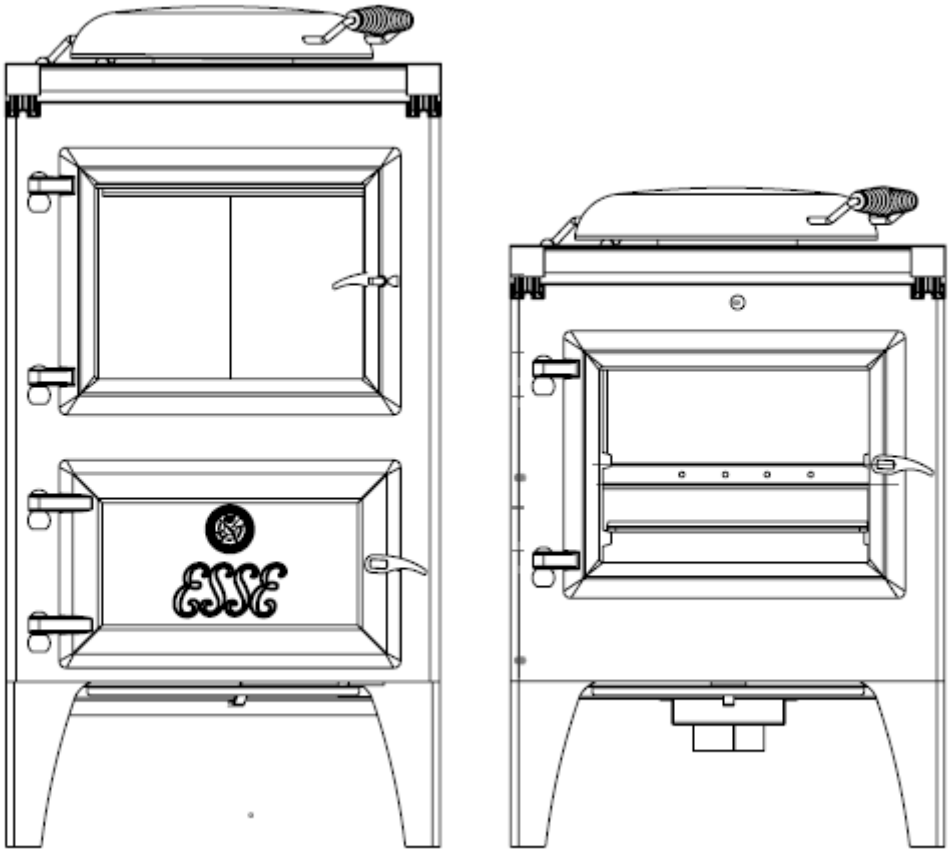
ESSE

Bakeheart & Warmheart

Wood Fired Cooking Stoves



THIS APPLIANCE MUST BE COMMISSIONED BY A HETAS REGISTERED ENGINEER

THE WARRANTY CARD MUST BE RETURNED TO ENSURE GUARANTEE VALIDITY

CE

HETAS REGISTERED INSTALLER

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ESSE

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OPERATIONAL INSTRUCTIONS

INTRODUCTION

Thank you for choosing an ESSE cooking stove. Please read these instructions carefully to ensure your safety and enjoyment whilst using this product. Correctly installed and operated, your ESSE cooking stove will provide faithful service indefinitely. We feel certain that like countless ESSE owners since 1854, you will be truly satisfied by the warmth and comfort it will provide and the taste of your food cooked within its oven.

BEFORE USING YOUR COOKING STOVE

Ensure that any plastic film used to protect surfaces has been removed (e.g. from the inside of the oven door). The hotplate has been painted at the factory to prevent rusting and therefore will require wiping with a damp cloth and drying with a tea towel or kitchen roll.

During the first few operations of the cook stove there may be some ticking and fumes emitted. This is normal and part of the initial expansion & material curing process.

