

# STOVAX

*Fire Your Imagination*

## Studio Outside Air Kit

for 500, 1, 2 & 3 Cassette & Freestanding models



## Instructions for Use, Installation & Servicing

For use in GB & IE (Great Britain & Republic of Ireland).

### IMPORTANT

Please read these instructions carefully and in conjunction with the appropriate Studio Installation and User instructions.

Care must be taken when handling the stove to avoid injury or damage to the stove.

They will be needed when maintenance or servicing is required.

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# General Information

## General

### Direct External Air Supply (DEAS)

The Stovax Studio can be converted for use with a purpose built Direct External Air Supply (DEAS) by the addition of an optional kit Stovax part number:

Appliance	Kit Part No.
Studio 500	RVS-AIR
Studio 1	RVS-AIR
Studio 2	RVS-AIR
Studio 3	RVS-AIR

Only this kit should be fitted to supply direct external air to the Stovax Studio.

The DEAS kit must be installed and commissioned as detailed in these instructions and National Building Regulations, by a HETAS installer who has attended a HETAS H003 course and must be aware of the requirements of HETAS guidance note **HETAS\_TN\_0020**.

When fitting the appliance with a DEAS **all** of the following installation criteria must be met:

The installer must assess the requirement for additional air to enable the safe use of the appliance, taking into consideration:

The air permeability of the building.  
Existing air extraction / circulation systems.  
The air requirement of other heating appliances / fireplaces in the building.

**A risk assessment must be completed as detailed in HETAS guidance note HETAS\_TN\_0020.**

The installer must complete the following spillage checks, as detailed in HETAS guidance note HETAS\_TN\_0020, when commissioning the appliance:

- \*General check.
- \*Cold Test – Appliance Door Shut.
- \*Hot Test - Refuelling.
- \*Depressurisation test (effects of extraction fans and mechanical ventilation systems).

\*see page 8 for full details.

**A commissioning sheet must be completed as detailed in HETAS guidance note HETAS\_TN\_0020.**

**Should the appliance fail any test and a solution cannot be found it must be disconnected from the flue, and left so it is not possible to use. And the end user notified in writing that it is not safe to use until the problem is rectified.**

In some cases the addition of a normal ADJ vent will be the only way to ensure correct and safe operation of the appliance.

The user must be instructed on the lighting and use of the appliance along with the maintenance requirements to enable safe operation.

**These instructions must be read in conjunction with the Installation and User Instructions for the Studio Cassette (PM1098) and Studio Freestanding (PM1123).**

# Installation Requirements

## Technical Data

The following Technical Data should be considered when installing an External Air Kit.

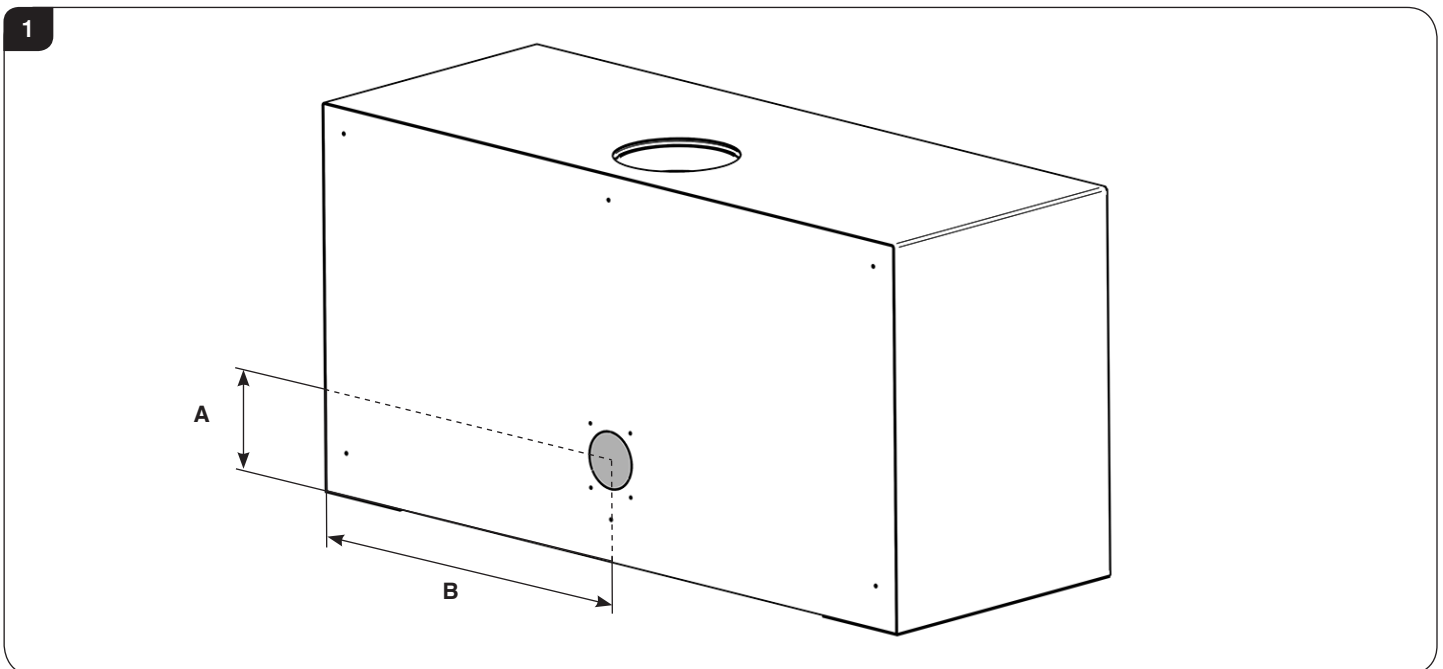
Product Code	Studio 500	Studio 1	Studio 2	Studio 3
<b>Appliance Rated Output</b> (*In order to achieve the rated output set the air controls in the position shown in the User Section of the Sheraton Instruction manual- PM1656)	4.9kW	5kW	8kW	11kW
<b>Typical Room Size</b>	70m <sup>3</sup>	70m <sup>3</sup>	112m <sup>3</sup>	154m <sup>3</sup>
<b>Max length of Ducting</b>	3m	3m	3m	3m
<b>Max No. of Bends (90°)</b>	2	2	2	2
<b>Grill Cover Free Air Space</b>	12300mm <sup>2</sup>	12300mm <sup>2</sup>	12300mm <sup>2</sup>	12300mm <sup>2</sup>
<b>Diameter of Duct**</b>	ø100mm	ø100mm	ø100mm	ø100mm

