boiler is switched on via the mains plug, all symbols appear briefly in the display.

Status display		
Display when the wall mounted gas condensing boiler is switched on (approx. 1 second)		
	20.0	Current flow temperature [°C]
	p2.0	Operating pressure [bar] (display flashes if the operating pressure is too low)
		Emissions test mode (service operation)
		Burner in operation
		ON for central heating
		ON for DHW
		Pump ON
		Outside temperature display
	service	An interlocking fault has occurred or the wall mounted gas condensing boiler requires a service.

Table 2 Readings on the display

"menu" ⓜ key

To change the settings, you can open the setup menu via the key ⓜ.

"down" ⓥ and "up" ⓐ keys

You can navigate round the various menus via the arrow keys. Press an arrow key to change a setting or value.

Diagnostic plug

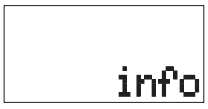
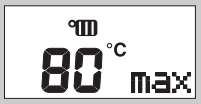
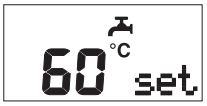
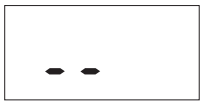
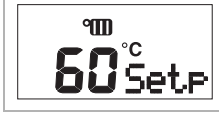
An external diagnostic tool can be connected here.

4.1 Information menu

After a few minutes of inactivity, the menu closes automatically and the start screen is displayed.

Information on the status of the wall mounted gas condensing boiler can be read out via the information menu. Proceed as follows:

- ▶ Press key ⓘ to open the information menu.
- ▶ Navigate round the menu with keys ⓐ and ⓥ in order to read out the required data.
- ▶ Press key ⓘ to close the information menu.

Information menu	
	The text "info" is displayed for 1 second.
	Maximum boiler temperature set [°C] during heating mode and emissions test mode. "OFF" appears in the display when heating mode is switched off.
	No information about DHW mode is shown here.
	Display of service code. This information is only displayed if the wall mounted gas condensing boiler requires a service. For a comprehensive overview of the display codes and corresponding explanations see Chapter 5.
	Displays an operating code or fault code. For a comprehensive overview of the display codes and corresponding explanations see Chapter 7.1.
	Actual operating pressure [bar].
	Actual boiler temperature [°C].
	Outside temperature [°C]. Only displayed with weather-compensated control.
	Calculated boiler temperature (setpoint) [°C] during heating mode 🔥.

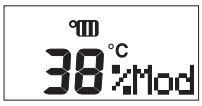
Information menu	
	Actual ionisation current [µA].
	Actual burner output [%] during heating mode 🔥.
	Actual pump speed [%].

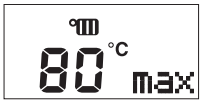
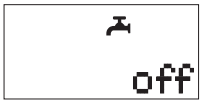
Table 3 Information menu

4.2 Setup menu

The settings of the wall mounted gas condensing boiler can be read out and modified via the setup menu. Proceed as follows:

- ▶ Press key ⓜ to open the setup menu.
- ▶ Navigate round the menu with keys ⓐ and ⓥ.
- ▶ Press the ⓜ key to access a setting. Once the setting flashes it can be modified.
- ▶ Change the setting via the keys ⓐ and ⓥ.
- ▶ Press the ⓜ key to save the setting. The setting no longer flashes.

The display values shown are the default settings.

Setup menu	
	The text "menu" is displayed for 1 second.
	Heating mode is switched on. Setting: On, Off.
	▶ Set the maximum boiler temperature based on the heating system type. Adjustment range: 30 - 90 °C. Examples of settings: • 40 °C underfloor heating system • 75 - 85 °C radiators • 85 - 90 °C convectors
	▶ Set the maximum output of the heating system. The output is displayed in % when modifying the setting. Adjustment range: 0 - 100%.
	No information about DHW mode is shown here.
	▶ Change the minimum pump speed if required. Adjustment range: 30 % - max. (setting max. parameter). ▶ Increase the minimum pump speed if parts of the heating system do not become hot enough.

Setup menu	
	▶ Change the maximum pump speed if required. Adjustment range: min. (setting min. parameter): • Type 70 - 65% • Type 100 - 83% ▶ Reduce the maximum pump speed if aggravating flow noises can be heard.
	Run-on time of the pump following expiry of heating mode [Min]. Adjustment range: 1 - 60 min./24 hours.

Table 4 Setup menu

4.3 Anti-Freeze Protection

Parts of the line may freeze during the cold season. Water permanently flows through the heating system which significantly reduces the probability of freezing.

- ▶ Check whether all radiator valves are open.
- ▶ Press key ⓜ to open the setup menu.
- ▶ Set the pump overrun time to 24 hours (→ Chapter 4.2).

