

# User manual



# F

**ZSC 24-3 MFA**

**ZWC 24-3 MFA**

**ZWC 28-3 MFA**

**ZWC 35-3 MFA**

**ZSC 24-3 MFK**

**ZWC 24-3 MFK**

**ZWC 28-3 MFK**

**ZWC 24-3 MFK E**

## *Ceraclass* Excellence



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6 720 660 245 (2015/06 BL-FR)

German version available on request

# 1. General safety instructions

## Instructions for users

This instruction manual is intended for the user operating the heating installation. The instructions in all notices must be followed.

Failure to follow these instructions may result in material damage, bodily injury or fatal accidents.

• Read the instructions for use (device, regulation, etc.) before use and keep them.

• Observe the safety and warning instructions.

## Intended use

The product must only be used for the production of heating water and domestic hot water in closed hot water loop systems intended for private use.

Any other use is not intended. Any resulting damage is excluded from the warranty.

**Behavior if you smell gas** There is a risk of explosion if gas leaks. If you smell gas, observe the following rules of conduct!

ÿ Avoid the formation of flames or sparks:

- Do not smoke, do not use lighters or matches.

- Do not operate any electrical switch, do not disconnect from connector.

- Do not telephone or ring the doorbell.

ÿ Close the gas supply on the main shut-off valve or on the gas meter.

ÿ Open doors and windows.

ÿ Warn all residents and leave the building.

ÿ Prevent access of third parties to the building.

ÿ Call the fire department, police and gas supplier from a telephone outside the building!

**Danger to life due to poisoning by combustion products** Leaking combustion products can lead to fatal accidents. In the event of damaged or leaky flue pipes or in the event of the smell of combustion products, respect the following rules of conduct.

ÿ Switch off the heat generator.

ÿ Open doors and windows.

ÿ If necessary, warn all inhabitants and leave the building.

ÿ Prevent access of third parties to the building.

ÿ Inform an installer or an authorized after-sales service.

ÿ Have defects rectified immediately.

## **Inspection and**

**maintenance** Inadequate or lack of cleaning, inspection or maintenance can cause property damage and/or bodily injury, or even danger of death.

- ÿ Have this work carried out exclusively by an approved professional.
- ÿ Remedy any faults immediately.
- ÿ Have the heating installation inspected once a year by an authorized professional and have the necessary maintenance and cleaning work carried out.
- ÿ Have the heat generator cleaned at least once every two years.
- ÿ We recommend concluding a contract annual inspection and personalized maintenance with an authorized technician.

## **Alterations and repairs** Improper

alterations to the heat generator or other parts of the heating installation can lead to personal injury and/or property damage.

- ÿ Have this work carried out exclusively by an approved professional.
- ÿ Never remove the casing of the heat generator.
- ÿ Do not make any modifications to the heat generator or other parts of the heating system.
- ÿ Never block the outlets of the safety valves! Heating installations with domestic hot water tank: during heating up, water may leak through the safety valve of the domestic hot water tank.

### **Open operation (type B)**

The installation room must be sufficiently ventilated when the appliance draws combustion air from the room.

- ÿ Do not block or reduce ventilation openings on doors, windows and walls.
- ÿ Ensure compliance with ventilation requirements by agreement with a specialist:
  - in case of structural alterations (e.g. replacement of doors and windows)
  - in the event of retrofitting of appliances with air exhaust to the outside (eg exhaust fans, kitchen fans or air conditioners).

### **Combustion air/ambient air** The

air in the installation room must be free of flammable or aggressive chemical substances.

- ÿ Do not use or store easily flammable or explosive materials (paper, gasoline, thinners, paints, etc.) near the device.
- ÿ Do not use or store corrosion-activating substances (thinners, glues, chlorinated detergents, etc.) near the appliance.

