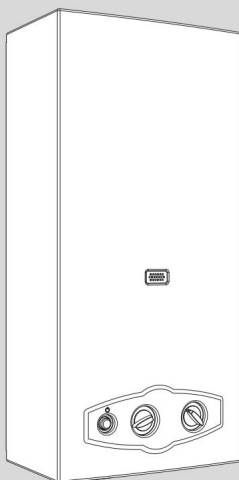


Installation and use manual

Gas heaters



WRN10/14-4KB



ZEUS

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1 Clarification of safety symbols and instructions

1.1 Explanation of symbols

Warning indications

In warning statements, warning words indicate the type and severity of the consequences if the hazard prevention measures are not observed.

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



DANGER means that serious to fatal personal injury may occur.



WARNING means serious to fatal bodily injury may occur.



CAUTION means that minor to moderate bodily injury may occur.



INDICATION means that material damage may occur.

Important informations



Important information without danger to people or property is marked with the indicated information symbol.

Other symbols

Yes, it was	Meaning
ÿ	Operational step
ÿ	Reference to another point in the document
·	Enumeration/Item of a list
-	Enumeration/Item of a list (2nd level)

Tab. 1

1.2 General safety instructions

HGeneralities

These installation instructions are intended for the owner, specialized technicians qualified in gas and water installations, electricity and heating technicians.

ÿ Before use, read and keep the user manuals (device, etc.).

ÿ Read the installation instructions (device, etc.) before installation.

ÿ Observe the safety and warning instructions.

ÿ Pay attention to the regulations national and regional technical regulations and directives.

ÿ Document work carried out.

HUse in accordance with provisions

The appliance must only be used for the production of domestic hot water for human consumption in domestic or equivalent installations, with intermittent use.

Any other type of use is considered incorrect. No liability is assumed for damages resulting therefrom.

HProcedure in case of smell of gas

In the event of a gas leak there is a risk of explosion. If you smell gas,

Clarification of safety symbols and instructions

Please pay attention to the following procedural rules.

- ÿ Avoid the formation of sparks and flames.
but:
 - Do not smoke, do not use lighters or matches.
 - Do not activate any electrical switch or remove any plug.
 - Do not call or ring doorbells.
- ÿ Block the gas supply to the main cutting device or gas meter.
- ÿ Open windows and doors.
- ÿ Warn all inhabitants and leave the building.
- ÿ Prevent third parties from entering the building fiction.
- ÿ Outside the building: call the fire department, the police and the gas supply company.

Danger of death due to poisoning with burnt gases

Danger to death due to escaping burnt gases.

- ÿ Make sure that the supply pipes burnt gases and seals are not damaged.
- ÿ The device must not operate simultaneously with forced air extraction devices installed in the same compartment (e.g. air extractors).

Danger of death due to poisoning with burnt gases resulting from insufficient combustion

Danger to death due to escaping burnt gases. In the event of damaged or poorly sealed burnt gas ducts or the smell of burnt gases, pay attention to the following procedural rules.

- ÿ Close the fuel supply.
- ÿ Open windows and doors.
- ÿ If necessary, notify all residents and leave the building.
- ÿ Prevent third parties from entering the building fiction.
- ÿ Immediately eliminate damage to the burnt gas pipes.
- ÿ Ensure that suction air is supplied dog.
- ÿ Do not close or reduce ventilation openings in doors, windows and walls.
- ÿ Ensure that there is sufficient suction air inlet also for retrofitted devices, e.g. for air outlet fans, as well as kitchen fans and air conditioners with air output to the outside.
- ÿ If there is insufficient suction air inlet, do not operate the product.

HIInstallation, commissioning and maintenance

Only an authorized specialized company should carry out installation, commissioning and maintenance.

- ÿ Check the gas tightness after working on gas-conducting parts.
- ÿ In air-dependent operation environment: ensure that the installation location meets ventilation requirements.
- ÿ Only install original replacement parts.

HElectrical works

Electrical work may only be carried out by technicians specialized in electrical installations.

Before starting work on the electrical system:

- ÿ Disconnect the mains voltage at all poles and protect against inadvertent switching on.
- ÿ Confirm that there is no voltage.
- ÿ Also pay attention to the connection diagrams of other parts of the installation.

Danger to death due to carbon monoxide

Carbon monoxide (CO) is a toxic gas, which among others arises during the incomplete combustion of fuels

fossils such as oil, gas or solid fuels.

Dangers occur when carbon monoxide leaks due to a fault or leak in the installation and accumulates unnoticed in interior compartments.

It is impossible to see or perceive the taste or the smell of carbon monoxide.

To avoid danger from carbon monoxide:

- ÿ Regularly request inspection and maintenance of the installation by an authorized specialized company.
- ÿ Use carbon monoxide detectors, which provide early warning in the event of a carbon monoxide leak.
- ÿ If you suspect a carbon monoxide leak:
 - Warn all inhabitants and leave the building.
 - Notify authorized specialized company.
 - Request the elimination of faults.

HIinspection and maintenance

Regular inspections and maintenance are a prerequisite for the safe and environmentally friendly operation of the installation.

We recommend signing an annual inspection and maintenance contract with the brand.

Clarification of safety symbols and instructions

ÿ Work may only be carried out by a specialized and authorized company.

ÿ Immediately delete all faults detected.

Any situation that does not meet the conditions described in the manual must be duly assessed by a specialized and qualified technician. If its use is approved, the technician must adapt the maintenance requirements to the wear and associated conditions, as well as to the standards and requirements of the market and application in cause.

Modifications and repairs

Incorrect changes to the device or other parts of the installation may cause personal injury and/or property damage.

ÿ

Work may only be carried out by an authorized specialist company.

ÿ Never remove the front of the device.

ÿ Do not make any changes to the device or other parts of the installation.

HOoperation depending on ambient air

The installation location must be well ventilated when the appliance removes combustion air from the location.

ÿ Do not close or reduce ventilation and air bleed openings in doors, windows and walls.

ÿ Ensure compliance with ventilation requirements after consultation with a specialized and qualified technician:

- in case of changes to the construction (e.g. replacement of windows and doors)
- in the case of subsequent installation of installations with air outlet ducts to the outside (e.g. fans for extracting or renewing air, kitchen fan or air conditioning units).

Combustion air/compartment air

The air in the installation location must be free from suspended particles, flammable or chemically aggressive substances.

ÿ Do not use or store easily flammable or explosive materials (paper, benzene, thinners, paints, etc.) near the appliance.

ÿ Do not use or store corrosive substances (thinners, glues, chlorine cleaning products, etc.) near the device.

Delivery to owner

Instruct the owner, upon delivery, about the operation and operating conditions of the heating installation.

- ÿ Explain the operation - particularly delve into all safety-related tasks.
- ÿ Warn that modifications or repairs must only be carried out by a specialized and authorized company.
- ÿ Warn about the need for inspection and maintenance for safe and environmentally friendly operation.
- ÿ Give the owner the installation instructions and user manuals to be kept.

HSafety of electrically connected appliances for domestic use and similar purposes

To avoid dangers from electrical devices, the following specifications apply in accordance with EN 60335-1:

“This installation can be used by children from 8 years of age, as well as by people with limited physical, sensory or mental capabilities or lack of experience and knowledge, if they are monitored or have received instructions on how to use the installation in an appropriate manner. safe and understand the resulting dangers. Children must not play with the device. Cleaning and maintenance by the operator must not be carried out by children without supervision.”

