

Operating instructions

Logano GE515

Exchange boiler for the Logano G505, G515, GE515, GK505

CE This device meets all basic requirements of relevant standards and guidelines.

Its conformity has been verified. All associated documents and the original Declaration of Conformity are available from the manufacturer.

A copy of the Declaration of Conformity is included in the installation and maintenance instructions.

This product is a boiler block with a casing pursuant to the Official Journal of the European Union, L 239, Commission Regulation (EU) No. 813/2013 implementing guideline 2009/125/EC Art. 2, §6.

According to the aforementioned Official Journal, Art. 1 § 2 (g), this product is recognized as a replacement product which replaces an identical boiler block already on the market. Compliance with the intended use of the boiler and its components must be ensured and documented.

Anyone offering this product to consumers shall be responsible for its correct use.

Regarding these instructions

These operating instructions contain important information for the safe and appropriate operation and maintenance of the oil- and gas-fired boiler Logano GE515.

Subject to technical modifications.

Constant development may lead to minor deviations of illustrations, functional steps and specifications from those described/shown.

Updating your documentation

Please let us know if you would like to make suggestions to improve our documentation or if you have noticed any errors.

Correct fuel

This system requires the correct fuel to ensure a proper operation. During commissioning, your system installer will enter the correct type of fuel, which your system requires, into the table below.



CAUTION!

SYSTEM DAMAGE

through incorrect fuel.

- Only use the correct fuel identified for your system.



USER NOTE

We recommend you seek the advice of your system installer if you intend changing the fuel for your system.

Use the following fuel:

company stamp/signature/date

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1 For your safety

Logano GE515 oil- and gas-fired special boilers have been developed and built employing the latest technologies and safety regulations.

Ease of operation was given a particularly high priority. Please observe the safety instructions and the operator's instructions to ensure optimum safe, economical and environmentally-friendly utilisation of your system.

1.1 Correct use

The Logano GE515 oil- and gas-fired special boiler was designed for the heating of central heating water. You may use any type-tested oil- or gas-fired burners acc. to EN 267 or EN 676 provided their operating range correlates with the boiler specification.

These boilers are operated with the 4000 series control systems.

1.2 Notes structure

Two levels of danger are identified and identified by signal terms:



WARNING!

DANGER TO LIFE

Identifies possible dangers emanating from a product, which might lead to serious injury or death, if appropriate care is not taken.



CAUTION!

DANGER OF INJURY/ SYSTEM DAMAGE

Points to a potentially dangerous situation, which might lead to medium or slight injuries or to material losses.



USER NOTE

User tips for the optimum utilisation and setting of the equipment plus useful information.

1.3 Please observe these safety instructions

Inappropriate operation of Logano GE515 boilers may lead to material losses.

- Only operate the boiler as intended and when it is in perfect condition.
- Let a heating engineer install your heating system.
- Let your local heating engineer train you properly in the operation of this system.
- Please read these operating instructions carefully.



WARNING!

DANGER TO LIFE

through the explosion of volatile gases. There is a risk of explosion if you can smell gas.

- Keep naked flames away. Do not smoke.
Do not use lighters.
- Avoid sparks!
Do not operate electrical switches, incl. telephone, plugs or door-bells.
- Close the mains gas shut-off valve.
- Open windows and doors.
- Warn all occupants, but do not use doorbells.
- Leave the building.
- Call your gas supplier and your local heating engineer from outside the building.
- If necessary, notify police or fire services.
- Immediately leave the danger zone if you hear gas streaming out.

1.3.1 Location



DANGER TO LIFE

through poisoning.

WARNING!

Insufficient ventilation can lead to dangerous flue gas leaks.

- Ensure that the ventilation and exhaust air openings are neither restricted nor closed.
- The boiler must not be operated, unless you immediately remedy the fault.



RISK OF FIRE

through combustible material or liquids.

WARNING!

- Never store flammable materials or liquids in the immediate vicinity of the heat generator.



BOILER DAMAGE

through contaminated combustion air.

CAUTION!

