charnwood

FLUE BOILERS

Operating & Installation Instructions

FB100, FB200 & FB300

FLUE BOILERS
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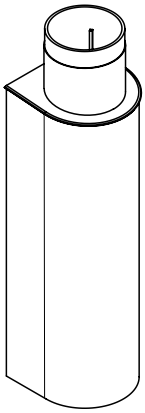	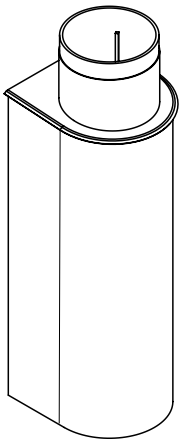	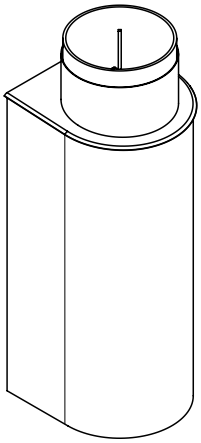
Nominal Size		
130mm (5in) FB100	**150mm (6in) FB200**	**180mm (7in) FB300**
Internal Diameter		
130mm	**155mm**	**183.7mm**
For use with the following stoves:		
Cove 1 **Country 4**	**Cove 2** **Island 1** **Island 2** **Country 6** **Country 8** **Country 12**	**Cove 3** **Island 3**
Average Water Heating Output:		
1.8 kW	**2.4 kW**	**3.4 kW**

OPERATING INSTRUCTIONS

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FLUE BOILERS

The Charnwood Flue Boiler provides a means of heating water by utilising some of the flue heat to provide domestic hot water and some radiator heating. This is achieved by circulating water through a jacket around the flue, whilst slowing the flue gases to transfer the heat.

The boiler is bolted directly to the top of the stove and has two 1in BSP connections for flow and return water pipes. The flue contains boiler chains which cause turbulence in the flue gases and improve the transfer of heat to the water.

SAFETY WARNING

Fumes from blocked flues can kill. Remove the access door and brush off the chain hangers at least monthly. See 'Maintenance' section.

Do not light the stove without water in the system.

Do not light the stove if any part of the system is frozen.

STOVE AND BOILER OPERATION

There are some differences in operating the stove once a boiler has been fitted. Before lighting ensure that all installation work has been carried out according to these instructions, and that the chains and the access door are securely fitted. Do not light the stove without water in the system. It is important to allow time for the fire cement to dry out before lighting - at least one day.

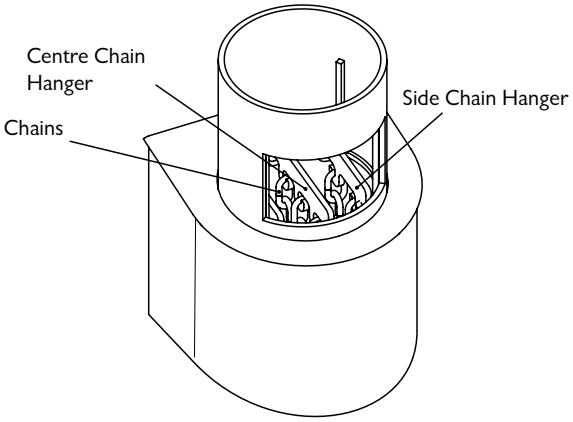
On initial lighting considerable condensation will be produced and this will normally drip from the drip ring at the base of the boiler tube onto the throatplate of the stove where it will evaporate. Some initial sweating may occur at the joint between the boiler base and the flat top of the stove, but this should cease after approx 2 hrs of operating. If the sweating persists, this indicates an inadequate seal, and the joint must be re-sealed. Start with a small fire and allow the stove to heat up gradually so that the internal paint and fire cement may cure evenly. When the stove and the boiler return pipe are both hot, then all condensation should cease. When hot water is being continuously used, then the stove should be well loaded and run at such a rate that the return temperature does not fall below 40°C.

MAINTENANCE

Once per month the access door must be unclipped and any soot build up on the chain hangers brushed off with a small brush. Check for any flue obstruction.

