ARADA

DEVON

Cassette Stove Installation Guide

PLEASE RETAIN THIS GUIDE FOR FUTURE REFERENCE

EN 13229:2001 +A2:2004

Thank you and congratulations on the purchase of your new stove!

Please carefully read through the entirety of this installation guide, before planning and commencing the installation of this appliance.

Should you have any questions about your stove which are not covered by this guide, please contact your Arada retailer in your area or visit our website: **www.aradastoves.com** or telephone our technical support department on **+44 (0)1297 632052**.

Arada has a policy of continuous product development and therefore we reserve the right to amend specifications without prior notice.

Please check with your retailer or dealer if you are unsure about any aspect of the stove appliance or its installation or correct use.

IMPORTANT NOTE :

Installation of this appliance must be fitted by a registered qualified member of a competent persons scheme or approved by your local building control officer.

IMPORTANT NOTE :

For reference all user and installation guides can be downloaded from the Arada website : **www.aradastoves.com/support**

IMPORTANT NOTE :

Sundry items can be found packed inside the stove firebox assembly.

Contents

1. WARNINGS

1.1 Legal Requirements

It is a LEGAL REQUIREMENT that the installation of all new or replacement, wood or solid fuel heating appliances obtain Building Control approval from your Local Authority or that the installation work must be carried out through a government approved Competent Persons Scheme. A list of all Competent Person Schemes can be found :

https://www.gov.uk/guidance/competent-person-scheme-current-schemes-and-how-schemes-are-authorised

All local regulations, including those referring to National and European standards need to be complied with when installing the appliance. Refer to the current edition of BS 8303 code of practice for the installation of domestic heating appliances burning solid mineral fuels.

Your local Building Control Officer can advise regarding the requirements of the regulations.

Any manufacturer's instructions must not be taken as overriding statutory requirements or regulations.

A faulty installation can cause danger to the inhabitants and structure of the building.

For the end user / customer, your building insurance company should be informed, that your new heating appliance has been installed into your insured property. Check that your cover is still valid after installing the appliance.

Always observe the distances to combustible materials as stated on the appliance data plate and in the Technical Data section of the stove users guide.

Ignoring the warnings could lead to damage/injury to persons and/or property.

Arada Ltd will not be responsible for any consequential or incidental loss or injury however caused.

1.2 Health & Safety

Before any installation work is undertaken, consideration must be given to the health and safety rules and any new regulations introduced during the lifetime of these instructions.

Safe working practices should be followed at all times, but special attention should be drawn to :

- **Handling :** The appliance is heavy, consult health & safety guidelines for advice on moving and handling large and heavy items.
- **Fire Cement :** Fire cement is a caustic chemical and must not come into contact with skin and eyes. Protective gloves and eye ware must be worn. Wash any contact with skin and eyes thoroughly with plenty of water, if serious seek medical advice.
- **Asbestos :** Arada products contain no asbestos. If there is a possibility of disturbing any asbestos material, during installation, then seek specialist guidance and use appropriate protective equipment.
- **Metal Components :** Take care when handling any metal components upon the stove assembly, sharp edges may be present.

1.3 Data label location

For information on the appliance being fitted, the data label is located in the bottom left hand corner of the appliance (Note door must be closed for access). Simply swing out the data plate to view the information, See Fig. 1.

Any further information can be found at **www.aradastoves.com** or with the product information sheet supplied with your appliance.

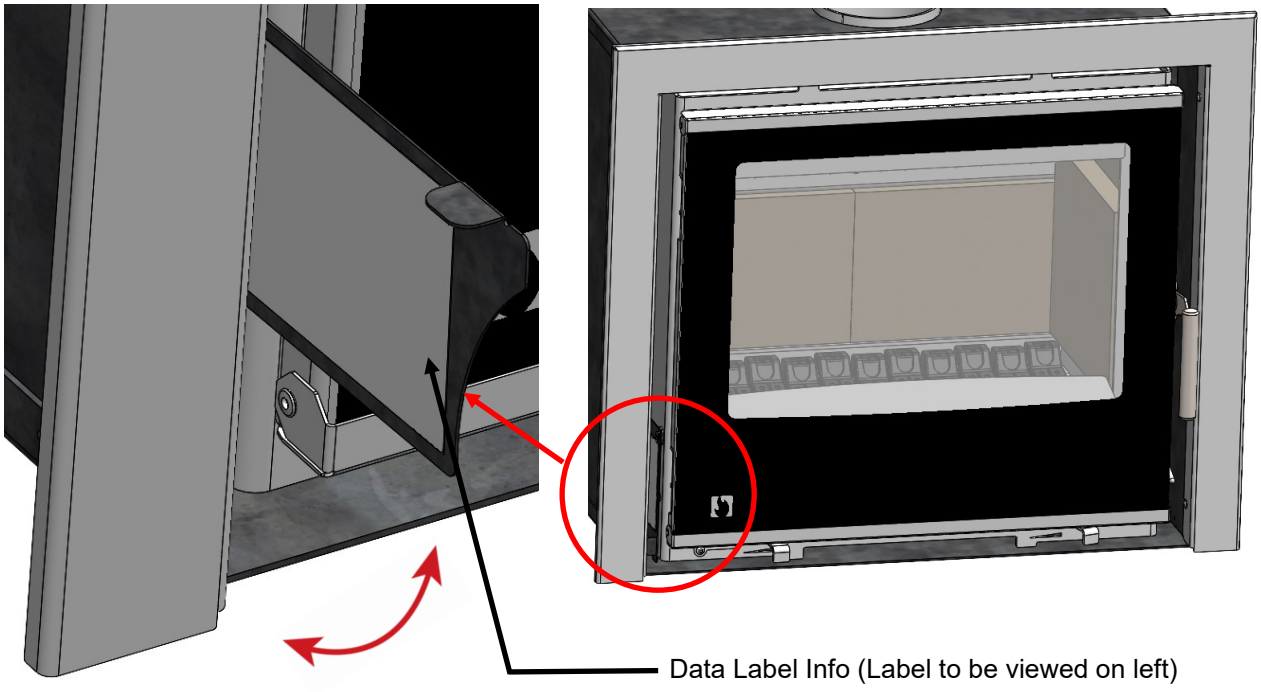


Fig. 1. Data Label Position

2. INSTALLATION REQUIREMENTS & CONSIDERATIONS

2.1 Flues Or Chimneys

The appliance must be connected to a suitable and efficient flue, so that the products of combustion can be expelled to the outside air.

Flue or Chimney draught is dependent on four main factors :

1. Flue gas temperature
2. Flue height
3. Flue size (diameter or cross sectional area)
4. Flue terminal

Before any installation of the appliance, the flue or chimney should be inspected as to the suitability and efficiency for safe use by a competent person.

Products of combustion entering the room can cause serious health risks, so it is very important that the flue or chimney is correct and suitable, the following must be checked:

- If an existing flue / chimney is to be re-used then it must be swept prior to installation and inspection.
- Provision for access for sweeping and the removal of debris should be provided.
- Do not connect or share the flue or chimney system with another heating appliance.
- The construction of a masonry, flue block chimneys and any connecting flue pipes must meet the requirements of current Building Regulations.
- Flexible flue liner systems, can be used if certified for use on wood and solid fuel fired appliances, providing the installation complies with the current Building Regulations and the manufactures instructions.
- The flue liner must be replaced in the installation of any new appliance, unless proven to be recently installed and is in good physical condition.
- If it is necessary to fit a register plate, then it must conform to the current Building Regulations.
- The minimum height of the flue or chimney must be 4.5 Metres from the hearth to the top of the flue, with no horizontal sections and a maximum of 4x bends. Bends must have angles of less than 45 degrees from the vertical.
- At least 600mm of vertical flue pipe should be above the appliance before any bends start.
- Ensure the connecting flue pipe is kept a suitable distance away from any combustible materials and is arranged so that it does not form a supporting structure.
- The installer must ensure that the flue pipe diameter is not less that the diameter of the appliance outlet and that the flue system does not narrow to less than the appliance outlet.

2.1 Flues Or Chimneys, Continued :

- The flue system should be fixed and supported by the building, to provide provision to remove the appliance without the removal of the flue.
- Any existing flue or chimney must be confirmed suitable for the intended use, defined by the current Building Regulations.
- If the chimney system has been previously used as an open fire, it must be swept a second time within calendar month of installation, to clear any soot falls that have happened from use of the new appliance.
- The flue system or chimney must be inspected and swept to confirm the system is free from obstructions and is sound structurally.
- Chimney heights and or separations may need to be increased in particular cases where wind exposure, tall trees, surrounding tall buildings or high ground have adverse effects on flue draw.
- The flue exit from the building must comply with the current Building Regulations.
- Do not connect to a flue or chimney system containing large voids or spaces over 230mm square.
- Twin walled flue systems, can be used, however we recommend seeking knowledge and advice from the manufacturer of the system to be used.
- All cassette stoves **MUST NOT** be connected to a shared flue system.

2.2 Ventilation For Combustion :

All cassette stoves require a constant ventilation air to burn safely and to maintain efficient combustion and effective flue performance.

Air starvation will result in poor flue draw and combustion, together with smoke leakage entering the room, which is potentially dangerous.

For all installations it is recommended that a permanent vent with a total free area of at least 550mm for every kW above 5kW should be connected directly to the outside air.

In properties built after 2008, then the vent should be increased by a further 330mm for each of the first 5kW. Alternatively this air can be supplied through an external wall of an adjacent room, which itself has to be connected to the room the appliance is installed by a permanent vent of the same size.

NOTE : If the appliance is fitted with a draught stabiliser (or if one is fitted to the flue or chimney system, in the same room as the appliance) then the permanent air entry opening should be increased by 300mm for each kW of rated output up to 5kW and an additional 850mm for each kW output over 5kW.

