

Hydronic Gas Condensing Boiler

Condens 5000 W

ZSB 30-2 A ...| ZWB 37-2 A ...



BOSCH

Operating Instructions

Contents

1	Key to symbols and safety instructions	4
1.1	Explanation of symbols	4
1.2	Safety instructions	6

2	Product details	8
2.1	Intended use	8
2.2	Explanation of model code	8

3	Preparing the appliance for use	9
3.1	Turn on the gas service cock	9
3.2	Turn on the isolators	10
3.3	Opening the control panel cover	11
3.4	Check the central heating system pressure	12
3.5	Top up the heating system	13

4	Operation	14
4.1	Overview of controls	16
4.2	Switching the appliance on/off	18
4.3	Starting the central heating	19
4.4	Setting the heating control unit	21
4.5	Appliances with hot water cylinder: setting the hot water temperature	22
4.6	ZWB appliances - setting hot water temperature	24
4.7	Summer mode (central heating off, DHW only)	26
4.8	Frost protection	27
4.9	Holiday mode	28
4.10	Further displays	29

5	Carry out thermal disinfection	30
6	Tips on saving energy	32
7	Troubleshooting	34
8	Maintenance	36
9	Environment / disposal	37
10	Operating instructions quick reference	38
	Index	39

1 Key to symbols and safety instructions

1.1 Explanation of symbols

Warning symbols



Safety instructions in this document are framed and identified by a warning triangle which is printed on a grey background.



Electrical hazards are identified by a lightning symbol surrounded by a warning triangle.

Signal words indicate the seriousness of the hazard in terms of the consequences of not following the safety instructions.

- **NOTICE** indicates possible damage to property or equipment, but where there is no risk of injury.
- **CAUTION** indicates possible injury.
- **WARNING** indicates possible severe injury.
- **DANGER** indicates possible risk to life.

Important information



Notes contain important information in cases where there is no risk of personal injury or material losses and are identified by the symbol shown on the left. They are bordered by horizontal lines above and below the text.

Additional symbols

Symbol	Meaning
▶	a step in an action sequence
→	a reference to a related part in the document or to other related documents
•	a list entry
–	a list entry (second level)

Table 1

1.2 Safety instructions

If you smell gas

- ▶ Turn off gas tap (→ page 16).
- ▶ Open windows and doors.
- ▶ Do not operate any electrical switches.
- ▶ Extinguish any naked flames.
- ▶ Leave the building and telephone your gas supply utility and authorised contractor **from an outside phone**.

If you smell flue gas from the appliance

- ▶ Switch off the appliance (→ page 16).
- ▶ Open windows and doors.
- ▶ Inform your heating contractor.

Installation and conversion

- ▶ This appliance may only be installed or converted by an approved installer.
- ▶ Never modify any parts of the flue system.
- ▶ **If the appliance has a type B.. flue system:** Do not seal off or reduce the size of air vents in doors, windows or walls. If draught-sealed windows are installed, ensure there is an adequate supply of air to the appliance for combustion.

Thermal disinfection

▶ Risk of scalding!

It is imperative to monitor operation at temperatures over 60 °C (→ page 30).

Risk of damage due to operator error

Operator errors can result in injury and damage to property.

- ▶ Ensure that children never operate this appliance unsupervised or play with it.
- ▶ Ensure that only personnel who can operate this appliance correctly have access to it.

Inspection/Maintenance

- ▶ **We recommend** that you take out a contract to have the system regularly serviced in order to ensure that it functions reliably and safely.
- ▶ The user is responsible for the general and environmental safety of the system.
- ▶ Only use genuine spare parts!

Combustible materials

- ▶ Do not store or use any combustible materials (paper, thinners, paints etc.) in the vicinity of the appliance.

Combustion air/Ambient air

- ▶ Keep combustion air/ambient air free of corrosive substances (e.g. halogenated hydrocarbons which contain chlorine or fluorine compounds). In that way corrosion can be prevented.