The chimney must be swept at least once per heating season, and the boiler's internal flue is cleaned at the same time. In order for this to happen, the boiler chains must first be removed. Ensure that the fire is out and the stove is cold. Undo the clip on the back of the access door, spring apart the two ends of the door and remove it from the boiler. Unhook each of the chains from the hangers and allow them to drop down onto the throatplate of the stove. Lift out the three Chain Hangers. Remove the chains from above the throatplate, clean them using a small brush The access door may now be replaced and the chimney swept in the normal way through the stove. Remove the access door again and and re-hang the chains on the hanger hooks. When the hanger has had all its chains replaced, thread the lower ends of the chains through the access opening, allow the ends to drop down and manouevre the chain hanger back into its slots. It is easier to replace the side hangers first, then the centre hanger. Replace the access door and the stove is ready for re-lighting.

Fig 1. Chain Access (access door removed)



HEALTH AND SAFETY PRECAUTIONS

Please take care when installing the boiler that the requirements of the Health and Safety at Work Act 1974 are met.

Some types of fire cement are caustic and should not be allowed to come into contact with the skin. In case of contact wash with plenty of water.

If there is a possibility of disturbing any asbestos in the course of installation then please use appropriate protective equipment.

There must be an adequate air supply into the room in which the appliance is installed to provide combustion air. The combustion air supply must be via a permanently open vent. This is particularly necessary if the room is double glazed. It must be positioned such that it is not liable to blockage.

In addition to these instructions the requirements of BS.8303 and BS.6461 Pt 1&2; 1984 must be fulfilled. Local Authority Bylaws and Building Regulations, including those referring to National and European Standards regarding the installation of Solid Fuel burning appliances, flues and chimneys must also be observed.

Careful consideration must be given to the siting of the stove and boiler, since the Boiler Access door MUST be accessible in order to sweep the chimney. This means that there must be at least 750mm free space above the top of the stove. The flow pipe connected to the top of the boiler must rise continuously up to the vent. It must not drop down and nominally horizontal runs should have some upward slope.

SYSTEM

The Charnwood Flue Boiler is designed to be used with a Charnwood stove. It can be used as a 'stand alone' heating system for domestic hot water and/or radiators, or as part of a larger heating system. There are a variety of ways in which it is possible to link up this boiler with a larger system, and some of these are shown in Figs 2 to 4.

When a small stove such as the Cove 1 and a Flue Boiler FB100 are used, a simple system as shown in Fig 2 may be used. A larger size of hot water cylinder (i.e. above 115 Litres) is usually required to reduce the possibility of boiling, since on this system no heat leak radiator is shown. If the stove is to be run near its full capacity, then a heat leak radiator should be considered.

If a larger stove such as the Island 3 and Flue Boiler FB300 are used, then extra radiators may be added to the system as shown in Fig 3. These are controlled by a high limit pipe thermostat mounted on the

