CastTec

Solid Fuel Eco

Multi-fuel stove

Ref. Solid Fuel Eco 5kW Inset

SOLID FUEL ECO 2022 Ready

Version 03 (03.06.2025)

Installation and Operating Instructions

The Solid Fuel Eco stove must be installed by a suitably qualified engineer

- *Instructions must be given to the stove user when installation is complete*
- *The installer must instruct user the correct use of the appliance and control operation*

The Solid Fuel Eco is manufactured to
EN13240:2001A.4.7/9.2.2 and EN13229 A4.7/9.1
for Cast Tec Ltd., East Side, Tyne Dock, South Shields NE33 5SP
Website: www.casttec.co.uk - Tel. 0191 4974280

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THE CLEAN AIR ACT 1993 AND SMOKE CONTROL AREAS

The Cast Tec Solid Fuel Eco has been recommended as suitable for use in smoke control areas when burning wood logs. The Cast Tec Solid Fuel Eco is factory fitted with a permanent stop to prevent complete closure of the Primary and Secondary Air controls.

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 a 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 Wales and Northern Ireland these are authorised by regulations made by Welsh Ministers and by the Department of the Environment respectively.

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.

OPERATING INSTRUCTIONS

Lighting the stove

Before lighting the stove for the first time, please ensure all firebrick linings and other internal components are in position and that all packaging has been removed.

When lighting your stove for the first time, it should not be stoked excessively as all materials must be given time to adapt to the effects of heat. Your stove has been painted with specialist high temperature paint and oven cured within our manufacturing process, however upon initial lighting of the stove, further curing may occur, and a slight smell may be evident. We recommend that windows and doors are left open during this time, as airing the room will allow this to disappear.

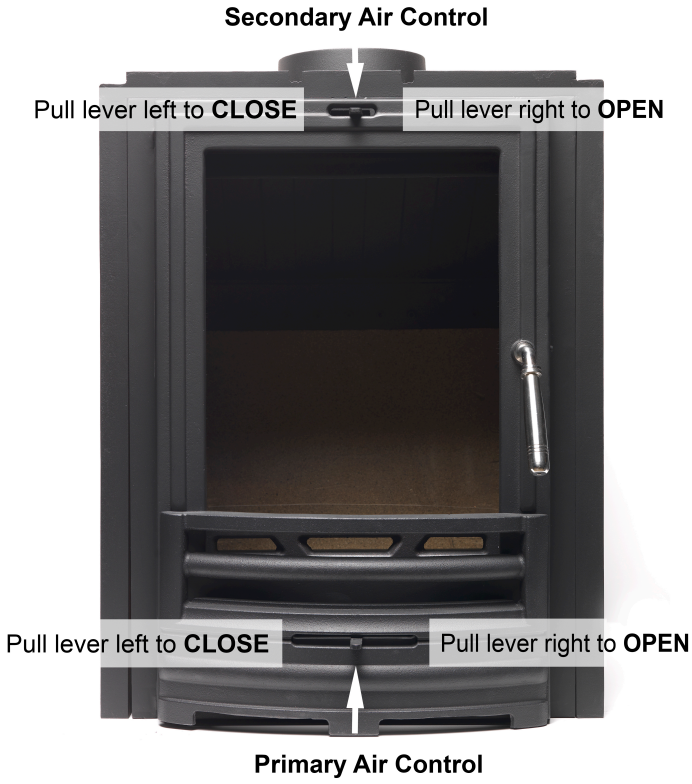
Step 1. Open the air control fully using the tool (with glove).

Step 2. Place rolled up crumpled newspaper inside the back of the stove. Place small tinder/kindling on top of the newspaper and then a few larger pieces of wood on top of this. Light the newspaper and close the door. NEVER USE FLAMMABLE LIQUIDS.

Step 3. Allow the fire to burn until all the pieces of wood are alight and burning. Now add larger pieces of wood. Never add so much wood that it is in danger of coming over the fuel bar.

Step 4. Once the fire is established the air control can be reduced to maintain a steady burn rate. Never run the stove with door open.

