



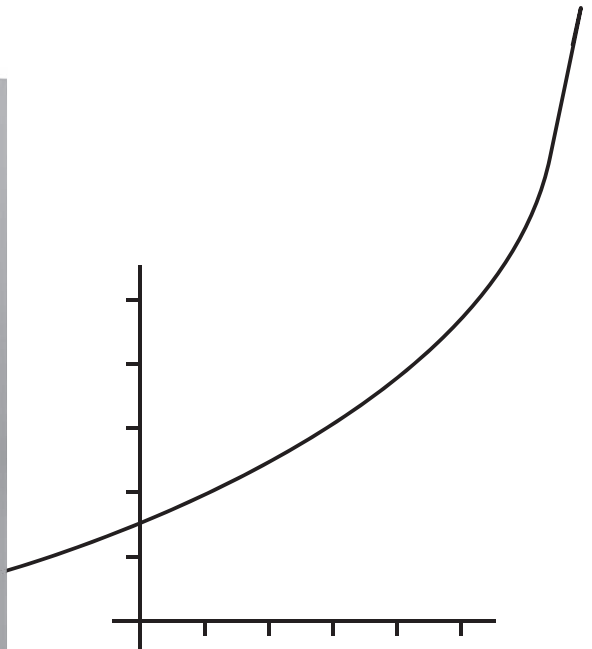
# Glow-worm

The energy you need

## Operating instructions

Ultimate 2 25h

Ultimate 2 25r -A (H-GB)



GB, IE

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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 Installation by skilled tradesmen only

The installation, inspection, maintenance and repair of the product, as well as the gas ratio settings, must only be carried out by a competent person.

### 1.3.2 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.

### 1.3.3 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, door-bells, telephones or other communication systems in the building.
- ▶ If it is safe to do so, 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.
- ▶ Notify the gas supply company or the National Grid +44 (0) 800 111999 by telephone once you are outside of the building.

### 1.3.4 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.

### 1.3.5 Risk of death due to explosive and flammable materials

- ▶ Do not use or store explosive or flammable materials (e.g. petrol, paper, paint) in the installation room of the product.

### 1.3.6 Risk of death due to lack of safety devices

A lack of safety devices (e.g. expansion relief valve, expansion vessel) can lead to potentially fatal scalding and other injuries, e.g. due to explosions.

- ▶ Ask a competent person to explain how the safety devices work and where they are located.

### 1.3.7 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

### 1.3.8 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.

### 1.3.9 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.



## 1 Safety

- ▶ Ensure that no chemical substances are stored at the installation site.

### 1.3.10 Cabinet-type casing

Enclosing the product in cabinet-type casing requires compliance with the applicable design instructions.

- ▶ Do not fit the casing on the product yourself.
- ▶ If you require cabinet-type casing for the product, consult an approved heating specialist company.

### 1.3.11 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.



## 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

	Article number	Gas Council Number
ULTIMATE 2 25r -A (H-GB)	0010015802	41-019-43

## 3 Product description

### 3.1 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.

### 3.2 Benchmark



Glow-worm is a licensed member of the Benchmark Scheme which aims to improve the standards of installation and commissioning of domestic heating and

hot water systems in the UK and to encourage regular servicing to optimise safety, efficiency and performance.

Benchmark is managed and promoted by the Heating and Hotwater Industry Council. For more information visit [www.benchmark.org.uk](http://www.benchmark.org.uk).

- ▶ Please ensure that the installer has fully completed the Benchmark Checklist on the inside back pages of the installation instructions supplied with the product and that you have signed it to say that you have received a full and clear explanation of its operation. The installer is legally required to complete a commissioning checklist as a means of complying with the appropriate Building Regulations (England and Wales).

All installations must be notified to Local Area Building Control either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer who should, on receipt, write the Notification Number on the Benchmark Checklist.

This product should be serviced regularly to optimise its safety, efficiency and performance. The service engineer should complete the relevant Service Record on the Benchmark Checklist after each service.


The Benchmark Checklist will be required in the event of any warranty.




### 3.3 Information on the identification plate

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

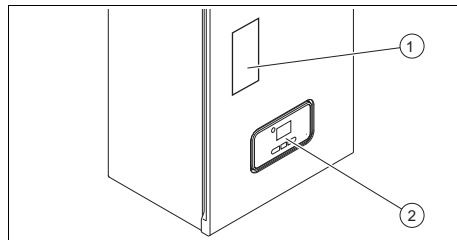
Information on the identification plate	Meaning
	Barcode with serial number