### **Conversion**

Conversion to another type of gas can only be carried out by the JUNKERS after-sales service

**Safety of electrical appliances for household and similar uses** To avoid risks from electrical appliances, the following requirements apply in accordance with standard EN 60335-1:

"This device can be used by children aged 8 and over and by people with reduced physical, sensory or mental abilities or without experience or knowledge, if they are properly supervised. )s or if instructions relating to the use of the appliance in complete safety have been given to them and if the risks involved have been apprehended. Children should not play with the device. Cleaning

and user maintenance shall not be carried out by children without supervision".

"If the electrical power cord of the device is damaged, it must be replaced by the manufacturer, its after-sales service or a person with similar qualifications to avoid any danger".

## 2. Information about the device

### 2.1 Energy consumption product data

Product data relating to energy consumption can be found in the technical and installation instructions intended for professionals.

## 3. Opening the door

ÿ Push the mark (3 points) to open the door.

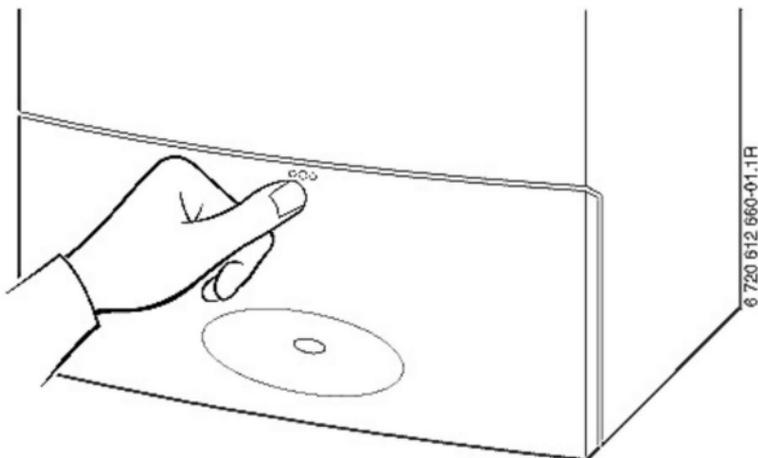


Fig. 1

## 4. Operating elements

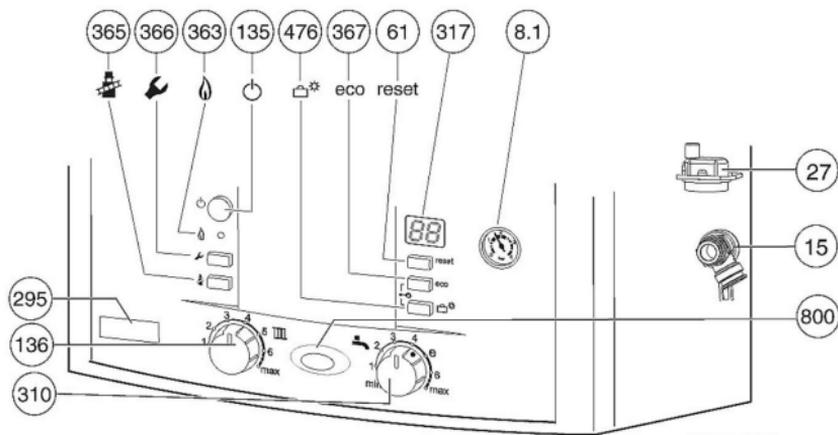


Fig. 2

6 720 813 085-14.10

## **8.1 manometer**

**15** safety valve (heating circuit) **27** automatic  
air vent **61** reset button

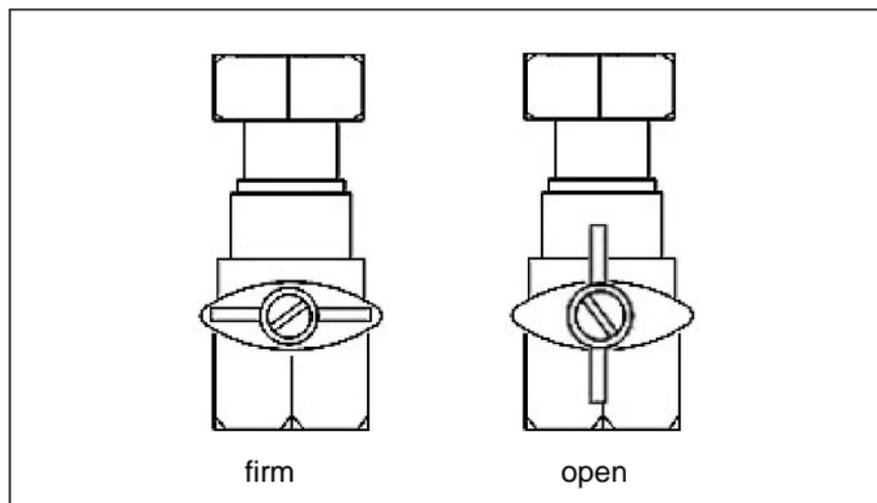
**135** main switch **136** flow  
temperature regulator **295** identification  
sticker **310** hot water temperature regulator

**317** display **363** control lamp for burner  
operation **365** chimney sweep button **366**

service button **367** for ZWC: ECO button for ZSC: no  
function **476** holiday button **800** control lamp for  
burner operation

## 5. Commissioning

**Open the gas tap (only for natural gas boilers)**



*Fig. 3*

## Open the heating and sanitary stops

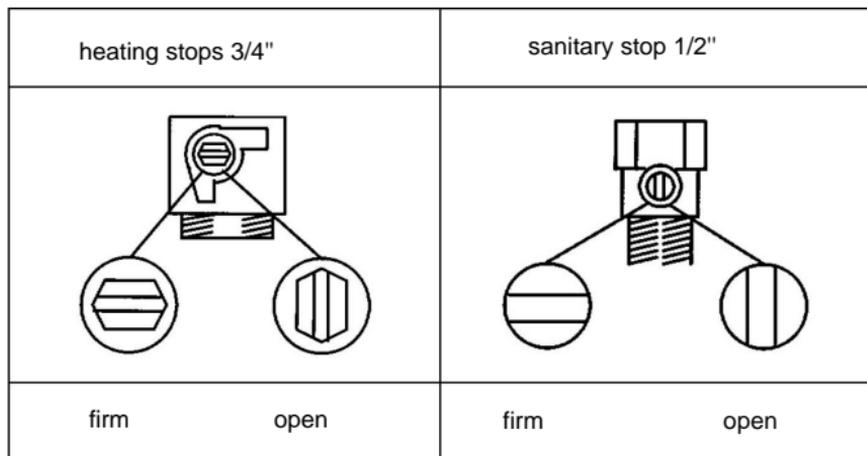


Fig. 4

## Heating circuit water pressure check

The pressure gauge needle should be between 1 and 1.5 bar. (if higher pressure is required, your installer will let you know)

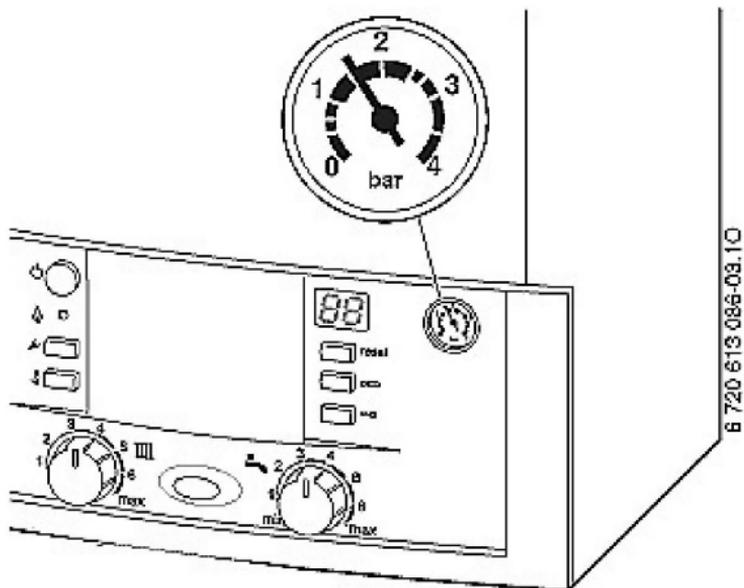


Fig. 5

## Heating water filling

The filling is different for each heating installation. Have your installer show and explain the filling.



