

THE SEVERN Installation Instructions for Freestanding Severn Stove with Boiler



Consumer Protection Act 1987

As manufacturers and suppliers of cooking and heating products, in compliance with Section 10 of the Consumer Protection Act 1987, we take every care to ensure as far as is reasonably practicable, that these products are so designed and constructed as to meet the general safety requirement when properly used and installed. To this end, our products are thoroughly tested and examined before despatch.

IMPORTANT NOTICE: Any alteration that is not approved by Aga-Rayburn, could invalidate the approval of the appliance, operation of the warranty and could also affect your statutory rights.

Control of Substances - Health and Safety Important

This appliance may contain some of the materials that are indicated below. It is the Users/Installers responsibility to ensure that the necessary personal protective clothing is worn when

handling, where applicable, the pertinent parts that contain any of the listed materials that could be interpreted as being injurious to health and safety, see below for information.

Firebricks, Fuel beds, Artificial Fuels - when handling use disposable gloves.

Fire Cement - when handling use disposable gloves.

Glues and Sealants - exercise caution - if these are still in liquid form use face-mask and disposable gloves.

Glass Yarn, Mineral Wool, Insulation Pads, Ceramic Fibre, Kerosene Oil - may be harmful if inhaled, may be irritating to skin, eyes nose and throat. When handling avoid inhaling and contact with skin or eyes. Use disposable gloves, face-masks and eye protection. After handling wash hands and other exposed parts. When disposing of the product, reduce dust with water spray, ensure that parts are securely wrapped.

PERFORMANCE

The Severn Stove with boiler is designed to provide space heating and the heating of domestic hot water and radiators and has been approved by the Domestic Solid Fuel Appliance Approval Scheme.

The appliance and burning rate are controlled by the manual adjustment of the appliance thermostat only.

RATING

		Solid Fuel	Wood
Direct Space Heating	kW	2.9	2.9
Water Heating	kW	10.2	7.1
The maximum room size (of normal construction) and radiator surface that can be heated are:-			
Direct Space Heating	m ³ ft ²	53.8 1900	53.8 1900
Pipe and radiator surface (no domestic hot water)	m ² ft ²	20.9 225	14.5 156
Radiator Surface (with domestic hot water)	m ² ft ²	18.6 200	12.1 130

The recommended heating surface area is based on an average heat emission of 0.5kW/m² (160 Btu/h/ft²).

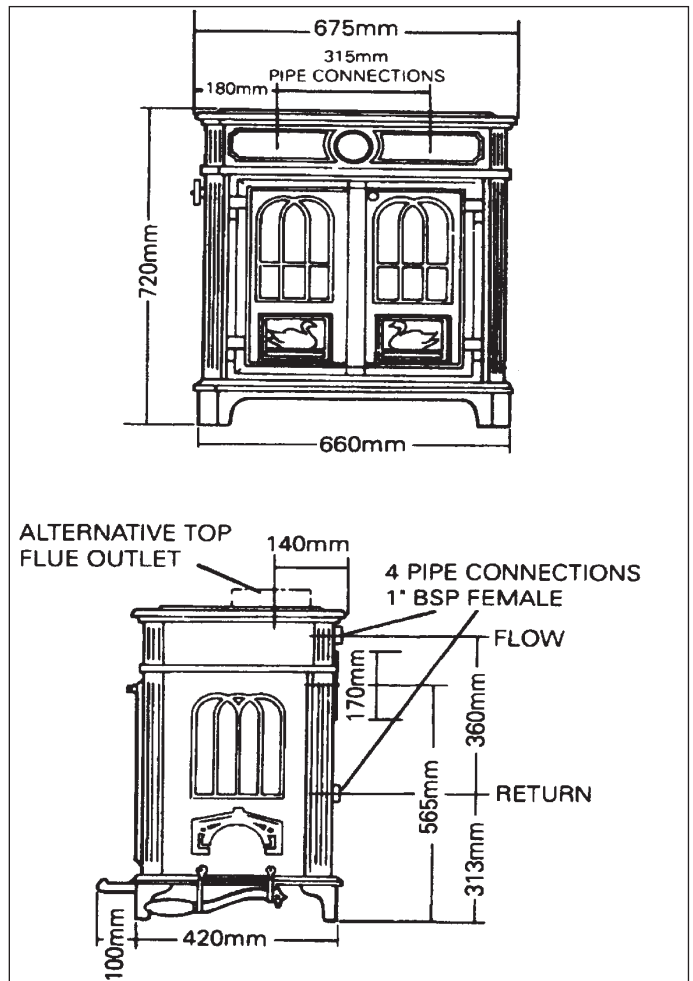
These figures are maxima and must not be exceeded.

