

VAILLANT ECOTEC PLUS INSTRUCTIONS FOR USE MANUAL



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ecotec plus

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For the owner



Instructions for use ecoTEC plus



Wall hung open vent condensing boiler

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Appliance characteristics

The Vaillant ecoTEC plus boilers are compact, wall hung condensing open vented boilers, designed to provide central heating from a fully pumped open vented or sealed water system and hot water where a separate indirect hot water cylinder is incorporated to the system. The central heating water temperature can be adjusted on the boiler. The domestic hot water temperature can also be adjusted on the boiler if the applicable optional accessories are fitted. Once the controls are set the boiler operates automatically. A frost protection programme is also included.

Please read these instructions and follow them carefully for the correct and economical use of your boiler. These instructions are applicable to the following ecoTEC plus boilers, available in Natural Gas.

All ecoTEC plus boilers can be converted to LPG.

Appliance	Maximum output
ecoTEC plus 415	15 kW
ecoTEC plus 418	18 kW
ecoTEC plus 428	28 kW
ecoTEC plus 438	38 kW

1 Introduction

1.1 Notes on the documentation

To ensure clarity of information in instructions a new European standard of advice and symbols is being introduced. To ensure compliance with this new standard the following details are included. The following information is intended to help you throughout the boiler's entire instruction pack.

We assume no liability for any damage caused by non-observance of these instructions.

1.1.1 Other instruction supplied with this appliance.

For the owner:

Short operating instructions	no. 838404
Warranty card with return envelope	no. 802922

For the installer/service engineer:

Instructions for installation and servicing	no. 0020020828
Flue installation instructions	no. 834449

The instructions for any accessories and controllers used also apply.

The Benchmark gas boiler commissioning checklist (in the installation manual) should be completed by the installer and/or the commissioning engineer.

If, after reading these instructions, you have any questions on the operation of the boiler, please contact either your installer or Vaillant Technical Department.

1.1.2 Retention of the documents

Please store this literature and all related documents so that they are available whenever they are required. If you move please pass on the documents to the buyer.

1.2 Symbols used in this manual

Please observe the safety instructions in this literature for the operation of the appliance.



Danger!
Immediate risk of serious injury or death.



Danger!
Risk of death from electric shock!



Danger!
Risk of burns or scalding!



Caution!
Potentially dangerous situations for the product and environment.



Note!
Useful information and instructions.

- Symbol for a necessary task

1.3 CE marking

The purpose of CE marking is to certify that the boiler complies with the requirements of the directives covering gas fired appliances (Council directive 90/396/EEC) and electromagnetic compatibility (Council directive 89/336/EEC).

These appliances also comply with the requirements of the directive on operating efficiency (Council directive 92/42/EEC)



Vaillant Ltd. support the Benchmark initiative. At the rear of the installation manual, you will find a Benchmark gas boiler commissioning checklist. It is very important that this is completed correctly at the time of installation, commissioning and hand over to the user.

2 Safety

2 Safety

2.1 Setup and adjustments

Installation and adjustment of the boiler as well as service, maintenance and repair of the boiler may only be carried out by a competent person in accordance with the Gas Safety (Installation and Use) Regulations 1998. (In the U.K. "CORGI" registered installers undertake the work to a safe and satisfactory standard). If the boiler is installed in a compartment do not obstruct any purpose provided ventilation openings, and do not use the compartment for storage purposes.

2.2 What to do in an emergency



Danger!
Smell of gas. Risk of poisoning and explosion due to a malfunction

If you smell gas or suspect a gas leak:

- Do not switch lights on or off.
- Do not use any other electrical switches.
- Do not use a telephone in the hazardous area.
- Do not use naked flames, such as matches or cigarette lighters.
- Do not smoke.
- Turn off the gas supply at the gas meter.
- Open the windows and doors.
- Warn other residents.
- Get out of the house.
- Consult your gas supplier, service agent or other competent person.
- Telephone the National emergency number 0800 111 999

2.3 Safety instructions

Always observe the following safety instructions and regulations.



