



# Cannonbury 4 & Cannonbury 5 LOW EMISSIONS INSET SOLID FUEL CONVECTOR ROOMHEATERS

INSTALLATION AND OPERATING INSTRUCTIONS LEAVE THIS DOCUMENT WITH THE HOUSEHOLDER!

CE	This stove exceeds the safety and performance requirements of European Standard EN13229-2001 Independently tested by SGS.(Notified laboratory No: 0608) in 2010. Intermittent burning solid fuel roomheaters for installation in a single dedicated chimney				
		Cannonbury 5		Cannonbury 4	
400 to combustibles above 100mm minimum air stove stove stove		Wood logs	Anthracite	Wood logs	Anthracite
	Mean flue temperature	246°C	235°C	230°C	269°C
	Mean CO in flue (as if at 13% O2)	0.20%	0.08%	0.14%	0.09%
	Efficiency	80%	77%	83%	78%
	Nominal Output	5.2kW	6.5kW	4.1kW	3.6kW
	Minimum air entry	3300 mm <sup>2</sup>		2700 mm <sup>2</sup>	
	Minimum air space around fire		Back = 0mm, Sides + Top = 100mm		
	Minimum clearance to combustible materials	For installation in masonry fireplace, clearance to combustibles at top: 400m, at sides and back: 150mm			

# Read these instructions! Use only recommended fuels!

Flue Draught This document, when completed by the installer, constitutes part of a 'Hearth Notice' for purposes of Building Law. It must be left with the householder and placed where it can easily be found. measured on INSTALLED AT LOCATION: commissioning Pa BY: WC EMERGENCY CONTACT: Fuel used on commissioning I definitively assert that this installation is safe, has been lit and demonstrated to the householder, conforms with current building regulations and with these instructions SIGNED: DATE:

## TO FIND A QUALIFIED INSTALLER, FUEL SUPPLIER or CHIMNEY SWEEP, CONTACT:

UK: The Solid Fuel Association, 7 Swanwick Court, Alfreton, Derbyshire DE55 7AS Tel:0845-601-4406 <u>www.solidfuel.co.uk</u> Rol: Irish Nationwide Fireplace Organisation, PO Box 11563, Finglas, Dublin 11 Tel:086 236-6553 <u>www.fireplace.ie</u>

#### Republic of Ireland: Control of Atmospheric Pollution Regulations, 1970

This appliance may be used in smoke control areas when burning wood logs, smokeless fuels or peat briquettes, but not petroleum coke United Kingdom: The Clean Air Act 1993 and Smoke Control Areas

Under the Clean Air Act local authorities may declare the whole or part of the district of the authority to be a smoke control area. It is an offence to emit smoke from a chimney of a building, from a furnace or from any fixed boiler if located in a designated smoke control area. It is also an offence to acquire an "unauthorised fuel" for use within a smoke control area unless it is used in an "exempt" appliance ("exempted" from the controls which generally apply in the smoke control area).

The Secretary of State for Environment, Food and Rural Affairs has powers under the Act to authorise smokeless fuels or exempt appliances for use in smoke control areas in England. In Scotland and Wales this power rests with Ministers in the devolved administrations for those countries. Separate legislation, the Clean Air (Northern Ireland) Order 1981, applies in Northern Ireland. Therefore it is a requirement that fuels burnt or obtained for use in smoke control areas have been "authorised" in Regulations and that appliances used to burn solid fuel in those areas (other than "authorised" fuels) have been exempted by an Order made and signed by the Secretary of State or Minister in the devolved administrations.

This appliance has been recommended as suitable for use in smoke control areas when burning wood logs. Further information on the requirements of the Clean Air Act can be found at http://smokecontrol.defra.gov.uk/

Your local authority is responsible for implementing the Clean Air Act 1993 including designation and supervision of smoke control areas and you can contact them for details of Clean Air Act requirements

#### THIS APPLIANCE BECOMES **EXTREMELY** HOT AND CAN PRODUCE POISONOUS GASES. A fire-guard should be used if children or the infirm are present. The installer is required to EXACTLY follow

these instructions and to comply with all local, national and applicable international standards.

