BOSCH

Operation manual

Wall mounted gas condensing boiler
Condens 7000 WP

GC7000WP 50 23, GC7000WP 65 23, GC7000WP 85 23, GC7000WP 100 23, GC7000WP 125 23, GC7000WP 145 23
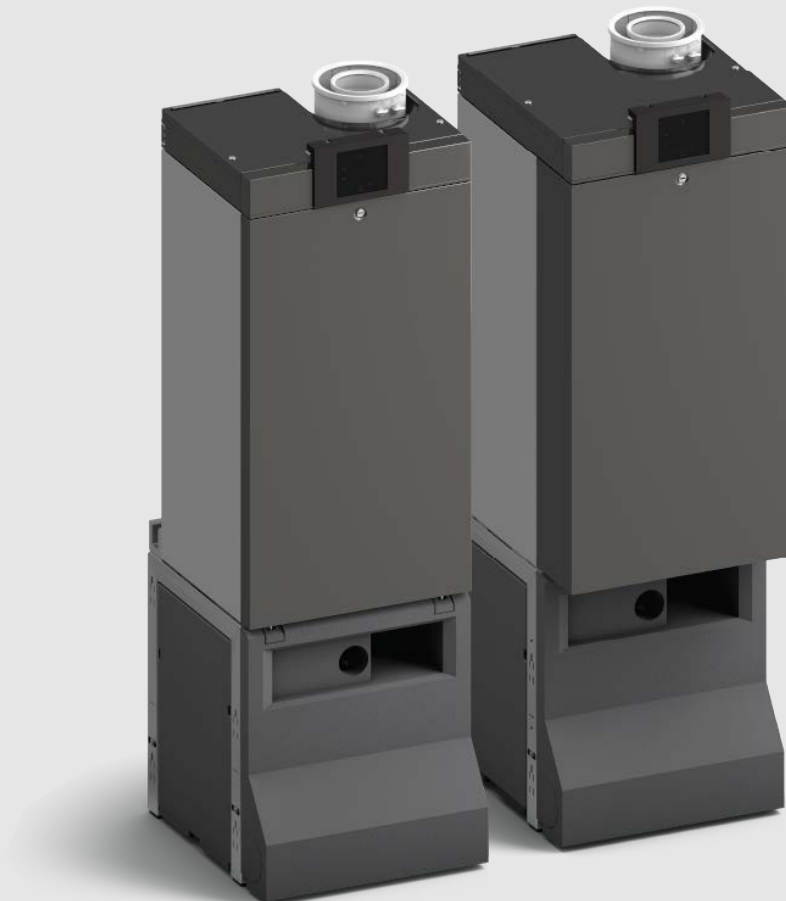
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1 Explanation of symbols and safety instructions

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 minimizing 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

ℹ

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

1.2 General safety instructions

⚠ **Notices for the target group**

These operating instructions are intended for the heating system operator.

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

⚠ **System malfunctions caused by third-party equipment**

This heat source is designed for operation with our control units.

System malfunctions, malfunctions and defects of system components resulting from the use of third-party equipment are excluded from liability.

Service work required to repair the damage will be invoiced.

⚠ 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, 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 at the meter or regulator.
▶ 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 National Gas Emergency Service on 0800 111 999.
▶ L.P.G. boilers: Call the supplier's number on the side of the gas tank.

⚠ 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 service

The system operator is responsible for ensuring the heating system is used safely and in an environmentally-sustainable manner.

If maintenance or inspections are omitted or incorrectly carried out, this can cause personal injury and even danger to life or material damage.

▶ Bear in mind the following points in particular:
  – Point out that modifications or repairs may be carried out only by an approved contractor.
  – To ensure safe and environmentally compatible operation, an inspection, and also cleaning and maintenance as required, must be carried out within the specified time period.
▶ Have the necessary maintenance carried out directly.
▶ Have defects in the heating system rectified immediately irrespective of the annual inspection.

⚠ Inspection and maintenance interval

To ensure the wall mounted gas condensing boiler works correctly and safely, the following intervals must be adhered to:

· **Inspection**: annually,
· **Maintenance**: every 2 years or following a burner runtime of 4000 hours (depending on which occurs first).

⚠ 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.

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

⚠ Frost damage

If the heating system is not in a frost-proof room **and** is not in operation, it may freeze up when exposed to frost. In summer mode or if heating mode is blocked, only the device frost protection remains active.

