



Operating instructions for users

Floor standing condensing boiler

Uni Condens 8000 F

UC8000F 50...640 kW

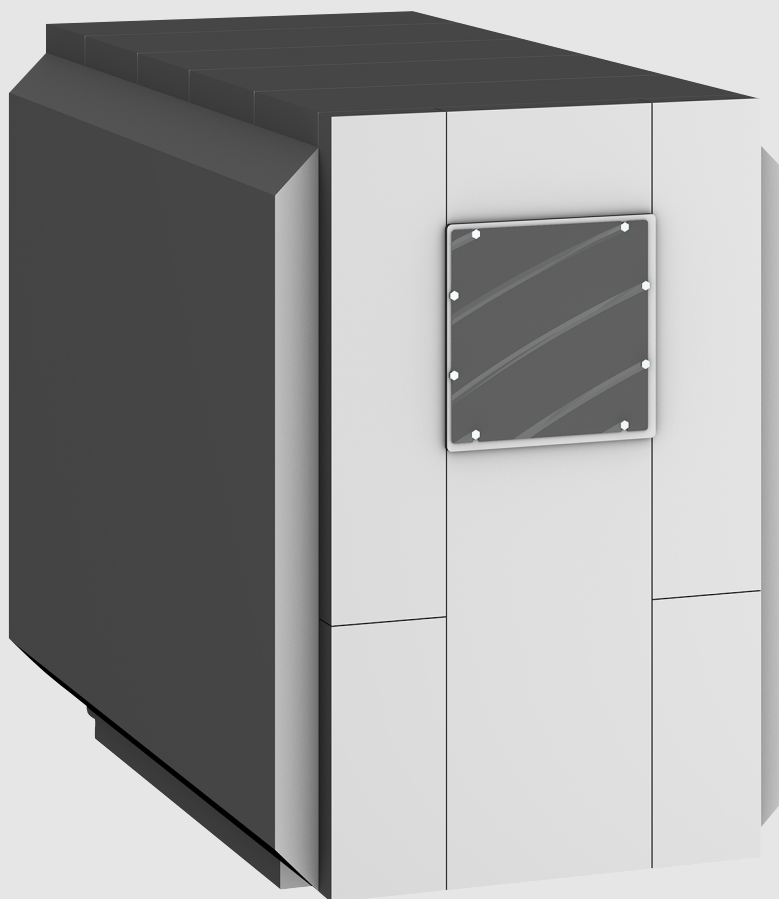


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1 Explanation of symbols and safety instructions

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



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

 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 generator, heating controller, etc.) prior to operation.
- ▶ Observe the safety instructions and warnings.
- ▶ Operate the heat generator only with the casing fitted and closed.

General safety instructions

Failure to observe the safety instructions can result in serious personal injury and a risk to life as well as material losses and damage to the environment.

- ▶ Carry out service work at least once a year. As part of this, check that the entire system is working correctly. Defects must be remedied immediately.
- ▶ Never put your life at risk. Your own safety is paramount.
- ▶ Before commissioning the heating system, read these instructions carefully.

Risk of damage from operating errors

Operator errors can result in personal injury and material damage.

- ▶ Ensure that only personnel who can operate this appliance correctly have access to it.
- ▶ Installation and commissioning as well as servicing and maintenance must only be carried out by an approved contractor.
- ▶ Only operate the system when it contains a sufficient volume of water (operating pressure). Operation without a sufficient volume of water is not permitted.

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.”

Risk through oil leaks

If using oil as fuel, country-specific regulations hold the operator responsible for asking a contractor to correct any oil leaks the moment they are discovered.

If you smell gas

- ▶ Close gas isolation valve.
- ▶ Open windows and doors
- ▶ Do not touch any electrical switch, telephone, and do not use outlets.
- ▶ Extinguish any naked flames.
- ▶ Do not smoke!
- ▶ Do not use lighters!
- ▶ Warn all occupants in the building, but do not ring doorbells.
- ▶ **From outside the building**, call your gas supplier and licensed contractor.

