

Firefox 12B (Boiler Model) CE V.11



Multi-fuel central heating stove Installation & operating instructions. To be left with user.

This appliance must be installed by a competent person and must comply with national building regulations and local by-laws. Unless the installer is qualified to approve the installation, then approval must be sought from your local building control officer. It is an offence under UK law not to comply with this advice. After installation the appliance should be ready for use and instruction as to use and control given.

Technical Specification

This appliance is suitable for continuous use

WOOD (Moisture less than 20%)

Mean efficiency	69.6%
Heat output	13.6 KW
Output to water	7.4 KW
Output to room	6.2 KW
Mean CO at 13% O ₂	0.83
Mean flue gas temp	339
Flue gas mass flow	7.9 g/s

ANCIT

Mean efficiency	73.2%
Heat output	12.8 KW
Output to water	8.0 KW
Output to room	4.8 KW
Mean CO at 13% O ₂	0.39
Mean flue gas temp	354 C
Flue gas mass flow	7.3 g/s
Minimum ventilation requirements at 13.6 KW	748 Cm (12.02 inch)

Please note:

No extractor fans to be fitted in same room as appliance. This appliance should not to be used in a shared flue. Safe distance from combustible materials:

Rear – 175mm

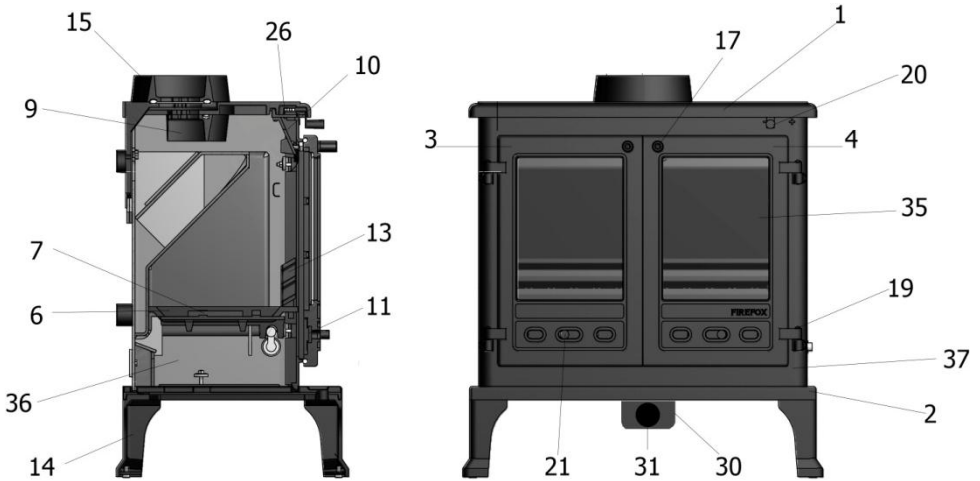
Sides – 80mm

Assembly Instructions

Please read carefully the manufacturers will not accept responsibility for any fault due to incorrect installation.

- The Firefox 12B is supplied as standard with a thermostatically controlled air supply at the rear of the stove. The stove legs require fitting to accommodate the thermostat controls.
- The position of the flue collar will be determined by the installer for either top or rear outlet. Supplied is a half collar this fits beneath the flue collar when installing as **top connection only** and acts to impinge gas flow. Note: the open end of the half collar faces rearwards (see illustration on page 2). The half collar is not required on rear connection.
- A blanking plate will cover the outlet not used and acts as a clean out point.
- No sealants are required as ceramic fibre rope seals are fitted to flue collar and blanking plate.