All parts of the stove become hot when in operation. Use the glove provided to operate the air control and the door handle.



Very Important: The stove door should never be opened when the stove is being fired vigorously.

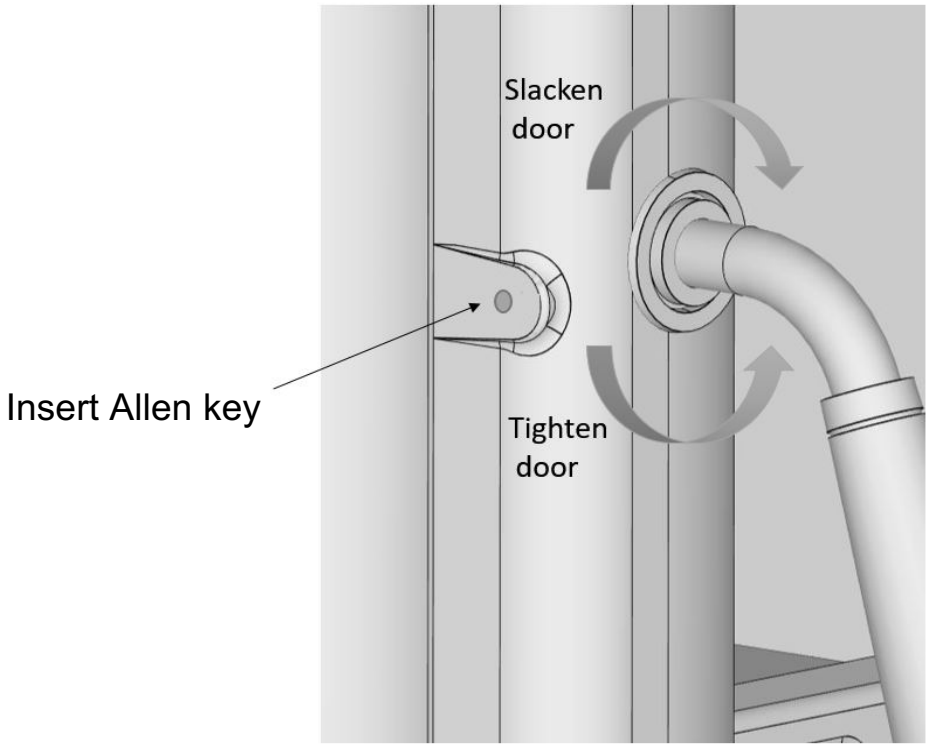
- **Wood and solid fuels, Re-fuelling when fire bed is low:**
    - If there is insufficient burning material in the fire bed to light a new fuel charge, excessive smoke emission can occur. Refueling must be carried out onto a sufficient quantity of glowing embers and ash so that the new fuel charge will ignite fairly quickly. If there are too few embers in the fire bed try adding some suitable wood kindling so as to prevent excessive smoke.
- **Fuel overloading:**
    - Do not overload the fuel inside the stove or exceed any guidelines mentioned in these instructions as this can cause excess smoke.
- **Door left open:**
    - Do not operate the stove with the door left open except for the guidelines mentioned in these instructions as this can cause excess smoke.
- **Air Controls left fully open:**
    - Do not operate the stove with the continually with the controls fully open except for the guidelines mentioned in these instructions as this can cause excess smoke and result in inefficient combustion.

Door handle adjustment

The door handle has a sophisticated adjustment system. It comprises of only 4 parts and can be adjusted very simply by the end user. The system allows adjustment without the need for spanners or other tools. The stove is provided with a set screw to perform this function. Please keep this safe.

