Operating instructions



ecoTEC pure

VC 146/7-2 (E-DE) VCW 206/7-2 (E-DE)

DE

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1 Safety

1.1 Action-related warnings Classification of action-related warnings

The action-related warnings are classified in accordance with the severity of the possible danger using the following warning signs and signal words:

Warning symbols and signal words



Danger!

Imminent danger to life or risk of severe personal injury



Danger!

Risk of death from electric shock



Warning.

Risk of minor personal injury



Caution.

Risk of material or environmental damage

1.2 Intended use

There is a risk of injury or death to the user or others, or of damage to the product and other property in the event of improper use or use for which it is not intended.

The product is intended as a heat generator for closed heat-

ing installations and for hot water generation.

Intended use includes the following:

- observance of the operating instructions included for the product and any other system components
- compliance with all inspection and maintenance conditions listed in the instructions.

This product can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the product in a safe way and understand the hazards involved. Children must not play with the product. Cleaning and user maintenance work must not be carried out by children unless they are supervised.

Any other use that is not specified in these instructions, or use beyond that specified in this document shall be considered improper use. Any direct commercial or industrial use is also deemed to be improper.

Caution.

Improper use of any kind is prohibited.

1 Safety

1.3 General safety information

1.3.1 Danger caused by improper operation

Improper operation may present a danger to you and others, and cause material damage.

- Carefully read the enclosed instructions and all other applicable documents, particularly the "Safety" section and the warnings.
- Only carry out the activities for which instructions are provided in these operating instructions.

1.3.2 Risk of death from escaping gas

What to do if you smell gas in the building:

- Avoid rooms that smell of gas.
- If possible, open doors and windows fully and ensure adequate ventilation.
- Do not use naked flames (e.g. lighters, matches).
- Do not smoke.
- Do not use any electrical switches, mains plugs, doorbells, telephones or other communication systems in the building.
- Close the emergency control valve or the main isolator.

- If possible, close the gas isolator cock on the product.
- Warn other occupants in the building by yelling or banging on doors or walls.
- Leave the building immediately and ensure that others do not enter the building.
- Alert the police and fire brigade as soon as you are outside the building.
- Use a telephone outside the building to inform the emergency service department of the gas supply company.

1.3.3 Risk of death due to a blocked or leaking flue gas pipe

What to do if you smell flue gas in the property:

- Open all accessible doors and windows fully to provide ventilation.
- ▶ Switch off the product.
- ► Inform a competent person.

1.3.4 Risk of death due to explosive and flammable materials

 Do not use the product in storage rooms that contain explosive or flammable substances (such as petrol, paper or paint).

1.3.5 Risk of death due to changes to the product or the product environment

- Never remove, bridge or block the safety devices.
- Do not tamper with any of the safety devices.
- Do not damage or remove any seals on components.
- Do not make any changes:
 - The product itself
 - to the gas, air, water and electricity supplies
 - to the entire flue gas installation
 - to the entire condensate drain system
 - to the expansion relief valve
 - to the drain pipework
 - to constructional conditions that may affect the operational reliability of the product

1.3.6 Risk of poisoning caused by insufficient supply of combustion air

Conditions: Open-flued operation

 Ensure that there is a sufficient supply of combustion air.

1.3.7 Risk of corrosion damage due to unsuitable combustion and room air

Sprays, solvents, chlorinated cleaning agents, paint, adhesives, ammonia compounds, dust or similar substances may lead to corrosion on the product and in the air/flue pipe.

- Ensure that the supply of combustion air is always free of fluorine, chlorine, sulphur, dust, etc.
- Ensure that no chemical substances are stored at the installation site.

1.3.8 Risk of material damage caused by frost

- Ensure that the heating installation always remains in operation during freezing conditions and that all rooms are sufficiently heated.
- If you cannot ensure the operation, have a competent person drain the heating installation.

1 Safety

1.3.9 Risk of injury and material damage due to maintenance and repairs carried out incorrectly or not carried out at all

- Never attempt to carry out maintenance work or repairs on your product yourself.
- Faults and damage should be immediately rectified by a competent person.
- Adhere to the maintenance intervals specified.

Notes on the documentation 2

2 Notes on the documentation

2.1 Observing other applicable documents

 You must observe all operating instructions enclosed with the system components.

2.2 Storing documents

Keep this manual and all other applicable documents safe for future use.

