Ultra Insert Vented Zero Clearance Cabinet Installation Manual

⚠ ATTENTION!

Installation of the Ultra Insert models into a Vented Zero Clearance Cabinet (VZCC) elevates the appliance and fascia by 45mm.

To complete installation to conceal the VZCC base runners, a Metro Pine Insert insulated floor protector or Ultra Insert Fascia Base Rail are options available. (See page 9/10)

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Ultra Insert Vented Zero Clearance Cabinet (VZCC)

Fits Metro Ultra Insert

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NZHHA New Zealand Home Heating Association Inc.

NEW ZEALAND MADE

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Unpacking and familiarisation

⚠ WARNING! Important Information

- It is critical to the safe installation of a vented zero clearance cabinet (VZCC) that you are conversant with the installation of wood fires and competent to undertake this installation
- This vented zero clearance cabinet is for the Ultra Insert only
- You must read the following points prior to starting installation

The Ultra Insert 'Vented Zero Clearance Cabinet' (VZCC)

The function of the Metro Ultra Insert Vented Zero Clearance Cabinet (VZCC) is to enable the Metro Ultra Insert to be installed into a timber framed wall replacing a masonry chimney at a fraction of the cost.

1. Installation must be strictly in accordance with this manual to comply with the test approvals to AS/NZS 2918:2001 held by Pioneer Manufacturing Ltd. The installation of any model wood fire other than the Ultra Insert into this VZCC will not comply with the test approvals held by Pioneer Manufacturing Ltd and may be a fire risk.
2. Certain points within this manual are critical to the safe operation of the VZCC. These points are highlighted with a 'WARNING' or 'CAUTION' heading and detailed within a black or grey panel.
3. Insulating spacer blocks are attached to the rear, sides and top of the VZCC. These blocks must not be removed, they may touch timber framing as their function is to ensure a minimum airspace is maintained between the VZCC and any combustible framing or materials.
4. There must be a minimum clearance of 30mm between the cabinet top and the underside of the timber lintel.
5. There is a white insulating blanket pre-fitted to the Metro Ultra Insert models outer cabinet. It is important that this insulating blanket remains installed and in good condition. Do not remove this blanket under any circumstances.
6. Please also refer to Stage 6 in relation to the Floor Protector requirements prior to commencing installation.

Having read the six critical points above, unpack and familiarise yourself with the various components of the VZCC as detailed and illustrated in Diagram 1 opposite.

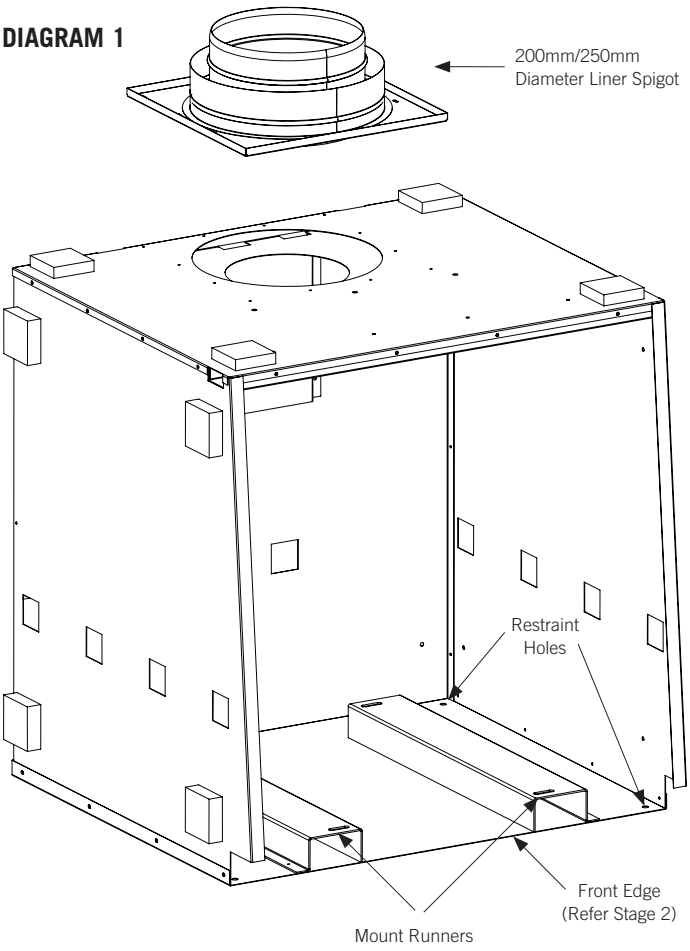
Supplied in the VZCC Pack:

1 x Assembled cabinet body
1 x 200mm/250mm diameter liner spigot
1 x Bag of assembly screws, bolts and nuts
1 x Installation manual

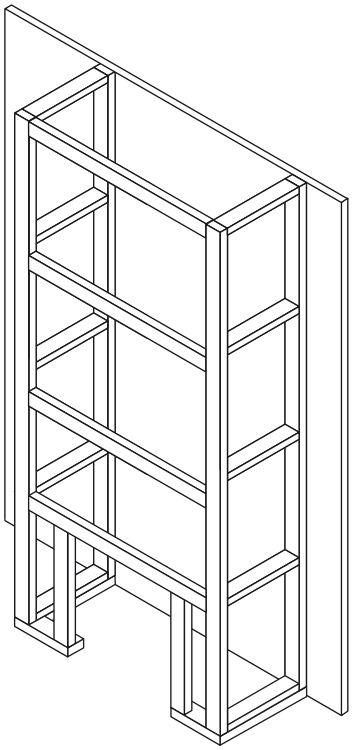
Not Supplied BUT REQUIRED:

4 x Restraint fixtures, masonry anchors or wood screws
1 x Metro ECO Built-In flue system
1 x Metro Ultra Insert firebox with fascia