“If the network connection cable is damaged, it must be replaced by the manufacturer or its customer support service.

customer or a person with similar qualifications to avoid danger.”

2 Regulations relating to installations of gas

Respect all regulations, technical rules and national and regional directives in force for correct installation and operation of the product.

Document 6720807972 contains information regarding current regulations. For the presentation you can use the document search on our website. The Internet address can be found on the back of these instructions.


Information on the device

3 Information on the device

appliances for producing hot water ready to work by simply pressing a component.

3.1 Declaration of conformity

This product meets European and national requirements in terms of construction and operation.

 With the CE identification, the product's compliance with all applicable EU legal requirements that provide for the placement of this identification is clarified.

The full text of the EU declaration of conformity is available on the internet: www.bosch-thermotechnolog.com.

3.2 Types of gas and installation

Model	WRN 10/14-4...
Appliance category (gas type)	I12H3+
Installation type	B11BS

Tab. 2

3.3 Model list

IN	R	N	10	-4	23
IN	R	N	10	-4	31
IN	R	N	14	-4	23
IN	R	N	14	-4	31

Tab. 3 List of models

[W] Gas water heater

[R] Proportional power regulation

[N] Brand

[10] Capacity (l/min)

[-4] Version

[23] Appliance adjusted for natural gas

[31] Apparatus adjusted for liquefied petroleum gases

The identification digits indicate the gas group, as per EN 437:

Identification digit (WS) (15 °C)	Wobbe Index	Gas type
23	12.7-15.2 kWh/m ³	Natural gas group 2H
31	20.2-21.3 kWh/m ³	GPL Grupo 3+

Tab. 4 Gas group

3.4 Material that is attached

- Gas water heater

- Clamping elements
- Water connection accessory
- Set of two 1.5V R20 type batteries
- Device documentation

3.5 Nameplate

The rating plate is located on the back of the device, at the bottom.

There you will find information on the device's power, approval data and serial number.

3.6 Device description

- Device for wall installation
- Ignition by electronic device controlled by opening the water valve
- Device for operation with natural gas and LPG
- Combustion chamber without tin lining/lead
- Automatic water dispenser made of fiberglass-reinforced polyamide, 100% recyclable
- Automatic regulation of the water flow through a device that allows the flow to be kept constant for variable supply pressures
- Modulation of the gas flow proportional to the gas flow water in order to maintain a consistent temperature rise. many
- Security devices:
 - Ionization electrode against accidental extinguishing of the burner flame
 - Burnt gas control device
 - Turn on the appliance if the conditions for evacuating the burnt gases are poor
 - Burner flame status control device that switches off the appliance if the flame status is poor
 - Temperature limiter that prevents the combustion chamber from overheating
 - Control camera status control device bust.

3.7 Accessories (not supplied with the device)

- Gas Type Transformation Kit
- Exhaust accessories

3.8 Dimensions

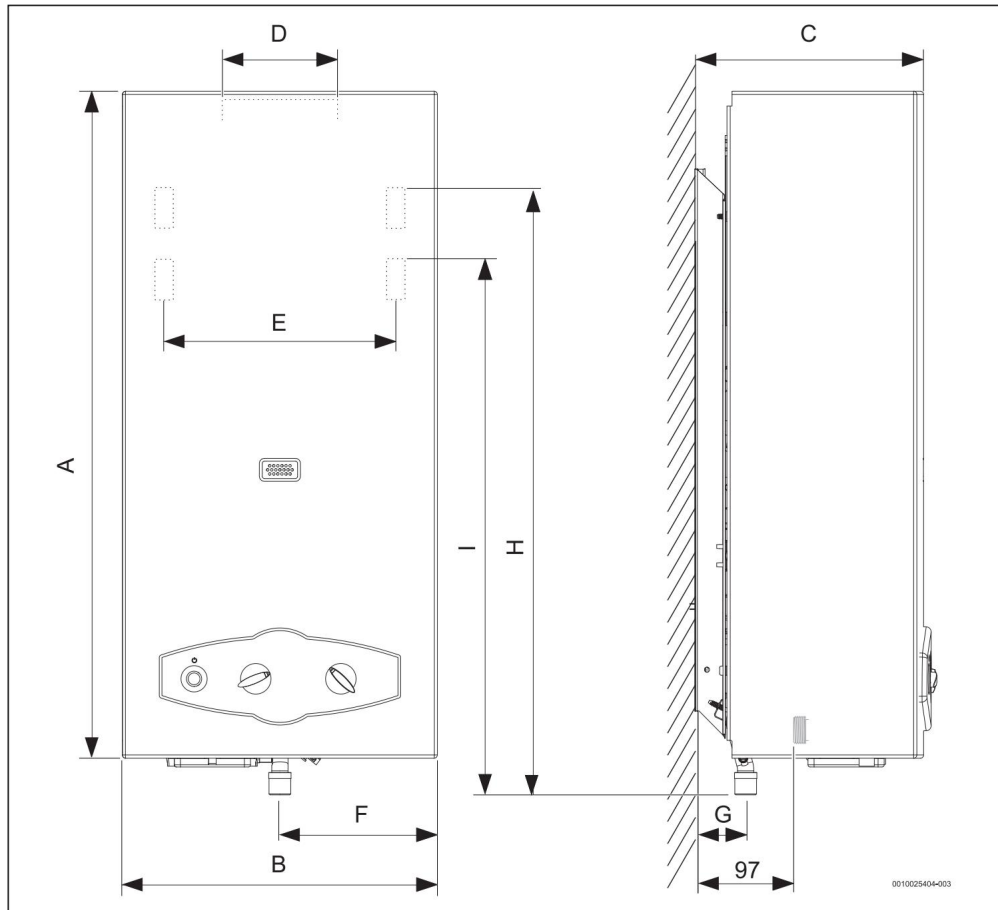


Fig. 1 Dimensions (in mm)

	A	B	C	D	E	F	G	H	I	Connections			
										Water		Gas	
										Free	Hot Nat.		G.P.L.
...10...	655 310 225			112,5 228		155 50		597		526,5 ¾"	¼"	¾"	½"
...14...	655 425 225			132,5 228 212,5 50				—		564 ¾"	¼"	¾"	½"

Table 5 Dimensions (in mm)