Danger!
Inflammable mixtures of gas and air may explode. Do not use or store explosive or easily flammable substances such as petrol or paint in the same room as the appliance.



Danger!
Risk of poisoning and explosion due to a malfunction. Never put the safety devices out of operation or tamper with them so as to impair their function.

2.4 Modifications in and around the boiler

No modifications may be made to the following items:

- The boiler
- The gas, water and electrical supply
- The flue system
- The safety valve for the heating water
- Any structural changes around the appliance that could affect the operational safety of the boiler.



Caution!
Inappropriate modifications can cause damage. Never tamper with the boiler or other parts of the system. Never attempt to perform maintenance or repairs yourself.

- Do not damage or remove seals on components. Only authorised engineers or our customer service may remove sealed components.



Danger!
Risk of scalding. The water coming out of the tap can be very hot.



Caution!
Risk of damage. Do not use sprays, solvents, chlorinated cleaning agents, paint, adhesives or similar substances in the vicinity of the appliance. These substances can cause corrosion, including the flue system.

2.5 Installation and setting



Caution!
The appliance must be installed and serviced by a Competent Person as stated in the Gas Safety (Installation and Use) Regulations 1998. In IE, the installation must be in accordance with the current edition of I.S.813 'Domestic Gas Installations', the current Building Regulations and reference should be made to the current ETCI rules for electrical installation.



Caution!
The appliance may only be operated with its case properly and permanently closed. Otherwise, in unfavourable conditions, material damage or even injury or death can result.

Frost protection

Your boiler is equipped with a frost protection function: If the heating water temperature drops below 5°C when the electrical supply to the boiler is on, then the boiler goes into operation and heats the boiler circuit to approx. 30°C.



Note!
It cannot be guaranteed that water will circulate throughout the entire heating system.

If the boiler is not operated for several hours during very cold weather there is the possibility of the system freezing. Please ensure that if you are absent during a period of frost the central heating remains in operation and all rooms are kept above free-zing point. It must be remembered, however, that the boiler will be automatically switched off by the built in monitoring devices if certain faults occur, e.g. interruption in the gas or electricity supply or faults in the flue gas system. To overcome this possibility you can drain both the central heating system and boiler.



Note!
Frost protection and monitoring devices can only function when the electrical supply to the boiler is on.

3 Information on installation and operation

3.1 Factory guarantee

3.1.1 Two year guarantee for ecoTEC plus appliances

Vaillant undertakes to rectify any manufacturing defect that occurs within twenty-four months of the installation date. For the 2nd year of the guarantee to be valid an annual service must be carried out by a CORGI registered installer one year after installation. The cost of this annual service is not included in the guarantee.

3.1.3 Registering with us

Registration is simple. Just complete the Guarantee Registration Card and return to Vaillant within 30 days of installation. Your details will then be automatically registered within the Vaillant scheme.



Note!

No receipt will be issued.

3.1.4 Immediate help

If your Vaillant boiler develops a fault your first action should be to contact your installer, as his professional assessment is needed under the terms of our Guarantee. If you are unable to contact your installer, phone Vaillant Service Solutions: 0870 6060 777

3.2 Intended use

Vaillant ecoTEC boilers are state-of-the-art appliances which have been constructed in accordance with recognised safety regulations. Nevertheless, there is a risk of injury or death to the user or others and damage to the appliance or other property in the event of misuse or use for which the appliance is not intended. This appliance is designed to generate heat for connected hot water central heating systems. Any other use is considered to be use other than intended. The manufacturer/supplier is not liable for any resulting damage. The user alone bears the risk. Intended use includes the observance of the operating and installation manual and all other applicable documents, as well as adherence to the maintenance and inspection conditions.



Caution!

Any incorrect use is forbidden.

3.3 Care

- Clean the exterior of your appliance with a damp cloth and a little soap.



Note!

Do not use scouring or cleaning agent, which might damage the housing or plastic fittings.

3.4 Recycling and disposal

Both your Vaillant ecoTEC boiler and its packaging consist mainly of recyclable raw materials.

3.4.1 The appliance

Do not dispose of your Vaillant ecoTEC boiler or any of its accessories with household waste. Make sure the old appliance and any existing accessories are disposed of properly.

