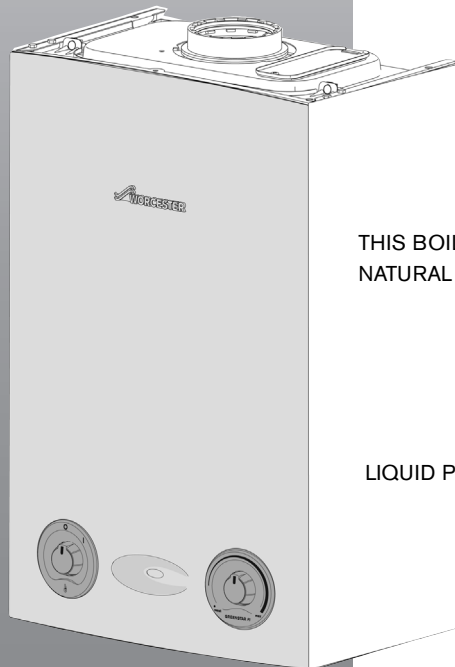


USER INSTRUCTIONS & CUSTOMER CARE GUIDE

Greenstar Ri

WALL HUNG GAS-FIRED BOILER

FOR OPEN VENT & SEALED CENTRAL HEATING SYSTEMS & INDIRECT FED DOMESTIC HOT WATER



THIS BOILER IS USED WITH
NATURAL GAS OR LPG (Cat II 2H3P TYPE C13, C33 & C53)

NATURAL GAS 12 Ri GC NUMBER: 41 311 63
 15 Ri GC NUMBER: 41 311 75
 18 Ri GC NUMBER: 41 311 77
 24 Ri GC NUMBER: 41 311 65

LIQUID PETROLEUM GAS 12 Ri GC NUMBER: 41 311 64
 15 Ri GC NUMBER: 41 311 76
 18 Ri GC NUMBER: 41 311 78
 24 Ri GC NUMBER: 41 311 66



 **WORCESTER**
Bosch Group

CONTACT INFORMATION

WORCESTER BOSCH:

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USER INSTRUCTIONS & CUSTOMER CARE GUIDE

PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE OPERATING YOUR BOILER

THESE INSTRUCTIONS ARE APPLICABLE TO THE WORCESTER, BOSCH GROUP BOILER MODEL(S) STATED ON THE FRONT COVER OF THIS MANUAL ONLY AND MUST NOT BE USED WITH ANY OTHER MAKE OR MODEL OF BOILER.

THE INSTRUCTIONS APPLY IN THE UK ONLY AND SHOULD BE FOLLOWED EXCEPT FOR ANY STATUTORY OBLIGATION.

IF YOU ARE IN ANY DOUBT CONTACT THE WORCESTER, BOSCH GROUP TECHNICAL SUPPORT.

DISTANCE LEARNING AND TRAINING COURSES ARE AVAILABLE FROM WORCESTER, BOSCH GROUP.

THIS BOILER MUST BE INSTALLED BY A CORGI REGISTERED, COMPETENT PERSON. FAILURE TO INSTALL CORRECTLY COULD LEAD TO PROSECUTION.

PLEASE LEAVE THIS GUIDE, THE INSTALLATION INSTRUCTIONS AND THE COMPLETED BENCHMARK CHECKLIST WITH THE USER.

NOTE: THE BENCHMARK CHECKLIST AND SERVICE INTERVAL RECORD CAN BE FOUND AT THE REAR OF THE INSTALLATION, COMMISSIONING AND SERVICE INSTRUCTIONS.

ABBREVIATIONS USED IN THIS BOOK:

NG - Natural Gas

LPG - Liquid Petroleum Gas

CH - Central Heating

SEDBUK - Seasonal Efficiency of Domestic Boilers in the United Kingdom

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Dedicated to heating comfort

Thank you for purchasing a Greenstar gas-fired condensing boiler manufactured by Worcester, Bosch Group. The company prides itself on manufacturing boilers to the strictest quality control standards throughout every stage of production. Worcester, Bosch Group has led the field in innovative boiler design and performance for more than 40 years. This heritage means all products are of exceptional quality and proven reliability.