2.3 Validity of the instructions

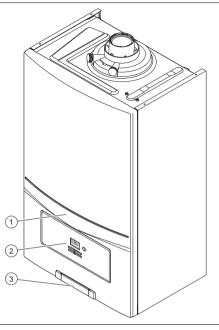
These instructions apply only to:

Product article number

ecoTEC pure	VC 146/7- 2 (E-DE)	0010023439
	VCW 206/7- 2 (E-DE)	0010023440

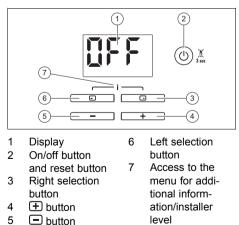
3 Product description

3.1 Product design



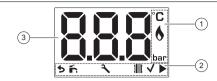
1 Product 3 Plate with serial 2 Control elements number on the rear

3.2 Control elements



3 Product description

3.3 Description of the display



- 1 Operating information
- 2 Operating mode, selecting and confirming the operating mode

3 Display showing the current heating flow temperature, the filling pressure in the heating installation, the operating mode or a fault code

Symbol	Meaning	
6	Burner operating correctly	
Ŭ	 Burner on 	
1 <u>5</u> .	Heating installation filling pressure	
	 Permanently on: Filling pressure in the permitted range Flashing: Filling pres- sure outside the permitted range, purging function activated 	
í.	DHW mode	
	 Permanently on: Hot wa- ter activated Flashing: Burner on in draw-off mode 	
11111	Heating mode	
1111	 Permanently on: Heating mode activated Flashing: Burner on in heating mode 	
3	Maintenance required Information on maintenance messages in the event of faults	
\checkmark	Setting to be confirmed	
	Navigating through various menus	

Symbol	Meaning
F.XX / Err /	Fault in the product
SEr	 Appears instead of the basic display.
S.XX	Status code
OFF	 Heating mode is switched off (summer mode) Hot water handling mode is switched off (product with integrated hot water generation/product with connected domestic hot water cylinder) Appears when the product goes into standby mode.

3.4 Information on the identification plate

The identification plate is mounted on the underside of the product in the factory.

The identification plate keeps record of the country in which the product is to be installed.

Information on the data plate	Meaning
Condensing technology	Efficiency class of the boiler in accordance with EC Dir- ective 92/42/EEC
Serial number	For quality control purposes; 3rd and 4th digits = year of production For quality control purposes; 5th and 6th digits = week of production For identification purposes; 7th to 16th digits = product article number For quality control purposes; 17th to 20th digits = place of manufacture
ecoTEC	Product designation
Cat.	Approved gas category
Type: Xx3(x)	Permissible flue gas connec- tions

Information on the data plate	Meaning	
2H / 2E / 3P / 2K	Gas group and gas connec- tion pressure as set at the factory	
Tmax	Max. flow temperature	
PMS	Maximum water pressure in heating mode	
NOx	NOx class for the product	
V Hz	Electric connection	
W	Max. electrical power con- sumption	
IP	Protection class	
Code (DSN)	Specific product code	
≣	Heating mode	
Qn	Nominal heating load range in heating mode	
<i>P</i> n	Nominal heat output range in heating mode	
<i>P</i> nc	Nominal heat output range in heating mode (condensing technology)	
ŕ	Hot water generation	
Qnw	Nominal heating load range in domestic hot water mode	
<i>P</i> nw	Nominal heat output range in domestic hot water mode	
D	Specific flow rate	
PMW	Maximum water pressure in domestic hot water mode	
	Barcode with serial number	

Note

Make absolutely sure that the product is compatible with the gas group at the installation site.

3.5 Serial number

The serial number can be found on the rear of a plastic plate at the bottom of the front casing and on the identification plate.

3.6 CE label

The CE label shows that the products comply with the basic requirements of the applicable directives as stated on the identification plate.

The declaration of conformity can be viewed at the manufacturer's site.

4 Function

4.1 Operating concept

The display switches on when you switch on the product or press a button. You can now configure settings by pressing the buttons again.

When you switch the product off using the on/off button, the display goes out (the frost protection function is active for as long as power is supplied).

Button	Meaning		
	 Setting the hot water temperat- ure 		
	 Cancelling the change to a set value or activating an operating mode 		
	 Calling up a higher selection level in the menu 		
	 Setting the heating flow tem- perature, filling pressure of the heating system or activating the heating mode 		
	 Confirming a set value or activ- ating an operating mode 		
	 Calling up a lower selection level in the menu 		
	 Read the system pressure (press twice) 		

4 Function

Button	Meaning		
_ + _	 Calling up the additional func- tions 		
■ or	 Navigating between individual menu items Increasing or decreasing the chosen set value 		
Ċ	 On/off button (press and hold the button for < 3 s) Reset button (press and hold the button for > 3 s) 		

Both selection buttons have a soft key function, i.e. their function can change.