A margin (about 10% or 1.4m² - 15ft²) is recommended.

WARNING BOILER MODEL

UNDER NO CIRCUMSTANCES MUST THE APPLIANCE BE FIRED DRY AS DAMAGE WILL OCCUR

NOTE: THERE ARE TWO SETS OF BACK OUTLET 'FLOW AND RETURN' CONNECTIONS ON THE L.H. AND R.H. SIDE OF THE BOILER. THE STOVE CAN BE INSTALLED AS A TOP OR BACK FLUE APPLIANCE



HOT WATER SYSTEM

1. A 140 litre (30 gallon) capacity indirect hot water storage cylinder of the double heat type, complying with BS 1566 Part 1: DF Type Type 8 should be lagged and fixed vertically as near as possible to the stove. The 28mm minimum diameter primary flow and return pipes must not exceed 10m in length and pipes no longer than 5m must be lagged.

Ensure that the flow pipe rises continuously from the stove boiler to the cylinder to ensure good gravity circulation. In combined systems, the water draw off pipes to the taps must be dead leg connection from the vent/expansion pipe.

2. One boiler connection (preferably that to the cylinder) must have an open vent. The connection to the boiler must be such that air cannot be trapped in the boiler. Any pipe size reduction must be made on the vertical pipe of the vented flow pipe.

The heating flow and return pipes may be 22mm and should preferably be connected to opposite tappings to each other on each side of the boiler.

If there is a possibility of boiling taking place a reverse acting thermostat should be fitted to the cylinder or primary flow pipe and electrically connected to the central heating pump. This will switch on the pump to prevent boiling.

Central heating pumps which are continually operative will, in conjunction with prolonged burning under banked conditions, create cool boiler surfaces within the firebox. This, in turn will encourage boiler surface condensation followed by surface oxidisation and reduced lifespan of the boiler. To minimise this effect we strongly recommend that a water pipe clamp-on thermostat be fitted to the heating return pipe close to the stove. The thermostat should be electrically connected to the pump as indicated on the Typical Wiring Diagram in Fig. 1 and the adjustable dial should be set at a temperature of 50°C (122°F). A fall in the return pipe water temperature below 50°C interrupts the power to the pump which will then not operate until the temperature exceed 50°C and power is restored.