\*\* Note: Only use duct supplied by Stovax.

## Packing List

Model	Packing List
<b>All models</b>	1 x Collar adapter 2 x Fixing band 1 x Air duct (4"/100mm dia) 1 x Air Vent Outlet 1 x Vent Fascia 4 x Self Tapping Screws

## Dimensions



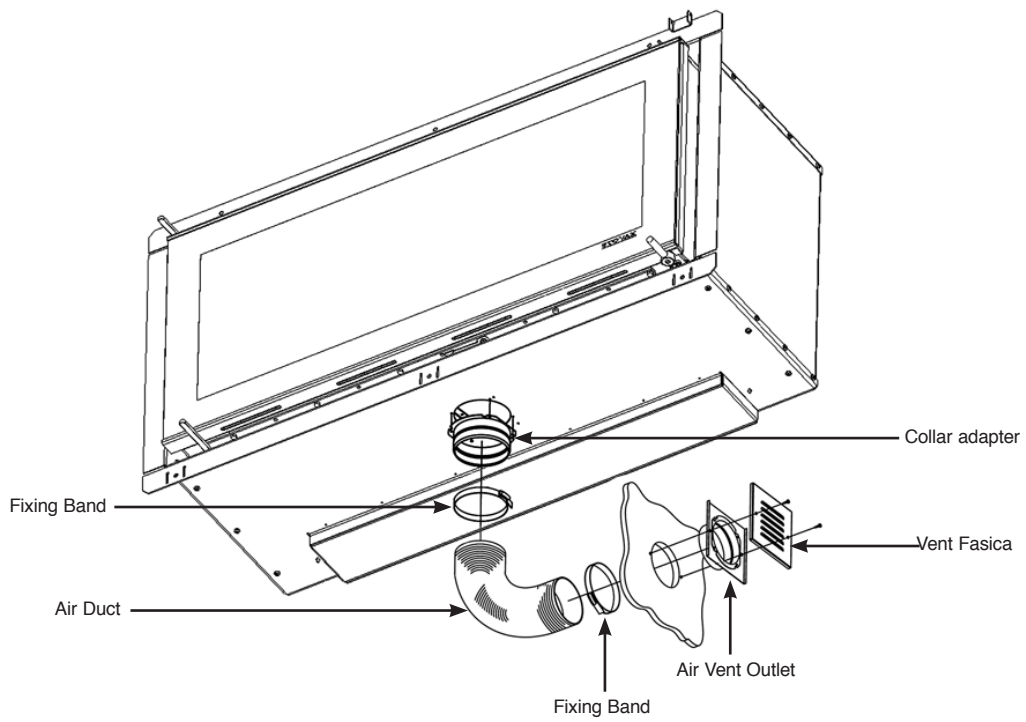
Dimension (mm)	Studio 500	Studio 1	Studio 2	Studio 3
<b>A</b>	133.5	133.5	131.5	134.5
<b>B</b>	303.5	400	500	594.5*