Information on the device

3.9 Construction of the device

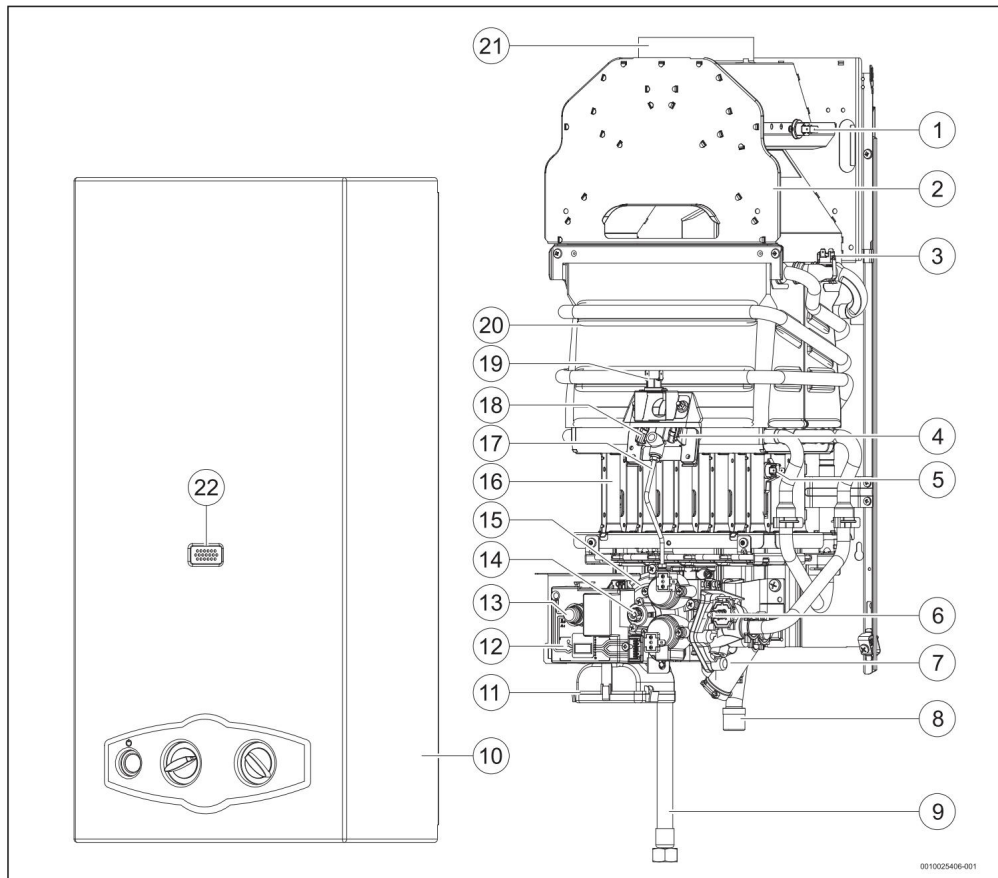


Fig. 2 Construction of the device

- | | |
|--|---|
| [1] Burnt gas output control device | [15] Gas valve |
| [2] Chimney | [16] Burner |
| [3] Temperature limiter | [17] Pilot burner |
| [4] Ionization electrode | [18] Ignition electrode |
| [5] Burner flame status control device | [19] Combustion chamber status control device |
| pain | so |
| [6] Temperature/flow selector | [20] Combustion chamber |
| [7] Water valve | [21] Connection collar to the burnt gas duct |
| [8] Gas inlet | [22] Pilot's lookout |
| [9] Water outlet | |
| [10] Front | |
| [11] Battery box | |
| [12] Ignition unit | |
| [13] Interruptor on/off | |
| [14] Power selector | |

4 Instructions for use



On first use:

ÿ Open all water and gas shutoff devices.



CAREFUL:

Burn!

In the burner area, the front can reach high temperatures, creating a risk of burns in case of contact.

Use in accordance with provisions

The appliance must only be used for the production of domestic hot water for human consumption in domestic or equivalent installations, with intermittent use.

Any other type of use is considered incorrect. No liability is assumed for damages resulting therefrom.

Inspection and maintenance

Regular inspections and maintenance are a condition for the safe and environmentally friendly operation of the installation.

The work may only be carried out by a specialized and authorized company.

Conversion and adjustments

Gas conversion operations and/or adjustments to the appliance may only be carried out by a specialized and authorized company.



Sealed components must not be tampered with.

4.1 Before putting the device into operation



CAREFUL:

The first start-up of the device must be carried out by a specialized and qualified technician, who will provide the customer with all the information necessary for its proper functioning.

ÿ Check that the type of gas indicated on the rating plate is the same as the one used on site.

ÿ Open the system's water valve.

ÿ Open the system's gas valve.

4.2 Batteries

Insert the batteries

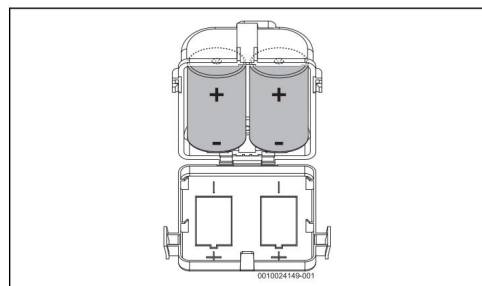


Fig. 3 Installing the batteries

Replacing the batteries

If the switch starts flashing red:

ÿ Have the batteries replaced.

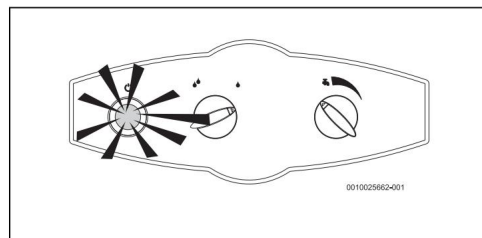


Fig. 4 Replacing the batteries

Precautions when using batteries

ÿ Do not dispose of used batteries in the trash.

ÿ Deliver batteries to existing selective collection sites for recycling.

ÿ Do not reuse used batteries.

ÿ Only use batteries of the specified type.

Instructions for use

4.3 Switching the device on and off

To connect

ÿ Press the switch . i

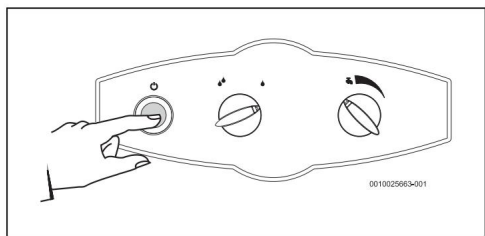


Fig. 5 Switching the device on/ off

To switch off

ÿ Press the switch . i

4.4 Power regulation

Less hot water.

Decrease in power.

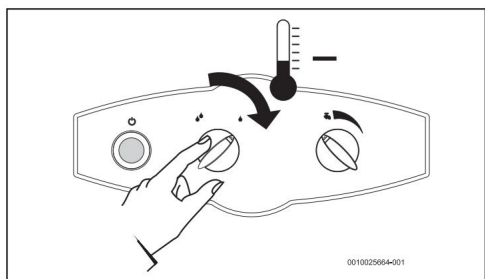


Fig. 6 Decrease power

Warmer water.

Increased power.

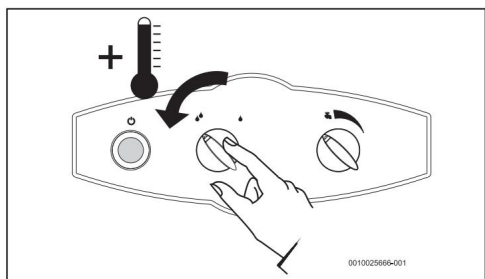


Fig. 7 Increase power

4.5 Temperature/flow regulation

Increase the flow rate.

Decreases the water temperature.

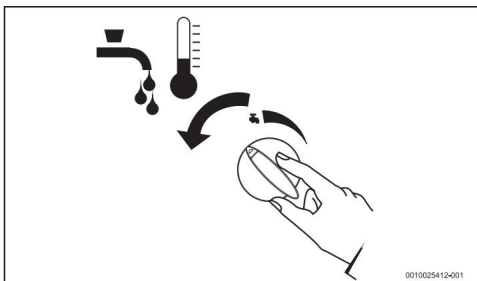


Fig. 8

Decrease the flow rate.