3. All installations must be fitted with a drain tap at the lowest point of the system.

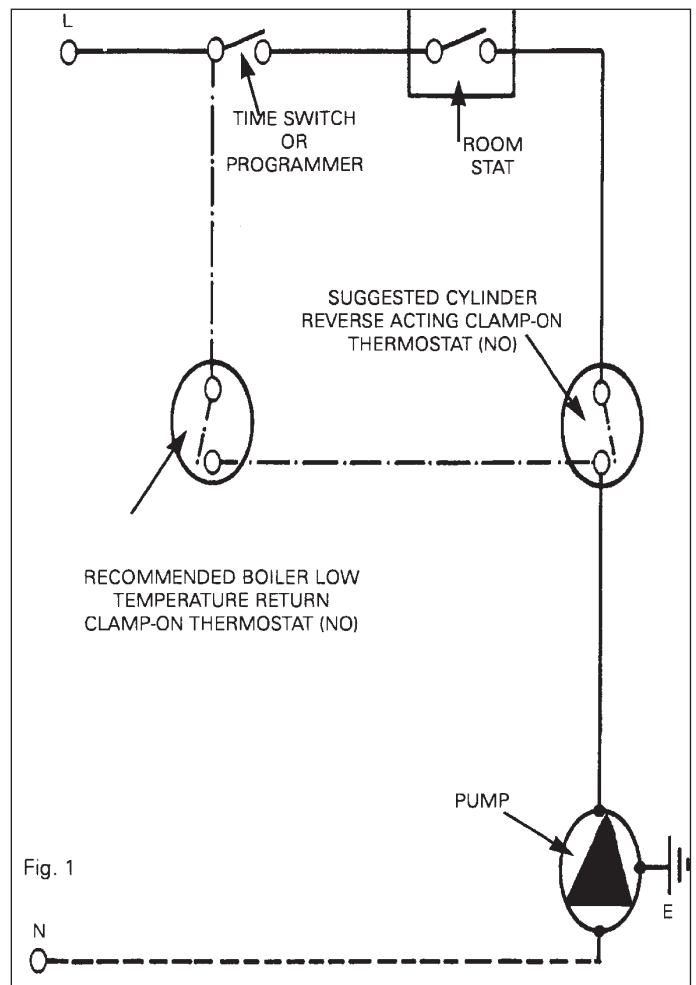
THE CHIMNEY

For correct operation of the appliance, the height of the chimney from its base should not be less than 5.5m and terminate above the roof in accordance with current Building Regulations and requirements as outlined in BS 6461: Part 1 and BS 7566 Parts 1 to 4 should be observed.

The structural flue through the chimney should not be less than 200mm diameter. Pargeted lined flues, 288mm x 228mm must be in sound condition.

Where a bend is necessary in a flue, it should not make an angle of more than 30° with the vertical.

IMPORTANT: FAILURE TO OBSERVE THE RECOMMENDED MINIMUM SIZES OR METHODS OF FLUE CONNECTION MAY LEAD TO FUME EMISSION INTO THE ROOM AND REDUCE BURNING RATES



Existing Chimney

The internal and external condition of the chimney should be checked **before** the appliance is installed and rectification made where necessary to prevent air leakage or porosity.

The flue through the chimney should be formed with 200mm diameter minimum moisture and acid resistant liners to BS 1181 or precast linings as specified in the Current Building Regulations. Requirements in BS 6461: Part 1 and BS 7566 Parts 1 to 4 should be observed.

When repairing existing chimneys, it is recommended that the Building Inspector be consulted before the commencement of work with particular attention in the chimney height and its termination.

NOTE: THE CHIMNEY SHOULD BE SWEEPED BEFORE INSTALLATION.

New Chimney

The flue should not be less than 200mm diameter and its soundness confirmed by smoke testing and contacting HETAS LTD who give advice on the test method.

Ensure the chimneys are free of any internal projections such as building jointing composition before the appliance is installed.

Factory-Made Insulated Chimneys

It is recommended that the internal face of the chimney should be refractory lined and otherwise comply with BS 4543.

The recommended minimum diameter is 175mm and chimney manufacturers should be consulted for further advice.

Chimney Terminations

All chimneys should terminate above the roof level in accordance with current Building Regulations and as outlined in BS 6461: Part 1 and BS 7566 Parts 1 to 4.

However well designed, constructed and positioned the satisfactory performance of a flue can be adversely affected by the downdraught caused by adjacent tall buildings and trees or even nearby hills. These deflect the wind creating a zone of high pressure over the terminal causing it to blow directly down the chimney flue.

A suitable anti-downdraught terminal such as the **Marcone** will usually effectively combat low pressure down-blow but no known cowl is likely to prevent downdraught due to a high pressure zone.

NOTE: ADVISE THE USER TO ENSURE CHIMNEY FLUES ARE THOROUGHLY SWEEPED AT A MINIMUM OF 12 MONTHLY INTERVALS AFTER THE APPLIANCE IS COMMISSIONED.

Preparation of a Builders Recess Opening

The appliance and recess, hearth and chimney flue installation should be in accordance with the relevant recommendations of the British Codes of Practice BS 8303, BS 6461 Part 1 and BS 7566 Parts 1 to 4, with the boiler and heating installation complying with BS 5449 Part 1.

