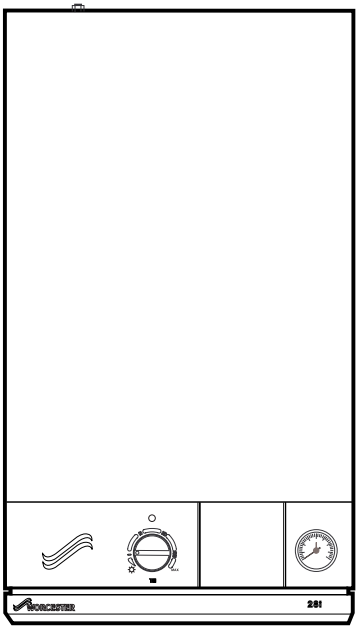
WORCESTER

Bosch Group



24i, 28i RSF COMBI

benchmark™

Worcester Bosch supports the Benchmark code of practice

G.C. NUMBERS

	NATURAL GAS	L.P.G.
24i	47 311 37	47 311 38
28i	47 311 54	

USER INSTRUCTIONS & CUSTOMER CARE GUIDE

EXCELLENCE COMES AS STANDARD

Thank you for purchasing a Worcester gas-fired combination appliance.

Worcester appliances are made by Worcester Heat Systems and the strictest quality control standards are demanded throughout every stage of production.

Indeed, Worcester Heat Systems have led the field in innovative appliance design and performance for more than 30 years.

The result is that your new Worcester 24i or 28i appliance offers you the very best of everything – quality, efficiency, economical running costs, proven reliability and value for money.

What's more, you also have the assurance of our no-nonsense 1 year parts and labour guarantee.

And it's backed up by Worcester Care Call – a complete maintenance scheme to keep your boiler operating at peak condition and efficiency.

No wonder that more and more people are agreeing that when it is gas, it has to be a Worcester 24i or 28i

CONTENTS

GENERAL INFORMATION

GAS SAFETY (INSTALLATION AND USE) REGULATIONS 1998

It is the law that 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 law. 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 3 amp fuse.

ELECTRICITY SUPPLY: 230V ~ 50Hz

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

NOTE: In the event of a fault the appliance should not be used until the fault has been corrected by a competent person.

BENCHMARK

All CORGI Registered Installers carry a CORGI ID card and have a registration number which must be recorded in your central heating log book. You can check that your installer is CORGI registered by calling CORGI on 01256 372300.

GENERAL DESCRIPTION

(See Fig.1.)

The WORCESTER 24i or 28i is a combined domestic hot water and central heating appliance. It consists of a gas fired boiler having a varying output of between 7.5 kW and 23.4 kW (24i) or 8.5 kw and 27.5 kw (28i), a combined heat-exchanger and all necessary controls to provide mains fed domestic hot water and central heating.

The appliance can operate in one of two modes as required. Hot water only or hot water and central heating.

Hot Water Mode:

When a demand is made for hot water by opening a tap or shower the flow switch will energise and the burner will light at its maximum setting.

When hot water is no longer required the appliance pump and fan may continue to operate to dissipate the excess heat within the boiler.

A flow restrictor is fitted within the appliance which limits the hot water delivery rate to a maximum of 8.0 (±15%) litres/minute (1.8 gallons/minute) 24i or 10 (±15%) litres/minute (2.2 gallons/minute) 28i.

Hot Water and Central Heating mode:

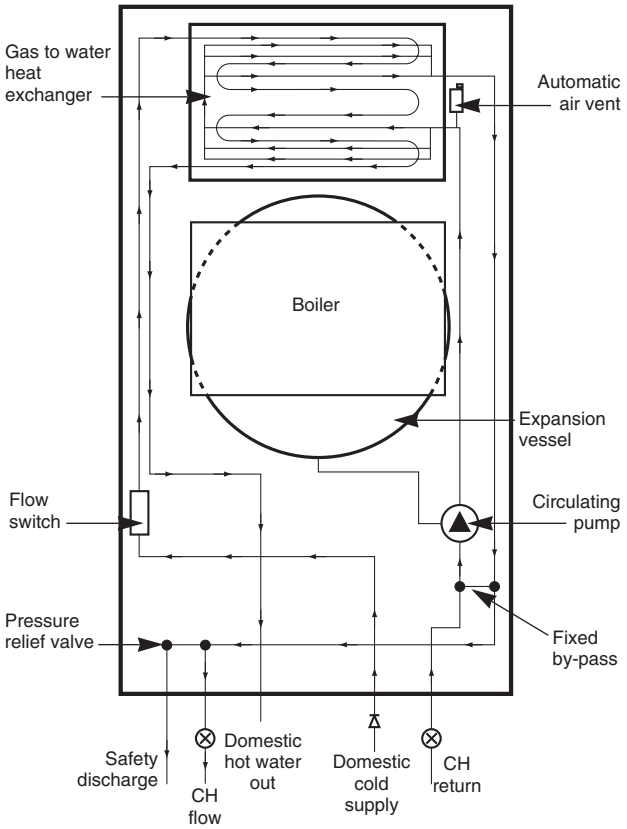
When a demand is made for heating by the system controls (i.e. a programmer or room thermostat).