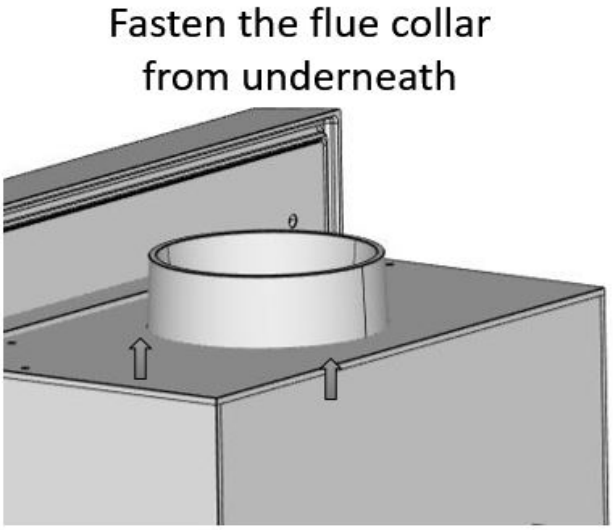
The door rope over time will flatten and the door seal will start to let air into the stove. This will allow unwanted air into the combustion box and increase the speed of the burn. This will affect the controllability of the stove.

Using the supplied Allen key, insert it into the hole in the side of door containing the set screw. Turning it anti-clockwise, slacken the set screw until the door handle becomes loose. Once loose, turn the handle the correct way as the drawing below. On completion, slowly re-tighten the set screw until the handle is set.



Flue fixing

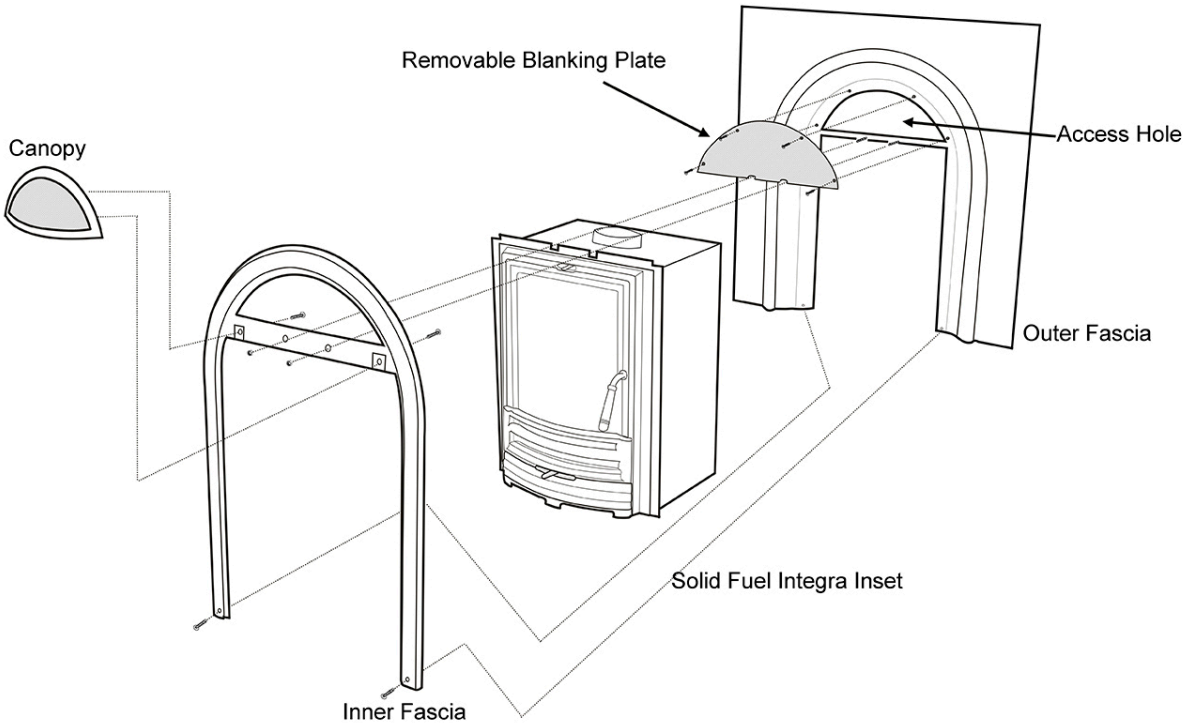
The flue collar is fixed from the inside of the stove using the supplied fixings. If using a flexible liner this can also be fixed from the inside of the unit.