▶ Leave the heating system switched on at all times whenever possible, and set the flow temperature to at least 30 °C,
  -or-
▶ Have a competent person drain the heating system and DHW pipework at the lowest point.
  -or-
▶ Have a competent person mix antifreeze into the heating water and drain the DHW circuit.
▶ Check every two years whether the minimum frost protection is still ensured.

⚠ Safety of electrical devices for domestic use and similar purposes

The following requirements apply in accordance with EN 60335-1 in order to prevent hazards from occurring when using electrical appliances:

"This appliance can be used by children of 8 years and older, as well as by people with reduced physical, sensory or mental capabilities or lacking in experience and knowledge, if they are supervised and have been given instruction in the safe use of the appliance and understand the resulting dangers. Children shall not play with the appliance. Cleaning and user maintenance must not be performed by children without supervision."

"If the power cable is damaged, it must be replaced by the manufacturer, its customer service department or a similarly qualified person, so that risks are avoided."

2 Product Information

2.1 Declaration of conformity

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

$C\epsilon$ 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: worcester-bosch.co.uk.

2.2 About these instructions

Figures used

The figures in these instructions serve to provide general notices regarding correct operation. These figures may slightly deviate from the actual situation.

Product types mentioned

These instructions describe all product types of the GC7000WP. Availability may vary depending on the country.

2.3 Appliance types

Appliance type:	Country	Part No.
GC7000WP 50 23	UK, IE	7736 702 194
GC7000WP 65 23	UK, IE	7736 702 195
GC7000WP 85 23	UK, IE	7736 702 196
GC7000WP 100 23	UK, IE	7736 702 197
GC7000WP 125 23	UK, IE	7736 702 198
GC7000WP 145 23	UK, IE	7736 702 199

Table 1   Appliance types

The wall mounted boiler designation comprises the following:

- Condens 7000 WP: product name;
- GC7000WP 50... GC7000WP 145: product type;
- 50 ... 145: heating capacity (kW);
- 23: gas type.

2.4 Display of energy data

Energy data displayed at a connected accessory, e.g. control unit (remote control) is based on an estimate using the internal appliance data.

Many factors affect the energy consumption in real life conditions. This means that the energy data displayed may deviate from the values displayed by an energy meter.

These values only serve to visualise the energy consumption and to perform relative comparisons on different days/weeks/months.

They are not suitable to be used as the basis for billing.

2.5 DHW functions (domestic hot water)

All the DHW functions described are only active when the DHW cylinder is active.

2.6 Benchmark standard

benchmark
THE MARK OF QUALITY FOR THE INSTALLATION,
COMMISSIONING AND SERVICING OF DOMESTIC
HEATING AND HOT WATER SYSTEMS

The Benchmark initiative is a code of practice to encourage the correct installation, commissioning and servicing of domestic central heating appliances and system equipment.

A "checklist" is dispatched with every appliance and can be found towards the back of the Installation, Commissioning and Servicing Instructions. This is a vital document that needs to be completed by the installer at the time of installation. It confirms that the appliance has been installed and commissioned according to the manufacturer's instructions.

The service record provides space for the recording of regular servicing of the appliance/heating system and this can become a valuable document when, for example, you wish to sell the property. The service record will show a potential purchaser that the heating system has received regular professional maintenance and servicing during its lifetime.

The Benchmark initiative aims to:

- Raise standards among professional installers.
- Build and maintain high safety standards in the industry.
- Improve customer satisfaction levels.
- Make a contribution to the nation's commitment to climate change.