The boiler section must also be installed in accordance with the bye laws of the Local Water Undertaking, Regulations for the Electrical Equipment of Buildings- published by the Institute of Electrical Engineers, and any relevant requirements of the Local Authority.

The appliance can be installed in a non-combustible recess in which the hearth must be level and together with the adjacent walls, conform to the current Building Regulations. A rectangular recess is required not less than 975mm wide and not less than 375mm deep from the face of the recess and 1320mm minimum height for a top flue outlet version. Holes will be required in one or both sides of the pipework. The clearance between the appliance and any combustible material must be maintained as indicated in Figs 1a, 1b, 2a, 2b and 3.

AIR SUPPLY

A permanent unobstructed air vent is required, having a minimum effective area of 83cm² and communicating directly to outside air or an adjacent room which itself has a permanent air vent direct to outside air.

Effect of Extractor Fan

Avoid if possible, the installation of an extractor fan in the same room as the appliance or the room where the permanent vent is located. Compensating extra air inlets must be introduced to the capacity of the fan when fitted.

Flue Layout

In Fig. 1a, 1b and 2a the stove is installed in an existing recess directly below the chimney flue. The exit end of the flue pipe must extend a minimum of 150mm into the overhanging brickwork. Any cavities or pockets above the register plate should as far as possible be filled, with the flue pipe extended into the throat of the chimney. If a flue liner or insulated chimney is used, the diameter should not be less than 175mm in both cases. In Fig. 3 the stove is connected to an existing flue with a length of flue pipe. Square bends and horizontal runs must not be used and a cleaning door included at every bend.

Fig. 2b shows a back flue outlet into a chimney brickwork.

NOTE: EXTENDED LENGTHS OF HORIZONTAL PIPEWORK MUST BE AVOIDED AND SHALL NOT EXCEED 150mm.

NOTE: WHATEVER METHOD OF INSTALLATION IS UTILISED, AIR MUST NOT BE ALLOWED TO ENTER THE CHIMNEY EXCEPT THROUGH THE STOVE AND ALL JOINTS MUST BE AIR-TIGHT. IF THE CHIMNEY IS UNLINED AND THERE IS ANY DOUBT ABOUT ITS CONDITION. IT SHOULD BE LINED IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS. PROVISION MUST ALWAYS BE MADE FOR SWEEPING THE CHIMNEY.

IMPORTANT: CEMENT PIPES AND FITTINGS MUST NOT BE USED WITHIN 2m OF THE STOVE OUTLET. CHIMNEYS OF PLAIN PIPE ARE NOT RECOMMENDED BUT CERTAIN PROPRIETARY MAKES OF INSULATED CHIMNEY ARE SUITABLE.

