



Insert

charnwood

Operating & Installation Instructions

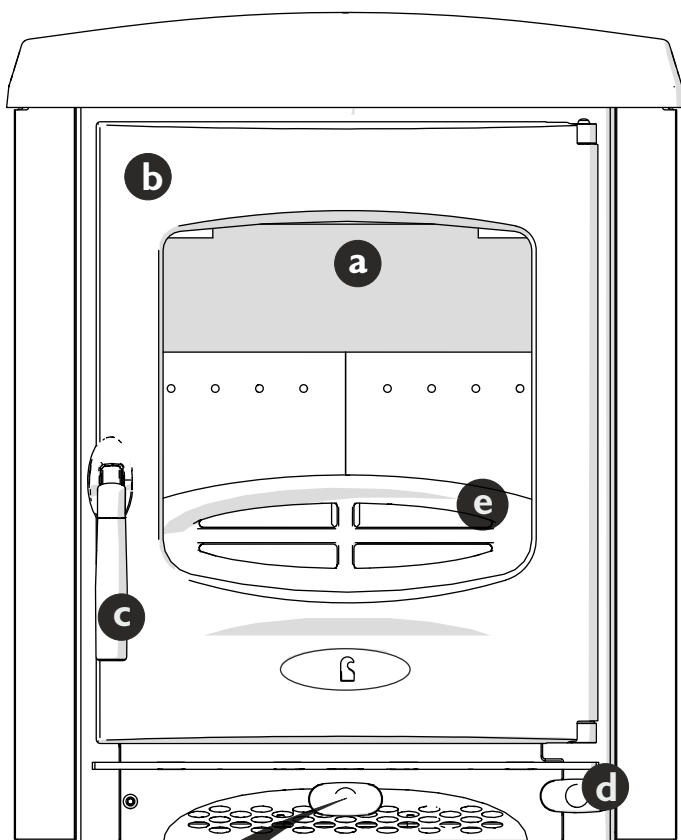
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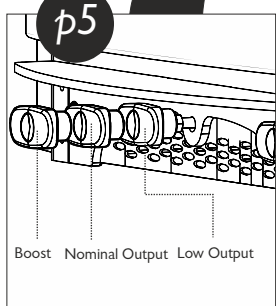
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- a Throat plate**
Improves efficiency of stove by slowing down flue gases
- b Door**
Keep closed when stove is in use
- c Door handle**
Pull up to open
- d Riddler handle**
Pull handle in and out to riddle. See page 5 for more detail
- e Fuel retainer**
Ensure fuel does not protrude beyond retainer

LIGHTING AND CONTROLLING THE FIRE



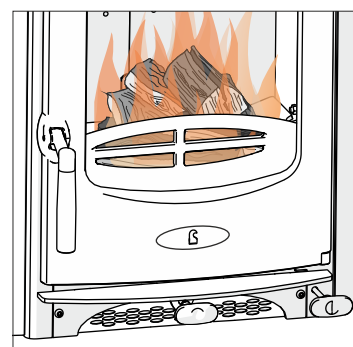
Air control



Add kindling and paper or firelighters. Keep air control fully out and close door



Once kindling is alight, add small logs. Keep air control fully out and close door



Add larger logs once fire is established. Air control can be reduced to nominal

MAINTENANCE AND CLEANING

- Glass** Wipe with damp, lint free cloth. Any stubborn deposits on the glass may be removed with a proprietary stove glass cleaner or ceramic hob cleaner
- Throat plate** Take down once a month and clean. Sweep sooty deposits into fire
- Ash pan** Ash pan is removed using tool provided. Empty ash pan before ash comes into contact with underside of grate
- Chimney** Have chimney swept twice a year. Chimney can be swept through stove
- Servicing** Stove should be serviced by a professional at least once a year

Suitable fuels for your Charnwood:
Wood
Peat
Authorised fuels



GENERAL

Before lighting the stove, check with the installer that the work and checks described in the Installation Instructions have been carried out correctly and that the chimney has been swept, is sound and free from any obstructions. The stove is not suitable for use in a shared flue system.

Remember that the stove will be hot and that it is made from hard materials – ensure that you have good balance before operating the fire.

Do not use an aerosol spray on or near the stove when it is alight. There is a risk of explosion or flash ignition of the spray.

When using the stove in situations where children, aged and/or infirm persons are present, a fireguard must be used to prevent accidental contact with the stove. The fireguard should be manufactured in accordance with BS 8423:2002.

The stove is suitable for intermittent operation.

DOOR OPERATION

The door handle has been carefully designed so that in normal use it may be operated using bare hands. However, if you need to open the doors when the fire is running at maximum, then the use of the glove provided may be required

FUEL

Please pay careful attention to the special points made with each type of fuel as they will help you to get the best from your stove. It must be remembered that only authorised fuels may be burnt in smoke control areas on this stove. If you are not sure whether you are in a smoke control area, please check with your Local Authority.

At first you may find it helpful to try several fuels to find the most suitable. If you are unable to obtain the fuel you want, ask your supplier, or an approved fuel distributor, to suggest an alternative.

PETROLEUM COKE IS NOT SUITABLE FOR USE ON THIS APPLIANCE. ITS USE WILL INVALIDATE THE GUARANTEE.

Authorised Fuels

Only authorised smokeless fuels may be burned in smoke control areas on this appliance. Your local fuel supplier or stove shop will be able to advise you which fuels are available locally. A list of authorised fuels can be found at:

<http://smokecontrol.defra.gov.uk/fuels.php>

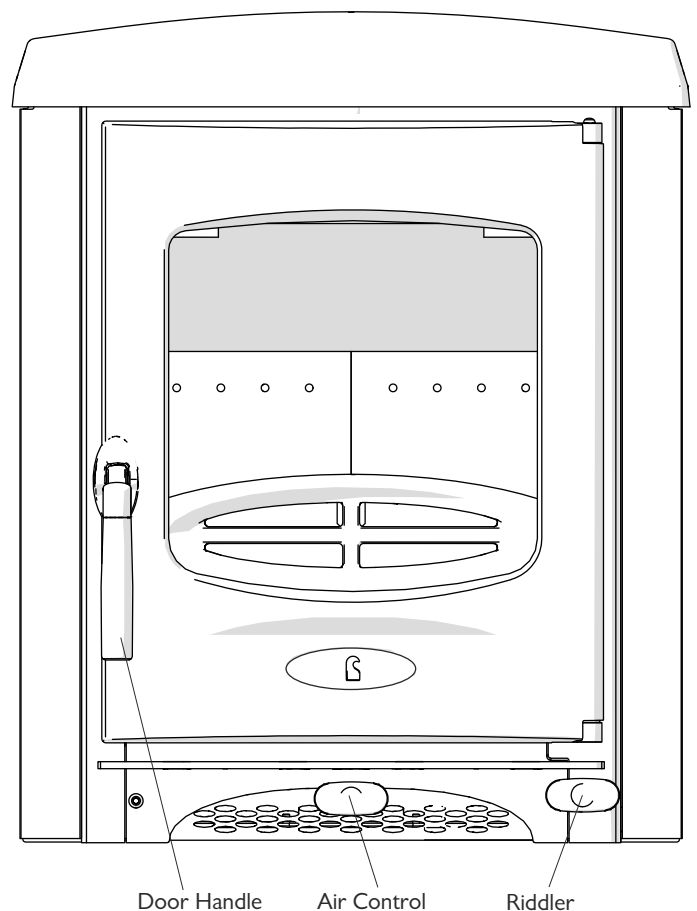
Take care to only burn good quality fuels in order to obtain the greatest efficiency and to maintain the life of the appliance.

Wood

Only dry well seasoned wood logs should be burnt on this appliance as burning wet unseasoned wood will give rise to heavy tar deposits in the stove, on the glass and within the chimney. For the same reason hard wood is better than soft wood. Burning wet unseasoned wood will also result in considerably reduced outputs. The wood logs should be cut and split and then left to season in a well ventilated dry place for at least one year but preferably two years before use and should have a moisture content of less than 20%. The maximum log size to be used is 300mm (13.7 inches) long, 75mm (3 inches) in diameter.

Peat

Ensure that the peat is well dried before use. Burning wet peat will give rise to heavy tar deposits and reduced outputs. Peat is not permitted to be burnt in smoke control areas.





MULTIFUEL GRATE

Your Charnwood stove is fitted with a multifuel grate which enables both solid fuels and wood to be burned effectively. The grate has two positions:

- 1) In the solid fuel position the grate bars are vertical with gaps in between allowing primary combustion air to come up through the grate and through the fuel bed.
- 2) In the wood position the grate bars are horizontal. In this position ash is able to build up on the grate as is necessary for effective wood or peat burning.

Movement of the grate from one position to the other is effected using the riddler handle, as shown in Fig. 3. To put the grate into the solid fuel position, pull the handle out fully.

To riddle the appliance, pull the riddler handle rapidly in and out several times. When burning wood or peat, the ash should be allowed to build up and riddling should only be carried out once or twice a week, using the glove provided if necessary.

CONTROLLING THE FIRE

The rate of burning and hence the output is controlled by the air control (see Fig. 2).

Open the air control fully (boost position) when lighting or when rapid burning is required. It should not be left fully open for long periods as this can cause over-firing or excessive smoke production. For a higher burning rate move the air control to the 'nominal output' position or for low burning to the fully closed position.

When the fire is burning normally the air control gives enough airwash to keep the glass clean. However, it will not always be possible to keep the glass clean with the air control fully closed.