3 Prepare for operation

3.1 Overview of the components
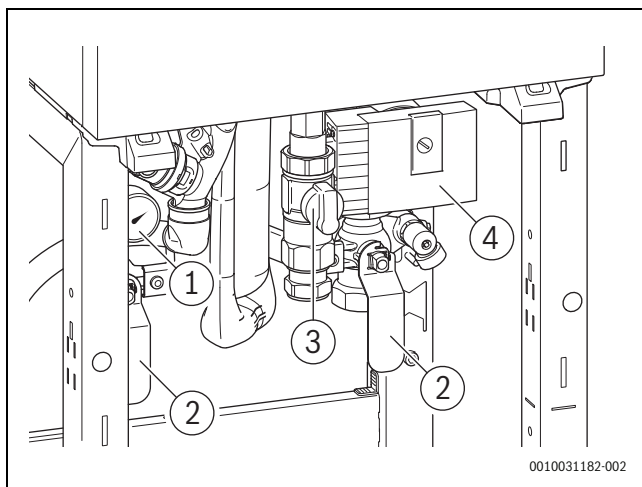

Fig. 1   Overview of the components

- [1]   Pressure gauge
- [2]   Shunt off valve
- [3]   Gas isolator
- [4]   Pump

3.2 Opening and closing the gas valve

Opening the gas valve

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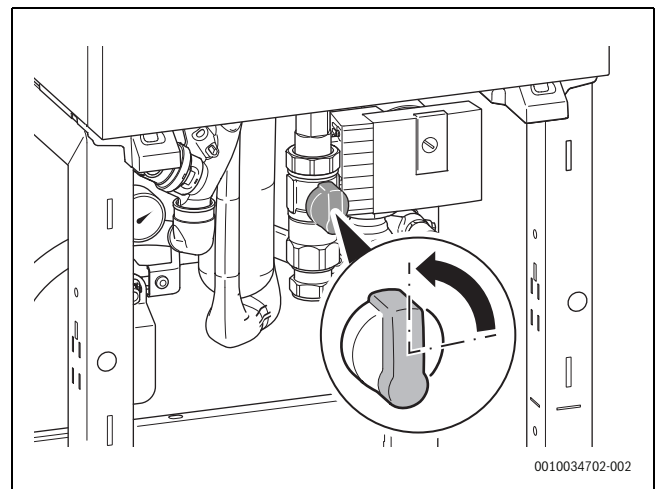

Fig. 2   Opening the gas valve

Closing the gas valve

▶ Push in the gas valve and turn to the right so the tap is vertical and in line with the gas line.
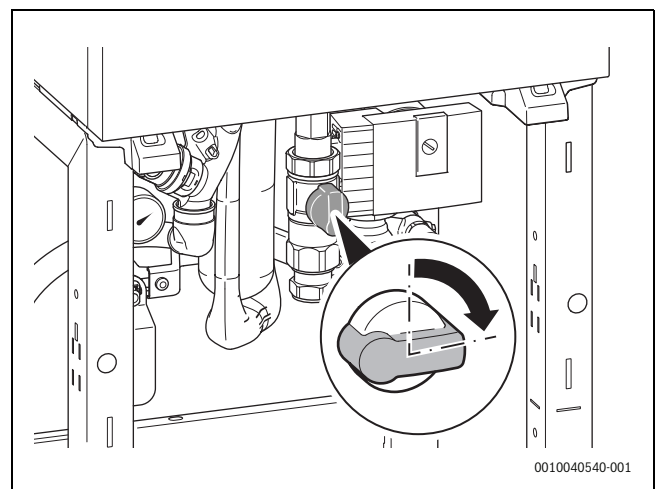

Fig. 3   Closing the gas valve

3.3 Opening the service shut-off valves

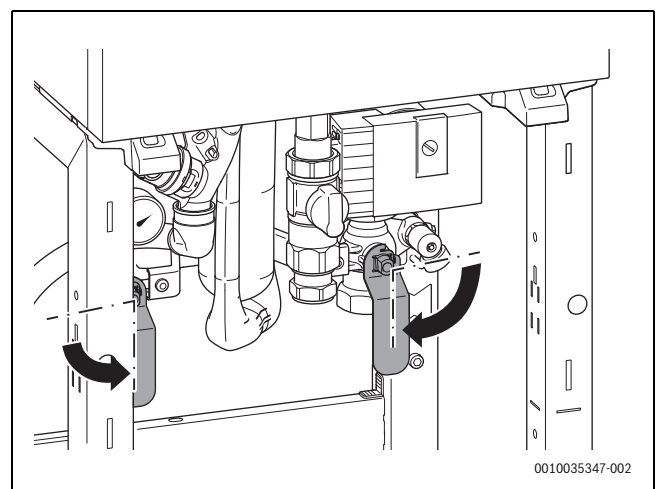▶ Open both service shut-off valves so the tap lines up with the gas line.