**Attention:** The boiler can be damaged.

- ÿ Fill only when the boiler is cold.
- ÿ The **maximum pressure** of 3 bar at the highest heating water temperature must not be exceeded (the safety valve opens).
- ÿ Before filling, fill the pipe with water.  
This prevents any penetration of air into the installation.
- ÿ Mount the hose on the filling and draining tap and connect it to a water tap.
- ÿ Open the fill/drain valve.
- ÿ Slowly open the cold water tap and fill the installation.
- ÿ Close the taps and remove the filler pipe.

## **6. Use** This user

guide only concerns the boiler.

Depending on the controller used, some functions differ in their use.

The following heating regulators can be used: **ÿ** room thermostats, **ÿ** any remote controls.



Always consult the regulation manuals.

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## 6.1 Switch on/off

### To light up

• Press the main switch.

The blue light comes on and the display shows the flow temperature.

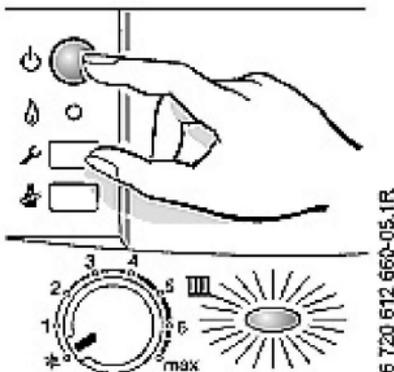


Fig. 6

### Switch off

• Press the main switch to switch on the device off. The indicator goes off.

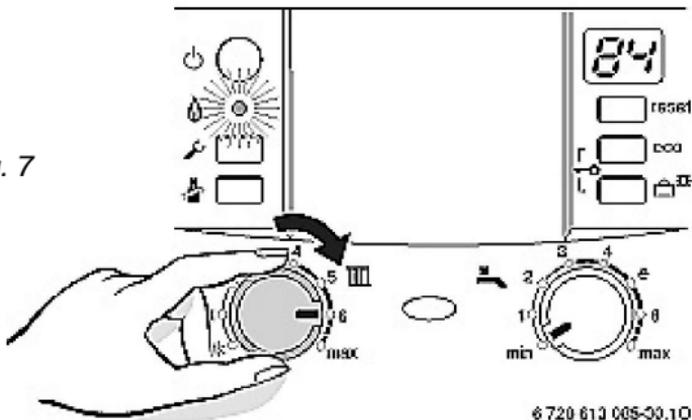
• Pay attention to the frost protection (see paragraph 5.7) when shutting down the boiler for an extended period.

## 6.2 Switching on the heating

The flow temperature can be set between 40 and 88°C.

- Turn the flow thermostat  to adjust the temperature of the heating system:
- low temperature heating: p. ex. position **5** (about 74°C)
  - Heating system for flow temperatures up to 88°C: **max** position

Fig. 7



When the burner is on, the indicator lights up **green**.

<b>position</b>	<b>starting temperature</b>
1	about 40°C
2	about 49°C
3	about 58°C
4	about 65°C
5	about 74°C
6	<b>about 84°C</b>
max	about 88°C

## 6.3 Temperature setting



Consult the regulation manuals.  
Here you will find how:

• the room thermostats must be adjusted,  
• you can heat economically and save  
energy.