Increases the water temperature.

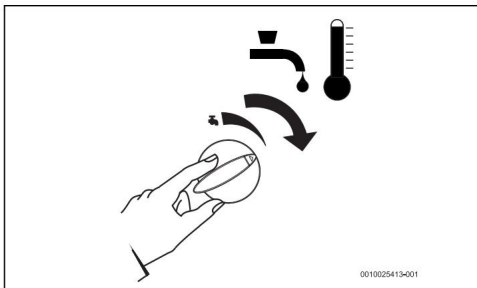


Fig. 9

By regulating the temperature to the minimum value according to needs, energy consumption is reduced and the likelihood of limescale deposits in the combustion chamber is reduced.



CAREFUL:

Burns!

Water temperature.

ÿ Confirm the temperature at the point of consumption to avoid burns.

Burn - time/temperature relationship

Temperature	Time to cause a burn	
	Elderly/children under 5 years old	Adult
50 °C	2.5 minutes	More than 5 minutes
52 °C	less than 1 minute	1.5 to 2 minutes

Temperature under 5 years old	Time to cause a burn	
	Elderly/children	Adult
55 °C	About 15 seconds	About 30 seconds
57 °C	About 5 seconds	About 10 seconds
60 °C	About 2.5 seconds	Less than 5 seconds
62 °C	About 1.5 seconds	Less than 3 seconds
65 °C	About 1 second	About 1.5 seconds
68 °C	Less than 1 second	About 1 second

Tab. 6

4.6 Bleeding the device

RECOMMENDATION:

Materials damage!

Whenever there is a risk of freezing, water inside the appliance can damage components.

ÿ Place a container under the appliance to collect all the water that comes out of the appliance.

ÿ Purge the device.

If there is a risk of freezing, proceed as follows:

ÿ Remove the batteries.

ÿ Close the water valve upstream of the appliance.

ÿ Open a hot water tap.

ÿ Remove the fixing brake [1].

ÿ Remove the cover [2].

ÿ Let all the water contained inside the appliance drain out.

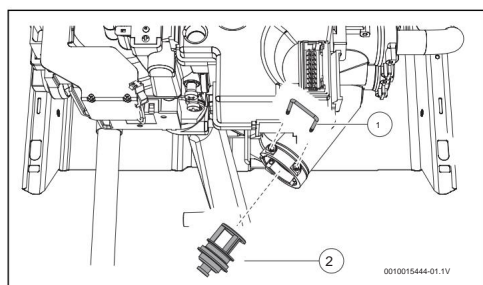


Fig. 10 Purga

[1] Brake

[2] Tampa

4.7 Rearm the device

Some of the possible faults can be resolved by resetting the device, to do so:

ÿ Close and open a hot water tap.

4.8 Burnt gas outlet control device

Operation and precautions



DANGER:

Intoxication!

Under no circumstances should the device be disconnected, damaged or replaced with a different part.

This device checks the conditions for evacuating burned gases and, if these are deficient, it automatically turns off the device, preventing combustion gases from entering the compartment where the device is installed.

The probe resets itself after a cooling period.

If the device switches off during use:

ÿ Ventilate the compartment.

ÿ Wait 10 minutes and switch the appliance back on.

If the device switches off again:

ÿ Call a specialized and qualified technician.



DANGER:

Intoxication!

The user should never touch the device.

4.9 Cleaning the front of the appliance

ÿ Only clean the front of the appliance with a cloth and a little detergent.



Do not use corrosive and/or abrasive detergents.

Pre-installation

5 Pre-installation



Installation, electrical connection, gas installation, connection of air exhaust/intake ducts, as well as the first start-up, are operations to be carried out exclusively by specialized and qualified technicians.



Respect all regulations, technical rules and national and regional directives in force for correct installation and operation of the product.



The appliance may only be used in the countries indicated on the rating plate.



Before carrying out the installation:

• consult the gas supply company and the regulations on gas appliances and room ventilation

• Check that the appliance to be installed corresponds to the type of gas supplied.

• Check that all the indicated material is included.

• Remove the plugs from the water and gas connection points.

Water quality

The device must be used with water compatible for human consumption in accordance with current legislation. In regions where water hardness is high, the use of a water treatment system is recommended. In order to minimize limescale precipitation in the device's hydraulic circuit, drinking water parameters must be within the values in the table below.

TDS (Total Dissolved Solids) (mg/l)	Toughness (mg/l)	pH
0 - 600	0 - 180	6,5 - 9,0

Tab. 7

RECOMMENDATION:

Damage to the device!

Failure to comply with these values may lead to partial clogging and accelerated aging of the combustion chamber.

• Comply with the specifications described above.

5.1 Choosing the installation location**5.1.1 Installation location****General indications**

• Comply with the specific requirements of each country.

• Do not install the device over a heat source.

• Respect the minimum installation measurements indicated in the Fig. 11.

• Mount the device in a well-ventilated place, protected from negative temperatures and where there is a duct for evacuating burnt gases.

If there is a risk of freezing

• Switch off the device.

• Remove the batteries.

• Purge the device (•Fig. 4.6).

Type B devices

• Do not install the appliance in rooms with a volume of less than 8m³ (do not consider the volume of furniture as long as it does not exceed 2m³).

Air intake (type B devices)

The location intended for installing the device must be provided with an air supply area in accordance with table 8.

Device	Minimum usable area
...5/8/9/10/11/12/13...	• 60 cm ²
...14/15/16...	• 90 cm ²
...17/18...	• 120 cm ²

Tab. 8 Useful areas for air intake

The minimum requirements are listed above, however the specific requirements of each country must be respected.

Air for combustion

The combustion air intake grille must be located in a well-ventilated place.

To avoid corrosion, the combustion air must be free of aggressive substances.

Aggressive substances are halogenated hydrocarbons that contain chlorine or fluorine. These substances are found in solvents, paints, glues, propellant gases or liquids and household cleaning products.

If these conditions cannot be guaranteed, another location must be chosen to admit the air.

Surface temperature

The maximum surface temperature of the device is below 85 °C. According to TRGI or TRF, no protective distances are therefore necessary for flammable materials and built-in furniture. Pay attention to the different state directives in force.

5.2 Minimum distances

Determine the location of the device considering the following limitations:

- Maximum distance from all protruding parts, such as such as hoses, tubes, etc.
- Ensure good access during maintenance work, respecting the minimum distances indicated in Fig. 11.

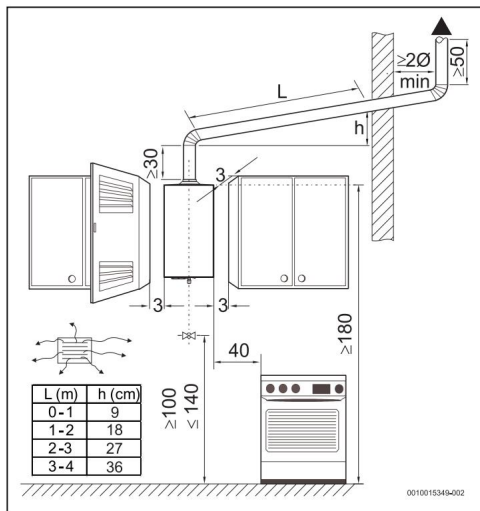


Fig. 11 Minimum distances (cm)

6 Installation (only for specialized and qualified technicians)

6.1 Device fixing points



Before assembling the fixing points: ensure that the water/gas/exhaust connections are secure. had.