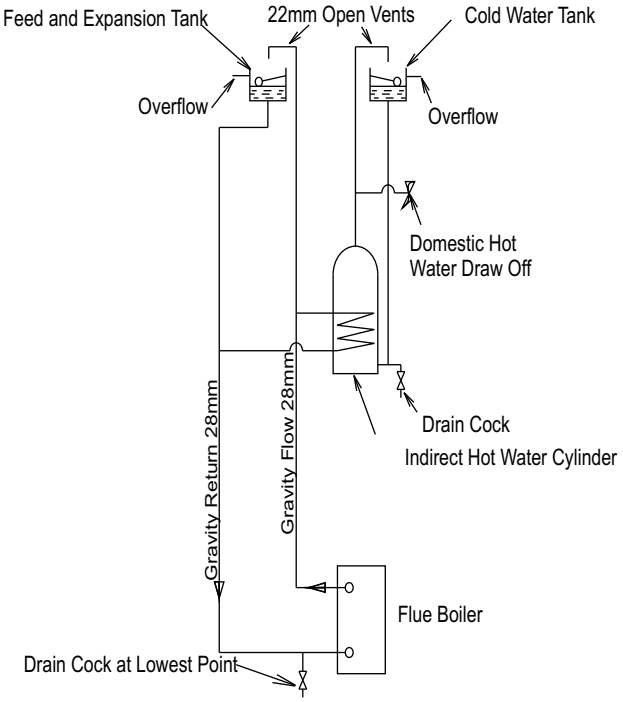


Fig 2. Basic System Where Heat Leak Radiator Is Not Required

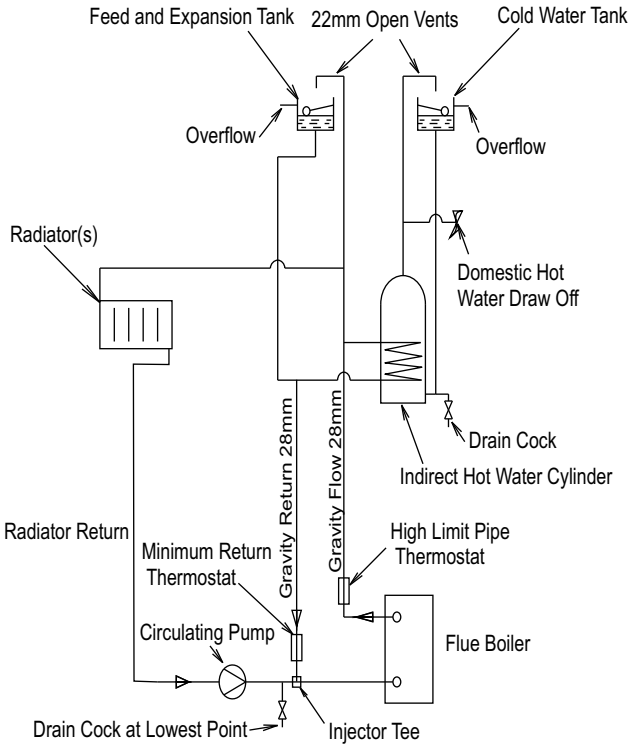


Fig 3. Larger System With Heat Leak Radiator Controlled By High Limit Pipe Thermostat

Fig 4. Basic Link Up system. Flue Boiler provides input to existing system via Dual Coil Tank

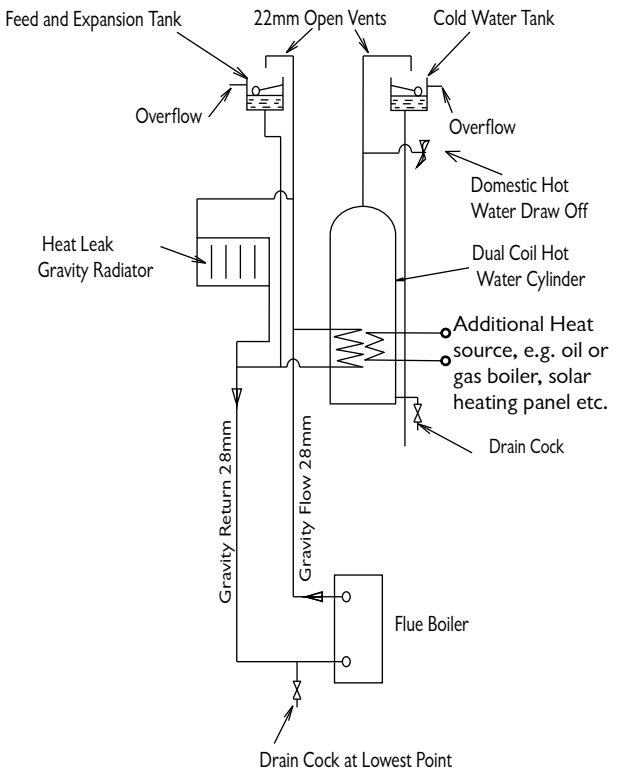
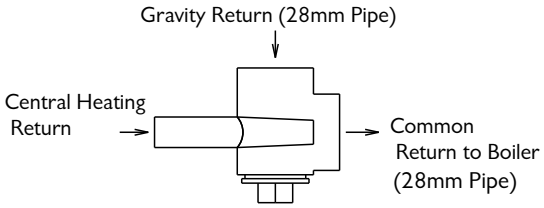