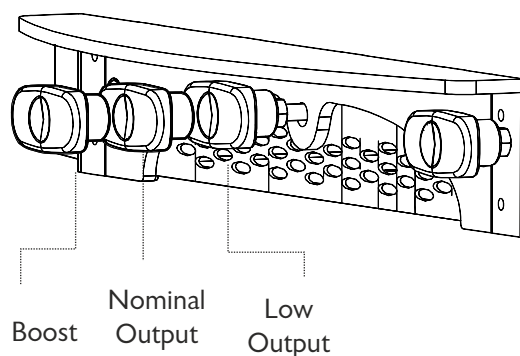
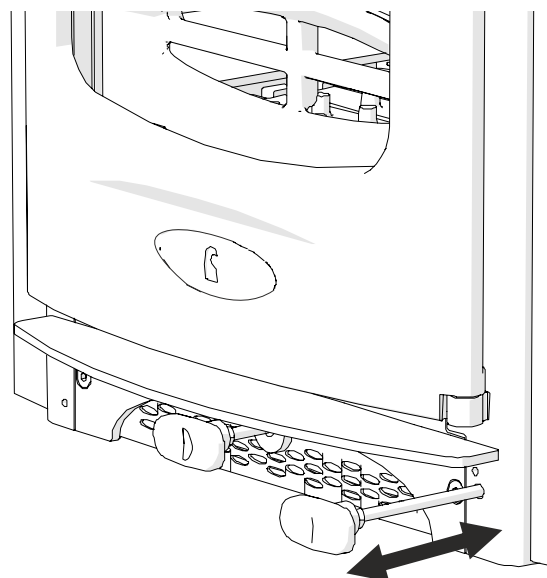


Fig. 2 Air control



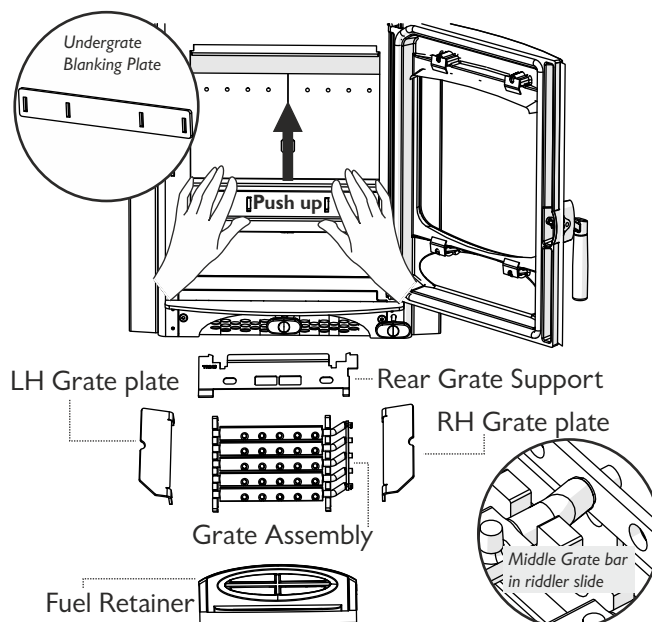
Pull handle in and out to riddle

Fig. 3 Riddling and setting the grate: C Four Insert

BEFORE LIGHTING

For best results when burning authorised smokeless fuel the undergrate blanking plate needs removing. To remove the undergrate blanking plate start by removing the fuel retainer, this will need to be lifted out at an angle to avoid knocking the stove. Once the fuel retainer has been cleared, lift out the left and right grate plates which will allow access to grate assembly. Carefully remove the grate assembly by lifting the grate support bars from underneath. Lift out the rear grate support to reveal the undergrate blanking plate. Applying equal pressure to both sides, push up the undergrate blanking plate from the hooks on the undergrate air inlet and remove and keep for future use.

Reassemble by following the above steps ensuring that the middle grate bar is located in the riddler slide as shown below:





LIGHTING

On initial lighting, the stove may smoke and give off an odour as the silicon paint with which the firebox is painted reacts to the heat. This is normal and will cease after a short time, but meanwhile the room should be kept well ventilated. At first only light a small fire and burn it slowly for two hours to allow any residual moisture in the chimney to evaporate. The lighting process is shown in Figs. 4-7.



Fig. 4 Initial firing

When burning wood only, light the stove using dry kindling wood and paper or fire lighters. It is recommended that you use approximately 1kg to 1.2kg of kindling. Put the paper, or fire lighters, and kindling in the firebox and cover with a few small dry logs. Open the air control fully (see Fig. 2). Light the paper or fire lighters. The door may be left cracked open for a few minutes to assist the combustion and heat up the firebox more quickly.

When the kindling wood is well alight add a few more small logs and close the door, but leave the air control fully open.



Fig. 5 Building up the fire



Fig. 6 Adding larger logs

When the flames are established around the smaller logs, load the stove with larger logs to the required fuel load. Logs should be no more than 75mm in diameter and 300mm long. Close the door. Maintain the air control at maximum at this stage.

Once long flames appear over the fire, reduce the air control to the 'nominal output' setting. Once the fire is well established - with each log alight at the top - the air setting can be reduced again, depending on the type of fire required. If at any stage the flames start to go out or the glass begins to discolour, a higher setting is required. To achieve this, pull the air control back out to re-establish a consistent burn.

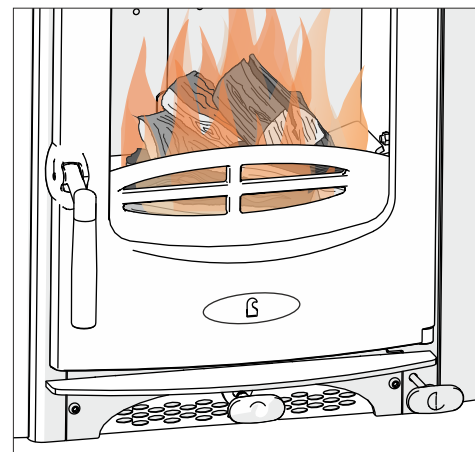


Fig. 7 Fire well underway

Once the fire is up to temperature the airwash system will begin to work, so allow the fire to become hot before adjusting the air control to the required setting. During the lighting period, do not leave the stove unattended. Do not leave the door open except as directed above to avoid excessive smoke.

When relighting the stove, leave the ash on the base unless it is becoming too deep, in which case some of it may be removed. If burning authorised smokeless fuel, clear the grate and empty the ashpan before relighting.



When burning authorised smokeless fuel follow the same lighting process as shown in figures 4-7 but use small kindling at first and then 1.9kg of heavier section (25mm square section) wood to give a good firebed.

Once the heavier section wood has established flame, add the mineral fuel, shut the door and pull the slider fully out. Push the slider in to desired setting once the fire is established in the coal.

REFUELLING

Keep the firebox well filled but do not allow fuel to spill over the top of the fuel retainer.

Logs should be evenly distributed, filling the firebed to give the most pleasing flame pattern. The air control must be fully opened after refuelling until the flames are established above the fire. It is best to refuel on to a hot fire bed of ash. If at this point the fire starts to die, the door must be cracked open until the fire is revived. If the fire has started to die down before refuelling, then more kindling wood must be added, the air control opened fully and the door cracked open to re-establish the firebed **before** adding fresh fuel. This will avoid excessive smoke emission.

Care should be taken, especially when burning wood, that fuel does not project over the fuel retainer or damage to the glass may be caused when the door is closed. It can also cause blackening of the glass. Maximum filling height is such that logs cannot fall from the fire when the door is opened. In smoke control areas do not fill the stove above the level of the air holes in the back bricks, as overloading can cause excess smoke. Liquid fuels are not to be used on this appliance.

When relighting the stove, leave the ash on the base if burning wood, unless it is becoming too deep, in which case some of it may be removed. If burning solid fuel, clear the grate and empty the ashpan before relighting.

ASH CLEARANCE

The ashpan should be emptied regularly before it becomes too full. Never allow the ash to accumulate in the ashpan so that it comes in contact with the underside of the grate as this will seriously damage the grate bars. The ashpan is handled using the tool provided. Care should be taken to ensure that ash is cool before emptying it into plastic liners or bins.

To make ash removal easier there is a special Charnwood ash carrier available. This may be purchased from your supplier or, in case of difficulty, directly from Charnwood.

REDUCED BURNING

For reduced burning the fire door must be closed.

When burning wood in areas that are not smoke controlled, load some large logs on the fire and allow to burn for half an hour before closing the air control (this will help to reduce tar deposits in the chimney). Some experimentation may be necessary to find the setting most suitable for the type of fuel being used and the draw on the chimney.

To revive the fire, empty the ashpan (if burning fuel other than wood), riddle the fire, and open the air control to maximum. When the fire is burning well load on more fuel as necessary and adjust the air control to the desired setting.

CLEANING AND MAINTENANCE

Cleaning

The stove is finished with a high temperature paint which will withstand the temperatures encountered in normal use. This may be cleaned with a damp lint-free cloth when the stove is cold. Should re-painting become necessary, high temperature paints are available from your supplier or from stove shops.

Cleaning the Glass

Most deposits on the glass may be burnt off simply by running the fire at a fast rate for a few minutes. If it becomes necessary to clean the glass then open the door and allow it to cool. Clean the glass using a damp cloth and then wiping over with a dry cloth. Any stubborn deposits on the glass may be removed with a proprietary stove glass cleaner or ceramic hob cleaner. Do not use abrasive cleaners or pads as these can scratch the surface which will weaken the glass and cause premature failure.