This document is a guide to installing and using this heating stove, the installer must understand and comply with all local, national and European standards and regulations.

**ASBESTOS:** The stove does not contain asbestos, but take care to avoid disturbing any asbestos in an old installation.

**WEIGHT** this stove is heavy (86 kg+) - protect your spine by moving the stove only with assistance. Ensure that the intended fireplace can support this weight- consider fitting a load distributing plate if necessary.

# YOUR CHIMNEY...

- ... creates the draught which makes your stove work it must:
- · Generate a draught in use of at least 12Pa (0.05ins wg)
- Be capable of withstanding the temperatures generated.
- · Be incapable of leaking fumes into the dwelling
- This will commonly be achieved by it:
- Being at least 5m high.
- Terminating at least 1m above any roof ridge.
- Having an internal cross-section not less than 0.018m<sup>2</sup> (eg 150mm dia) and never more than 0.14m<sup>2</sup> (eg 375 x 375mm)
- Being free from even the slightest crack or source of leakage.
- Having no bends sharper than 45°.
- Being entirely free of obstructions and swept by a qualified chimney sweep.
- · Being connected only to this one appliance.
- · Being of masonry or otherwise adequately insulated.
- · Conforming to local building regulations.

Special rules apply where the flue passes through timber, thatch or other vulnerable materials- take specialist advice.

**AIR SUPPLY:** Your stove needs air to breathe - there must be a permanent fresh air supply into the space in which it is installed equal to the size given on page 1. This may sometimes be provided by air leaking around door frames etc. (it is commonly accepted that this alone may suffice for appliances <c.5kW) but in any case of doubt, fit a purpose-made air vent. An extractor fan, or another fuel-using appliance in the same building, can remove this air.

FITTING: The stove is to be fitted into fireplaces, which must

- Be made of fireproof materials, eg brick, tile, stone, iron.
- Have a hearth at least 125mm thick (which may include the thickness of a solid floor) extending at least 225mm in front of the appliance and 125mm to each side.

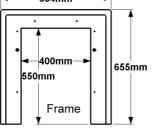
• Be capable of withstanding the very high temperatures generated by this appliance.

• Have free space of at least 100mm for air to circulate at the top, front and sides around the in-room parts of the appliance.

## FITTING FRAME A metal fitting frame is available

throat plate removed, consider fitting cleaning hatches to provide access if needed.

FITTING TO FLUE PIPE OR LINERS A round flue-pipe adaptor is available to connect to standard 150mm flue pipe. The adaptor can be sealed to the pipe or liner (fitted with a standard 150mm adaptor) with



fire cement before inserting the stove in its fireplace, the adaptor is

then smeared with fire cement and screwed to the stove outlet from inside.

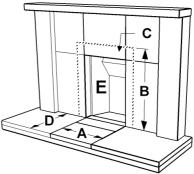
## FITTING: THE 'ENGLISH' METHOD

These models can fit straight into a standard British or Irish fireplace conforming to BS1251 & BS8303. The fireplace can be of any shape, but will always:

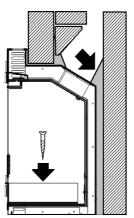
- Have an opening width (A) of between 400 and 420mm,
- An opening height (B) of between 540 and 560mm,
- A flat area (C) extending 70mm around the opening
- Have a hearth extending at least 300mm (D), without
- obstructions to prevent the door opening.

(The fireplace will become VERY hot - Where thin slabs of mineral material (marble, limestone etc) are used to face a fireplace, we recommend using 5 separate panels, as shown, to allow for differential expansion.)

The Cannonbury 4 model will fit directly into any correctly



constructed fireplace with the fireback (E) in place. The larger Cannonbury 5 model requires the fireback to be broken up and removed, so that a clear, level depth of



at least 260mm is available.

Fit a soft fibre seal against the back of the in-room part of the stove using the adhesive tape supplied. Place the appliance on the hearth and push it fully into the fireplace so that the seal is compressed forming an **absolutely** airtight seal against the fireplace.

Cannonbury 4 only: Fasten the top screw clamp so that it grips the inside of the fireplace lintel.