The pump will energise circulating primary water around the heating system and the burner will light. The heat output from the appliance in this mode has been factory set to maximum. The appliance will operate as necessary to maintain the temperature of the radiators at the level set by the adjustment of the Heating Temperature Control Knob. (See Fig. 2.)

If the system no longer requires output to maintain the desired room temperature, the burner will extinguish. The pump and fan will continue to run for a short period to dissipate the residual heat from the appliance and then switch off.

The appliance will supply heat to the central heating system as required. A demand for hot water at a tap or shower will override the central heating function for the period of the domestic hot water demand.

Fig. 1. System Diagram.



GENERAL NOTES

CENTRAL HEATING SYSTEM

During the first few hours of operation of the central heating system, check that all radiators are being heated at an even rate. Should the upper area of a radiator be at a lower temperature than the base of the radiator, it should be vented by releasing air through the venting screw at the top of each radiator. Make sure your installer shows you how to carry out the operation. 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 be required from any radiator, a service engineer should be contacted and the system corrected.

SEALED HEATING SYSTEM

The appliance will be fitted to a sealed heating system which is pre-pressurised. Your installer will advise you on the minimum and maximum pressure that should be indicated on the pressure gauge. See Fig. 2. Check regularly that this pressure is maintained and contact your installer or maintenance engineer if there is a permanent significant drop in pressure indicated on the gauge. If the system loses pressure it should be re-pressurised as instructed by the installer (N.B. Maximum pressure 2.5 bar).

CLEARANCES

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

Minimum clearances in millimetres.

	RSF
Left-hand side	10
Right-hand side	10
In Front	600
Above	180
Below	200

ROOM THERMOSTAT

A room thermostat may be fitted for control of the central heating temperature. It will be located in one room of the home. The method of setting a room thermostat varies with the type and manufacture. Refer to the instructions supplied with the room thermostat.

THERMOSTATIC RADIATOR VALVES

If thermostatic radiator valves are to be fitted to the system then they must conform to the requirements of BS2767:1972. It is advisable to leave one valve permanently set at maximum to prevent the boiler short cycling.

SHOWERS, BIDETS, TAPS AND MIXING VALVES

Standard hot and cold taps and mixing valves used with the appliance must be suitable for operating at the available mains pressure. Thermostatically controlled or pressure equalising shower valves will guard against the flow of water at too high a temperature.

Hot and cold mains fed water can be supplied direct to an overrim flushing bidet subject to local water company requirements.

With all mains fed systems the flow of water from the individual taps will vary with the number of outlets operated simultaneously and the cold water mains supply pressure to the property. Flow balancing using 'Ball-o-Fix' type valves is recommended to avoid an excessive reduction in flow to individual outlets.

For further information contact Worcester Heat Systems Ltd.

HOT AND COLD FLOW

If the flow of water demanded from both hot and cold service outlets is dependent upon mains supply, it may not be possible in some installations to operate all outlets simultaneously.

WATER MAINS FAILURE

It is important to note that in the event of a mains water supply failure, no tap water will be available until the mains supply is restored.

USE IN HARD WATER AREAS

In temporary hard water areas (more than 350mg/litre or 200ppm calcium bicarbonate) it is recommended that a proprietary scale reducer is fitted in the mains cold water connection to the appliance. Consult the local water company for additional advice.

Installation of a scale inhibitor assembly should be in accordance with the requirements of the local water company. An isolating valve should be fitted to allow servicing.

The water hardness can be determined by reference to the local water company.

DOMESTIC HOT WATER TEMPERATURE CONTROL

By slightly reducing the flow of domestic water from the tap, the delivery temperature will be increased. 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.