Danger if you smell flue gas

- ▶ Switch off the boiler.
- ▶ Open windows and doors
- ▶ Notify an approved contractor.

Risk of scalding/burning

Temperatures > 60 °C may be reached in the heating system.

- ▶ Prior to inspection and maintenance, let the floor standing boiler cool down.

Risk of electrical shock

Touching live parts can result in an electric shock.

- ▶ Do not open the product.
- ▶ Only have the electrical installation carried out by qualified contractors.

Installation, conversion and operation

Insufficient ventilation may cause dangerous flue gas leaks.

- ▶ Only have the boiler installed or modified by an approved contractor.
- ▶ Never modify any parts through which flue gas is routed.
- ▶ Make sure that the vent pipes and gaskets are not damaged.
- ▶ **With open flue operation:** do not cover or reduce the size of ventilation apertures in doors and walls.
- ▶ The following applies in countries where use of windows as combustion air vents is permitted:
make sure that windows that are used as combustion air vents cannot be shut accidentally. Attach a warning sign near the window. If draft-proof windows are installed, ensure an adequate supply of combustion air.
- ▶ If the supply air is via mechanical ventilation, combustion must only start when the supply air flap is fully open (voltage free checkback signal to the boiler controller via failsafe limit switch). Provide for control of supply air flaps.
- ▶ Make sure the boiler installation location is frost-proof.
- ▶ The heating system must be installed and operated in accordance with the applicable rules of technology as well as national, regional and local regulations.

Combustion/room air

- ▶ Keep the combustion/ambient air free of corrosive substances (e.g. halogenated hydrocarbons that contain chlorine or fluorine compounds). This will help to prevent corrosion.
- ▶ Keep the combustion air supply free of dust.

Danger posed by explosive and easily flammable materials

- ▶ Never use or store easily flammable materials (e.g. paper, thinners, paints, etc.) near the appliance.

Heating system damage due to frost

When the heating system is not in operation (e.g. control unit switched off, fault shutdown), there is a risk of it freezing when there is frost.

- ▶ When decommissioning or switching off for extended periods, drain the heating and drinking water pipes at the lowest point in order to protect the heating system from freezing and drain at further drainage points (e.g. upstream of the non-return valves).

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 servicing

- ▶ **Recommendation for customers:** Arrange a maintenance and inspection contract with an approved contractor, covering an annual inspection and responsive maintenance.
- ▶ The user is responsible for ensuring the heating system is safe and environmentally compatible.
- ▶ Immediately correct all faults to prevent system damage!
- ▶ Use only genuine spare parts from the manufacturer. Losses caused by the use of spare parts and accessories not supplied by the manufacturer are excluded from the manufacturer's warranty.

⚠ Handover to the user

When handing over, instruct the user how to operate the heating system and inform the user about its operating conditions.

- ▶ Explain how to operate the heating system and draw the user's attention to any safety relevant action.
- ▶ In particular, point out the following:
 - Alterations and repairs must only be carried out by an approved contractor.
 - Safe and environmentally compatible operation requires inspection at least once a year and responsive cleaning and maintenance.
 - The heat generator may only be operated with the casing fitted and closed.
- ▶ Point out the possible consequences (personal injury, including danger to life or material damage) of non-existent or improper inspection, cleaning and maintenance.
- ▶ Point out the dangers of carbon monoxide (CO) and recommend the use of CO detectors.
- ▶ Leave the installation instructions and the operating instructions with the user for safekeeping.

2 Product Information

2.1 Declaration of Conformity

The design and operation of this product comply with European Directives and the supplementary national requirements. Conformity has been demonstrated by the CE marking.

You can ask for a copy of the declaration of conformity for this product. For this see the contact address on the back cover of these instructions.

2.2 Determined use

The Uni Condens 8000 F 50...115 and Uni Condens 8000 F 145...640 floor standing condensing boilers have been designed for heating heating water (e.g. apartment buildings or industrial applications).