2 Product details

2.1 Intended use

The appliance may only be installed in sealed hot-water central heating systems to EN 12828.

Using the appliance for any other purpose will be considered incorrect use. Bosch accepts no liability for any damage resulting from such use.

The commercial and industrial use of appliance to generate process heat is not permitted.

2.2 Explanation of model code

Condens 5000 W	ZSB 30-2 A
	ZWB 37-2 A

Table 2

Z	Central heating appliance
S	Cylinder connection
W	DHW heating
B	Condensing boiler technology
30	Output up to 30 kW
37	DHW output up to 37 kW
-2	Version
A	Fan-assisted appliance without draught hood

3 Preparing the appliance for use

3.1 Turn on the gas service cock

- ▶ Using a screwdriver, turn the square tap handle so that the slot is in line with the direction of flow.
Slot at right-angles to direction of flow = off.

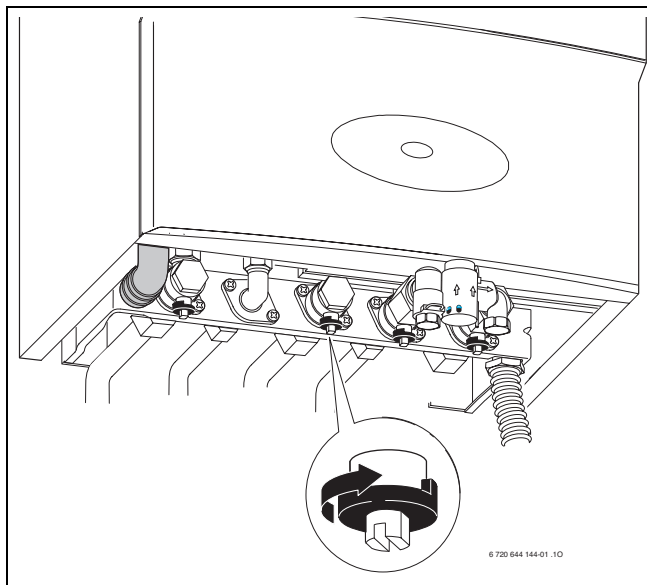


Fig. 1

3.2 Turn on the isolators

- ▶ Using a screwdriver, turn the square tap handle so that the slot is in line with the direction of flow.
Slot at right-angles to direction of flow = off.