Fig 5. Injector Tee as used in Fig 3 .



gravity flow pipe, which gives priority to the domestic hot water, but brings the pump on to heat the radiators when the flow pipe temperature exceeds the set temperature. A minimum return pipe thermostat will prevent cold water being pumped around the circuit

The stove and flue boiler may be installed as part of a larger system, to provide back up or additional heat whilst the main boiler is not operating. There are many ways in which this "Link Up" may be achieved, and a basic link up system is shown in Fig 4. This uses a "Dual Coil"cylinder. In this way the Flue Boiler is able to input heat into the system without affecting the circulation in the other primary coil(s). Similarly, if the other heat source is operating and the stove is not lit, then there will be very little effect on the circulation through the flue boiler. Additional controls such as an electronic timer may be added in the "Link up" case if required and in some instances the controls of the main boiler may be extended to control a pump in the flue boiler circuit.

Fig 6. Free standing Installation

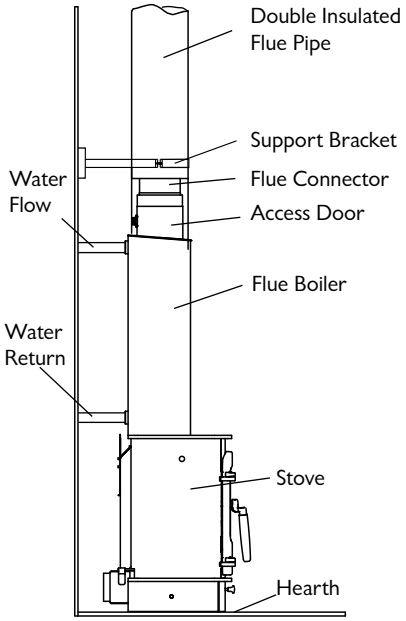
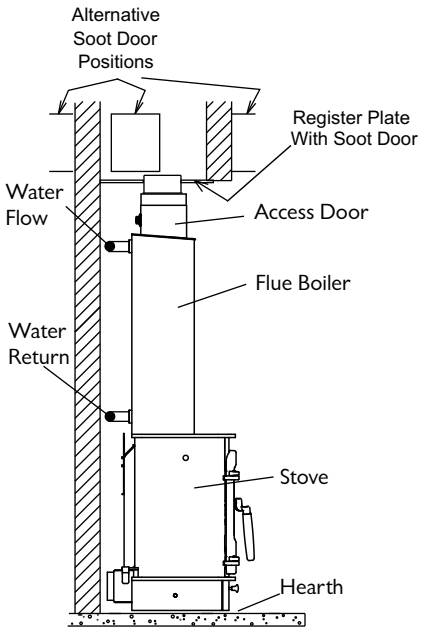


Fig 7. Horizontal Register Plate Into Conventional Chimney



CHIMNEY, HEARTH & FIRE SURROUND

Ensure that all the Instructions and Regulations contained in the Charnwood Stove Installation Instructions are carried out and adhered to. The Flue Boiler will limit the number of Flue Connection options available, and three typical options are shown in Figs. 6 - 8.

CONNECTIONS TO FLUES

There are several different ways of connecting the Flue, but in each case the top flue outlet of the stove is used. The Flue Boiler is not designed to use the rear flue outlet.