No special wall protection is required. The wall must be flat and capable of supporting the weight of the appliance.

- Open the respective holes (Ø 8mm) respecting the measurements na tab. 5.
- Install the supplied bushings and clips.

6.2 Fixing the device

- Remove the front of the device (see section 8.1).
- Fix the device on the shoulder blades so that it is in the tical.

RECOMMENDATION:

Materials damage!

Never place the appliance on the water or gas connections.

6.3 Connection of the combustion gas duct



DANGER:

Intoxication!

Failure to comply with the requirement below may cause combustion gases to leak into the appliance installation compartment, resulting in personal injury or death.

- Install the burnt gas duct so that there are no leaks.

- All devices must be tightly connected to a gas evacuation duct of suitable size.
- The device duct must:
 - be vertical (horizontal sections reduced to a minimum or completely eliminated)
 - be thermally insulated
 - have an exit above the maximum point of the roof
 - be inserted into the chimney ring. The external diameter of the flue must be slightly smaller than the value of the chimney diameter indicated in the table with dimensions.

Installation (only for specialized and qualified technicians)

sions of the device (ÿTable 5),

- be insulated with suitable material (Fig. 12),
- have wind/rain protection at the end.



All non-original accessories must be certified according to the Construction Products Regulation (EU) No 305/2011.

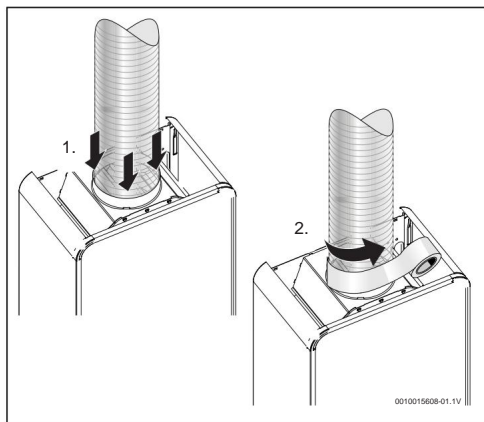


Fig. 12

If the burnt gas duct passes through walls and/or furniture with flammable materials:

- ÿ Thermally insulate the duct to ensure that the contact surface temperature is below 85 °C.



DANGER:

Intoxication!

Leakage of combustion gases into the appliance installation compartment.

- ÿ Ensure that the end of the duct is placed inside the ring and supported in the fittings.



If the above conditions are not ensured, another location must be chosen for the evacuation of combustion gases.

6.4 Water connection

RECOMMENDATION:

Materials damage!

Water leak.

- ÿ Check the tightness of all connections after completing are from work.

- ÿ Identify the water inlet and outlet piping to avoid possible replacement.

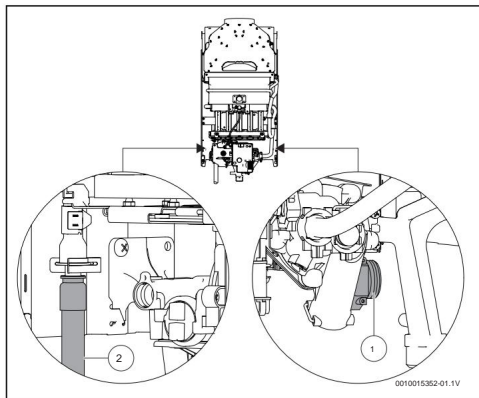


Fig. 13 Water connection

[1] Cold water

[2] Hot water

- ÿ Make the water inlet [1] and outlet [2] connections using the supplied or recommended connection accessories.



In order to avoid problems caused by sudden pressure changes in the supply, it is advisable to install a non-return valve upstream of the device.

6.5 Gas connection

DANGER:

Fire or explosion!

Failure to comply with applicable legal standards could result in a fire or explosion, causing material damage, personal injury or even death.

**DANGER:****Fire or explosion!**

Gas leak.

- ÿ Check the tightness of all connections after completing are from work.



Use only original accessories.

The gas connection to the appliance must comply with all applicable standards in the country in which the appliance is installed.

- ÿ First ensure that the appliance to be installed corresponds to the type of gas supplied.
- ÿ Install a gas shut-off valve at the inlet, as close as possible to the appliance.
- ÿ After completing the gas network, it must be carefully cleaned and a leak test carried out; To avoid damage due to excess pressure in the gas automatic, this must be carried out with the device's gas valve closed.
- ÿ Check that the flow and pressure supplied by the installed reducer are those indicated for the device's consumption (ÿ tab. 11).

Installation with connection to a gas supply network

- ÿ In the case of an installation connected to a gas supply network, it is mandatory to use metal pipes, in accordance with the applicable standards.

To make the connection between the gas supply network and the appliance, you must use the supplied accessory:

- ÿ Open the gas inlet pipe thread.
- ÿ Use the copper end to solder to the supply network pipe.

7 Starting the device



Sealed components must not be tampered with.

The devices are supplied sealed after having been adjusted at the factory to the values shown on the rating plate.

Hot water

- ÿ Open the gas and water passage valves.
- ÿ Check the tightness of all connections.

- ÿ Correctly install the two batteries supplied with the device.

- ÿ Switch on the device.

- ÿ Open a hot water tap.



If the appliance does not start, it may be necessary to adjust the microswitch, to do so:

- ÿ see section 8.3

- ÿ Check the correct functioning of the burned gas control device (ÿ section 8.4).

Natural gas

The devices must not be put into operation if the connection pressure is less than 17 mbar or more than 25 mbar.

G.P.L.

The devices must not be operated if the switching pressure is:

- Propane: less than 25 mbar or more than 45 mbar
- Butane: less than 25 mbar or more than 35 mbar.

7.1 Adjusting the device

**DANGER:****Gas leak!**

The operations described below may only be carried out by a specialized and qualified technician.

It is possible to adjust the power according to the burner pressure process, for this you need a gas pressure gauge.

7.1.1 Access to the pressure tap and flow adjustment**Access to pressure socket and pressure gauge connection**

- ÿ Remove the front of the device (see page 19). ÿ Loosen the pressure tap screw.
- ÿ Connect the pressure gauge to the pressure socket.

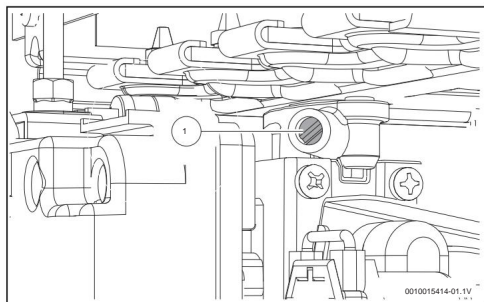
Maintenance (only for specialized and qualified technicians)

Fig. 14

[1] Gas pressure tap on the burner

Maximum gas flow adjustment

ÿ Remove the sealing cap from the adjusting screw.