Both models: Screw the stove firmly in place through the fixing hole(s) in the base of the firebox. (Additional fixing, if needed, is into the fireplace surround, through the two holes towards the top

right and left of the fuelling opening)

These stoves are double-cased - it is not necessary to fill any *small* gap behind the appliance – larger gaps should be filled with rubble, vermiculite granules or mineral fibre wool.

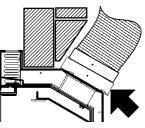
It is highly advisable, where fitted into a masonry flue without a metal liner, to form a smooth mortar flaunching between the flue outlet and the flue. With care, this can be done through the flue outlet.

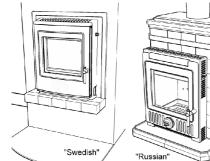
## THE 'RUSSIAN' METHOD

The stove is fitted into a free-standing chamber built from firebricks, often decorated with tiles, slate or marble panels. This not only collects extra heat, but acts as a storage heater, continuing to warm the room long after the fire has died down.

#### THE 'FRENCH' METHOD

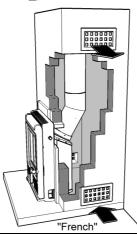
The stove is fitted into a hollow chimney breast which has air openings at top and bottom to transfer additional heat by convection from the long, uninsulated, flue pipe. This method gives higher efficiency and quicker warm-up, but thereby reduces the heat given into the chimney so that great care must be taken to





# THE 'SWEDISH' METHOD

The stove is fitted in the 'English' or 'French' method, but at height, providing easier access and greater visibility. The stove is supported on a masonry shelf (a pressed concrete paving slab surfaced with tiles is ideal). Use of the fitting frame is recommended. Having the stove at least 400mm above will provide the clearance from necessarv а combustible floor, which can be protected from stray sparks by, for instance, a glass floor protector.



# CHECK THE INSTALLATION !

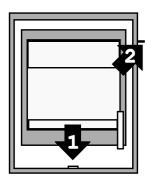
Once installed, light the fire, demonstrate it to the householder and check that:

- 1) It burns controllably and does not emit fumes to the room
- 2) The route for gases from the stove to the chimney terminal is **completely** airtight, unobstructed and able to be swept.
- 3) The entire construction is of durable fireproof materials.
- 4) The flue presents a draught in use of at least 12Pa
- 5) Fit a CO alarm !

# LIVING WITH YOUR STOVE

Every fuel, chimney and condition of use is different. Only experience will show which are the best settings for you.

**LIGHTING** If you're lighting the fire after a period of non-use, do check the chimney for blockages first! Empty the ashes. Place two or three firelighters *close together*, or screwed-up paper covered with very dry sticks, at the back of the grate and light them. When they are burning well gently fill the fire very full, just up to the level of the top of the firebox liners, with dry fuel, close the door and set the air control to the 'high' position.



**CONTROL** How fast the fire burns depends on how much air reaches the fuel. The stove has two air controls, one below the window ('primary' ①) and one above ('airwash control' ②), which is moved to the right for highest output, to the left for 'low'.

When burning wood **always keep** (1) closed and adjust the burn using (2). When burning mineral fuels like anthracite or synthetic smokeless fuels, control the fire with (1) and keep (2) almost closed.

The best settings will depend on your fuel, air supply and flue draught and can only be found from experience.

**EMPTYING ASHES** use the tool or glove to open the door. Stir the fire with a poker and use the tool to lift out the ashpan. Remember to let ash cool before disposing in plastic sacks or dustbins. There is no need to empty every last speck, but ash should never be allowed to build up so that it comes into contact with the underside of the grate.

**EXTENDED BURNING** Allow the fire to burn down to a low, hot firebed. Empty the ash and fully fill with hard fuel such as anthracite (c30mm size is best). Set the air control to 'low'.

**CLEANING** Wipe the stove body with a slightly damp cloth when cool, don't use abrasives, metal polish or 'cream' cleansers as they can scratch the surface. NEVER use aerosol sprays near the hot fire – they can ignite.