If there is more than one appliance in the property then each appliance must be supplied with adequate combustion air so that all appliances can be lit simultaneously.

2.2 Ventilation For Combustion, Continued:

Site the vents when cold draught is unlikely to cause discomfort. This can be avoided by placing vents near ceilings or close to the appliance, see diagram Fig. 2 as examples.

Extractor fans, cooker hoods and other heating devices placed in the same room or space as the appliance, may cause problems, with ventilation, additional extra air vents may be required.

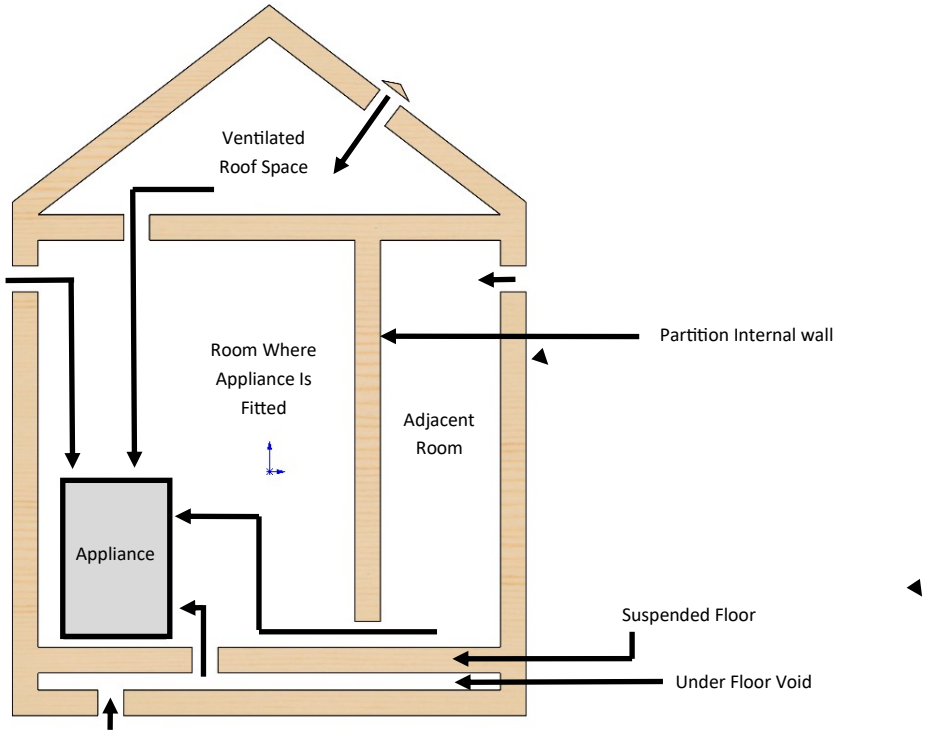


Fig. 2. Air Ventilation Example Diagram

Consideration for air inlet to the appliance, as all cassette stoves, have ventilation air options built into the appliance, so setup as follows :

- OPTION 1 : Room air, where by ventilation air from the dwelling room will enter the appliance (See Fig. 3).

OR

- OPTION 2: Outside air, where by external ventilation air supply will enter the appliance via a direct duct on either the rear or underside of the appliance outer skin, there by negating the air supply from the room. (See Fig. 4 & 5).
  PLEASE NOTE : If this option is being utilised during installation then the optional direct air kit is required to be fitted to the appliance prior to the firebox being installed into the external outer casing SEE SECTION 3.2

2.2 Ventilation For Combustion, Continued :

The external fitted direct air duct must be a minimum diameter of 100mm and be constructed from a non combustible material and ducted to the outside in a manner that will not effect the performance of the appliance. Ensure no sharp bends and a maximum duct length of 10 Metres. Where the duct terminates on an external wall ensure that there is no risk of blockage with leaves or accidental placement of items, also ensuring there is no risk of ingress of moisture or access for rodents. Avoid fitting the air inlet pipe through a wall that may be unduly effected by prevailing winds that may cause a suction effect upon the direct air supply pipe, causing combustion products to be emitted.
In extreme cases the placement of the terminal on the external wall may pose problems and remedial action may be required to relocate the terminal or provide two terminals on opposing walls to balance the wind effect.
Please note, where the appliance is connected to the external air supply and there is no draught stabiliser fitted, then there is no requirement for an additional air vent, provided a successful ‘smoke draw test’ has been carried out as part of commissioning.

Please ensure that the air inlet vent grills to the dwelling are not obstructed or liable to be blocked.

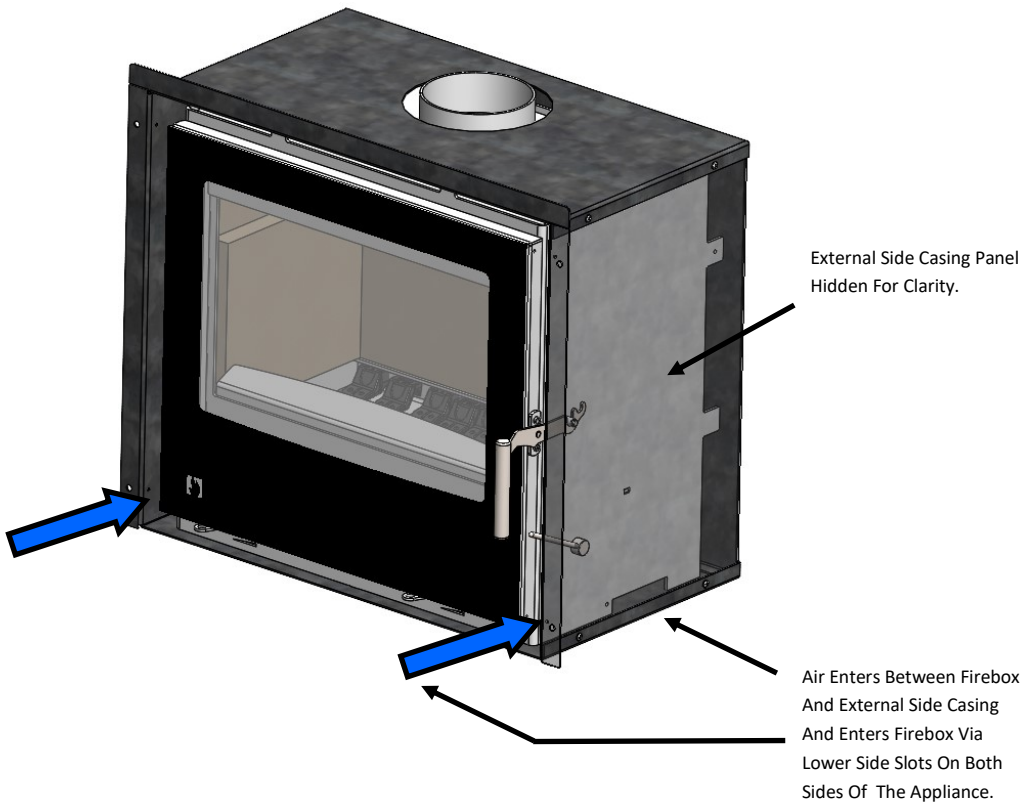


Fig. 3. Air Ventilation Example Diagram

IMPORTANT NOTE

Only one rear direct air connection is required per installation.