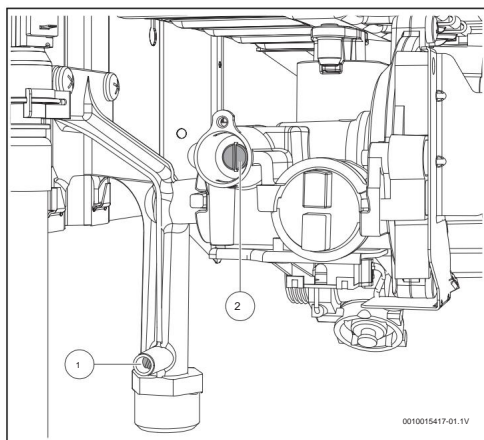


Fig. 15

[1] Gas inlet pressure tap

[2] Adjustment screw

- ÿ Start the appliance with the power selector in the maximum position.
- ÿ Open several hot water taps.
- ÿ Use the adjustment screw and adjust the pressure until it reaches the values indicated in table 9.
- ÿ Check the pressure tap and adjustment screw area for tightness.
- ÿ Replace a sealing cap on the locking screw.

adjustment.

Minimum gas flow adjustment

The minimum gas flow adjustment is made automatically once the maximum gas flow adjustment has been made.

7.1.2 Gas pressure table

	Butane	Natural Gas	Gas Pro- here
Injector code (marking)	10 8738715943 (100)	8708202151 (62)	8708202151 (62)
Connection pressure (mbar)	10	20	28-30 37
	14	20	28-30 37
MAX burner pressure (mbar)	10	11,6	22,5 28,5
	14	8,2	16,4 20,9

Tab. 9 gas pressure

7.1.3 Changing the type of gas

Only use original conversion kits. The conversion must only be carried out by a specialized and qualified technician.

Original conversion kits are supplied with assembly instructions.

8 Maintenance (only for specialized and qualified technicians)

DANGER:

Carbon monoxide!

To ensure that gas consumption and gas emissions remain within limit values, the appliance must be inspected annually and maintenance work carried out, which consists of cleaning the following components:

- combustion chamber

- burner

The need for intervention in other components must be assessed by the technician.



Maintenance should only be carried out by a specialized and qualified technician.

**NOTICE:****Escapes!**

Gas/water leak.

- ÿ Ensure that the gas distribution pipe injectors are never dismantled.
- ÿ Ensure that all gaskets and o-rings are well positioned when assembling.
Especially when the maintenance operation is carried out with the appliance on the wall, there is a risk that gaskets and o-rings are not correctly positioned.

- ÿ Your device should only be serviced by a branded Technical Assistance Station.
- ÿ Only use original replacement parts.
- ÿ Order replacement parts in accordance with the device's spare parts list.
- ÿ Close all water and gas shutoff devices.
- ÿ Replace the dismantled gaskets and o-rings with new ones.
new.
- ÿ Only the following greases should be used:
hands:
 - In hydraulic unions: Unisilikon L 641 (8 709 918 413 0).
 - Gas screw connections: HFT 1 v 5 (8 709 918 010).

8.1 Remove from the front

- ÿ Remove the temperature/flow selector [1].
- ÿ Remove the power selector [2].
- ÿ Loosen the 2 front fixing screws [3].

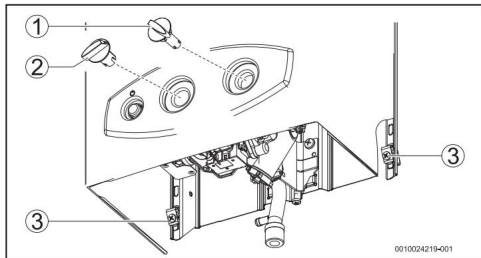


Fig. 16 Removing the front

- [1] Temperature/flow selector
- [2] Power selector
- [3] Fixing screws

- ÿ Pull the front slightly towards you.
- ÿ Push the front upwards.
- ÿ Remove the front.

8.2 Periodic maintenance work**Functional check**

- ÿ Check that all safety, regulation and verification elements are working properly.

combustion chamber

To disassemble the combustion chamber:

- ÿ Disconnect all connections to sensors, control devices, ignition and ionization electrodes.
- ÿ Remove the combustion chamber fixing bar from the mine.

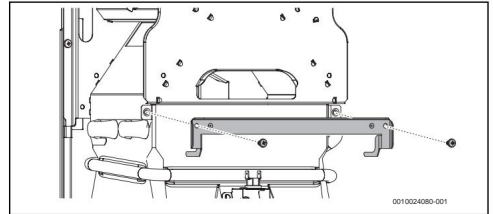


Fig. 17

- ÿ Remove the screws that secure the burner to the back [1].
- ÿ Remove the screws securing the pilot burner support [2].

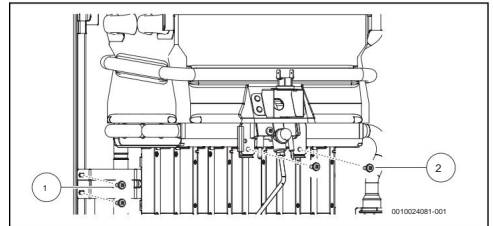


Fig. 18

- [1] Burner fixing screws to the back
- [2] Pilot burner support fixing screws

- ÿ Loosen the connection between the pilot tube and the pilot valve.

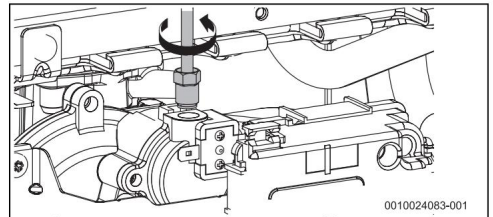


Fig. 19

Maintenance (only for specialized and qualified technicians)

ÿ Remove the 2 side supports.

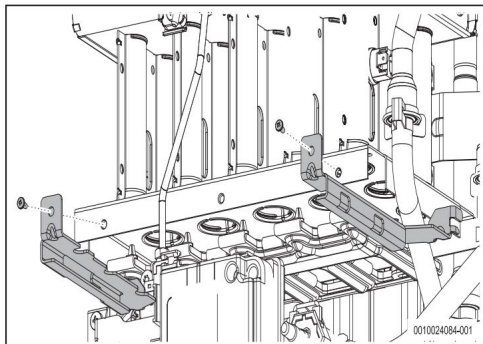


Fig. 20

ÿ Remove the clips securing the combustion chamber water pipes [1].

ÿ Remove the fixing brake [2] and the cold water pipe [3].

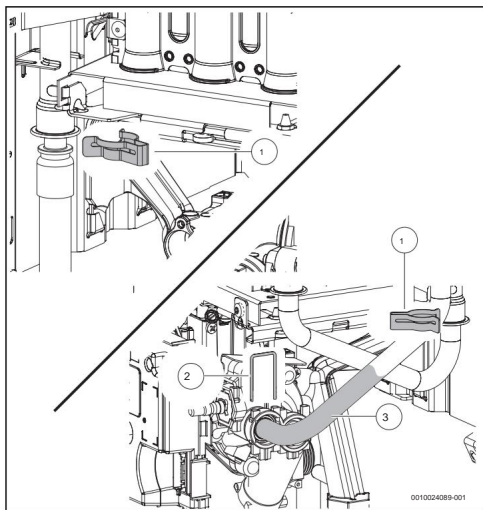


Fig. 21

[1] Fixing clip

[2] Fixing brake

[3] Cold water pipe

ÿ Slightly pull the burner and combustion chamber assembly bust.