## 3 Product description

Information on the identification plate	Meaning
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
ULTIMATE 2 25r -A (H-GB)	Product designation
2H, G20 – 2.0 kPa (20 mbar)	Factory setting for type of gas and gas connection pressure
Cat.	Approved gas category
Condensing technology	Efficiency class of the boiler in accordance with EC Directive 92/42/EEC
Type: Xx3(x)	Permissible flue gas connections
PMS	Maximum water pressure in heating mode
PMW	Maximum water pressure in hot water handling mode
V/Hz	Electrical connection
W	Max. electrical power consumption
IP	Level of protection
	Heating mode
Pn	Nominal heat output range in heating mode
Pnc	Nominal heat output range in heating mode (condensing technology)
P	Nominal heat output range in hot water handling mode
Qn	Nominal heating load range in heating mode
Qnw	Nominal heating load range in hot water handling mode
T <sub>max.</sub>	Max. flow temperature
NOx	NOx class for the product

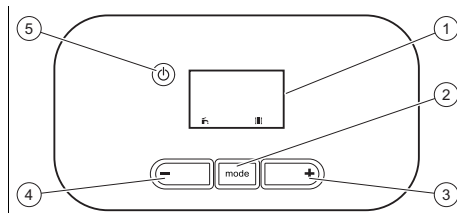
Information on the identification plate	Meaning
Code (DSN)	Specific product code
	→ "CE label" section
	Read the instructions.
	→ "Recycling and disposal" section
GC no.	Gas council number




### 3.4 Design of the product



- 1 Magnetic brief operating instructions with type designation and serial number
- 2 Control elements

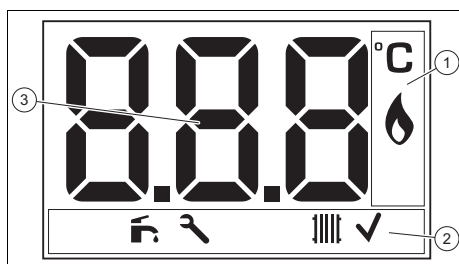
### 3.5 Overview of the operator control elements



- 1 Display
- 2  mode button
- 3  button
- 4  button
- 5 Fault clearance key



## 3.5.1 Description of the display



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

Symbol	Meaning
	Burner operating correctly – Burner on
	DHW mode – Permanently on: Hot water activated – Flashing: Burner on in draw-off mode
	Display flashing: – Switching on the product – Fault
	Setting confirmed
F.XX / Err	Fault in the product – Appears instead of the basic display.
OFF	– Appears when switching the product to standby mode.

## 3.5.2 Description of button functions

Button	Meaning
	<ul style="list-style-type: none"> <li>– Selecting the operating mode</li> <li>– Confirm the operating mode</li> <li>– Confirm setting</li> <li>– Increase the display contrast</li> </ul>

Button	Meaning
	<ul style="list-style-type: none"> <li>– Setting the hot water temperature</li> <li>– Setting the heating flow temperature</li> <li>– Increase or decrease the selected setting</li> <li>– Increase the display contrast</li> </ul>
	<ul style="list-style-type: none"> <li>– Activate the product: On/off (standby)</li> <li>– Reset the product</li> </ul>

Adjustable values flash on the display.

You must confirm any change to a value. Only then is the new setting saved.

If you do not press any buttons for five seconds, the displays switches back to the basic display.

If you do not press any buttons for one minute, the display contrast decreases.

## 3.6 Operating levels

The product has two operating levels:

The end user level contains information and setting options that you require as the end user

The installer level is reserved for the competent person. It is protected by a code. Only competent persons may change any settings in the installer level.

Adjustable values – overview (→ Page 14)

# 4 Operation

## 4.1 Starting up the product

### 4.1.1 Opening the isolator devices

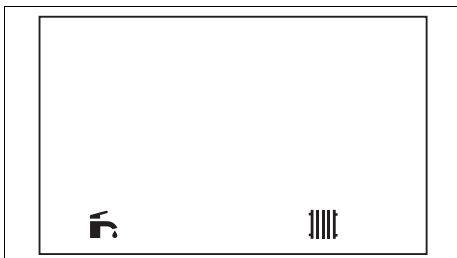
1. Ask the competent person who installed the product to explain to you where these isolator devices are located and how to handle them.
2. Open the gas isolator cock fully.
3. Check that the heating installation flow and return service valves are open, if such service valves are installed.

## 4 Operation

### 4.1.2 Switching on the product

- ▶ Switch on the product via the main switch installed on-site.

### 4.2 Basic display



The operating mode is displayed on the basic display.

You can switch back to the basic display by:

- Not pressing any button for longer than 5 seconds.

As soon as there is a fault message, the basic display switches to the fault code.

### 4.3 Checking the heating system pressure

1. Once a month, check that the pressure in the central heating system, which is displayed on the user interface, is between 0.05 MPa and 0.27 MPa (0.5 bar and 2.7 bar).
  - ◁ If the filling pressure is correct, no action needs to be taken.
  - ▽ If the filling pressure is too low, add more water to the heating installation.



#### Note

If the heating flow temperature is shown in the display, press and hold the ◀ and ▶ buttons at the same time for longer than five seconds, or temporarily deactivate heating mode in order to display the pressure.

2. Fill the heating installation.

### 4.4 Filling the heating installation



#### 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.



#### Note

The competent person is responsible for filling the heating installation the first time, any subsequent top-ups and the water quality.