- Never use chlorinated cleaning agents or halogenated hydrocarbons (as, for example, contained in spray cans, solvents or cleaning agents, paints and adhesives).
- Avoid atmospheres which are frequently very dusty.
- Never hang washing to dry in the boiler room.



SYSTEM DAMAGE

through frost.

CAUTION!

- Ensure that the boiler room is always free from frost.

1.3.2 Working on the heating system



DANGER TO LIFE

through the explosion of volatile gases.

WARNING!

- Ensure that the installation, the gas, oil and flue gas connections, the initial start-up, the power connection, maintenance and repair work are only carried out by competent specialists.
- Ensure that work on parts of the gas installation is only carried out by a licensed specialist.



SYSTEM DAMAGE

through inadequate cleaning and maintenance.

CAUTION!

- Have your system inspected, cleaned and maintained annually by a specialist contractor.
- We recommend you enter into a contract covering an annual inspection and maintenance on a demand-dependent basis.

2 Product description

The main components of the Logano GE515 oil- and gas-fired special boiler are:

- Boiler block (Fig. 1, **item 3**).
The boiler block transfers the heat generated by the burner to the heating water.
- Boiler shell (casing, Fig. 1 and Fig. 2, **item 1**), thermal insulation (Fig. 1, **item 2**).
Boiler shell and thermal insulation prevent energy loss.
- Control device (Fig. 1, **item 4**).
The control device is designed to monitor and control all electrical components of the Logano GE515 oil- and gas-fired special boiler.

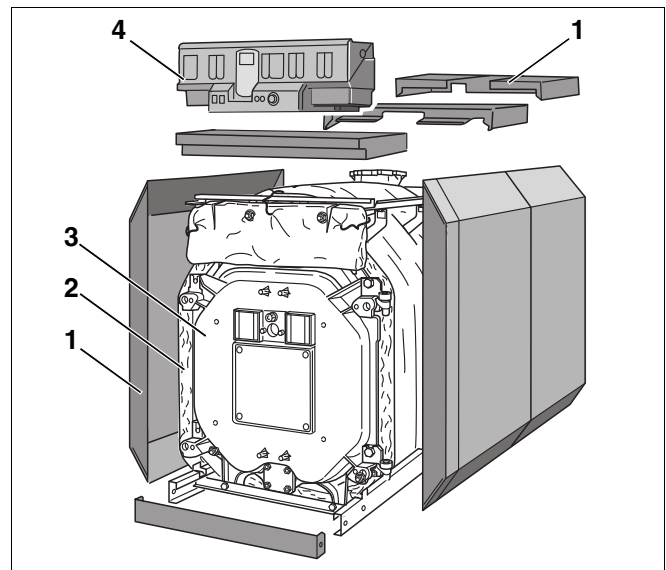


Fig. 1 Logano GE515 oil- and gas-fired special boiler

- 1 Boiler shell (casing)
- 2 Thermal insulation
- 3 Boiler block
- 4 Control device

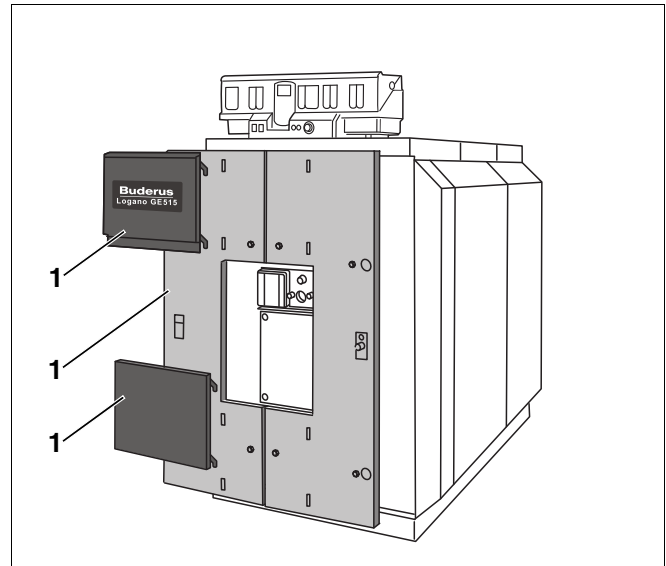


Fig. 2 Logano GE515 oil- and gas-fired special boiler

- 1 Boiler shell (casing)

3 Using correct fill and make-up water

This chapter comprises general information to describe the water in your heating system.