Fig. 4   Opening the service shut-off valves

4 Operation

These operating instructions describe the operation of the wall mounted gas condensing boiler. Depending on the heating controller, the operation of several functions may deviate from the description. Observe the operating instructions for the heating controller used.
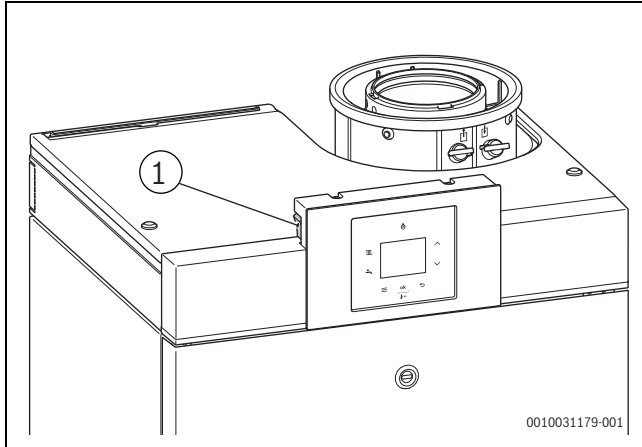
4.1 Turn unit on/off

Fig. 5   On/Off-switch

Switching on

▶ Switch on the appliance at the ON/OFF switch [1].

> **i**
>
> When **Siphon fill. prog.** appears on the display, the appliance remains at the minimum heat output for 15 minutes to fill the condensate trap in the appliance.

Stop

> *NOTICE*
>
> **Risk of damage to the system from frost!**
>
> The heating system can freeze up after a prolonged period (e.g. during a power failure, switching off the power supply, faulty fuel supply, boiler fault etc.).
>
> ▶ Ensure that the heating system is in constant use (particularly when there is a risk of frost).

> **i**
>
> The anti-seizing function is not active when the device is switched off. The anti-seizing function prevents the heating pump from seizing up following long periods of inactivity.

▶ Switch off the device using the On/Off switch (→ Fig. 4.1, page 6).
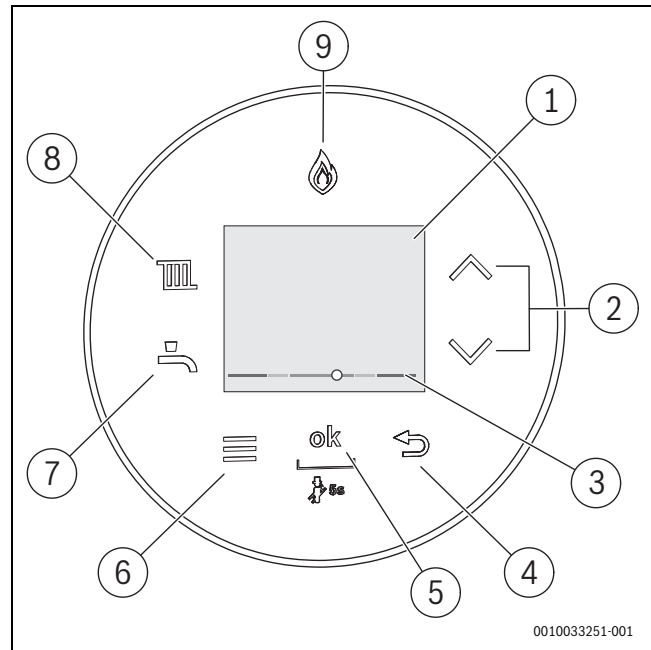
4.2 Display overview

Fig. 6   Control Panel

[1]   Display
[2]   ▲ and ▼ keys
[3]   Heating water pressure display
[4]   ↩ key
[5]   **OK** key
[6]   Menu key
[7]   DHW key
[8]   Heat key
[9]   Burner display

4.3 Symbols in the display

Symbol	Explanation
📶	Internet connection (accessory)
((•))	Connection with wireless controller (accessory)
▥	Heating on
▤	Heating off
🔽	Hot water on
⊬	Hot water off
⚠	Diagnosis code
🧳	Holiday program
✍	Cleaning function
✋	Manual mode
▫▪▪	Energy Consumption[1]
◊ kWh	Gas consumption[1]

1) The energy values displayed are estimates based on the internal data of the device. Many factors affect the energy consumption in real life conditions which means the energy values displayed are different to the energy values of an energy meter. The energy values are for information and should not be used for invoicing purposes. The energy values can be used to compare the energy consumption of various days/weeks/months.