Assembly Instructions – Parts List



1	<i>FFX12003</i>	Stove Top	21	<i>FFX022B</i>	Knob Set (2 pcs)
2	<i>FFX12002</i>	Stove Base	22	<i>FFX12005R</i>	Grate Rocker Bar (not shown)
3	<i>FFX12004L</i>	Stove Door Left Hand	24	<i>FFX12014</i>	Ash Pan (not shown)
4	<i>FFX12004R</i>	Stove Door Right Hand	25	<i>FFX12021</i>	Air Slide Guide Plate (4 pcs)
5	<i>FFX12003E</i>	Expanding Flange (not shown)	26	<i>FFX12023</i>	Secondary Air Slide
6	<i>FFX12005</i>	Grate Outer	27	<i>FFX12032</i>	Heat Shield Primary (not shown)
7	<i>FFX12005B</i>	Grate Inner Bars (10 pcs)	28	<i>FFX12033</i>	Heat Shield Secondary (not shown)
8	<i>FFX12007F</i>	Flue Blanking Plate (not shown)	29	<i>FFX12019</i>	Glass Clip (8 pcs) (not shown)
9	<i>FFX12007</i>	Half Collar Defuser	30	<i>FFX12012</i>	Thermostat Assembly
10	<i>FFX12024</i>	Air Wash Deflector Plate	31	<i>FFX12013</i>	Thermostat Knob
11	<i>FFX12020</i>	Primary Air Slide (2 pcs)	32	<i>FFX12026</i>	Door Seal (not shown)
12	<i>FFX12029</i>	Operating Tool (not shown)	33	<i>FFX12027</i>	Glass Seal (not shown)
13	<i>FFX12011</i>	Front Bar	34	<i>FFX1</i>	Heat Resistant Mitten (not shown)
14	<i>FFX12010</i>	Leg (4 pcs)	35	<i>FFX12018</i>	Door Glass (2 pcs)
15	<i>FFX12008</i>	Flue Collar	36	<i>FFX12034</i>	Stove Body
16	<i>FFX12017</i>	Door Catch (not shown)	37	<i>FFX12035</i>	Front Panel
17	<i>FFX12016H</i>	Door Handle Holder (2 pcs)	38	<i>FFX12036</i>	Deflector (not shown)
18	<i>FFX12016</i>	Door Handle (2 pcs) (not shown)	39	<i>FFX12038</i>	Grate Pivot Block (not shown)
19	<i>FFX12028</i>	Hinge Pin (4 pcs)			
20	<i>FFX022T</i>	Knob			

Installation Instructions

This appliance has been extensively tested for safety and efficiency. Do not attempt to modify it. Always use genuine parts as recommended by your supplier. Failure to adhere to this advice could invalidate your guarantee.

This appliance must be installed in compliance with current building regulations, local authority by-laws and European and National standards.

Site conditions will vary, a certain amount of customisation of installation will be required.

To achieve best performance of installation refer to 'Approval Document J' of building regulations for guidance.

If the installer cannot self certify the installation then your local building control department must approve the installation.

Members of the following schemes can self certify the installation:

- HETAS LTD (www.hetas.co.uk) 01462 634 721
- BESCA LTD (www.Besca.org.uk) 0800 652 5533
- APHC (www.aphc.co.uk) 02476 470 626

Health and safety regulations

Handling - this appliance is heavy, adequate facilities are required for site handling .

Fire cement - do not allow fire cement to come in contact with skin as some are caustic .

Asbestos - this appliance contains NO asbestos .

Chimney

The chimney should be checked as to conformity to building regulations; it must be swept before installation. This will highlight any blockages or constructional problems.

The chimney flue should not be less than 175mm diameter and not more than 230mm diameter. If square it must have an equivalent cross section.

If these requirements are not met then a suitable method of lining should be adopted. Connection to an approved pre-fabrication flue is acceptable but must comply with building regulations.

Installation Instructions Continued

Flue draught

Water Gauge- Minimum 1.2mm / Maximum 2.5mm

The flue draught should be checked under high output. A flue stabiliser should be fitted if it exceeds the maximum draught. If the flue draught is too low then the reason for this should be investigated. The performance of the appliance will be compromised if the flue draught is out of the recommended limits.

Chimney Connection

A short length of stove pipe will be required to connect the appliance to the chimney. There are various ways of sealing the pipe to the chimney. A register plate is most common. The length of the stove pipe will be dictated by the height of the register plate in the chimney opening.

The stove pipe will NOT be smaller in diameter than the manufacturers stated outlet diameter (6 inch-150mm internal diameter), and will be made of Vitreous Enamelled Mild Steel with nominal thickness of 1.2mm or 316 Grade Stainless Steel.

The stove pipe should not impinge on any gathers or brickwork and not be closer than 76mm to any chimney walls.

Any changes in direction of the flue should not be less than 45 degrees; if any 90 degrees bends are required then a swept elbow or 2 x 45 degree elbows should be used. The elbows require a clean out door at the change in direction.

Provisions must be made for access to the chimney connection i.e. soot door.

No horizontal run shall be more than the diameter of the flue outlet of the appliance, 6 inches (150mm).

Air supply

This appliance requires – 4730mm^2 (7.4 inch^2) of un-obstructed free air supply. If a draught stabilizer is fitted then the requirement is 8810mm^2 (13.65inch^2)

Consideration should also be made for other appliances ventilation requirements in the same space.

Installation Instructions Continued

Clearances

The Firefox 12B can be recessed into an inglenook or fireplace but must have a permanent free air gap of at least 150mm to the sides and top, and a minimum of 100mm at the rear. This allows access for cleaning and maintenance and free passage of air for the thermostatically controlled air vent.

This appliance must be placed on a non-combustible hearth. This must be constructional or at least 125mm thick and should be in accordance with current building regulations. All walls closer than 300mm should be a minimum of 75mm thick and be of non-combustible materials.