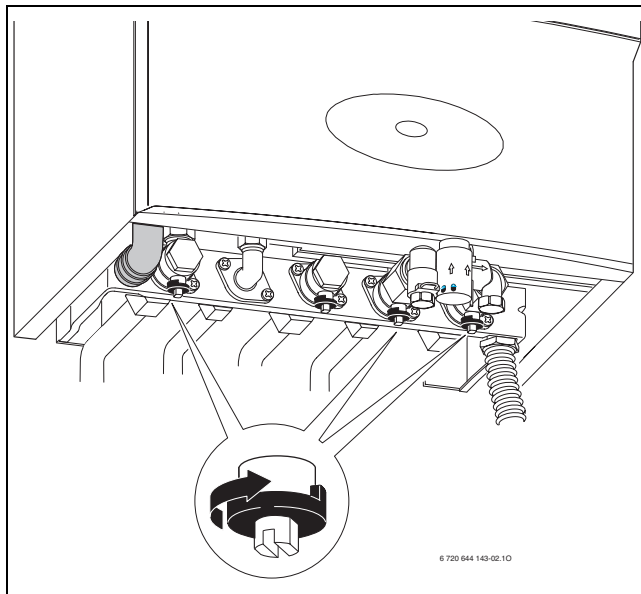


Fig. 2

3.3 Opening the control panel cover

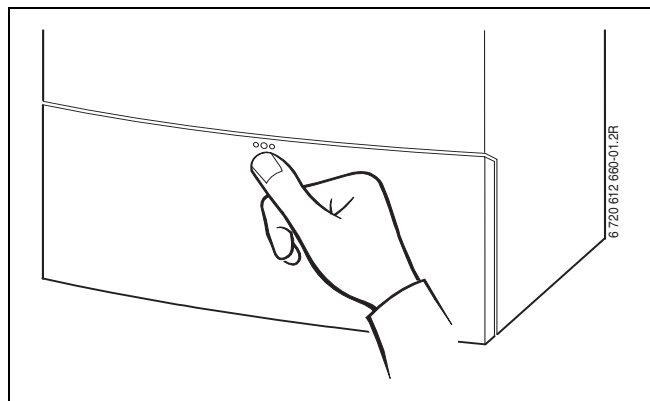


Fig. 3

3.4 Check the central heating system pressure

The normal operating pressure is 1 - 2 bar.

If a higher setting is required, you will be informed by your installer.

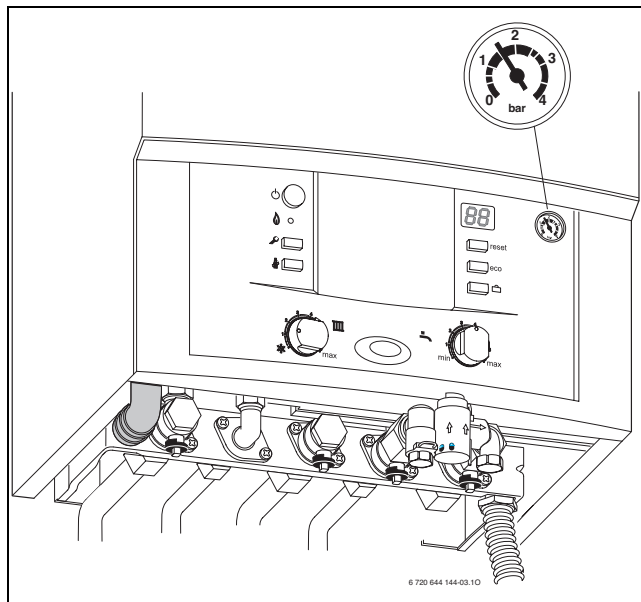


Fig. 4

3.5 Top up the heating system

The way in which the heating system is topped up is different on every system. Therefore, you should ask your installer to show you how it is done.



CAUTION: Risk of damaging the appliance.

- Only top up the heating system when the appliance is cold.

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

4 Operation

These Operating Instructions apply only to the boiler.

Depending on the heating controller used, some functions may be controlled differently.

The following possibilities for controlling the heating system may be employed:

- weather-dependent controller built into the boiler → page 16, item 7.
- weather-dependent controller external to the appliance
- room thermostat



Therefore, please read the operating instructions for the heating controller used.



Page 38 contains brief operation instructions. You can fold this outwards and push the operating instructions into the appliance facia for safekeeping.