\*NOTE: THE STUDIO 3 OUTLET IS OFFSET, DOUBLE CHECK YOUR MEASUREMENTS

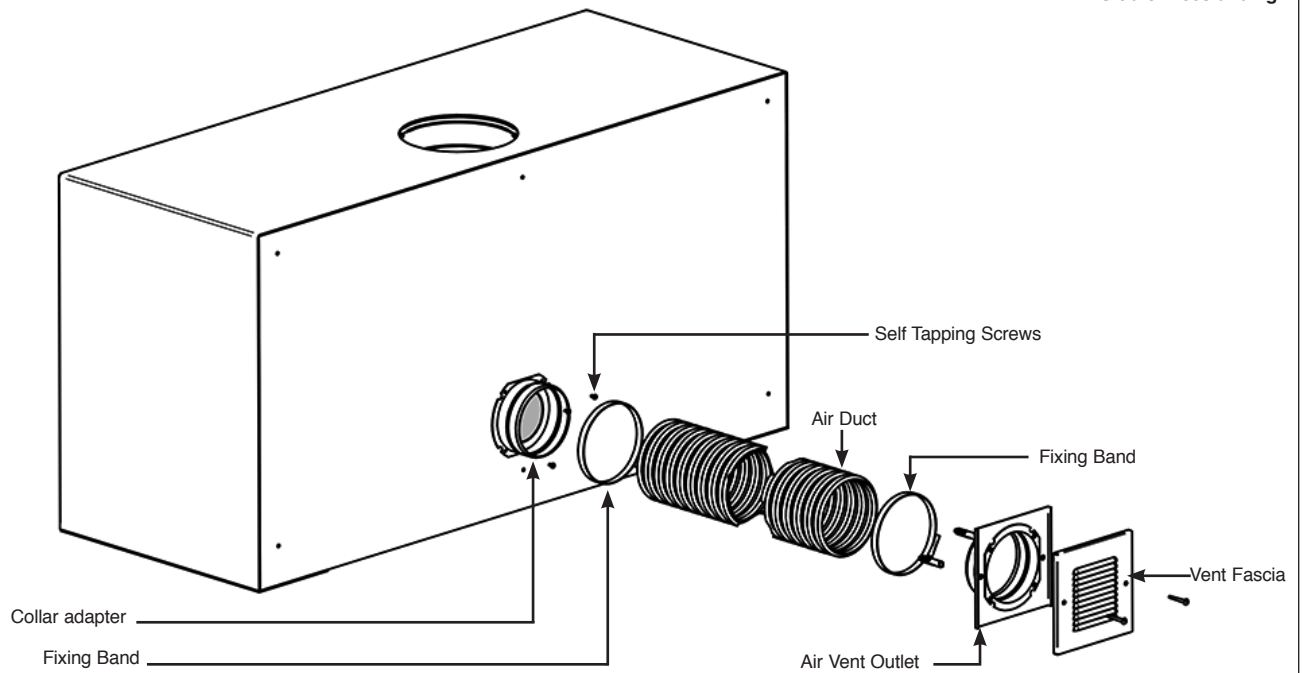
# Installation Requirements

2

Studio Cassette



Studio Freestanding



# Installation Instructions

## 1. General

Decide on the method of installation, see Installation Instructions supplied with the appliance.

**The kit must be fitted to the appliance prior to installation.**

A risk assessment must be completed as detailed in HETAS guidance note HETAS\_TN\_0020 to confirm the suitability of using the DEAS prior to installation of the Studio. This should consider:

### **Air tightness of the building**

Older buildings that are less air tight will naturally have an additional amount of ventilation air that will compliment the combustion air required, in particular when the door is opened for refuelling the appliance. As buildings become more sealed this air is reduced and it is important to ensure the room where the appliance is sited is maintained at a positive pressure to reduce the possibility of spillage.

### **Existing building ventilation**

All buildings will have some form of existing ventilation which may range from trickle vents in doors and windows, localised mechanical extraction in kitchens and bathrooms to whole house mechanical ventilation systems (MHRV). The position and effectiveness of this will effect the operation of the appliance.

### **Existing Chimney**

This should meet the requirements of Approved Document J and the specification as detailed in the appliance installation instructions.

# Installation Instructions

## 2. Internal Positioning of the Air Duct

- 2.1 The air duct must not touch any combustible materials within 550mm of the back of the stove.
- 2.2 Only use Stovax non combustible ducting supplied with the connection kit within 550mm of the air duct connection.
- 2.3 Take care when routing the duct to ensure it is not deformed and restricting the airflow.
- 2.4 Under normal circumstances the Riva Studio 500 & 1 (5kW) requires no additional air supply. If the product is fitted in a well sealed home it may require additional ventilation to enable the product to work effectively. This could be achieved by the fitting of the external air kit.

See table for additional ventilation requirements.

<b>A) Traditionally Built Homes</b>		<b>B) Modern Construction Homes</b>				
<ul style="list-style-type: none"> <li>• Where leakage is greater than 5m<sup>3</sup>/hour/m<sup>2</sup>.</li> <li>• Ventilation normally required = 550mm<sup>2</sup> per kW output over 5kW</li> </ul>		<ul style="list-style-type: none"> <li>• Where leakage is less than 5m<sup>3</sup>/hour/m<sup>2</sup>.</li> <li>• Ventilation normally required = 550mm<sup>2</sup> per kW</li> </ul>				
<b>Model:</b>		<b>Studio 500</b>	<b>Studio 1</b>	<b>Studio 2</b>	<b>Studio 3</b>	
Studio 500 Cassette & Freestanding						
Studio 1 Cassette & Freestanding						
Studio 2 Cassette & Freestanding						
Studio 3 Cassette & Freestanding						
<b>A</b>	Additional Ventilation	mm <sup>2</sup>	None	None	1650	3300
		cm <sup>2</sup>	None	None	16.5	33
		in <sup>2</sup>	None	None	2.6	5.3
<b>B</b>	Additional Ventilation	mm <sup>2</sup>	2695	2750	4400	6050
		cm <sup>2</sup>	26.9	27.5	44	60.5
		in <sup>2</sup>	4.35	4.44	7.1	9.76