Observe the basic, system-specific requirements for water quality in chapter 3.2 "Water quality".

3.1 Water description

In your heating system, water is used as the heat transfer medium. Depending on its purpose, water is given different descriptions.

- Heating water:
Water contained within your heating system.
- Fill water:
Water used for the first filling of your system before commissioning.
- Make-up water:
Water used for the topping up of your system in case of water losses.

3.2 Water quality

Any water contains substances, e. g. $\text{Ca}(\text{HCO}_3)_2$ (Calcium hydrogen-carbonate), which may influence the function of your heating system. These may lead to corrosion, scaling or deposits.

Regularly check your water quality and, if necessary, treat your fill and make-up water, to ensure that your heating system permanently retains its economy, function, operational reliability and energy efficiency.



CAUTION!

SYSTEM DAMAGE

through corrosion and scaling because of fill and make-up water, which does not comply with system-specific requirements.

- Check with your local heating contractor or your water supply company regarding the $\text{Ca}(\text{HCO}_3)_2$ concentration (calcium hydrogen-carbonate) in your area.
- You should treat the fill and make-up water, if it does not comply with system-specific requirements. In such cases contact your local heating engineer.

Observe the following table regarding the appropriate use and treatment of the fill and make-up water.

This table is an extract from the Code of Practice K8 "Water treatment for hot water heating systems" in the Buderus sales catalogue.

Total rated boiler output in kW	$\text{Ca}(\text{HCO}_3)_2$ concentration in mol/m^3	Maximum fill and make-up water volume V_{max} in m^3	Heating water pH value
$100 < Q \leq 350$	≤ 2.0	$V_{\text{max}} = \text{three times the system volume}$	8.2–9.5
$350 < Q \leq 1000$	≤ 1.5		
$100 < Q \leq 350$	> 2.0	$V_{\text{max}} = 0,0313 \cdot \frac{Q(\text{kW})}{\text{Ca}(\text{HCO}_3)_2 \left(\frac{\text{mol}}{\text{m}^3} \right)}$	8.2–9.5
$350 < Q \leq 1000$	> 1.5		

Tab. 1 Requirements of filling, make-up and heating water

4 System start-up

This chapter explains, how you prepare the system for operation and how to commission the control device and the burner.

4.1 Making the system operational

You should check the following to prepare the system for operation:

- the system water pressure (see chapter 7.2 "Checking and correcting the water pressure", page 13),
- whether the fuel supply to the main fuel shut-off valve is open,
- whether the heating system emergency stop switch is switched on.

Let your specialist show you where the fill valve is located in the pipework of your system (return).

4.2 Commissioning the control device and the burner

Start up your boiler via the control device (in this example, Fig. 3: series 4000 control device). By commissioning the control device, you also automatically commission the burner. The burner can then be started via the control device. For further details in this connection, see the operating instructions of the relevant control device or burner.

- Switch the boiler water thermostat (Fig. 3, **item 1**) to "AUT".
- Set the On/Off switch (Fig. 3, **item 2**) to "I" (ON).



USER NOTE

- Please observe the operating instructions of the control device.

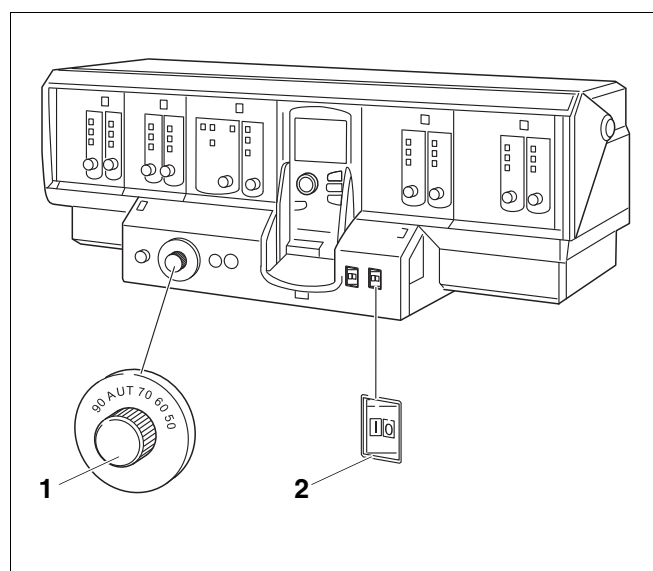


Fig. 3 Control device (for example: Logamatic 4000)