Table 2   Symbols in the display

4.4 Heat key

The key is used to set the maximum flow temperature. The maximum flow temperature can be set between 30 °C and 80 °C[1] The current flow temperature is shown on the display.

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With underfloor heating systems observe the maximum permissible flow temperature.

▶ Press the 🎚 button.
   The set maximum flow temperature is displayed.
▶ Press the ▲ or ▼ keys to set the desired maximum flow temperature.

Supply temperature	Application example
Approx. 50 °C	Underfloor heating system
Approx. 75 °C	Radiator heating system
Approx. 80 °C	Convector heating system

Table 3   Maximum flow temperature

▶ Press the **OK** key to save the setting.
   The symbol ✓ appears for a short time.

4.5 DHW key

Set DHW temperature

⚠️ **WARNING**

Hot water can cause severe scalding!

▶ Bear in mind the risk of scalding when changing the maximum DHW temperature.

▶ Press the 🚰 key.
   The set DHW temperature appears.
▶ To set the desired DHW temperature, press the ▲ or ▼ keys.
▶ Press the **OK** key to save the setting.
   The symbol ✓ appears for a short time.

Measures for hard water

To protect against increased limescale and resulting service work:

ℹ️

If the water is calcareous with a hard hardness range (≥ 15°dH / 27°fH/ 2.7 mmol/l)

▶ Set the DHW temperature to 60 °C.

4.6 Operating the menu

Opening and closing the menu
▶ To open the menu, press the ☰ key.
▶ To exit the menu, press the ☰ key again.
-or-
▶ Press the ↩ key.

Changing the setting values
▶ To highlight a menu item, press the ▲ key or the ▼ key.
▶ Select the menu item with the **ok** key.
▶ To change the value, press the ▲ or ▼ key.
▶ Press the **ok** key.
   The new value is saved.

Exiting the menu without saving values
▶ Press the ↩ key.

---

1) The maximum value can be changed by the service technician.

4.7 Settings in the menu

ℹ️

The factory settings are depicted as **highlighted** in the following table.

Meu item	Function definition
Heating mode	• **On** • Off: heating mode is switched off (summer mode). The 🎚 symbol is shown on the display.
DHW operation	• Preheat: in comfort mode, the DHW cylinder is reheated when the temperature differential is 5 K (5 °C) or more. • Eco: in ECO mode, the DHW cylinder is reheated when the temperature differential is 10 K (10 °C) or more. • OffHot water production is switched off. The 🚰 symbol is shown on the display.
Information	The current system values and the active operating conditions can be called up in the Information menu. Changes are not possible. • System pressure • Hot water Temp. (DHW temperature) • Weather comp. (weather-compensated control) • Key (accessory for Internet connection)
Energy consump.[1]	Gas consumption • Last 24h • Last 30 days Elec. consump. • CH last 24 h • CH last 30 d.

Settings	• Time[2]
	• Date[1]
	• DST
	• Parental lock
	  – **On**
	  – Off
	• Display
	  – Switch off afterSet the time after which the display is switched off.
	  – Brightness
	• Key illum. (key illumination)
	• LanguageLanguage: Change the language of the menu and the menu items.

Cleaning funct.	No operation is possible for 15 s. The display shows a countdown.
Emergency mode	**On** and set the desired heating flow temperature. • **On** • Off

1) → § 2.4 "Display of energy data", p. 4.

2) With heating controller

Table 4

5 Shutdown

5.1 Standard decommissioning

▶ Put on/off switch to position "0".
▶ Close the gas valve below the wall hung gas condensing boiler (→ Fig. 3.2, page 5).

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5.2 Decommissioning when there is a risk of frost

If the appliance remains switched off:

▶ Make sure that a sufficient flow rate is possible at all radiators.

If the wall mounted gas condensing boiler is switched off:

▶ Put the ON/OFF switch at the control panel to position "0".
▶ Close the gas valve under the wall mounted gas condensing boiler.
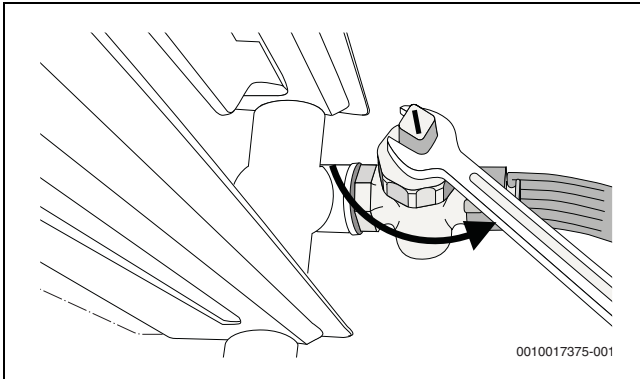▶ Drain the entire heating system.

