



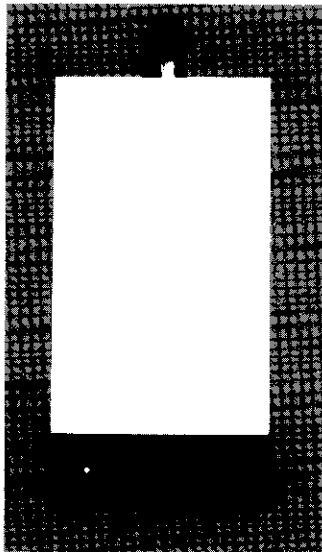
WORCESTER

Bosch Thermotechnik

230 Combi RSF

**WALL MOUNTED COMBINATION BOILER FOR CENTRAL HEATING
AND MAINS FED DOMESTIC HOT WATER**

USERS OPERATING INSTRUCTIONS



IMPORTANT: THIS APPLIANCE IS FOR USE WITH NATURAL GAS ONLY

THESE INSTRUCTIONS APPLY IN THE UK ONLY

THESE INSTRUCTIONS ARE TO BE LEFT WITH THE USER OR AT THE GAS METER

General Description

The Worcester 230 is a combination boiler supplying mains fed domestic hot water plus central heating at an output of between 9.2 and 23 kW.

HOT WATER PROVISION

When a tap is turned on, hot water will become available in a continuous supply at a constant temperature, after a short delay, depending on when the appliance was last fired.

CENTRAL HEATING PROVISION

When a demand is made for central heating the burner will light and the appliance will automatically match output to the system load. If the system requires less than 9.2 kW the burner will light only periodically to maintain system temperature.

CENTRAL HEATING AND HOT WATER PROVISION

Hot water will take priority over the supply of heat to the central heating system.

User Controls

The appliance fascia panel is fitted with either an Operating Switch or an electronic programmer for the control of domestic hot water and central heating.

The Operating Switch offers the following settings:

WATER	Domestic hot water will be provided when a tap or shower is turned on.
OFF	Central heating and domestic hot water remain off.
HEATING & WATER	Central heating will operate in response to system controls and domestic hot water will be supplied when a tap or shower is turned on.

ELECTRONIC PROGRAMMER (if fitted)

Your Installer will have mounted the electronic programmer on the appliance fascia panel. Operating Instructions are supplied with the programmer.

CENTRAL HEATING TEMPERATURE CONTROL

The knob on the fascia panel allows control of the water temperature to the radiators.

INDICATOR LIGHTS

The **POWER ON** light (amber) indicates that the mains electricity to the appliance is on. The **DEMAND** light (green) indicates that the appliance is supplying either domestic hot water or central heating.

SYSTEM PRESSURE GAUGE

The red needle has been set to show the sealed system pressure which is required for the appliance to operate effectively. The white needle will show the actual pressure in the system.

Hot Water Temperature Control

By slightly reducing the flow of domestic hot water from the tap, the temperature of the water will increase. This is of particular advantage in the winter, for example to increase bath water temperature and to remove heavy grease deposits on plates, etc. Also this will provide an added advantage of reducing the delay before hot water is obtained.

The maximum discharge temperature of hot water to the taps is preset at the factory.

To Light and Stop the Appliance

See Fig. 1.

TO LIGHT THE APPLIANCE

Set the Operating Switch (or programmer) to **OFF**. Switch off the electricity supply.

Remove the cabinet front panel by lifting up and pulling forward.

Check that the water valves to the central heating supply are open. See Fig. 1. On sealed systems check that the white needle on the pressure gauge is not below the required pressure.

Switch on the mains electricity. Set the room thermostat, if fitted, to maximum. Turn the central heating temperature control knob to **max**.

Set the Operating Switch (or programmer) to **HEATING & WATER**. The burner will light and can be seen through the sight glass

Set the Operating Switch (or programmer) to the required position.

Set the room thermostat, if fitted, to the desired temperature.

Set the central heating temperature control knob to give a comfortable radiator temperature.

Replace the cabinet front panel.

TO STOP THE APPLIANCE

For Short Periods

Set the Operating Switch (or programmer) to the **OFF** position.

For Long Periods

Set the Operating Switch (or programmer) to **OFF**. Switch off the mains electricity.

The fascia mounted programmer will retain its settings for about four weeks after which it will return to the factory set programme. The display will disappear after approximately 12 hours.

OVERHEAT THERMOSTAT

An overheat thermostat is fitted to the appliance which interrupts the main electrical supply in the event of overheating. This thermostat is reset manually. If the appliance fails to light, check that the overheat thermostat has not operated by pressing the reset button. See Fig. 1. Access is gained to the button by removing the cabinet front panel.