- 1 Boiler water thermostat
- 2 On/Off switch

5 System shutdown

This chapter explains, how you shut down your boiler, the control device and the burner. Furthermore, you will find explanations as to how you can shut down your system in an emergency.



SYSTEM DAMAGE

through frost.

CAUTION!

The system can freeze up if it is not in use, e.g. through a shut-down because of fault(s).

- Protect your system against frost damage, where temperatures below zero must be expected.
- Drain the heating water at the drain cock at the lowest point in the system, using the KFE cock (boiler fill and drain cock). To do this, open the air vent valve at the highest point in the system.

- Shut off the fuel supply at the main fuel shut-off valve.

5.1 Shutting down the control device and the burner

Shut down your boiler via the control device (in this example 3: series 4000 control device). The burner is automatically shut down when the control device is shut down.

- Set the On/Off switch (Fig. 3, **item 1**) to "0" (OFF).



USER NOTE

For further details in this connection, see the operating instructions of the relevant control device.

5.2 Shutting down the system in an emergency



USER NOTE

- Only in an emergency, switch off the system via the boiler room fuse or heating system emergency stop switch.

In other dangerous circumstances, isolate the main fuel shut-off valve and the electrical power supply of the system via the boiler room main fuse or the emergency stop switch for the boiler room (see chapter 1.3 "Please observe these safety instructions", page 4).

6 Correcting burner faults

Heating system faults are indicated in the control device display. You will find detailed information regarding fault displays in the service instructions of each respective control device. In addition any burner fault is indicated by a fault lamp on the burner.



SYSTEM DAMAGE

through frost.

CAUTION!

The system can freeze up if it is not in use, e.g. through a shut-down because of fault(s).

- You should drain the heating water via the KFE tap at the lowest point in the system, to protect it against freezing, if the system remains switched off for several days because of a fault shut down.



SYSTEM DAMAGE

through frequent activation of the reset button.

CAUTION!

The burner ignition transformer may be damaged if you press the reset button more than three times in succession after the burner refuses to start.

- Do not attempt to clear a fault more than three times in succession by using the reset button.
- Press the burner reset button (see burner operating instructions).

See the technical burner documentation for information regarding the resetting of the burner, if the burner will not start after three attempts.

7 System maintenance

This chapter explains why regular maintenance is important for your system. It will also indicate to you, how you can check and regulate the water pressure.



CAUTION!

SYSTEM DAMAGE

through inadequate cleaning and maintenance.

- Have your system inspected, cleaned and maintained annually, by a specialist contractor.
- We recommend you enter into a contract covering an annual inspection and maintenance on a demand-dependent basis.

7.1 Why is regular maintenance important?

You should have your system serviced for the following reasons:

- to achieve a high level of efficiency and to operate the system economically (low fuel consumption),
- to achieve a high level of operational reliability,
- to maintain the highest level of environmentally responsible combustion.

7.2 Checking and correcting the water pressure

Your heating system must contain sufficient water to ensure the functionality of your system.



SYSTEM DAMAGE

through frequent re-filling.

CAUTION!

The system may be damaged, depending on water quality, by corrosion and scaling, if you frequently need to re-fill your system with make-up water.

- Notify your local heating contractor, if you regularly need to add make-up water to your system.

Fill make-up water into your system, if the system pressure is too low (see chapter 3 "Using correct fill and make-up water", page 7).

7.2.1 When do you need to check the water pressure in your heating system?

- Recently introduced make-up water loses much of its volume in the first few days because it releases gases. With new systems, therefore, check the water pressure in your heating system initially on a daily basis, and thereafter at increasing intervals.



USER NOTE

Air pockets may form through the fill or make-up water releasing gases.