If, for example, you press the left-hand selection button in the basic display, the current function switches from fr (Domestic hot water temperature) to the (Back).

Adjustable values are always displayed as flashing.

You must always confirm a change to a value. Only then is the new setting saved. You can press is to cancel a procedure at any time. If you do not press any buttons for longer 15 minutes, the display returns to the basic display.

4.1.1 Basic display



The basic display shows the current product status.

To return to the basic display, press the button. If you do not press any buttons within three minutes, the display becomes dark and automatically switches back to the basic display.

If an error message appears, the error code will be shown on the basic display.

The available functions vary depending on whether:

- A room thermostat is connected to the product or not
- A domestic hot water cylinder with temperature sensor is connected to the product or not

4.1.2 Operating levels

The product has two operating levels:

- The operator level shows the most important information and offers set-up options which do not require any special prior knowledge.
- Specialised knowledge is required in order to use the installer level (access for competent persons). This is therefore protected by an access code.

Operator level – overview (→ Page 17)

4.2 Opening the isolator devices

- Ask the competent person who installed the product to explain to you where these isolator devices are located and how to handle them.
- 2. Open the gas isolator cock installed on-site.
- Open the gas isolator cock, which is directly below the product or in its immediate vicinity.
- 4. Open the service valves in the heating installation's flow and return.
- 5. Open the cold water stop valve.

4.3 Switching on the product



- 1. Only start up the product once the casing has been completely closed.
- 2. If the display is switched off, press () for less than 3 seconds.

4.4 Setting the heating flow temperature

Note i

If the eBUS room temperature control is connected to the product, the domestic hot water temperature and the heating flow temperature cannot be set via the operating display.

Conditions: The temperature is controlled by the product



- - flashes in the display.
- Press the I or I button to set the temperature.

	ור
÷.	111
_	

Note

If you press the
button again, the heating installation pressure is shown in the display.

Conditions: Controller-regulated temperature

You cannot set the heating flow temperature.

Note

If you press the 🖵 button, the heating installation pressure is shown in the display.

4.5 Setting the hot water temperature

Note

i If the eBUS room temperature control is connected to the product, the domestic hot water temperature and the heating flow temperature cannot be set via the operating display.

Conditions: The temperature is controlled by the product



- ▶ Press □.
 - The domestic hot water temperature now flashes in the display.
- ▶ Press the = or button to set the temperature.
- Press the
 button to confirm.
- - The display switches to the basic display.

Conditions: Controller-regulated temperature

Set the hot water temperature on the controller. See the instructions for the controller.

Conditions: The temperature is controlled via the domestic hot water cylinder's thermostat.

Set the hot water temperature on the domestic hot water cylinder. See the instructions for the domestic hot water cylinder.

4 Function

Conditions: The temperature is controlled via the domestic hot water cylinder's temperature sensor.

Set the hot water temperature on the controller. See the instructions for the controller.

4.6 Switching off the product's functions

4.6.1 Switching off heating mode (Summer mode)

Conditions: The temperature is controlled by the product

- ▶ Press
 - The heating flow temperature flashes in the display.
- Press

 and press and hold

 until OFF is shown in the display.
 - ⊲ ✓ is shown in the display.
- ► Confirm by pressing □.
 - ⊲ Heating mode is switched off.
- ▶ Press .
 - The display switches to the basic display.

Conditions: Controller-regulated temperature

You cannot switch off heating mode on the product. See the instructions for the controller.

4.6.2 Switching off the hot water handling mode

Conditions: Temperature regulated by the product or by the room temperature controller

- ▶ Press □.
 - The domestic hot water temperature now flashes in the display.
- Press

 and press and hold
 until OFF is shown in the display.
 - $\triangleleft \checkmark$ is shown in the display.
- Press
 to confirm.
 - Hot water generation is switched off.

- - The display switches to the basic display.
- 4.7 Guaranteeing the correct filling pressure in the heating circuit

4.7.1 Checking the system pressure

i Note

Your product has a pressure sensor and a digital pressure indicator.

The product switches to fault mode if the pressure falls below the required system pressure (below 0.05 MPa (0.5 bar)). If the heating installation extends over several floors, a higher system pressure may be necessary. Ask your competent person for details.

- Press
 twice.
- Check the system pressure on the display.

1 / 2

System pressure: 0.08 ... 0.2 MPa (0.80 ... 2.0 bar)

The system pressure is in the intended pressure range.