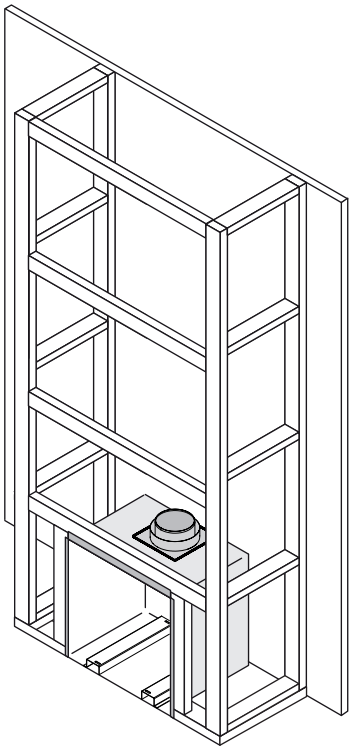
DIAGRAM 1



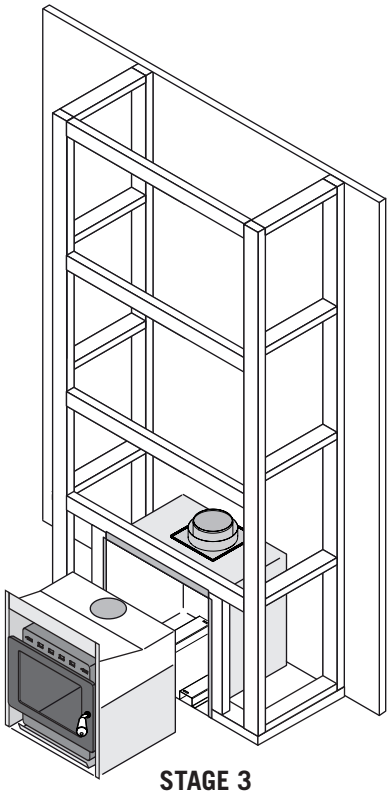
Stages of installation



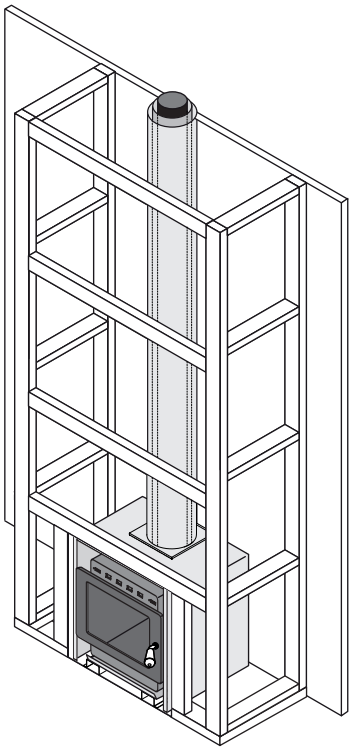
STAGE 1
Timber cavity construction
and preparation



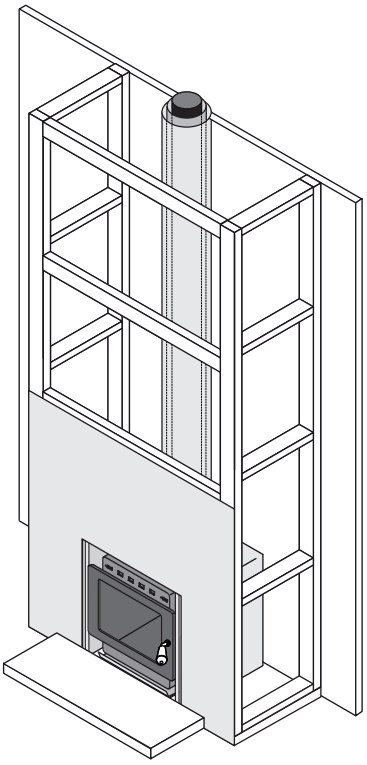
STAGE 2
Vented Zero Clearance Cabinet
and liner spigot installation



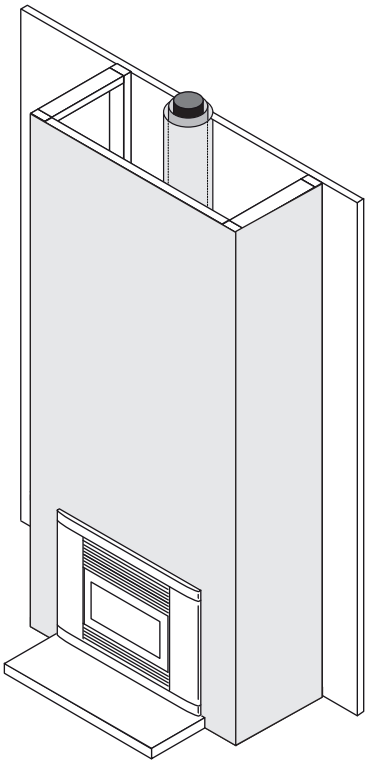
STAGE 3
Insert firebox preparation
and installation into the VZCC



STAGE 4
ECO Built-In flue kit
assembly and installation



STAGE 5
Fit wall lining and floor protector
construction



STAGE 6
Fascia fitment and completion
of wall linings

Stage 1 - Construction and preparation of the wall opening/cavity

⚠ WARNING! Important Information

- Access is required to fit the flue spigot adaptor to the VZCC and for installation of the ECO Built-In flue kit. Pioneer Manufacturing recommend lining the walls of the enclosure after the VZCC and flue kit have been installed.
- As the VZCC is built into an enclosure, the enclosure must be vented using one of the options detailed on page 4.

Construction of the timber framed enclosure

1. Frame up the enclosure to specification. Combustible framing materials are acceptable but a fire resistant wall board is required for the fascia to sit against such as 9mm Promina board or equivalent.

   Framed cavity internal dimensions

Internal width	740mm +/- 5mm
Depth including wall lining	575mm +/- 5mm
Height to underside of lintel	710mm +/- 5mm

   Wall lining opening dimensions

Height	685mm +/- 5mm
Width	740mm +/- 5mm
Flue centreline	405mm

   **Please note: If a brick front is to be built you will need to allow for the thickness of the bricks.*

2. For an 'elevated' installation we recommend you fix additional framing beneath both sides and mount runners of the VZCC to support the installation. You will also require additional framing to fix the wall lining below the VZCC. The VZCC box can sit directly on the framing but we recommend fitting a floor to provide seismic fixing points for the VZCC. Insulation is not required under the VZCC.

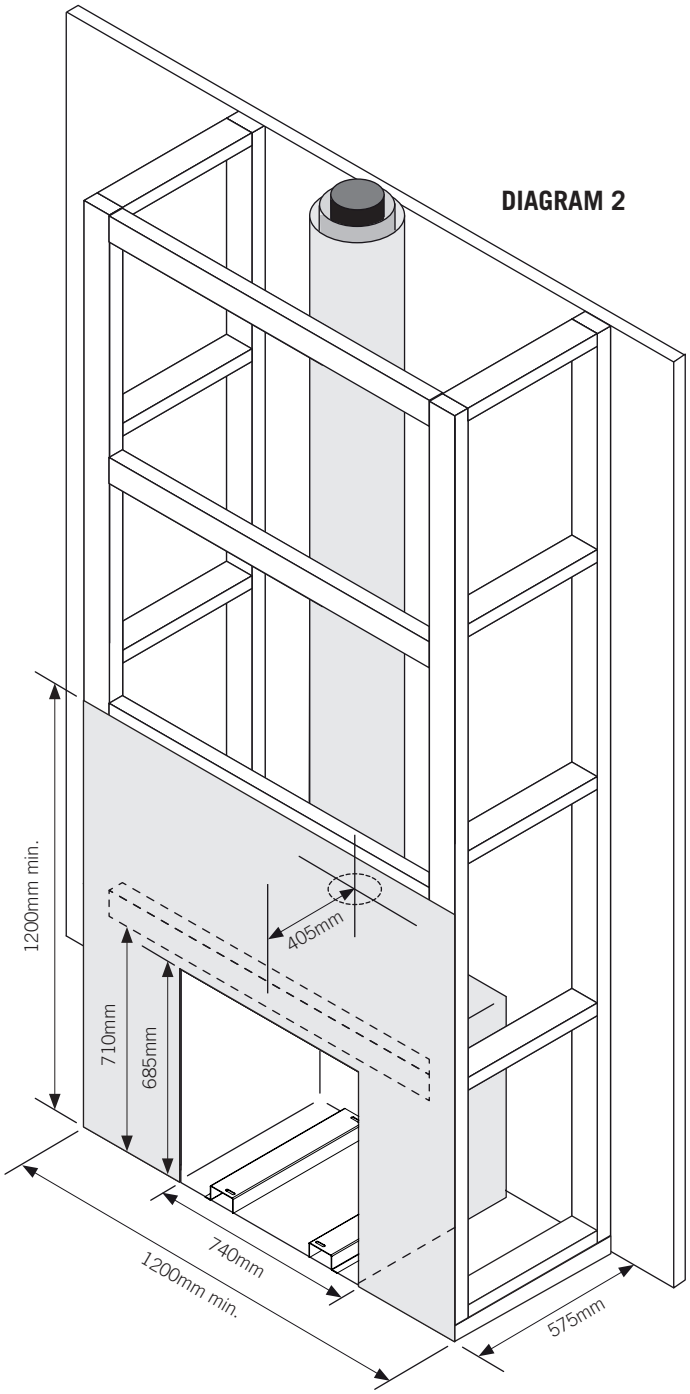
   For elevated installations, the floor protector may be installed after the wood fire is in position as it does not extend into the enclosure. However, the floor protectors rear edge must butt up against the non-combustible wall lining below the heater, and the joint at that point must be sealed to prevent the possibility of ember penetration.