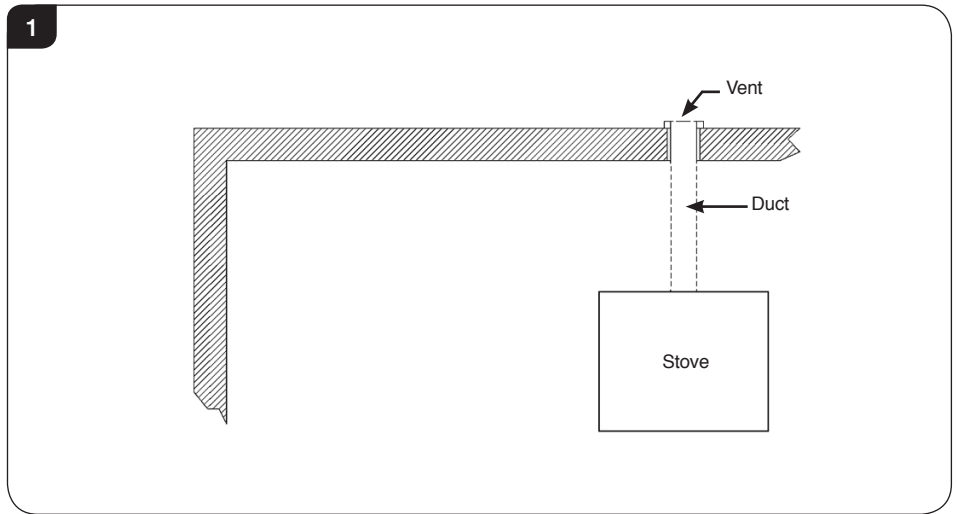
# Installation Instructions ipsamus dolectem. Itatest

## 3. External Termination of the Air Duct

3.1 The external air duct should be positioned so it is not effected by:

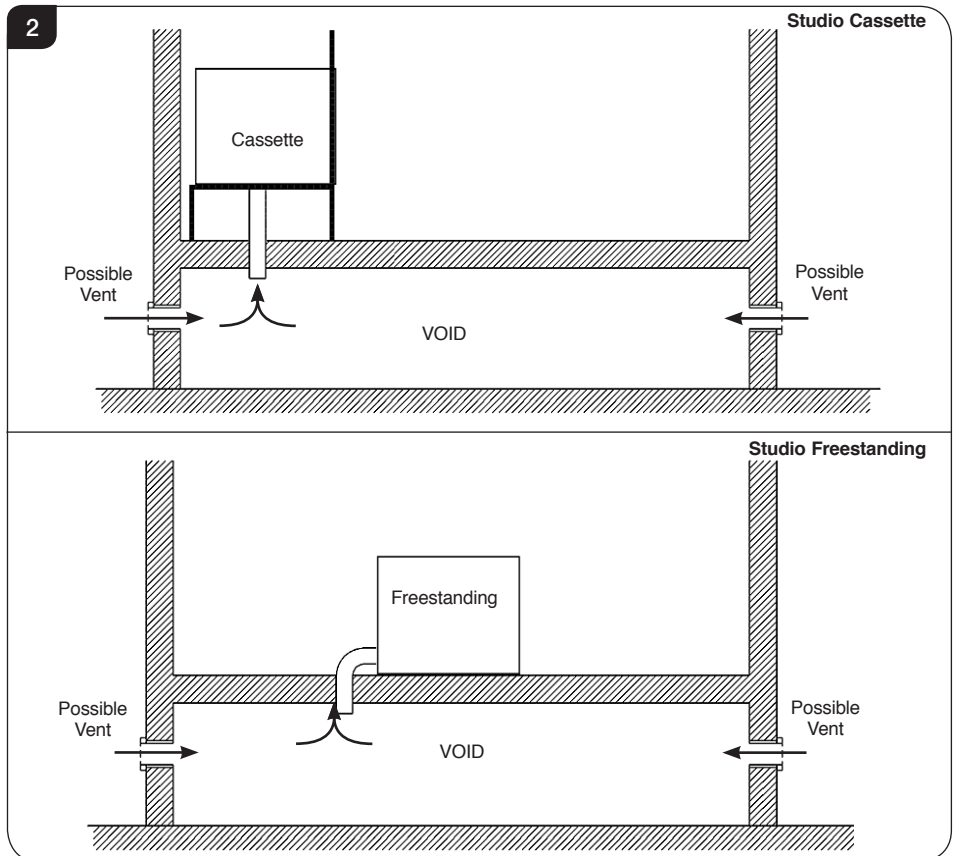
- Adverse weather conditions and prevailing winds.
- Blockages caused by debris.

Regular checks should be made to ensure the vent is not blocked, in particular after windy weather or snow falls. Diagram 1.



3.2 If the building has a suspended floor, which has external ventilation into the void below the termination may be made into this area.

Note: Choose only one vent position.