When Not in Use

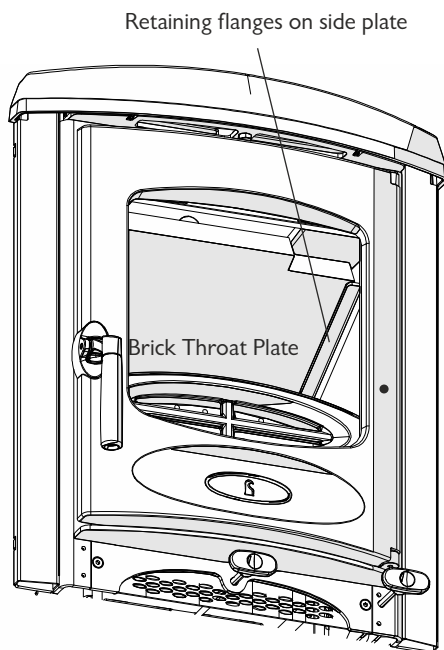
If the fire is going to be out of use for a long period (for instance in the summer) then to prevent condensation, and hence corrosion, the air control should be left fully open and the fire door left ajar. It is also advisable to sweep the chimney and clean out the fire. Spraying the inside of the door and firebox with a light oil, such as WD40, will also help to keep all internal parts working well. After long periods where the fire has been out of use, the chimney and appliance flueways should be cleaned before lighting.

Door Seals

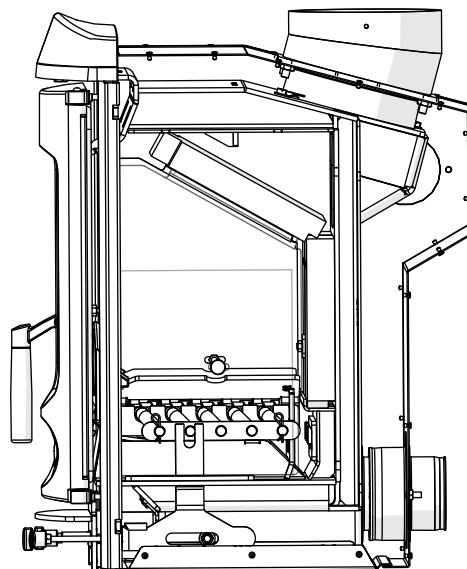
For the fire to operate correctly it is important that the door seals are in good condition. Check that they do not become worn or frayed and replace them when necessary.



Fig. 9 Throat Plate Position and Lowering



Throat Plate Position



SERVICING

It is recommended that the fire is serviced once a year to keep it in first class working order. After cleaning out the firebox thoroughly, check that all internal parts are in good working order, replacing any parts that are beginning to show signs of wear. Check that the door seal is in good condition and that the door seals correctly. Repairs or modifications may only be carried out by the Manufacturer or their approved agents. Use only genuine Charnwood replacement parts.

THROAT PLATE AND FLUEWAY CLEANING

It is important that the throat plate and all the stove flueways are kept clean in order to prevent potentially dangerous fume emission. They should be cleaned at least monthly, and more frequently if necessary. It is necessary to let the fire out to carry out these operations.

To remove the throat plate, slide it forward so that it clears the back brick, then slide it either right or left so that the opposite side clears the retaining flange on the side plate and can be gently lowered. Any sooty deposits should then be swept from the plate and into the fire.

Return the throat plate to its correct position- At an angle, insert the throat plate so that it sits on either the right or the left retaining flange on the side plates. Raise the opposite side and slide so that the throat plate is central and supported by both side plates. Slide back so that the recessed edge at the back of the underside, rests neatly on the face of the back brick.

CHIMNEY SWEEPING

The chimney should be swept at least twice a year. It will generally be possible to sweep the chimney through the appliance.

First remove the fuel retainer and the throat plate. Then sweep the chimney ensuring that soot is removed from all horizontal surfaces after sweeping.

In situations where it is not possible to sweep through the appliance the installer will have provided alternative means, such as a soot door. After sweeping the chimney the appliance flue outlet and the flue pipe connecting the stove to the chimney must be cleaned with a flue brush.

After clearing any soot from within the stove, replace the throat plate (see Fig. 9) and the fuel retainer.

Different types of sweep's brushes are available to suit different flueways. For prefabricated insulated chimneys the manufacturers instructions with regard to sweeping should be consulted.

CO ALARM

Your installer should have fitted a CO alarm in the same room as the appliance. If the alarm sounds unexpectedly, follow the instructions given under "Fume Emission".



FIRE WILL NOT BURN

Check that:

- a) the air inlet is not obstructed in any way,
- b) chimneys and flueways are clear,
- c) a suitable fuel is being used,
- d) there is an adequate air supply,
- e) an extractor fan is not fitted in the same room as the stove.
- f) there is sufficient draw in the chimney. Once the chimney is warm a draught reading of at least 1.25 mm (0.05 inches) water gauge (12Pa) should be obtained
- g) The Undergrate Blanking Plate is fitted for burning wood and removed for burning authorised smokeless fuels.

BLACKENING OF DOOR GLASS

Differences in chimney draughts mean that the best settings of the air controls will vary for different installations. A certain amount of experimentation may be required, however the following points should be noted and with a little care should enable the glass to be kept clean in most situations:

- a) Wet or unseasoned wood, or logs overhanging the front fence will cause the glass to blacken
- b) The airwash relies on a supply of heated air to keep the glass clean. Therefore, when lighting the stove, allow the firebed to become well established before closing the air control. This may also be necessary when re-fuelling the stove.
- c) When re-fuelling keep the fuel as far back from the front fence as possible. Do not try to fit too much fuel into the firebox.
- d) Do not completely close the air control. It is always more difficult to keep the glass clean when running the stove very slowly for long periods. If blackening of the glass still occurs check that all flue connections are well sealed. It is also important that the chimney draw is sufficient and that it is not affected by down-draught. When the chimney is warm a draught reading of at least 1.25 mm (0.05 inches) water gauge (12Pa) should be obtained. Some blackening of the glass may occur below the level of the fuel retainer. This will not obscure the view of the fire or affect its performance.

IF YOU NEED FURTHER HELP

If you need further help with your Charnwood then your Installer will be able to provide the answers to most questions. Your Local Charnwood Premier Dealer has a great deal of experience and will also be able to provide helpful advice. Further help is available from the Charnwood Customer Services department who will be pleased to give advice, if necessary.

FIRE BLAZING OUT OF CONTROL

Check that:

- a) The door is tightly closed.
- b) The air control slider is fully closed.
- c) A suitable fuel is being used.
- d) Door seals and air control slider are intact.
- e) Undergrate plate is fitted when burning wood.

FUME EMISSION

Warning Note: Properly installed and operated this appliance will not emit fumes. Occasional fumes from de-ashing and re-fuelling may occur. Persistent fume emission is potentially dangerous and must not be tolerated. If fume emission does persist, then the following immediate actions should be taken:

- a) **Open doors and windows to ventilate the room.**
- b) **Let the fire out and safely dispose of the fuel from the appliance.**
- c) **Check for flue or chimney blockage, and clean if required.**
- d) **Do not attempt to re-light the fire until cause of fume has been identified. If necessary, seek professional advice.**

The most common cause of fume emission is flueway or chimney blockage. For your own safety these must be kept clean.

CHIMNEY FIRES

If the chimney is thoroughly and regularly swept, chimney fires should not occur. However, if a chimney fire does occur close the air control, and tightly close the door of the appliance. This should cause the chimney fire to go out in which case the controls should be kept closed until the stove has gone out. The chimney and flueways should then be cleaned. If the chimney fire does not go out when the above action is taken then the fire brigade should be called immediately. After a chimney fire the chimney should be carefully examined for any damage. Expert advice should be sought if necessary.



HEALTH AND SAFETY PRECAUTIONS

Please take care when installing the stove that the requirements of the Health and Safety at Work Act 1974 are met. Adequate facilities must be available for loading, unloading and site handling.

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 not be an extractor fan fitted in the same room as the stove as this can cause the appliance to emit fumes into the room.

The combustion air supply ducting must be connected to a suitable, permanently open air inlet. See 'Air supply' section for details. This stove is capable of intermittent operation. This stove is not suitable for use in a shared flue system.

In addition to these instructions the requirements of BS 8303 and BSEN 15287-1:2007 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.

UNPACKING THE STOVE

The stove arrives bolted to its pallet and covered with a cardboard box. The bands are first removed and then the box is lifted, then the stove is released from the pallet by removing the 2 brackets using a 13mm spanner. The bracket on the rear is removed with a 10mm Spanner.

The pallet is intended to be cut up and used for kindling fuel

AIR SUPPLY

The fire needs air for combustion, there are various ways of supplying this, and they must meet the requirements of the building regulations.

One way of meeting this requirement as outlined in Approved Document J is to have a permanently open air vent into the room. The C four Insert has a 5kW output and therefore a permanent air vent is not normally required. If the air permeability is less than 5.0 m³/(h.m²) then the required minimum vent area will be 27.5 cm²(4.3in²)

If using this method then the air supply ducting may be terminated in the room, or the ducting connections on the stove can be removed from the inside and outside of the convection casing and the rear of

the air box. The blanking plate should also be removed from underneath the air box and fitted in the place of the ducting connections on rear of the convection casing. This is so that air is taken from between the fire box and the convection casing.