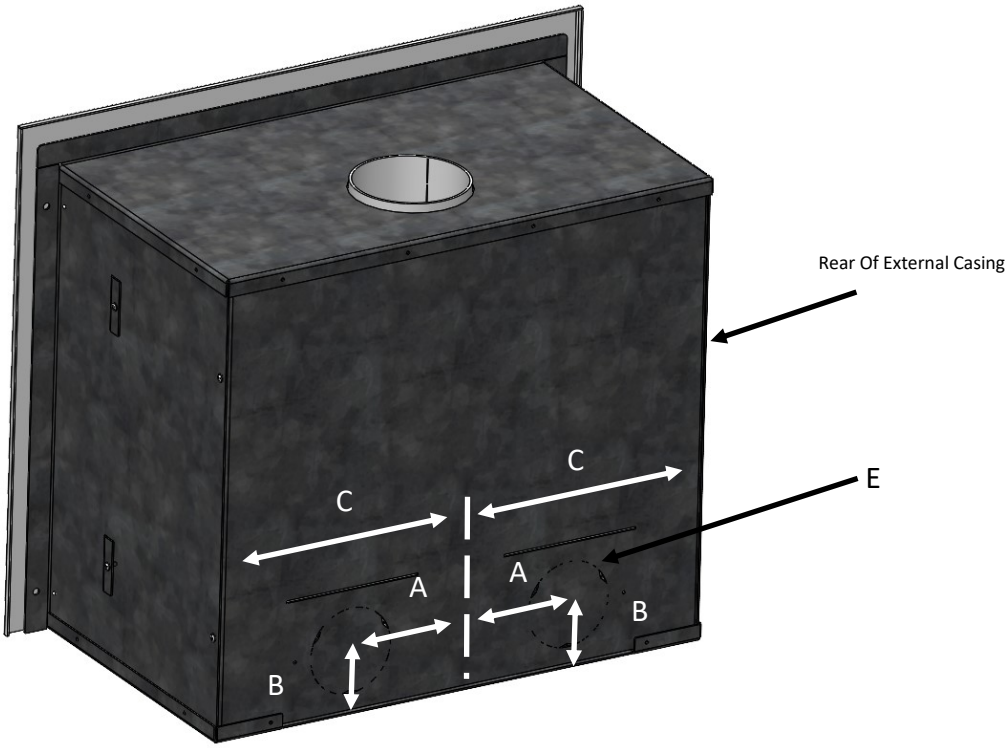


Fig. 4. Rear Direct Air Location

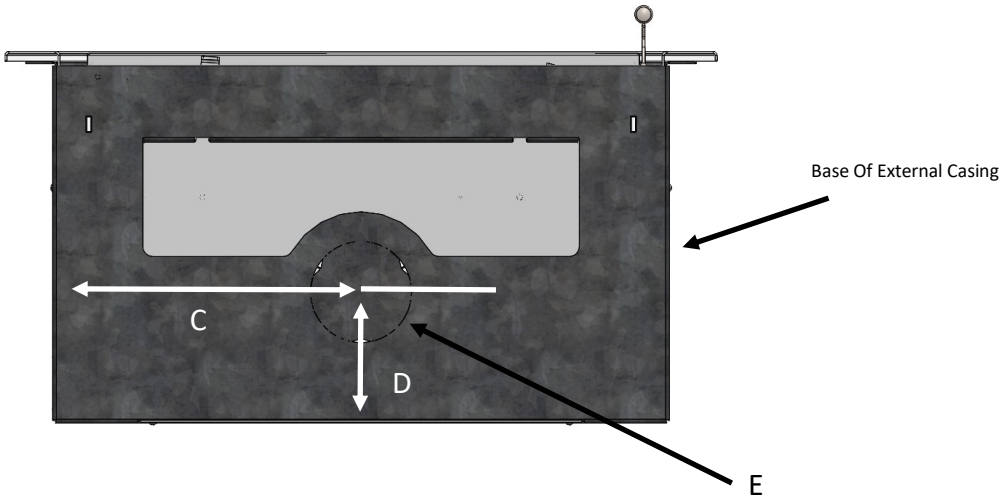


Fig. 5. Under Side Direct Air Location

Reference	Dimension
A	139mm (I600-S3) / 120mm (I500-S3) / 101mm (I400-S3)
B	78mm (All Models)
C	Centre Line Of External Casing
D	130mm (All Models)
E	Diameter 102mm (All Models)

2.3 Builders Opening / Recesses

Each installation is unique to the individual property, so please refer to these instructions as a general guide. In all cases the installation MUST COMPLY with Building Regulations, using 'best practice' methods of construction.

Many fireplaces have a supporting lintel above the opening. Remove the covering plaster to identify the lintels position and length, do this before and construction work commences.

DO NOT remove the constructional lintels without making provision to support the remaining building structure.

The appliance must not form any part of the building supporting structure.

The structure of the builders opening will reach high temperatures, provision to protect surrounding brick and block work should be considered.

The stove should be installed on a surface with adequate load bearing capacity. If the existing construction does not meet this prerequisite, suitable measures (e.g. load distributing plate) should be taken to achieve it. Please pay particular attention when examining existing building work for suitability to meet the following requirements.

Recesses for cassette stoves should have a sufficiently flat surface to allow a good seal to the stove body to be created during its installation. Stonework, uneven bricks etc. may need further work to ensure that this can be achieved.

Within the recess, it is recommended to leave an air gap of 10mm on each side and above the appliance outer external casing for expansion for when the appliance is in use.

To help prevent cracking of the plastered wall above the appliance, we recommend that any plaster above the appliance, should be fitted with reinforcing expanding mesh, for at least 220mm above, together with being the full width of the appliance. Suitable heat resistant plaster should be used, when plastering around and up to the appliance.

2.4 Fabricated Fireplace Opening

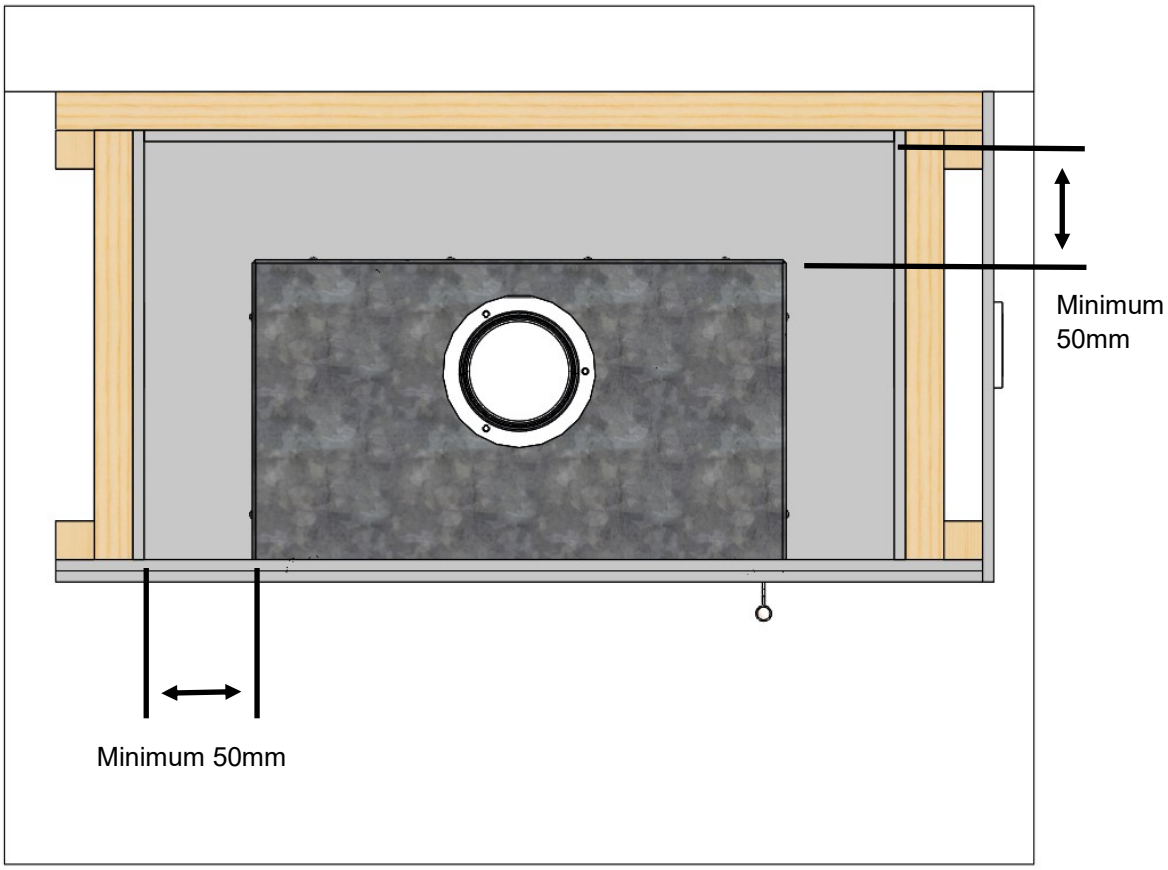
A fabricated fireplace opening can be built to install a cassette stoves.

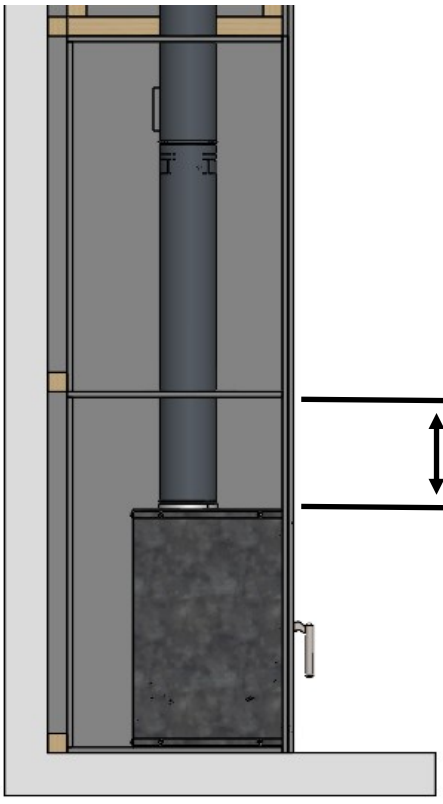
However, due to the construction materials some of which are combustible, then Arada recommend the following materials:

- Fire proof rated board, typically 25mm thick : Promat Promasil 1000L
  Skamol VIP-900
  Skamotec 225
  Vitcas CS construction board
- Studwork timber (planed all sides), minimum dimensions of 45mm x 45mm
- Heat resistant silicon or fire cement

Fabricated Fireplace Clearances :