3. A 1200mm x 1200mm sheet of 9mm Promina board or equivalent non-combustible material is required around the fascia as illustrated in Diagram 2.

   It is usually convenient to carry the same lining material right up to the ceiling level. The side lining of the enclosure may be standard gib board or any other wall lining material.

Please note: Wall surfaces directly above the fascia may reach high temperatures, so materials such as wallpaper and water based paint may be adversely affected. For durability of finishes and surfaces you should contact the relevant manufacturers for their specifications. Pioneer Manufacturing Limited accepts no responsibility for the deterioration of surfaces of finishes.

DIAGRAM 2



⚠ WARNING! Important Information

RECOMMENDED WALL LINING IS 9mm PROMINA BOARD OR EQUIVALENT NON-COMBUSTIBLE MATERIAL. PLEASE CONTACT THE RELEVANT MANUFACTURER FOR PRODUCT SPECIFICATIONS IF YOU CHOOSE TO USE A PRODUCT OTHER THAN PROMINA BOARD. FIRE RATED GIB BOARD IS NOT AN ACCEPTABLE MATERIAL TO USE AS AN EQUIVALENT.

Stage 1 - Construction and preparation of the wall opening/cavity

⚠ CAUTION! Important Information

AS THE VZCC IS BUILT INTO AN ENCLOSURE, THE ENCLOSURE MUST BE VENTED USING ONE OF THE FOLLOWING OPTIONS.

A. VENTING THROUGH THE CEILING SPACE OF THE HOME.

B. VENTING THROUGH THE CAVITY WALLS.

C. VENTING THROUGH AN ECO OPTION KIT.

Cavity venting requirements

As the VZCC is built into an enclosure, the enclosure must be vented using one of the three options detailed below.

Venting through an external wall will require suitable precautions to prevent rodents and debris from entering or restricting the air vents. If grilles are used, the minimum vent area must be maintained through the grille itself. It is the responsibility of the installer to ensure the requirements of New Zealand Building Code Clause E2 (External Moisture) are complied with.

(A) Venting through the ceiling space of the home

The enclosure is constructed to the full height of the room and is fully open/vented into the ceiling cavity of the home.

(B) Venting through the side walls or rear wall of the cavity

A minimum open unrestricted vent area of 21,600mm^2 is required to cool the VZCC and flue liners within the combustible structure. This vent can be positioned in the walls or floor of the cavity, but venting through external cladding will need to be vermin proof and increased in size to ensure the minimum unrestricted open area as specified.

(C) Venting through the ECO Option Kit

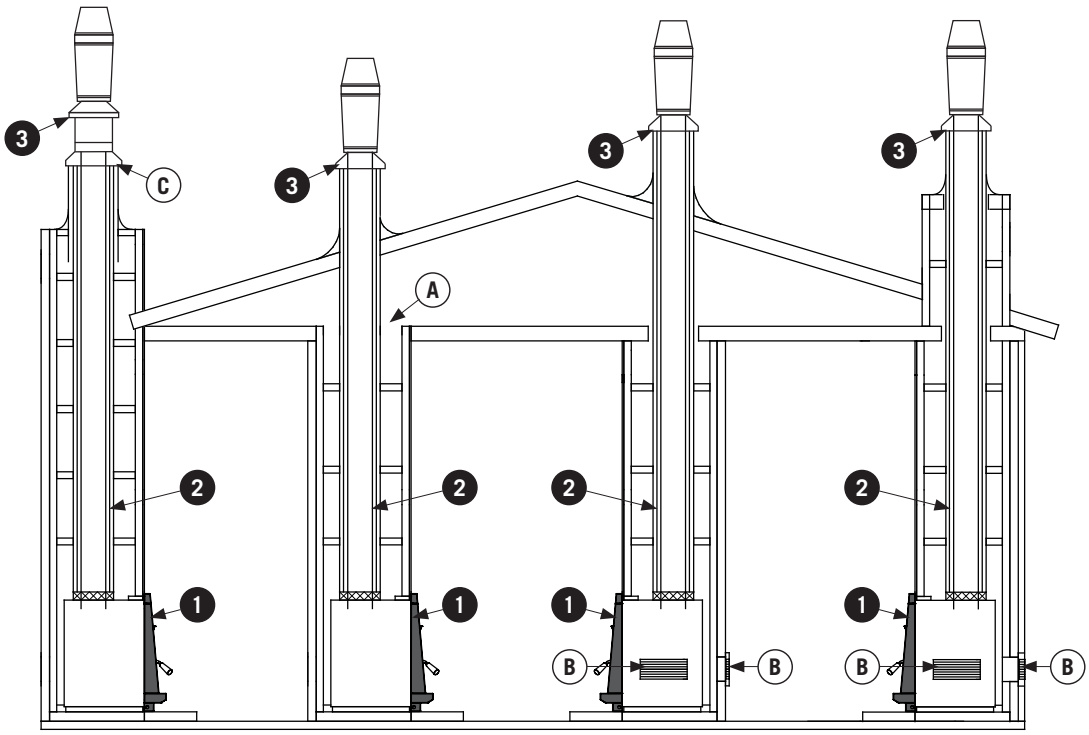
Venting through the top of the enclosure using the 'ECO Option Kit' with the Metro ECO Built-In flue kit. If you choose to vent the enclosure with this method there must be no internal ceiling or 2nd storey floor blocking airflow within the cavity. The cavity must be fully open vertically from the VZCC to the enclosure capping/flashing plate as indicated in Diagram 3 below (Venting through the ECO Option Kit). Please see Diagram 7 for the ECO Option Kit installation.