2/2

System pressure: < 0.08 MPa (< 0.80 bar)

- Fill the heating installation.
 (→ Page 13)
 - When you have reached a sufficient pressure range, the display disappears after 20 seconds.

4.7.2 Filling the heating installation

<u>.</u>

Caution.

Risk of material damage due to heating water that is extremely calciferous or corrosive or contaminated by chemicals.

Unsuitable tap water damages the seals and diaphragms, blocks components in the product and heating installation through which the water flows and causes noise.

- Only fill the heating installation with suitable heating water.
- In case of doubt, ask a competent person for details.

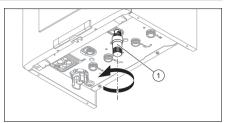
Note

The competent person is responsible for filling the heating installation the first time.

Applicability: Product without filling device

- On-site, connect the filling cock to a cold water pipe, as explained by the competent person.
- Open all radiator valves (thermostatic radiator valves) of the heating installation.
- Open the cold water pipe.
- Turn the filling cock on slowly and allow water to flow in until the required system pressure has been reached.
- Close the cold water pipe.
- Purge all radiators.
- Check the system pressure on the display. (→ Page 12)
- Top up with more water if required.
- Close the filling cock.
- Disconnect the filling cock from the cold water pipe.

Applicability: Product with filling device



- Open all radiator valves (thermostatic radiator valves) of the heating installation.
- Slowly turn the blue valve on the filling device (1) that is located below the product and top it up with water until the required system pressure has been reached.
- Purge all radiators.
- Check the system pressure on the display. (→ Page 12)
- ► Top up with more water if required.
- Close the blue valve on the filling device (1).

4.8 Switching the product to standby mode

- Press the

 button for less than three seconds.
 - Once the requirement currently in use has finished, the display will show OFF and go out.

 - The product's frost protection function is activated.
 - The main power supply is not interrupted. The product continues to be supplied with power.

5 Troubleshooting

4.9 Protecting the heating installation against frost

4.9.1 Frost protection function

Caution.

Risk of material damage due to frost.

The frost protection function cannot guarantee flow through the entire heating installation, which means that parts of the heating installation may freeze and therefore become damaged.

During a period of frost, ensure that the heating installation remains in operation and that all rooms are sufficiently heated, even when you are away.

To keep the frost protection devices active, you should switch your product on and off using the controller, if one is provided.

If the heating flow temperature falls below 5 °C when the on/off button is on, the product comes into operation and heats the circulating water to approx. 30 °C on both the heating side and the hot water side (if available).

4.9.2 Draining the heating installation

When the unit is switched off for an extended period, frost protection can be guaranteed by completely draining the heating installation and the product.

• Consult a competent person about this.

5 Troubleshooting

5.1 Detecting and rectifying faults

- If faults occur or fault messages (F.XX) are displayed, proceed as set out in the tables in the appendix.
- If the product is not functioning correctly, contact a competent person.

5.2 Displaying the status codes

- 1. Press \Box and \Box at the same time.
 - S.XX is shown in the display, followed by the heating flow temperature and the internal system pressure.
- Look up the meaning of the status codes.
 Status codes Overview (→ Page 17)
- 3. Press 🗔.
 - The display switches to the basic display.

6 Care and maintenance

6.1 Maintenance

An annual inspection and biennial maintenance of the product carried out by a competent person is a prerequisite for ensuring that the product is permanently ready and safe for operation, reliable, and has a long working life. The inspection may require maintenance to be carried out earlier, depending on the results.

6.2 Caring for the product

Caution.

⁄!\

Risk of material damage caused by unsuitable cleaning agents.

Do not use sprays, scouring agents, detergents, solvents or cleaning agents that contain chlorine. Clean the casing with a damp cloth and a little solvent-free soap.

6.3 Reading maintenance messages

If the γ symbol is shown in the display, the product requires maintenance work.

The product is not in fault mode but continues to operate.

- Consult a competent person about this.
- If the water pressure is flashing at the same time, simply add more heating water.

6.4 Checking the condensate drain pipework and tundish

The condensate drain pipework and tundish must always be penetrable.

 Regularly check the condensate drain pipework and tundish for faults and, particularly, for blockages.

You must not be able to see or feel any obstructions in the condensate drain pipe-work and tundish.

If you notice a fault, have it rectified by a competent person.

7 Decommissioning

7.1 Temporarily decommissioning the product

Caution.

Risk of material damage due to frost.

The frost protection and monitoring devices are only active while the unit is connected to the power mains and switched on via the on/off button, and when the gas isolator cock is open.

- Temporarily decommission the product only if no frost is expected.
- Press the on/off button.
- When decommissioning the product for a prolonged period (e.g. holiday), close the gas isolator cock and also, for combination products, the cold water stop valve.