Plan View Of Installation

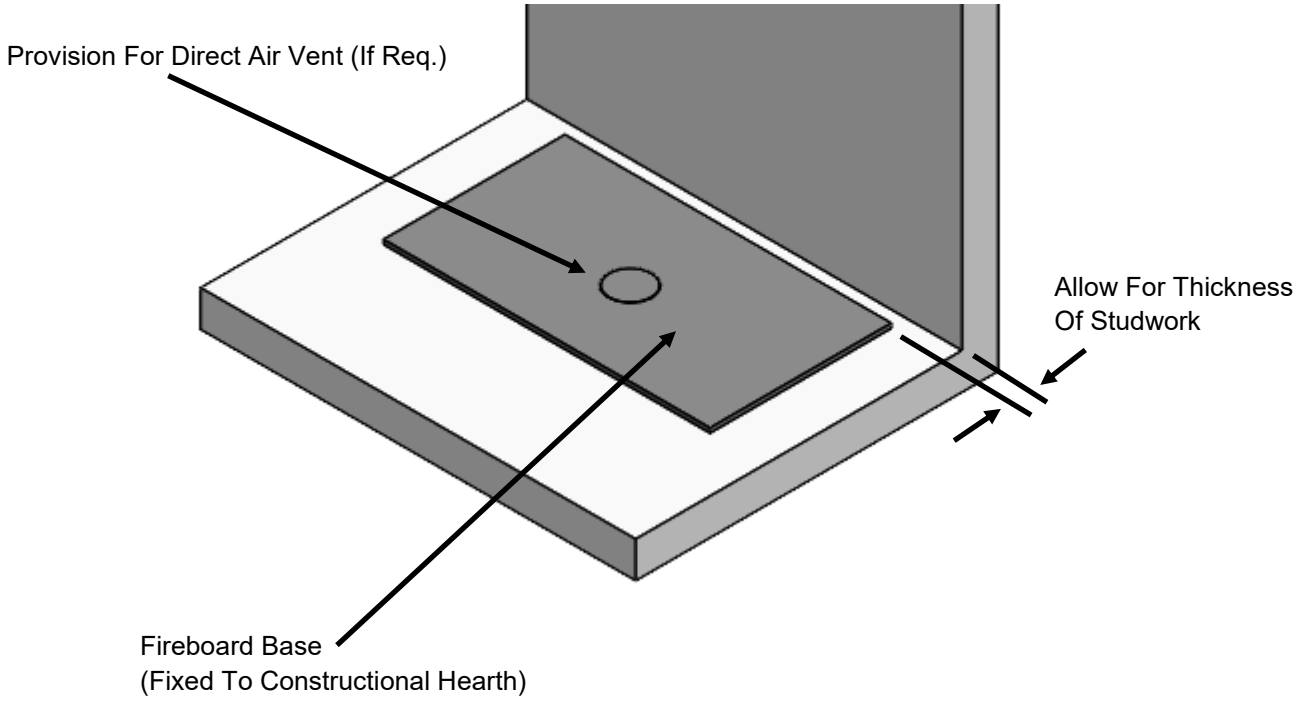


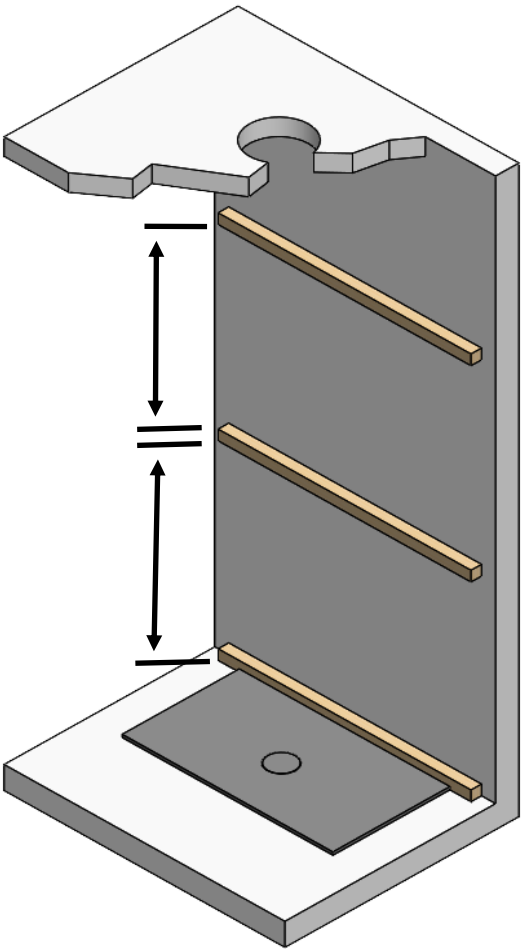


Side View Of Installation

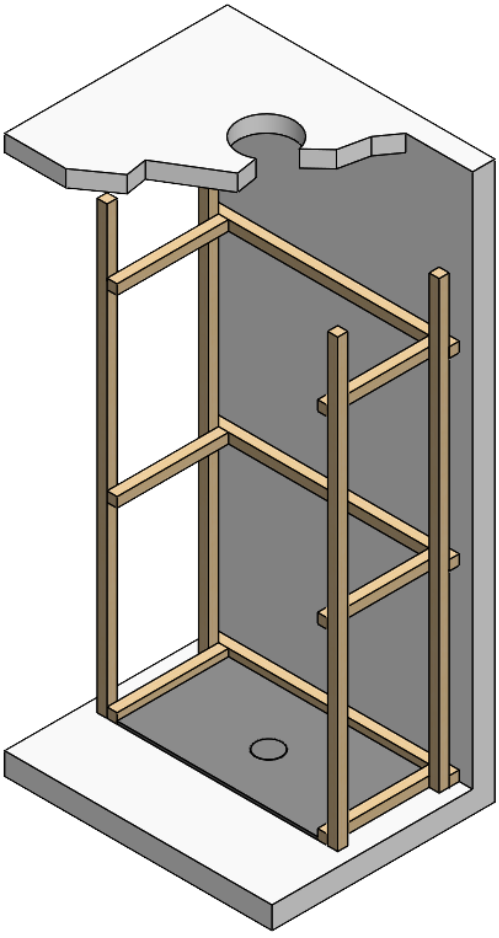
WARNING

Note : Fabricated fireplace must be built upon a constructional hearth.

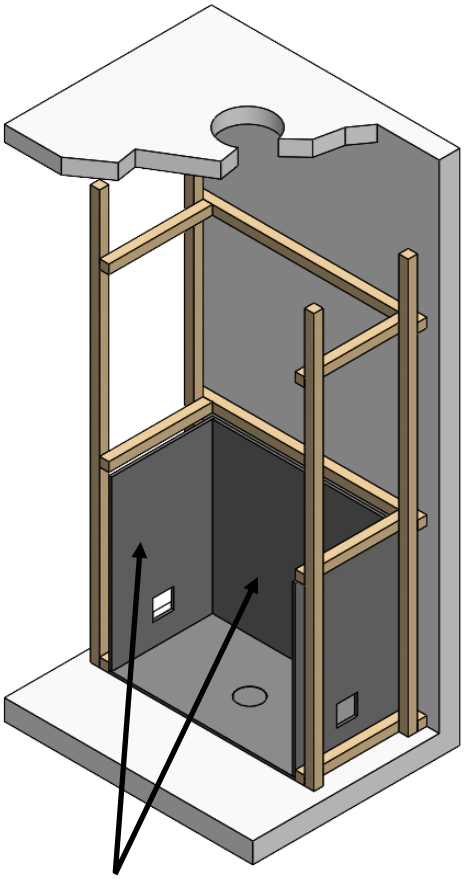




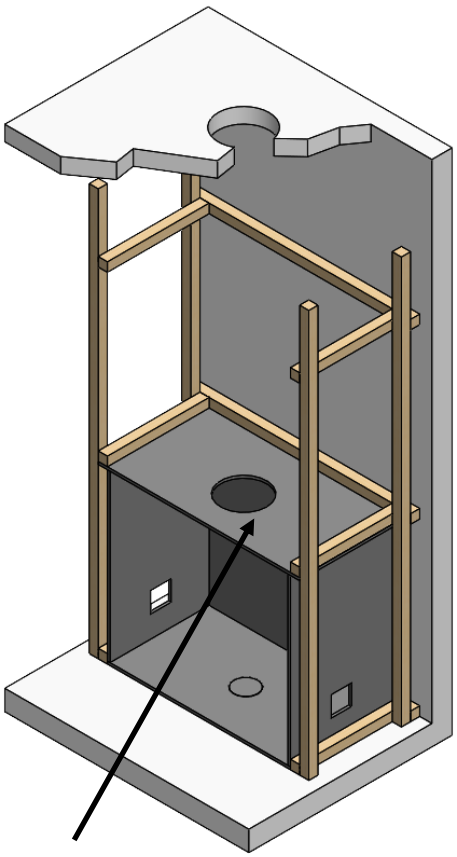
3x Rear Wall Timber Mounts
(Fixed To Building)



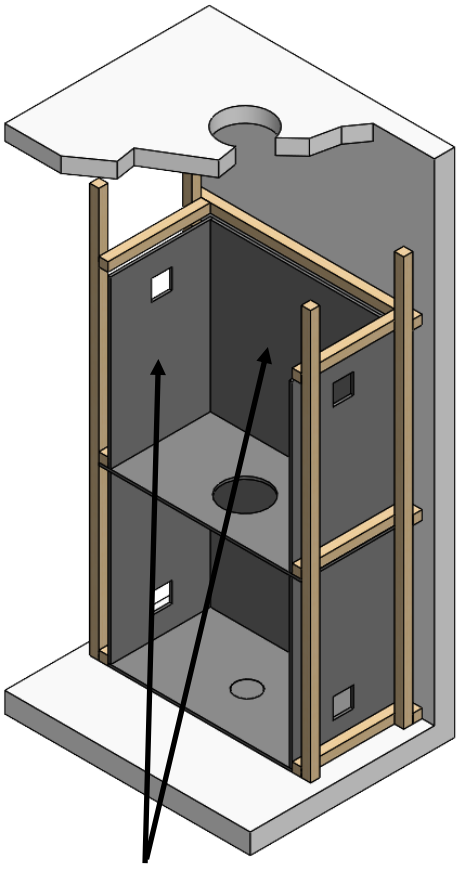
Build Structure Using Timber
(Fixed To Building)



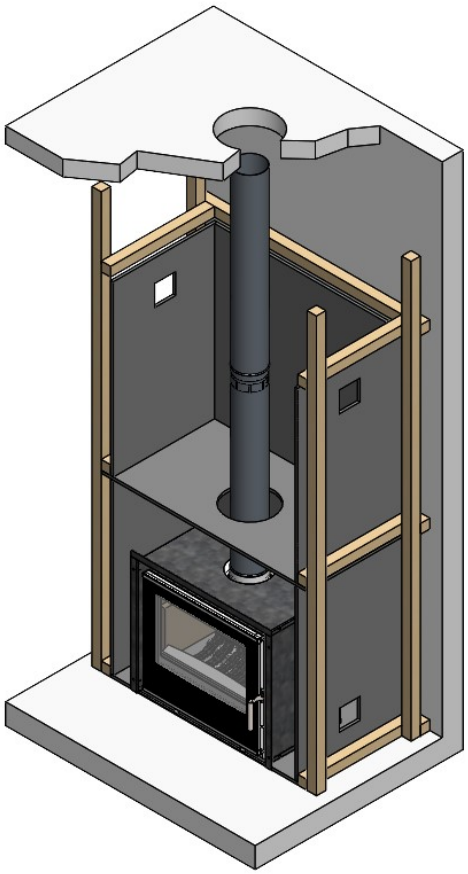
Fix the fireboard sides and back.