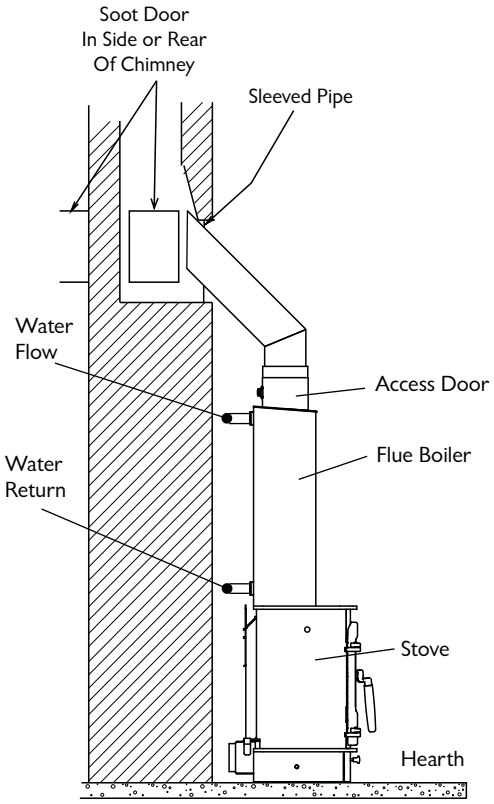
A freestanding installation is shown in Fig 6 using double insulated stainless steel fluepipe connected to the top of the boiler using a short adaptor. The adaptor is available from the Fluepipe manufacturer. The double insulated flue must be supported by brackets, and not rely on the boiler for its support, since this would make removal of the boiler very difficult. The adaptor may require a short piece of single wall stainless steel fluepipe to slide into the top of the boiler.

Fig 7 shows the flue connections into a standard chimney using a high level horizontal register plate. The minimum distance above the top of the stove in this case is 800mm.

Fig 8 Utilises a 135° Bend to connect into the flue.

In each of these instances the chimney may be swept through the stove.

Fig 8. Vertical Register Plate With Bricked Up Fireplace



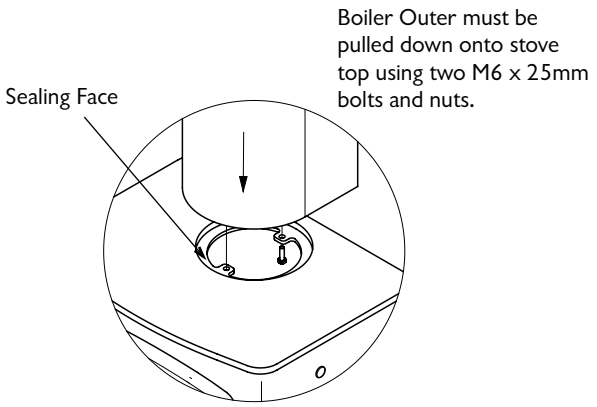
INSTALLATION

First remove the top blanking plate of the stove and apply the self adhesive glass fibre webbing on the sealing face. When handling glass fibre, use gloves and a suitable face mask. Lower the boiler into position as shown in Fig 9. Align the boiler fixing tags with the flue ring tags on the stove, and insert the two M6 x 25mm bolts, attach their nuts and tighten until the outer lower edge of the boiler is drawn firmly into contact with the top of the stove. It is essential that this joint is well made to prevent condensation escaping from the boiler / stove interface. Slide the adaptor up until its inner diameter is aligned with the flue boiler and lower it down into the top of the Flue Boiler and seal the joint with fire cement.

When the Stove, Boiler and Fluepipe have all been fixed in position, remove the access door and check the position and location of the chains and hangers since these are held in by gravity and may have come out during installation. Replace the Access door and clip firmly together.

Connect the 28mm diameter flow and return water pipes to the 1inch BSP fittings on the back of the boiler using brass compression fittings and ensure that the flow pipe (top) rises continuously to the vent. Fill the system with water + antifreeze + corrosion inhibitor as required and check for leaks.

Fig 9. Fitting& Sealing the Boiler to the Stove



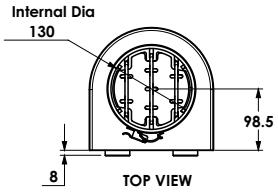
COMMISSIONING

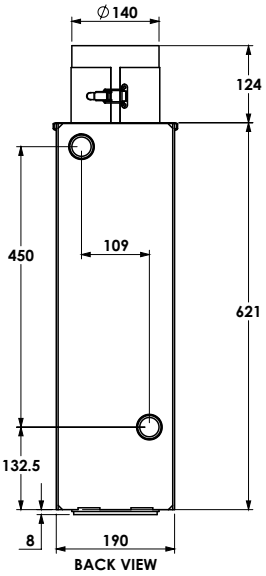
On completion of the installation and after allowing a suitable period of time for the fire cement and mortar to dry out, light the stove and check to ensure that smoke and fumes are taken from the appliance up the chimney and emitted safely. Also check all joints and seals for soundness.