Fig. 7   Draining the heating system

6 Maintenance

⚠ Inspection and service

The system operator is responsible for ensuring the heating system is used safely and in an environmentally-sustainable manner.

If maintenance or inspections are omitted or incorrectly carried out, this can cause personal injury and even danger to life or material damage.

▶ Have work carried out only by an approved contractor.
▶ Have the heating system inspected by an approved contractor at the defined maintenance intervals. (→ Inspection and maintenance interval, p. 3).
▶ Have the necessary maintenance carried out directly.
▶ Have defects in the heating system rectified immediately irrespective of the specified maintenance interval.

Topping up the heating water

Topping up the heating water is different on every heating system. You should therefore ask your specialist to show you how it is done.

NOTICE

Material damage due to thermal stresses!

When topping up a hot boiler with cold heating water, thermal stresses can lead to cracking due to internal stress.

▶ Only fill the heating system when cold. Maximum flow temperature 40 °C.

Maximum pressure of 3 bar at maximum heating water temperature must not be exceeded (pressure relief valve will open).

Bleeding radiators

If radiators heat up at different rates:

▶ Bleed radiators.

6.1 Cleaning and care

To clean the boiler:

▶ Do not use abrasive or aggressive cleaning agents.
▶ Clean the casing with a damp cloth (soapy solution).

7 Faults

7.1 Troubleshooting

The cause of the fault is coded (e.g. fault code 228) and displayed as text.

▶ Switch the device off and back on again.

-or-

▶ Press the ▲ and ▼ keys until **Reset** is displayed.
The appliance resumes operation and the current flow temperature is displayed.

If a fault persists:

▶ Contact the contractor or customer service.
▶ Provide them with the displayed fault code and the device data.

Device data	
Device designation[1]	
Serial number[1]	
Commissioning date	
System installer	

1) You can find this on the underside of the appliance.

Table 5   Device data to be communicated in case of a fault

8 Environmental protection and 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.

Old electrical and electronic appliances

This symbol means that the product must not be disposed of with other waste, and instead must be taken to the waste collection points for treatment, collection, recycling and disposal.

The symbol is valid in countries where waste electrical and electronic equipment regulations apply, e.g. "European Directive 2012/19/EC on old electronic and electrical appliances". These regulations define the framework for the return and recycling of old electronic appliances that apply in each country.

As electronic devices may contain hazardous substances, it needs to be recycled responsibly in order to minimize any potential harm to the environment and human health. Furthermore, recycling of electronic scrap helps preserve natural resources.

For additional information on the environmentally compatible disposal of old electrical and electronic appliances, please contact the relevant local authorities, your household waste disposal service or the retailer where you purchased the product.

You can find more information here: www.weee.bosch-thermotechnology.com/

9 Data Protection Notice

We, **Bosch Thermotechnology Ltd., Cotswold Way, Warndon, Worcester WR4 9SW, United Kingdom** process product and installation information, technical and connection data, communication data, product registration and client history data to provide product functionality (art. 6 (1) sentence 1 (b) GDPR), to fulfil our duty of product surveillance and for product safety and security reasons (art. 6 (1) sentence 1 (f) GDPR), to safeguard our rights in connection with warranty and product registration questions (art. 6 (1) sentence 1 (f) GDPR) and to analyze the distribution of our products and to provide individualized information and offers related to the product (art. 6 (1) sentence 1 (f) GDPR). To provide services such as sales and marketing services, contract management, payment handling, programming, data hosting and hotline services we can commission and transfer data to external service providers and/or Bosch affiliated enterprises. In some cases, but only if appropriate data protection is ensured, personal data might be transferred to recipients located outside of the European Economic Area. Further information are provided on request. You can contact our Data Protection Officer under: Data Protection Officer, Information Security and Privacy (C/ISP), Robert Bosch GmbH, Postfach 30 02 20, 70442 Stuttgart, GERMANY.