DIAGRAM 3

Cavity venting

- (A) Venting through the ceiling
- (B) Venting through the cavity
- (C) Venting through the ECO Option Kit

- 1 Built-In appliance
- 2 Built-In flue kit
- 3 Flue system air outlet



Venting through ECO Option Kit | Venting via ceiling space | Venting through side or rear of cavity | Venting through side or rear of cavity

* All other clearances and installation criteria to meet AS/NZS 2918:2001.

Stage 2 - Installation of the VZCC

⚠ CAUTION! Important Information

It is critical for the safe and efficient operation of the Metro Ultra Insert fitted into a VZCC, that the front edge of the VZCC base panel MUST BE FLUSH with the front edge of the wall lining. Frequently at time of installation the wall lining may not be complete, so if 9mm promina board is being used to cover the framing, the installer will need to have the front edge of the base panel 9mm forward of the framing.

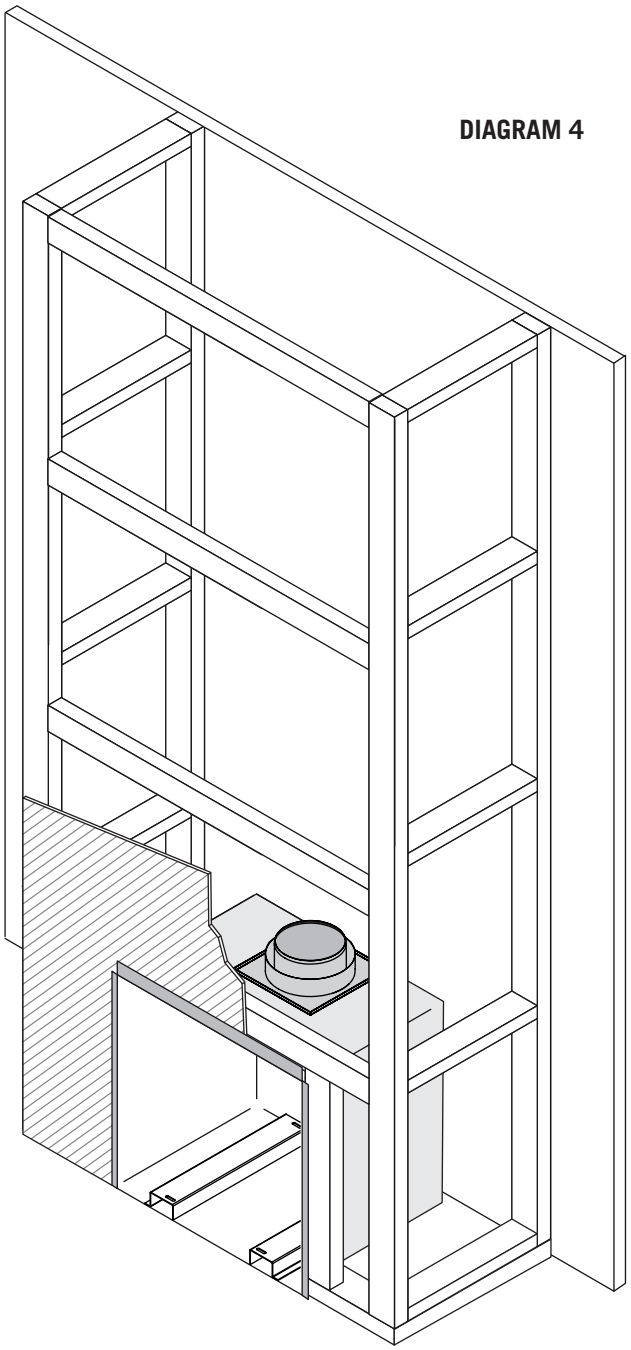
Similarly if a brick facade is being constructed, the installer must move the VZCC forward so the front edge of the base panel ends up flush with the front face of the bricks once constructed.

Installing the Vented Zero Clearance Cabinet

1. Position the VZCC into the wall opening you have created. Slide the VZCC into place and check the VZCC is central by ensuring the clearance between each side of the cabinet and the sides of the opening are equal. The front edge of the VZCC's base panel MUST BE FLUSH with the front face of the wall lining (Refer Diagram 4).
2. Secure the VZCC to the floor through the four restraint holes provided in each corner as illustrated in Diagram 1. Using 4x 6mm masonry anchors for concrete floors or 4x 12 gauge screws for a timber floor.

   Note: The VZCC must be secured rigidly to meet the seismic restraint requirements of AS/NZS 2918:2001
3. Position the 200mm/250mm diameter liner spigot into the top of the cabinet centralising it with the centre of the flue spigot. Secure the liner spigot into position using the 12 self tapping screws supplied.

DIAGRAM 4



Stage 3 - Preparation of the Insert firebox and installation into the VZCC

Installing the Ultra Insert firebox into the VZCC

You can now position the Ultra Insert firebox into the VZCC. Note that clearance between the side returns of the cabinet are close and care is required not to damage the external insulating blanket.

1. Packaged loose within the firebox are 3 fire bricks, air slide lever and knob, Top Panel with insulated side extensions, top ceramic fibre blanket and bolt kit.
2. Position the firebox and cabinet into the VZCC with care not to damage the insulating blanket.
3. Ensuring both cabinets are aligned and central with front return folds while also being flush with the front of the wall lining. Using the two M6 bolt and nuts provided, bolt the base panel to the front slots in the mounting channels.
4. The flue can now be assembled as detailed on page 7, taking particular care to ensure that flue sealant is applied to seal the flue into the flue spigot. Once well sealed into place, use a 4mm pilot drill through the flue seismic restraint in the spigot and secure the flue with the 14g tek screw supplied.
5. Unscrew the ceramic fibre board from the Top Panel (packaged in front of the fire box) so that the insulated side panels can be riveted in place as illustrated. Leave the cellotape in place that holds the ceramic fibre. Re-attach the top ceramic fibre board again.
6. Slip the Top panel along the top of the cabinet and under the ceramic blanket on the fire cabinet while engaging the Top Panel into the slot provided at the top of the cabinet. The top ceramic fibre blanket packaged in the fire can now be placed on the Top Panel in a centralised position prior to tilting up and fixing in place with screws provided.
7. Provisions for wiring the fan can now be completed with the fan wired to a remote isolation switch as per relevant electrical compliance regulations.
8. The firebox baffle and bricks can now be fitted as per the instructions on page 5 of the Ultra Insert manual while ensuring the Air Tube is also correctly fitted and secured.
9. Once the fan electrics are completed place the four speed clips over the large diameter mounting holes at the front of the cabinet (fascia mount points). The fascia can be attached after the wall lining is completed and painted (see Diagram 13 on page 11 of this manual).