Alternatively a fixed ducted air supply method can be used as shown in fig. 13. One end of the air supply ducting is connected to the stove and the other is terminated outside. The ducting must be 100mm dia, non-combustible, less than 5.5m long and must not have more than five 90° bends and two 45° elbows. It must be sleeved where it passes through the external wall. The inlet must be permanently open and the duct free of any constrictions. The inlet must have a suitable grill to prevent entry by vermin, and should be positioned so that blockage by leaves or other debris will be avoided. Ensure that rain or flood water will not enter the duct. A spillage test must be carried out during commissioning to verify adequate air supply for combustion - see the section on Commissioning.

External air kits are available, please contact Charnwood for more information (Ref TIS 120)

CO ALARMS

Building regulations require that whenever a new or replacement fixed solid fuel or wood/biomass appliance is installed in a dwelling a carbon monoxide alarm must be fitted in the same room as the appliance. Further guidance on the installation of the carbon monoxide alarm is available in BS EN 50292:2002 and from the alarm manufacturer's instructions. Provision of an alarm must not be considered a substitute for either installing the appliance correctly or ensuring regular servicing and maintenance of the appliance and chimney system.

SPECIFICATIONS

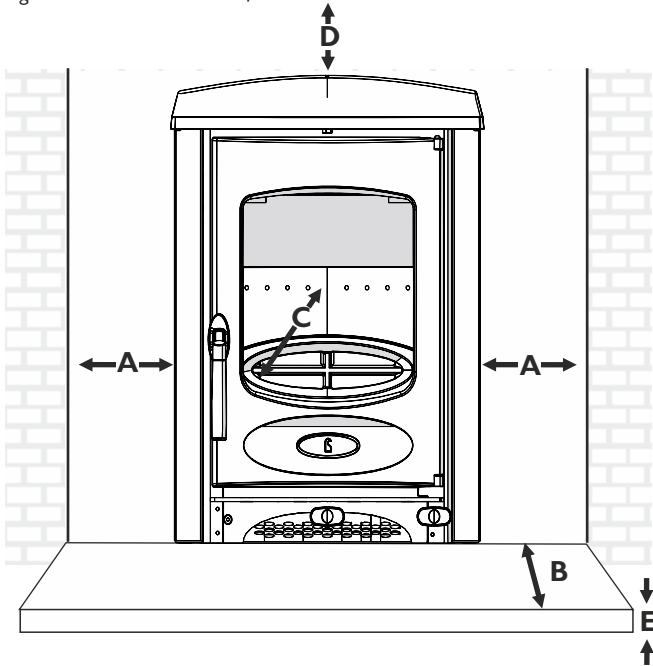
	Wood	Multi Fuel
Output	5kw	4.9kw
Stove Weight	105kg	105kg
Flue Gas Temperature	279°C	282°C
Flue Gas Mass Flow	4.4g/s	4.3 g/s
Average refuelling cycle	0.75hrs	1.0 hr
Min Flue Draught	12Pa	12Pa
CO at 13% O ₂	0.08%	0.18%
Maximum Log Size	300mm long × 75mm diameter	

Multifuel results obtained using 'Homefire' fuel burned over a 1hr period. Wood Figures were achieved burning seasoned hardwood logs over a 45 minute refuelling period.

INSTALLATION INSTRUCTIONS



Fig. 10 Minimum distances from combustibles



Dimension A: 280mm
 Dimension B: 251mm (Building regulations)
 Recommended: 390mm (extension of door over hearth)
 Dimension C: 1000mm (in front of glass)
 Dimension D: 310mm
 Dimension E: 12mm

CHIMNEY

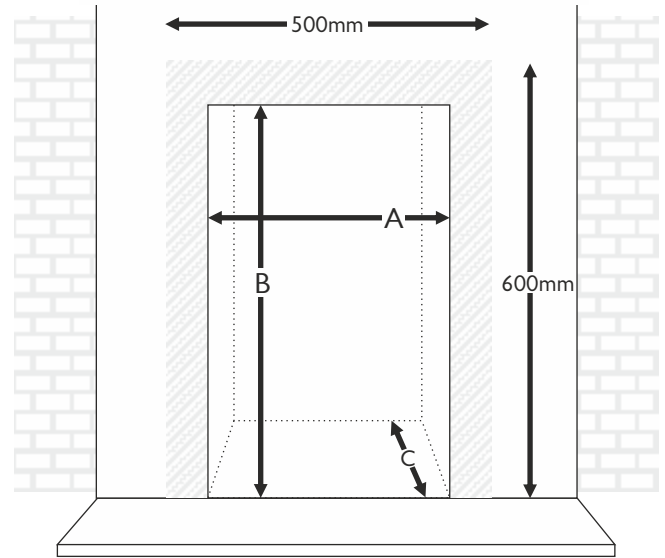
In order for the appliance to perform satisfactorily the chimney height must not be less than 4 metres measured vertically from the outlet of the stove to the top of the chimney. The internal dimensions of the chimney (either square or round) MUST NOT BE LESS THAN 127 mm (5 inches).

If an existing chimney is to be used it must be swept and checked, it must be in good condition, free from cracks and blockages, and should not have an excessive cross sectional area. If you find that the chimney is in poor condition then expert advice should be sought regarding the necessity of having the chimney lined. If it is found necessary to line the chimney then a lining suitable for Solid Fuel must be used.

If the stove has been fitted in the place of an open fire, it is recommended that the chimney is swept one month after installation to clear any soot falls which may have occurred due to the difference in combustion between the stove and the open fire.

If there is no existing chimney then a prefabricated block chimney or a twin walled insulated stainless steel flue to BSEN 15287-1:2007 can be used either internally or externally. These chimneys must be fitted in accordance with the manufacturers instructions and Building Regulations.

Fig. 11 Limiting Dimensions of Surround and Opening



The shaded grey area on the face of the surround is the minimum flat area required for inset installation.

Dimension A:	Dimension B:	Dimension C:
Min. 405mm	Min. 555mm	Min. 380mm
Max. 430mm	Max. 565mm	

Single wall flue pipe is suitable for connecting the stove to the chimney but is not suitable for using for the complete chimney.

It is important that there is sufficient draw in the chimney and that the chimney does not suffer from down-draught. When the chimney is warm the draw should be not less than 1.25mm (0.05 inches) water gauge (12.pa). If it is found that there is excessive draw in the chimney then a draught stabiliser should be fitted. If in doubt about the chimney seek expert advice.

HEARTH AND FIRE SURROUND

The stove must be installed above a fireproof hearth in accordance with local building regulations (See fig.10 for dimensions). If in doubt as to the positioning of the stove expert advice should be sought either from the supplier or the local building inspector.

If a wooden mantelpiece or beam is used in the fireplace it should be a minimum of 310mm above the appliance. In some situations it may be necessary to shield the beam or mantelpiece to protect it.

In order for the appliance to fit into the fire surround there must be a flat area around the opening. Details are shown in Fig. 11.



PREPARATION OF FIREPLACE

If the fireplace contains combustible materials, inlet and outlet air vents with an area of 246cm² each must be fitted below and above the stove convection case to provide a continual air flow around the stove. It is recommended that Calcium Silicate board is used (130mm board, with a 100mm air gap between the stove and the insulation (see Fig. 12).

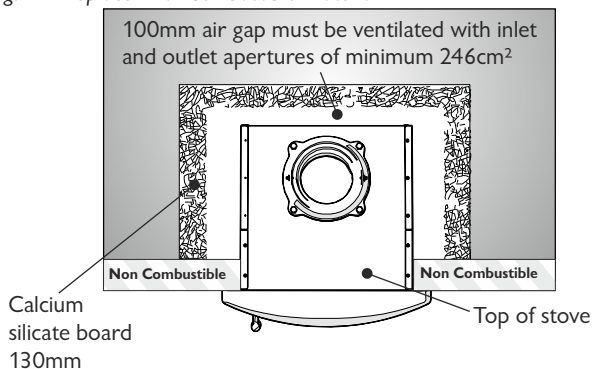
If the fireplace does not contain combustible materials, it is still recommended to have a layer of insulation or ventilate the space between the casing and the outer wall. The insulation may consist of a layer of mineral fibre or calcium silicate board. Insert this into the opening before sliding in the convection casing.

Before fitting the appliance into an existing fireplace remove the fireback and any loose in-fill material.

The surround and opening for the appliance must conform with Fig.11. The flat area around the opening should be a minimum of 500mm wide and 600mm high. Ensure that the hearth and the base in the opening are flat, level, and at right angles to the surround.

The air supply can be taken from using an external air kit or directly from the convection casing. The air supply kit can be fitted in the room or outside, in accordance with the requirements in 'Air Supply' section (p11). The inlet grille must not constrict the airflow through the duct and it must be permanently open. A semi rigid aluminium flexible duct of no less than 80mm diameter is used to bring the air to the stove. The duct must be less than 5.5m long, have no more than five 90° bends and two 45° elbows. The 80mm diameter spigot, provided with the stove should be fitted on the outside of the convection case, using two self tapping screws and the duct should be terminated on the spigot with a jubilee clip. The 100mm diameter spigot provided should be fitted to the inside of the convection case using two nuts on the outside and the self adhesive foam should be glued into position around the circumference of the inside of the 80mm spigot in order to seal against the spigot on the back of the stove when it is installed.

Fig. 12 Fireplace With Combustible Material



A cover plate can be fitted to the rear outlet of the convection casing. The outlet on the rear of the air box is to be left open and no spigots are to be attached. This will provide external air directly from the convection casing.

