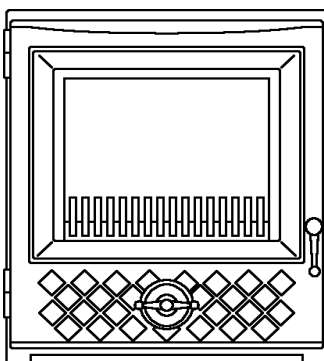




SINCE 1854



# Esse 300

**INSET SOLID FUEL ROOMHEATER FOR INSTALLATION IN STANDARD BRITISH or IRISH FIREPLACE OPENINGS CONFORMING TO BS1251 & BS8303**

## **INSTALLATION AND OPERATING INSTRUCTIONS**

**LEAVE THIS DOCUMENT WITH THE HOUSEHOLDER!**

<p>CONSTRUCTION CONFORMS TO EUROPEAN STANDARD <b>EN 13240</b></p>	<p><b>RATED PERFORMANCE – intermittent burning solid fuel roomheater for installation in masonry fireplace with a single dedicated chimney.</b> With the door closed, burning Anthracite at 0.93 kg per hour with flue draught of 12Pa, air-control spinwheel 4mm open:</p>													
	<table> <tr><td>Mean flue temperature</td><td>381 °C</td></tr> <tr><td>Mean CO in flue (as if at 13% O<sub>2</sub>)</td><td>0.27%</td></tr> <tr><td>Efficiency</td><td>64%</td></tr> <tr><td>Output</td><td>4.5 kW (23,800 Btu)</td></tr> <tr><td>Flue gas mass flow</td><td>6.6 g/s</td></tr> <tr><td>Minimum air space around fire</td><td>Back = 0mm, Sides + Top = 100mm</td></tr> <tr><td>Minimum clearance to combustible materials</td><td>Top: 400mm All other faces: 250mm</td></tr> </table>	Mean flue temperature	381 °C	Mean CO in flue (as if at 13% O <sub>2</sub> )	0.27%	Efficiency	64%	Output	4.5 kW (23,800 Btu)	Flue gas mass flow	6.6 g/s	Minimum air space around fire	Back = 0mm, Sides + Top = 100mm	Minimum clearance to combustible materials
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**Manufactured by: Esse Engineering Ltd**  
Long Ing, Barnoldswick, Lancashire BB18 6BN, England  
[www.esse.com](http://www.esse.com)

**Read these instructions! Use only recommended fuels!**

This document, when completed by the installer, constitutes a 'Hearth Notice' for purposes of the England and Wales Building Regulations 2000, (App. Doc. J4). It must be left with the householder and placed where it can easily be found.

APPLIANCE SERIAL NUMBER:	
INSTALLED AT LOCATION:	Flue Draught measured on commissioning: <input type="text"/> Pa
BY:	
EMERGENCY TELEPHONE:	Fuel used on commissioning: <input type="text"/>
SIGNED:	DATE:
Who certifies that this installation is safe, has been demonstrated to the householder, conforms with current building regulations and with these instructions	

**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 [www.solidfuel.co.uk](http://www.solidfuel.co.uk)

**Rol:** Irish Nationwide Fireplace Organisation, 162 Capel Street, Dublin 1 Tel: 01-801-5959 [www.fireplace.ie](http://www.fireplace.ie)



## Welcome to your new Esse...

...and to joining the illustrious tribe of Esse fire-keepers, along with, over more than one hundred and fifty years; Florence Nightingale, Captain Scott, Mrs Beaton, Auguste Escoffier and most of the Royal Families of Europe.

### BEFORE YOU BEGIN ...

This document is a guide to installing and using the Esse 350 stove, the installer must understand and comply with all local, national and European standards and regulations.

### WARNING!

**FUMES ARE POISON!** Properly installed and operated this appliance will not emit fumes into the dwelling. Occasional fumes when de-ashing and refuelling may occur, but persistent fume emission must NEVER be tolerated.

**THIS APPLIANCE BECOMES EXTREMELY HOT** Air from the outlet grilles can exceed 350°C, flue temperatures can rise to over 500°C. A fire-guard should be used if children or the infirm are present. All combustible materials must be at least 250mm away from the fire (400mm above), flammable materials (including fuel) should never be stored near to the appliance and the air outlet grilles on the stove must never be covered.

### SOME WARNINGS!

**ASBESTOS:** The Esse 300 does not contain asbestos, but take care to avoid disturbing any asbestos in old installations.

**WEIGHT** The Esse 300 is heavy (66 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.

**CHIMNEY FIRES:** In the rare event of a chimney fire where soot deposits inside the flue ignite - identified by a loud blasting sound and dense clouds of smoke and sparks exiting the top of the chimney - immediately close the door of your 300, shut the air control spinwheel and call the fire brigade. Prevent fires by having your chimney swept at least annually, or more often if smoky fuels are used.