The Greenstar range in particular, is extremely energy efficient, offering low running costs and value for money. It sits in SEDBUK band A, and is therefore amongst the top energy rated boilers available.

There is also the reassurance of our no-nonsense 2 years parts and labour guarantee - backed up by Worcester Total Cover, an optional complete maintenance scheme, to keep your boiler operating at peak condition and efficiency.

To find out more about Worcester, Bosch Group log on to www.worcester-bosch.co.uk.

SAFETY PRECAUTIONS

IF YOU SMELL GAS!

- X DO NOT SMOKE OR STRIKE MATCHES**
- X DO NOT TURN ELECTRICAL SWITCHES ON OR OFF**

- ✓ PUT OUT NAKED FLAMES**
- ✓ OPEN DOORS AND WINDOWS**
- ✓ KEEP PEOPLE AWAY FROM THE AREA AFFECTED**
- ✓ TURN OFF THE CONTROL VALVE AT THE METER**
- ✓ CALL YOUR GAS COMPANY**

COMBUSTIBLE AND CORROSIVE MATERIALS

Do not store or use any combustible materials (paper, thinners, paints etc.) inside or within the vicinity of the boiler.

Chemically aggressive substances can corrode the boiler and invalidate any warranty.

FITTING & MODIFICATIONS

Fitting the boiler and any controls to the boiler or removal of the outer casing may only be carried out by a competent engineer in accordance with the Gas Safety (Installation and Use) Regulations.

Flue systems must not be modified in any way other than as described in the fitting instructions

Any misuse or unauthorised modifications to the boiler, flue or associated components and systems could invalidate the warranty.

The manufacturer accepts no liability arising from any such actions. This does not affect your statutory rights.

SERVICING

The boiler must be serviced regularly by a competent, qualified person, such as a Worcester service engineer or alternatively a British Gas or other CORGI registered person.

Always use original spares, to help maintain the economy, safety and reliability of the boiler and to have the Service Record completed in the Benchmark checklist.

IMPORTANT: - Ensure that the service engineer completes the Service Record in the Benchmark checklist after each service.

The completed Benchmark checklist will be required in the event of any warranty work and may be required by the local Building Control Inspector.

NOTE: The Benchmark checklist and service interval record can be found at the rear of the Installation, Commissioning and Servicing Instructions.

**BENCHMARK STANDARD**

'Benchmark' is a code of practice for correctly installing, commissioning and servicing of domestic water heating boilers.

A Benchmark checklist is provided by the manufacturer for the installer to complete ALL details together with their CORGI registration number and sign to confirm that the boiler has been installed and commissioned according to the manufacturer's instructions.

HEALTH & SAFETY

No asbestos or other hazardous substances are used in the construction process that contravene the COSHH Regulations (Control of Substances Hazardous To Health Regulations 1988).

To get the best from your boiler please read these instructions carefully.

SEALED HEATING SYSTEMS

If this boiler is fitted to a sealed heating system which is pre-pressurised. Your installer will advise you of the minimum and maximum pressure which should be indicated on the system pressure gauge.

Check regularly that the pressure is maintained and contact your installer or maintenance engineer if a permanent significant drop in pressure is indicated on the pressure gauge. If the system loses pressure it should be re-pressurised and the cause of the fall investigated.

CENTRAL HEATING SYSTEMS

During the first few hours of operation of the central heating system, check that all radiators are being heated evenly. If the top of a radiator is at a lower temperature than the bottom then it should be vented by releasing air through the venting screw at the top of the radiator. Ask your installer to show you how this is done.

This boiler is fitted to a sealed system; repeated venting will reduce the quantity of water in the system and this must be replenished for safe and satisfactory operation of the boiler.

Should water leaks be found in the system or if excessive venting is required, then a service engineer must be contacted to inspect the installation and rectify any fault.