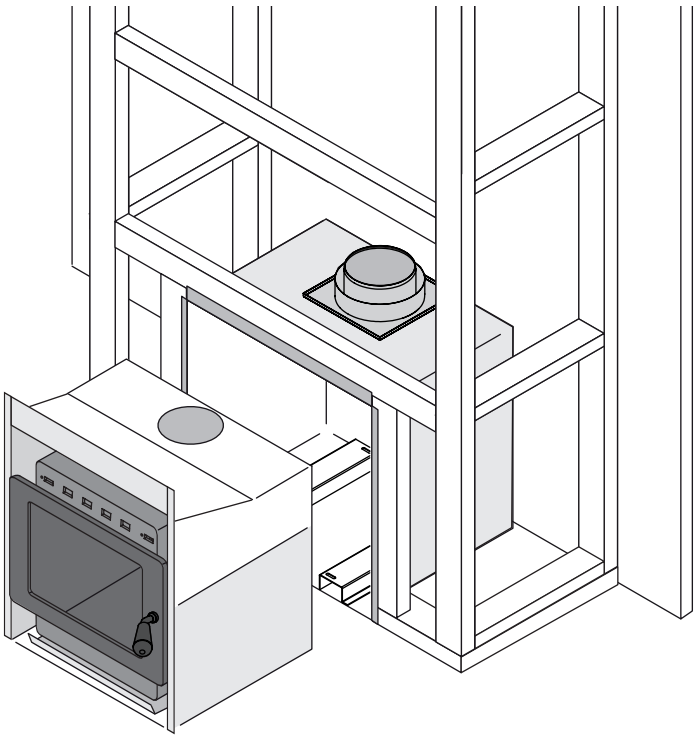
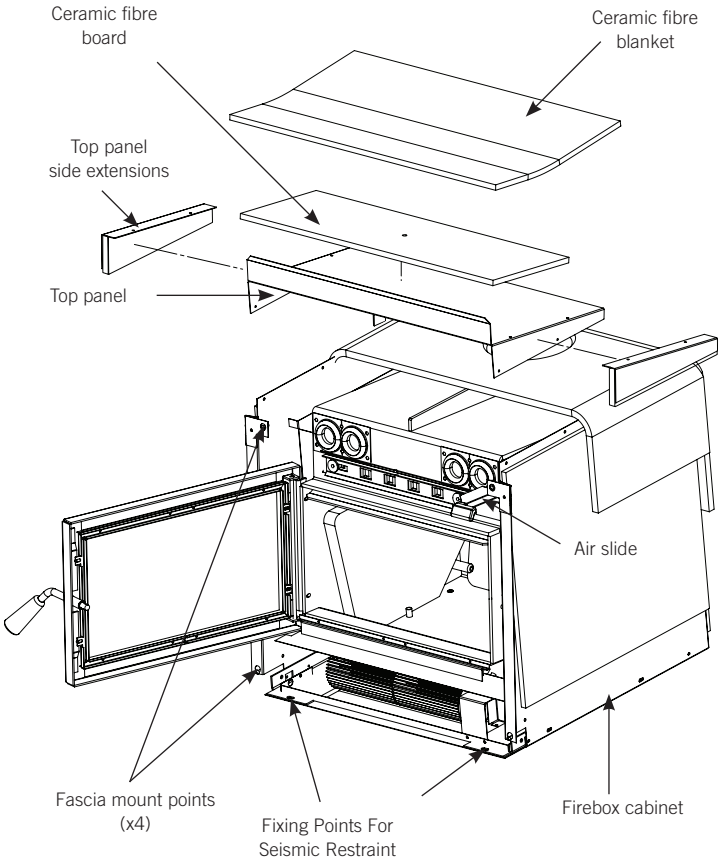


DIAGRAM 5



Stage 4 - Installation of the Metro ECO Built-In flue kit

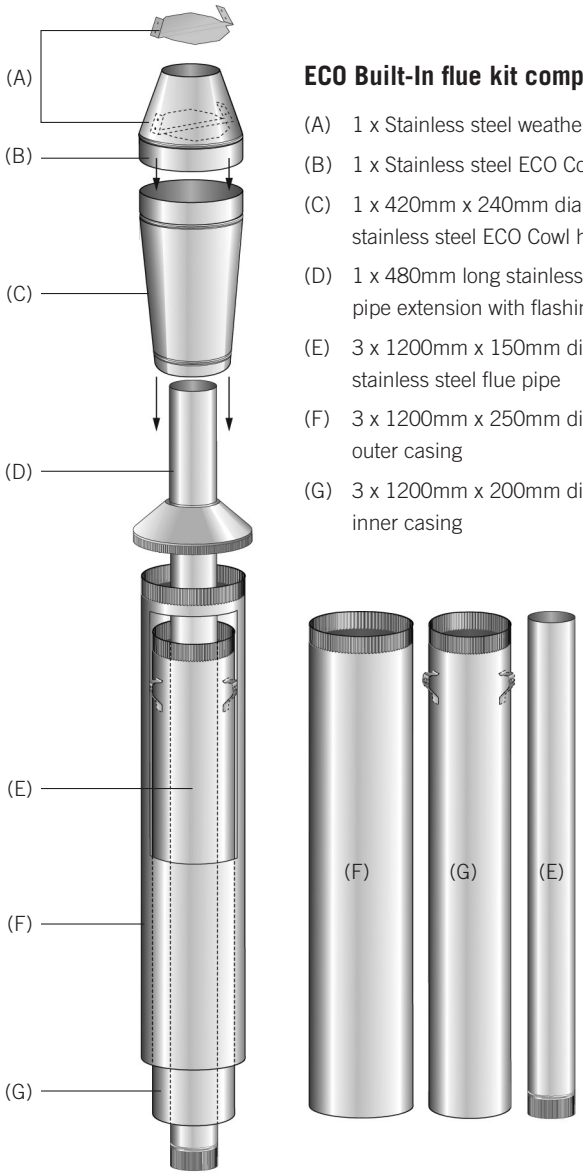
⚠ CAUTION! Important Information

- As detailed within AS/NZS 2918:2001, it is not allowed to mix flue systems or components from different suppliers or manufacturers. The spigot adaptor supplied with the Metro Ultra VZCC are Metro flue system components designed to mate up with the Metro ECO Built-in flue kit. Only the Metro ECO Built-In Flue Kit can be used for installation with the Metro Ultra Insert model when installed into a VZCC.
- The top of the flue must terminate a minimum of 4.6 metres above the top of the floor protector, the 'active' 150mm diameter stainless steel flue pipe must be fully encased with both 200mm and 250mm diameter flue liners/casings over its entire length, and the flue system and its installation must comply with AS/NZS 2918:2001. Additional flue system installation criteria is detailed below.
- As the flue system is to be enclosed in a structure replicating a conventional masonry chimney, the base of the weather cowl must be a minimum of 250mm above the top of the false chimney. (Refer Diagrams 6 & 7)

ECO Built-In flue kit assembly and installation

The Metro ECO Built-In flue kit is comprised of 3x Metro ECO Extension Kits and a Metro ECO Cowl. Each extension kit includes a 1200mm length of 150mm flue pipe, 200mm and 250mm inner and outer liners required for this installation.