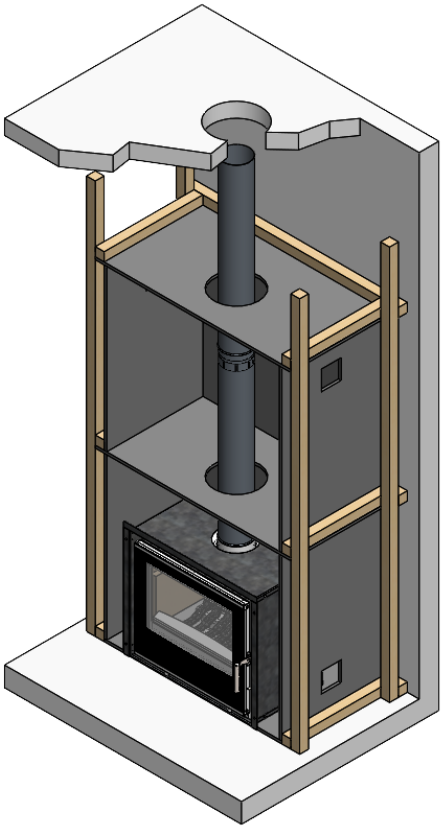
Fix the fireboard top allowing for flue & include air vent clearance around flue pipe.



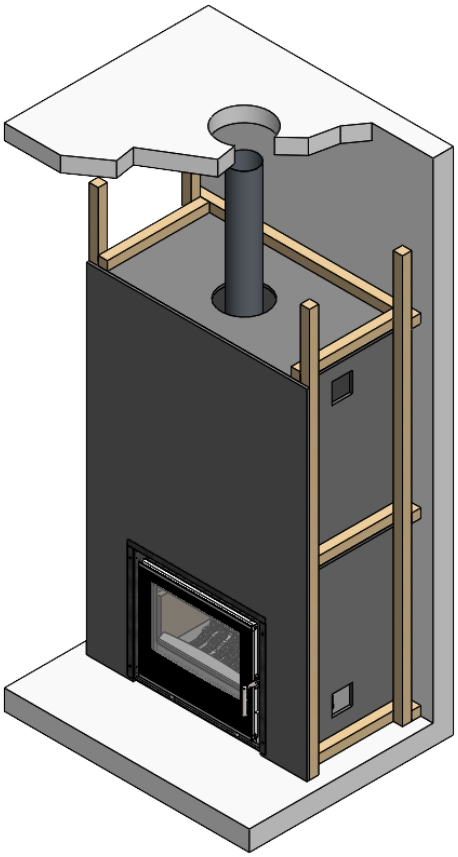
Next fix the upper fireboard sides and rear panels.



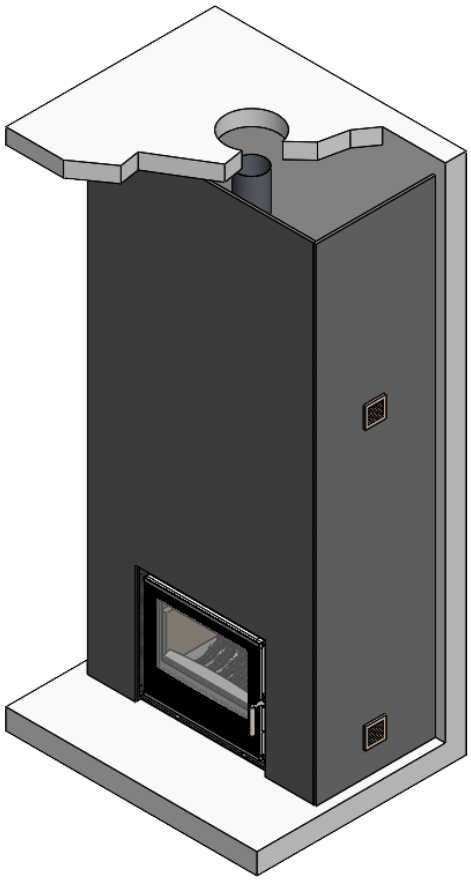
Install the appliance and flue pipe. (NOTE : Air vent clearance around flue)



Fit the upper fireboard top panel.
(NOTE : Air vent clearance around flue)



Fix the front facia fireboard.

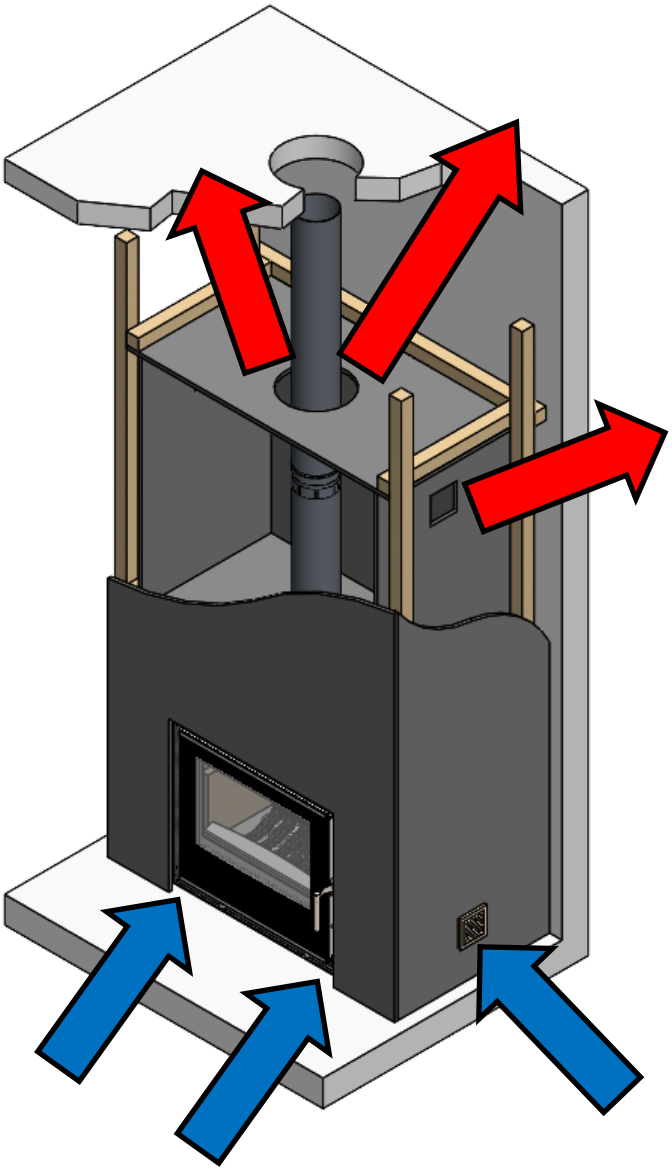


NOTE : Ensure two air vent per side and in each cavity

Apply the decorative finish (heat resistant plaster), air vents both sides and decorative trim for the stove.

Air vent requirements for fabricated fireplace:

	I400-S3	I500-S3	I600-S3
Nominal Output	4.9 kW	5.5 kW	6.2 kW
Minimum Lower Vent(s) Size	167 mm^2	207 mm^2	273 mm^2
Minimum Higher Vent(s) Size	200 mm^2	249 mm^2	328 mm^2



2.5 Hearths

Cassette stoves should be installed into a recess on a non-combustible surface not less then 125mm thick (conforming to Building Regulations) of suitable load bearing capacity. Allowances should be made for the expansion and contraction of materials which are fitted up to and near the appliance.

Dimensions of the constructional hearth for all stoves (including any 'hole in the wall' type installation) should project at least 500mm forward of the front of the appliance and 150mm at the sides. The surface of the hearth should be free of combustible materials. The superimposed hearth for all installations should project at least 225mm forward from the front of the appliance and 150mm either side of the edge of the appliance.

Arada recommends that the depth of the decorative hearth is equal or greater that the length of the door on the appliance, this greater distance is acting as a safety barrier for ash spillage.

In most buildings with solid concrete or stone floors, the requirement will be met by the floor itself, but mark the hearth to ensure floor coverings are kept well away or use different levels to mark the hearth perimeter. (See Fig.6)