Only additives that are compatible with aluminium may be used in the system. Any incompatible additive used will invalidate the guarantee.

CONDENSATE DRAIN

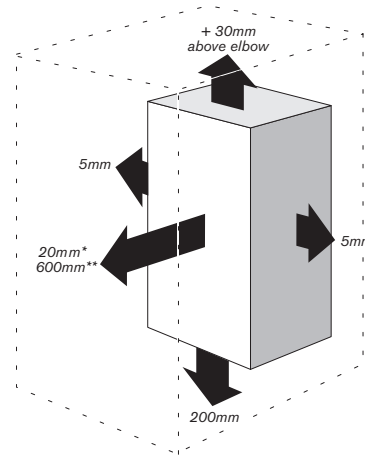
This is a condensing boiler and the terminal will, at times give out a plume of water vapour. This is quite normal.

The boiler also produces quantities of condensate which is discharged regularly by a syphon within the boiler via a pipe to drain. This pipe must not be blocked or altered in any way.

GENERAL NOTES

CLEARANCES - VENTILATED COMPARTMENT

Your installer will have provided adequate space around the boiler for safety and servicing access. Do not restrict this space with the addition of cupboards, shelves etc. next to the boiler.



*600mm service clearance required to a fixed surface
(**20mm from removable door or panel)

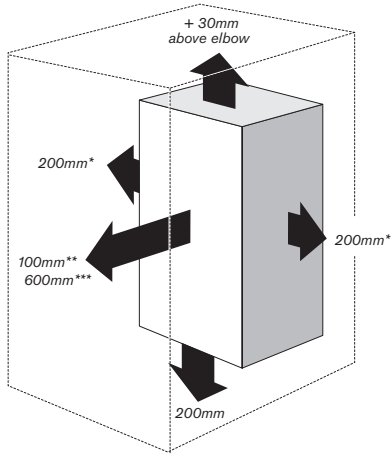
ROOM THERMOSTAT

A room temperature controller and programmer should be fitted to control the central heating. Refer to the instructions supplied with the thermostat for information on siting and setting.

THERMOSTATIC RADIATOR VALVES

It is recommended that this type of valve is fitted to all but one of the radiators (or at least those in the sleeping accommodation). The remaining radiator, which must be where the room thermostat is located, should be un-controlled and must be left open. The thermostatic radiator valves should conform to the requirements of BS2767:10.

GENERAL NOTES



BOILER CLEARANCES - UNVENTILATED COMPARTMENT

The diagram opposite shows the minimum space required to install and service the boiler inside an unventilated compartment.

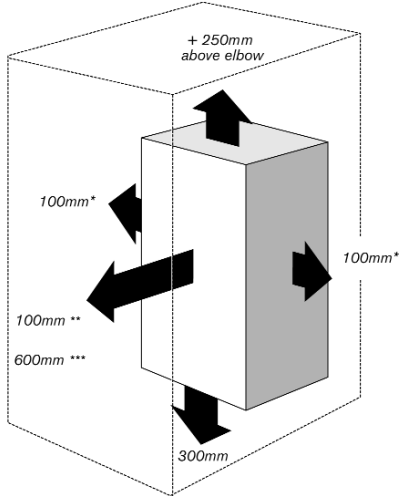
** Space required for unventilated areas with a removable door or panel.

*** 600mm clearance required to a fixed surface for servicing.

* The boiler must have more clearance in the unventilated compartment compared to the ventilated compartment.

Two examples are shown opposite, refer to the "Installation, commissioning and servicing instruction manual" for further information.

Do not add cupboards, shelves etc. to restrict the space around the boiler.



VENTILATION

This is a room sealed boiler and does not require any air for combustion from inside the property. If the boiler is fitted into a cupboard or a compartment is built around the boiler after installation, then the compartment must be separated from the boiler space by a perforated non-combustible partition as described in BS 6798.