Installing the unit

The Solid Fuel Eco stove inset is sandwiched between the Inner and Outer Fascia, the rear of the unit requiring a mimimum depth of 320mm.

Arched Insert Assembly



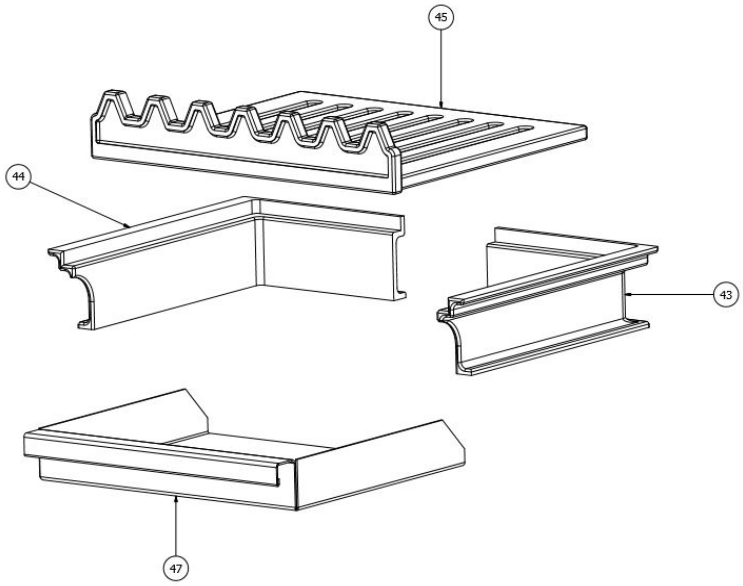
THE SOLID FUEL ECO BURNING MODE

Mode

- The Solid Fuel Eco is set as per diagram to burn both wood and multi-fuel.
- The grate is a consumable part and will have to be replaced over time.
- Wood and Multi-fuel are burnt directly on the grate.
- The Log Guard is required to burn both fuels.

Note: Ensure the Log Guard is in position to prevent logs and ash falling from the stove.

Grate Assembly



Note: When burning wood the air combusts above the logs, therefore the secondary air controls the burn. When burning multi-fuel the air is required to pass through the fuel therefore the primary air controls the burn.

Running Temperature

150°C-300°C

The flue gases should be in this temperature range for the safest, most efficient and most economical operation of your stove.

Below 150°C

This will cause the condensation of wood gases and the build-up of tar in the chimney, dirty the stove glass and result in the inefficient burning of fuel.

Above 300°C

Too hot. Heat will be wasted up the chimney. Excess heat may damage the stove or ignite the existing accumulation of tar resulting in a chimney fire.

Overheating

Should the stove be allowed to get too hot and is overheating, close the air controls (by moving the levers to the left) using the glove. Keep the fire door closed and allow the fire to burn down.

Chimney Fire

In the event of a chimney fire dial 999 and ask for the Fire Service. Fully close the air control and keep the stove door closed. Move any combustibles away from the stove and chimney. Check any other rooms that the chimney passes through and move any combustibles away from the chimney. Before using the stove again after a chimney fire, the chimney should be cleaned and inspected by a qualified person.

Cleaning the glass

We recommend wiping the glass after a fire to prevent any build-up of deposits. This is best done using a paper towel or newspaper to avoid scratching the glass.

Types of fuel

Wood needs to be well seasoned before it is burnt. There are many types of wood available for fuel and they take varying amounts of time to season. As a general guide, wood should be cut to length, split and then stacked under cover with sides open to the air for at least 12 months.

Wood is ready for burning when radial cracks appear at the end of the logs and moisture content is no more than 20%. It is then good practice to store the wood in a log basket inside your property for a few days prior to its use. The internal width of the chamber inside the Solid Fuel Eco is 325mm therefore the firewood should ideally not be longer than 300mm.

Smokeless fuels used must be those recommended by HETAS *www.hetas.co.uk/find-fuels/.*

Warning

DO NOT burn unseasoned wood or none HETAS approved smokeless fuels in your stove. DO NOT burn particle board, lacquered, painted or treated wood, plastics, rubber or liquid fuels. Should the stove burn any of these materials, the warranty will be void. The stove should not be used as an incinerator.