YOUR COOKING STOVE

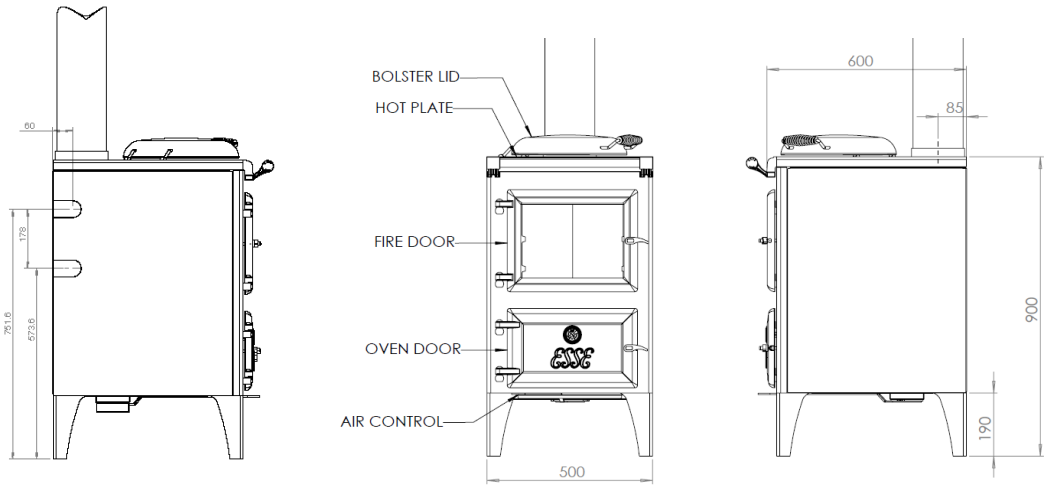


Figure 1 Bakeheart Cooking Stove

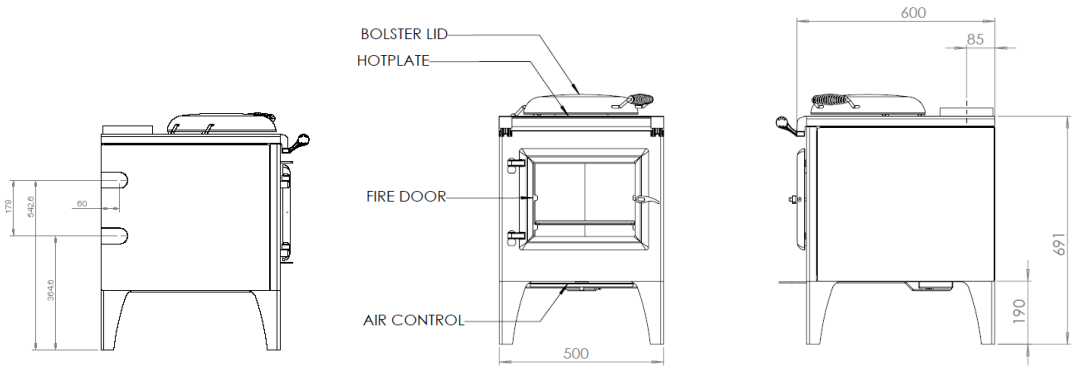


Figure 2 Warmheart Cooking Stove

Figure 1 and Figure 2 show the cooking stoves and their controls. The fire is loaded, refuelled, and emptied through the large glass fire door.

Included inside your cooking stove is a multi-purpose Operating Tool – for adjusting the air supply and operating the door. A glove is also provided to protect the user's hand. (Figure 4)

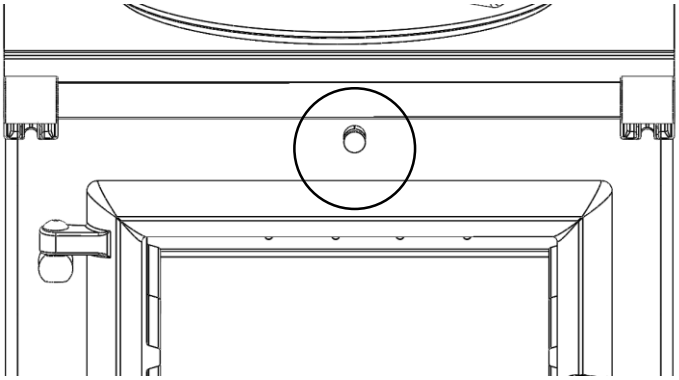


Figure 3 Filter Control

The cooking stoves are also fitted with a filter system controlled by the indicated control in Figure 3. Pulling out this boss disengages the filter, pushing the boss in engages the filter.

WARNING

Do not place towels on the handrail, keep pets and children away and ensure that any curtains near the appliance cannot ignite even when displaced.
Surfaces will be hot when in use.
An extractor fan MUST NOT be fitted in the same room as the appliance.

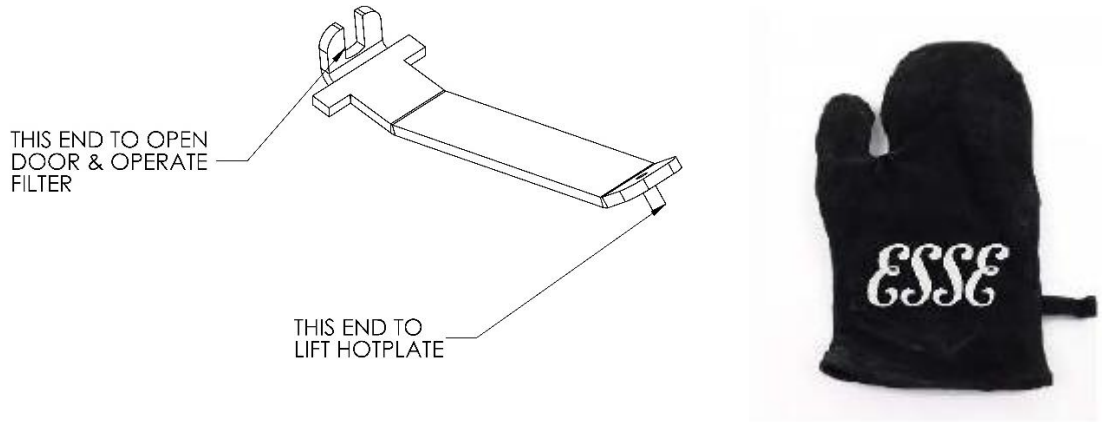


Figure 4 Operating Tool and Glove

LIGHTING AND CONTROLLING THE FIRE

Before lighting the fire ensure that all vermiculite bricks are in the correct position.

Ensure the air control is in the open position by moving the control to the right hand position, and the filter is disengaged.

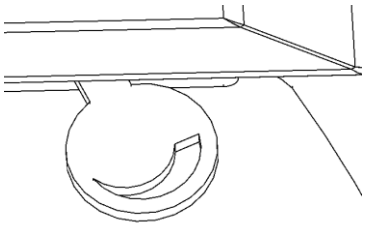


Figure 5 Air Control in Open Position

Open the fire door and lay two logs along the base of the fire box forming a space between them.



Figure 6 Logs Laid in Fire Box

Place a firelighter in the space and surround with a small amount of kindling.



Figure 7 Fire Lighter and Kindling in Place

Lay a third log over the top of the space perpendicular to the other logs.



Figure 8 Final Log in Position

When you are ready to light the fire all that needs to be done is light the firelighter.

Once the fire has been lit leave the door partially open to allow additional airflow until the fire has become established. When the fire is established the fire door can be fully closed. The air control can be moved towards the closed position once the sooting has burnt off the brickwork. The air flow can be reduced by moving the control to the left once the fire has become established. The filter can now be engaged.

WARNING

When the cooking stove is running ALL HANDLES become hot and the operating tool or glove provided should be used to open or close the doors (Figure 3)

The burning rate of the stove can now be regulated by the rate at which fuel is added and use of the air control. The maximum amount of fuel to be loaded during normal operation is 2kg per hour in order to achieve nominal heat output.

NOTE

This appliance is not an incinerator and only dry well seasoned wood should be used. Burning coal or other solid fuels such as treated wood is not possible.