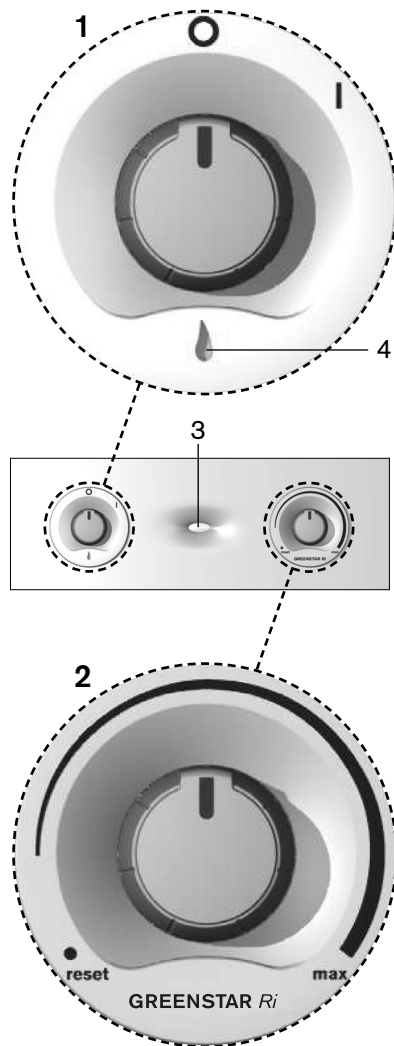
Notwithstanding the requirements of BS 6798 and BS 5440 there is no need for ventilation openings to be provided in the compartment because of the low heat loss from the boiler casing, if the clearances shown are maintained.

Do not operate the boiler if the flue terminal fitted on the outside wall or roof is obstructed or damaged.

PUMP ANTI-SEIZURE

If there has been no heating demand for 24 hours the boiler will run the system pump for a few seconds to reduce the possibility of pump seizure during long periods of inactivity, which is usually more frequent during the summer months.

CONTROLS



1. MAIN POWER "OFF/ON" KNOB
2. CENTRAL HEATING TEMPERATURE CONTROL KNOB

IMPORTANT: DO NOT PRESS THE INDICATOR LIGHT TO RESET THE BOILER

3. INDICATOR/DIAGNOSTICS LIGHT "MAINS ON/OFF" (BLUE)
4. BURNER "ON" INDICATOR LIGHT (GREEN)

OPERATING THE BOILER



SWITCHING THE BOILER ON/OFF

Switching on

- ▶ Switch on (I) the boiler at the main power knob.

The indicator light shows blue.

Switching off

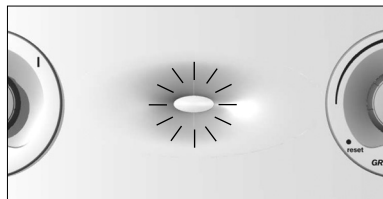
- ▶ Switch off (O) the boiler at the main power knob.

The blue indicator light goes out.

SETTING THE CENTRAL HEATING TEMPERATURE

- ▶ Turn the central heating temperature control to the desired level, the range is between approximately 35°C and 82°C.

When the burner is lit, the green indicator light underneath the on/off knob is illuminated.



CONTROLLING CENTRAL HEATING

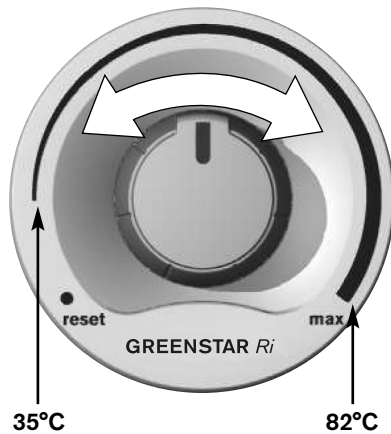
- ▶ Set the timer to the correct time.
- ▶ Set room thermostat to the desired room temperature.
- ▶ Set the thermostatic radiator valves to the desired settings.

FROST PROTECTION

- ▶ Leave main power knob on.

If the temperature falls to below 5°C within the boiler the boiler will fire periodically to avoid the possibility of freezing.