1. Penetrate the roofing material on the flue centerline. Cut roof cladding to the same diameter as the outer liner and bend up edges to create both moisture stop and clearance.
2. Nog around the flue liner allowing a 25mm clearance. If you're installing the ø300mm ECO Option Kit liner, this can be directly fixed to the timber framing at four points as shown in Diagram 7.
3. Secure the flue pipes together and ensure the flue seams are staggered. The flue pipe sections must be fixed together at each joint with at least three monel or stainless steel fasteners, and the crimped ends of the flue inner and outer casings go to the top. The joints of the flue pipes must be sealed with Pioneer fire cement. Prior to installing the assembled flue pipe into the chimney cavity, take careful note to ensure there are no overhead power lines in close proximity.
4. Lower the assembled flue pipe with the crimped end fitting into the flue spigot of the firebox. With the flue pipe in position and sealed with Pioneer fire cement into the flue stub, pilot drill through the hole provided in the front of the flue stub into the stainless steel flue pipe and secure with the 14g Tek screw supplied in the plastic bag with the Insert model firebox.
5. Lower the inner casing and engage it with the 200mm diameter inner liner spigot, repeat this step with the outer casing and engage it with the 250mm diameter outer casing spigot of the VZCC.
6. When the flue system is in its final position, the top of the outer casing must be above the ridge line or roof as indicated in Diagram 8, as per AS/NZS 2918:2001.
7. While still on the ground, assemble the ECO Cowl as follows;



ECO Built-In flue kit components

(A) 1 x Stainless steel weather butterfly

(B) 1 x Stainless steel ECO Cowl top

(C) 1 x 420mm x 240mm diameter stainless steel ECO Cowl housing

(D) 1 x 480mm long stainless steel flue pipe extension with flashing cone

(E) 3 x 1200mm x 150mm diameter stainless steel flue pipe

(F) 3 x 1200mm x 250mm diameter outer casing

(G) 3 x 1200mm x 200mm diameter inner casing

- Take the stainless steel weather butterfly (A) so the angled sections are facing up. With both arms and angled sections of the stainless steel weather butterfly (A) facing up, fit it into the stainless steel ECO Cowl top (B), and secure in position through the holes provided with stainless steel rivets.

  Please note: Once fitted the weather butterfly will be slightly angled within the cowl housing.

- Fit the ECO Cowl top (B) into the ECO Cowl housing (C). Push both sections together until the swage ring on (B) rests completely on the open end of the cowl housing (C). Drill through the two pre-punched holes in the ECO Cowl housing and secure these two sections together with stainless steel rivets.

  The removable section of the ECO Cowl is now fully assembled.

8. Making your way back onto the roof, ensure the outer casing (F) is 'level' (+ or -10mm) with the top of the 150mm stainless steel flue pipe. Using a suitable flashing, weather proof the joint where the 250mm diameter outer casing penetrates the roof. Ensure the flashing used is compatible with the roofing material, and if fitting instructions are supplied with the flashing, these must be adhered to.

Stage 4 - Installation of the Metro ECO Built-In flue kit

9. Fit the 480mm long flue pipe extension/flashing cone (D), with the flashing cone at the bottom, fit its short flue section inside the top of the already installed 150mm diameter flue pipe. Ensure the three brackets extended below the flashing cone fit 'outside' the outer 250mm casing. Drill through the pre-punched hole in all three brackets into the outer casing and secure with rivets.
10. Taking the removable section of the ECO Cowl, position it over the top of the stainless steel flue pipe extension, and slide it down fully. This removable section does not require riveting and enables easy removal for future flue cleaning.

Flue termination methods

Assess the following aspects to determine the upper flue termination. These methods can be used on either sloping roofs or false chimney chases. Where the fire cabinet / flue liners cannot be vented from the ceiling cavity or other means, an additional venting liner can be installed on any termination design similar to that in Diagram 7.

Option 1 - ECO Built-In flue kit without air supply vent (Diagram 6)

Nog out framing to achieve a square aperture measuring 300mm internally to allow a 25mm clearance around the outer liner. A non-combustible capping is desirable with compatible weather flashing.

DIAGRAM 6

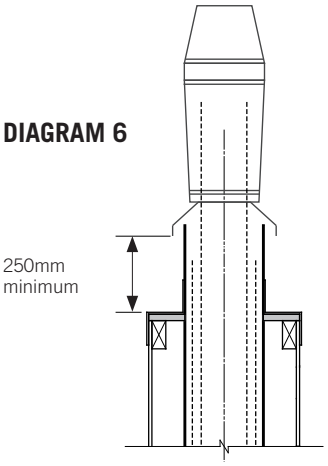
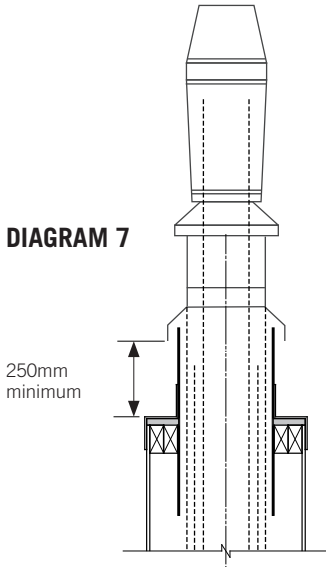


DIAGRAM 7



Option 2 - ECO Built-In flue kit with additional air supply vent (Diagram 7)

Nog out framing to achieve a square aperture measuring 300mm internally. The ø300mm ECO Option Kit liner can touch timber in four points for direct fixing into the timber framing. A non-combustible capping is desirable with compatible weather flashing.

Flue System Minimum Heights (In compliance with AS/NZS 2918:2001)

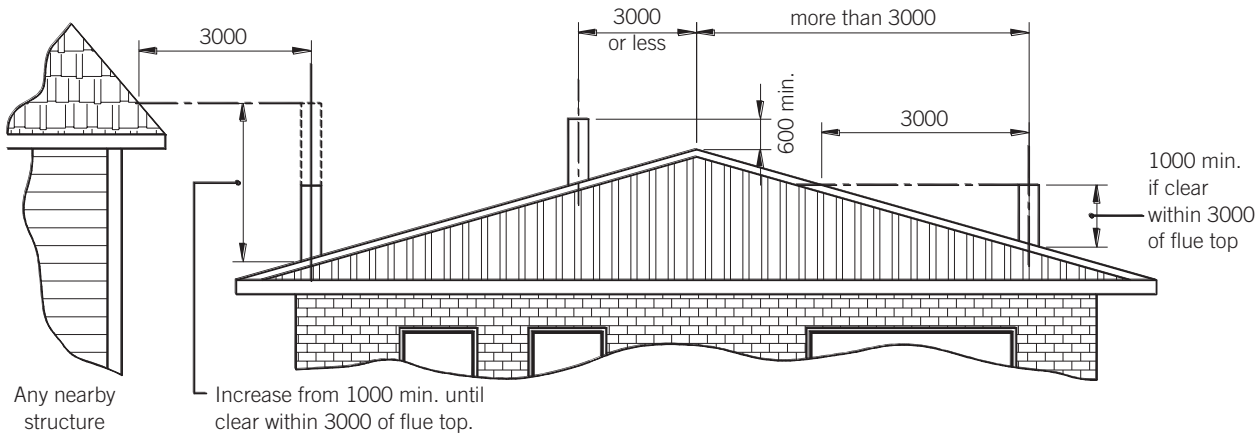
The Metro ECO Built-In flue kit complies with AS/NZS 2918:2001 and its 4.6m height requirement (4.6m minimum from the top of the floor protector to the top of the flue pipe).

