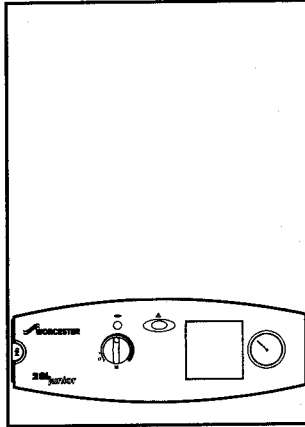


 **WORCESTER**

**Bosch Group**



# **24i / 28i** junior

**APPLIANCE**

24i junior

28i junior

**G.C. NUMBERS**

**NATURAL GAS**

47 311 69

47 311 70

**L.P.G.**

47 311 71

47 311 72



Worcester Bosch supports the  
Benchmark code of practice

# **USER INSTRUCTIONS & CUSTOMER CARE GUIDE**



# EXCELLENCE COMES AS STANDARD

Thank you for purchasing a Worcester **i junior** Series gas-fired combination appliance.

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

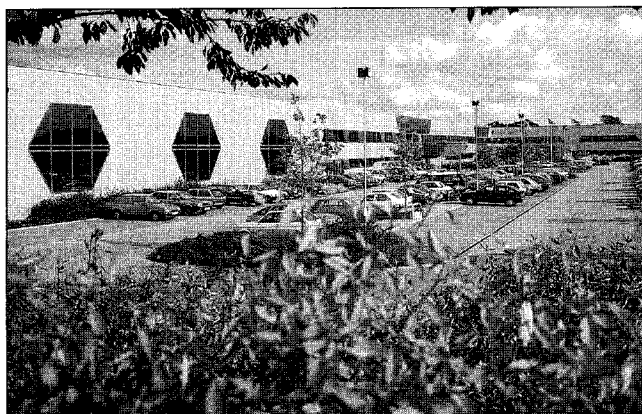
Indeed, Worcester Heat Systems have led the field in innovative appliance design and performance for more than 30 years.

The result is that your new Worcester **i junior** 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 Worcester **i junior** Series.



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# GENERAL INFORMATION

## **GAS SAFETY (INSTALLATION AND USE) REGULATIONS 1998**

It is the law, in GB, 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.

In GB a competent person is someone registered with CORGI. All CORGI Registered Installers carry a CORGI ID card and have a registration number. Both should be recorded in your central heating log book. You can check that your installer is CORGI registered by calling CORGI on 01256 372300.

In Eire the installation must be in accordance with IS 813.

**WARNING:** This appliance must be earthed and protected by a 3 amp fuse to BS 1362.

**ELECTRICITY SUPPLY:** 230V ~ 50Hz

**IMPORTANT:** To get the best from your Worcester i junior 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**

The Benchmark initiative is a code of practice to encourage the correct installation, commissioning and servicing of domestic central heating boilers and system equipment.

A 'log book' is dispatched with every appliance. **This is a vital document that needs to be completed by the installer at the time of installation. It confirms that the boiler has been installed and commissioned according to the manufacturers instructions.**

In Eire the declaration found in IS 813 must be completed.

Without the completion of the log book and/or the declaration, manufacturers may refuse to respond to a call-out request. It is important that your installer has given you the fully completed log book and/or declaration.

## **GENERAL DESCRIPTION**

The WORCESTER i junior models are combined domestic hot water and central heating appliances. They consist of a gas fired boiler having a varying output of between 7.5kW and 23.5kW (**24i junior**) or 8.0 and 27.5kW (**28i junior**), and all the necessary controls to provide mains fed domestic hot water and central heating.

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

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

### **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 appliance will operate as necessary to maintain the temperature of the radiators at the level set by the adjustment of the Heating Temperature Control.

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.

### **Hot Water Only mode:**

The appliance operates to supply only domestic hot water when the heating temperature mode is fully anti-clockwise, at the  position.



# GENERAL NOTES

## **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 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.

## **SEALED HEATING SYSTEM**

The appliance must 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. 1. 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.