- ▶ If remote pipework is exposed to low temperatures, ensure that the installer has added a frost thermostat.



USING YOUR
BOILER



OPERATING THE BOILER

FAULT CONDITION

In the unlikely event of a fault occurring while the boiler is in operation:

The mains indicator will flash at different speeds dependant on fault.

- ▶ To reset fault turn the thermostat / reset knob fully anticlockwise to "reset" and then return the knob to the desired temperature setting.
- ▶ The indicator will stop flashing and the boiler will function normally, dependant on programmer and room thermostat settings.

If the electrical power to the boiler has been interrupted a "reset fault" condition will exist. Reset the boiler as described above.

If the fault remains and cannot be cleared:

- ▶ Call Worcester, Bosch Group for assistance, giving a description of the fault and, if possible the fault flashing sequence from the mains indicator.

MAINTAINING YOUR BOILER

Your new Greenstar gas-fired boiler represents a long term investment in a reliable, high quality product.

In order to realise its maximum working life, and to ensure it continues to operate at peak efficiency and performance, it is essential that your boiler receives regular servicing and maintenance checks from a competent person beyond the initial two year guarantee period.

If you would like to know more about a Worcester, Bosch Group service contract, please tick the appropriate box on your warranty registration card.

If your Greenstar gas-fired boiler should fail to operate correctly or requires servicing please contact the Worcester, Bosch Group Service Department, (see inside front cover for details).

FAULT FINDING

Problem	Cause	Remedy
Desired room temperature is not reached	Thermostatic radiator valve(s) set too low	Increase thermostatic radiator valve setting(s)
	Temperature control for CH flow on boiler set too low	Increase CH flow temperature control setting
	Air trapped in heating system	Bleed radiators and, if fitted to a sealed system, recharge heating system
Desired room temperature exceeded by large amount	Radiators are too hot	Turn down thermostatic radiator valves / room stat
Temperature rises instead of falling	Clock is incorrectly set	Check setting
No on/off indicator	Momentary power failure	Switch off boiler at mains power button, wait a few seconds then switch on again
Hot water temperature too low	Cylinder thermostat temperature set too low Programmer setting Diverter valve	Check setting
Hot water temperature too high	Cylinder thermostat set too high Diverter valve	Adjust cylinder thermostat

MAINTENANCE

FAULT OR BREAKDOWN

This boiler is supported in the UK and Ireland by Worcester, Bosch Group, part of Bosch Thermotechnology Ltd.

Specially trained, Worcester, Bosch Group Service Engineers are available to attend a breakdown occurring on this boiler.

No charge will be made for parts and/or labour providing:

▶ A boiler fault is found and the boiler has been installed within the past 24 months. Reasonable evidence of this must be supplied on request. i.e. the Benchmark Checklist and the warranty card has been returned.

A call-out charge will be made where:

▶ The boiler has been installed for over 24 months

OR

▶ Our Worcester Service Engineer finds no fault with the boiler (see **Note**).

OR

▶ The cause of breakdown is misuse or with other parts of your plumbing/heating system, or with equipment not supplied by Worcester Bosch.

MAINTENANCE

NOTE. NO BOILER FAULT IS FOUND ON OVER 30% OF ALL SERVICE CALL OUTS.

Please read this guide carefully to gain a good understanding of the operation of your boiler. In the case of a suspected fault, refer to the fault finding section of this guide.

If in doubt contact our Technical Support

In the event of a boiler fault or breakdown please contact our Service Department. Your service administrator will arrange for an engineer to call with the minimum of delay; under normal circumstances this will be from one to three working days (excluding weekends) for priority breakdown situations (no hot water and/or heating).

Invoices for attendance and repair work carried out on this boiler by any third party will not be accepted.

Heating economically

The boiler is designed to provide a high level of comfort while keeping gas consumption and the resulting environmental effect 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 reduces temperature fluctuations 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 a boiler that continually switches on and off.

Central heating systems with room thermostats/thermostatic radiator valves

The central heating control on the boiler should be set to the maximum rated design temperature of the central heating system.