3.4.2 Packaging

Please leave the disposal of the transport packaging to the expert company which installed the appliance.



Note!

Please observe the applicable national legal regulations.

4 Operation

4 Operation

4.1 Overview of controls on ecoTEC plus

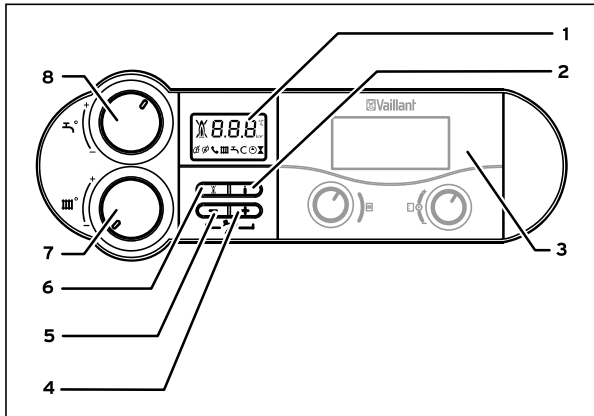


Fig. 4.1 ecoTEC plus controls

For access to the controls open the front flap by pulling at the centre of the case strip.

- 1 Display indicating the current heating flow temperature, the operating mode or additional information.
- 2 The "i" information button.
- 3 Built in control/timer (if fitted).
- 4 "+" button for moving forward in the display.
- 5 "-" button for moving back in the display.
- 6 "Reset" button.
- 7 Maximum radiator temperature control.
- 8 Optional maximum hot water temperature control available only when additional optional accessories are fitted (VR 65, VRT 360, VRC 400).

Advanced multifunctional display system

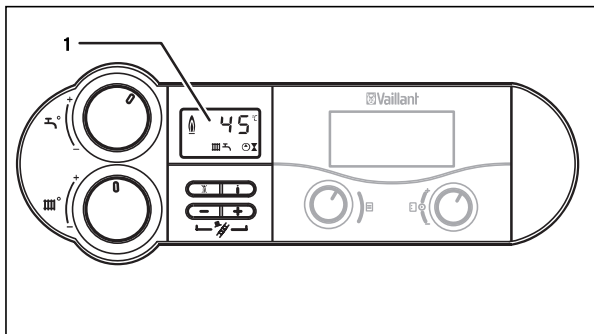


Fig. 4.2 Display on ecoTEC plus

The ecoTEC plus appliance is fitted with a digital information and analysis system. This system provides information on the operating status of your appliance. During normal operation, the display (1) shows the current heating flow temperature (in this example 45 °C). In the event of a fault, an error code appears instead of the temperature. The display also gives the following information:

- 1 Indication of the current heating flow temperature or display of a status or error code



Fan speed malfunction.



Fan speed malfunction.



As long as this symbol appears in the display, a heating flow temperature is set by the vrnetDIALOG accessory, which means the appliance uses temperatures other than those set using the controls (7) and (8).

This condition can only be ended:

- using vrnetDIALOG or
- by a change in temperature at controllers (7) or (8) of more than $\pm K$.

This condition cannot be ended:

- with the "Reset" button (6) or
- by turning the appliance off or on.



Heating mode active.

Illuminated: Heating mode.

Flashing: Anti cycling mode active.



Hot water supply active.

Illuminated: Heating of an indirect hot water cylinder turned on.

Flashing: Heating demand from the hot water cylinder, burner on if optional accessories are fitted.



External pump is running.



Gas valve is activated.



Flame with cross:

Boiler is at lock out and will display fault code.



Flame without cross:

Normal burner operation.

4.2 Initial checks before turning on

4.2.1 Opening the gas service valve

- Ensure the gas service valve is open.
- Ensure the electrical supply to the boiler is turned on.