7.2 Permanently decommissioning the product

Have a competent person permanently decommission the product.

8 Recycling and disposal

The competent person who installed your product is responsible for the disposal of the packaging.

If the product is identified with this symbol:

- In this case, do not dispose of the product with the household waste.
- Instead, hand in the product to a collection centre for old electrical or electronic appliances.

If the product contains batteries that are marked with this symbol, these batteries may contain substances that are hazardous to human health and the environment.

In this case, dispose of the batteries at a collection point for batteries.

9 Guarantee and customer service

9.1 Guarantee

Herstellergarantie gewähren wir nur bei Installation durch einen anerkannten Fachhandwerksbetrieb.

Dem Eigentümer des Geräts räumen wir diese Herstellergarantie entsprechend den Vaillant Garantiebedingungen ein. Garantiearbeiten werden grundsätzlich nur von unserem Kundendienst ausgeführt. Wir können Ihnen daher etwaige Kosten, die Ihnen bei der Durchführung von Arbeiten an dem Gerät während der Garantiezeit entstehen, nur dann erstatten, falls wir Ihnen einen entsprechenden Auftrag erteilt haben und es sich um einen Garantiefall handelt.

9.2 Customer service

Auftragsannahme Vaillant Kundendienst: 021 91 5767901

Appendix

A Operator level – overview

Setting level Values		Increment, select, explanation	Default set-	
	Min.	Max.		ting
	Domestic hot water mode (product with integrated hot water generation or connected domestic hot water cylinder with temperature sensor)			
Water temperature	Current value		< 35 = OFF	OFF
	35 °C	60 °C		
	I.			
Heating mode				
Heating flow temperat-	Curren	t value	< 10 = OFF	OFF
ure		Underfloor heating = 35-50		
		Radiator = 35-80		
	10 ℃	80 °C	Note	
	10 0	00 C	The temperature range above 75 °C	
			can only be set by a competent per-	
			son.	

B Status codes – Overview

Note

i

Since the code table is used for various products, some codes may not be visible for the product in question.

Codes that are not listed here can be found in the installation instructions.

Status code	Meaning		
Displays in heating mode			
S.00	Heating mode: No requirement		
S.02	Heating mode: Pump pre-run		
S.03	Heating mode: Burner ignition		
S.04	Heating mode: Burner on		
S.06	Heating mode: Fan overrun		
S.07	Heating mode: Pump overrun		
S.08	Heating mode: Temporary shutdown after heating procedure		
	Displays in hot water handling mode		
S.10	Hot water handling mode: Requirement		
S.14	DHW mode: Burner on		
Display	Display in Comfort mode with warm start or hot water handling mode with cylinder		
S.20	Hot water handling mode: Requirement		
S.22	Hot water handling mode: Pump pre-run		
S.24	DHW mode: Burner on		
Other displays			
S.31	No heating demand: Summer mode, eBUS controller, waiting period		
S.34	Frost protection active		

Appendix

Status code	Meaning	
S.46	Protection mode: Minimum load	

C Troubleshooting and fault elimination

C.1 Troubleshooting

Symptom	Possible cause	Measure
The system pres- sure is flashing on the display	The system pressure is too low: < 0.05 MPa (< 0.50 bar). Low wa- ter pressure in the heating installation.	Fill the heating installation. (→ Page 13)
	The system pressure is too high: > 0.3 MPa (> 3 bar).	Wait until the excess heating water has flowed out through the expansion relief valve.
Product does not star up (no hot water, heating remains cold)	The gas isolator cock installed on-site and/or the gas isolator cock on the product is closed.	 Open both gas isolator cocks.
	The cold water stop valve is closed.	Open the cold water stop valve.
	The product is switched off.	Switch on the product. (→ Page 10)
	The heating flow tem- perature/hot water temperature has been set too low and/or the heating mode/hot wa- ter generation has been switched off.	 Set the heating flow temperature. Set the hot water temperature.
	There is air in the heating installation.	 Have a competent person purge the heating installation.
Hot water generation functioning correctly; heating does not start up	The external controller is not set correctly.	Set the external controller correctly (→Con- troller operating instructions).

C.2 Rectifying faults

Message	Possible cause	Measure
F.28 Ignition unsuc- cessful	After three unsuc- cessful ignition at- tempts, the product has switched to fault mode.	 Check whether the gas isolator cock is open. Press the reset button for longer than three seconds. If you have been unable to eliminate the ignition fault after the fault clearance attempt, consult a competent person.



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Supplier

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