If the cook stove is being used primarily to heat the room it is recommended that the bolster lid is kept in the raised position to allow heat from the hotplate to radiate into the room.

When refuelling the cook stove it is recommended that the logs are placed running front to back as in Figure 6 as this leads to the cleanest combustion.

Before lighting a full fire in the cook stove for the first time it is recommended that 3 smaller fires are lit first to ensure that any moisture is driven out.

NOTES ON WOODBURNING

Wood burns most efficiently when the air for combustion is supplied from above the fire bed. This air supplies the oxygen necessary for the volatile gasses given off by the wood as it is heated to combust which increases efficiency and reduces heat being wasted up the chimney.

Running the cooking stove with the air control open will provide oxygen for the wood to burn on the fire bed and should be used to control the fire when lighting or refuelling. The cooking stove should ideally be run with the air control in the closed position for the majority of the time in use. If the fire appears to die down too low then opening the air control slightly for a short period can help revive it.

To get the best results from your cooking stove it is recommended that a wood stove thermometer be fitted to the flue pipe above the cooking stove. This allows you to monitor the temperature of the flue gasses leaving the cook stove.

Below 115°C

This is below the condensation point of wood gasses and may cause the build-up of tar in the chimney, dirty the fire door glass and result in the inefficient burning of fuel.

115°C – 260°C

The flue gasses should be in this temperature band for the safest, most efficient operation of your cooking stove.

Above 260°C

Too hot. Heat will be wasted up the chimney. Excess heat may damage the cooking stove or ignite an existing accumulation of tar resulting in a chimney fire. In the event of a fire, close the air controls on the appliance and call the fire brigade for assistance.

LONG TERM SHUTDOWN

If the cooking stove is to be shut down for long periods i.e. during summer months or if the appliance is in a second home that is not used all the time, precautions should be taken to avoid damage from condensation and corrosion.

First ensure that the cooking stove is fully cleaned and all ash removed. The ovens and hotplate can then be treated with a light coating of flax oil to help prevent moisture damaging the surfaces. The air control is to be left in the open position (Figure 5), the doors slightly ajar, and the bolster lid left raised to allow for ventilation.

FIREWOOD AND THE WOODBURNING PROCESS

Seasoning and Storing Firewood

Wood, which has recently been cut and is still full of sap and water is known as "green" wood.

Green wood will generally burn poorly and inefficiently, because it can have over 50% water in its cells. It may be hard to light, smoulder, not put out any heat and cause more than the usual amount of creosote to build up in your chimney.

So your aim should be to dry the wood out to below 20% moisture content, this process is called seasoning. As the name implies, you should store your wood for a season or so, while it dries, but there are things you can do to speed up seasoning by cutting the wood now rather than just before you use it.

Wood is composed of bundles of microscopic tubes that were used to transport water from the roots of the tree to the leaves. These tubes will stay full of water for years even after a tree is dead. This is why it is so important to have your firewood cut to length for 6 months or more before you burn it, it gives this water a chance to evaporate since the tube ends are finally open and the water only has to migrate a small distance to escape. Splitting the wood helps too by exposing more surface area to the sun and wind, but cutting the wood to shorter lengths is of primary importance.

Here’s how you can tell whether your wood is ready or not: Well seasoned firewood generally has darkened ends with cracks or splits visible, it is relatively lightweight, and makes a clear "clunk" when two pieces are struck together. Green wood on the other hand is very heavy, the ends look fresher, and it tends to make a dull "thud" when struck.

Another thing you can do to help is store your wood properly. Store it off the ground by building the pile on some longer logs (or whatever method you can devise). A shed or shelter with an open side makes an ideal storage place, as the air can circulate around the logs and help to dry them out. Unventilated spaces or plastic tarps, which never get taken off will prevent the drying and evaporation process and cause moulds and rot. So, if a tarp is your only option, take it off frequently to air the wood on fine days. And remember to put it back on again. Seasoned firewood will reabsorb large amounts of water if exposed to

rain, snow and excessive dew, which is liable to make it rot and be unfit for making a good fire.

When you build up a store of firewood, remember that the wood may start to deteriorate after 4 to 5 years, although this is of course variable and depending on storage conditions and species involved.

What Type of Wood is Best?

The difference between 'hard' and 'soft' woods is the density of their cells or fibres.

As a general rule, the deciduous trees (those that loose their leaves in the autumn) are usually thought of as hardwoods and the evergreen trees (such as pines, firs and larches) as the softwoods. But generalisations are of course always subject to many exceptions. Some evergreens may well be harder than some deciduous trees. Birch, for example, is not very hard at all. So we should understand that there is a whole range of densities amongst our tree species, including medium dense woods, which cannot be satisfactorily classed as hard or soft.

Firewood tends to be sold by volume rather than weight. Assuming that the wood is reasonably dry, the weight of a square metre of good hardwood may be double of that of a square metre of softwood. This means that the same volume of hardwood will provide you with more fuel to burn than an equal amount of softwood, simply because it contains more substance.

(**N.B.** The price of hardwood will normally not be double that of softwood, because it took the same amount of labour to prepare. So, if a trailer full of hardwood costs more than the same size trailer full of softwood, the more expensive option may well be the most economical.)

The other advantage of good hard firewoods are that the cooker does not need to be fed as often and the charcoal-beds made by the glowing wood may burn more easily overnight.

However, the ideal situation would be to have a store of both hard and soft woods, because the softer woods also have distinct advantages. They light more easily than the slower burning hardwoods and if the softwoods are dry, they create a hotter, more intense fire. The draught created by the hotter fire moves the air up the chimney faster.

After reading the notes opposite about the burning process, you will understand that means less pollution in the form of smoke and less creosote condensation in your chimney.

The denser hardwoods tend to smoulder more easily when the fire is first lit, so their flue gas temperature will be much cooler.

Because softwoods like pine and larch contain a lot of resins and pitch, a popular misconception is that they will fur up the chimney with creosote more easily than a hardwood like oak. This is not necessarily true at all. It is not the pitch that is the problem, it's the water IN the pitch. Once the water in the wood has evaporated, that pitch becomes high octane fuel. When dry, softwoods burn extremely hot.