The temperature of each room can be set individually (except primary room with the room thermostat) using the thermostatic radiator valves.

Roof insulation

Around 30% of the heat loss from a property is through the roof. Replace any old insulation with new insulation, preferably of around 200mm thickness or more.

Window frames

Single glazed windows, particularly those with steel frames, can lose a great deal of heat. Consideration should be given to replacement with PVCu or wooden framed double glazed units.

Curtains

Lined curtains, or heavier full length curtains can provide excellent insulation. However, always ensure that the curtains do not drape over radiators.

Draughts

Try to ensure that draughts around doors, windows, letter boxes and key holes etc. are reduced by using a suitable draught excluder.

WARNING - Do not block or seal any air vents that are installed to ensure the central heating boiler operates safely.

Room thermostats

Reducing the setting of the room thermostat by 1°C can reduce fuel consumption by up to 10%.

New control systems

Upgrade your heating control system if necessary with the latest equipment available. The minimum level of control is a programmer, interlocking room thermostat and thermostatic radiator valves.

Radiators

Radiators will normally be sited underneath a window, so the warm air from the radiator heats the colder incoming air from the window. The performance of the radiator will be affected if curtains are allowed to drape over the radiator or shelves are fitted above. Positioning of furniture in front of the radiator should be avoided.

Manually adjust all radiator valves every two to three months to prevent them sticking. Ensure that the plastic tops of all valves are always in position and not damaged. Care should be taken when vacuum cleaning carpets to avoid damage to valves and pipework.

The heating system and the outputs of the radiators have been carefully selected by your installer. The temperature obtainable in any given room is dependent on all radiators being operated at the same time. If you decide to turn off radiators in unused rooms, spare bedrooms etc., you may experience slightly lower room temperatures in rooms next to unheated rooms.

YOUR GUARANTEE

This boiler is guaranteed against faulty material or workmanship for a period of 2 years from the date of installation subject to the following terms and conditions:

- ▶ Your Guarantee Reistration Card must be returned within 30 days for the second year of your guarantee to become valid.
 - ▶ During the period of this guarantee any components of the unit which are proven to be faulty or defective in manufacture will be exchanged or repaired free of charge by Bosch Thermotechnology Ltd.
 - ▶ The householder may be asked to prove the date of installation, that the boiler was correctly commissioned and, where appropriate, the first years service has been carried out to the satisfaction of Bosch Thermotechnology Ltd. when requested. These should be part of the Benchmark checklist.
 - ▶ Any product or part returned for servicing under the guarantee must be accompanied by a claim stating the model, serial number, date of installation.
 - ▶ Bosch Thermotechnology Ltd will not accept responsibility for damage caused by faulty installation, neglect, misuse or accidental damage or the non observance of the instructions contained in the Installation, Commissioning and Servicing Instructions and Users Instructions and Customer Care Guide.
 - ▶ The boiler has been used only for normal domestic purposes for which it was designed.
- This guarantee applies only to equipment purchased and used in the United Kingdom and Eire.

This guarantee does not affect your statutory rights.

GUARANTEE REGISTRATION

You should complete and return the postpaid Guarantee Registration Card within 30 days of purchase.

Returning the card will register you as the owner of your new Greenstar Ri boiler and will assist us in maintaining an effective and efficient customer service by establishing a reference and permanent record for your boiler.

This does not affect your statutory rights.

For your own record:

Model _____

Serial No. _____

(See identity label inside boiler casing)

Type / size _____

Date of installation _____

Name of Installer _____

Telephone number of Installer _____

Ensure that the Benchmark "checklist" has been completed by your installer or service engineer.

NOTE: The Benchmark checklist and service interval record can be found at the rear of the Installation, Commissioning and Servicing Instructions.

GUARANTEE

USER INSTRUCTIONS & CUSTOMER CARE GUIDE

Dedicated to heating comfort

Worcester, Bosch Group

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www.worcester-bosch.co.uk

Worcester Bosch Group is a brand name of Bosch Thermotechnology Ltd.

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