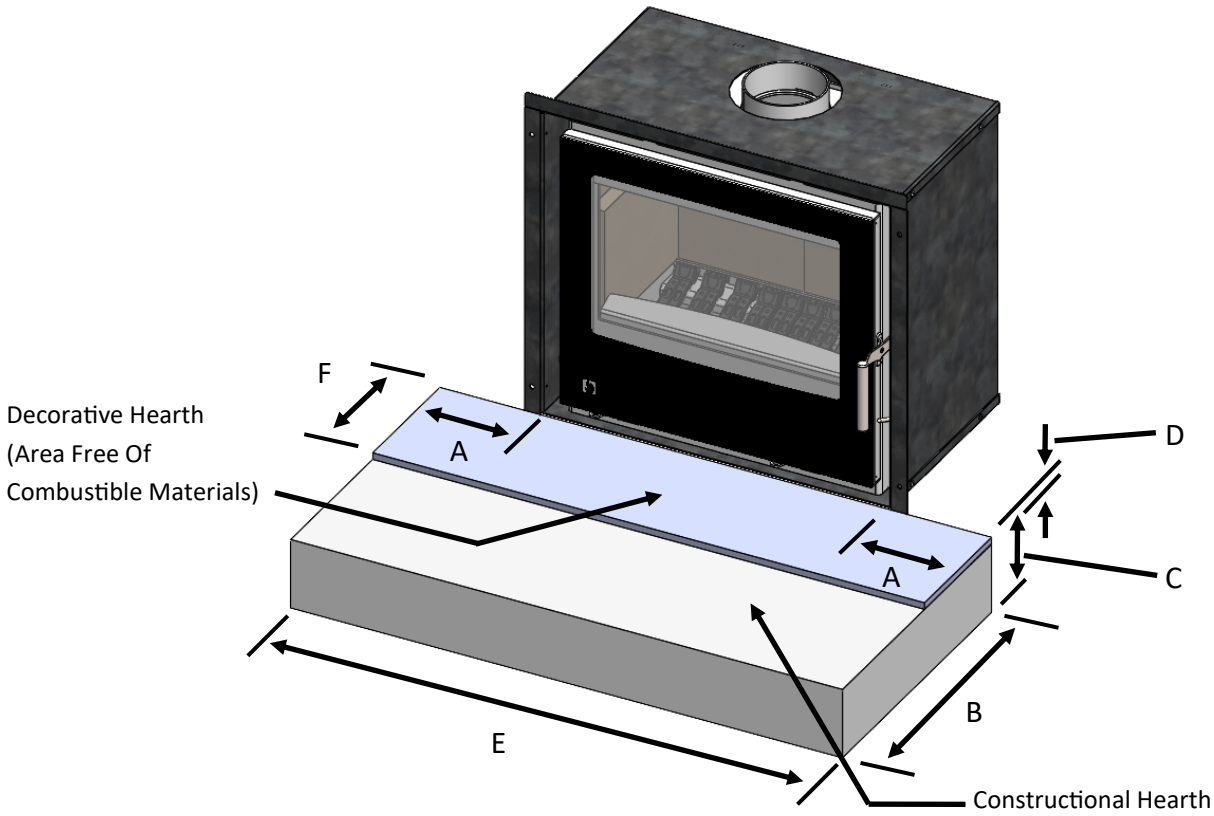


Fig. 6. Hearth Dimensions Distance To Combustible Materials

Reference	Dimension
A	Minimum 150mm
B	Minimum 500mm
C	125mm Construction & Decorative Combined
D	12mm
E	Stove Width + A x2
F	225mm *See P10 for further info

Fig. 7. Table Of Hearth Dimensions

2.5 Fire Surround Clearances

To help prevent this and cracking we recommend that any plaster above the fire should be fitted with reinforcing expanding mesh for at least 220mm above, and the full width of the fire.

You should also use a suitably heat resistant plaster.

Some finishes may discolour with heat and some lower quality products may distort or crack with heat.

Please view the product sheet which accompanied your stove for specific minimum distances to combustible measurements.

Ideally, adjacent walls should be of suitable non-combustible construction, preferably brickwork.

In large fireplaces take care that any supporting beam is protected by a 13mm sheet of heat resistant fire board spaced 12mm off the surface with strips of non-combustible material. Make sure that there is a gap between an un-insulated flue system and any combustible material. This gap must be at least 3X the outside diameter of the flue pipe, or 1.5X the flue diameter to non-combustible surfaces. See Fig.8. for information.

Please consult the flue manufacturers specification for insulated flues.

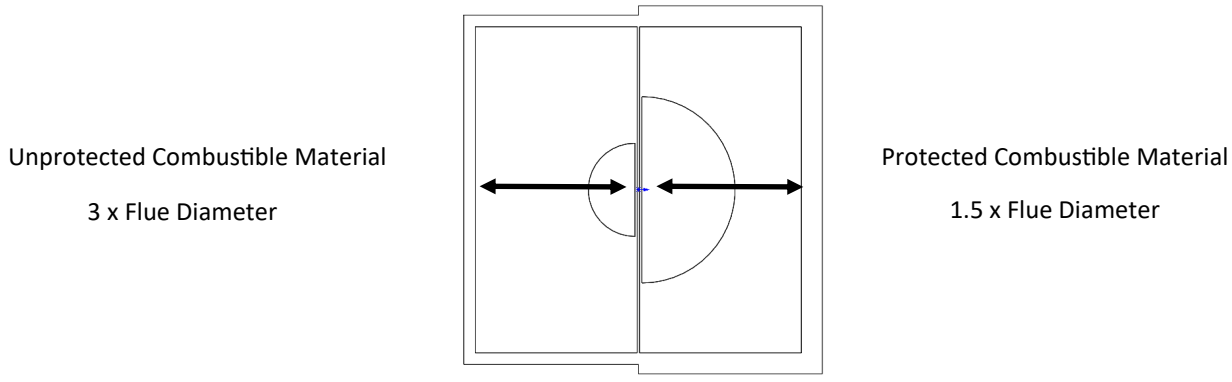


Fig. 8. Flue System Distance To Combustibles Materials

2.6 UK Smoke Control Areas Installation

Further information on the requirements of the Clean Air Act :
https://www.gov.uk/smoke-control-area-rules

All cassette stoves have been independently tested and approved to PD6434 and are suitable for use in Smoke Controlled Areas, when burning wood logs, together with the exemption plate (air control stop) being fitted.

Prior to installation, check to see if the property is within a smoke controlled zone.

PLEASE NOTE: The smoke control exemption plate is supplied loose in the appliance along with the security fixing screw, so it will be required to be fitted, if the appliance is to be installed within a Smoke Controlled Area.

PLEASE NOTE: Instructions on fitting the smoke control exemption plate can be found in the appliance user guide (stove specific).

2.7 Carbon Monoxide Alarm

PLEASE NOTE : It is a legal requirement to have a Carbon Monoxide Detector fitted in the same room as the appliance. This detector should be fitted with a sealed for life battery for the duration of the life of the item.

For placement, please follow the manufacturers instructions.

3. COMPONENT FITMENT

3.1 Connecting The Spigot Outlet To The Flue System

The flue spigot outlet supplied with the appliance (see Fig. 9.) must be fitted from the inside of the appliance firebox, 3no. mountings are provided about the flue outlet in the roof of the appliance, fixing nuts, washers and rope seal are supplied, along with the spigot, ensure the rope seal is used during installation.

Note, the flat edge of the mounting flange runs parallel to the back surface of the appliance firebox.

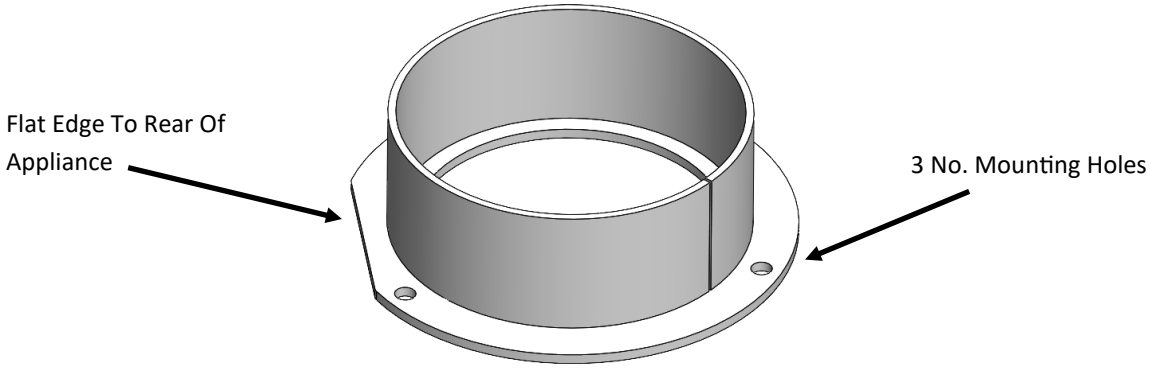


Fig. 9. Flue Spigot Outlet

The flue system or connection pipe **MUST** be fitted inside the outlet spigot as shown in Fig. 10., failure to do so, could result in the spillage of condensation running down the outside of the flue.

Fire cement should be used to create an airtight seal between the flue system and inside of the spigot outlet.