There is also the matter of seasoning to be considered. When you buy wood, it will usually have been cut in the winter of the year you buy it. Hard woods tend to take longer than softwoods to fully dry out.

Softwoods cut in the previous winter should, with proper storage, be ready to burn the next autumn, whereas many hardwoods may take a bit longer than that. Oak, for example, is very slow to dry out and ideally left for two years. It is also possible to purchase pre seasoned wood or kiln dried wood.

Summarising we can say that it is always sensible to buy this year for next years fuel supply and that it is very handy to have both soft and hardwoods. You can use the softwoods to start a good fire and you will have additional control over the fire (in addition to the cookers controls) by adding slower burning wood to fast ones if you want to leave the cooker without tending it for a while. Alternatively you can add some fast burning softwood logs to the slower hardwood logs to instantly revive a fire, which has been neglected.

The Wood Burning Process

Understanding what happens when wood is burnt will enable you to burn wood in a more environmentally friendly way, reduce the maintenance required for your chimney and get more out of your wood. There are 3 stages in the wood-burning process:

Evaporation

When you light the cooker a lot of energy will be needed at first to boil away any moisture, which is left in the wood. Using energy to drive off excess water in firewood robs the cooker of energy needed for an efficient and clean burn. Also,

much of the energy wasted in evaporating water is energy that could have heated the hotplate and oven. This is a waste of wood, money and effort. The presence of all that moisture tends to keep "putting out" the fire, and therefore making it burn very poorly, which tends to produce a lot of creosote and pollution.

Emissions

As the heat of the fire intensifies, waste-gases (smoke) are released from the wood.

Unburned smoke is emitted into the air either as pollution, or condensed in the chimney causing creosote build-up. It takes time for the air in your chimney to heat up. When it is still cold you get an effect similar to the condensation of hot breath on a colder window or mirror. So when the by-products of combustion (smoke in the form of gases) exit the cooker, and flow up into the relatively cooler chimney, condensation occurs.

The resulting residue that sticks to the inner walls of the chimney is called creosote. Creosote is formed by unburned, flammable particulates present in the smoke. It is black or brown in appearance. It can be crusty and flaky, tar-like, drippy and sticky or shiny and hardened. Quite often, all forms will occur in one chimney system.

If the wood you are using is water logged, or green, the fire will tend to smoulder and not warm the chimney sufficiently. Wet wood causes the whole system to be cool, and inefficient. In contrast: dry wood means a hot fire, which results in a hot flue, and a hot flue means much less creosote clogging up your chimney.

The cooker’s firebox is designed to operate at very high temperatures to burn the gases and particles released from the wood, which means less air-pollution.

Charcoal

When most of the tar and gasses have burned the remaining substance is charcoal (ash in it’s finer form). A hot bed of charcoals and ash can enhance the combustion process when burning larger pieces of wood. Start with a small fire to develop a bed of glowing embers. As the charcoal bed develops and the cooker heats up, slowly add larger and larger pieces of wood. It takes time to build a good charcoal bed, but it is well worth the effort. Only empty excess ash periodically and always leave a bed of ash on which to light the next fire. When wood burns it gives off volatile gases which contain calorific heat value.

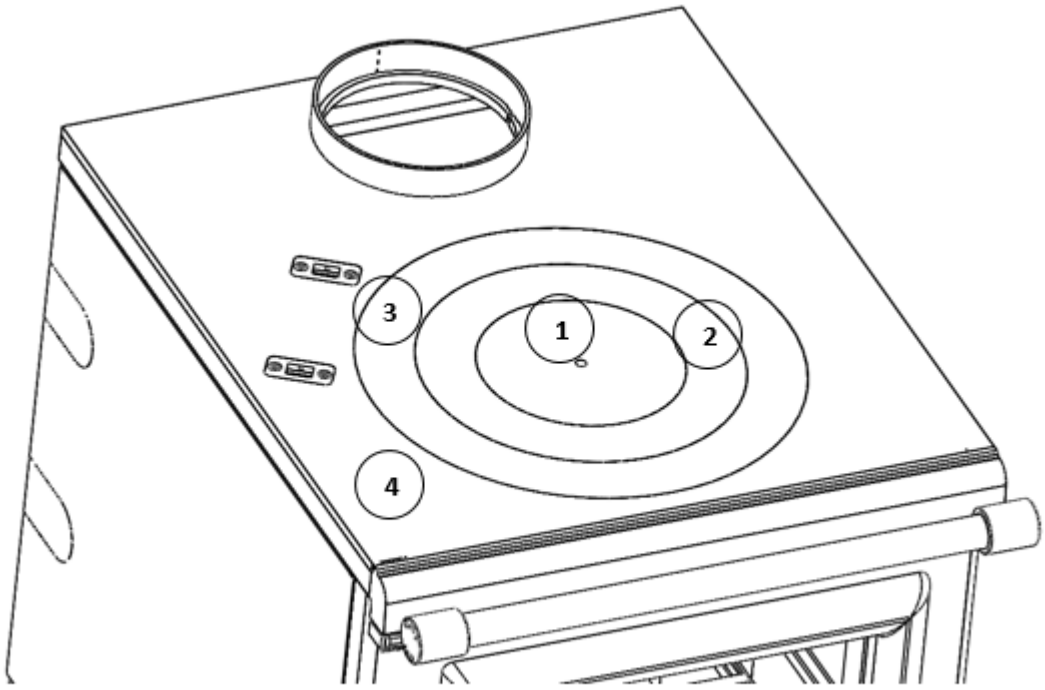
NOTE

The above text is a guide only. The ideal operation of your cooking stove depends on a number of factors which vary with each installation. Gaining experience on your cooking stove is the only way to learn its best operation.

COOKING WITH THE COOK STOVE

The oven and hotplate are heated directly by the fire. In order to heat up the oven and hotplate, the fire should be lit as described on page 6.