If the flue centerline is within 3m from the ridge, the outer casing must end at least 600mm above the ridge. If it is further than 3m from the ridge, the outer casing must extend at least 1000mm above the point of roof penetration.

However as external structures and the proximity of other buildings will differ for every installation, some situations will require additional flue height to comply with the standard. Refer to Diagram 8 below. (All measurements in mm).

Note: AS/NZS2918:2001 Section 4, details flue system installation requirements in full.

DIAGRAM 8



Stage 5 – Construction and installation of the floor protector (hearth)

⚠ CAUTION! Important Information

Installation of the Metro Ultra Insert into a VZCC elevates the firebox and fascia by 45mm. To complete installation and conceal this 45mm space between the surface of the floor and the underside of the fascia, Metro offer the following options:

- A Pine Insert insulated floor protector in a range of tile colours
- An Ultra Fascia Base Rail in either metallic black paint or gloss black enamel finish.

Combustible Floor (Insulated Floor Protector)

All installations of the Metro Ultra Insert model in combination with a VZCC onto a combustible floor require an insulated floor protector that complies with AS/NZS 2918:2001 and this installation manual.

This Floor Protector must be a minimum width of 825mm and a minimum overall depth of 440mm.

Minimum overall depth is the distance from the front of the wall lining (behind the fascia) to the front point of the Floor Protectors non-combustible surface. The Floor Protector must have an insulating rating which is equal to or greater than 26mm thick Eterpan LD. Recommended construction of tiles on 26mm thick Eterpan LD board or equivalent.

Non-combustible floor (Ash Floor Protector)

All installations of the Ultra Insert model in combination with a VZCC onto a concrete or non combustible floor structure only require an ash hearth floor protector that complies with AS/NZS 2918:2001 and this installation manual. (See Diagrams 11 & 12 opposite).

If the floor structure in front of the installation is non combustible (e.g. concrete) the floor protector may be omitted. However, if heat sensitive floor coverings (e.g. carpet) are fitted it is still necessary to keep these clear from the appliance to the minimum distances specified in the table below.

In this case, if tiles or similar are required for decorative purposes, they can be fixed directly to the concrete floor. This will make the top of the floor protector approximately flush with the floor covering. The tiled area must project out a minimum of 440mm from the front of the wall lining (behind the fascia) and must be a minimum width of 825mm.

Please note: You will need to raise the VZCC by the same amount as the thickness of the tiles fixed to the concrete floor. (see Diagram 12)

To complete installation you will require the Ultra Insert Fascia Base Rail to be fitted to the Ultra Fascia to conceal the VZCC mount runners.

For elevated installations, the floor protector may be installed after the wood fire is in position as it does not extend into the enclosure. However, the floor protectors rear edge must butt up against the non-combustible wall lining below the heater, and the joint at that point must be sealed to prevent the possibility of ember penetration.

Floor protector construction

Model	Built-In installation Combustible floor	Built-In installation Non combustible floor	Minimum width	Minimum projection
Ultra Built-In	Insulated floor protector	Ash hearth floor protector	825mm	440mm
	Insulating - recommended construction of tiles on 26mm thick Eterpan LD board or equivalent.			

Stage 5 – Construction and installation of the floor protector (hearth)

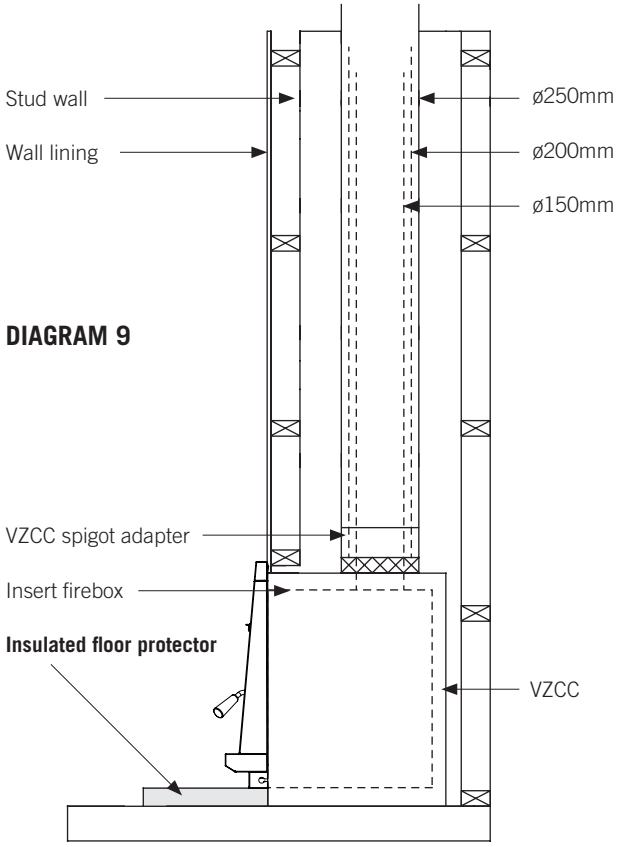


DIAGRAM 9

ALL FLOORING TYPES
(Insulated floor protector conceals mount runners)

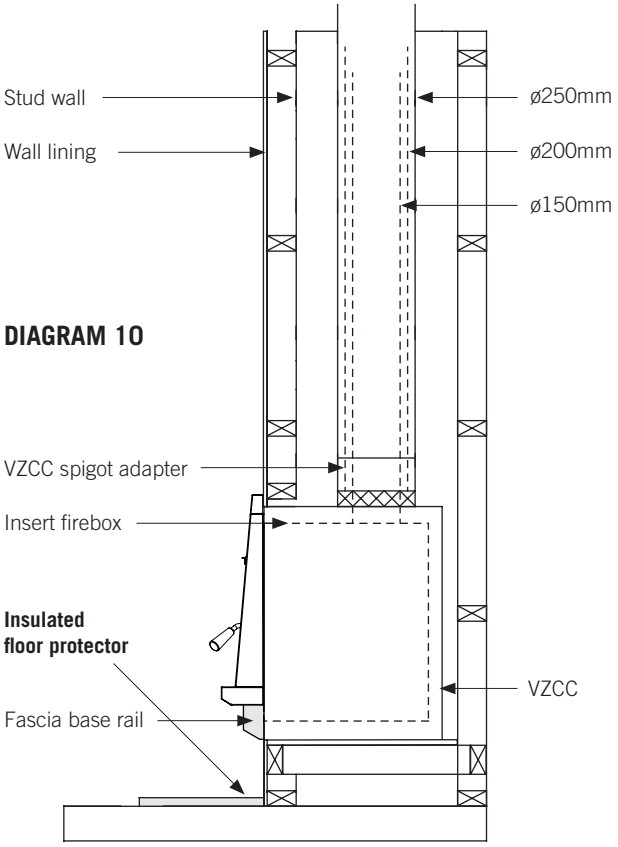


DIAGRAM 10

ALL FLOORING TYPES (ELEVATED INSTALL)
(Fascia base rail conceals mount runners)