**NOTE:** The set pressure will normally be 1 to 1.5 bar. The maximum operating pressure is 2.5 bar.

## **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.

## CLEARANCES

Minimum clearances in millimetres.

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.

	Service	Unventilated compartment
Left-hand side	10	25
Right-hand side	10	25
In Front	600	*25
Above flue elbow	30	30
Below	200	200

\*Front clearance is to a removable panel or door.

**NOTE: If the appliance is to be enclosed after the installation then the instructions given in Section 4, Siting the Appliance, of the Installation Book MUST be followed.**

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

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. It is essential that the airing space is separated from the boiler space by a perforated non-combustible partition as described in BS 6798.

## ROOM THERMOSTAT

A room thermostat must 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 fitted to the system then they must conform to the requirements of BS2767. 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 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 Technical Helpline.

## HOT AND COLD FLOW

The flow of water demanded from both hot and cold service outlets is dependent upon mains supply and 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. The appliance can still be used for heating as it is connected to a sealed system.

## **VENTILATION OF ROOM SEALED FANNED FLUE APPLIANCES**

These are room sealed appliances and do not require any ventilation openings. Do not allow the flue terminal fitted on the outside wall to become obstructed or damaged.

## **USE IN HARD WATER AREAS**

Normally there is no need for scale protection. However, in areas of exceptionally hard water supply it is recommended that an In-Line scale inhibitor be fitted.

Installation should be strictly in accordance with the requirements of the local Water Company. An isolating valve to facilitate servicing should be incorporated.

The water hardness may be determined using the standard test paper or by reference to the local Water Company.

Further information may be obtained from Worcester Heat Systems Technical Helpline.

## **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**

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. The Worcester Heat Systems Technical Helpline will advise you on suitable frost precautions. For short periods the built-in frost protection of the appliance will be adequate.

## **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 or other competent persons will discuss regular servicing arrangements and offer a comprehensive maintenance contract.

## **CLEANING**

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

**Under no circumstances should any seal on the boiler be broken.**



# OPERATION OF CONTROLS

## **CENTRAL HEATING TEMPERATURE CONTROL**

The position of this knob will determine the temperature of the water delivered to the radiators between fully clockwise and anti-clockwise to the ► mark. When the knob is turned anti-clockwise past the ► 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.

## **HOT WATER TEMPERATURE CONTROL**

There is no separate temperature control.

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

## **FACIA MOUNTED PROGRAMMER (if fitted)**

Your installer may have mounted either a mechanical or an electronic programmer into the fascia of your appliance. Operating instructions are supplied with the programmer.

## **RESET BUTTON**

Press this button in for five seconds if the indicator light is flashing slowly.

If indicator lamp is flashing fast turn power OFF and ON at the switched socket supply to reset.

## **SYSTEM PRESSURE GAUGE**

The black needle will show the actual pressure in the system. When operating the pressure indicated must not be greater than 2.5bar. If it is then contact your installer.