If this appliance is to be placed on a floor with inadequate load bearing capacity then specialist advice must be sought on re-enforcement, e.g. load distribution plates

The minimum distance to combustible materials is 150mm to sides and rear, and 600mm from top and stove pipe. No furniture is to be placed nearer than 900mm from any surface of the stove or stove pipe.

Boiler System

The design and installation of the heating system will be unique to each application. A qualified plumbing and heating engineer must be responsible for all calculations, design and installation. The manufacturers cannot be held responsible for any losses due to incorrect specifications of the heating system.

The stove must NOT be connected to a sealed heating system or unvented HW cylinder. If the stove is to be linked to an existing system then a neutralizer must be incorporated as a common link. The neutralizer will come with its own instructions as to use.

The stove must be connected to a double feed indirect water cylinder using 28mm flow and return pipes, rising continuously from the boiler to the cylinder. The cylinder with a heat soak radiator of at least 2kW must be positioned above the stove.

An open cold feed and expansion cistern must be fitted with separate cold feed and vent pipes. These pipes must be un-valved. The vent pipe should be 22mm diameter and rise continuously from the boiler. The vent pipe can be formed in the primary flow.

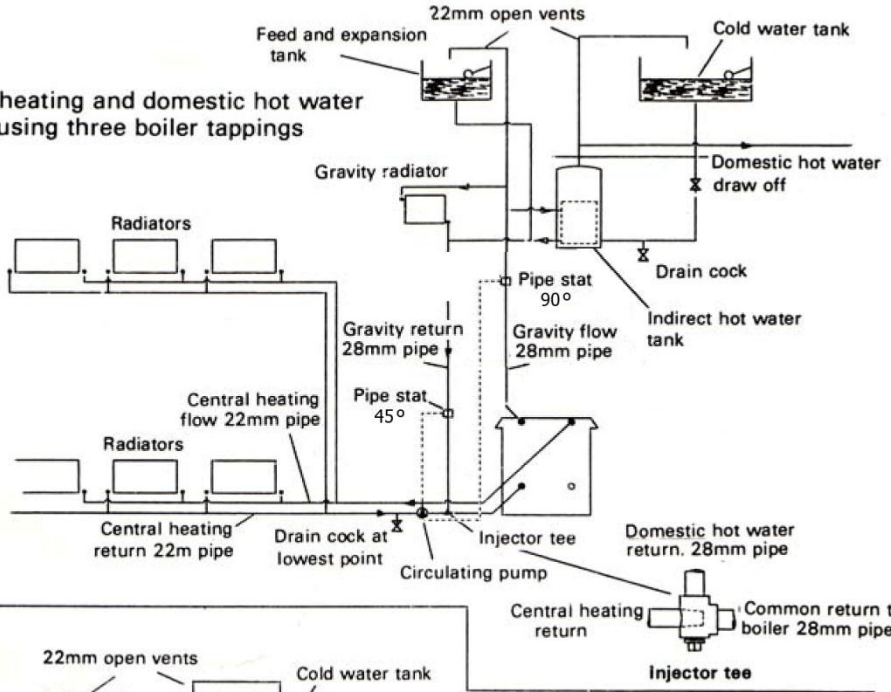
On heating and hot water installations, a semi-pumped system should be used with gravity circulation to the hot water cylinder. One 2kW heat soak radiator fitted will dissipate heat when central heating is switched off.

Use all four tappings when using separate gravity and pumped heating loops. The flow and returns should be taken diagonally across opposite sides of boiler. If only two tappings are to be used on a common flow system they should be taken diagonally opposite and the remaining tappings should be plugged. An injector 'I' should be fitted on the primary return from the circulation pump. The gravity flow pipe should have a high limit thermostat fitted set at 90 degrees Celsius. This will override the circulation pump control and dissipate excess heat around the radiator circuit.