The boiler is only approved for open flue operation.

When installing and operating the heating system:

- Comply with standards, regulations and guidelines of the relevant country.
- Observe the information on the data plate of the boiler.

2.3 Symbol at the boiler



This symbol is used to point out that the installation and operating instructions must be read prior to installation operation or maintenance in order to prevent damage to the system.

2.4 Data plate



If you contact the manufacturer with any questions about this product, always provide the details on the data plate. If we have these details, we can quickly answer your specific query.

The details on the data plate are binding and must be observed!

You will find information such as the serial number, output and approval details on the data plate.

2.5 Product information

All parts of the Uni Condens 8000 F 50...115 and Uni Condens 8000 F 145...640 floor standing condensing boilers that come into contact with products of combustion or condensate are made from high grade stainless steel. This makes operation possible without limitations on the flow and return temperature, the flow rate or the burner low load. The Uni Condens 8000 F 50...115 and the Uni Condens 8000 F 145...640 are subsequently referred to as UC8000F 50...115, UC8000F 145...640, boiler or heat source.

The boilers have 2 thermohydraulically separate return connections for the high and low temperature heating circuits. The boilers must be equipped with a burner that is suitable for the boiler. The boilers operate according to the 3-pass principle (→ Fig. 1, page 4).

The main components of the boiler are (→ fig. 2, page 5):

- Boiler shell [3] in conjunction with a burner [2]
The boiler block transfers the heat produced by the burner to the heating water.
- Thermally-insulated casing [3]
The boiler shell and thermal insulation reduce energy losses.
- Control unit [1]
The control unit monitors and controls all electrical boiler components.

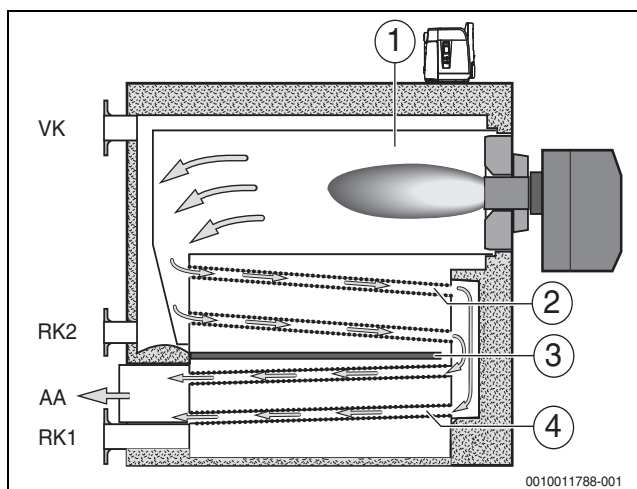


Fig. 1 Function diagram of the path of the products of combustion in the Uni Condens 8000 F 50...115 and Uni Condens 8000 F 145...640 floor standing condensing boilers

- AA Flue gas leakage
- RK1 Return for low temperature heating circuits
- RK2 Return for high temperature heating circuits
- VK Flow
- [1] Combustion chamber (1st pass)
- [2] Upper condensation indirect heat exchanger (condensing plus heating surface, 2nd pass)
- [3] Water guide element
- [4] Upper condensation indirect heat exchanger (condensing plus heating surface, 3rd pass)