Ash

The ash should only be removed when the fire is out and has been left to cool completely. The log retaining bar can be removed for easier access by lifting it up. Wood burns well on a thin layer of ash and leaving this when cleaning, also provides protection for the base insulating bricks.

MAINTENANCE & CLEANING

Any maintenance of the stove should only be carried out when the stove is cold. Daily maintenance should be limited to vacuum cleaning the stove externally or brushing down with a soft brush. Never use spirits to clean the stove, as this will remove the paint. Regularly check the flue exit from the stove to make sure there is no build-up of deposits that will restrict the exit of the flue gases.

Note: The stove must not be modified in any way. Any changes will invalidate your warranty. Replacement parts must be official Cast Tec stove parts, available from www.firespares.direct.

Chimney Sweeping

The chimney should be swept a minimum of once per year. This must be carried out by a registered or competent person. If the stove is used frequently, the chimney should be swept more often. Your stove should also be given a visual inspection every time the chimney is swept. These checks should include the rope seals, door handle, firebricks and baffle. Any build of soot and ashes within the stove should be removed.

Fire bricks

The fire bricks are manufactured from vermiculite. Vermiculite is a non-combustible fire-resistant board with excellent thermal insulation properties. As vermiculite is a porous material, it may over time become worn and damaged. Please handle with care, especially when re-fuelling the stove. The insulation only needs replacing when it has deteriorated to an extent that the insulation is no longer protecting the steel body of the stove from the flames. Cracks in the vermiculite are normal and will not interfere with the efficient running of the stove. The vermiculite bricks are not covered by the manufacturer's warranty and are available from www.firespares.direct.

Glass

If the glass is blackened by soot, it can be easily cleaned using one of the many specialist stove glass cleaning products available. The glass itself is not covered by the manufacturer's warranty and replacements are available from www.firespares.direct.

Surface

The high temperature paint finish should require no further treatment. Any damage or wear on small areas of the paint finish may be remedied using our high temperature aerosol paints. Please read the instructions on the aerosol tin carefully before applying.

INSTALLATION

Building Regulations for the Installation of your Cast Tec stove must comply with all local, national and European standards. We advise prior to any installation, a full site survey is conducted by an installation engineer, recognised within an industry standard such as NACS or HETAS to check the suitability of your chimney and appliance. Document J of the building regulations contains further information regarding the installation of solid fuel appliances and can be viewed at
http://www.planningportal.gov.uk/uploads/br/BR_PDF_ADJ_2010.pdf

VENTILATION

The appliance does not require fixed ventilation. An air extraction device should not be used in the same room as the appliance, unless adequate additional ventilation is provided. Other heating appliances requiring air for combustion should not be used in the same room as the appliance, unless adequate additional ventilation is provided.

Stoves need a supply of air for combustion and to evacuate the flue gases, otherwise they will not work. Without an air supply, the stove will not light and smoke is likely to pour out into the house. The smoke will not be able to be drawn up the chimney as this requires air movement that is not possible if there is no source of air. If your stove smokes or does not burn very keenly, but this improves when you open a window, then this is a sign that you need to install some ventilation.

We recommend you discuss your ventilation requirements with your local Cast Tec authorised retailer/installer. Any airbricks or grilles fitted should be positioned so that they are not liable to blockage. If other appliances requiring ventilation operate within the vicinity of the stove, there must be adequate ventilation provided for both appliances running simultaneously.

NOTE: Extractor fans when operating in the same room or space as the stove may cause problems.

Load-bearing capacity of the floor

Before installing the stove, you must ensure that the load-bearing capacity of the floor can withstand the weight of the stove and any flue pipes and connections. The weight of the stove is 75Kgs approximately.

Hearth

The stove should be installed on a non-combustible hearth. The hearth should extend to a minimum distance of 225mm in front of the stove and 150mm to each side, measured from the door of the combustion chamber. Please refer to document J of the building regulations for further information on hearth requirements.