Fig. 1a Back Flue Outlet

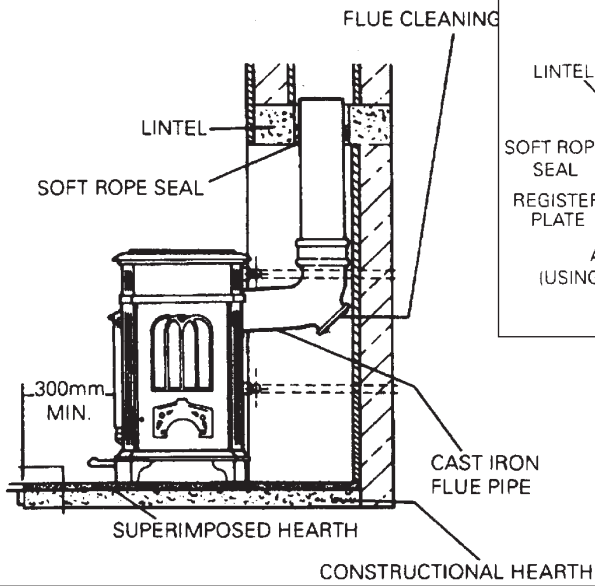


Fig. 1b Top Flue Outlet

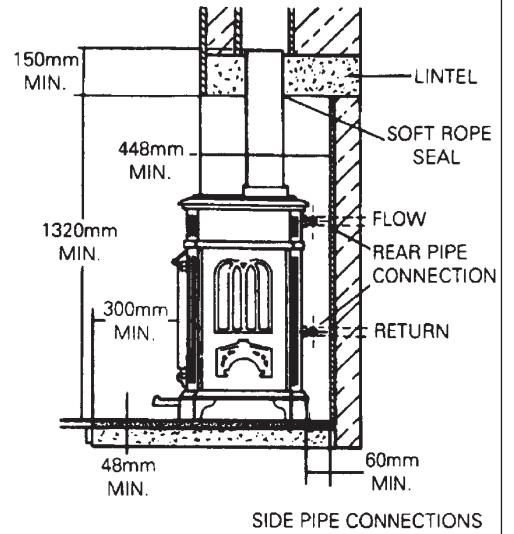


Fig. 2a

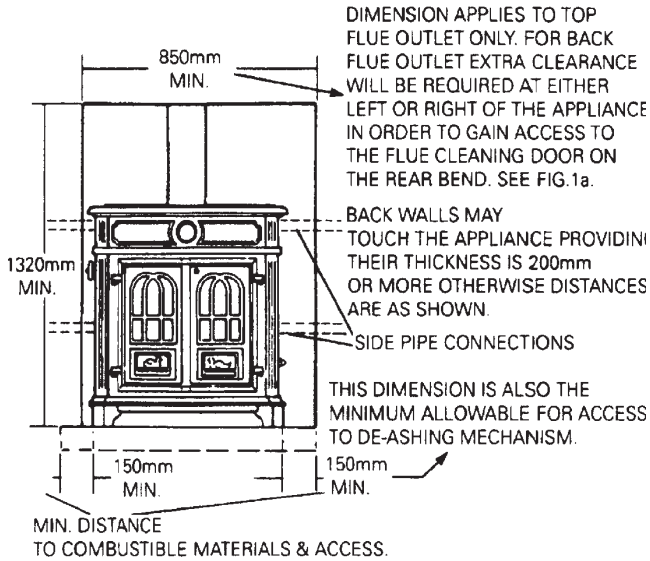


Fig. 2b

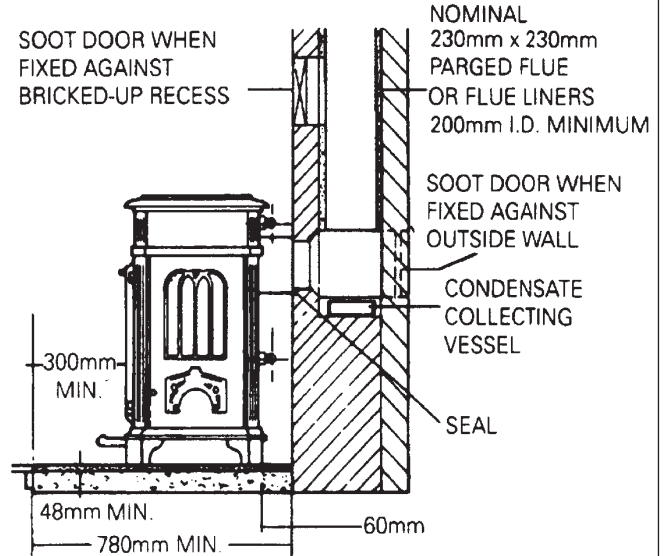


Fig. 3

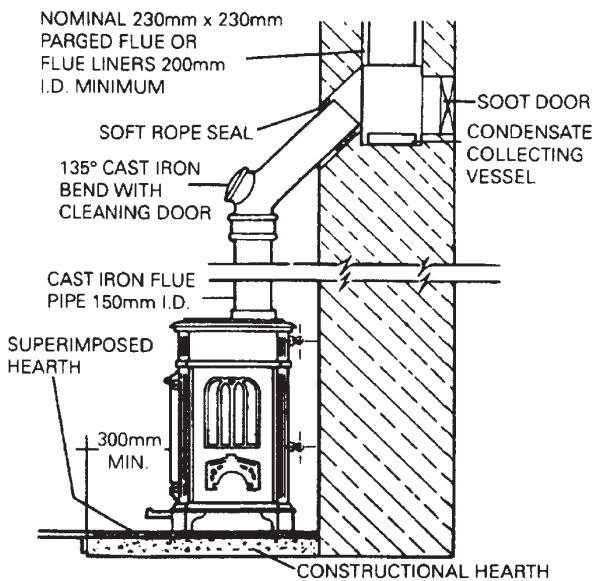
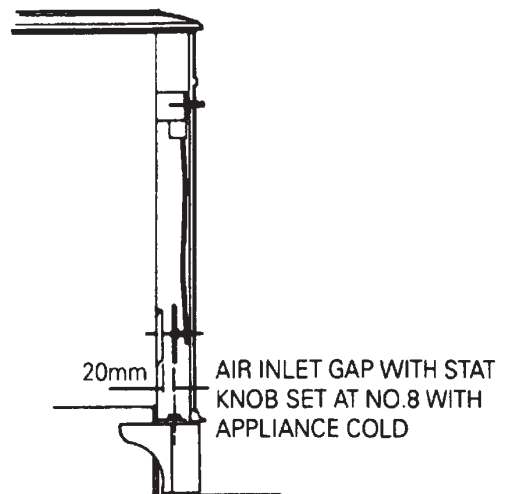


Fig. 4 Setting Thermostat



INSTALLATION

The stove is delivered fully assembled but all fire cement joints should be examined before soundness and if necessary, re-sealed before installation.

1. Plug any of the 1in BSP boiler connections not required and fit half unions as required.
2. Remove thermostat knob and three back screws securing L.H. side panel and carefully remove panel.
3. Check and if necessary re-set thermostat valve plate setting. See Fig. 4.
4. Replace side panel in reverse order of step 2.
5. Position the stove in the required position relative to chimney flue and on non-combustible hearth ensuring there is sufficient room allowed on stove R.H. side to enable operation of riddling tool. Blank off and seal with cover plate, flue outlet not used.
6. Cut length of 150mm diameter pipe to suit chosen method of flue connection. Insert flue pipe spigot in stove outlet socket and caulk joint with soft rope and cement.
7. Connect flue pipe to chimney with selected method.
8. Make connections to the boiler with provision for draining at the lowest point, fill with water and test. Make good any brickwork around pipes.
9. Check that the bottomgrate reciprocates correctly and that the throat plate is correctly located/sealed.

COMMISSIONING

Check that the system is full of water and free from air locks.