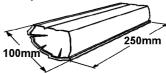
**KEEPING THE WINDOW CLEAN** With most fuels the window will require no cleaning other than an occasional wipe with a dry cloth. Simply operating the stove for a few minutes at high output will usually burn-off any deposits left by tarry or wet fuels. Severe stains can be removed with a proprietary cleaner. After a period of use tiny hairline cracks may appear on the window, this is not a fault, but is characteristic of the toughest and most heat-resistant material currently available. Reduce the risk of staining by using only **very dry fuel** and having the airwash control (top right) always *slightly* open (ie, out)

**OPENING THE DOOR** this stove is designed to be operated only with the door closed. Open the door slowly to minimise fume emission and prevent hot fuel falling out.

## FUELS

Different fuels will perform differently with different chimneys and air supply situations. There is no 'perfect' fuel for every situation, so we strongly recommend that you try a selection of fuels (or mixtures) to find which suits you best.

**WOOD** When wood is cut down its cells are full of water. Burning such wet or 'green' wood wastes heat in making steam and produces flammable, acidic tars which will cling to, and can damage, your stove and chimney. Logs should be split lengthways and dried for at least a year. The fine, white residue produced when wood burns is not ash, but the remains of cell walls which can burn if kept hot enough, so don't de-ash a wood fire until *absolutely* necessary.



Minimmise smoke emission from wood by:

- Split logs lengthways for drying
- Use logs no bigger than about 100mm x 250mm
- Ensure logs are absolutely dry (less than 15% moisture)
- Fill the stove criss-cross, so air can circulate between logs.
- Fill 'little and often'
- Always have the airwash control (2) at least a little open.
- When first lighting, or reviving a fire from embers, use only very small, thin, dry, sticks.
- Never operate with the door open
- Don't overfill the firebox

JOINERY WASTEDry wood offcuts will burn well, but don't expect softwood waste to burn as cleanly or for as long as hardwood logs. HOUSECOAL (or BITUMINOUS COAL) (Not smokeless) Makes lots of tarry smoke which will stain the window and large volumes of flammable gas which make it difficult to control and risk explosions. Despite its low cost, it rarely represents value for money. Don't use housecoal.

**ANTHRACITE** and **DRY STEAM COAL** (Smokeless) Are natural hard, shiny forms of coal. Slow to light, they burn with great heat and last a long time. Choose the 'small nuts' size.

**LIGNITE** is a natural mineral, between peat and coal. It lights easily and burns well, though some varieties produce much ash

**BRIQUETTES** Are compressed blocks of fuel, generally able to burn for long periods and remarkable for their consistency. 'Homefire' and 'Phurnacite' are smokeless types while other brands are made from lignite, peat or housecoal.

**PETROLEUM COKE** sold as 'Petcoke', 'Longbeach' and under various proprietary names, is made from oil. Easy to light and to control, its exceptional heat and lack of protective ash mean that it is MUST NOT be used unless mixed with another fuel. Grate and liner life will be drastically reduced when using petroleum coke

**HOUSEHOLD WASTES** Some plastics give off toxic fumes when burned and remember that batteries and aerosols explode! this stove is not an incinerator, so only ever use the recommended fuels and NEVER use liquid fuels in any form.

**SUMMER SHUT DOWN:** Before a long period of non-use, empty fuel and ash, remove the throat plate and leave all the air controls open to allow ventilation to reduce condensation.

# **PROBLEMS?**

Problems like those listed here are due to some difficulty with the installation, chimney or fuels, so please check back through this incorrectly ascribed to 'downdraught', which is in fact very rare), leaflet carefully. If necessary seek specialist advice.

SMOKE FROM THE CHIMNEY It is quite normal for a little smoke direction. to be emitted from the chimney when the fire is cold. Use only VERY dry wood or smokeless fuels and take care to follow the instructions about 'control' earlier in this document.

HEAT OUTPUT A stove can heat a typical room of about 12m<sup>3</sup> volume for each kW of output, so a 5kW model can heat up to (12 x 5) 63m<sup>3</sup>, a room of about 5m square. The actual size depends on the insulation and air-change ratio of the room. To attempt to heat a larger room will result in excessive fuel consumption and damaging overheating.