ÿ Remove the combustion chamber.

ÿ If it is dirty: – Clean the chamber by applying a jet of water in the longitudinal direction of the lamellas.

RECOMMENDATION:**Damage to the device!**

Damage to the combustion chamber!

ÿ Do not apply a jet that is too strong or with a different orientation than indicated.

ÿ If the dirt is persistent: dip the coverslips in hot water with detergent and clean carefully.

ÿ Regions with medium/high water hardness: descale the inside of the combustion chamber and the connection pipes.

ÿ Assemble the combustion chamber using new gaskets.

Burner

ÿ Use a vacuum cleaner and vacuum the burning surface.

If it is very dirty (grease, soot):

ÿ Dismantle the burner.

RECOMMENDATION:**Damage to the device!**

Dirt deposits on the device.

ÿ Clean the burner with the burning surface facing downwards to avoid dirt deposits.

ÿ Use a soft brush [1] and carefully clean the burning surface, always with the burner facing downwards.

RECOMMENDATION:**Damage to the device!**

Damage to the burning surface.

ÿ Do not use steel brushes which could cause damage to the firing surface.

ÿ Blow the burning surface using a jet of air [2].

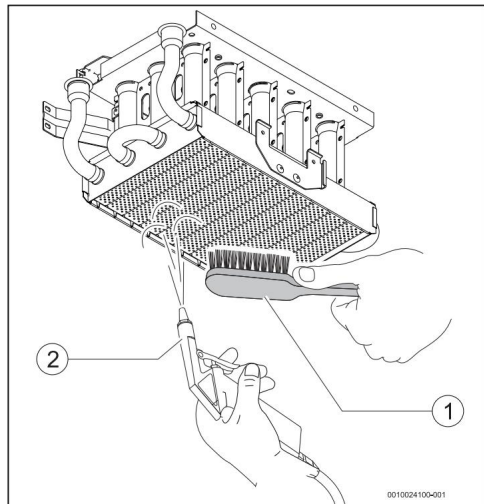


Fig. 22

- [1] Brush
[2] Jato de ar

Water filter / Restrictor ÿ

Purge the appliance (ÿsection 4.6). ÿ
Close the water valve upstream of the appliance. ÿ
Remove the fixing brake [1]. ÿ
Remove the cover [2]. ÿ
Replace the water filter [3].

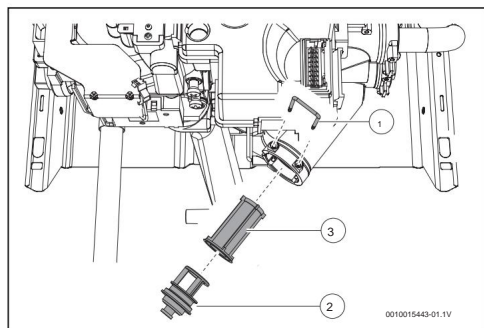


Fig. 23

- [1] Brake
[2] Tampa
[3] Water filter

! CAREFUL:

Materials damage!

It is prohibited to operate the appliance without the water filter installed.

ÿ Always install the water filter.

Pilot burner and pilot injector

ÿ Remove and clean the pilot burner. ÿ
Remove and clean the pilot injector.

8.3 Microswitch adjustment



In battery-powered models, the battery box can be removed to facilitate the micro-switch adjustment process.

ÿ Open a hot water tap. ÿ Position the microswitch as per Fig 24.

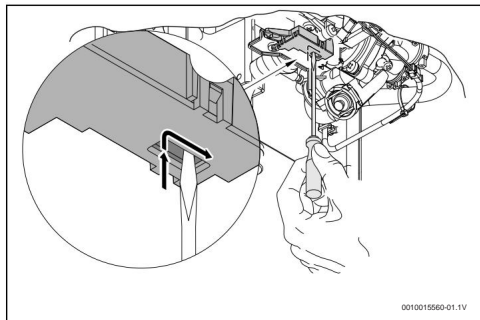


Fig. 24 Microswitch reset

ÿ Close the hot water tap The microswitch is adjusted.

8.4 Burnt gas outlet control device

Check that the device is working properly

ÿ Put the device into operation. ÿ Bring a heat source closer to the burnt gas output control device (e.g. a dryer).

The device should switch off within a few minutes.

Problems

Operation and precautions



DANGER:

Intoxication!

Under no circumstances should the device be disconnected, damaged or replaced with a different part.

This device checks the conditions for evacuating burned gases and, if these are deficient, it automatically turns off the device, preventing combustion gases from entering the compartment where the device is installed.

The probe resets itself after a cooling period.

If the device switches off during use:

- ÿ Ventilate the compartment.
- ÿ Wait 10 minutes and switch the appliance back on.



DANGER:

Intoxication!

The user should never touch the device.

8.5 Start-up after carrying out maintenance work

- ÿ Retighten all connections.
- ÿ Read chapter 4 "Instructions for use" and chapter 7.1 "Adjusting the device".
- ÿ Check the gas regulation (burner pressure).
- ÿ Check the exhaust circuit for tightness (with the front placed).
- ÿ Check that there are no gas or water leaks.

8.6 Safe operation / risks from prolonged use

Prolonged use increases the wear of some elements and can cause gas leaks and overflow of combustion products.

First you must:

- ÿ Carry out a visual inspection between maintenance intervals. attention to the following elements:
 - electrical contacts of safety probes
 - gas valve
 - water valve
 - combustion chamber

In case of visible corrosion, you must:

- ÿ Call a specialized and qualified technician.

9 Problems

Assembly, maintenance and repair must only be carried out by specialized and qualified technicians. The following table describes solutions to possible problems.

Problem	Description	Solution
Device does not ignite.	Badly placed, worn-out batteries or switch	ÿ Check battery position and/or off. to replace. ÿ Check switch position.
Pilot burner ignition slow and difficult.	Worn batteries.	ÿ Replace.
On/off switch flashes.	Worn batteries.	ÿ Replace.
Water heats up little.		ÿ Check the position of the temperature selector and adjust according to the desired water temperature.
Water heats little, flame is dead. Insufficient gas supply.		ÿ Check the reducer and, if unsuitable, When it is damaged, replace it. ÿ Check whether the bottles (Butane) freeze during operation, if so, move them to a less cold place.

Problem	Description	Solution
The burner goes out while the appliance is in use.	Burnt gas outlet control device has activated.	<ul style="list-style-type: none"> ÿ Check the combustion gas outlet. so. ÿ Remove dirt or other impediments to good extraction. ÿ Switch the appliance back on after 10 minutes. If the problem persists: ÿ Call a specialized and qualified technician.
	Combustion chamber status control device.	<ul style="list-style-type: none"> ÿ Check the combustion gas outlet. so. ÿ Remove dirt or other impediments to good extraction. ÿ Switch the appliance back on after 10 minutes. If the problem persists: ÿ Call a specialized and qualified technician.
	Temperature limiter or burner flame status control device has actuated.	<ul style="list-style-type: none"> ÿ Switch the appliance back on after 10 minutes. If the problem persists: ÿ Call a specialized and qualified technician.
Water with reduced flow.	Insufficient water supply pressure. ÿ Check and correct.	
	Dirty taps or mixers. ÿ Check and clean.	
	Automatic water supply blocked. ÿ Clean the filter.	
	Obstructed combustion chamber (limescale). ÿ Clean and descale if necessary.	

