

# Greenstar Ri

## WALL HUNG GAS-FIRED BOILER

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



THIS APPLIANCE IS FOR USE WITH  
NATURAL GAS OR LPG (Cat II 2H3P TYPE C13 & C33)

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

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

## USER INSTRUCTIONS & CUSTOMER CARE GUIDE

 **WORCESTER**  
Bosch Group

 **benchmark™**

## CONTACT INFORMATION

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### WORCESTER BOSCH:

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SERVICE: 08457 256206  
SPARES: 01905 752571  
LITERATURE: 01905 752556  
TRAINING: 01905 752526  
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WEBSITE: [www.worcester-bosch.co.uk](http://www.worcester-bosch.co.uk)

### WATER TREATMENT:

FERNOX 01799 550811  
[www.fernox.com](http://www.fernox.com)  
SENTINEL 0151 420 9595  
[www.betzdearborn.com/sentinel](http://www.betzdearborn.com/sentinel)

### FLUE TERMINAL GUARDS:

TOWER FLUE COMPONENTS  
Vale Rise, Tonbridge TN9 1TB  
TEL: 01732 351680  
[www.tfc-group.co.uk](http://www.tfc-group.co.uk)

## USER INSTRUCTIONS & CUSTOMER CARE GUIDE

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### PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE OPERATING YOUR APPLIANCE

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

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 TECHNICAL HELPLINE.

DISTANCE LEARNING AND TRAINING COURSES ARE AVAILABLE FROM WORCESTER BOSCH.

THIS APPLIANCE MUST BE INSTALLED BY A 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 OR AT THE GAS METER AFTER INSTALLATION.**

**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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## EXCELLENCE COMES AS STANDARD

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Thank you for purchasing a Greenstar Ri gas-fired condensing boiler manufactured by Worcester Bosch. The company prides itself on manufacturing boilers to the strictest quality control standards throughout every stage of production. Worcester Bosch has led the field in innovative appliance 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 appliances 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 log on to [www.worcester-bosch.co.uk](http://www.worcester-bosch.co.uk).

**IF YOU SMELL GAS:**

- X DON'T** SMOKE OR STRIKE MATCHES
- X DON'T** TURN ELECTRICAL SWITCHES ON OR OFF
- ✓ **DO** PUT OUT NAKED FLAMES
- ✓ **DO** OPEN DOORS AND WINDOWS
- ✓ **DO** KEEP PEOPLE AWAY FROM THE AREA AFFECTED
- ✓ **DO** TURN OFF THE CONTROL VALVE AT THE METER
- ✓ **DO** CALL YOUR GAS COMPANY

**BENCHMARK STANDARD** 

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

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.

**IMPORTANT:** 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.

**HEALTH & SAFETY**

The appliance contains no asbestos and no substances used in the construction process contravene the COSHH Regulations (Control of Substances Hazardous To Health Regulations 1988).

**SAFETY PRECAUTIONS****COMBUSTIBLE AND CORROSIVE MATERIALS**

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

Chemically aggressive substances, such as halogenated hydrocarbons containing chlorine or fluorine compounds can corrode the appliance and invalidate any warranty.

**FITTING & MODIFICATIONS**

Fitting the appliance and any controls to the appliance 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 and any misuse or unauthorised modifications to the appliance, 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 user is recommended to have the system regularly serviced by a competent, qualified engineer (such as British Gas or CORGI registered personnel) using original spares, to help maintain the economy, safety and reliability of the appliance and to have the Service Record completed in the Benchmark checklist.

The appliance should be serviced annually after installation unless the particular installation conditions and usage demand more frequent services.

**IMPORTANT** - ensure that the service engineer completes the Service Record in the Benchmark checklist after each service.

**NOTE:** The Benchmark checklist and service interval record can be found at the rear of the installation, commissioning and servicing instructions.

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

### SEALED HEATING SYSTEMS

If the appliance 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 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 at an even rate. 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.

If the 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 appliance.

Should water leaks be found in the system or 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

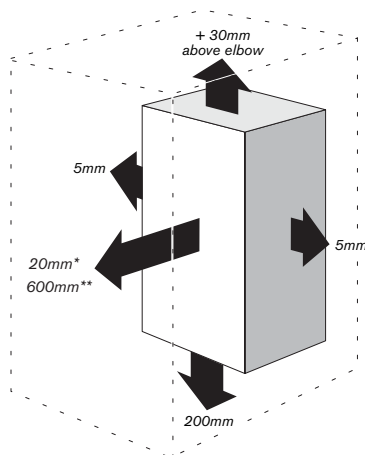
This is a condensing appliance and the terminal will, at times give out a plume of water vapour. This is quite normal.