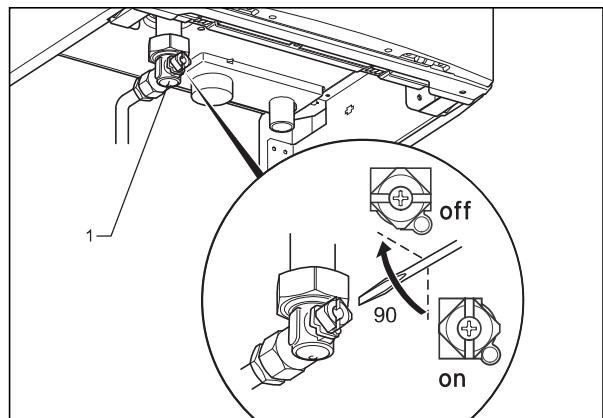


Fig. 4.3 Opening the gas service valve

4.3 Turning the boiler on

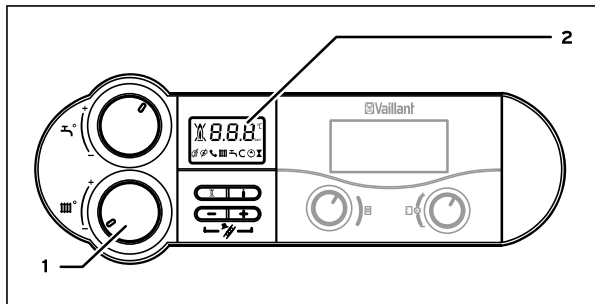


Fig. 4.4 Switching on the appliance

- Turn on appliance at control (1).

When you switch on the appliance, the current operating status appears in the display (2). To adjust the appliance according to your requirements, read sections 4.4 and 4.5, which describe the setting options for hot water supply and heating.

Caution!
Risk of damage. The boiler frost protection and monitoring systems are only active when the electrical supply to the boiler is on and it is not disconnected from the main power supply.

4.4 Domestic hot water

The control of domestic hot water is only available if you have fitted the optional accessories (VR 65, VRT 360, VRC 400). The boiler must only be used when the heating system contains water.

4.4.1 Setting the water temperature

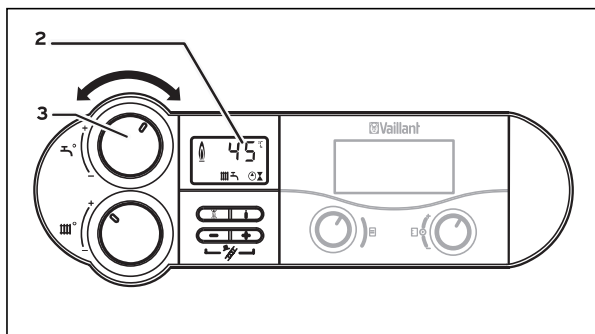


Fig. 4.5 Setting the water temperature

- Switch on the appliance as described in section 4.3.
- The domestic hot water temperature can be adjusted using the hot water temperature control (3).
- Turn the control clockwise to increase the temperature and anti-clockwise to decrease the temperature. This corresponds to:
 - left limit approx. 35 °C
 - right limit max. 65 °C.

4.5 Heating operation

The boiler must only be used when the heating system contains water.

4.5.1 Setting the maximum radiator temperature control

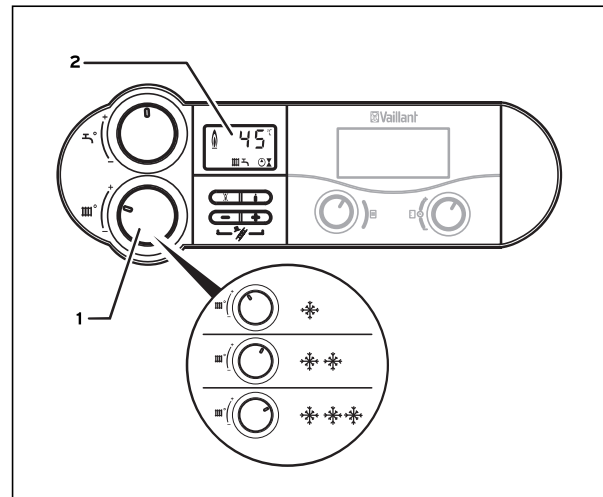


Fig. 4.6 Setting the maximum radiator temperature control

When you adjust the temperature, the set value is shown in the display (2). After five seconds the display returns to standard mode (the current heating flow temperature).