You have the right to object, on grounds relating to your particular situation or where personal data are processed for direct marketing purposes, at any time to processing of your personal data which is based on art. 6 (1) sentence 1 (f) GDPR. To exercise your rights, please contact us via **privacy.ttgb@bosch.com** To find further information, please follow the QR-Code.

10 Product data for energy consumption

The following product data comply with the requirements of the EU Regulations No. 811/2013, No. 812/2013, No. 813/2013 and No. 814/2013 supplementing Directive 2017/1369/EU. They supplement the energy efficiency label for this product.

Product data	Symbol	Unit	Values					
Product type	–	–	GC7000WP 50	GC7000WP 65	GC7000WP 85	GC7000WP 100	GC7000WP 125	GC7000WP 145
Gas type			G20	G20	G20	G20	G20	G20
Floor standing condensing boiler	–	–	✓	✓	✓	✓	✓	✓
Specified heat output	P_{rated}	kW	47	64	81	95	117	139
Seasonal energy efficiency for central heating	η_s	%	93	93	93	93	94	94
Energy efficiency class	–	–	A	A	–	–	–	–
Available heat output								
At rated heat output and high temperature regime [1]	P_4	kW	46,8	63,6	81,0	95,1	116,9	138,9
At 30 % of rated heat output and low temperature regime [2]	P_1	kW	15,4	21,0	26,8	31,5	38,7	46,1
Useful efficiency								
At rated heat output and high temperature regime [1]	η_4	%	88,7	89,1	88,9	88,8	89,1	89,2
At 30 % of rated heat output and low temperature regime [2]	η_1	%	97,6	97,9	98,3	97,9	98,4	98,7
Auxiliary electricity consumption								
At full load	el_{max}	kW	0,032	0,064	0,088	0,133	0,145	0,243
At part load	el_{min}	kW	0,010	0,011	0,013	0,015	0,015	0,015
On standby	P_{SB}	kW	0,002	0,002	0,002	0,002	0,002	0,002
Other items								
Standby heat loss	P_{stby}	kW	0,115	0,115	0,115	0,115	0,153	0,153
Energy consumption of the ignition flame	P_{ign}	kW	0,000	0,000	0,000	0,000	0,000	0,000
NOx emissions	NOx	mg/kWh	25	34	34	38	35	38
Sound power level, indoors	L_{WA}	dB(A)	55	61	61	64	65	69

1) High-temperature operation means a return temperature of 60 ℃ at the wall mounted boiler inlet, and a flow temperature of 80 at the boiler outlet.

2) Low-temperature operation means a return temperature (at the boiler inlet) of 30 ℃ for floor standing condensing boilers, of 37 ℃ for floor standing boilers, and of 50 ℃ for other wall mounted boilers.

Table 6 Product data for energy consumption

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11 Open Source Software

The following text is in English for legal reasons.

11.1 List of used Open Source Components

This document contains a list of open source software (OSS) components used within the product under the terms of the respective licenses. The source code corresponding to the open source components is also provided along with the product wherever mandated by the respective OSS license.

Name of OSS Component	Version of OSS Component	Name and Version of License (License text can be found in Appendix below)	More Information
STM32cube generated files	Unspecified	BSD (Three Clause License) (→ Kap. 11.3.1)	COPYRIGHT© 2016 STMicroelectronicsCOPYRIGHT© 2014 STMicroelectronics
STMC4Lib-IAR	Unspecified	BSD (Three Clause License) (→ Kap. 11.3.2)	Copyright © 2009 - 2015 ARM LIMITEDCOPYRIGHT© 2016 STMicroelectronics
stm32f30x	Unspecified	MCD-ST Liberty Software License Agreement v2 (→ Kap. 11.3.2)	COPYRIGHT 2012 STMicroelectronics

Table 7

Provided that within certain OSS-Licenses (e.g. LGPL-2.0) necessary, reverse-engineering is allowed for the respective software component to the required extent. This shall not apply for other components of the software.

11.2 Used Commercial Source Components

11.2.1 This product contains software developed and licensed by SEGGER Software GmbH

11.3 Appendix - License Text

11.3.1 BSD (Three Clause License)

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▸ Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
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11.3.2 MCD-ST Liberty Software License Agreement v2

SLA0044 Rev5/February 2018

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