### YOUR CHIMNEY...

creates the draught which makes your Esse 350 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

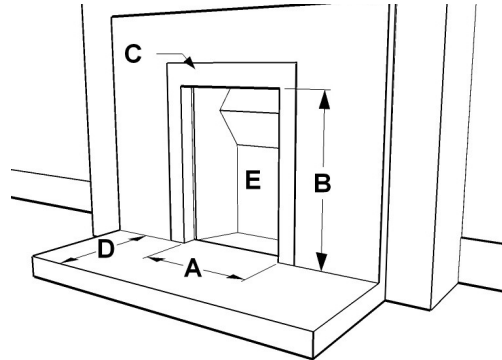
This will commonly be achieved by it:

- 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 degrees.
- 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 Esse 300 needs air to breathe - there MUST be a permanent, unobscured, air supply into the room in which the fire is installed equal to at least 15cm<sup>2</sup>. An extractor fan, or another fuel-using appliance, even in a different room, can remove this air. In many cases draughts around poorly-fitting doors, windows, roof soffits etc will supply the equivalent of a 15cm<sup>2</sup> air entry, but in any case of doubt, it is wise to fit a purpose-made air vent.

**FITTING:** The Esse 300 is designed for fitting only into a single chimney and a standard masonry fireplace conforming to BS1251 & BS8303, which must be made of incombustible materials (tile, brick, stone etc), and extend:



- At least 150mm all around the fire
- Have a hearth at least 150mm thick (which may include the thickness of a solid floor) extending at least 300mm (D) in front of the appliance, without obstructions which might prevent the door from opening.
- Have a fireplace opening width (A) of between 400 and 420mm, an opening height (B) of between 540 and 560mm, a substantially flat area (C) extending 50mm around the opening.
- Have a smooth connection between the opening and the chimney. There should be a gap of 100 to 125mm between the fireback and throat lintel.

To work correctly, the Esse 300 must form an **absolutely** airtight seal against the fireplace. So, if there is a rough surface (such as brick or stone) around the 'C' area, apply a skim of fire cement to smooth out the parts where the seal will be made.

Make sure the fireplace opening is level, and clear of dust and grit. Fit the soft fibre seal against the back of the stove using the double-sided tape supplied. Place the appliance on the hearth and push it fully into the fireplace so that the fibre seal is fully compressed.

Open the firedoor. Remove the inner fittings, grate and ashpan. Mark the position of the fixing hole in the base of the ashpit. Remove the fire and drill at the marked point 40mm deep using a 6mm-masonry drill. Insert the alloy screwplug into the hole.

Push the appliance back into the fireplace opening. Insert the screw through the hole in the ashpit and screw it very firmly into the alloy plug. Put your hand into the chimney through the stove's flue outlet. Move the clamping bar into a vertical position. Hold it there while you tighten the clamping screw, located just above the fire opening. This will firmly pull the appliance against the fireplace. In a few cases, the threaded rod connecting the clamping screw to the clamping bar will be too long or short. If too long, it can be cut down using a hacksaw. If too short, longer lengths of M8 threaded rod can be obtained from hardware shops.

Replace the internal components and fit the throat plate as shown in the diagram.

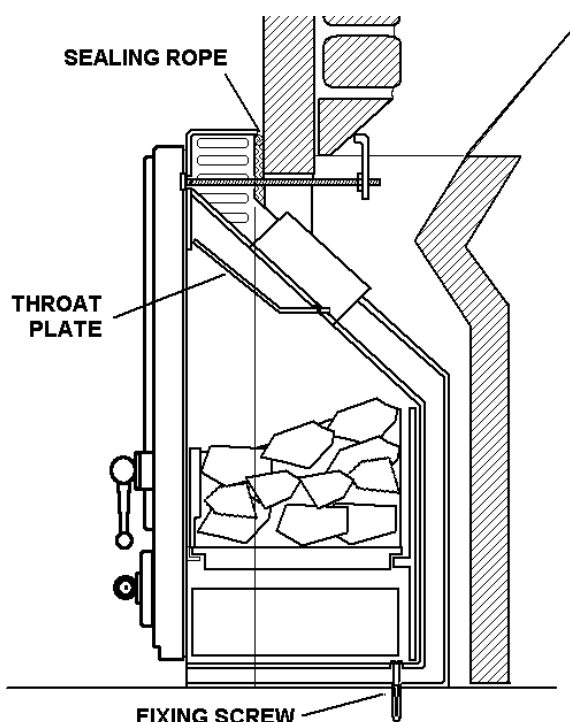
It is not necessary to fill any gap behind the appliance, no danger occurs if soot accumulates there. However, performance will be slightly improved if any gap is filled with vermiculite granules, mineral wool or masonry rubble.