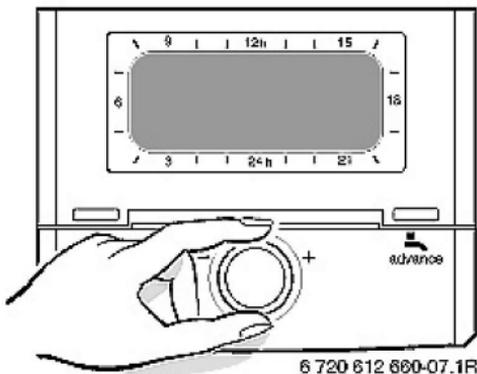


Fig. 8

## 6.4 ZSC boilers with tank:

### hot water temperature setting

Adjust the tank temperature with the boiler temperature knob. The display shows the low temperature at a tank displayed on the flask

same.

The **Eco** key has no function.

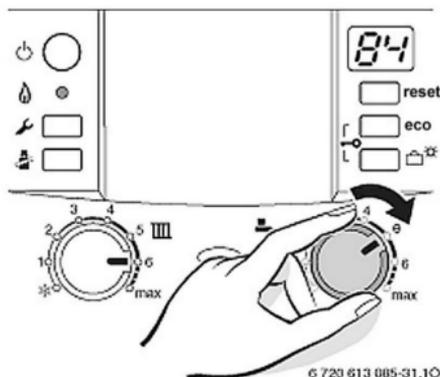


Fig. 9



**Warning:** risk of burns!

In normal operation, do not choose a temperature higher than 60°C.

<b>temperature dial</b> 	<b>hot water temperature</b>
min - 1	about 40°C
2	about 45°C
3	about 49°C
4	about 52°C
and	about 56°C
6 - max	about 60°C

## 6.5 ZWC boilers:

### hot water temperature setting

- Adjust the hot water temperature with the temperature knob
- The display shows the flow temperature of the boiler.

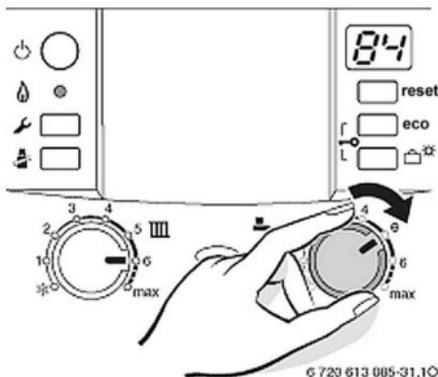


Fig. 10

temperature dial	hot water temperature
min - 1	about 40°C
2	about 45°C
3	about 49°C
4	about 52°C
	about 56°C
e 6 - max	about 60°C

### ECO-COM key function:

- 1 **Comfort mode:** the **Eco** button is not pressed and not lit: the plate exchanger is maintained every 20 minutes for 1 minute at the programmed domestic hot water temperature, increased by 25°C. If necessary, these 20 minutes can be extended with the **3 E** service function (from 20 to 60 minutes).



This position leads to a risk of scaling and an increase in consumption.

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- 2 **Economy function:** the **Eco** button is pressed and lit: the comfort mode as described in point 1, is deactivated.

- 3 **Comfort on command:** regardless of the position of the **Eco** button, comfort mode can be activated as described in point 1 by opening and closing a hot water tap within 5 seconds. At this moment the **Comfort mode** is activated only once.

This function can be disabled with the 4C service **function**.



This **comfort on command** maximizes hot water comfort, allows maximum gas and water savings and prevents scaling.

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## 6.6 Summer position (hot water only)

ÿ Leave the heating on.

ÿ Turn the controller fully to the left to the position Heating is switched off. Hot water preparation and the electrical supply to the thermostat are not cut off.

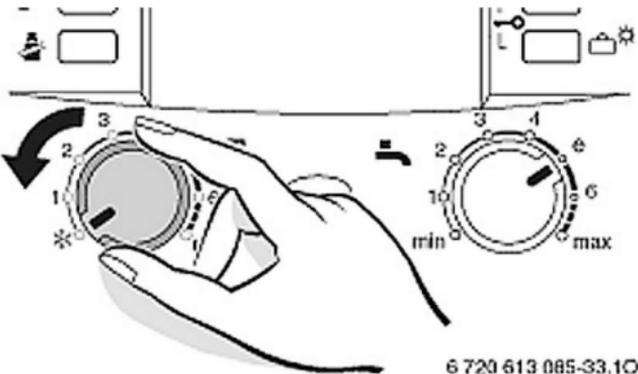


Fig. 11



**Attention:** Risk of freezing of the heating system.

## 6.7 Heating system frost protection

• Do not trigger the boiler.