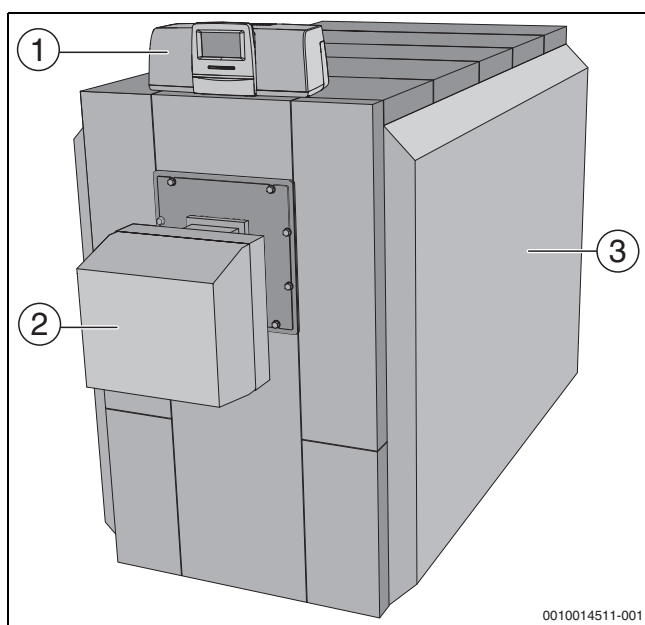


Fig. 2 Boiler overview

- [1] Control unit
- [2] Burner
- [3] Boiler body with insulation and boiler cladding

2.6 Permissible fuels

The boiler must only be operated with the specified fuels. Only burners that are suitable for the specified fuels may be used. During commissioning, the specialist must enter the fuel to be used in table 4, page 9

Gas burner

Permissible fuels:

- Natural gas from the public gas supply in accordance with national regulations with a total sulphur content < 50 mg/ m³.
- LPG in accordance with national regulations with a content of elementary sulphur < 1.5 ppm and volatile sulphur < 50 ppm.
- Natural gas with a hydrogen content of 20 % by volume, if the burner has a respective approval according to DVGW CERT ZP 3502. (Details are to be requested from the gas supplier and the service organisation if required.)
- Hydrogen mixtures with a share of up to 100 % when using a separate burner with the respective approval.
- Biogas with a sulphur content < 50 ppm

Oil burner

Oil burners used must be suitable for low-sulphur fuel oil.

Observe the manufacturer's oil burner selection list and the burner manufacturer's instructions.

Permissible fuels:

- Low-sulphur extra-light fuel oil with a sulphur content < 50 ppm and a proportion of bio-oil (FAME) ≤ 20 %.

Any existing residual amounts of fuel oil with a sulphur content > 50 ppm must be pumped out and the oil tank cleaned.



Type tested dual burners can also be used. The requirements for the gas side and the oil side described above also apply here. All products subsequently described apply equally for the gas side and oil side.

2.7 Operating conditions



Observe the maximum rated heat input Q_n (Hi) specified on the data plate when setting the burner output.

Operating conditions	Unit	Value
Maximal permissible temperature of high limit safety cut-out /(STB)	°C	110
Maximum operating pressure	bar	Dependent on boiler rating
Maximum number of burner starts	per year	15 000

Table 2 Operating conditions

Operating conditions	Uni Condens 8000 F 50...115 and Uni Condens 8000 F 145...640 with modulating operation	Uni Condens 8000 F 50...115 and Uni Condens 8000 F 145...640 with constant boiler temperature
Volumetric flow rate	None –	None
Min. boiler temperature	In conjunction with a CFB/CC control unit for modulating operation (CFB 840; CFB 810; CFB 830 or CC 8311; CC 8312).	In conjunction with a CFB/CC control unit for constant boiler temperature CFB 810 or CC 8312, or when supplemented by a third party control unit.
Interruption of operation (total shutdown of the boiler)		
Heating circuit control unit with heating mixer		
Minimum return temperature		
Other	1)2)	1)

- 1) Maximum 15,000 burner starts per year. In order that you do not exceed this number of burner starts, the information in the technical guide or installation instructions on setting the controller and burner must be observed. However, if this value is still exceeded, please contact the customer service of the manufacturer.
- 2) The number of burner starts per year is influenced by the boiler system's operating settings (control parameters in the boiler controls and the combustion setting) and by the design of the boiler system with regard to the consumer's heat energy demand. To avoid exceeding the number of burner starts per year as a result of operating settings that have not been optimised, the manufacturer offers complete commissioning and regular system inspections for floor standing boilers, burners and boiler controls (CFB/CC controllers with function modules).