### 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



## LIVING WITH A 300

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 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 cast-iron liners, with dry fuel, close the door and set the air control to the 'high' position.

**CONTROL** How fast the fire burns, and how much heat it gives, depends on how much air reaches the fuel.

The Air Control is at the bottom of the door. Some door designs have a traditional spinwheel, turn it anti-clockwise for highest output, clockwise for 'low'. Other door designs have a sliding control marked with 'high' and 'low' symbols.

The air control can become extremely hot - always use the tool or glove to operate it.

Fuels which give off large amounts of volatile gas (housecoal, lignite etc), may be more difficult to control.

**ECONOMY** Surprisingly, best economy is achieved with the firebox very full and the air control set to 'low'. The fire will burn much more efficiently than if you use 'little and often' and will need less frequent refueling.

**EMPTYING ASHES** use the tool 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 or hard coke (smaller sizes are to be preferred). Set the air control to 'low' and your Esse can burn for up to twelve hours without attention.

**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. Polished parts can be brightened using wire wool. 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 available from stove shops. 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.

**KEEPING THE WINDOW CLEAN** Extended use at low output or with damp fuel can stain on the window. Reduce the risk of staining by using only very dry fuel. TIP: With some fuels, you may find it advantageous to leave the door slightly open for the first few minutes after refuelling, while the smoke and tars burn away.

**OPENING THE DOOR** The Esse 300 is designed to be operated only with the door closed. Open the door slowly when refuelling or de-ashing to minimise fumes emission into the room.

## FUELS

In certain areas you are required by law to burn smokeless fuels. Different fuels have very different burning characteristics, and 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** (Not smokeless) 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 dried for at least a year (outside under a tarpaulin will do). When dry enough to burn, the ends will split. 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 the fire until absolutely necessary.

**HOUSECOAL (or BITUMINOUS COAL)** (Not smokeless) Is raw, natural coal. Inexpensive, easy to light and low in ash, it burns with great heat and an attractive flame. It makes lots of tarry smoke which will stain the window and large volumes of flammable gas which make it difficult to control. Despite its low cost, it rarely represents value for money and we never recommend its use.

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

**PEAT** (Legally smokeless in certain areas) is semi-decomposed woody material found naturally. The nearly black moorland or bog peat should be dried and treated as for wood.

**LIGNITE** (Not smokeless) is a natural mineral, between peat and coal. It lights easily and burns well, though some varieties produce excessive 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 waste. 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 firebar 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! The Esse 300 is not an incinerator, so only ever use the recommended fuels and **NEVER** use liquid fuels in any form

## PROBLEMS?

Problems like those listed here are due to some difficulty with the installation, chimney or fuels, so please check back through this leaflet carefully.

**POOR HEAT OUTPUT** The Esse 300 is sufficient to heat a

typical room of up to 75m<sup>3</sup>. 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. Use only the recommended fuels. If necessary seek specialist advice.

**LACK OF CONTROLLABILITY** Some fuels give off lots of very flammable gas when they get hot. The 300's 'airwash' sends air into these gasses to ensure that they burn off safely. This means that some fuels, especially some types of wood and housecoal, may burn excessively until the gases 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** If the fire goes out with fuel still in the firebox, then this is probably because too little air has been reaching it, try leaving the air control open a little 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 not be tolerated, causes might be:

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

**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 have the chimney professionally swept.

**POOR AIR SUPPLY:** Lack of air to the fire will cause smoking and poor performance. Air supply problems may be worse in

certain wind conditions (often incorrectly ascribed to 'downdraught', which is in fact very rare), 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 direction.

**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-** In circumstances of poor chimney draught causing fume emission, which cannot be remedied otherwise, the Esse 300 may be operated with the throat plate permanently.

## **MAINTENANCE**

**MONTHLY-** Check that the door seals are undamaged, and that the flue is clear and unblocked.

**ANNUALLY- SWEEP THE CHIMNEY** The entire length of the chimney from stove to outlet should be swept annually, or more often if smoky fuels are used.

**REFURBISHMENT** Should the stove body become scratched or dull, repaint it only with heat resistant paint sold for the purpose and only when the fire is completely cold.

**NEW PARTS** The Esse 300 has been extensively tested for safety - please don't try to modify it and always make sure to obtain genuine spare parts.

The 300 is fully guaranteed (excluding wearable components) for one year from the date of purchase, in addition to your statutory rights.