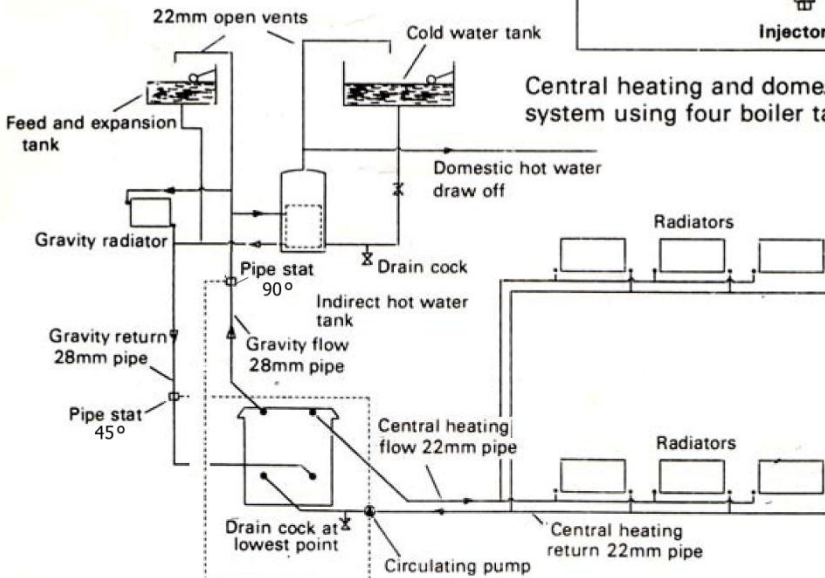
The fitment of a low limit thermostat on the return pipe from the hot water cylinder close to the boiler is recommended. This should maintain the return water temperature above 45 degrees Celsius preventing activation of the circulation pump until the gravity circuit is up to temperature. It is important to fit a corrosion inhibitor to the water system.

Typical Installation for Integral Boiler

Central heating and domestic hot water system using three boiler tappings



Central heating and domestic hot water system using four boiler tappings



Commissioning

On completion of installation check that all cements have hardened. A small fire can then be lit; check there is full evacuation of smoke and fumes up the chimney.

Ensure that the customer is instructed on the use of the appliance as well as recommended fuels. Insist that the customer reads the instructions and fully understands the installations.

Advise the user on the use of a fireguard which must be to BS6539 standard and what measures to be taken if smoke or fumes are emitted from the stove.

Operating Instructions

Primary Air (Manual Control)

Primary air (the air supply under the grate) is controlled via sliding vents in the bottom of the doors. This provides an air supply to the bed of the fire. The plus symbol (+) indicates more air, the minus symbol (-) indicates less air. The more air fed to the fire the hotter it will burn, however more fuel will be consumed. Chimney performance, atmospheric conditions and fuel quality will affect performance so practice will be required to get ideal setting of air conditions.

Secondary Air (Airwash)

Secondary air is controlled by the sliding vent above the doors. The control knob is situated to the top right of the stove. The plus symbol (+) indicates more air, the minus symbol (-) indicates less air. This airwash system ensures the glass is kept clean and feeds secondary combustion air to the fire to burn off un-burnt volatiles, reducing emissions into the chimney and the environment.

Grate

The grate is made up of fixed grate bars and sliding grate bars, these are operated by a long cam (Rocker bar). The rocker bar passes through a hole in the right hand side panel. The operating tool fits the flats on the end of the rocker bar.

Door glass

The glass used in the doors will resist very high temperatures, well above the output of this appliance. The glass panels will not break with heat. The airwash system will usually clear any soot or tar deposits on the glass panels, but if cleaning is required then use a recommended stove glass cleaning foam. Only clean glass when it is cold. Do not use any abrasives as this will scratch the glass making soot and tar build-up harder to remove. To replace the glass, remove the door by lifting off hinge pins, lay door flat and remove retaining clips. Lift out old glass and check glass seal. Replace if necessary. Fit new glass panel and retaining clips, tighten screws and place door back on to hinge posts.

Operating Instructions

Door handle

The door handle along with the mitten provided are operating tools. It is not advisable to leave the door handle connected to the door as high temperatures will be created in the handle and could cause harm if handled. Always remove the handle using the mitten provided. Alert other users to these instructions.

De-Ashing

It is important that the stove is de-ashed regularly. The airflow through the grate keeps it cool, adding longevity of grate life and minimising distortion. To operate: Offer the operating tool to the riddling bar (right hand side panel near base) and using slow positive movement riddle the grate back and forth. The reciprocating movement will clear the grate. The grate can jam occasionally with clinker or more often with nails and screws from used timber. Use shorter, faster movement of the tool to dislodge. If jamming persists then the obstruction must be removed when the stove is cold. If the grate is kept clear and maintained it will last longer.

Notes on Wood Burning

Wood burns best on a bed of ash and it is therefore only necessary to remove surplus ash from the grate occasionally. Burn only dry, well seasoned wood which should have been cut, split and stacked for at least 12 months with free air movement around the sides of the stack to enable it to dry out. Burning wet or unseasoned wood will create tar deposits in the stove and chimney and will not produce a satisfactory heat output. It is recommended that the moisture content of the wood be no more than 20% for ideal combustion.