LACK OF CONTROLLABILITY Wood and some other fuels may burn excessively until the gases in them have been used up. You can reduce this effect by making sure that the fire is set to 'low' for a while before refuelling and checking that the door seals fully.

DIFFICULTY BURNING FOR EXTENDED PERIODS These appliances are designed to burn wood quite rapidly in order to MONTHLY- With the fire cold, remove, clean and refit the throat eliminate dangerous smoke emissions. For extended burning, use plate (or 'baffle plate') fitted below the flue outlet. Check that the hard mineral fuels like natural anthracite. If the fire goes out with fuel still in the firebox, then this is probably because too little air ANNUALLY- SWEEP THE CHIMNEY The entire length of the has been reaching it, try leaving the air controls open a little more. chimney from stove to outlet should be swept annually, or more Check that the door seals are sound and that there are no cracks or gaps anywhere in the flue. For longest burning, we recommend hard fuels such as anthracite.

SMOKE COMING INTO ROOM Fumes are poisonous- smoke emission must NEVER be tolerated, causes might be:

INADEQUATE SEALS: Check that an inset appliances is fully sealed against the fireplace. Even the tiniest crack or gap can spoil the draught.

BLOCKED THROAT PLATE: Has soot and ash collected on the 'throat plate' above the inner back part of the firebox? See the 'maintenance' section.

UNSUITABLE, BLOCKED OR UN-SWEPT CHIMNEY: The first requirement for correct operation is a sound chimney. Check the requirements earlier in this document and in any case of doubt

## PARTS AND ACCESSORIES

#### WEARABLE PARTS

(a) Throat plate (state Cannonbury 4 or Cannonbury 5) (b) Liner Set (state Cannonbury 4 or Cannonbury 5) (c) Grate with front bar (both models) (d) Ashpan (state Cannonbury 4 or Cannonbury 5) (f) Grate Infill (Cannonbury 5 only) not shown: Rope seal - door to body **Transparent Window** Operating tool

have the chimney professionally swept.

POOR AIR SUPPLY: Is there enough air? Lack of air to the fire is a common cause of smoking and poor performance. Air supply problems may be worse in certain wind conditions (often where air can be sucked out of the room. The answer is to fit an air vent, as near to the fire as possible, facing into the usual wind

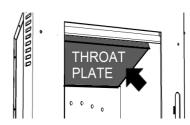
DOWNDRAUGHT: Wind can blow down a chimney if there is something higher nearby such as a tree, hill or high building. Fitting an anti-downdraught cowl to the chimney top can cure this. Types which cannot be swept through are not recommended.

POOR CHIMNEY DRAUGHT- Chimney draught in use MUST be at least 12Pa.

CHIMNEY FIRE: In the rare event of deposits inside the chimney igniting (roaring sound + dense smoke and sparks from the chimney) immediately close the door, shut all air controls and call the fire brigade. Prevent fires by using very dry fuel and having your chimney swept regularly.

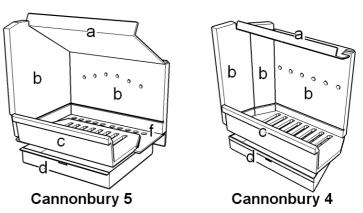
# MAINTENANCE

flue is clear and unblocked, and that the door seals are sound.



often if smoky fuels are used.

NEW PARTS this stove has been extensively tested for safety please don't try to modify it and always make sure to obtain genuine spare parts.



Your stove is guaranteed (excluding wearable parts) for one year from the date of purchase, in addition to your statutory rights.

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Manufactured for Acquisitions by Esse Engineering, The Ouzledale Foundry, Long Ing, Barnoldswick, Lancashire BB18 6BN, England. The Cannonbury 4 & Cannonbury 5 Esse 300 and 350 stove designs and the "Furnesse" Chroma' and "Virtine' door designs are registered at the UK Patent Office and protected by Copyright © and UK Design Right, Glyn Hughes and the Ouzledale Foundry / Esse 1994-2007. The Esse 300 series door construction and the Esse 530 "Greenswitch" central heating boiler are UK Patent Applied For. This document Issued 17/10/2011