• Turn the regulator to the  completely left in

Heating is  switched off

position. Hot water preparation and the electrical supply to the thermostat are not cut off.

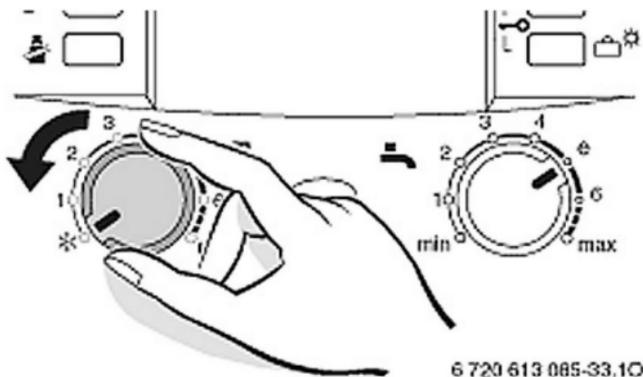


Fig. 12

• When the heating is switched off:

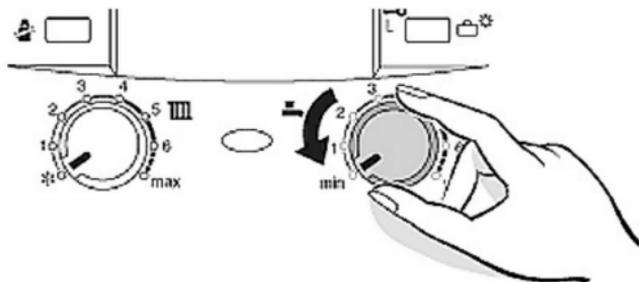
Add antifreeze product to the water in the heating circuit (see technical and practical instructions for the boiler).

### Storage tank frost protection (if connected):

- ÿ Do not trigger the boiler.
- ÿ Turn the left temperature dial.

 against the stop

Frost protection is activated when the tank temperature drops below 15°C.



6 720 613 095-35.10

Fig. 13

## 6.8 Thermal disinfection for boilers with ballon

The entire hot water installation including the draw-off points must be thermally disinfected on a regular basis.  
(See local and/or national prescriptions)

The boiler has a thermal tank disinfection function as standard. This increases the temperature of the water in the tank once a week to 70°C for 35 min.

When thermal disinfection is activated, the display noted  alternating with the flow temperature.



**Caution:** Risk of burns.

After thermal disinfection, the contents of the tank only cool down gradually.

This is why the hot water temperature may be higher than the set temperature.

Automatic thermal disinfection is **activated by default**.

It can be deactivated (see technical and practical instructions for the boiler).

## 6.9 Locking the Heatronic

The button lock affects the flow temperature and hot water temperature controllers as well as all buttons except the main switch and the chimney sweep button.

To activate the lock:

- Press both buttons for approx. 5 seconds until the display shows

Lo

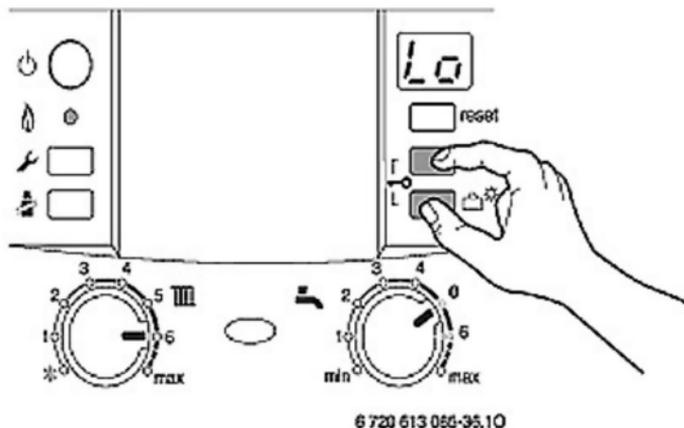


Fig. 14

To deactivate the lock:

- Press both buttons until only the flow temperature is shown in the display.