Fig. 13 Installation in standard chimney

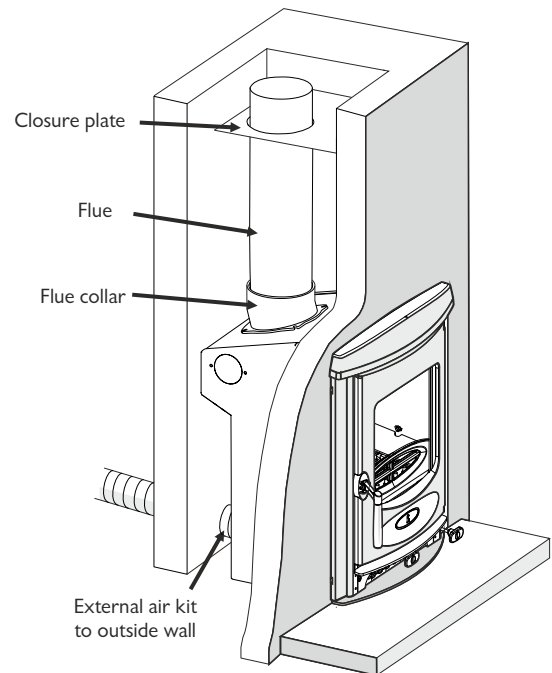
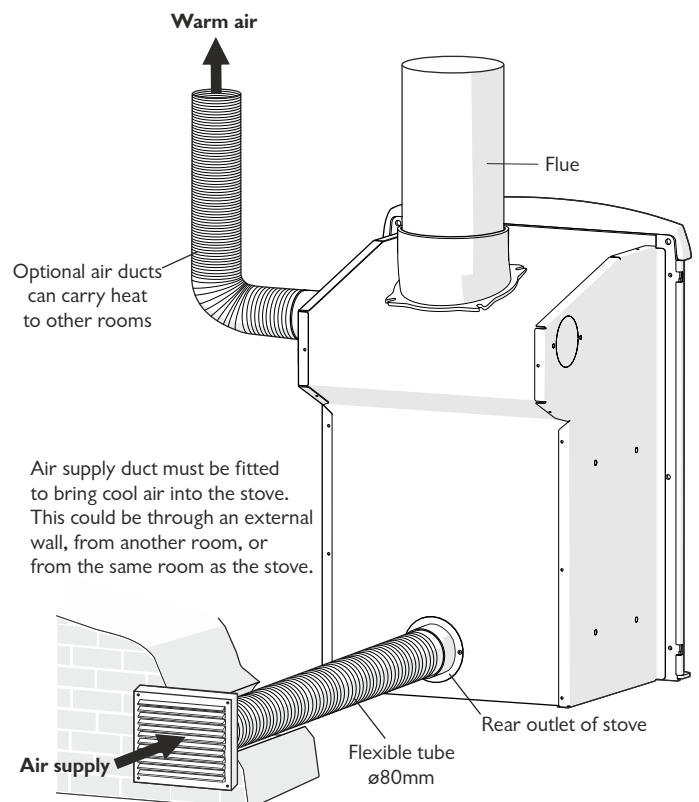


Fig. 14 Air Supply



Air supply duct must be fitted to bring cool air into the stove. This could be through an external wall, from another room, or from the same room as the stove.



FITTING THE CONVECTION CASING, FLUE PIPE AND STOVE

Having prepared the fireplace as described, the convection case, stove and flue pipe can now be fitted.

1. ATTACH FLUE COLLAR TO THE FLUE PIPE

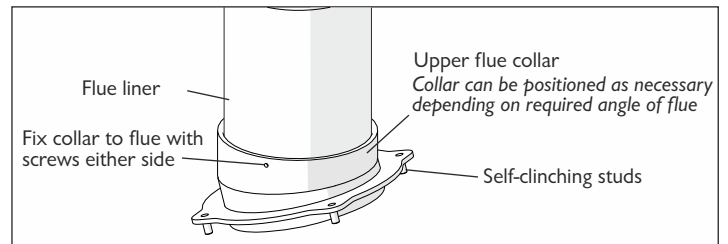
Some liner manufacturers recommended the use of a rigid pipe with the liner - please refer to the liner manufacturers instructions. Fix the upper flue collar to the flue pipe through the screw holes in the side of the ring. The flue collar can be attached at any of 4 positions depending on the required angle of the flue.

It is vital that the connections at both ends of the flue pipe are well sealed. The flue pipe and collar can be sealed with fire cement and/or a gasket.

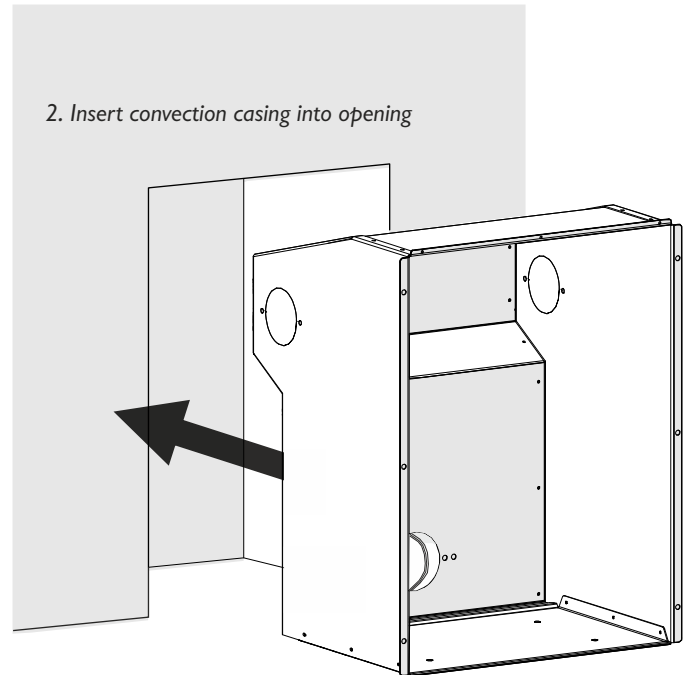
2. INSERT THE CONVECTION CASING INTO THE OPENING

Make sure the four self-clinching studs are in the holes in the flue collar, pointing downwards. Slide the convection casing into position in the opening until the flue outlet lines up with the flue pipe. Any excess air ducting still in the opening can be pulled out at the external termination point and trimmed to fit the grille selected. Ensure that the air supply duct is not kinked during the fitting process.

1. Attach flue collar to length of flexible flue liner

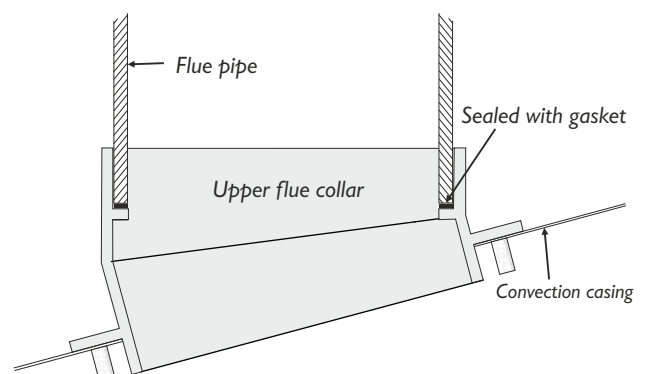
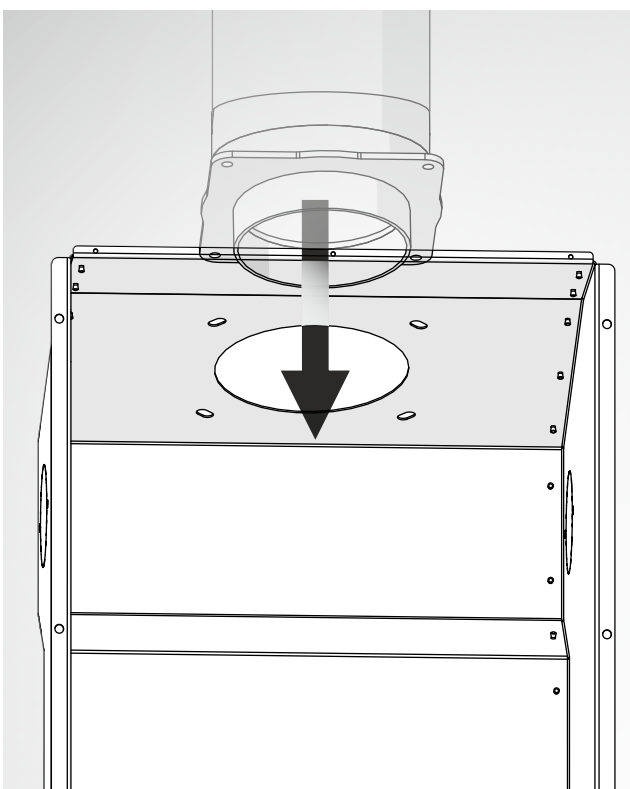


2. Insert convection casing into opening



3. MAKE FLUE CONNECTION

Reaching through the flue outlet, bring the flue collar down through the outlet until the studs line up with the four holes in the convection casing. Use nuts to secure the studs into place.