# INDICATOR LIGHTS

## Flame detection indicator:



**OFF:** Burner off  
**ON:** Burner on

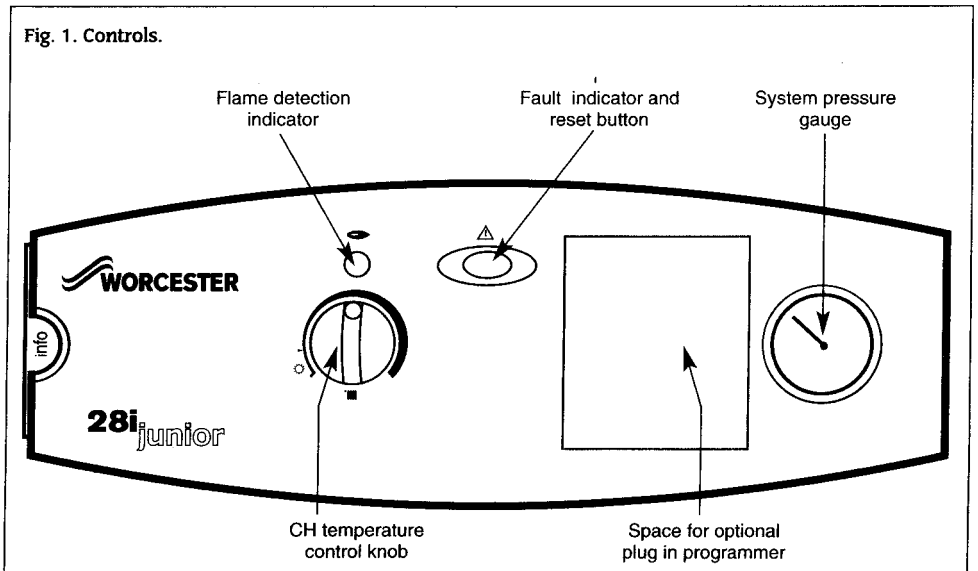


## Fault indicator:

**FLASHING SLOW:** Ignition lockout or boiler overheat  
(once per second)

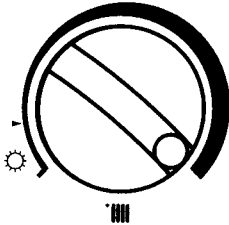
**FLASHING FAST:** Appliance fault  
(five times a second)

Fig. 1. Controls.

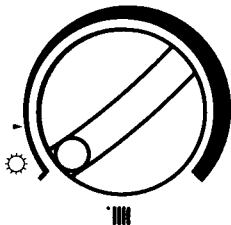




# TO LIGHT AND STOP THE APPLIANCE



CH Control in fully clockwise position



CH Control in fully anti-clockwise position

## TO LIGHT THE APPLIANCE

Check that the water valves to the central heating circuit are open.  
Check that the black needle on the pressure gauge is not below the required system pressure.

Switch on the mains electricity. Set the room thermostat to maximum. Turn the central heating temperature control knob fully clockwise.

The burner will light and the red flame detection indicator will light.

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

## TO STOP THE APPLIANCE

### For Short Periods

Turn the central heating temperature control knob fully anti-clockwise past the ⚙️ position. **NOTE:** The appliance will still operate in the domestic hot water mode.

### For Long Periods

Turn the central heating temperature control knob fully anti-clockwise past the ⚙️ position. Switch off the electricity at the mains supply.

A fascia mounted electronic programmer will retain its settings for about two weeks, after which it will return to the factory set programme. The time will be saved for approximately 7 hours. The display will disappear after approximately 1 hour.

A fascia mounted mechanical programmer will require resetting once the central heating temperature control knob has been set fully anti-clockwise past the ⚙️ position, or 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.

## 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 gas valve.

If the overheat cut-off has operated, the fault indicator will flash once a second.

The appliance can be reset by pressing the fault indicator button and holding in for 5 seconds when the appliance has cooled. If this condition continues to occur, then call a service engineer.

## **IGNITION LOCKOUT**

The appliance will enter a lockout condition in the event of the burner failing to ignite. If the burner fails to light after 5 attempts the electricity supply to the gas valve will be interrupted.

If ignition lockout has occurred, the fault indicator will flash slowly (approximately once per second).

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. In the domestic hot water mode, turn the tap OFF and ON.

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.

If an air flow fault has occurred, the fault indicator will flash (approximately five times per second).

The appliance will try to re-light after a waiting period of approximately 5 minutes. Check that the flue terminal has not been obstructed or damaged.

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



# 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 in Great Britain or Eire. 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 **i junior** 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 **08457 256206** or in Eire **01 494 0099** for help.

If you would like to know more about Worcester's extended warranty options please tick the appropriate box on your warranty registration card.



**CONTACT NUMBERS:**

UK Call Centre	Tel.	08457 256 206
UK Call Centre	Fax.	01905 757536
Scotland only	Fax.	01506 441 687
Eire	Tel.	01 494 0099

**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



# YOUR WORCESTER i junior SERIES 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.