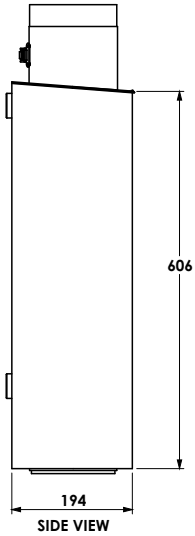
Adjust the central heating pump (if fitted) to give the correct water flow against the circuit resistance and balance the system correctly.

On completion of the installation and commissioning please leave the operating instructions with the customer and advise on the use of the appliance and any controls on the system.

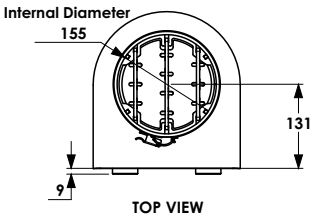
FB100

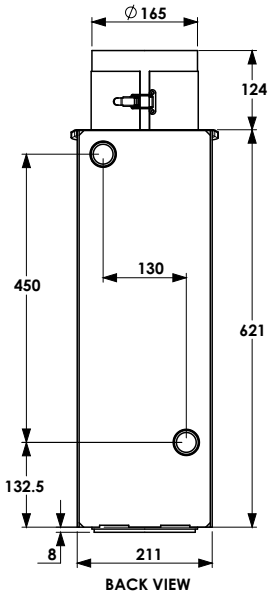


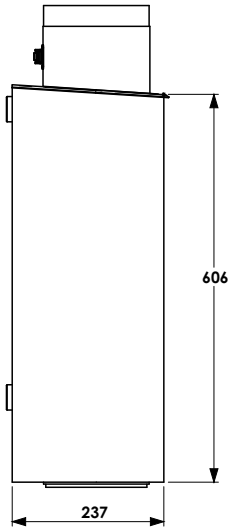




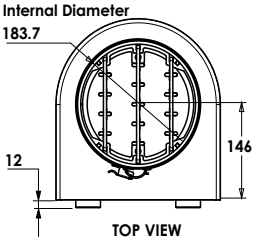
FB200

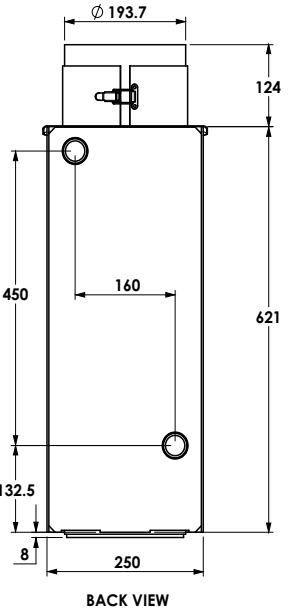


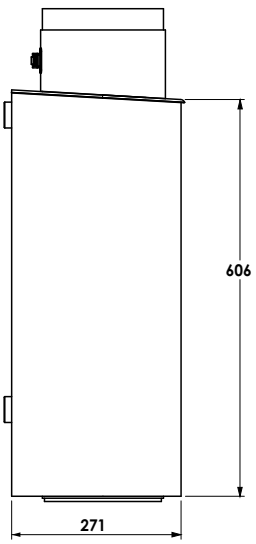




FB300







FLUE BOILERS PARTS LIST

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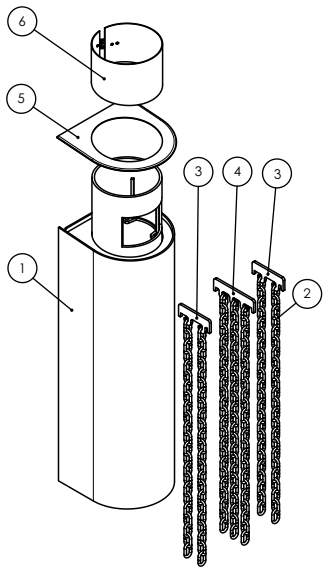
FLUE BOILERS