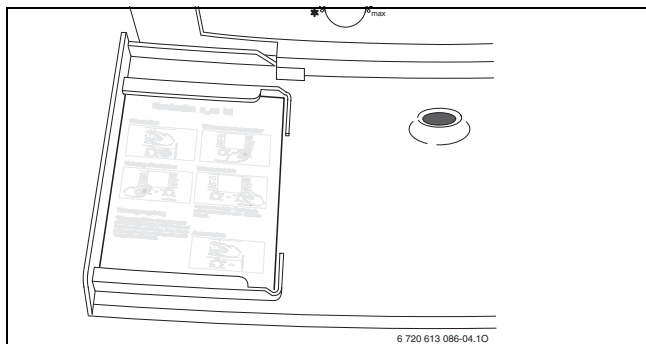


Fig. 5

4.1 Overview of controls

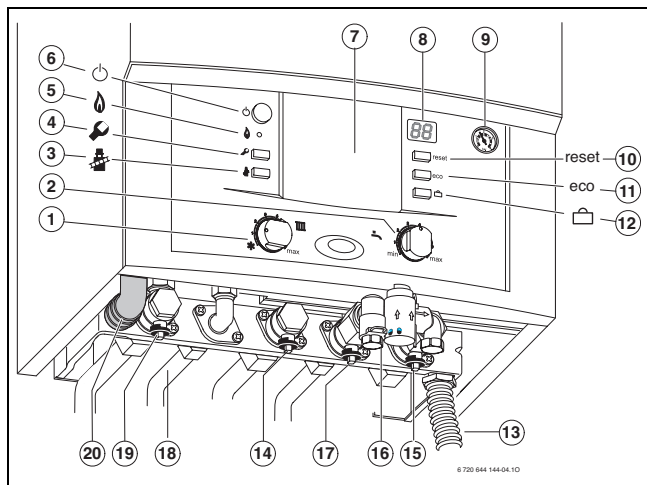


Fig. 6

- 1** Flow temperature control
- 2** DHW temperature control
- 3** Chimney sweep button
- 4** Service button
- 5** Burner ON indicator
- 6** Main switch
- 7** Here, a weather-compensated control unit or a time switch (accessories) can be plugged in
- 8** Display
- 9** Pressure gauge
- 10** reset button
- 11** eco button
- 12** Holiday button
- 13** Drain from pressure relief valve (heating circuit)
- 14** Gas tap
- 15** CH return isolator
- 16** Filling loop (ZWB)
- 17** Cold water tap (ZWB),
cylinder return (ZSB)
- 18** DHW connection (ZWB),
cylinder flow (ZSB)
- 19** CH flow isolator
- 20** Condensate hose

4.2 Switching the appliance on/off

Switching on

- Switch appliance on at the main switch.
The display shows the heating water flow temperature.

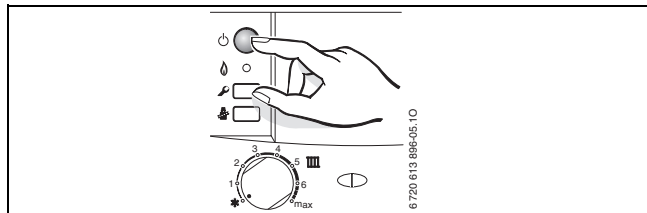


Fig. 7



If the display  shows alternately with the flow temperature, the appliance will operate with the lowest output for 15 minutes.

Switching off the appliance

- Switch appliance off at the main switch.
The display goes out.
- If the appliance is to be switched off for a longer period of time:
observe correct frost protection procedures (→ Section 4.8).

4.3 Starting the central heating

The maximum flow temperature can be matched to the heating system by the flow temperature controller. The current flow temperature is shown on the display.

Setting on flow temperature controller 	Flow temperature	Sample application
1	Approx. 35 °C	
2	Approx. 43 °C	
3	Approx. 50 °C	Underfloor heating system
4	Approx. 60 °C	
5	Approx. 67 °C	
6	Approx. 75 °C	Radiator heating system
max.	Approx. 90 °C	Convactor heating system

Table 3



With underfloor heating systems, take care to observe the maximum permissible CH flow temperatures.

- Turn flow temperature controller  to adjust the maximum flow temperature.

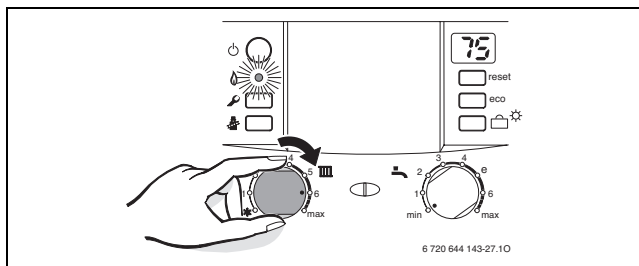


Fig. 8

When the burner is firing, the green indicator lamp lights up.