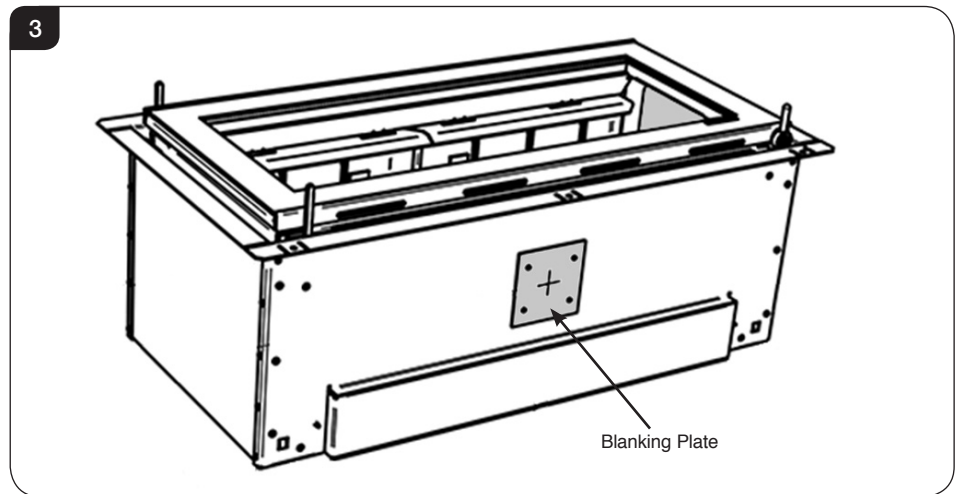
3.3 Terminations should be made with a proprietary fixed open external air vent kit, which gives minimum free area of greater than listed, positioned so no blockage can occur and not permit the entry of birds or animals.



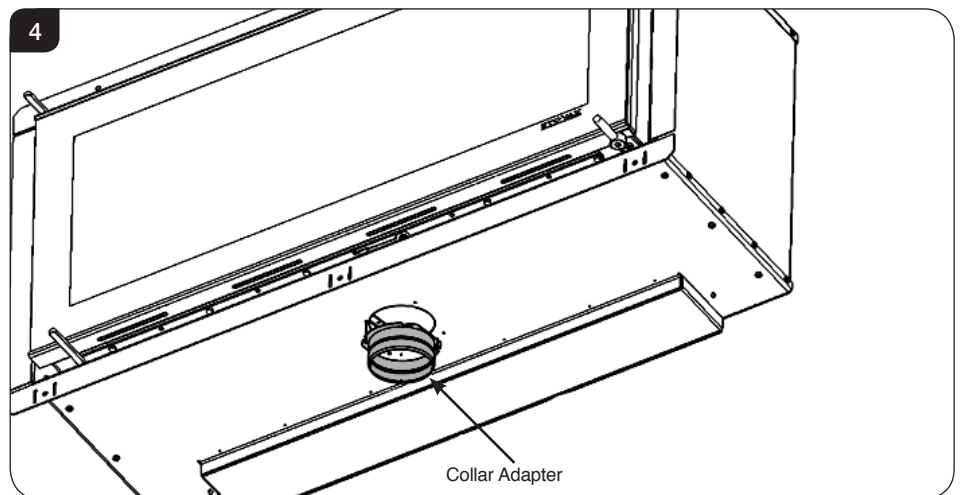
# Installation Instructions

## 4a. Fixing Kit to Appliance - Cassette

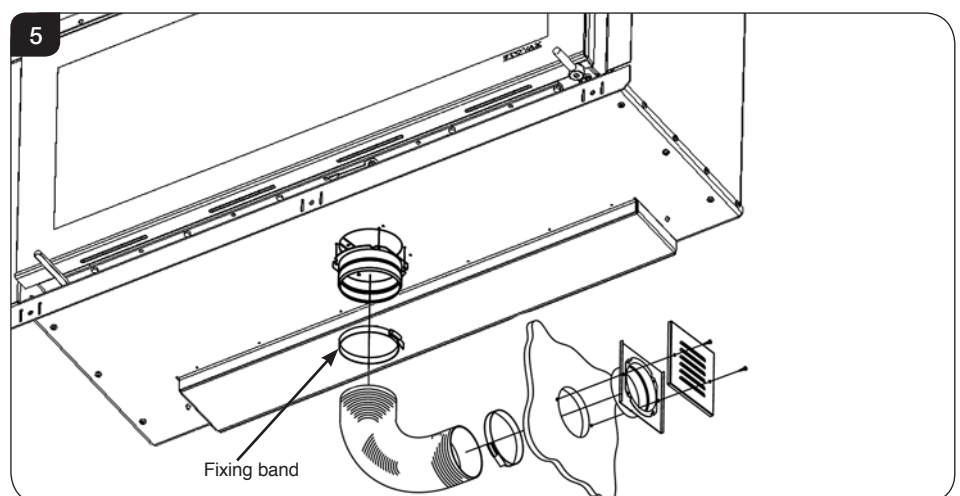
4a.1 Remove the blanking plate in the base of the Studio outer box, see Diagram 3.



4a.2 Fix connecting collar adapter to underside of the appliance using the screws provided, see Diagram 4.



4a.3 Fix hose to collar adapter and secure duct with fixing band, see Diagram 5.