## 6.10 Operation during holidays

Engage holiday mode:

- Press the holiday button until it lights up. In holiday mode, heating and hot water production are switched off. Frost protection remains active.

Stop holiday mode:

- Press the holiday button until it goes out. The boiler returns to normal mode according to the heating regulation settings.

## 6.11 Perturbations

When a disturbance occurs during operation, it is indicated in the display. The control lamp flashes and the reset button may also flash.

When the reset key flashes:

- Press the reset button and hold until

the display shows .

The boiler is back in service and the display shows the flow temperature again.

When the reset key does not flash:

- Switch off the boiler and switch it on again.

The boiler returns to service and the display again shows the flow temperature.

If it is not possible to remedy the disturbance:

- Contact your installer or JUNKERS after-sales service.

## 6.12 Pump blockage protection

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This function prevents blocking of the circulator after a prolonged stoppage period.

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Each pump trip is followed by a timer, in order to run the pump briefly – every 24 hours.

Pay attention: the boiler must remain energized.

The display shows



## 6.13 Check the discharge safety devices

**(only for ...-3 MFK boilers)**

The boiler is fitted with two discharge safety devices.

The backflow safety device on the backflow preventer trips the boiler if flue gases flow back through the backflow preventer into the installation location. Disturbance **A4** is displayed.

The backflow safety on the combustion chamber trips the boiler if flue gases escape from the combustion chamber. Disturbance **A2** is displayed.

After about 20 minutes, the boiler switches back on automatically.

If disturbances **A4** or **A2** are displayed frequently, call your installer or the JUNKERS after-sales service. Chimney operation needs improvement, or the boiler needs servicing.

## 6.14 Messages shown on the display

Display	Description
	Key lock is activated.
	Thermal disinfection.
	Pump blockage protection activated.
	Domestic hot water production or comfort mode active.
	Ball warming up.

## **7. Instructions for saving energy**

### **Save gas**

The boiler has been built in such a way as to ensure reduced gas consumption, low polluting emissions and optimal comfort. The gas supply to the burner is regulated according to the heat requirement of the installation.

The boiler continues to operate with low flame when the need for heat decreases. This process is called "modulating operation".

This modulating operation ensures a reduction in temperature variations and allows an even distribution of the temperature in the premises.

As a result, the boiler can work for a long time without consuming more gas than a boiler that is constantly cycled on and off.

### **Lowering the temperature at night**

A significant reduction in gas consumption is possible if the ambient temperature is lowered during the night or even during the day. A drop in temperature of 1°C corresponds to a saving of around 5%. However, it is advisable to limit the reduction in ambient temperature to 5°C.

### **Hot water**

A setting at a lower temperature allows a significant energy saving. For ZWC boilers: "comfort on command" with the hot water tap

allows maximum gas and water savings.

## 8. General

### Coat cleaning

Do not use abrasive or aggressive rinsing products, a damp cloth is sufficient.

### Preservation of the notice



After reading, you can slide the manual (with the last page forward) into the door of the boiler.