VENTILATION OF THE APPLIANCE

This is a room sealed appliancem, any ventilation openings in a wall or door must not be obstructed. Do not allow the flue terminal fitted on the outside wall to become obstructed or damaged.

If the appliance is fitted in a compartment do not use the compartment for storage purposes unless it conforms to the requirements of BS 6798:1987: Section 6 and the requirements of Section 6. Air Supply in the Installation Instructions. It is essential that the airing space is separated from the boiler space by a perforated non-combustible partition as described in BS 6798:1987.

NOTE: Do not place anything on top of the appliance.

CIRCULATING PUMP

This may be fitted with a speed adjuster. If so it will be factory set at maximum and should not be changed.

FROST PRECAUTIONS

Your British Gas Engineer, or any service engineer will advise you on suitable frost precautions.

For short periods the built-in frost protection of the appliance will be adequate.

If the appliance is not to be used for a long period of time and there is a likelihood of freezing, then the appliance should be drained.

SERVICE

Annual servicing is important in order to ensure continuing high efficiency and long life for your appliance. In the event of any difficulty in making suitable servicing arrangements, Worcester Heat Systems Limited, your British Gas Engineer or other competent persons will discuss regular servicing arrangements and offer a comprehensive maintenance contract.

IMPORTANT: Do not touch or adjust any sealed component.

WARNING

If a gas leak exists, or is suspected, turn off the gas supply to the appliance at the service cock and consult your local British Gas Engineer or service engineer.

Do not touch any electrical switches to turn them either on or off. Open all windows and doors. Do not smoke. Extinguish all naked lights.

CLEANING

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

OPERATION OF CONTROLS

(See also label on inside of appliance front panel).

The appliance is fitted with the following controls:

CENTRAL HEATING TEMPERATURE

The position of this knob will determine the temperature of the water delivered to the radiators between the **'I'** and **'MAX'** position. When the knob is turned anti-clockwise past the **'I'** position towards the **'** ☼ **'** (Summer Position), then the appliance will operate in the HOT WATER mode only and no heat will be delivered to the radiators.

FACIA MOUNTED PROGRAMMER (if fitted)

Your installer may have fitted a mechanical programmer into the facia of your appliance. Operating instructions are supplied with the programmer.

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 grey needle will show the actual pressure in the system.

INDICATOR LIGHT

Mains electricity indicator:

OFF	:	No mains electricity to the appliance
ON	:	Mains electricity is connected to the appliance
FLASHING	:	Sensor fault.

OVERHEAT CUT-OFF THERMOSTAT

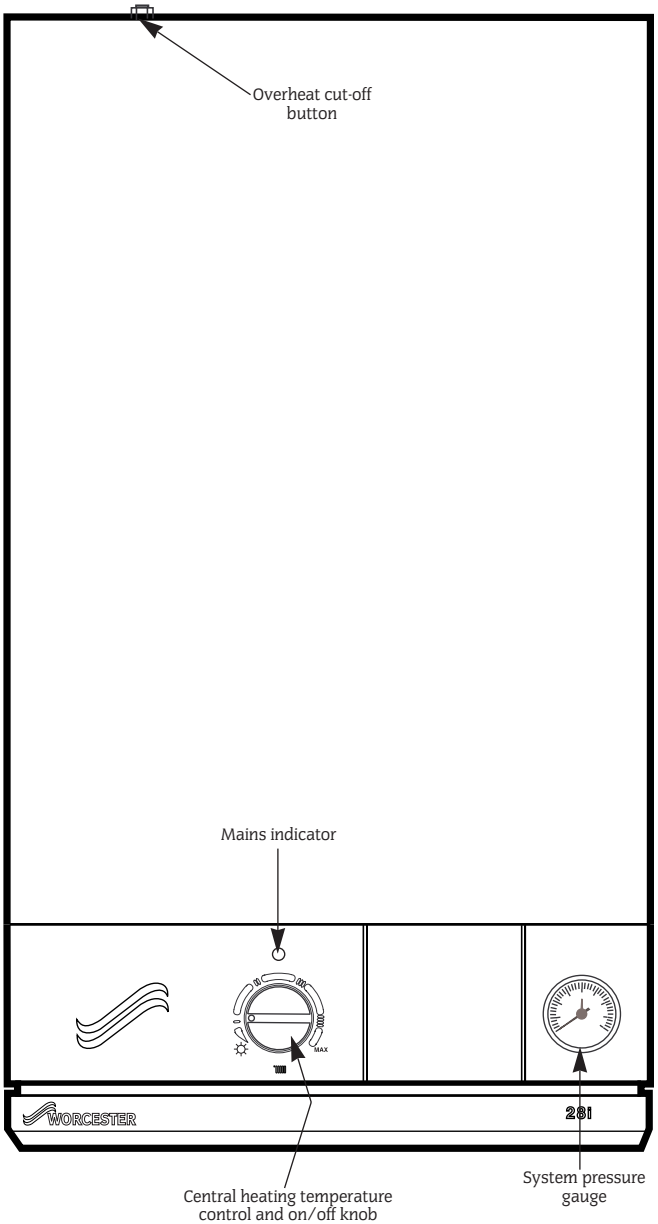
The appliance will enter a lockout condition in the event of overheating.