Table 3 Operating conditions



It must be possible to check the number of burner starts, e.g. at the control unit, third-party control unit, building control system or burner control unit.

2.8 Requirements for the control unit



We recommend using a control unit from the CFB 800/CFB 900 or CC 8000 series.

The purpose of optimum control unit settings is to achieve long burner runtimes and avoid rapid temperature changes in the boiler. Gentle temperature changes result in a longer service life of the heating system. The control strategy of the control unit must therefore be prevented from becoming ineffective, i.e. through the boiler temperature controller switching the burner on and off.

Observe the following points when selecting the control unit.

- The control unit must ensure that the maximum internal boiler water temperature and the high limit safety cut-out are at least 5 K apart.
- It must also be ensured that the control electronics rather than the boiler temperature controller switch the burner on and off.
- The control unit must ensure that the burner is switched to low load before a controlled shutdown. If this is not observed, the safety shut-off valve (SAV) in the gas train may lock out.
- Select and adjust the control unit so as to allow a gentle start-up of the boiler with a time delay when the system is cold. The heat energy demand must only be switched on with time delay.
- After the burner demand, an automatic timer (for example) should limit the burner to low load for a period of approx. 150 seconds. A restricted heat demand will prevent uncontrolled starting and stopping of the burner.
- It must be possible to show the number of burner starts at the control unit used (or alternatively at the burner control unit).
- The maximum number of burner starts must be monitored. There should be a maximum of 6 burner starts per hour (averaged over burner runtime on one day). If the number of starts is higher, the user should be notified. The system must be checked to find out whether the number of burner starts can be reduced. The customer service of the manufacturer can provide assistance with optimisation of the system.

2.9 Burner requirements



Only use specified pressure-jet gas burners with floor standing gas condensing boilers.

Use specified pressure-jet burners or dual fuel burners for floor standing gas/oil condensing boilers.

The boiler must be equipped with a burner that is suitable for the boiler.

NOTICE

Risk of system damage from use of incorrect burner.

- Only use burners which meet the technical requirements of the boiler.

Any pressure-jet gas burner type-tested according to EN676 can be used if its operating range matches the boiler specifications. When using gaseous fuels with a hydrogen content of up to 20 % by volume, a certification in accordance with DVGW CERT ZP 3502 must also be available. Oil burners type-tested to EN267 can be used if they have been approved by the manufacturer for low sulphur fuel oil ($s < 50$ ppm) and if their operating ranges match the specification of the boiler. Only burners that have been tested and approved for electromagnetic compatibility (EMC) may be used.

Furthermore, the following points must be observed when selecting burner or burner control unit:

- Gas burners must be modulating and have modulating control.
- Oil burners used with boilers with an output of 70 kW or more must be implemented as 2-stage burners and have at least a 2-stage control.
- The control range of the burner at a boiler from an output of > 90 kW must be at least 1:1.8 (i.e. the low load of the burner must not exceed 55%). The ignition load of the burner must also not exceed 55%.
- The burner control must ensure that the burner is switched to low load before a controlled shutdown.
- The output of the burner must only be controlled by the control unit. Automatic start up of the burner at full load following a burner demand without taking the requested load into account is not permitted!

Burner selection and settings

The sizing and settings of the burner have a significant influence on the service life of the heating system. Every load cycle (burner on/off) causes thermal stresses (loads on the boiler shell). **The number of burner starts must therefore not exceed 15,000 per year.**

The purpose of the following recommendations and settings is to ensure that this figure is not exceeded.

If this figure is however exceeded:

- Get in touch with the sales or customer service department of the manufacturer.



It must be possible to check the number of burner starts, e.g. at the control unit, third-party control unit, building control system or burner control unit.