The temperature of the hotplate is graduated from the inside out, see Figure 9 for approximate temperatures. Machined base pans are essential as heat is transferred to them via conduction.



1. 300°C **3. 250°C**
2. 290°C **4. 190°C**

Figure 9 Approx. Working Temperatures 30 Mins. After Refueling

Food may be cooked directly on the hotplate if desired. The bolster lid may be left down when the hotplate is not in use in order to keep it at a cooking temperature.

To increase oven temperatures, refuel the cooker and increase the burning rate of the fuel by use of the air control, and regulate to the desired temperature.

The cookers are equipped with a wire shelf which can be set to the desired height on the side bricks in the firebox to cook over the embers. The shelf in the Bakeheart oven has anti-pull out stops on the ends to prevent it from being pulled out inadvertently; to remove a shelf, pull forward until the stop is reached, then lift at the front and pull out of the oven. Use reverse procedure to refit. If the shelves pull straight out then they are in back to front.

The temperature gauge on the oven door provides an indication of the oven temperature. It should be noted however that since the gauge is attached to the door, the indicated temperature will drop if the door is left open for a prolonged period. Once the door is closed the dial will come back up to temperature after a short delay.

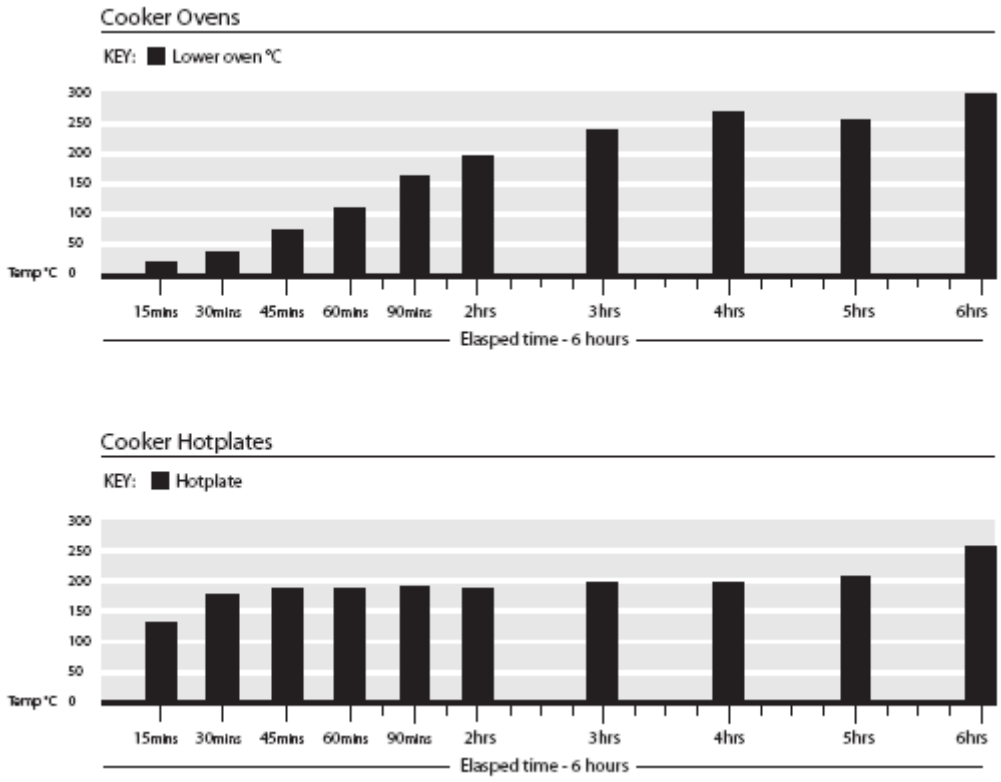


Figure 10 Estimated Heat-up Times

WARNING

If any part of the stove begins to glow it is being over fired. Stop use immediately and allow to cool before further use.

EXTENDED WOODBURNING

This appliance has not been certified as a slow combustion stove. Loading a large amount of wood into the cooking stove all at once will reduce the temperature inside. If the temperature is too low, the gases given off from the wood will be too low to combust, resulting in a lot of smoke which will cover the inside of the cooking stove, including the glass, with soot.

In order to avoid adverse combustion conditions it is a good idea to increase the temperature of the cooking stove before loading more wood by further opening the air control. Load the wood and leave the air control open until the moisture is driven out of the wood and the cooking stove is up to an efficient operating temperature. The air control and the bolster lid can then be closed to hold the temperature of the cooking stove.

The cooking stove can be set up to burn overnight if desired.

CLEANING AND MAINTAINANCE

The successful operation of your range cooker is entirely dependent on the adequate performance (pull) of the chimney or flue to which it is connected. The following maintenance guidelines will be pointless unless the flue is also maintained and cleaned regularly. How often it needs cleaning will depend on the quality and moisture content of the wood you burn but an annual clean is recommended. A partially blocked or dirty flue can have disastrous implications for an otherwise perfectly installed cooker.

A healthy flue draught should read between 12 – 25 pascals. A flue draught reading below this value will result in poor smoky performance

Always carry out cleaning procedures when the cooker is unlit and has been allowed to cool sufficiently to avoid burns. With time and experience you will be able to gauge the intervals between cleaning more accurately. It will vary

depending on the quality of your firewood and performance of your flue. Take time to get to know your cooker and inspect it at regular intervals for the first 6 months.

To clean the glass of any built up residue, special cleaning solutions can be used, or a ball of newspaper dampened and passed through the ash can be used. Do not use abrasive or chemically aggressive cleaning products on the glass as this can weaken or stain it.

If any of the chromed components become blue due to excess heat they can be restored using a chrome cleaner.

When de-ashing the cooking stove only remove small amounts of ash leaving ideally 30mm depth of ash in the bottom for best performance.