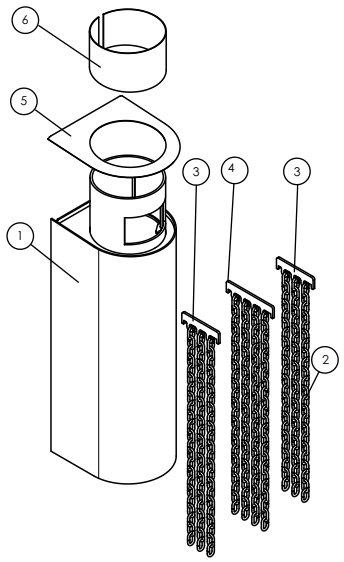
Issue B

FB100



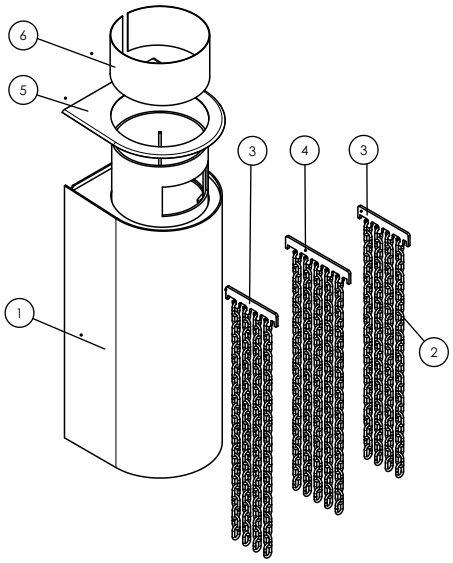
Item	Part No.	Description
1	010/FB100/##	Flue Boiler 130mm
2	006/FB112	Boiler Chain Length
3	010/FB107	2 Hook Hanger
4	010/FB207	3 Hook Hanger
5	004/FB113	Top Cover Plate
6	004/FB108	Access Door

FB200



Item	Part No.	Description
1	010/FB200	Flue Boiler 150mm
2	006/FB112	Boiler Chain Length
3	010/FB207	3 Hook Hanger
4	010/FB306	4 Hook Hanger
5	004/FB213	Top Cover Plate
6	004/FB208	Access Door

FB300



Item	Part No.	Description
1	010/FB300/##	Flue Boiler 180mm
2	006/FB112	Boiler Chain Length
3	010/FB306	4 Hook Hanger
4	010/FB307	5 Hook Hanger
5	004/FB313	Top Cover Plate
6	004/FB308	Access Door

To obtain spare parts please contact your local stockist giving Model, Part No. and Description. In case of difficulty contact the manufacturer at the address shown.

charnwood BISHOPS WAY, NEWPORT, ISLE OF WIGHT PO30 5WS, UNITED KINGDOM

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CHARNWOOD FLUE BOILER GUARANTEE

Your Charnwood Flue Boiler is guaranteed against material and manufacturing defect for a period of 1 year from date of purchase. The following conditions apply:

- If any part fails due to manufacturing or material defect within the guarantee period Charnwood will, free of charge, either repair or replace the part at their discretion. The decision of Charnwood is final.
- This guarantee is for parts and labour only.
- Consumable items such as rope seal and associated parts are not included.
- Charnwood will not be liable for any consequential loss or incidental loss, damage or injury however caused.
- This guarantee will become void if the appliance: is not installed in accordance with the installation instructions; is not regularly serviced, in accordance with the installation instructions; is subject to misuse or neglect, including the use of non-recommended fuel or operation without water in the boiler; is used on stoves other than those manufactured by Charnwood; or if repairs or modifications have been carried out by anyone other than Charnwood or their official representatives.
- All claims on this guarantee must be made through the supplier of the appliance and must be accompanied by proof of purchase.
- Nothing in this guarantee shall affect your statutory rights.
- This guarantee is applicable in the UK, Ireland and France.

your premier dealer

REV. FB 11.08

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