- Set the burner output as low as possible. **Set the burner to the rated heat input QN (Hi) specified on the data plate as a maximum.** Never overload the boiler!
- Take fluctuating net calorific values of the gas into account; check the maximum value with the gas supply utility.
- Calculate the gas throughput at the burner based on the maximum net calorific value and set accordingly at the burner.
- Only use burners that are suitable for the specified fuels.
- Ensure that the oil burner used is suitable for low-sulphur fuel oil (otherwise corrosion from metal dusting may occur). Observe the burner manufacturer's instructions.
- Burners must only be adjusted by a contractor.



To be able to adjust the fuel throughput, install a fuel meter (gas and/or oil flow meter) that can be checked even in the lower load range of the burner. The fuel meter should be installed near the boiler and only measure the quantity of fuel used by the corresponding boiler.

3 Operation information



When installing and operating the heating system:

- ▶ Observe country-specific standards, regulations and guidelines.
- ▶ Observe the information on the data plate of the boiler.

3.1 Combustion air quality

- ▶ To avoid corrosion, keep the supply of combustion air free of corrosive substances (e.g. halogenated hydrocarbons that contain chlorine or fluorine compounds).
- ▶ Never use or store chlorinated cleaning agents or halogenated hydrocarbons (as contained in spray cans, solvents or cleaning agents, paints and adhesives, for example) in the installation location.
- ▶ Keep the combustion air supply free of dust.
- ▶ If building work is taking place in the installation location and creating a lot of dust, shut the boiler down and cover it. A burner contaminated during building work must be cleaned before commissioning.

3.2 Water quality for heating water

The quality of the fill and top-up water is an essential factor for increased efficiency, functional reliability, long service life and for maintaining the operational readiness of a heating system. If the system is filled with water that has a high calcium hardness, this will be deposited on the heat exchanger surfaces and will restrict the transfer of heat to the heating water. As a result, the wall temperatures of the stainless steel heat exchanger surfaces will rise resulting in an increase in thermal stresses (loads on the boiler shell).

The quality of the fill and top-up water must therefore satisfy the specifications in the enclosed operator's log. The water quality must be documented in the operator's log.

If the operator's log is not maintained or is missing, the warranty will be invalidated.

If the operator's log is not included in the scope of delivery, contact the address on the back of these instructions.

Water treatment must generally be carried out for boilers with a total output (system output) of > 600 kW irrespective of water hardness and the fill and top-up water quantity.

3.3 Using antifreeze



Chemical additives that are not certified as harmless by the manufacturer must not be used.

Antifreeze based on glycol has been used in heating systems for many years, for example Antifrogen N manufactured by Clariant.

The use of other types of antifreeze should not be a cause for concern if the product is comparable with Antifrogen N.

Observe the antifreeze manufacturer's instructions. Follow the manufacturer's details regarding mixing ratios.

The specific thermal capacity of Antifrogen N antifreeze is lower than the specific thermal capacity of water. To enable the transfer of the required heat output, increase the required flow rate accordingly. This should be taken into account when sizing the system components (e.g. pumps) and the pipework.

As the heat transfer medium has a higher viscosity and density than water, take the higher pressure drop through the pipework and other system components into account.

Check the resistance of all plastic or non-metallic components in the system separately.

4 Commissioning

NOTICE

Risk of boiler damage through contaminated combustion air!

- ▶ Never operate the boiler in very dusty conditions, e.g. if building work is taking place at the installation location.
- ▶ Ensure adequate ventilation.
- ▶ Never use or store chlorinated cleaning agents or halogenated hydrocarbons (as contained in spray cans, solvents or cleaning agents, paints and adhesives, for example) at the installation location.
- ▶ A burner contaminated during building work must be cleaned before commissioning.

- ▶ Ask your contractor to provide information about how the boiler works and is operated.
- ▶ Never undertake any modifications or maintenance.

4.1 Making the heating system operational

For you to be able to commission the heating system, observe the following:



Open the automatic air vent valve only briefly for venting.