4.4 Setting the heating control unit



Follow the operating instructions for the heating controller used. Those instructions will tell you

- ▶ how to set the operating mode and the heating curve for weather-dependent controllers,
- ▶ how to adjust the room temperature,
- ▶ how to heat economically and save energy.

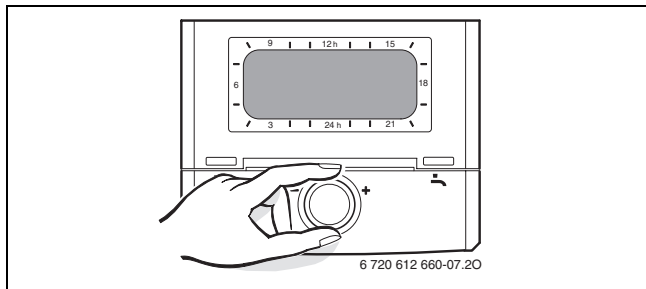


Fig. 9

4.5 Appliances with hot water cylinder: setting the hot water temperature



WARNING: Danger of scalding!

- ▶ In normal operation, do not set the temperature higher than 60 °C.

- ▶ Set the DHW temperature on the DHW temperature control



The set DHW temperature flashes on the display for 30 seconds.

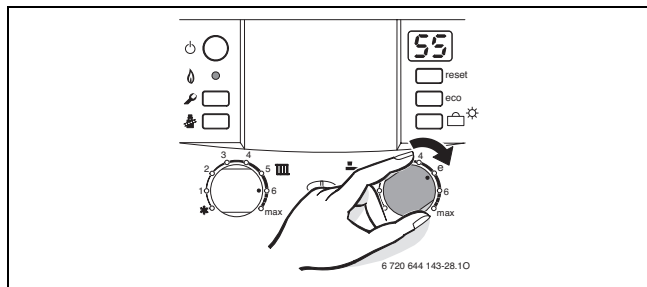


Fig. 10



To prevent bacterial contamination such as legionella, we recommend setting the DHW temperature controller  to “6” (60 °C).

DHW thermostat 	DHW temperature
min	Approx. 5 °C (frost protection)
e	Approx. 55 °C
6	Approx. 60 °C
max.	Approx. 70 °C

Table 4

eco button

Pressing and holding the eco button until it lights up switches between **Comfort mode** and **Economy mode**.

Comfort mode, Eco button is not lit (default setting)

In Comfort mode, the hot water cylinder has priority. The hot water cylinder is heated to the set temperature first. Then the appliance switches to central heating mode.

Economy mode, Eco button lit

In Economy mode, the appliance switches between central heating mode and hot water mode every ten minutes.

4.6 ZWB appliances - setting hot water temperature

- Set the DHW temperature on the DHW temperature control



The set DHW temperature flashes on the display for 30 seconds.

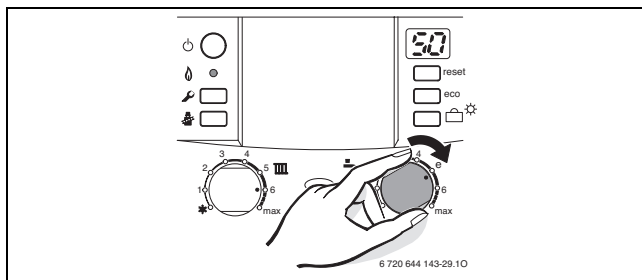


Fig. 11

DHW thermostat 	DHW temperature
min	Approx. 40 °C
e	Approx. 50 °C
max.	Approx. 60 °C

Table 5

eco button

Pressing and holding the eco button until it lights up switches between **Comfort mode** and **Economy mode**.

Comfort mode, (Eco button is not lit - default setting)

The appliance is held **constantly** at the set temperature. This means that hot water is available almost instantaneously at the tap.

Consequently the appliance will switch on at intervals, even if no hot water is being drawn.