Normally you can adjust the knob (1) continuously up to a flow temperature of 75 °C. However, higher temperatures can be set on your appliance, have your engineer make adjustments so that you can operate the heating system at higher flow temperatures.

4.5.2 Setting a room or outside temperature controller

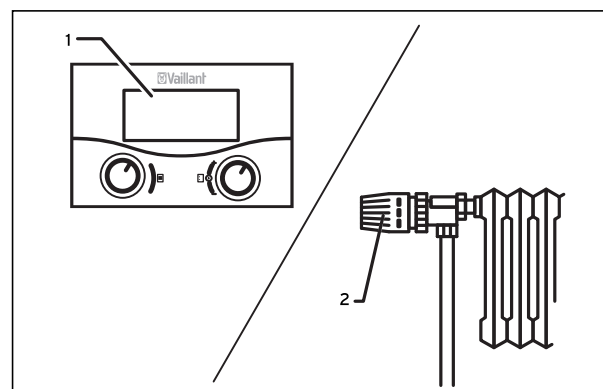


Fig. 4.7 Setting a room or outside temperature controller

- Set the room thermostat (1) and/or the thermostatic radiator valves (2) according to the instructions supplied with the control(s).

4 Operation

Note!
Vaillant offer room thermostat/time control accessories which give accurate and economic room temperature control as well as improved comfort.

The boiler will now operate automatically to provide central heating for the conditions selected on the external controls.

After the boiler stops operating the pump will continue to operate for a short period to fully disperse the heat from the boiler.

After a power cut or every 23 hour in frost setting / summer mode the pump will run for one minute to prevent it from sticking. This will also occur during normal operating if there is no demand for more than 24 hours.

4.6 Pump exercise

Note!
The boiler incorporates an anti-cycling economiser control to prevent energy wasteful on and off operation of the boiler for short periods when in the central heating mode. When turning the room thermostat to a higher setting there may be a short delay before the boiler operates.

4.7 Status displays

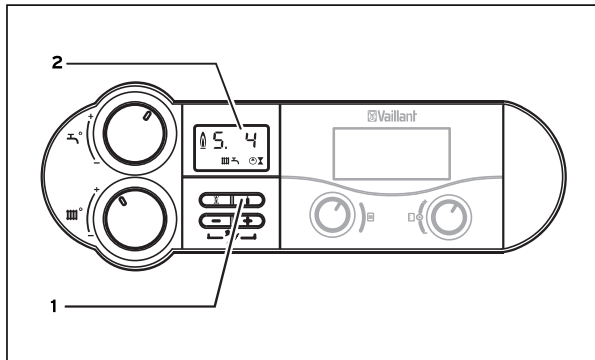


Fig. 4.8 Status displays

The status displays provide information on the operating status of the appliance.

- Press the "i" button (1) to activate the status displays. The display (2) then shows the current status code, for example "S. 4" for burner operation. The table below explains the most important status codes. In switching phases, for example on starting up again after the flame was extinguished, the status message "S." briefly appears.
- Press the "i" button (1) again to switch the display back to normal mode.

Display	Meaning
Displays during heating operation	
S. 0	No heat required
S. 1	Pump running
S. 3	Ignition sequence (heating operation)
S. 4	Burner ignited
S.6	Fan and pump overrun
S.7	Pump overrun
S. 8	Anti cycling mode (after heating operation)
S. 30	Room thermostat no heating demand
S. 31	Summer mode active
S. 34	Frost protection mode
Displays in cylinder charging mode (with optional accessories fitted)	
S. 20	Cylinder charging request
S. 24	Cylinder charging burner on

Table 4.1 Status codes (selection, a complete set of status codes can be found in the installation and servicing manual)

4.8 Troubleshooting

In the unlikely event that a problem occurs with the operation of the ecoTEC boiler, the following points should be checked:

Boiler fails to operate:

- Is the gas supply turned on?
- Is there enough water in the heating system?
- Is the electrical supply switched on?
- Is there an ignition problem?