If the wall mounted gas condensing boiler is switched off, see Chapter 5.2.

4.4 Key lock

The setup menu can be locked to prevent the settings from being changed by unauthorised personnel. Proceed as follows:

Activation

- ▶ Press the ⓥ and ⓥ keys simultaneously for 5 seconds. The word "Lock" is displayed for 5 seconds. The information menu remains readable.

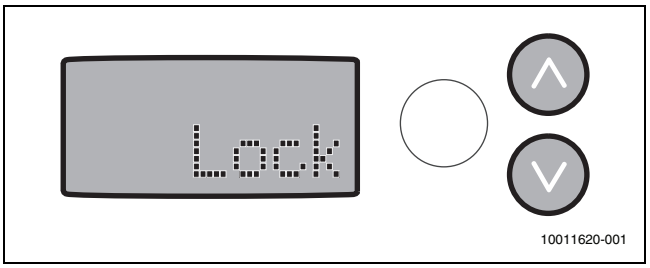


Fig. 6 Display - Lock

Disable

- ▶ Press the ⓘ and ⓡ keys again simultaneously for 5 seconds to remove the key block; the word "Lock" disappears.

5 Shutdown

5.1 Standard shutdown

- ▶ Put ON/OFF switch in position "0".
- ▶ Close the gas isolator under the wall mounted gas condensing boiler (→ figure 2).

5.2 Shutting down when there is a risk of frost

If the wall mounted gas condensing boiler stays on:

- ▶ Set the overrun time of the pump to 24 hours (→ Chapter 4.2).
- ▶ Make sure that a sufficient flow is possible at all radiators.

If the wall mounted gas condensing boiler is switched off:

- ▶ Put ON/OFF switch at the user interface to position "0".
- ▶ Close the gas isolator under the wall mounted gas condensing boiler.
- ▶ Drain the entire heating system.

6 Inspection and maintenance

The user is responsible for the general safety and clean combustion function of the heating system.

Recommendations:

- ▶ To ensure the wall mounted gas condensing boiler functions correctly, maintenance should be carried out annually by a certified installer.
- ▶ To do this, conclude a maintenance and inspection contract.

6.1 Refilling the heating system

Every heating system is refilled with heating water in different ways, depending on the water quality.

- ▶ You should therefore ask the installer to explain the refilling process to you.

6.2 Cleaning the casing

- ▶ Only clean the casing of the wall mounted gas condensing boiler with a damp cloth and possibly a mild detergent.

7 Display rendition

7.1 Display codes

A fault code provides information about the status of the wall mounted gas condensing boiler. Fault codes are either shown in the display directly or can be called up via the information menu. Proceed as follows:

- ▶ Press the key ⓘ to open the information menu.
- ▶ Navigate in the menu to the fault code level. This is either level 2 or 3.
- ▶ Read out the fault code and search for the corresponding meaning (→ table 5).
- ▶ Implement the solution to eliminate the fault.

There are 3 types of code:

- ▶ normal operating code
- ▶ blocking fault code
- ▶ interlocking fault code

For safety reasons, the wall mounted gas condensing boiler shuts down and locks as soon as a fault occurs. This is indicated by an illuminated fault code. The wall mounted gas condensing boiler must be reset in order to unlock it. Proceed as follows:

- ▶ Hold key ⓡ pressed down until "rE" appears in the display. In many cases, the wall mounted gas condensing boiler will work again normally following the reset.

Is the fault still present? Then get in touch with the installer, stating the appliance type and fault code.

Code	Explanation	Corrective measure
– – 200	The wall mounted gas condensing boiler is in heating mode.	
– – 201	The wall mounted gas condensing boiler is in DHW mode.	
– – 202	The wall mounted gas condensing boiler cannot transfer the heat to the heating system and waits.	• Check whether a sufficient number of radiator valves are open. • Bleed radiators/ heating system. • Reset the wall mounted gas condensing boiler.
– – 203	The wall mounted gas condensing boiler is in standby mode, there is no heat demand.	