# Installation Instructions

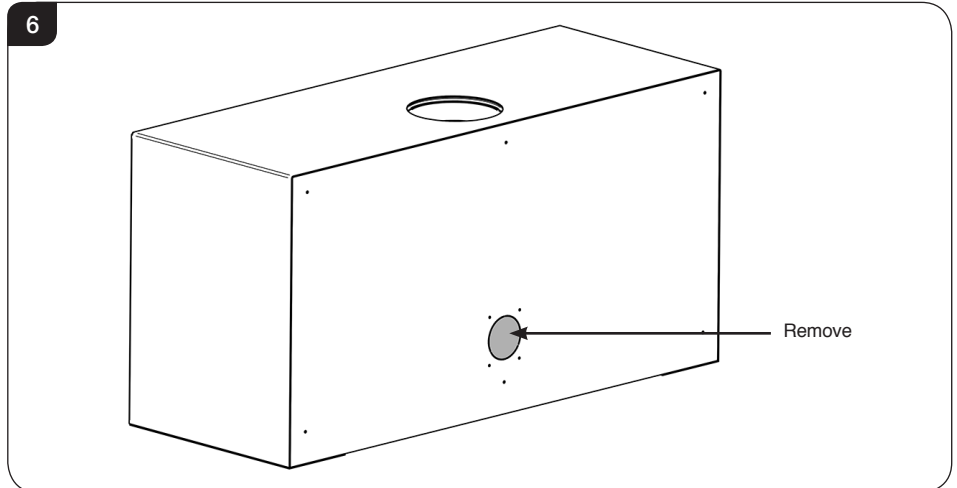
## 4b. Fixing Kit to the Appliance - Freestanding



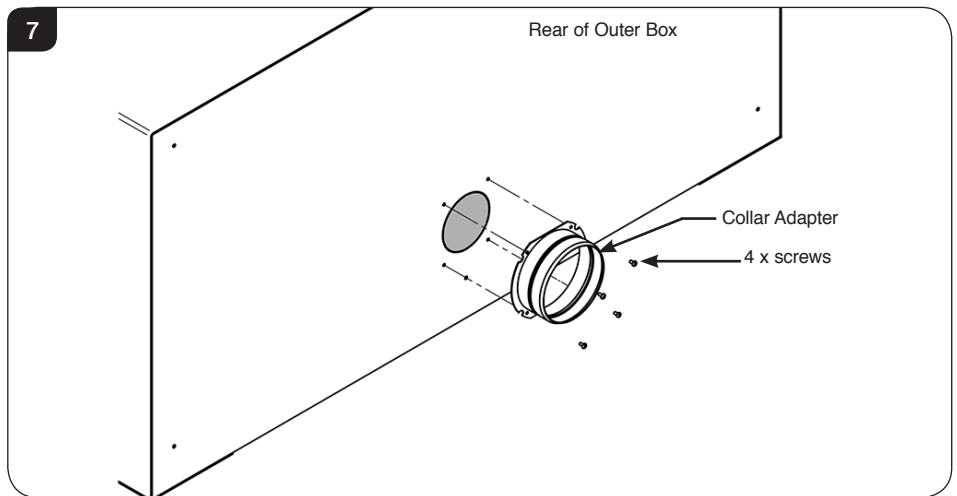
**IMPORTANT: IF THIS OUTSIDE AIR KIT IS TO BE INSTALLED ON A FREESTANDING STUDIO WITH A HEAT SHIELD FITTED, CONSULT THE INSTRUCTION MANUAL SUPPLIED (PM732) PRIOR TO INSTALLATION.**

4b.1 Some of the kit must be fitted prior to the permanent placement of the outer box.

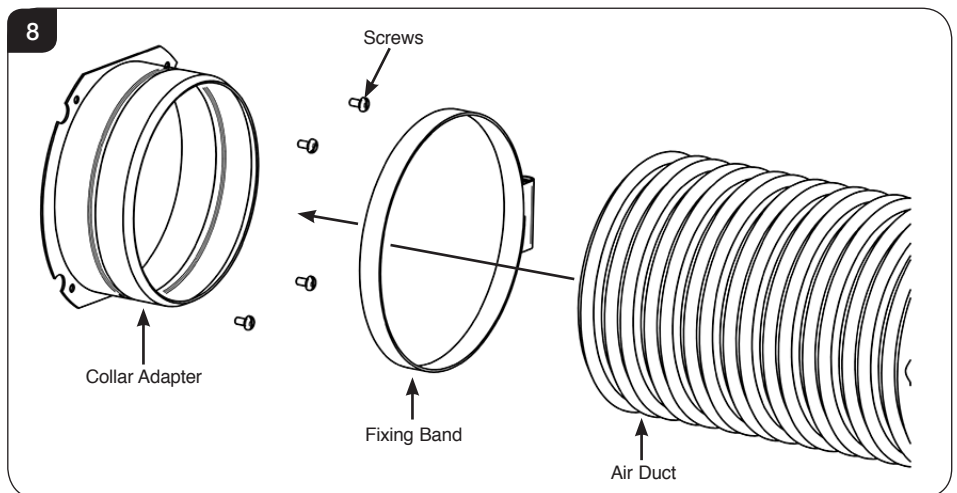
4b.2 Remove the knock out in the rear of the appliance outer box, see Diagram 6.