- (i) When lighting, open both firedoors and place paper and sticks with a small quantity of fuel onto the bottomgrate. Ignite paper and set the thermostat knob to 8 (high) and lock both firedoors. When established, balance the water system.
- (ii) With the appliance under fire, check for soundness of seals/joints and that the flue functions correctly in permitting all smoke and fumes to be vented through the chimney.

TESTING AFTER COMMISSIONING

After completing the installation, the Heating Contractor should demonstrate to the user, the operation of the fire e.g. thermostat knob setting, the method of riddling and the lowering of the throat plate for cleaning purposes as well as the routine flue cleaning method.

Ensure the Operating Instructions are left in the possession of the user.

Weight of complete stove 248 Kg.

GENERAL INFORMATION

1. Bottomgrate bars - there are 8 grate bars of one type and 7 of another.
The eight bars occupy the ends and intermediate positions. The seven bars fit between these. See that they are properly placed on the cross front firebar and move freely when riddled.
2. If the thermostat has been removed for any reason, refer to the thermostat adjustment or replacement instructions.

FLUE PIPE

Pipes and bends of 150mm diameter black painted C.I. are available through your local stockist.

Replacement parts if required are available from your local stockist

LEAVE THESE INSTRUCTIONS FOR FUTURE USE

**For further advice or information contact
your local distributor/stockist**

With Aga-Rayburn's policy of continuous product improvement, the Company reserves the right to change specifications and make modifications to the appliance described and illustrated at any time



Manufactured By
Aga-Rayburn
Station Road
Ketley Telford
Shropshire TF1 5AQ

www.aga-rayburn.co.uk
www.agacookshop.co.uk