INSTALLATION INSTRUCTIONS



4. SECURE THE CASING TO THE HEARTH

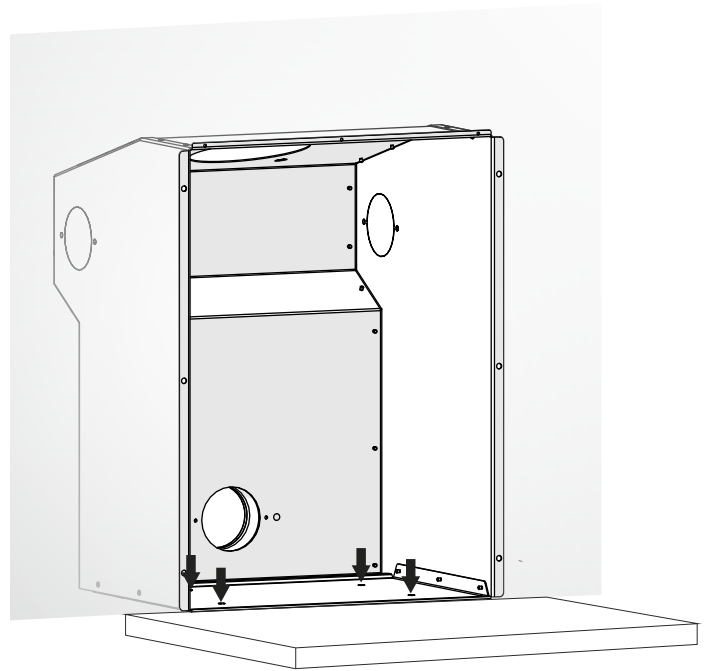
Secure the stove by inserting screws through the holes in the base (see diagram).

5. MAKE GOOD THE OPENINGS AND FILL WITH INSULATION

Make good the opening at the top and sides of the convection casing ensuring that a good seal is made with the side flanges. It is recommended to use heat resistant plaster on the wall surrounding the stove.

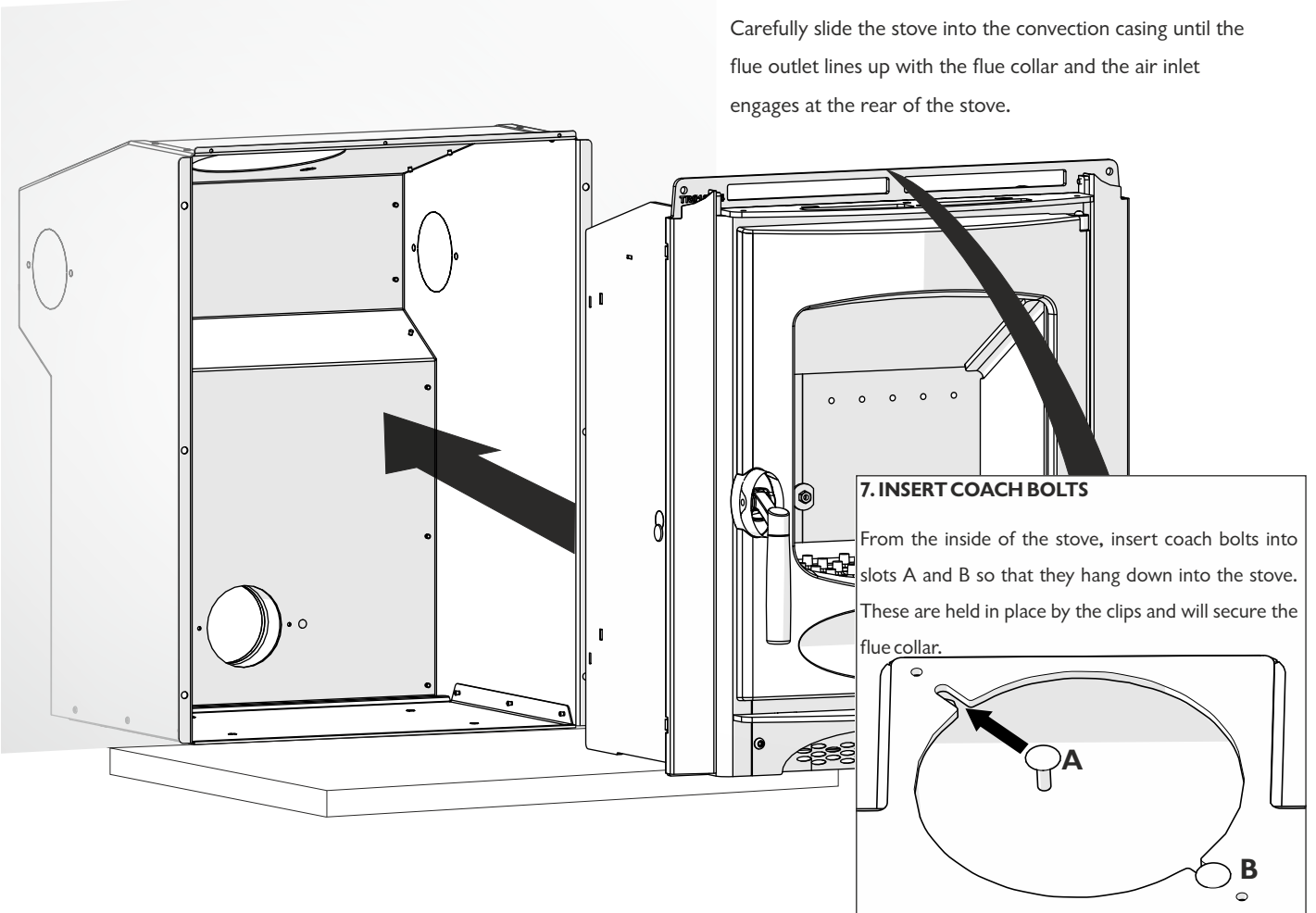
Follow the liner manufacture's recommendations regarding insulating the liner.

If for any reason it is not going to be possible to sweep the chimney through the appliance, a soot door must be fitted.



6. SLIDE IN STOVE

Carefully slide the stove into the convection casing until the flue outlet lines up with the flue collar and the air inlet engages at the rear of the stove.



7. INSERT COACH BOLTS

From the inside of the stove, insert coach bolts into slots A and B so that they hang down into the stove. These are held in place by the clips and will secure the flue collar.

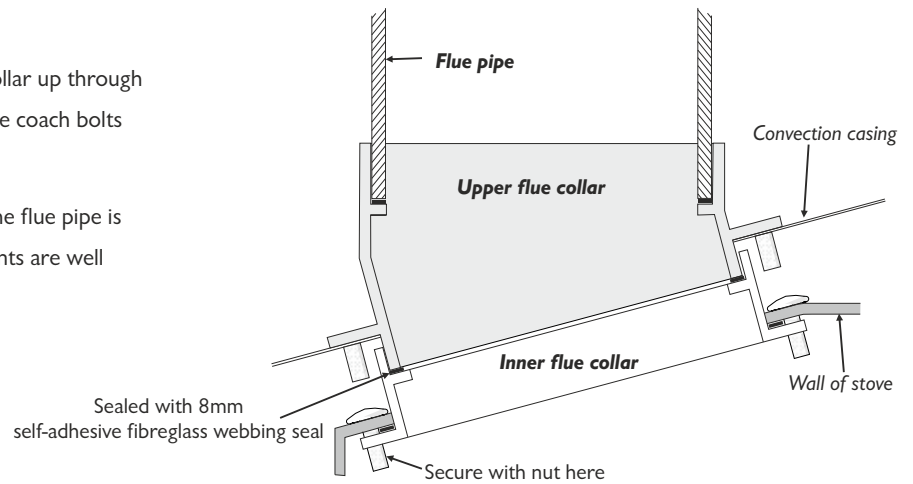
INSTALLATION INSTRUCTIONS



8. SECURE THE FLUE ADAPTORS

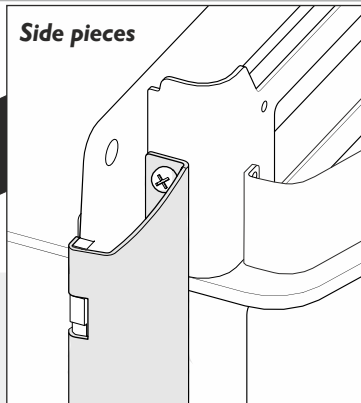
Working from the inside of the stove, push the flue collar up through the flue outlet to meet the upper flue collar, so that the coach bolts come down through the holes. Secure bolts with nuts.

All flue connections must be well sealed. Check that the flue pipe is not obstructed or restricted in any way and that all joints are well sealed.