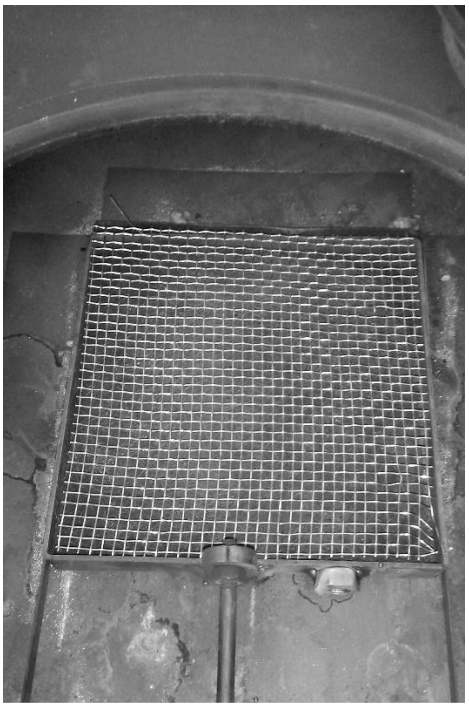


Figure 11 Under the Hotplate

To clean the flue way of the cook stove the hotplate must be removed. With the hotplate removed the filter can be removed from its holder and cleaned. To clean the filter it is recommended that it is just shaken vigorously for 20 seconds in a plastic bag to catch the particulate. To avoid rust forming on the hotplate pans should not be stored on top of the cooker when not in use.

Cleaning the Flue

It is recommended that the flue is cleaned at least every 12 months to maintain a suitable flue draught and prevent poor performance of the cooking stove. It is

essential to maintain the integrity and cleanliness of the flue to ensure that your cooker continues to perform at its best. When your cooker was installed the main flue should have been equipped with an inspection hatch. These hatches are designed to allow periodic access to the flue for inspection & cleaning.

CONDITIONS OF GUARANTEE

Your ESSE is guaranteed against defects arising from faulty manufacture for 2 years when supplied by an ESSE Specialist.

Upon registration of the warranty, ESSE will extend the guarantee period to 5 years from purchase. Your details must be registered with us by either returning the completed warranty card or by completing registration on-line at www.esse.com. The warranty must be registered within 1 month of installation to qualify for the 5 year warranty.

The appliance must be only used for normal domestic purposes and in accordance with our instructions, be correctly installed and serviced.

EXCLUSIONS

This guarantee does not cover:

- Installation
- Wear & tear
- Parts deemed to be replaceable in the normal usage of the cooker. These parts are listed herewith: all firebricks, woodburning box, oven accessories, hotplate and door seals, door glass.

This guarentee is personal to the original purchaser and not transferable.

Any stove or defective part replaced shall become the Company's property.

CUSTOMER CARE

In the event you should require spare parts, please order through your ESSE dealer or by contacting Esse via telephone (01282 813235) or our website, www.esse.com.

Should you have cause for dissatisfaction with your cooker, you should contact your ESSE dealer, who will, in most instances, be able to offer you immediate assistance. You will be required to give the following details.

- Your name, address and postcode.
- Your telephone/contact details.
- Clear and concise details of the fault.
- Model and serial number of the cooker (found on panel at rear).
- Purchase date (please note that a valid purchase receipt or guarantee documentation is required for in-guarantee service calls).

We will then check that we have an accurately completed warranty card, if not then any work carried out may be charged.

We will assess the nature of the complaint and either send replacement parts for your dealer to fit, send an engineer to inspect & report, or send an engineer to repair. If the fault is not actually due to faulty workmanship but some other cause such as misuse or failure to install correctly, a charge will be made to cover the cost of the visit and any new parts required, even during the warranty period. Home visits are made between 08.30-1700 hrs Monday to Friday, and are arranged for either a morning or afternoon appointment.

SAFETY NOTES

- Properly installed, operated and maintained, this appliance will not emit fumes into the dwelling. However, 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, open doors and windows to

ventilate the room. Let the fire burn out or eject and safely dispose of fuel from the appliance. Once the fire is cold, check the flue and chimney for blockages and clean if required. Do not attempt to relight the fire until the cause of the fume emission has been identified and corrected.

- Seek expert advice if necessary.
- An adequate air supply for combustion and ventilation is essential. Air openings provided for this purpose must not be restricted.
- Should it be likely that children, aged, or infirm people approach the appliance whilst the fire door is open, then a fireguard manufactured in accordance with BS 6539 should be used. Also warn children not to sit or stand on the appliance or use it as a 'step-stool' for access to cupboards or shelves etc. above the appliance.
- Avoid the use of aerosol sprays in the vicinity of the cooking stove when it is in operation and do not heat any unopened airtight containers.
- Ensure that precautions are taken when deep fat frying, never leave the appliance unattended and ensure you have fire safety equipment available, such as a fire blanket, in case of emergency.
- When operating the cooking stove use the tools provided and follow these instructions carefully.
- In the UK, the installer has a responsibility under the Health and Safety at Work Act 1974 to provide for the safety of persons carrying out the installation.
- Attention is drawn to the fact that fire cement is caustic and hands must be washed thoroughly after use.
- The appliance is heavy and care must be taken during handling.
- Although the appliance does not contain asbestos products, it is possible that asbestos may be disturbed in existing installations and every precaution must be taken.
- These instructions give a guide for the installation of the appliance but in no way absolve the installer from responsibilities to conform to British Standards, in particular BS8303 and BS6461, relating to the installation of solid fuel appliances. All local regulations including those referring to national and European standards need to be complied with, when installing this appliance.
- Outside of the UK, the installer must comply with all local, national & European standards that apply.

ESSE

Bakeheart & Warmheart

INSTALLATION INSTRUCTIONS

GENERAL SAFETY INFORMATION

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Outside of the UK, the installer must comply with all local, national & European standards that apply. Any adjacent combustible material should be far enough away from the appliance so as not to raise 60ºC above the room temperature when the appliance is in operation. If necessary, any adjoining walls should be protected from the effects of heat. Clearances from combustible materials are 400mm from the sides and 500 mm from the rear for the Bakeheart, and 350mm from the sides and 400mm from the rear for the Warmheart. The Warmheart is also certified for use on decorative hearths.