4b.3 Attach the Collar Adapter to the rear of the outer box, securing with the 4 screws provided, see Diagram 7. **ENSURE A GOOD SEAL IS ACHIEVED.**



4b.4 Thread the Fixing Band onto the air duct and attach to the Collar Adapter. Secure in position by tightening the integral screw, see Diagram 8.



# Commissioning

## 1. General Check

- 1.1 Check that the appliance is fully assembled and all parts are in their correct position.

Check that the manufacturer's instructions have been followed with particular regard to the correct fitting and adjustment of the Dedicated External Air Supply.

Ensure that a carbon monoxide alarm has been securely fitted in a suitable position.

Complete the appliance commissioning procedure as detailed in the appliance installation instructions

### 1a. Cold test – Appliance door shut

- 1a.1 Close all doors and windows in the room that contains the appliance.
- 1a.2 Preheat the flue by lighting a small fire using kindling or use a blow lamp or electric heater.
- 1a.3 Light a small smoke pellet (30g / 15m<sup>3</sup>) in the appliance and shut the appliance door. All air-controls should be in their maximum open position.
- 1a.4 Check that all of the smoke enters the flue and none comes back into the room through any part of the stove, connecting flue pipe or air supply duct.
- 1a.5 If smoke enters the room then repeat the flue preheat, increasing the warmth of the flue to generate additional flue draught.
- 1a.6 If it still fails, progressively open a window. If the flue starts to draw the smoke, this will indicate the appliance is not being provided with adequate air via the dedicated external air supply system to the room. Note the additional free area of ventilation provided by the window and add permanent ventilation into the room by that amount to correct the problem.

**Retest to confirm safe operation.**

### 1b. Hot test – Refuelling

- 1b.1 Light a small fire in the appliance using the recommended amount of kindling for the appliance as detailed in the manufacturers operating instructions. This will establish a flue draught.
- 1b.2 Allow the kindling to burn down to glowing char with little or no visible flames. Insert a smoke match into a smoke match extension rod (min 15 seconds burn time). Set the appliance air controls into the manufacturers recommended refuel position. Open the appliance door. Touch the tip of the smoke match onto a burning ember in the firebox and then position the smoke match 50mm above the bed of char or any flames in the centre of the firebox and 2/3 of the firebox depth in from the front. For the duration of the smoke match burn observe if the smoke is drawn into the chimney or spills into the room. Once the smoke is extinguished close the appliance door.

NOTE: shining a bright light from a torch or lamp into the firebox will assist visibility of the smoke flow.

- 1b.3 If smoke spills from the appliance, warm the chimney further and repeat the test.

NOTE: Intermittent minor spillage (wisps) of smoke are acceptable but constant spillage is not.

- 1b.4 If smoke still spills into the room, progressively open a window. If the flue starts to draw the smoke, this will indicate the appliance is not being provided with adequate air via the dedicated external air supply system. Note the additional area of ventilation required, and add permanent ventilation into the room by that amount to correct the problem.

**Retest and confirm safe operation.**

### 1c. De-pressurisation test

- 1c.1 Turn off any already running extraction systems and open a window in the room the appliance is situated in to equalise the dwellings internal pressure with outside.

Close the window.

- 1c.2 Light a small fire in the appliance with the recommended amount of kindling detailed in the manufacturers operating instructions and allow the appliance to reach its normal operating temperature.
- 1c.3 Close all external doors, windows, and ensure all trickle ventilators that can be closed are closed.
- 1c.4 Set to maximum any extract systems in the dwelling (including cooker hoods, bathroom extractors, and externally vented tumble driers etc.).
- 1c.5 Switch on and set to maximum any additional open flued heating appliances in the same or adjacent rooms.
- 1c.6 Open any connecting doors between the room in which the appliance is fitted and the room which contains the extractor fan and or heating appliances. Leave the remaining windows and doors shut in both rooms.
- 1c.7 If the smoke continues to fail to be drawn up the flue, or fails with additional ventilation beyond that advised by ADJ, thoroughly inspect the flue / chimney and termination for other faults.

Repeat the Hot Test – refuelling (step 1b.)

- 1c.8 If smoke enters the room then additional ventilation may be required to compensate for the extraction. This can be tested by gradually opening a window.
- 1c.9 **If the smoke continues to fail to be drawn up the flue, or fails with additional ventilation beyond that advised by ADJ Table 1, thoroughly inspect the flue / chimney and termination for other faults. Ensure satisfactory test results before bringing the appliance in to use.**



**If any tests do not pass instruct the user not to use the appliance until the problem is rectified or an air vent as detailed in ADJ is fitted and the appliance is confirmed as safe, in writing, to use by a HETAS registered installer.**

# Commissioning

## 2. Maintenance

- 2.1 **Check internal and external vents and air ducts at least once a year for any obstructions.**

**Regular checks should be made to ensure the vent is not blocked, in particular after adverse weather.**

- 2.2 Check the security of air connections to the stove and tighten if required.

## 3. CO Alarms

All open flued appliances can be affected by conditions that may cause products of combustion to enter the dwelling where the appliance is installed.

ADJ requires that whenever a new or replacement solid fuel / wood burning appliance is installed a dwelling a carbon monoxide (CO) alarm, complying with EN50291, must be fitted in the same room as the appliance. Guidance on installing alarms is contained in EN50292 and the alarm manufacturers fitting instructions.