Economy mode, Eco button lit



If a start delay for the supply of water preheated by solar energy has been set (service function b.F), the appliance does not switch on until the start delay has elapsed.

- The water is not heated up until a hot water tap is turned on.
 - **With a demand signal** (only with start delay switched off for the supply of water preheated by solar energy). Briefly turning a hot water tap on and then off signals demand so that the water is then heated up to the set temperature.
-



The demand signal enables gas and water savings.

4.7 Summer mode (central heating off, DHW only)

- ▶ Note position of CH flow temperature control .
- ▶ Turn CH flow temperature control  anti-clockwise as far as the stop .

The heating circuit pump and consequently central heating are switched OFF. However, the DHW supply as well as the power supply to the heating programmer and timer remain 'live'.

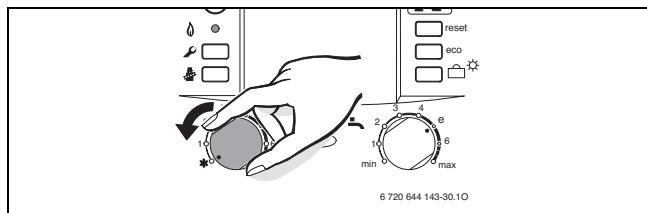


Fig. 12



NOTE: Heating system at risk from frost.

Additional instructions are contained in the operating instructions for the heating programmer.

4.8 Frost protection

Frost protection for the heating system:

- ▶ Leave appliance switched on, set CH flow temperature control  to position 1 at least.

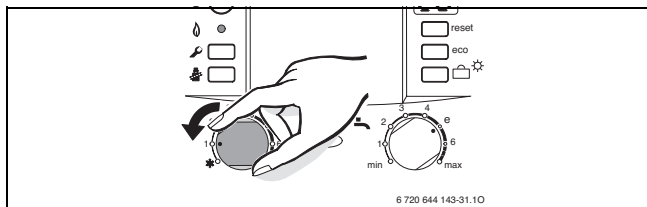


Fig. 13

- ▶ Add anti-freeze to the heating water (see installation instructions) and drain the DHW circuit.

Additional instructions are contained in the operating instructions for the heating programmer.

Frost protection for the cylinder:

- ▶ Turn DHW temperature controller clockwise as far as it will go (5 °C).

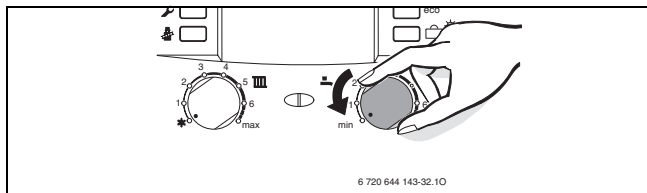


Fig. 14

4.9 Holiday mode

To switch on holiday mode:

- ▶ Press and hold holiday button  on the appliance until it lights up, and switch on holiday mode on the heating controller.

In holiday mode, heating and DHW heating are switched off; frost protection remains active (→ chap. 4.8).

To switch off holiday mode:

- ▶ Press and hold holiday button  on the appliance until it goes out, and cancel holiday mode on the heating controller. The appliance returns to operation in standard mode according to the settings at the heating control unit.

4.10 Further displays

Display code	Description
	Fault code (→ chapter 7)
	Inspection due
	Pump anti-seize function active
	Trap filling function active
	Bleeding function active
	Excessively rapid increase in CH flow temperature (temp. gradient monitoring). Heating mode is disabled for two minutes.
	Drying function. If the floor drying function is activated on the weather-dependent controller, refer to controller instructions.

Table 6

5 Carry out thermal disinfection

To prevent the DHW becoming contaminated by bacteria such as legionella, we recommend you pasteurise the system after longer idle periods.



With some heating controllers, thermal disinfection can be programmed for a fixed time; see heating controller operating instructions.

Pasteurisation covers the DHW system including the draw-off points. For solar DHW cylinders, the solar portion of the cylinder is not covered.