It is also recommended that a smoke alarm and appropriate fire safety equipment such as a fire extinguisher and fire blanket are installed in the kitchen as a safety precaution and also a carbon monoxide detector.

An adequate air supply for combustion and ventilation is required. A purpose provided air vent maybe necessary. Air openings provided for this purpose must not be restricted. An external air kit is available.

THE CLEAN AIR ACT 1993 AND SMOKE CONTROLLED 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 The Department of Environment, Food and Rural Affairs (DEFRA) 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.

Cut your logs to the approximate size shown in Figure 12 to minimise the need for refuelling.

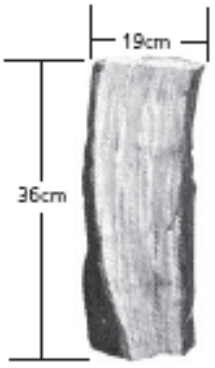


Figure 12 Approximate Size of Logs

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.

Further information on the requirements of the Clean Air Act can be found here: 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

“The ESSE Bakeheart and Warmheart Cooking Stoves have been recommended as suitable for use in smoke control areas when burning dry wood logs”

Technical Information			
Nominal heat output	5.0kW	Minimum chimney draught	12Pa
Combustion air requirements	29m^3/h	Mean flue gas temperature	253^oC
Weight of appliance Bakeheart: Warmheart:	 192 kg 154 kg	Flue gas mass flow	5.4g/s
Mean NO_X	82 Nmg/m^3	Mean CO	0.08%
Dust emissions	23 Nmg/m^3	Mean C_nH_m	54 Nmg/m^3

CHIMNEY AND FLUE INFORMATION

The successful operation of the cooking appliance relies on the adequate performance of the chimney to which it is connected. The following chimney guidelines must be followed:

- It should have an internal cross section of no less than 320cm2 (200mm dia.) (If a flue liner is used, it should be 150mm (6’’) diameter and be made

of suitable material for burning wood). A Flue with a diameter of 150mm (6''), is required to connect to the cooker.

- Voids in the chimney should be avoided, as these will prevent a steady flue draught. The appliance flue pipe should pass beyond the narrowing of the chimney.
- Terminate at least 1m above roof level so that the chimney does not terminate in a pressure zone.
- If the appliance is installed as a freestanding appliance, it should not support any part of the chimney.
- Be free from cracks, severe bends, voids, and obstructions.
- Be connected to this one appliance only.
- New chimneys must be in accordance with local regulations.
- The chimney must be capped to prevent ingress of rain.
- A flue/chimney access point is required so that the state of the chimney can be checked and any fallen soot removed.
- External flues must be insulated to prevent heat loss.
- Do not fit an extractor fan in the same room as the appliance.
- Be a minimum 4.6m high from top of the cooker to the chimney pot.
- It is recommended that an inspection hatch is fitted to the chimney as this will make future cleaning easier.
- A single wall starter length with a single to twin wall adapter will be needed to use twin wall insulated flue. The stove will need to be moved away from the wall to accommodate use of twin wall flue.

NOTE

The chimney/flue to which this appliance is being connected must be swept and examined for soundness prior to installation. Remedial action should be taken if required, seeking expert advice if necessary. Where the chimney is believed to have served an open fire installation it is possible that a higher flue gas temperature from a closed appliance may loosen deposits that were firmly adhered, with the consequent risk of flue blockage. It is therefore recommended that the chimney be swept a second time within a month of regular use after installation.

<u>Flue Draught</u>

The chimney can be checked before the appliance is installed with a smoke match. If the chimney doesn't pull the smoke, it may suggest the chimney needs attention.

This test is only a guide as an apparently poor flue may improve once the appliance is installed, lit and the flue is warmed. Once the appliance is installed a flue draught reading should be taken as detailed below.

Two flue draught readings should be taken, one with the appliance at minimum burning rate and one at maximum burning rate. The flue draught test hole must be drilled in the flue pipe as close to the appliance as possible and before any flue draught stabiliser.

Minimum reading: The appliance should be lit and allowed to warm the flue thoroughly. Close the air controls, and ensure firebox door is fully closed. Allow the burning rate to become steady. The flue draught reading should now be taken; the minimum required is 12 Pascals [Pa] (0.05'' w.g.).

Maximum reading: The air controls can now be opened to allow the appliance to burn at maximum rate. Take a flue draught reading.

Ideally, the flue draught readings should range between 12Pa, 0.12mm (0.05'' w.g.) and 25Pa, 2.5mm (0.1'' w.g.). Any readings significantly outside this range may indicate the need for remedial action. Low flue draught symptoms: difficult to light and smoke coming into the room. High flue draught symptoms: fuel burns away very quickly, overfiring which may damage the appliance & invalidate the warranty.

A flue stabiliser can be fitted to reduce the draught through the appliance if the draught may exceed 25Pa. The flue stabiliser should be fitted in the same room as the appliance and be the same size as the flue pipe. Consult building regulations regarding additional ventilation.

A fan flue booster can also be fitted if the flue draught is poor. This should be fitted according to the instructions supplied with the booster. An electrical supply will be needed.

Table 1 Flue Draught Trouble Shoothing Guide

Low flue draught symptoms: difficult to light and smoke coming into room	
CAUSE	**REMEDY**
Cold chimney	Line the Chimney
Chimney too short	Extend the chimney
Down draught	Relocate/extend chimney terminal. Fit an anti-down draught cowl
Chimney diameter too large	Line the chimney
Chimney obstruction	Clear/sweep the chimney
Restricted air supply	Check for competing draughts (other chimneys, extractor hoods/fans). Fit an air vent if the room is sealed.
High flue draught symptoms: fire difficult to control, fuel will not last, stove too hot, stove damage, chimney fire	
CAUSE	**REMEDY**
External wind conditions combined with chimney terminal	Fit stabiliser cowl Fit flue draught stabiliser