Clearances

The minimum clearance to combustible materials is 400mm above the stove and 250mm to the sides of the stove.

Chimney Requirements

An existing chimney or a new flue installation should be given a visual inspection to check that it is in good order, clear of obstructions and is of suitable size and type for the stove. It may be necessary to sweep the flue, which should always be done prior to fitting a stove or lining a chimney. We also recommend that a smoke test is carried out to check for gas tightness and chimney draft. We recommend lining and insulating your chimney. There should be access to the chimney to allow for sweeping.

Air Damper

It is recommended that chimneys with a strong updraft be fitted with a flue damper or draught stabiliser to allow the chimney draught to be regulated. No damper should close the flue way completely, 20% of the total opening of the chimney or flue pipe must remain open at all times.

CARBON MONOXIDE ALARM

An approved carbon monoxide alarm must be installed when any solid fuel appliance is installed. Carbon Monoxide alarms need to meet European safety standards and must be audible. They must be fitted in accordance to the manufacturer's instructions.

Please Note: An alarm is no substitute for regular maintenance and chimney sweeping.

FLUE

The minimum flue draught required for nominal heat output is 12 Pascal's. At nominal heat output, the flue gas temperature will be in the region of 242°C. The appliance should not be connected to a shared flue. The design of the flue installation should allow access for sweeping. The stove has both rear and top flue connections. Seal the flue connections with fire cement or a high temperature rope seal. The flue blanking plate should be positioned over whichever outlet is not being used. The stove can be run on a 5" (125mm) flue system.

OPERATIONAL PROBLEMS

Blackened Glass

- The wood is too damp. Only use wood that has been stored for at least 12 months under cover and ideally with a moisture content less than 20%.
- Insufficient intake of air from the air control. Open the air control further.
- Insufficient ventilation. The stove is being run at too low a temperature.

Smoke in the room when refuelling

- Poor chimney performance. Consult chimney sweep or installation engineer.
- Check the position of any fitted flue damper to make sure it is in the open position.
- Never open the door when there are high flames on the wood.

Uncontrollable Combustion

- Damaged door seal. Fit new seal.
- If there is excessive chimney draft, fit a draft stabiliser in the flue pipe. Consult a chimney sweep or the installation engineer.

Warranty Registration

PLEASE RETURN TO THE RETAILER
FAILURE TO DO SO MAY AFFECT THE WARRANTY

Your stove is guaranteed
(Excluding consumable parts: Vermiculite, rope, glass and grate)
For 5 years from date of purchase

Appliance installer to complete ALL sections below

This document must be completed by the installer; this constitutes a 'Hearth Notice' for purposes of the England
and Wales Building Regulations 2000.

Serial Number:	Model:
Customer name and address:	
Installer Name:	
Registration Number:	
Date:	

Who certifies that this installation is safe, has been demonstrated to the householder, conforms to current building regulations, has at least a 12Pa flue draught measurement and has been through these instructions with the owner of the appliance.

Flue Draught measured on commissioning:	**PASCALS:**

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
RoI: Irish Nationwide Fireplace Organisation, P.O. Box 11563, Finglas, Dublin 11 Tel: 086-236-6553
www.fireplace.ie

NOTES ON WOOD BURNING

The first stage of the fire, just after lighting, is usually the smokiest because the cold wood and stove take heat away from the flames. During this stage ensure that the air inlet is fully open to increase the flame temperature.

It may appear that this initial hot burn allows too much heat straight into the flue system, however this is a necessary part of an efficient fire. The additional heat primes the chimney to produce a strong draft and helps keep the chimney/flue clean by loosening creosote that may have been deposited by a previous fire.

The hot initial burn also drives moisture from the firewood and gives an ignition source for the smoke that is released from the wood. Only make small changes. Do not try to add too much fuel at once. Adding fuel gradually will help maintain a steady optimum temperature and burning rate, so that the stove burns efficiently and cleanly.