An overheat cut-off thermostat is fitted to the appliance which will interrupt the electricity supply to the ignition circuit.

If the overheat cut-off has operated the fan and/or pump will run but the burner will not light. (No spark generation).

The appliance can be reset by pressing the overheat cut-off button.

Fig. 2. 24i/28i Controls.



TO LIGHT AND STOP THE APPLIANCE

TO LIGHT THE APPLIANCE

Check that the water valves to the central heating circuit are open.

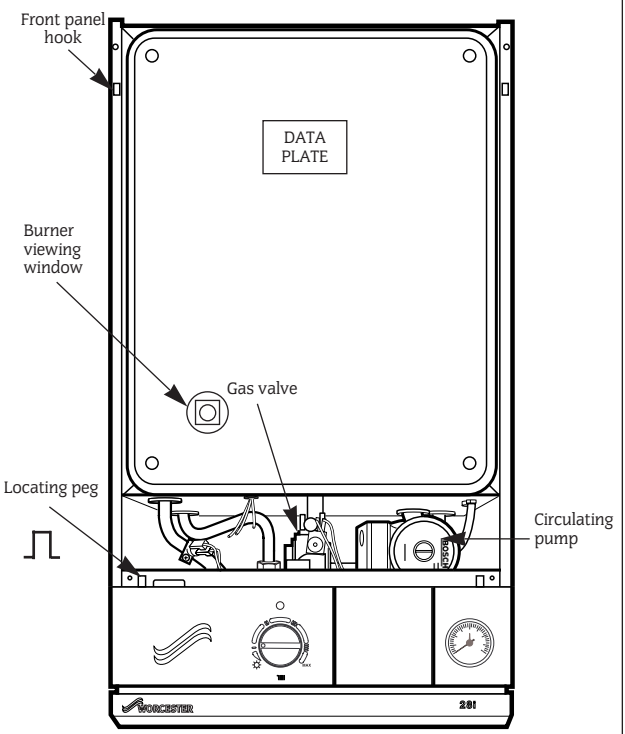
Check that the grey needle on the pressure gauge is not below the required pressure.

Switch on the mains electricity. The power on indicator will light. Set the room thermostat, if fitted, to maximum. Turn the central heating temperature control knob to **'MAX'.**

The burner will light.

Set the central heating control knob and the room thermostat, if fitted, to the desired temperature.

Fig. 3. 28i with front panel removed.



TO STOP THE APPLIANCE

For Short Periods

Turn the central heating temperature control knob fully anti-clockwise to the '☼' position. Domestic Hot Water will still be available as required.

For Long Periods

Switch off the mains electricity.

A facia mounted mechanical programmer will require resetting once the mains supply has been disconnected.

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.

IGNITION LOCKOUT

The appliance will enter a lockout condition in the event of the burner failing to ignite.

If the burner fails to light within a preset time of 10 seconds the electricity supply to the gas valve will be interrupted.

The appliance can be reset by ending the present demand which in a central heating demand means turning the central heating temperature control to '☼' and back to the required setting or ending the room thermostat/programmer demand.

Re-ignition will be attempted after a delay of four minutes.

Domestic hot water demands do not have this delay.

Check that the gas supply has not been interrupted.

If this condition continues to occur, then call a service engineer.

AIR FLOW DEVICE

The appliance will enter a lockout condition in the event of an air flow fault.

If the controls fail to detect the correct air flow through the appliance the electricity supply to the gas valve will be interrupted.

The appliance will try to re-light once the air-flow signal is re-established. Check that the flue terminal has not been obstructed or damaged, and that the fan and air pressure switch are in good order.