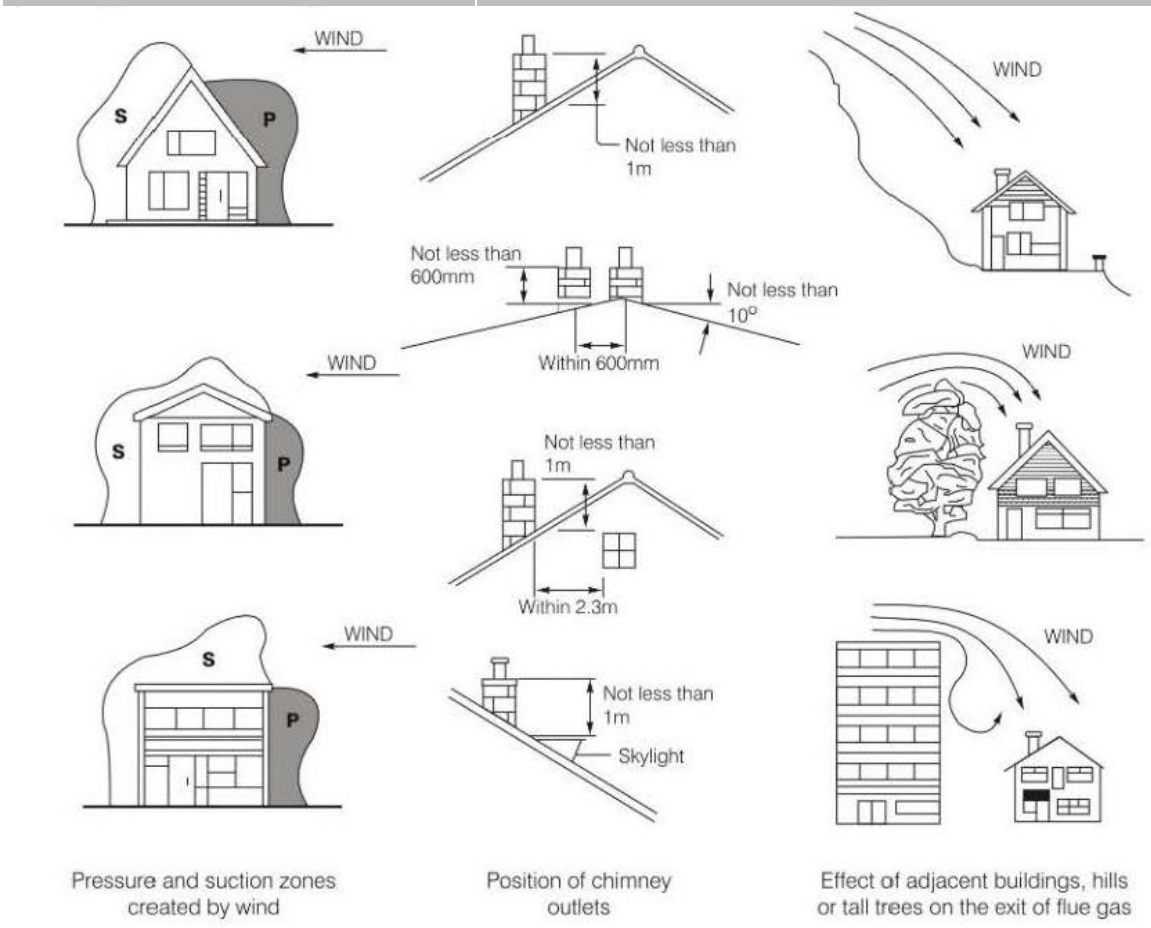


Figure 13 Chimney Location and Flue Performance

INSTALLING THE APPLIANCE

Flue Connection

The flue pipe used to connect the appliance to the chimney is 6'' (150mm) in diameter. (The flue connection is on the top of the appliance, in the centre at the back.)

Important Installation Notes

- The installation must allow access for adequate chimney sweeping and flue cleaning.
- Avoid using bends greater than 45º to the vertical. All flue pipe sections should be as close to the vertical as possible.
- All joints in the flue system must be effectively sealed.
- All flue sockets must face upwards. On completing the installation of the appliance, the chimney, hearth and walls adjacent to the cooker must conform to local or national regulations currently in force. In the United Kingdom, the appropriate sections of the Building Regulations must be conformed to.
- Air inlet grilles should be positioned so that they are not liable to blockage.
- An air extraction device shall not be used in the same room as the appliance unless adequate additional ventilation is provided.
- A flue cleaning hatch should be fitted to provide access for cleaning the flue and chimney.
- Check the appliance for soundness of seals between main components and that all supplied parts and fittings are correctly fitted.
- Ensure the appliance is left operational and hand over the operating instructions and operating tools supplied.
- Before leaving the installation demonstrate the operation of the appliance to the user. Explain all controls and flue way access for cleaning.

COMMISSIONING THE APPLIANCE

- Measure and record flue draught
- Check ventilation
- If applicable check plumbing circuit
- Check no extractor fan, other appliance or other flue interferes
- Complete commissioning card and return to ESSE to validate warranty

REPLACEMENT PARTS

Fire Door Glass	
Filter Assembly	500-IH-015A
Side Brick	500-IH-226
Side Brick (with shelf runners)	500-IH-227
Top Front Brick	500-IH-235
Top Back Brick	990-004
Base Brick	990-009B
Rear Brick 1	500-IH-228-UK
Rear Brick 2	500-IH-229-UK
Oven Shelf	PLUS-011-REV2

COMMISSIONING CHECKLIST

To assist with any potential guarantee claim please complete the following information:-

To be completed by the installer.

Dealer the appliance was purchased from:
Name:
Address:
Telephone No:
ESSENTIAL information:
Date Installed
Model Description:
Serial No:
Installation Engineer:
Company Name:
Address:
Telephone No:

Commissioning Checks – to be completed and signed:

Has the use of the appliance, operation and controls been explained?	Yes		No	
Instruction book handed to the customer?	Yes		No	

Signature:……..

Print Name:……

ESSE Engineering Limited, Ouzledale Foundry, Long Ing, Barnoldswick, Lancashire

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