- ▶ Check that the required operating pressure has been established (→ chapter 6.3, page 8).
- ▶ Check the flange connections and other connections for tightness.
- ▶ Fill the condensate siphon.
- ▶ Open the fuel supply to the main fuel shut-off valve.
- ▶ Switch on the heating system emergency stop switch.

4.2 Commissioning the control unit and burner

By commissioning the control unit you automatically commission the burner as well. The burner can then be started by the control unit. For further information, refer to the operating instructions of the relevant control unit or burner.

- ▶ Use the control unit to commission the boiler.
- ▶ Observe operating instructions of the control system and burner.

5 Shutdown

NOTICE

Risk of damage to the system from frost!

When there is a frost, the heating system can freeze up if it is not operational, (e.g. switched off, mains failure or fault shutdown)!

- ▶ Check the "Control unit settings" function to ensure the heating system remains operational.
- ▶ When there is a risk of frost, protect your heating system against freezing up.
- ▶ If your heating system has been shut down for several days, e.g. due to a fault shutdown, and there is a risk of frost: drain the heating water at the DFV. Also leave the air vent at the highest point in the heating system open.

5.1 Shutting down the heating system.

The heating system is shut down via the control unit. The burner is also automatically shut down.

- ▶ Switch off the burner at the control unit.

5.2 Shutting down the heating system in emergencies



Only in emergencies, switch off the heating system via the heating system circuit breaker or heating system emergency stop switch.

- ▶ Never put your life at risk. Your own safety is paramount.
- ▶ In dangerous situations, immediately close the main fuel shut-off valve and the power supply of the heating system via the boiler room main MCB/fuse or the heating system emergency stop switch.
- ▶ Isolate the fuel supply.

6 Inspection and maintenance

6.1 General notes

NOTICE

System damage due to inadequate cleaning and maintenance!

- ▶ Carry out cleaning and maintenance at least once a year. In the course of this work, check the entire heating system including the neutralising system for correct function.
- ▶ Immediately correct all faults to prevent system damage.



Annual inspection and service are part of the warranty terms.

- ▶ Conclude an annual inspection and responsive maintenance and inspection contract with your contractor.

What makes regular maintenance important?

Heating systems should be regularly maintained for the following reasons:

- To achieve a high level of efficiency
- To operate the heating system economically with low fuel consumption
- To achieve a high level of operational reliability
- To maintain the cleanest possible combustion

6.2 Clean boiler casing

- ▶ Wipe down the boiler casing with a damp cloth.
- ▶ Never use aggressive or corrosive cleaning agents.

6.3 Check and correct the operating pressure

Operation without a sufficient volume of water is not permitted.

- ▶ Only operate the system when it contains a sufficient volume of water (operating pressure).

If the operating pressure in the heating system is too low.

- ▶ Fill the heating system with top-up water.

For the water quality:

- ▶ Note the information specified in the operator's log.
- ▶ Check the operating pressure once a month.

6.3.1 When should you check the operating pressure in the heating system?



The fill and top-up water quality must comply with the specifications in the operator's log supplied.



Air pockets may form in the heating system through the fill or top-up water releasing gases.

- ▶ Vent the heating system (e.g. at the radiators).
- ▶ If required, top up with water.

Recently added fill or top-up water loses much of its volume in the first few days because it releases gases.

With newly filled systems:

- ▶ Initially check the operating pressure of the heating water daily and then in ever increasing intervals.

Once the heating system is hardly losing any volume:

- ▶ Check the operating pressure of the heating water once a month

A distinction is made between open and closed systems. In practice, open vented systems are rarely installed nowadays. We will therefore be using a closed heating system to demonstrate how you can check the operating pressure. All settings will have already been made by the contractor when the system was first commissioned.

6.3.2 Sealed unvented systems

NOTICE

System damage due to frequent topping up!

Depending on the water quality, the heating system can be damaged by corrosion or scaling.

- ▶ Ensure that the heating system is vented.
- ▶ Check the heating system for tightness and the expansion vessel for its function.
- ▶ Observe the requirements regarding water quality (→ operator's log).
- ▶ In case of frequent water loss, determine the cause and remedy immediately.