These alarms however are usually located high up on a wall and often out of sight of the user. Because the alarm will activate when a predetermined level of CO has been reached and exceeded for a certain period of time, the user will not be aware of any low level CO spillage within their property, which would indicate the appliance and/or ventilation systems are not working correctly.

This will be a good indicator for the user to see if the appliance and ventilation is working correctly and is maintaining a safe air quality.



**Provision of a CO Alarm / Monitor must not be considered a substitute for either installing the appliance correctly or ensuring regular servicing and maintenance of the appliance and chimney system is completed.**

**COMMISSIONING & FLUE PERFORMANCE TEST CERTIFICATE**

This form must be completed and passed to the occupier.

**Risk Assessment - Sample**

**Assessment of the Property**

Address:

Age and Construction of Property:

Property Construction & Property Air Permeability	Score	Appliance type - Consider: Designed for direct air Durability and pressure tested	Score	Appliance Tested with specified air kit	Score	Appliance Literature & User Instruction	Score	Installation Design - consider: Chimney Condition & draw Ducting position Appropriately sized appliance	Score
House pre or post 2008 - Whole house mechanical ventilation	5	Not specifically designed for direct air.	5	No testing	5	Poor or none	5*	Dangerous	5*
Modern House post 2008 - Passive ventilation	4	Appliance not tested but manufacturers' design with ignition and/or air-wash air from room, primary and secondary air from direct external air	4	Indicative	4	Basic Generic Instructions	4	Poor	4
Older House 1975 to 2008 - No improvement Older House pre 1975 - Significant improvement	3	Manufacturers' design with manufacturers' own assessment	3	Manufacturers generic testing	3	Adequate Generic Instructions	3	OK	3
Older House pre 1975 - Moderate improvement	2	Indicative or actual product design independent' assessed	2	Manufacturers own testing	2	Detailed Instructions	2	Appropriate	2
Older House pre 1975 - No improvement	1	Dedicated kit, appliance durability and pressure tested to DIBT/prEN 16510 type C	1	Full, positive independent test report	1	Excellent: Complete details of the installation and commissioning procedures for the appliance and air supply system	1	Ideal	1

Risk Score	Risk Rating	Notes
All 5's or 5*'s	Don't fit	
1 to 5	Include and ADJ vent	
1 to 4	Consider additional combustion air provision	
1 to 3	Review with commissioning result	
1 to 2	Unlikely to cause issues, review with commissioning result	
1's	OK	

**Declaration**

Declaration: Risk assessment has been carried out in accordance with HETAS guidance notes TN\_010, TN\_011 & TN\_012

Installer Name:

Company:

Signed:

Date:

**COMMISSIONING & FLUE PERFORMANCE TEST CERTIFICATE**

This form must be completed and left with the end user.

**External Air Supply Commissioning Record - Sample**

Property Details				
Address:		(See risk assessment Document TN_011 and General Guidance TN_010)		
Age and construction of property:		Risk Assessment of the property carried out:		Assessed Risk:
		Yes / No	Low	Medium to High
		Medium to Low	Medium to High	High

Appliance Details				
Make:	Model:	Fuel:	Nominal Output:	Gross Efficiency:
		Freestanding / Inset	kW	%
				Combustion Air Requirement:
				mm <sup>2</sup>
				Provision for Combustion Air:
				Dedicated / Partial / ADJ vent

Direct External Air Supply Details				
Manufacturers Specified Kit:	Ducting Length:	Number of Bends:	Extra permanently open ventilation to room:	Position of Air Entry Point:
Yes / No	mm		Yes / No / NA	mm <sup>2</sup>

(Refer to commissioning document TN\_012)

Commissioning Details			Handover	
(See Commissioning Document TN_012)	Type:	Result:	Result:	Additional Notes
Flue Draught (Pa - taken prior to spillage test)			Yes* / No	
6.1 Cold Test:	Match / Pellet	Pass / Fail*	Yes* / No	
6.2 Hot Test:	Match / Pellet	Pass / Fail*	Yes* / No	
6.3 De-Pressurisation/ Extraction Test	Match / Pellet	Pass / Fail*	Yes* / No	

\*This document is only to be signed and dated when the above tests are proven to be satisfactory. If at commissioning stage the appliance cannot be confirmed as operating safely, and the fault cannot be rectified at that time, it will be disconnected from the chimney and placed somewhere that it can't be used. The consumer must be notified that further work may be necessary and that as the appliance could not be fully commissioned it cannot be left connected to the chimney or left in a position where it might be used. A warning notice should be left.

Declaration	
<p><b>Declaration:</b> The installation has taken account of the property's construction, air tightness, ventilation strategy and this has been considered under a risk assessment. The configuration of external air supply connected to the appliance is suitable for the property construction and meets the requirements of the appliance manufacturer's instructions. Assessment and Installation has been carried out in accordance with HETAS guidance notes TN_010, TN_011, &amp; TN_012. The installation complies with J1 to J5 of the Building Regulations.</p>	
Installer Name:	Company:
Signed:	Date:

Leave a copy with the installation certificate.



# STOVAX

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