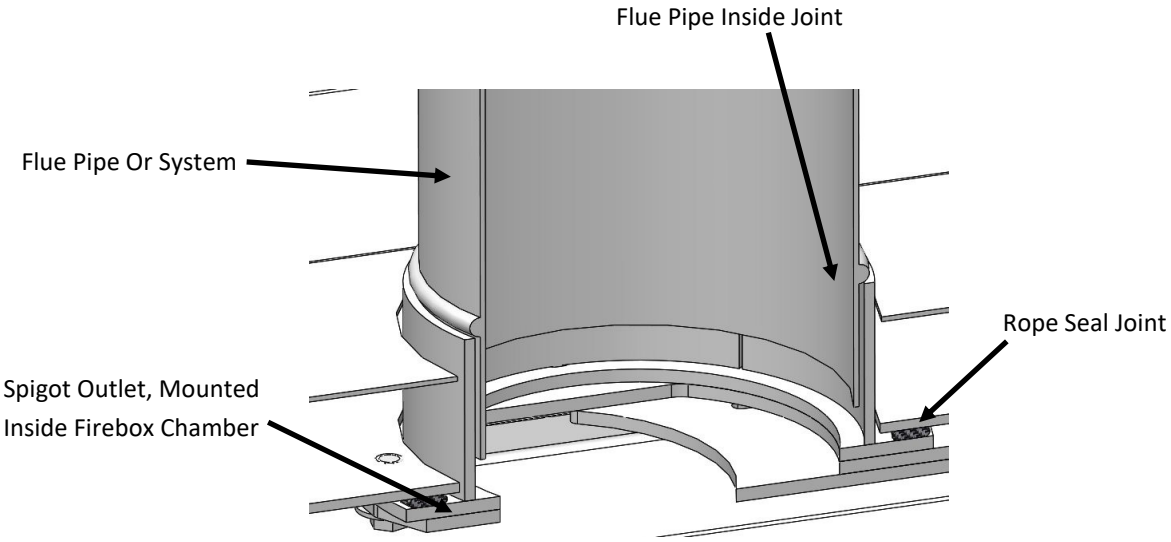
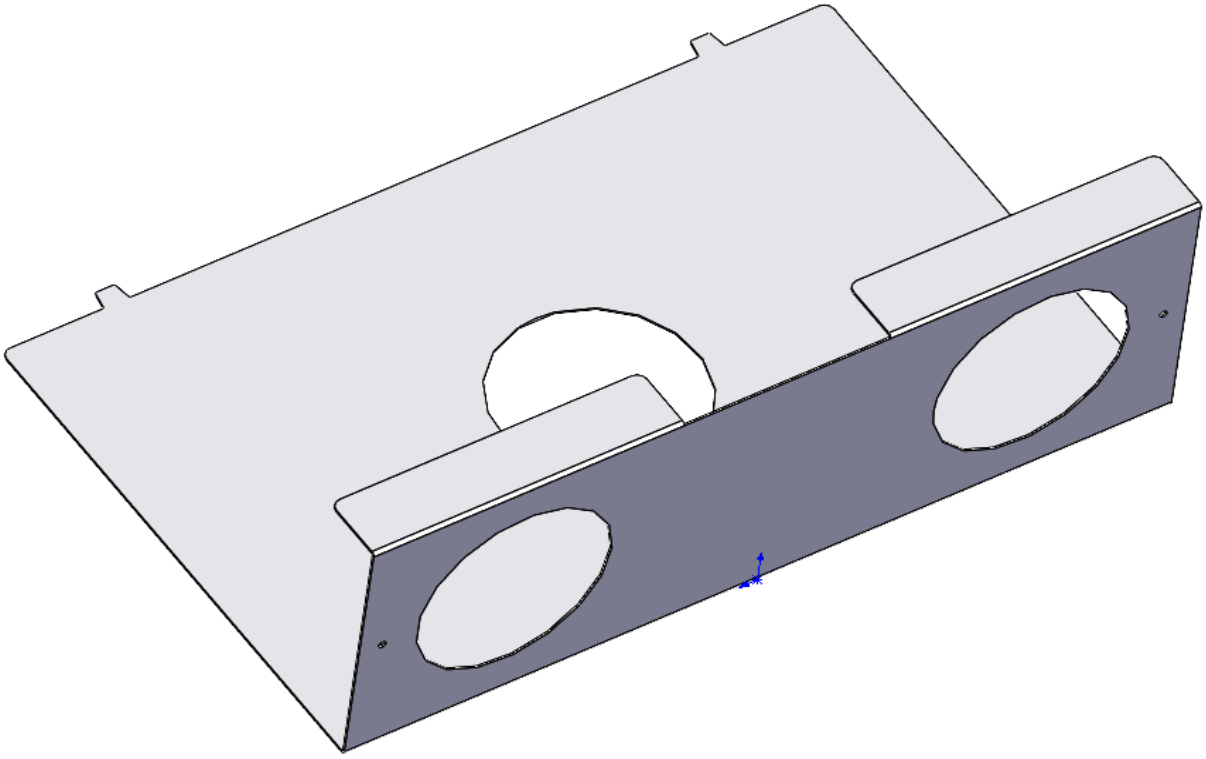


Fig. 10. Fitting The Flue System Inside Spigot Outlet

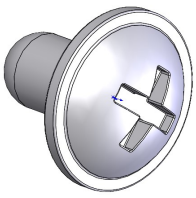
3.2 Fitting The Direct Air Kit

If the direct air requirement is to be used during the installation process, then the optional (extra cost) direct air kit is required to be fitted to the appliance as this will close off the combustion air and channel the incoming air from the external duct towards the air controls.

Contents of Direct Air Kit :



1x Direct Air Cover



2x Self Tapping Screw

Fig. 11. Contents Of Direct Air Kit

3.2 Fitting The Direct Air Kit :

- If the requirement of the direct air is required for the appliance then prior to fitting the appliance into either the builders opening or a pre-fabricated opening the direct air kit must be fitted first.
- Looking at the rear of the external casing, slide the direct air cover inwards towards the rear panel. As shown in Fig. 12. below.

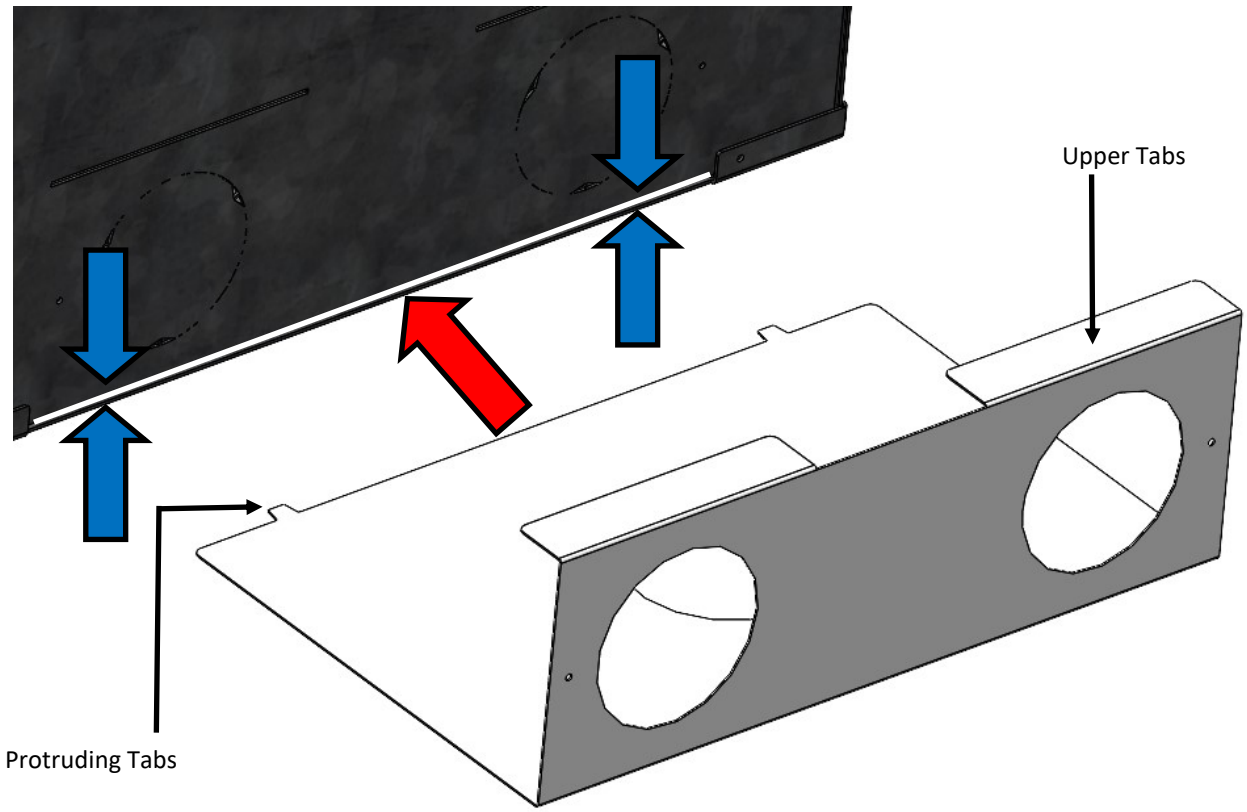


Fig. 12. Mount The Direct Air Cover

- The side with the two protruding tabs, faces forwards and slots into the base gap as indicated by the blue arrows.
- Continue to slide the direct air cover inwards and engage the two upper tabs, ensure the cover is pushed onto the external casing rear panel.
- Fixing in place with the 2no. self tapping Pozi drive screws, in the holes provided at each end of the direct air cover.

3.2 Fitting The Direct Air Kit Continued:

IMPORTANT NOTE:

If direct air is required to be used in the installation of the appliance then the direct air kit must be fitted to the appliance **PRIOR** to installation. Failure to fit the kit will result in excess air being drawn into the appliance from the surrounding room, thus voiding the air supply from the direct air feed duct.

IMPORTANT NOTE:

ONLY remove 1x knock out from the external casing. Ensure that the knock out is the required outlet to the corresponding air inlet supply duct. Note, the supplying duct (non-combustible 100mm diameter), simply pushes into place through the knock out hole in the casing. DO NOT obstruct the air controls or airways.

IMPORTANT NOTE:

IF REAR DIRECT AIR IS REQUIRED—ONLY REMOVE 1no. KNOCK OUT FROM THE EXTERNAL CASING.

3.3 Fitting The Surround Trim

Various surround trim options exist, be it 3 sided or 4 sided in 60mm widths, consult with your local retailer or visit www.aradastoves.com for options.

The fitting of any of the above surround trims are the same procedure :

- On the fitted cassette appliance, remove the door assembly, by opening the door to 90 degrees to the front of the stove. Gently apply an upward force whilst lifting the door assembly and remove to door from its hinges. See Fig. 13.

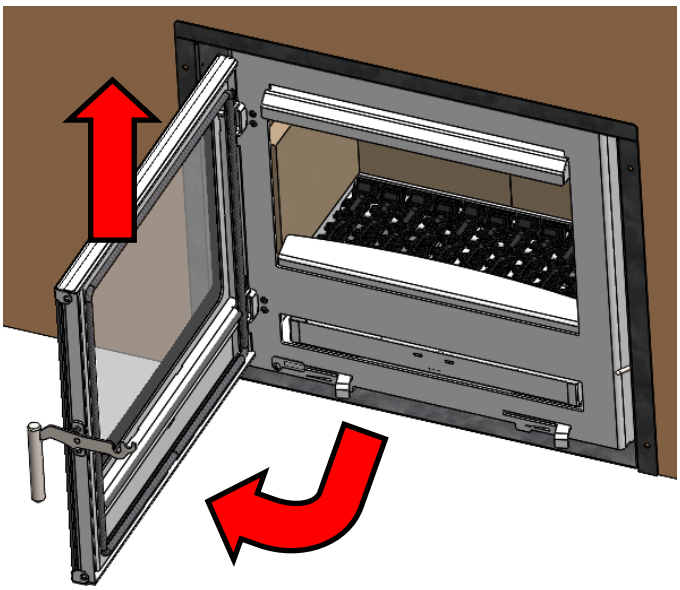


Fig. 13. Removing The Door Assembly

- Take the 4x self tapping screws (supplied with trim) and fit to the 4x positions with in sides of the external casing, as shown in Fig. 14.