Adding too much fuel will dramatically reduce the temperature inside the firebox. After adding large pieces of wood/logs, it is recommended to increase the air opening slightly until the new fuel begins to burn and the stove returns to temperature. This also applies to the air control. Adjusting it gradually will help maintain a steady combustion rate.

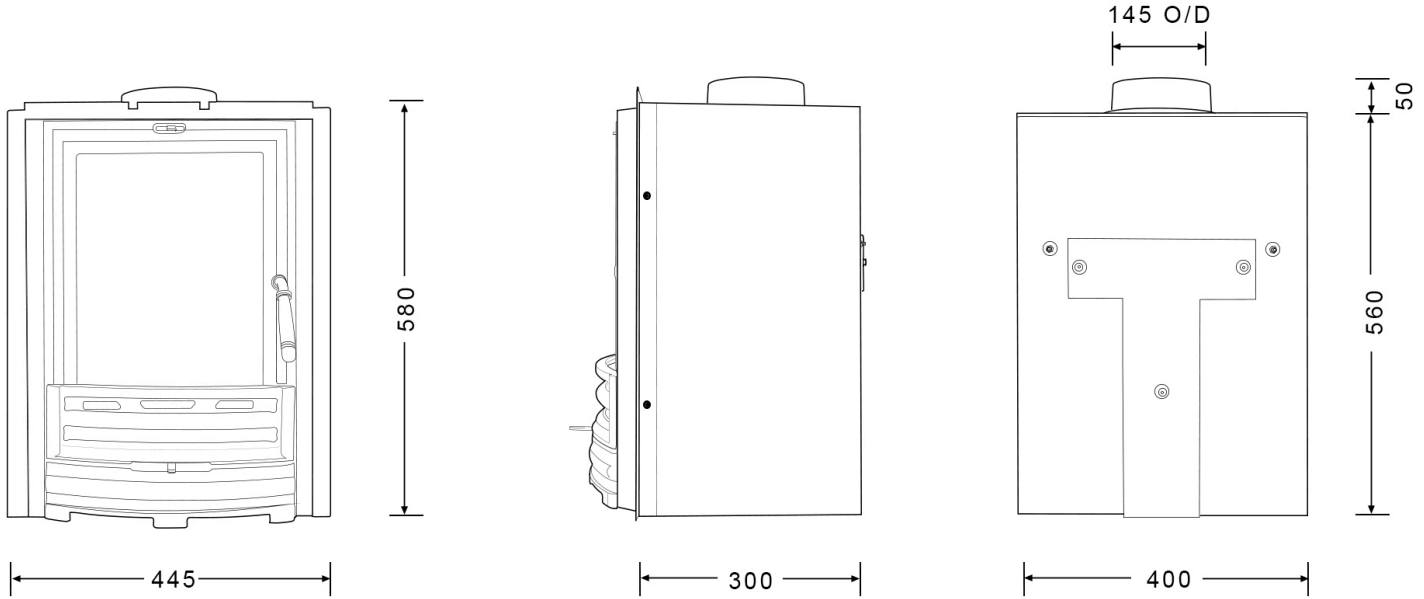
In most instances, you will arrive at the best combustion air settings yourself, as the height and diameter of the chimney as well as the quality of the firewood are decisive factors in determining how your stove is best set.

Use a piece of newspaper to wipe the inside of the window glass, before lighting the stove each time to prevent the gradual build-up of deposits. Small hot fires are more efficient than large slumbering fires. Most of the energy in burning wood is released as a bright flame.

The turbulence in the flames creates good mixing between the combustion air and the gases that are released from the wood as it heats up. The heat of the fire ignites and burns these gases. In contrast, the dense smoke from a slow, smouldering fire is potential heat energy that escapes up the chimney and either clings to the chimney flue as creosote or pollutes the atmosphere.

To gain the most heat from each burn, the wood should be flaming throughout the burn cycle until it is reduced to ash. Should any regular slow burning occur, it is good practice to burn a good, hot stove at regular intervals to keep the chimney clean and dry. When refuelling, place the wood towards the back of the stove where it will burn at a higher temperature.