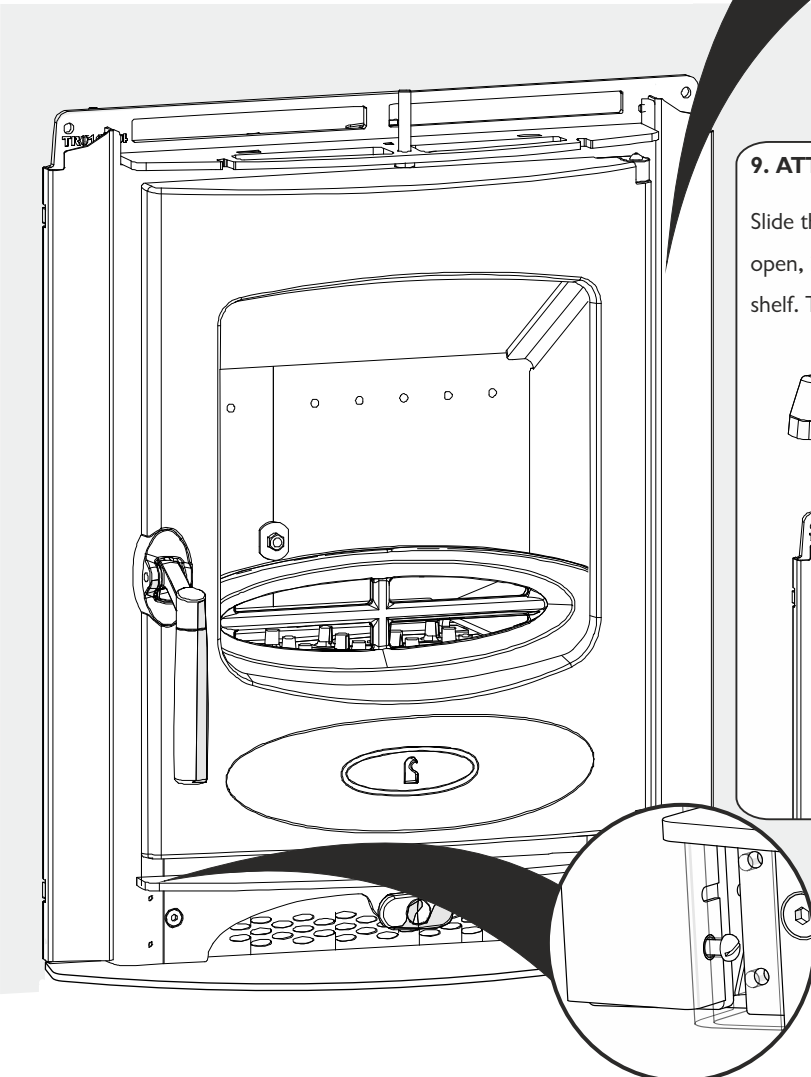
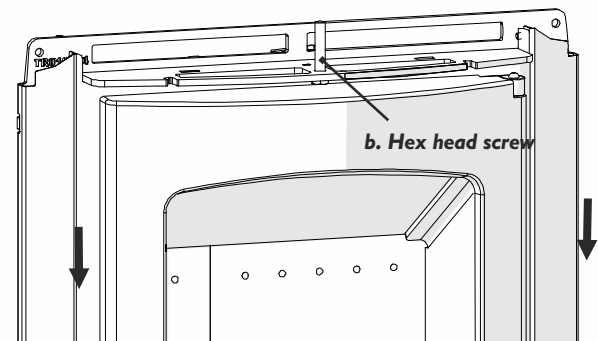
SIDE PIECES

Remove air control knob, undo both allen key bolts in lower panel and remove it. Fit machine screws through the holes in the lower left and right hand side to secure the lower end of the side pieces. The tops of the side pieces are secured with a machine screw. Refit the lower panel and air slider knob.



9. ATTACH TOP CAP

Slide the cast top cap (a) into position. Finally, with the door open, insert hex head screw (b) from the underside of the top shelf. Tighten to secure the assembly into position.





PRE LIGHTING CHECK

Before initial lighting check the following points:

1. The bottom grate bars must all be fitted and should move freely and easily when the riddling mechanism is operated.
2. The plates round the sides and back of the grate must be in position and sitting correctly.
3. The throat plate must be fitted in the roof of the appliance (as shown in Fig. 9).
4. Check that the front fence is fitted correctly and that the door closes properly.

COMMISSIONING

On completion of the installation allow a suitable period of time for the fire cement and mortar to dry out before commissioning the fire. Before lighting, first check that there is an updraft in the chimney - open the door of the stove and hold a lit match at the top of the door opening. If the flame is pulled into the stove this indicates that there is an updraft and the fire may be lit. If the flame is pushed out from the stove then this indicates that a downdraft is present, the flue will need to be warmed to produce an updraft and then checked using the same procedure with the lit match. The flue may be warmed by lighting a single sheet of newspaper, or a firelighter, within the stove before attempting to light a proper fire. Sometimes it may be necessary to open a window to give an initial draw.

A spillage test must be carried out to confirm safe operation with doors and windows closed and any extract fans in operation (i.e. worst conditions) Warm the appliance and flue before carrying out the spillage test. Light a smoke match from the middle of a bed of embers, hold the match approximately 20mm above the ember bed and ensure that the smoke is carried up the flue and emitted safely. Also check all joints and seals. On successful completion of the spillage test please leave the operating instructions and tools with the customer and advise them on the use of the appliance. If the spillage test fails the cause must be found and rectified, or the appliance decommissioned and the customer instructed not to use the appliance until it can be shown to operate safely.

CAA AND SMOKE CONTROL

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).

In England appliances are exempted by publication on a list by the Secretary of State in accordance with changes made to sections 20 and 21 of the Clean Air Act 1993 by section 15 of the Deregulation Act 2015. Similarly in Scotland appliances are exempted by publication on a list by Scottish Ministers under section 50 of the Regulatory Reform (Scotland) Act 2014.

In Northern Ireland appliances are exempted by publication on a list by the Department of Agriculture, Environment and Rural Affairs under Section 16 of the Environmental Better regulation Act (Northern Ireland) 2016.

In Wales appliances are exempted by regulations made by Welsh Ministers.

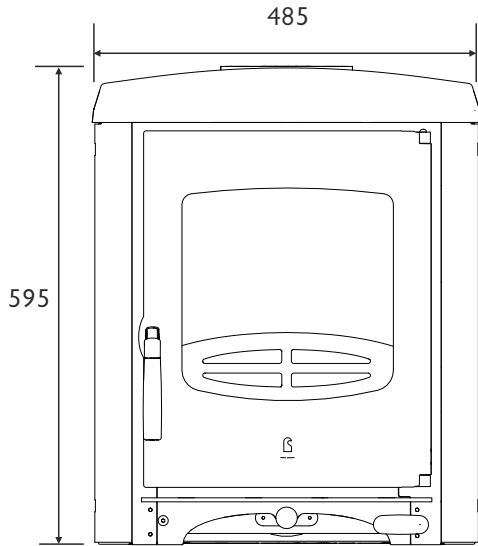
Further information on the requirements of the Clean Air Act can be found here: <https://www.gov.uk/smoke-control-area-rules>

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.

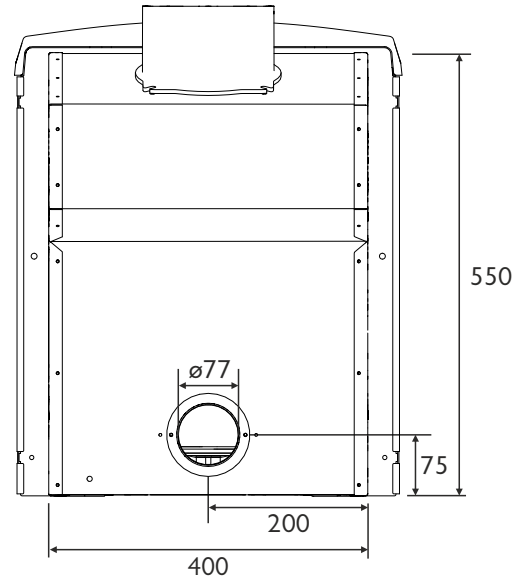
The Charnwood C-Four Insert has recommended as suitable for use in smoke control areas when burning wood logs.

The Charnwood C-Four Insert includes factory-fitted modifications to the air controls which have been designed to meet Clean Air Act requirements for smoke control Exemption.

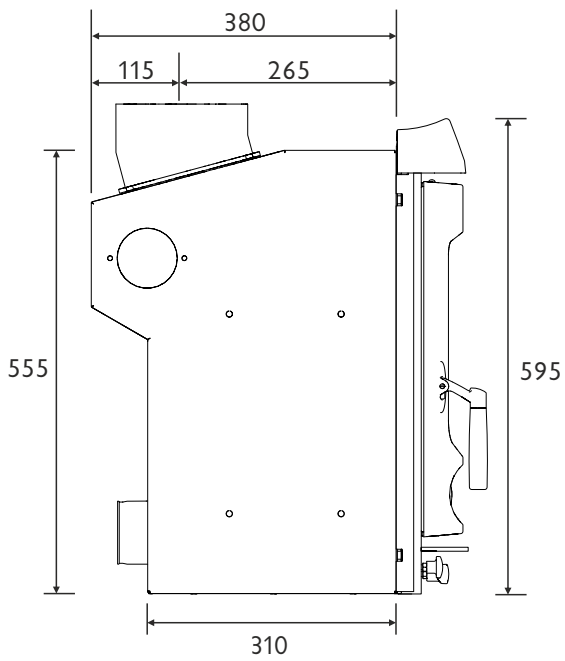
C FOUR I DIMENSIONS (mm)