Tab. 10 Problemas

Note: some of the faults result in the device being blocked for safety reasons. After the problem has been resolved, it is necessary to reset the device (ÿpage 13, 4.7 "Resetting the device") to get it working again.

10 Technical information

10.1 Technical data

Technical characteristics	Symbols	Units...10...	...14...
Power1)			
Useful power	P _n	kW	17,4 23,6
Minimum usable power	P _{min}	kW	7,9 12,0
Adjustment range			7,9 - 17,4 12,0 - 23,6
Thermal flow	Q _n	kW	19,8 26,8
Minimum thermal flow	Q _{min}	kW	9,0 13,6
Efficiency at 100% of rated load		%	88 88
Efficiency at 30% of rated load		%	88 88

Technical information

Technical characteristics	Symbols	Units...10...14...
Gas data				
Dynamic gas supply pressure				
Natural gas	G20	mbar	20	20
Butane	G30	mbar	28-30	28-30
Propane	G31	mbar	37	37
Gas consumption				
Natural gas	G20	m ³ /h	2,3	2,8
Butane	G30	kg/h	1,4	1,7
Propane	G31	kg/h	1,4	1,7
Data relating to water				
Maximum allowable pressure ²⁾	pw	bar	12	12
Minimum operating pressure	pwmin	bar	0,25	0,25
Minimum operating pressure for maximum flow		bar	1	1
Starting flow		l/min	2,2	3,0
Maximum flow rate, corresponding to a temperature rise of 25 °C		l/min	10,0	14,0
Exhaust circuit				
Flow of combustion products ³⁾		g/s	15,3	19,5
Flue gas temperature at measuring points		°C	190	195
Generalities				
Allowable ambient temperature		°C	5-45	5-45
Conformity mark			CE0464	CE0464
Appliance category (gas type)			II2H3+	II2H3+
Installation type			B11BS	B11BS
Weight (without packaging)		kg	10	11
Height		mm	655	655
Width		mm	310	425
Depth		mm	225	225

1) At 15 °C - 1013 mbar - dry: Natural gas 34.02 MJ/m³ (9.5 kWh/m³)

Butane 45.65 MJ/kg (12.7 kWh/kg) - Propane 46.34 MJ/kg (12.9 kWh/kg)

2) Considering the water expansion effect, this value should not be exceeded

3) For rated heat output

Tab. 11

10.2 Product data for energy consumption

The following product data corresponds to the requirements of EU regulations 811/2013, 812/2013, 813/2013 and 814/2013 as a complement to directive 2017/1369/EU.

Product Data	Symbol	Unit	7736504	7736504	7736504	7736504
			371	370	454	453
product type	-	-	WRN10-4 KB 23 ZE	WRN10-4 KB 31 ZE	WRN14-4 KB 23 ZE	WRN14-4 KB 31 ZE
NOx emission	NOx	mg/kWh	35	46	18	28
Sound level inside	LAW	dB(A)	69	69	53	53
Indicated load profile	-	-	M	M	L	L
Other load profiles	-	-	-	-	-	-
Energy efficiency class for hot water preparation	--A	-	-	-	A	A
Energy efficiency of hot water preparation η_{wh}	-	%	71	73	75	75
Energy efficiency of hot water preparation (other load profiles)	$\eta_{wh} \% -$	-	-	-	-	-
Annual energy consumption	AEC	kWh	0	0	0	0
Annual energy consumption (other load profiles) AEC	-	kWh	-	-	-	-
Daily energy consumption (weather conditions averages)	Qelec	kWh	0	0	0	0
Annual fuel consumption	AFC	GJ	6	6	12	12
Annual fuel consumption (other load profiles)	AFC	GJ	-	-	-	-
Daily fuel consumption	Qfuel	kWh	8,900	8,600	16,817	16,817
Smart regulation on?	-	-	No	No	No	No
Weekly energy consumption with intelligent regulation	Qelec, week, smart	kWh	-	-	-	-
Weekly energy consumption without intelligent regulation	Qelec, week	kWh	-	-	-	-
Weekly fuel consumption with intelligent regulation	Qfuel, week, smart	kWh	-	-	-	-
Weekly fuel consumption without intelligent regulation	Qfuel, week	kWh	-	-	-	-
Mixing water at 40°C Mixing	V40 l-	-	-	-	-	-
water at 40°C (other load profiles)	V40 l-	-	-	-	-	-
Permanent energy losses	s	IN	-	-	-	-
Useful storage volume	IN	-	-	-	-	-
Non-solar accumulator volume	Vbu l-	-	-	-	-	-
Indication of the ability to operate outside of peak hours	-	-	-	-	-	-
Adjusting the temperature regulator (supply status)	Tset	°C	-	-	-	-

Tab. 12 Product data regarding energy consumption

10.3 Modulation range

Example for 10 liter model

Model	Caudal	ȳt min	Max
10	5 l/min	28 °C	50 °C
	6 l/min	25 °C	42 °C
	7 l/min	21 °C	35 °C
	8 l/min	18 °C	32 °C
	9 l/min	16 °C	27 °C
	10 l/min	15 °C	24 °C

Tab. 13

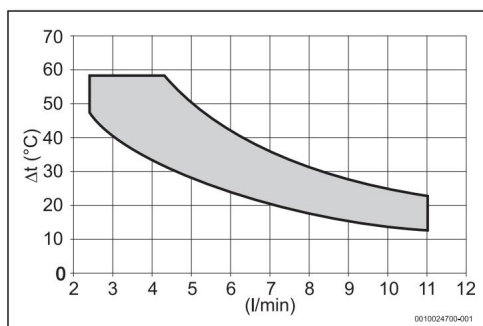


Fig. 25 10 liter model

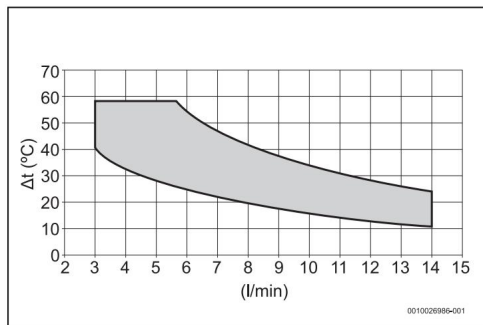


Fig. 26 14 liter model

11 Environmental protection and disposal

Environmental protection is a business principle of the Bosch Group.

Product quality, profitability and environmental protection are objectives of equal importance. Laws and decrees relating to environmental protection are strictly followed.

To protect the environment, the most advanced techniques and the best materials are used, under economic considerations.

Packaging

With regard to packaging, we participate in the recycling systems in force in the country, to ensure optimized recycling.

All packaging materials used are environmentally friendly and recyclable.

Used device

Obsolete devices contain materials that can be reused.

Modules can be easily separated and plastics are identified. This way, they can be separated into different groups and later sent to recycling or disposed of.

Batteries

Batteries must not be disposed of in household waste. Exhausted batteries must be disposed of in local collection systems.

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