Caution!
Inappropriate modifications can cause damage. If your boiler still does not operate then please consult your installer or Vaillant Service Solutions (0870 6060 777).

4.8.1 Ignition problems

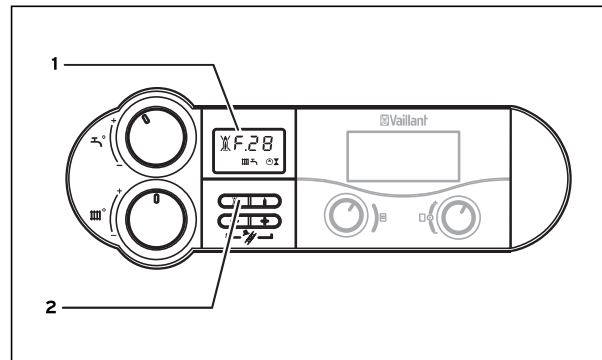


Fig. 4.9 Troubleshooting



If the burner fails to ignite after five attempts, the device does not start up and switches to "Fault". This is indicated by the fault code "F.28" or "F.29" in the display. The display also shows the flame symbol with a cross through it (1).

Automatic ignition can only take place after you manually reset the fault.

- To reset the fault, press the reset button (2) and hold it down for one second.

Caution!
If the boiler still shuts off after three attempts of resetting, please consult your installer or Vaillant Service Solutions.

4.8.2 Flue problems

This appliance is fitted with a fan. If the fan does not work properly, the appliance will switch itself off. The display shows the symbols  and  and the fault message "F.32".

Note!
If contacting Vaillant Service Solutions please remember to quote the fault code, as this will help to pinpoint the fault.

4.9 Turning off the boiler

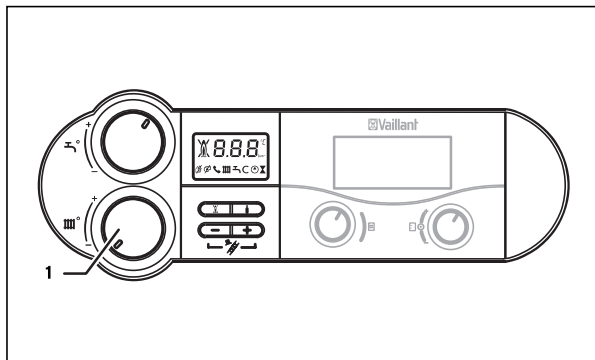


Fig. 4.10 Switching off the appliance

- Turn the main on/off control (1) fully anti clockwise.

Caution!
The boiler frost protection and monitoring systems are only active when the electrical supply to the boiler is on and it is not disconnected from the main power supply.

To ensure that these protection devices remain active, switch your boiler on and off using the external controller.

Note!
If the appliance is switched off for a long time (for example when you are on holiday) you should also turn off the gas supply and the electrical supply.

4.10 Frost protection

The frost protection feature only protects the boiler. Any other parts of the system liable to frost damage should be protected accordingly.

Caution!
The boiler frost protection and monitoring systems are only active when the electrical supply to the boiler is on and it is not disconnected from the main power supply.

Frost protection function

The boiler has a frost protection function. If the heating flow temperature falls below 5 °C when the electrical supply to the boiler is on, the appliance starts up and heats the boiler to 30 °C.

Caution!
Parts of the system may freeze. The frost protection function cannot guarantee that water flows through the entire heating system.

4.11 Maintenance and customer service

Inspection and maintenance

Permanent operational readiness, reliability and a long service life require inspections and maintenance work to be regularly carried out by a competent person or Vaillant.

For further details please contact Vaillant Service Solutions: (0870 6060777).

Danger!
Risk of injury and damage due to improper handling.
Never attempt to perform maintenance or repairs on the appliance yourself.
Have a specialist heating company do the work.
We recommend signing a service agreement.
The reliability of the appliance can be impaired, resulting in damage to property or personal injury if maintenance work is not carried out.

Regular servicing ensures maximum efficiency and economical operation of your boiler.

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