The appliance also produces quantities of condensate which is discharged regularly, by a syphon within the boiler, to drain.

## GENERAL NOTES

### CLEARANCES - VENTILATED COMPARTMENT

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



\*20mm from removable door or panel

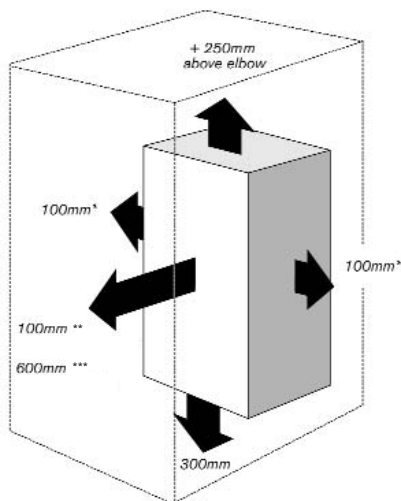
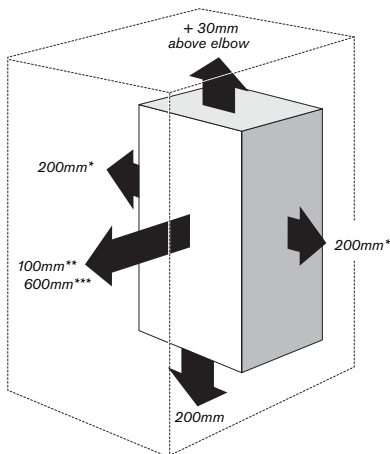
\*\*600mm service clearance required

### 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 diagrams opposite show two options for 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.

\* This space can be reduced to 50mm for one side only provided that the side clearances add up to the total of both the side measurements shown or more.

### VENTILATION

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

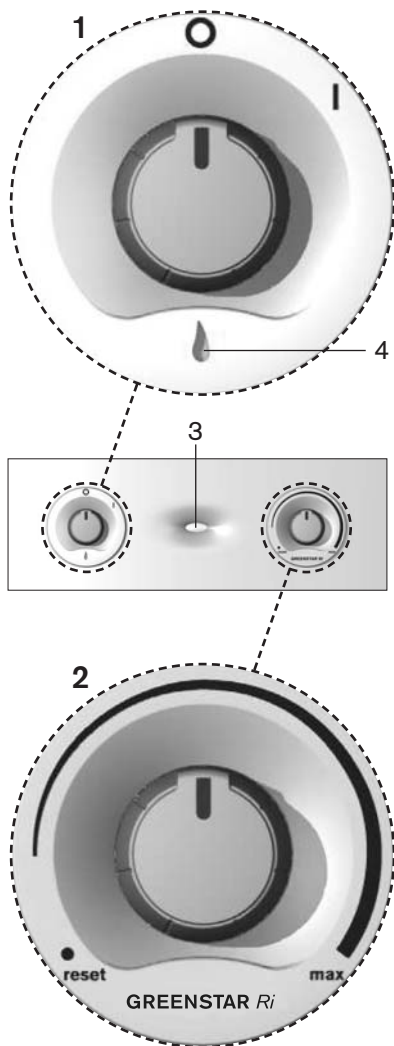
Notwithstanding the requirements of BS 6798 and BS 5440 there is no need for ventilation openings to be provided in the compartment because of the low heat loss from the appliance casing, if the clearances shown are maintained.

Do not operate the appliance 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

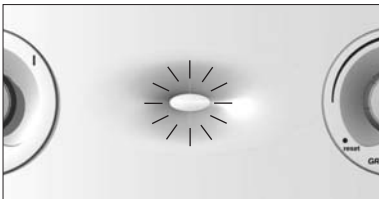


1. MASTER SWITCH FOR "OFF/ON"
2. CENTRAL HEATING TEMPERATURE CONTROL
3. INDICATOR/DIAGNOSTICS LAMP "MAINS ON/OFF" (BLUE)
4. BURNER "ON" INDICATOR LAMP (GREEN)

**IMPORTANT: DO NOT PRESS THE INDICATOR LAMP TO RESET THE APPLIANCE**



## OPERATING THE APPLIANCE



### SWITCHING THE APPLIANCE ON/OFF

#### Switching on

- ▶ Switch on the appliance at the master switch (I).