- Vent the system via the radiators and, if required, replenish the system with make-up water.
- Check the water pressure monthly, if the heating system still loses volume.

Systems are generally differentiated as open or sealed systems. Open systems are now only rarely installed. Therefore, a sealed system is used as an example of how you can check the water pressure.

The specialist will have carried out all initial settings during commissioning.

7.2.2 Open systems

On open systems (if fitted) the pressure gauge needle (Fig. 4, **item 1**) must be within the red range (Fig. 4, **item 3**).

7.2.3 Sealed systems

On sealed systems the pressure gauge needle (Fig. 5, **item 2**) must be within the green range (Fig. 5, **item 3**). Set the red needle (Fig. 5, **item 1**) on the pressure gauge to the required system pressure.

- Check the system water pressure.



SYSTEM DAMAGE

through frequent re-filling.

CAUTION!

The system may be damaged, depending on water quality, by corrosion or scaling, if you frequently need to re-fill your system with make-up water.

- Ensure that your heating system is fully vented.
- Check the heating system for leaks and correct function of the expansion vessel.
- The water pressure in the system is too low, if the pressure gauge needle falls below (Fig. 5, **item 2**) the green range (Fig. 5, **item 3**). Re-fill the heating system with make-up water (see chapter 3 "Using correct fill and make-up water", page 7).
- Fill make-up water through the fill cock in the heating system pipework (return).
- Vent the heating system.
- Re-check the water pressure.

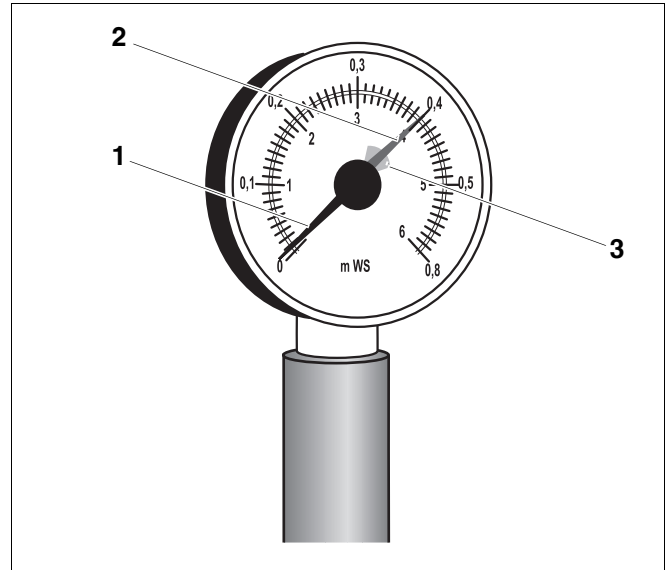


Fig. 4 Pressure gauge for open systems

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

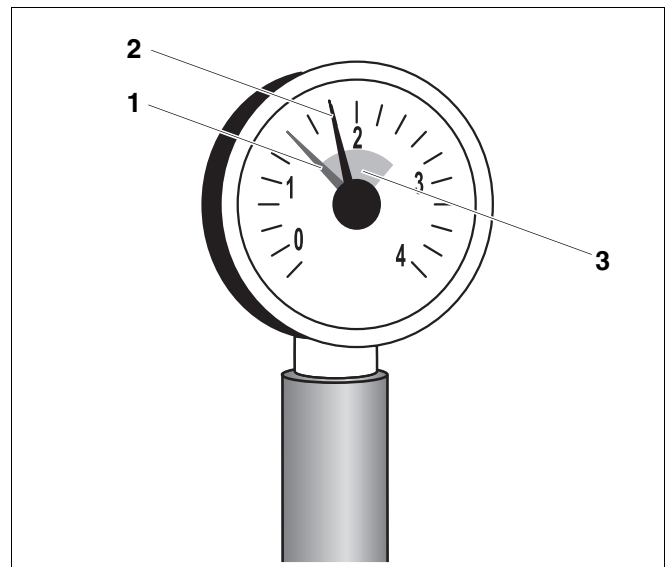


Fig. 5 Pressure gauge for sealed systems

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

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