Notes on Solid Fuel Burning

Always de-ash before refuelling and do not let the ash build up to the underside of the grate bars. Solid fuel produces ash, which if allowed to build up will stifle the air flow through the grate and eventually cause the fire to die. With some solid fuels a residue of burnt fuel or clinker will accumulate on the grate. Allow the fire to go out periodically to remove this. We cannot stress firmly enough how important it is to empty the ashpan regularly. Air passing through the fire bed cools the grate. Distortion or burning out the grate bars is nearly always caused by ash being allowed to build up the underside of the grate.

Lighting The Stove

We recommend that you have two or three small fires before you operate your stove to its maximum heat output. This is to allow the paint to cure and the castings to relax and consolidate location. We recommend a 'running in' procedure after long shut downs to preserve the life of the stove. During this you may notice an unpleasant smell. It is not toxic, but for your comfort we suggest that during this period you leave all doors and windows open.

Operating Instructions

Lighting The Stove ...Continued

First load the fire with starting fuel i.e. paper, dry kindling timber and/or fire lighters in the mode chosen, either wood or coal.

Light the fire at the base leaving all air controls open. Allow the fuel to reach a steady glow and build the fire up gradually. Once you have a good fire established across the grate bed, further fuel can be added as required.

When your fuel is well alight you can start to restrict the primary air intake. If you are burning only wood, the primary air control can be fully closed. If you are burning solid fuel you will require more primary air. Your stove is burning with maximum efficiency when a bright fire is achieved using minimum air inlet.

The stove can be banked up for long periods. When burning solid fuels, de-ash the grate using the riddling mechanism and empty the ashpan. Open air controls and let the fire burn brightly for a short period. Refuel and close the air controls – the exact setting required will depend on the fuel used and the chimney draw so some practice may be necessary. To revive the fire, open the air controls until the fire is burning brightly, de-ash if necessary (solid fuel only) and refuel. Set air controls as required. **DO NOT OVERLOAD.**

Solid Fuels

We recommend the majority of approved manufactured smokeless fuels. Household coal, which is 'smokey' fuel can also be used but note that different types will give different performances. Use as an incinerator is not recommended as fumes from plastics etc will cause pollution to the atmosphere and will damage the stove's internals.

Recommended fuels: seasoned logs with less than 20% moisture content, solid fuel:- anthracite large nuts, briquette smokeless fuel i.e. Ancit, Phurnacite, Taybrite, homefire ovals suitable for closed appliances.

PETROLEUM COKE FUELS OR HOUSEHOLD WASTE SHOULD NOT BE BURNT ON THIS APPLIANCE

Should any difficulties arise over fuel quality or suitability, consult your local supplier or the Solid Fuel Advisory Service.

Safety Notes

FIRES CAN BE DANGEROUS

Always use a fire guard in the presence of children, the elderly or the infirm. Inform all persons the dangers of high temperatures during operation of appliance including the stove pipe. Use operating tools provided.

DO NOT OVER FIRE

It is possible to fire the stove beyond its design capacity. This could damage the stove, so watch for signs of overfiring - if any part of the stove starts to glow red, the fire is in an overfire situation and the controls should be adjusted accordingly. Never leave the stove unattended for long periods without adjusting the controls to a safe setting - careful air supply control should be exercised at all times.

WARNING - FUME EMISSIONS

Properly installed and operated, this appliance will not emit fumes. Occasional fumes from de-ashing and refuelling may occur. Persistent fume emission must not be tolerated. If fume emission does persist, then following immediate action should be taken:

1. Open doors and windows to ventilate the room.
2. Let the fire out, or eject and safely dispose of fuel from the appliance.
3. Check for flue chimney blockage, and clean if required.

Do not attempt to relight the fire until the cause has been identified. If necessary, seek professional advice.

DO NOT FIT AN EXTRACTOR FAN IN THE SAME ROOM AS THIS APPLIANCE

General Maintenance

Stove Body

The stove is finished with a heat-resistant paint and this can be cleaned with a soft brush. Do not clean whilst the stove is hot, wait until it has cooled down. The finish can be renovated with a suitable brand of paint.

Glass Panels

Clean the glass panels when cool with a proprietary glass cleaner. Highly abrasive substances should be avoided as these can scratch the glass and make subsequent cleaning more difficult. Wet logs on heated glass, a badly aimed poker or heavy slamming of the doors could crack the glass panels. The glass will not fracture from heat.

Chimney

Check your chimney each year before starting to use your stove for the winter. Birds may have nested in the chimney or the masonry may have cracked. Both chimney and flue pipe must be swept at least once a year.

Trouble Shooting

POOR HEAT OUTPUT

A) Stove too small for a room. Seek advice from a Qualified Heating Engineer as to (KW) output required for room size as a guideline the volume of the room in cubic feet divided by 500 i.e. room 15'x15'x8' would require 3.6kw approx.