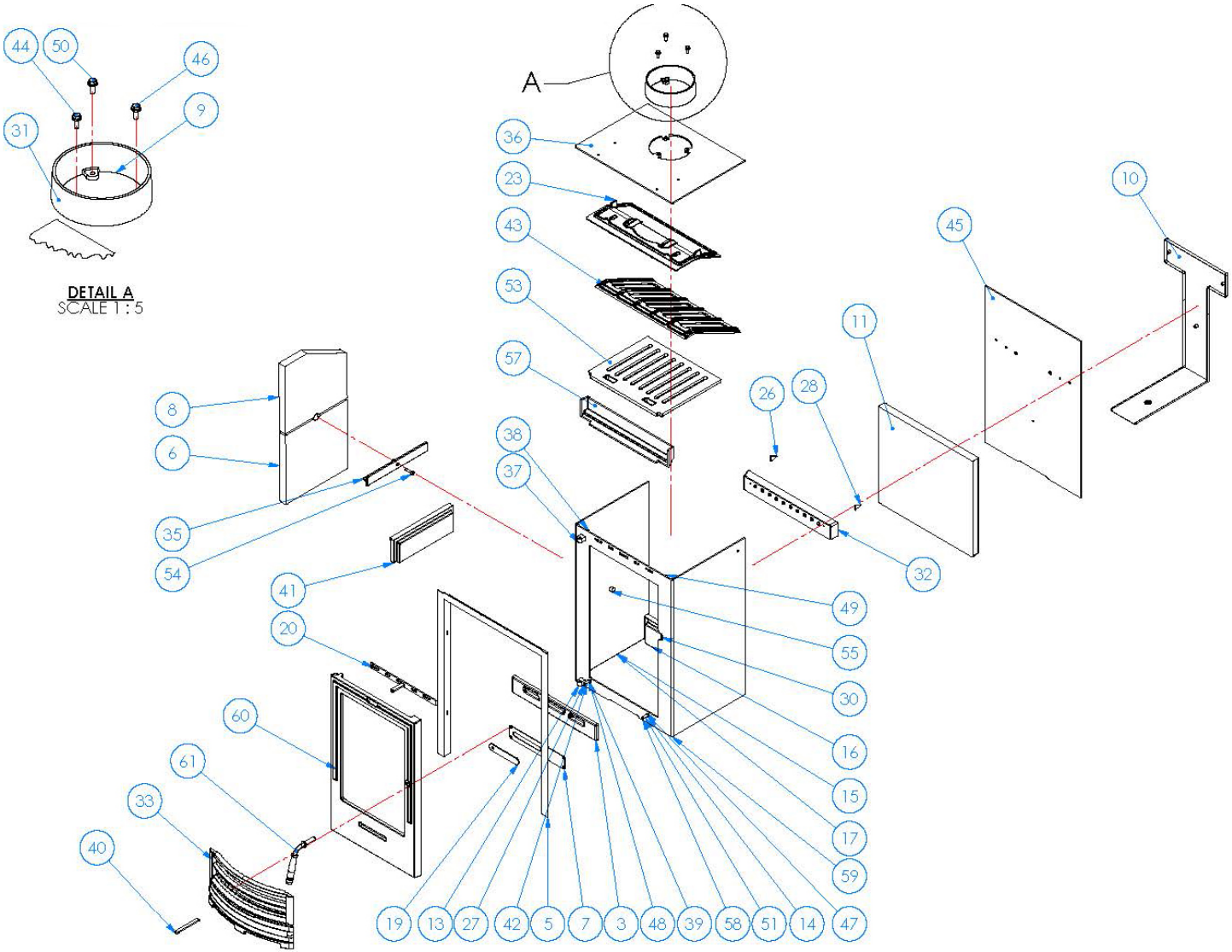
SOLID FUEL ECO INSET DIMENSIONS



O/D = Outside Diameter
Measurements in Millimetres

SPARES PART

Diagram



NOTE: For all spare parts enquiries visit www.firespares.direct or call (0191) 4974280

Cast-iron Parts & Replacement Components (see Assembly Details)

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