DANGER: Risk of scalding!

Hot water can result in severe scalding.

- ▶ Carry out thermal disinfection only outside the normal hours of use.
 - ▶ The water in the tank will take a while to cool down to the set hot water temperature as a result of heat loss. Be aware that, after thermal disinfection, the hot water may be hotter than the set temperature.
-
- ▶ Turn off all hot water points.
 - ▶ Warn occupants of risk of scalding.
 - ▶ If the heating programmer has a DHW program, set the time and DHW temperature accordingly.
 - ▶ If there is a circulation pump, set it to run continuously.

- ▶ Turn hot water temperature control clockwise as far as the stop (approx. 70 °C).

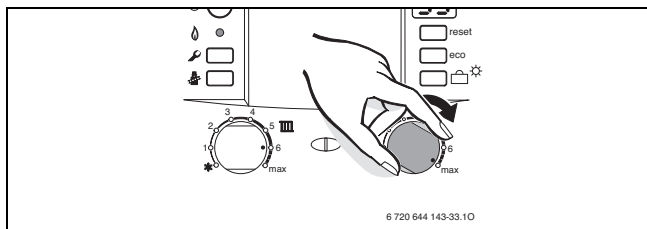


Fig. 15

- ▶ Wait until the water reaches the maximum temperature.
- ▶ Draw off water in turn from the nearest to the furthest hot water point until hot water has been running out at a temperature of 70 °C for 3 minutes.
- ▶ Reset DHW temperature control, circulation pump and heating programmer to their standard settings.



If you want to interrupt thermal disinfection:

- ▶ Switch the appliance off and then on again at the main switch.

The appliance will start up again and the central heating flow temperature will be displayed.

6 Tips on saving energy

Heating economically

The boiler is designed to provide a high level of comfort while keeping gas consumption and the resulting environmental impact as low as possible. The gas supply to the burner is controlled according to the level of demand for heat. The boiler continues to operate with a low flame if the demand for heat reduces. The technical term for this process is modulating control. Modulating control keeps temperature fluctuations small and provides even distribution of heat throughout the home. This means that the boiler may stay on for relatively long periods but will use less gas than an appliance that continually switches on and off.

Inspection/Maintenance

To ensure that gas consumption and environmental impact (pollution, etc.) remain as low as possible over an extended period of time, we recommend that you take out an inspection/maintenance contract with an authorised installer covering the annual inspection and servicing and maintenance at other times as required.

Heating control system

Additional instructions are contained in the operating instructions for the heating controller.

Thermostat

Fully open the thermostat to ensure that the required room temperature is reached in all cases. Only after the required temperature has been reached and maintained for an extended period of time should you change the setting for the heating curve or the room temperature on the controller.

Underfloor heating

Do not set the heating-up temperature higher than the maximum level recommended by the manufacturer.

Ventilating

Do not keep windows slightly open for ventilation purposes. This would continuously cool down the room without significantly improving the air in the room. It is better to ventilate fully for a short time (with completely open windows).

Turn off the thermostat when ventilating.

Hot water

Always set the hot water temperature to as low as possible. A lower setting on the thermostat means a higher rate of energy savings.

Furthermore, higher hot water temperatures result in increased limescale deposits and thereby impair the function of the appliance (e.g. longer heating-up times or lower output).

Circulation pump

If there is a circulation pump for hot water, use a timer programme to control its operation according to the specific requirements (e.g. morning, afternoon, evening).

7 Troubleshooting

All safety, modulation and control components are monitored by the Heatronic system.

If a fault occurs during operation, a warning tone sounds.



If you press a button, the warning tone stops.

The display indicates a fault (e. g. ) and the reset-button may also flash.

If the reset button flashes:

- ▶ Press and hold the reset button until the display shows .
The appliance will start up again and the flow temperature will be displayed.