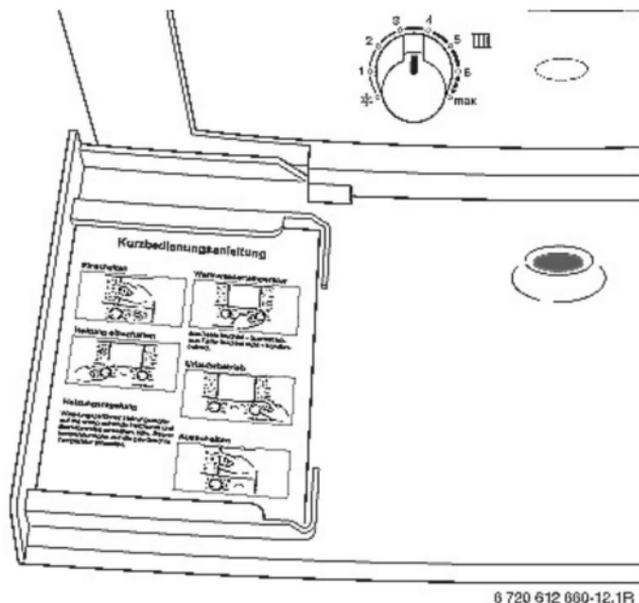


Fig. 15

6 720 612 660-12.1R

## 9. Monitoring and maintenance

Even a JUNKERS needs supervision and a regular maintenance.

Preventive maintenance prevents premature wear and/or abnormal consumption.

This work must be carried out by the installer, an authorized tradesman or by JUNKERS after-sales service.



**ANNUAL MAINTENANCE IS RECOMMENDED.**

**(depending on regional regulations on the matter)**

**Call an approved installer or the JUNKERS after-sales service.**

## 10. Important Notes

You can find the type designation and the serial number on the type plate of the device. Please mention this data on the warranty card and during each contact with your installer or with our after-sales service.

Type	
Serial number	
Date d'installation	

### Installer

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## 11. After-sales service (with technicians in your region)

Bosch Thermotechnology sa has an after-sales service available to installers and users.

In case of difficulty, contact Bosch Thermotechnology sa (official after-sales service of the manufacturer).



**Bosch Thermotechnology nv/sa**  
Kontichsesteenweg 60  
2630 Archaer

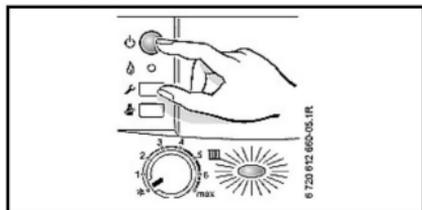
ÿ	<b>AFTER SALES SERVICE</b> maintenance & repairs	<b>078 05 02 15</b>
<b>FAX AFTER</b>	<b>SALES SERVICE</b>	<b>078 05 02 11</b>

ÿ	<b>GENERAL NUMBER</b>	<b>03 887 20 60</b>
<b>FAX GENERAL</b>	<b>NUMBER</b>	<b>03 877 01 29</b>

**[www.junkers.be](http://www.junkers.be)**

## 12. Condensed Notice

### To light up



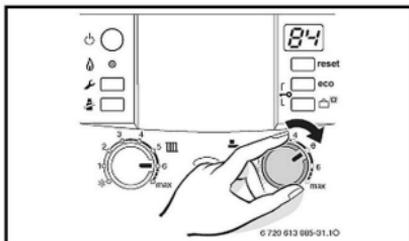
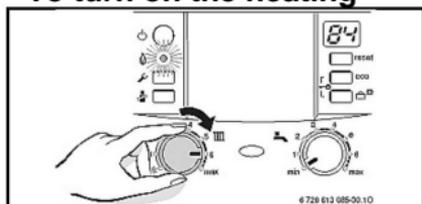
### Temp. Hot water



**Caution:** Risk of burns

Set the temperature to maximum safe".

### To turn on the heating



### Temperature

**adjustment** Adjust the temperature at the room thermostat (ZWC)

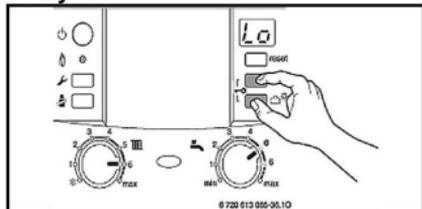
eco-key on

= economy mode

eco-key off

= comfort mode (ZWC)

### Key lock



### Frost protection