If the overheat thermostat stops the appliance again call a service engineer.

System Operation

SEALED WATER SYSTEM

To ensure that the appliance operates correctly, a minimum water operating pressure must be maintained. The minimum pressure required is indicated by the red needle on the pressure gauge located on the fascia panel.

If the pressure falls, the system must be re-pressurised by your installer. Contact your installer or a maintenance engineer if the system continues to lose pressure as this may indicate a leak.

CENTRAL HEATING SYSTEM

During the first operation of the central heating system check that all radiators are heated evenly. If the top of the radiator is at a lower temperature than the bottom then vent it by releasing air through the vent screw at the top of each radiator. Refer to the preceding paragraph as excessive venting may cause a drop in the system pressure.

FLUE OPERATION

In cold weather, vapour may be emitted from the flue. This is a normal operating characteristic and no remedial action is necessary.

Installation

CLEARANCES

Space has been provided around the appliance for safety and servicing. It is important that you do not restrict this space.

The minimum clearances are:

Left-hand side	5 mm.
Right-hand side	20 mm.
Top (above the elbow)	30 mm.
Bottom	230 mm.
In front	600 mm.

VENTILATION

Ventilation openings provided by the installer in a wall or door must not be blocked.

FLUE TERMINAL

The flue terminal in the outside wall must not be obstructed or damaged.

OPEN INSTALLATION

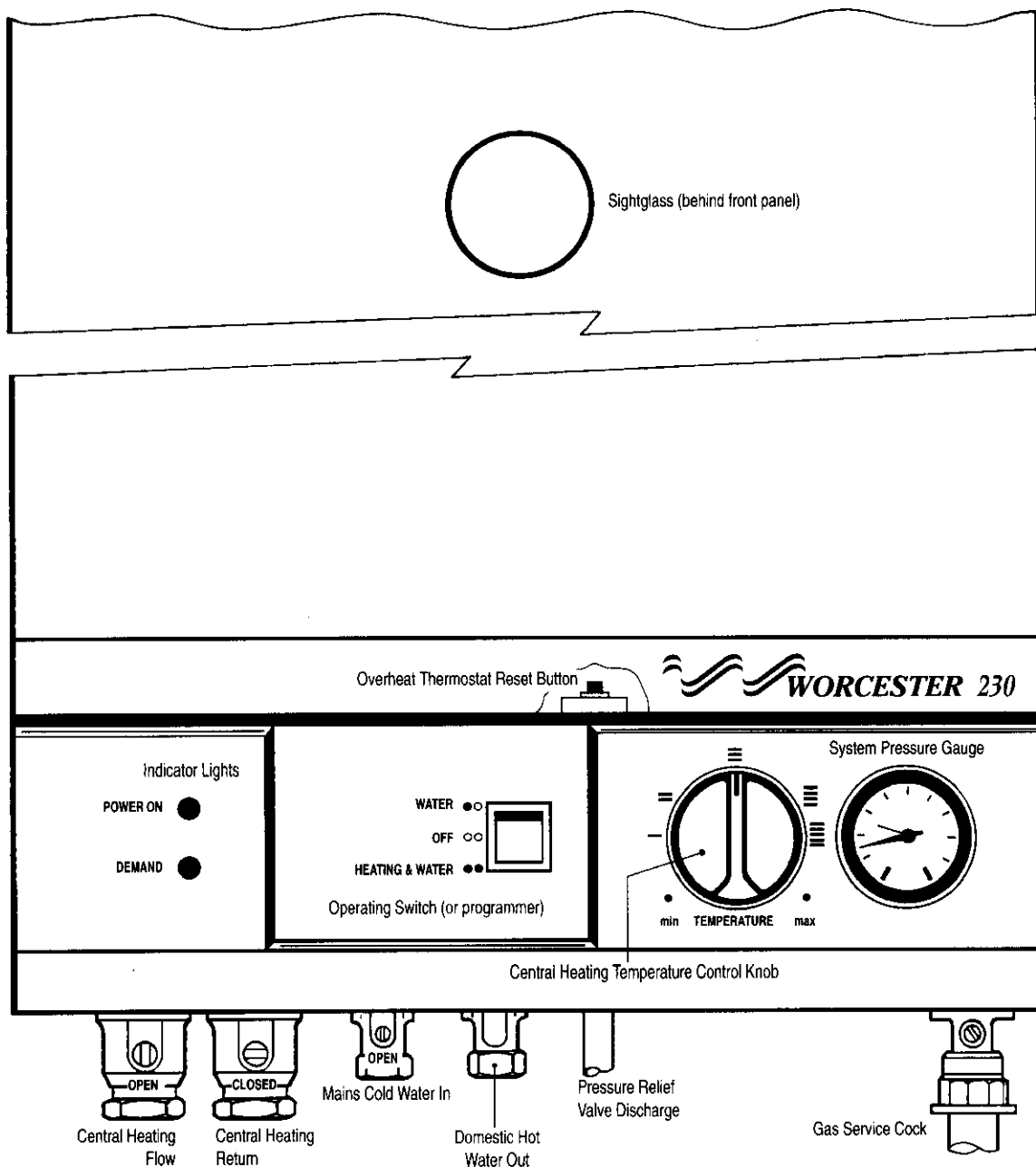
Do not place any combustible material on or around the appliance.