If the reset button does not flash:

- ▶ Switch the appliance off and then on again at the main switch.
The appliance will start up again and the central heating flow temperature will be displayed.

If the fault persists:

- ▶ Contact your authorised contractor or customer service for assistance, providing details of the fault and the appliance.



An overview of the display indications can be found on page 29.

Appliance details

If you need to call Customer Services, it is helpful if you have the precise details of your appliance at hand.

Those details can be found on the identification plate or identification sticker inside the control panel cover.

Condens 5000 W (e. g. ZWB 37-2A...).....

Serial number.....

Date commissioned:

System installed by:

8 Maintenance

Inspection and maintenance

The operator is responsible for the safety and environmental compatibility of the heating system (see local regulations).

It is therefore recommended that you enter into a maintenance and inspection contract with an approved contractor that provides annual inspection and maintenance. This ensures high efficiency and environmentally compatible combustion.

Cleaning the outer casing

Wipe down with a damp cloth. Do not use any abrasive or corrosive cleaning agents.

9 Environment / disposal

Environmental protection is a fundamental corporate strategy of 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

We participate in the recycling programmes of the countries in which our products are sold to ensure optimum recycling.

All of our packaging materials are environmental-friendly and can be recycled.

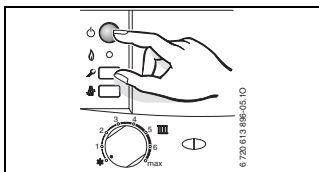
Used appliances

Used appliances contain valuable materials that should be recycled.

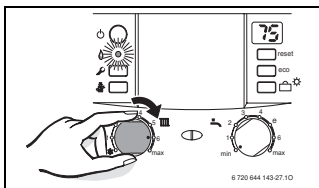
The various assemblies can be easily dismantled and synthetic materials are marked accordingly. Assemblies can therefore be sorted by composition and passed on for recycling or disposal.

10 Operating instructions quick reference

Switching on



Switching on the central heating



Heating control

Set weather-dependent heating controller to the relevant heating curve and operating mode or set room thermostat to the desired temperature.

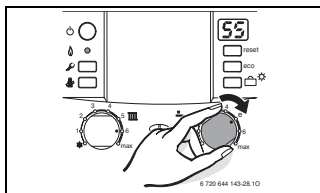
Domestic hot water temperature



WARNING:

Risk of scalding

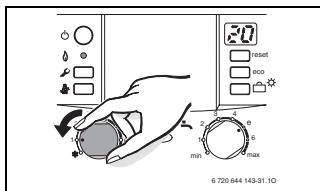
► Do not set the temperature control to more than "e".



Eco button lit – Economy mode.

Eco button not lit – Comfort mode.

Frost protection



Index

A

Appliance	
- Switching off	18

C

Carry out thermal disinfection	30
Central heating	
- Switching on	19, 38
Comfort mode	23, 25

E

Eco button	23, 25
Economy mode	23, 25
Environment / disposal	37
Explanation of model code	8

F

Frost protection	27
------------------------	----

H

Heating control	38
-----------------------	----

I

Intended use	8
--------------------	---

O

Operation	14
-----------------	----

P

Packaging.....	37
Preparing the appliance for use.....	9
Product details	8
- Explanation of model code	8

R

Recycling.....	37
----------------	----

S

Safety instructions.....	6
Setting the heating control unit.....	21
Setting the hot water temperature	
- Appliances with hot water cylinder	22
Summer mode	26
Switching off the appliance	18
Switching on the central heating.....	19, 38

T

Thermal disinfection	30
Troubleshooting.....	34

U

Used appliances.....	37
----------------------	----

Notes

Notes

Notes

Australia

Robert Bosch (Australia) Pty Ltd
1555 Centre Rd
Clayton, VIC 3168
Phone 1300 30 70 37
Fax 1300 30 70 38
www.bosch.com.au/hotwater

New Zealand

Phone 0800 4 Bosch or 08 543 352
www.bosch.co.nz