Code	Explanation	Corrective measure
– – 2 0 4	The wall mounted gas condensing boiler cannot transfer the heat to the heating system and waits.	
– – 2 1 2	The sensors inside the wall mounted gas condensing boiler capture a different temperature.	• Check whether a sufficient number of radiator valves are open. • Bleed radiators and vent heating system. • Reset the wall mounted gas condensing boiler.
– – 2 6 0	The sensors inside the wall mounted gas condensing boiler captured a different temperature.	• Check whether a sufficient number of radiator valves are open. • Bleed radiators and vent heating system. • Reset the wall mounted gas condensing boiler.
– – 2 6 5	The wall mounted gas condensing boiler is waiting. The wall mounted gas condensing boiler duly switches on in order to satisfy the heat demand.	
– – 2 7 0 – – 2 8 3 – – 2 8 4	The wall mounted gas condensing boiler starts.	
C E 2 0 7	The water pressure is too low.	• Check the water pressure in the wall mounted gas condensing boiler and top up if necessary. • Reset the wall mounted gas condensing boiler.
C E 2 6 6	The sensors inside the wall mounted gas condensing boiler captured a different temperature.	• Check the water pressure in the wall mounted gas condensing boiler and top up if necessary. • Check whether a sufficient number of radiator valves are open. • Bleed radiators and vent heating system. • Reset the wall mounted gas condensing boiler.
d 4 2 1 3 d 4 3 4 1	The sensors inside the wall mounted gas condensing boiler capture a different temperature.	• Check whether a sufficient number of radiator valves are open. • Bleed radiators and vent heating system. • Reset the wall mounted gas condensing boiler.
E 9 2 1 9 E 9 2 2 0	The sensors inside the wall mounted gas condensing boiler captured a different temperature.	• Check whether a sufficient number of radiator valves are open. • Bleed radiators and vent heating system. • Reset the wall mounted gas condensing boiler.
E 9 2 2 4	The temperature measured by a thermostat in the wall mounted gas condensing boiler is too high.	• Check the water pressure in the wall mounted gas condensing boiler and top up if necessary. • Check whether a sufficient number of radiator valves are open. • Bleed radiators and vent heating system. • Reset the wall mounted gas condensing boiler.
E A 2 2 7	No burner ignition.	• Check that the gas isolator is open. • Reset the wall mounted gas condensing boiler.
E 9 2 7 6 E 9 2 8 5	The temperature measured by the sensors in the wall mounted gas condensing boiler is too high.	• Check the water pressure in the wall mounted gas condensing boiler and top up if necessary. • Check whether a sufficient number of radiator valves are open. • Bleed radiators and vent heating system. • Reset the wall mounted gas condensing boiler.
E F 3 4 5	The sensors inside the wall mounted gas condensing boiler captured a different temperature.	• Check whether a sufficient number of radiator valves are open. • Bleed radiators and vent heating system. • Reset the wall mounted gas condensing boiler.
F d 2 3 1	The power was briefly interrupted during a fault.	• Reset the wall mounted gas condensing boiler.
H 0 7	The water pressure is too low.	• Check the water pressure in the wall mounted gas condensing boiler and top up if necessary.
r E	The wall mounted gas condensing boiler is reset.	

Table 5 Operating and fault codes

7.2 A fault has occurred but no fault code is displayed

It is possible that even though a fault code is not displayed the wall mounted gas condensing boiler does not operate according to your expectations. You should then check the following:

Heating system does not heat up.

- ▶ Check in the information menu whether a fault code is displayed and try to remedy the fault.
- ▶ Check the set boiler temperature in the setup menu.
- ▶ Check the setting of the user interface using the operator guidance.

Is the fault still present? Then get in touch with the installer.

- ▶ Forward the fault code.
- ▶ State the appliance type and serial number. These are listed on the right-hand side of the wall mounted gas condensing boiler.

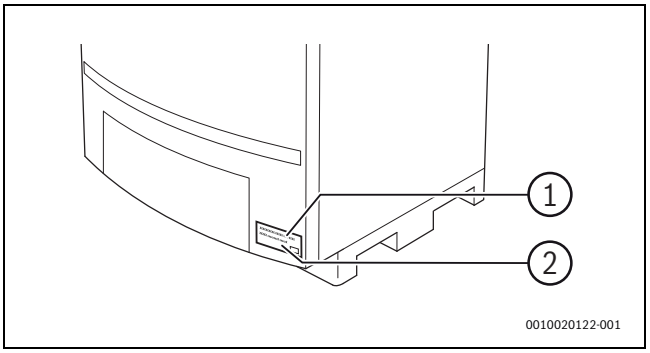


Fig. 7 Right-hand side of the wall mounted gas condensing boiler

[1] Serial number
[2] Device type

8 Environmental protection/disposal

Environmental protection is a fundamental corporate strategy of the Bosch Group.
The quality of our products, their economy and environmental safety are all of equal importance to us and all environmental protection legislation and regulations are strictly observed.
We use the best possible technology and materials for protecting the environment taking account of economic considerations.

Packaging

Where packaging is concerned, we participate in country-specific recycling processes that ensure optimum recycling.
All of our packaging materials are environmentally compatible and can be recycled.

Used appliances

Used appliances contain valuable materials that can be recycled.
The various assemblies can be easily dismantled. Synthetic materials are marked accordingly. Assemblies can therefore be sorted by composition and passed on for recycling or disposal.

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