B) Chimney and/or flue pipe restricted, room ventilation restricted. On installation these will have been checked but regular maintenance is necessary as conditions can change i.e. soot build up, birds nesting, masonry fall, dust build up or furniture blocking vents.

C) Poor quality fuel. Only burn dry seasoned timber, soft woods have a lower heat output than hard woods per hour. Solid fuels vary in heat value check with your coal merchant as to suitability.

DIRTY GLASS PANEL

A) Generally caused by poor fuel quality, see (1c)

B) Use secondary air slide (Airwash) for glass panel.

C) Fire burning too low, open air vents on stove create hot fire this may 'burn' glass clean.

D) If glass requires cleaning use glass cleaner recommended by your supplier, only use glass cleaner or cold glass. DO NOT USE any abrasives or scrapers as these will scratch glass causing tar build up harder to remove.

UNBURNT FUEL IN FIREBOX

Insufficient air reaching fuel. Open primary air slide, this will supply combustion air to burn fuel fully (unless it has reached a 'point of return'). Check ash pan is full, empty if required, grate may be blocked de-ash with riddler. Check for jammed clinker or nails in grate when fires out and cold.

SMOKE AND FUMES ENTERING ROOM

These are very dangerous and must NOT be tolerated. Open window and allow fire to burn out, seek expert advice immediately. DO NOT USE stove until the problem is solved. A list of Qualified Engineers is available from

UK Solid Fuel Association

7 Swanwick Court

Alfreton

Derbyshire DE557AS

Tel- 0845-601-4406

R.o.I.