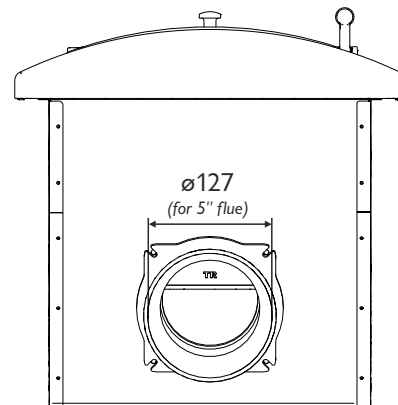
FRONT VIEW



BACK VIEW



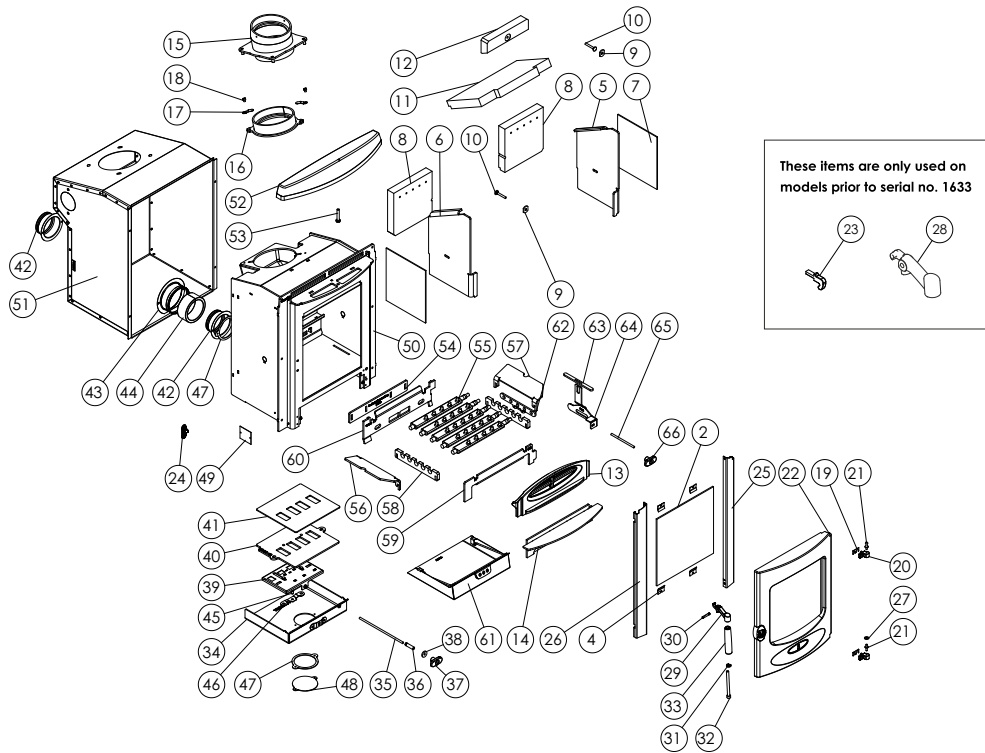
SIDE VIEW



PLAN VIEW

C-FOUR I PARTS LIST

Issue C



Item	Part No.	Description	Item	Part No.	Description
1*	008/PV21	Door Seal	34	010/TR020	Air Box Cover Plate
2	006/PV19	Glass	35	004/GR086	Air Control Rod
3*	008/PV55	Glass Seal	36	008/TR047	DEFRA Stop
4	004/KV23	Glass Retainer	37	008/AY37	Air Control Knob
5	010/TR027	RH Sideplate	38	008/BR052	Felt Washer
6	010/TR028	LH Sideplate	39	004/TR007	Air Inlet Slide
7	011/PV26	Side Gasket	40	010/CR005	Air Control Plate Assy
8	011/TR029S	Rear Brick Set	41	008/CR006	Airbox Upper Gasket
9	010/ER036	Brick Retaining Washer	42	004/CR048	80mm Spigot
10	008/FFB125	M6x45 Coach Bolt	43	010/MR126	100mm Spigot
11	011/TR031	Brick Throat Plate	44	008/GR072	Gasket
12	011/TR032	Upper Throat Plate Brick	45	008/ES36/01	Brass Ball Catch
13	002/BR017	Fuel Retainer	46	004/BR015	Clicker Retainer Plate
14#	010/TR021	Lower Front Panel	47	008/CR063	Blanking Plate Gasket
15	010/TR098	5" Upper Flue Adaptor	48	004/CR064	Coverplate
16	010/TR076	Lower Flue Adaptor	49	012/TR011	Serial No Plate
17	004/GR090	Fastener Retainer	50#	001/TR010	Firebox
18	008/FFS006	M6x10 Sltd Cheese Hd Screw	51	010/TR084	Convection Casing
19	004/BR021	Hinge Shim	52#	002/GR051	Cast Top Cap
20	002/BR020	Hinge Casting	53	008/FFS049	Hex Hd Screw M8x45
21	008/ST068/S	Hinge Pin Set	54	010/TR099	Undergrate Blanking Plate
22#	002/BR001/A	Door Assembly	55	002/CG01	Bottom Grate Bar
23**	002/PV13	Door Latch	56	010/GR057	LH Grate Plate
24	004/BR084	Door Latch	57	010/GR056	RH Grate Plate
25#	004/TR068	RH Side Trim	58	010/GR006	Grate Support
26#	004/TR069	LH Side Trim	59	010/GR042	Front Grate Support
27	008/FFW026	M6 Heavy Brass Washer	60	010/TR048	Rear Grate Support
28**	002/BR012	Handle Casting	61	004/TR017	Ashpan
29	002/BR087	Handle Casting	62	010/TR040	Mover Bar
30	004/BR014	Handle Pivot Pin	63	010/TR045	Riddler Arm Cover
31	008/FFW015	Thackery Washer	64	010/TR042	Riddler Slide
32	008/FFB007	M8x100 Allen Hd Bolt	65	004/TR044	Riddler Rod
33	008/BR013	Wooden Handle	66	002/MR067	Riddler Handle
			67*	008/PX95	Ashpan Tool

* These items are not shown on the drawing
 ** These items are only used on models prior to serial no. 1633
 # Please specify colour when ordering.

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.
 This drawing is for identification purposes only.



Model identifier(s): Charnwood C-Four Insert
Indirect heating functionality: No
Direct heat output: 5(kW)
Indirect heat output: - (kW)

Test laboratory: RRF
Notified body no: 1625
Test report no: 29 14 3639-1
Harmonized standard: EN 13229

TECHNICAL INFORMATION FOR SOLID FUEL LOCAL SPACE HEATERS

Fuel	Preferred fuel (only one):	Other suitable fuel(s):
Wood logs with moisture content $\leq 25\%$	Yes	No
Compressed wood with moisture content $< 12\%$	No	No
Other woody biomass	No	No
Non-woody biomass	No	No
Anthracite and dry steam coal	No	No
Hard coke	No	No
Low temperature coke	No	No
Bituminous coal	No	No
Lignite briquettes	No	No
Peat briquettes	No	No
Blended fossil fuel briquettes	No	No
Other fossil fuel	No	No
Blended biomass and fossil fuel briquettes	No	No
Other blend of biomass and solid fuel	No	No

Characteristics when operating with the preferred fuel			
Seasonal space heating energy efficiency η_s [%]: 72			
Energy Efficiency Index (EEI): 107			
Item	Symbol	Value	Unit
Heat output			
Nominal heat output	P_{nom}	5	kW
Minimum heat output (indicative)	P_{min}	-	kW

Auxiliary electricity consumption			
At nominal heat output	[N.A.]	[N.A.]	[N.A.]
At minimum heat output	[N.A.]	[N.A.]	[N.A.]
In standby mode	[N.A.]	[N.A.]	[N.A.]

Permanent pilot flame power requirement			
Pilot flame power requirement (if applicable)	[N.A.]	[N.A.]	[N.A.]

Characteristics when only the preferred fuel is used				
Space heating emissions (mg/Nm ³ at 13% O ₂)	CO	NOX	OGC	PM
at nominal heat output	1000	132	63	13
at minimum heat output	-	-	-	-

Useful efficiency (NCV as received)			
Item	Symbol	Value	Unit
Useful efficiency at nominal heat output	$\eta_{th,nom}$	80	%
Useful efficiency at minimum heat output (indicative)	$\eta_{th,nom}$	-	%

Type of heat output/room temperature control (select one)	
single stage heat output, no room temperature control	Yes
two or more manual stages, no room temperature control	No
with mechanic thermostat room temperature control	No
with electronic room temperature control	No
with electronic room temperature control plus day timer	No
with electronic room temperature control plus day timer	No
Other control options (multiple selections possible)	
room temperature control, with presence detection	No
room temperature control, with open window detection	No
with distance control option	No

Contact details: Charnwood,
 Bishops Way,
 Newport,
 Isle of Wight,
 PO30 5WS
 UK

A. J. WELLS & SONS
 BISHOPS WAY
 NEWPORT
 ISLE OF WIGHT
 PO30 5WS
 TEL: (01980) 627662
 FAX: (01980) 821267

Observe the specific installation, assembly and maintenance precautions listed in the manual supplied with the product, as well as applicable national and local regulations. All the materials and components used to make our stoves (with the exception of the firebrick, ceramic gaskets and glass) are fully recyclable through your local municipal recycling facility.

charnwood



A.J WELLS & SONS LTD

14

Bishops Way, Newport, Isle of Wight PO30 5WS, United Kingdom

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EN13229:2001/A2:2004/AC:2007

C Four I

ROOMHEATERS FIRED BY SOLID FUEL

EC certificate of conformity no:	TR-CPD-2014	
Minimum distance to combustible materials:		
Casing Side:	100mm + 130mm insulation	
Casing Rear:	100mm + 130mm insulation	
Front surround, side:	280mm	
Front surround above:	310mm	
Room, in front of glass:	1000 mm	
Fuel type	Wood logs	Multi Fuel
Emission of CO in combustion products:	0.08 %	0.18%
Flue gas temperature:	279 °C	282 °C
Space heating thermal output:	5 kW	4.9kW
Energy efficiency:	80 %	77.3%

your premier dealer

charnwood BISHOPS WAY, NEWPORT, ISLE OF WIGHT PO30 5WS, UNITED KINGDOM
T: +44 (0) 1983 537777 • F: +44 (0) 1983 537788 • WWW.CHARNWOOD.COM