NOTICE

System damage due to thermal stress.

- ▶ Only fill the heating system when it is cold (the flow temperature should be no more than 40 °C).
- ▶ During operation, only fill the heating system via the filling facility in the heating system pipework (return).

In closed systems, the pressure gauge needle (→ Figure 3, [3], page 9) must be within the green marking [2]. The red needle [1] of the pressure gauge must be set to the minimum pressure required for the heating system.

- ▶ Check the heating system pressure.

If the pressure gauge needle [3] drops below the green marking [2]:

- ▶ Top up with make-up water.
- ▶ Top up with water via a filling facility in the heating system pipework.
- ▶ Vent the heating system.
- ▶ Check the operating pressure again.

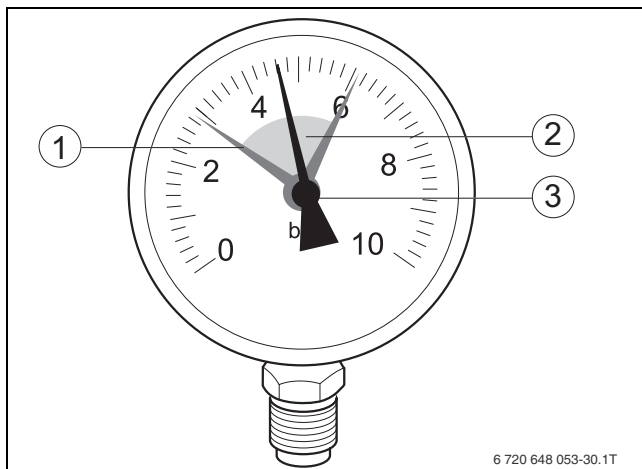


Fig. 3 Pressure gauge for closed heating systems

- [1] Red needle
- [2] Green marking
- [3] Pressure gauge needle

6.3.3 Installations with automatic pressurisation units

For installations in which an automatic pressure maintaining system is integrated:

- ▶ Follow the manufacturers' instructions.
- ▶ Observe water quality requirements (→ operator's log).

6.3.4 Water samples

The quality of the fill, top-up and boiler water must be regularly documented in an operator's log.

- ▶ Have water samples taken by a contractor.
- ▶ Document result in operator's log.

7 Correct fuel



CAUTION

Physical injury or material damage due to use of unauthorised fuels.

Unauthorised fuels damage the floor standing boiler and can form hazardous substances.

- ▶ Only use fuels approved by the manufacturer for this product.



We recommend you seek the advice of your heating contractor if you intend to change the fuel for your heating system.

This heating system requires the correct fuel to ensure reliable operation. During commissioning, your heating contractor will enter the correct fuel type for your heating system in the table below.

Use the following fuel only:

Stamp/Signature/Date

Table 4 Fuel

8 Faults

8.1 Correcting a burner fault

NOTICE

System damage due to frost.

When there is a frost, the heating system can freeze up if it is not operational, e.g. switched off, mains failure or fault shutdown!

- ▶ Check the "Control unit settings" function to ensure the heating system remains operational.
- ▶ When there is a risk of frost, protect your heating system against freezing up.
- ▶ If your heating system has been shut down for several days, e.g. due to a fault shutdown, and there is a risk of frost: drain the heating water at the DFV. Also leave the air vent at the highest point in the heating system open.

NOTICE

System damage from pressing the reset button too frequently.

This can damage the burner ignition transformer.

- ▶ Press the reset button no more than three times in sequence.

The display shows a fault in the heating system. Further information on the fault displays can be found in the service instructions of the relevant control unit. In addition, burner faults are signalled by an indicator on the burner.

- ▶ Press burner reset button (see operating instructions of burner and control).

If the burner still fails to start after three attempts, contact a contractor.

8.2 Other faults

For other possible faults, see the installation and operating instructions of the control unit.

9 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/

10 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.

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