Irish National Fireplace Organisation

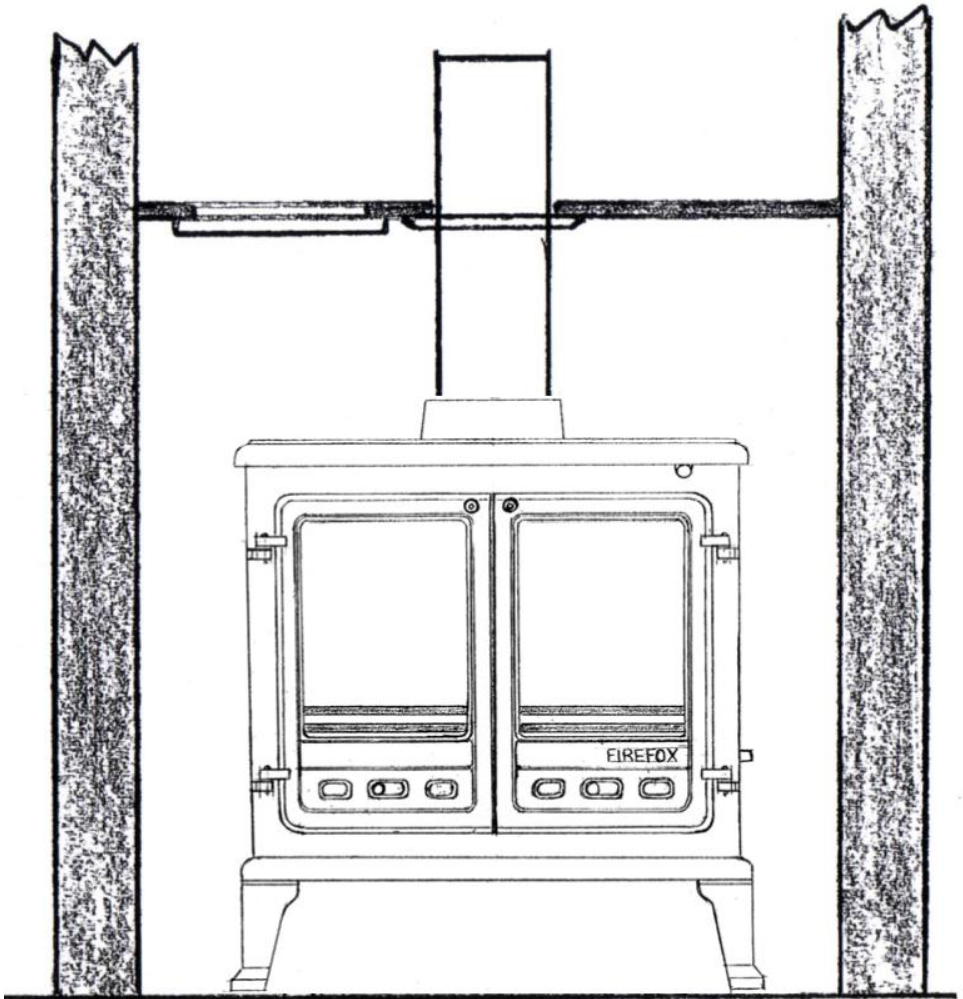
162 Chapel Street

Dublin

Tel 01 801 5959

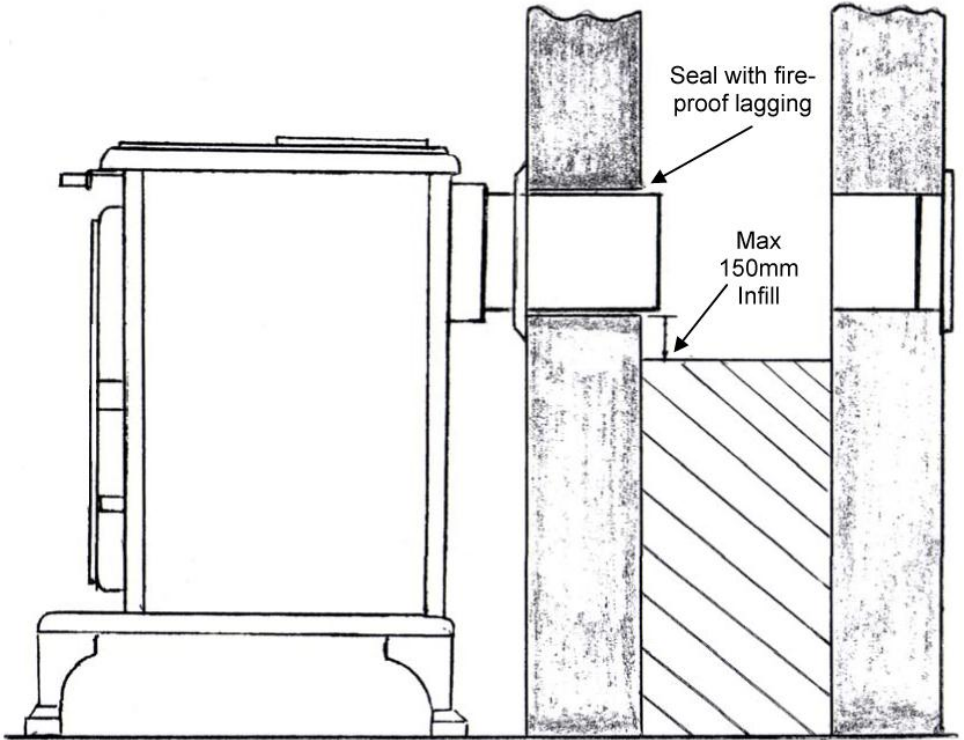
Installation Diagrams

Typical Top Flue Installation using steel closure plate incorporating clean out door for chimney sweeping.



Installation Diagrams

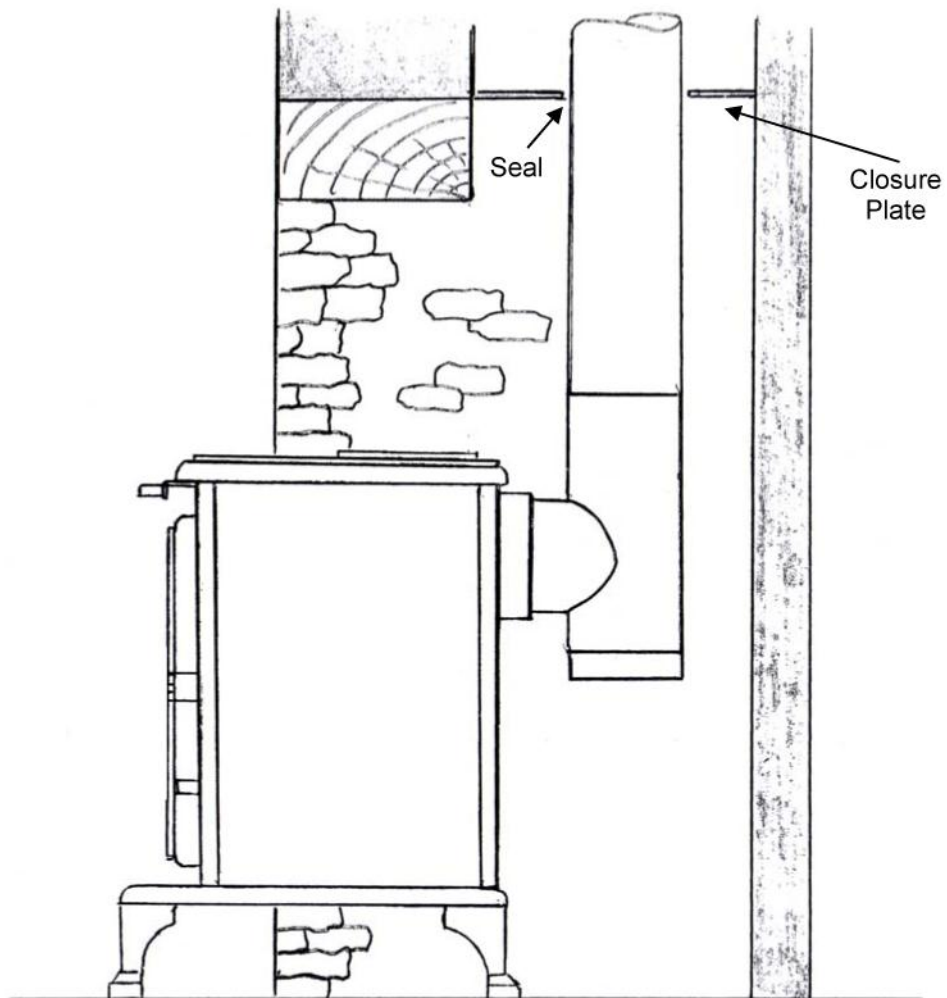
Typical Rear Flue Installation with clean out door.