DO NOT Fully Tighten Self Tapping Screws.

Leave A Minimum Gap Of 4mm To Allow The Surround Trim To Slot In.

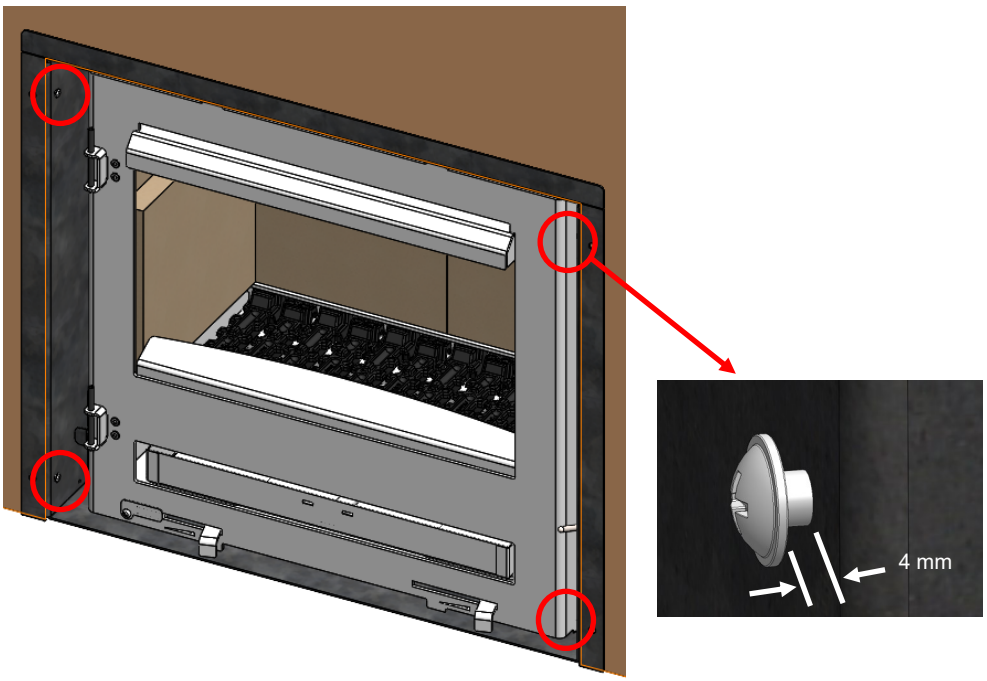


Fig. 14. Surround Trim Fixing Locations

3.3 Fitting The Surround Trim, Continued:

- The surround trim can be positioned onto the screws, within the casing, as per Fig. 15.

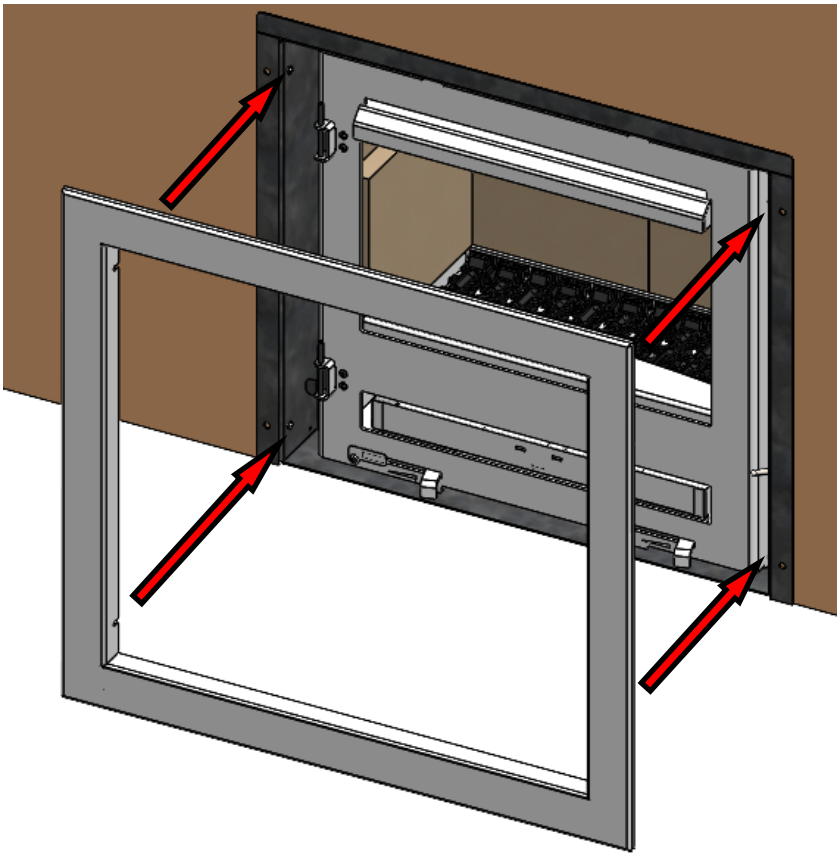


Fig. 15. Surround Trim Fitment

- With the surround trim fitting onto the screw fixings, check alignment with the surrounding wall and plaster. Fully tighten all 4x trim retaining screws. Fig. 16.

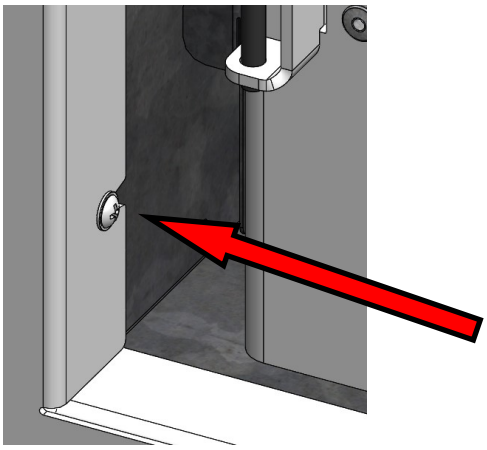


Fig. 16. Trim Fixing

- Replace the door assembly and check for seal / door latching.

4. COMMISSIONING

4.1 Commissioning The Stove

Before handing over the installation to the customer, it is a requirement under Document J (of the Building Regulations for England & Wales) that the appliance is lit and the function of the chimney system is checked for satisfactory operation.

The following points, should be followed:

- Replace any removed external / internal components from the appliance.
- Check the door alignment and catch operation, along with sealing properties.
- Check the operation of all the air controls.
- Check all joints are sealed.
- Clean the outside of the cold appliance with a lint free cloth or shoe brush to prevent any stains or dirt being burnt on.

Next carry out a final smoke draw test:

- Warm the flue with a blowlamp or similar for about 10 minutes.
- Place a smoke pellet on the centre of the grate, with the air controls open.
- Close the door. Smoke should be drawn up the flue and be seen to exit from the flue terminal.
- Complete test with all doors and windows closed in the room where the appliance is fitted.
- If there are any extractor fans in adjacent rooms the test must be repeated with the fans running on maximum and with interconnecting doors open.
- If fitted, check the effect of ceiling fans during the test.
- If excessive spillage occurs, allow the appliance to cool and re-check
- Measure the flue draught, which should read 12—20 pa or 0.12 to 0.2 mbar.

4.2 Checklist & Hand Over To Customer

Complete the checklist on page 27 after completing section 4.1 above.

Explain the following to the customer:

1) The correct operation of the appliance, with attention to the correct fuels and air control settings, together with suitable fuels for when the appliance is fitted in a smoke control area.
2) The user is aware of the CO alarm and function.
3) Safe use, using protective gloves and use of fireguard, when children, elderly or infirm person are near to appliance.
4) Regular maintenance, riddling of ash and removal. Also regular chimney sweeping and inspection of flue and appliance.
5) Changes in weather may effect the performance of the appliance.

5. COMMISSIONING CHECKLIST

COMMISSIONING CHECKLIST

SUPPLYING DEALER / RETAILER

COMPANY NAME :

ADDRESS :

TELEPHONE NUMBER:

IMPORTANT INFORMATION

INSTALLATION DATE:

MODEL :

SERIAL NUMBER:

INSTALLATION ENGINEER

COMPANY NAME :

ADDRESS :

TELEPHONE NUMBER:

COMMISIONING INFORMATION

Flue System/Chimney Swept & Soundness Test	YES ☐ NO ☐
Flue Draught Reading	HOT ☐ COLD ☐
Smoke Test Completed On Installed Appliance	YES ☐ NO ☐
Spillage Test Completed	YES ☐ NO ☐
Clearance To Combustible Materials Checked	YES ☐ NO ☐
Instruction Guides Handed To Customer	YES ☐ NO ☐
Appliance Operation Of Controls Explained	YES ☐ NO ☐
CO Alarm Fitted & Operation Explained	YES ☐ NO ☐

SIGNATURE :

PRINT NAME :

6. ADDITIONAL NOTES:

ARADA
DEVON

Arada Ltd
The Fireworks,
Weycroft Avenue,
Axminster,
Devon
EX13 5HU
United Kingdom

www.aradastoves.com

T: +44 (0)1297 632 050

Technical Helpline - Tel: +44 (0)1297 632 052

DOWNLOAD INSTRUCTIONS FROM

www.aradastoves.com/support