The indicator lamp shows blue

#### Switching off

- ▶ Switch off the appliance at the master switch (O).

The blue indicator lamp goes out.

### SETTING THE CENTRAL HEATING TEMPERATURE

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

When the burner is lit, the **green** indicator lamp underneath the on/off switch is illuminated.

### CONTROLLING CENTRAL HEATING

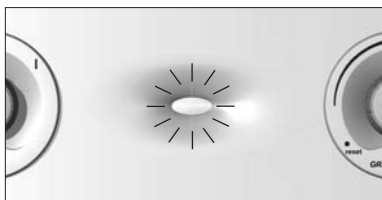
- ▶ Set the timer to the correct time.
- ▶ Set room thermostat to the desired room temperature.
- ▶ Set the thermostatic radiator valves to the desired settings.

### FROST PROTECTION

- ▶ Leave master switch on.

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

- ▶ Add a suitable anti-freeze fluid to the water in the central heating system.
- ▶ If remote pipework is likely to become frozen ensure the installer has added a frost thermostat.



## OPERATING THE APPLIANCE

### FAULT CONDITION

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

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

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

If the fault remains and cannot be cleared:

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

## TIPS ON ENERGY SAVING

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### **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 an appliance 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, letterboxes and keyholes 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.

## TIPS ON ENERGY SAVING

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### Radiators

More than often that not radiators will 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 the curtains are allowed to drape over the radiator or shelves are fitted above it. The positioning of furniture and tables in front of the radiator should also be avoided.

It is advisable to manually adjust all radiator valves every 2-3 months to prevent them sticking. It is also important that the plastic tops of all valves are always in position and not cracked or damaged to prevent accidents. 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 adjacent to unheated rooms.

## MAINTAINING YOUR APPLIANCE

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Your new Greenstar Ri gas-fired appliance 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 2 year guarantee period.

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

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

## FAULT FINDING

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| 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 appliance at master switch, wait a few seconds then switch on again |
| Hot water temperature too low                     | Cylinder thermostat temperature set too low<br>Programmer setting<br>Diverter valve | Check setting  |
| Hot water temperature too high                    | Cylinder thermostat set too high<br>Diverter valve                                  | Adjust cylinder thermostat   |

## FAULT OR BREAKDOWN

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This appliance is supported in the UK by Worcester, Bosch Group. Part of BBT Thermotechnology UK Ltd.

Specialist factory trained Service Engineers are available to attend a breakdown occurring on this appliance.

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

- ▶ An appliance fault is found and the appliance 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 appliance has been installed for over 24 months

**OR**

- ▶ Our Field Service Engineer finds no fault with the appliance (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.

**Note. NO APPLIANCE 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 appliance. In the case of a suspected fault, refer to the fault finding section of this guide.

**If in doubt contact our Technical Helpline**

In the event of an appliance 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 1 to 3 working days (excluding weekends) for priority breakdown situations (no hot water and/or heating).

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



## YOUR GUARANTEE

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This appliance 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:

- ▶ 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 BBT Thermotechnology UK Ltd.
- ▶ The householder may be asked to prove the date of installation, that the appliance was correctly commissioned and, where appropriate, the first years service has been carried out to the satisfaction of BBT Thermotechnology UK 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.
- ▶ BBT Thermotechnology UK 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 and Servicing Manual and users instructions.
- ▶ The appliance 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.

This guarantee does not affect your statutory rights.

## GUARANTEE REGISTRATION

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You should complete and return the postpaid Guarantee Registration Card within 14 days of purchase.

Returning the card will register you as the owner of your new Greenstar Ri appliance 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 appliance casing)

Type / size \_\_\_\_\_

Date of installation \_\_\_\_\_

Check 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.

# USER INSTRUCTIONS & CUSTOMER CARE GUIDE

## EXCELLENCE COMES AS STANDARD

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Worcester Bosch Group is a trading name of BBT Thermotechnology UK Ltd.

8 716 109 698a (05/05)

The logo for Worcester Bosch Group features a stylized, wavy graphic element on the left, followed by the word "WORCESTER" in a bold, uppercase, sans-serif font. Below "WORCESTER" is the text "Bosch Group" in a smaller, lowercase, sans-serif font.

**WORCESTER**  
Bosch Group