Installation Diagrams

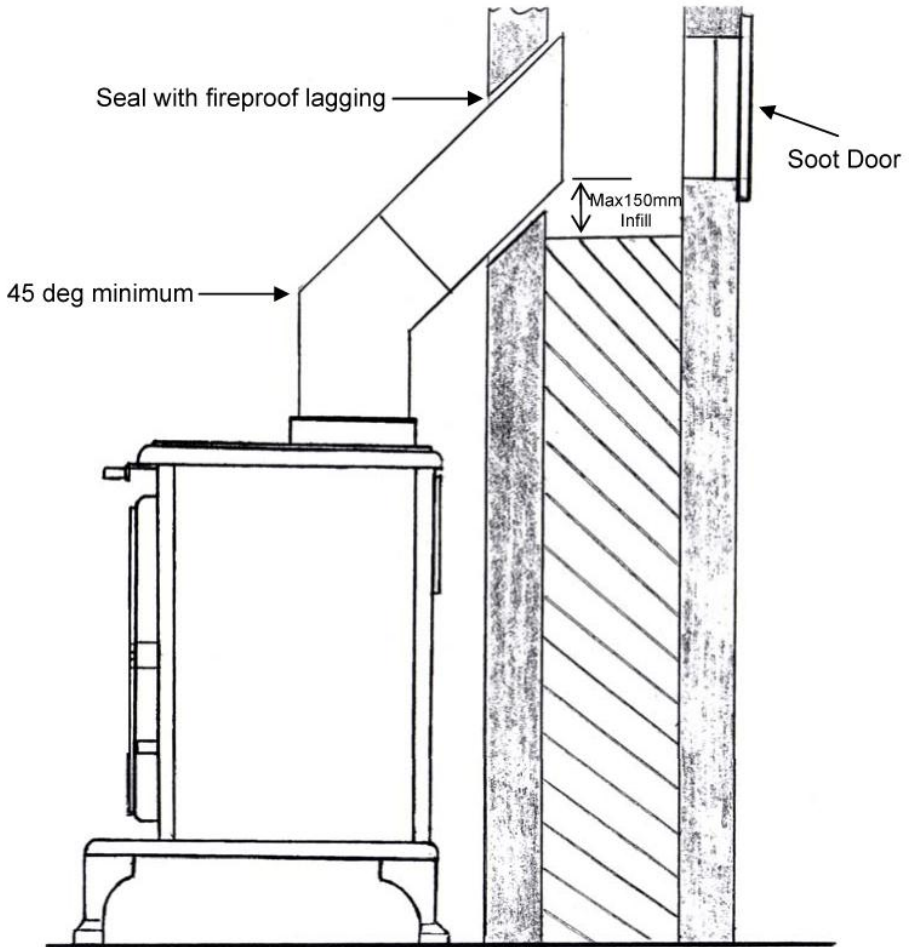
Typical Installation For Inglenook Fireplaces

Inglenook fireplaces can have very large bore chimneys. Check with your installer – you may need stainless steel flexible liner for solid fuel fitting.



Installation Diagrams

Typical Installation Into In Filled Masonry Fireplaces



Appliance Commissioning Checklist

IMPORTANT

Please complete and leave with the customer upon installation completion.

Installer Name.....

Company Name.....

Address.....

.....

Telephone number.....

Date installed.....

Stove model/description.....

Serial number.....

- | | | |
|--|------------------------------|-----------------------------|
| Is the flue system correct for the appliance | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Flue swept for soundness test complete | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Smoke test completed on installed appliance | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Spillage test complete | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Use of appliance and operation of controls explained | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Instruction book handed to customer | Yes <input type="checkbox"/> | No <input type="checkbox"/> |