If this condition continues to occur, then call a service engineer.

REMOVAL AND REPLACEMENT OF THE FRONT PANEL (See Fig. 3)

Necessary to check if burner is lit.

Removal:

Holding the panel at the edges, slide it upwards to disengage the clips and ease the top edge forwards and upwards to raise it clear of the two pegs on the top edge of the facia.

Replacement:

Locate the two holes in the bottom edge of the front panel over the two pegs on the top edge of the facia and reverse the removal procedure.

WARNING: Do not touch any component within the appliance when it is running as some may be very hot.

APPLIANCE FAILS TO OPERATE

More than 30% of all calls made to Worcester Heat Systems to report appliance faults or breakdowns prove to be false alarms, as there is often a simple explanation for the apparent malfunction.

So, to help you save time and money – not to mention frustration and inconvenience – please refer to the General Information, Notes and Lighting Instructions ensuring all controls are set correctly.

If, after following the instructions the appliance still fails to operate correctly call the Worcester Heat Systems Service Centre. Arrangements will be made for an engineer to call as soon as possible.

CALL-OUT CHARGES

All of our field service engineers are factory trained.

If you request a visit from an engineer and your appliance has been installed within the last 12 months, no charge will be made for parts and/or labour, providing:

- The appliance was commissioned correctly on installation.
- An appliance fault is found and the appliance has been installed within the past 12 months.

A call-out charge will be made where:

- The appliance has been installed for over 12 months, or
- Our Field Service Engineer finds no fault with the appliance (see note), or
- The cause of breakdown is with other parts of your plumbing/heating system, or with equipment not supplied by Worcester.

NOTE: Invoices for attendance and/or repair work carried out on your appliance by any third party will not be accepted.

MAINTAINING YOUR APPLIANCE

Your new Worcester 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, competent servicing and annual maintenance checks beyond the initial 12 month guarantee period.

Regular service contracts can be arranged with your installer – however if you have difficulty making a satisfactory arrangement simply contact Worcester Heat Systems on **0345 256206** for help.

SERVICE CENTRES

CONTACT NUMBERS:

UK Call Centre	Tel.	08457 256 206
UK Call Centre	Fax.	01905 757536
Scotland only	Fax.	01506 441 687

OPERATING HOURS:

Mon - Fri	8.00am to 6.00pm
Sat	8.30am to 1.00pm

Please contact our UK Call Centre number where our friendly operators will book your call with one of our team of nationwide engineers.

NOTE:
Sunday and Bank Holiday cover is not available

IMPORTANT
Do not touch or adjust any sealed component

YOUR WORCESTER GUARANTEE

This appliance is guaranteed against faulty materials or workmanship for a period of twelve calendar months from the date of installation subject to the following conditions and exceptions.

1. That during the currency of this guarantee any components of the unit which are proved to be faulty or defective in manufacture will be exchanged or repaired free of material charges and free of labour charges by Worcester Heat Systems Limited.

2. That the householder may be asked to prove the date of installation, that the appliance was correctly commissioned and, where appropriate, the first 12 month service has been carried out to the satisfaction of Worcester Heat Systems Limited when requested.

3. That any product or part thereof returned for servicing under the guarantee must be accompanied by a claim stating the Model, Serial Number, Date of Installation.

4. That Worcester Heat Systems Limited will not accept responsibility for damage caused by faulty installation, neglect, misuse or accidental damage, the non-observance of the instructions contained in the installation and Operating Instructions Leaflets.

5. That the appliance has been used only for normal domestic purposes for which it was designed.

6. That this guarantee applies only to equipment purchased and used in mainland Great Britain.

This guarantee is given in addition to all your normal statutory rights.

GUARANTEE REGISTRATION

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

The card will register you as the owner of your new Worcester appliance and, while this will not affect your statutory rights in any way, it will assist us to maintain an effective and efficient customer service by establishing a reference and permanent record for your boiler.

IMPORTANT: SERIAL NUMBER. Copy the number off the Guarantee Card.

FOR YOUR OWN RECORD

MODEL	SERIAL NUMBER

(See identity label inside appliance casing)

TYPE/SIZE	DATE OF INSTALLATION

WORCESTER

Bosch Group

EXCELLENCE COMES AS STANDARD

Worcester Heat Systems Limited. Cotswold Way, Warndon, Worcester WR4 9SW.
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Technical Service Helpline 08705 266241.
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