CUPBOARD INSTALLATION

If the appliance is fitted in a cupboard and the cupboard is to be used for storage (as in an airing cupboard for clothes) the airing space must be separated from the boiler and flue so that no combustible material may come into contact with the appliance or the flue. **Do not restrict any permanent air vent which may have been provided.**

Consult your Gas Region or Worcester Heat Systems for advice should you wish to fit a compartment around the appliance after installation.

Fig. 1.



Appliance and System Care

SERVICE

Regular servicing will maintain efficiency and prolong the life of your appliance.

Worcester Heat Systems or your Gas Region can offer service contracts for the maintenance of your appliance.

CLEANING

Use a damp cloth and a little detergent. Do not use abrasive cleaners on the casing.

FROST PRECAUTIONS

A frost thermostat, suitable for mains voltage, may have been fitted by your installer. If the appliance has not been fitted with a frost thermostat and is not to be used for a long time in a period of cold weather then the appliance and the system should be drained. For short periods leave the appliance running with the room thermostat set to 6°C.

USE IN HARD WATER AREAS

The appliance has been designed to overcome scale accumulation in most normal conditions. However, in exceptionally hard water areas a descaler can be fitted to prevent scale formation.

System Fittings

ROOM THERMOSTAT

A room thermostat, suitable for mains voltage should be fitted for improved control of the room temperature.

THERMOSTATIC RADIATOR VALVES

Thermostatic radiator valves fitted to your central heating system must conform to BS2767.10.

SHOWERS, BIDETS, TAPS AND MIXING VALVES

Taps and mixing valves must be suitable for operating at mains pressure.

Thermostatically controlled or pressure equalising shower valves will give added comfort and safeguard against excessive temperatures.

Hot and cold mains fed water can be supplied direct to an over-rim flushing bidet subject to local Water Company requirements.

A loose-head shower hose must be fixed so as to stop the shower head coming within 25 mm of the top edge of the bath to prevent it falling into the water. Alternatively an anti-siphonage device should be fitted.

HOT AND COLD FLOW

The flow of water from the hot and cold taps depends on the mains water pressure and it may not be possible in some homes to run more than one tap simultaneously.

To get an even supply of water to outlets, individual flow regulators can be fitted to the supply pipes to give an even water distribution.

Mains Service Interruptions

GAS LEAK

If you suspect a gas leak, turn off the gas supply to the appliance and call your local Gas Region.

WATER MAINS FAILURE

In the event of mains water supply failure domestic hot water will not be available from the appliance. However, the central heating will continue to operate.

ELECTRICITY SUPPLY FAILURE

If the electricity supply fails the appliance will not operate. Once the supply is restored the appliance will return to normal operation. If a programmer is fitted, check that the settings have been maintained.

To Connect a Plug

The colour of the wires of the mains lead of the appliance may not correspond with the coloured markings identifying the terminals in your plug. In this case proceed as follows:

The wire coloured green and yellow must be connected to the terminal on the plug that is marked with the letter E, or by the earth symbol \oplus , or coloured green or green and yellow.

The blue wire must be connected to the terminal which is marked with either the letter N or coloured black.

The brown wire must be connected to the terminal which is marked with the letter L or coloured red.

Electricity supply: 240V ~, 50Hz, 270 watts. Fuse at 3A.

Mandatory Requirements

GAS SAFETY (INSTALLATION AND USE) REGULATIONS 1984: (As Amended)

All gas appliances must be installed by a competent person in accordance with the above regulations. Failure to install appliances correctly could lead to prosecution. It is in your interest, and that of safety, to ensure compliance with the requirements. The manufacturers notes must not be taken, in any way, as over-riding statutory obligations.

WARNING

This appliance must be earthed and protected by a 3A fuse if a 13A plug is used. If any other type of plug is used a 5A fuse must be fitted in the plug or adaptor or at the distribution board.



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This booklet is accurate at the date of printing but will be superseded and should be disregarded if specifications and/or appearances are changed in the interests of continued improvement.

All goods sold are subject to our official Conditions of Sale, a copy of which may be obtained on application.

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