The operator alone is responsible for topping up the water in the heating installation.

1. Open all radiator valves (thermostatic radiator valves) of the heating installation.
2. Slowly open the filling cock, as shown to you by the competent person.
3. Fill with water until the required filling pressure is reached.
4. Check the filling pressure in the display.
5. Close the filling cock after filling.

## 4.5 Selecting the operating mode



### Note

The unit is always activated with the preselected operating mode.

- ▶ Press **[mode]** repeatedly until the display shows the required operating mode.

Symbol	Operating mode
	Heating + hot water
	Heating only
	Hot water only
–	No requirement

## 4.6 Setting the hot water temperature

**Applicability:** Domestic hot water cylinder

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

- ▶ Set the hot water temperature on the controller.



### Note

If you press the **[−]** or **[+]** button, the display shows the **no** symbol.

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

- ▶ Set the hot water temperature on the controller.

## 4.7 Setting the heating flow temperature

**Conditions:** Temperature controlled by the boiler, with heating mode activated

- ▶ Set the heating flow temperature on the boiler (→ Page 11).



### Note

The competent person may have adjusted the maximum possible temperature.

**Conditions:** Temperature controlled by the controller, with heating mode activated

- ▶ Set the maximum heating flow temperature on the boiler (→ Page 11).
- ▶ Set the room temperature on the controller.
  - ◁ The actual heating flow temperature is set automatically by the controller.

**Conditions:** Outside temperature sensor connected to the boiler, with heating mode activated

- ▶ When you press the **[mode]**, **[−]** or **[+]** button.
  - ◁ The display shows the heating flow temperature calculated by the boiler.
  - ◁ The actual heating flow temperature is set automatically by the boiler.

## 4.8 Product settings



### Note

The sequence in which the available settings are shown depends on the operating mode selected.

If the **Domestic hot water + Heating** operating mode is selected, the hot water temperature must be confirmed in order to set the flow temperature of the heating.

1. Press the **[−]** or **[+]** button to set the temperature.
2. Press the **[mode]** button to confirm.

## 4.9 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 is now in standby mode.
  - ◁ The product's frost protection function is activated.

## 5 Troubleshooting

- ◁ The main power supply is not interrupted. The product continues to be supplied with power.

### 5 Troubleshooting

#### 5.1 Detecting and rectifying faults

- ▶ If problems occur whilst operating the product, you can carry out certain self-checks with the aid of the table in the appendix.  
Troubleshooting (→ Page 14)
- ▶ If the product still does not function without problems after the checks have been carried out using the table, contact your competent person to rectify the problem.

#### 5.2 Fault codes in the display

Fault codes have priority over all other displays. If several faults occur at the same time, the corresponding codes are displayed alternately for two seconds each.

- ▶ If your product displays a fault code (F.xx), contact a competent person.

## 6 Care and maintenance

### 6.1 Maintenance

An annual inspection 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.

### 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 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 pipework and tundish.

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

## 7 Decommissioning

### 7.1 Temporarily decommissioning the product

- ▶ Temporarily decommission the product only if there is no risk of frost.
- ▶ Switch off the product via the main switch provided on-site.
  - ◁ The display goes out.
- ▶ When decommissioning the product for an extended period (e.g. holiday), also close the gas isolator cock.

### 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.

## Guarantee and customer service 9

- ▶ 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

For information on the manufacturer's guarantee, you can write to the contact address that is provided on the back page.

### 9.2 Customer service

For contact details for our customer service department, you can write to the address that is provided on the back page, or you can visit [www.glow-worm.co.uk](http://www.glow-worm.co.uk).

# Appendix

## Appendix

### A Adjustable values – overview

Adjustable values	Values		Unit	Increment, select	Default setting
	Min.	Max.			
Heating mode					
Heating flow temperature	Current value		°C	1	75
	38	Preset in the system			
DHW mode					
Hot water temperature	Current value		°C	1	60
	35	60			

### B Troubleshooting

Fault	Cause	Measure
Product does not start 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 power supply in the building is disconnected.	Check the fuse in the building. The product switches on automatically when the power is restored.
	The product is switched off.	Switch on the product.
	The heating flow temperature is set too low or to the <b>Heating off</b> position, and/or the hot water temperature is set too low.	Set the heating flow and hot water temperature.
	There is air in the heating installation.	Have a competent person purge the heating installation.
	After three unsuccessful ignition attempts, the product switches to fault mode (fault message: <b>F.28</b> ).	Press the fault clearance key for one second. The product makes another attempt to ignite the flame.  If you have been unable to eliminate the ignition fault after three fault clearance attempts, consult a competent person.
	There is a fault in the flue gas route.	Have a competent person rectify the fault.
Heating does not start.	The external controller is not set correctly.	Set the external controller correctly (→ Controller operating instructions).



**Manufacturer/supplier**

**Glow-worm**

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After sales service 0330 100 3142

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