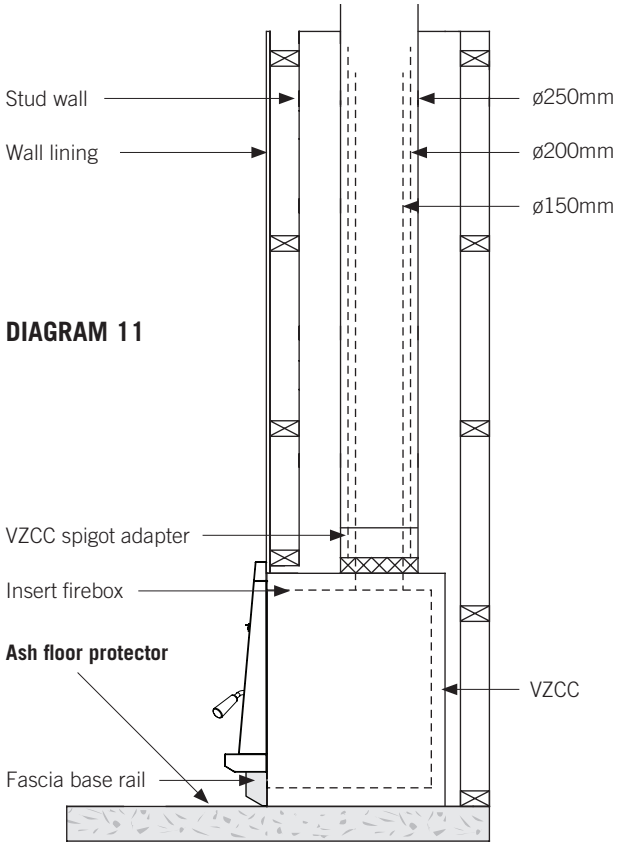


DIAGRAM 11

NON COMBUSTIBLE FLOOR ONLY
(Fascia base rail conceals mount runners)

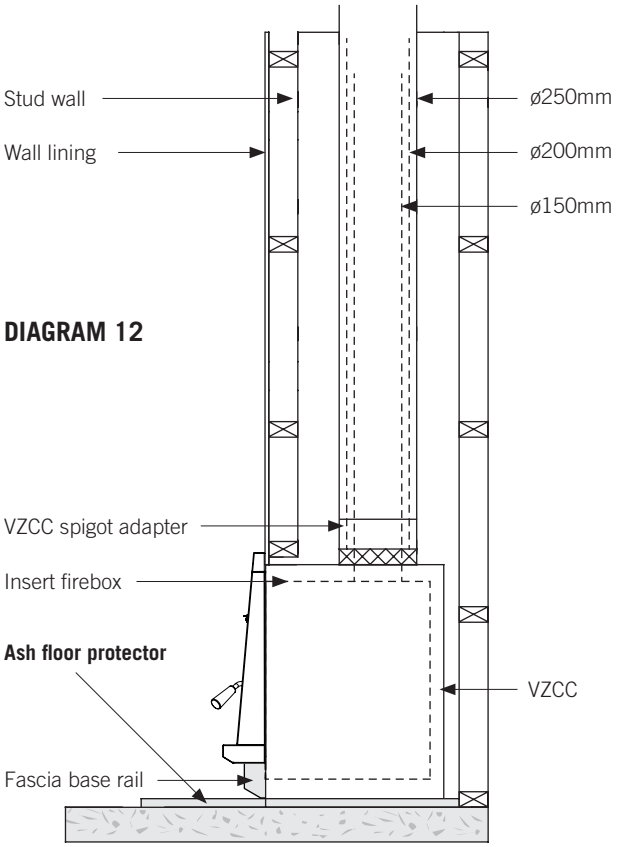


DIAGRAM 12

NON COMBUSTIBLE FLOOR ONLY
(Fascia base rail conceals mount runners)

Stage 6 - Fascia fitment

Take care not to lift the fascia by the louvres as they can bend.

1. If you haven't already fitted the door, do so now ensuring the spacer washer is placed on top of the hinge pin as indicated in Diagram 13 (Inset A).
2. At this time ensure the fan unit is positioned with the grommets over the location bolts at each end of the fan tray. Check the thermostat plug is attached with wiring and lead kept away from the firebox. Any excess lead must be shortened or positioned to the outside of heat shields or cabinet. Ensure the fan rotates freely.
3. Rotate the door handle fully anti-clockwise prior to fitting the fascia.
4. To fit the fascia, ensure the four speed clips are positioned over the large diameter mounting holes in the return folds of the cabinet (fascia mount points). When attaching the fascia ensure to lift and press the fascia Top Rail over the Top Panel of the cabinet. To allow the fascia to fully swing into place, slightly press down the tensioned heat shield above the fan so the fascia can fully contact the cabinet. Attach the 4x fascia mounting screws (8g x 19mm) while positioning the fascia evenly around the door.
5. The fascia should be evenly spaced around the door frame and sit evenly against the wall lining when the firebox cabinet has been correctly positioned. (The door can still be removed from the fire with the fascia in place when it is correctly fitted).
6. Open the door and remove the two nuts and air slide guide washers to enable placement of the air slide. The air slide feeds 'lever end' first behind the fascia and through the lever slot. Fit the guide washers and nuts and ensure the slide moves freely with the lever resting gently on the fascia slot.
7. The air control knob can now be fitted.

Mantel clearance

A timber or combustible mantel must not project more than 150mm from the finished wall lining and there must be a minimum distance of 450mm above the top of the Ultra Insert fascia to the underside of the mantel. If the clearance is less than the minimum specified, a heat shield will be required to be fitted under the mantelshelf in accordance with AS/NZS 2918:2001.

Mantle uprights/columns must be a minimum clearance of 180mm from the side of the fascia and project no more than 100mm from the wall lining.

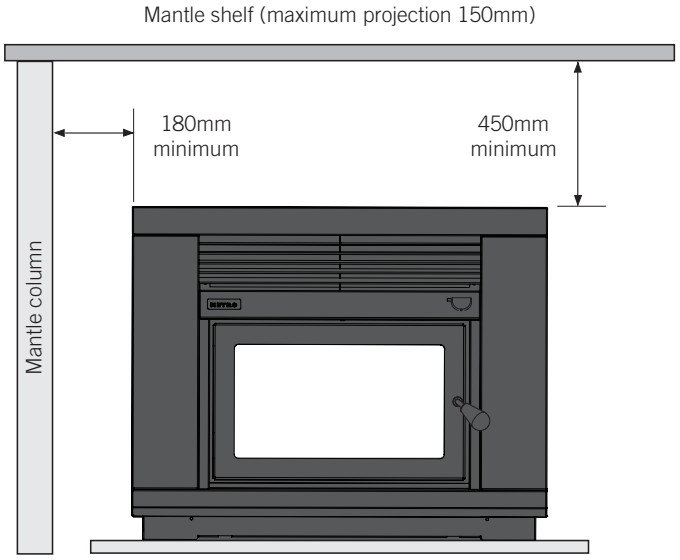
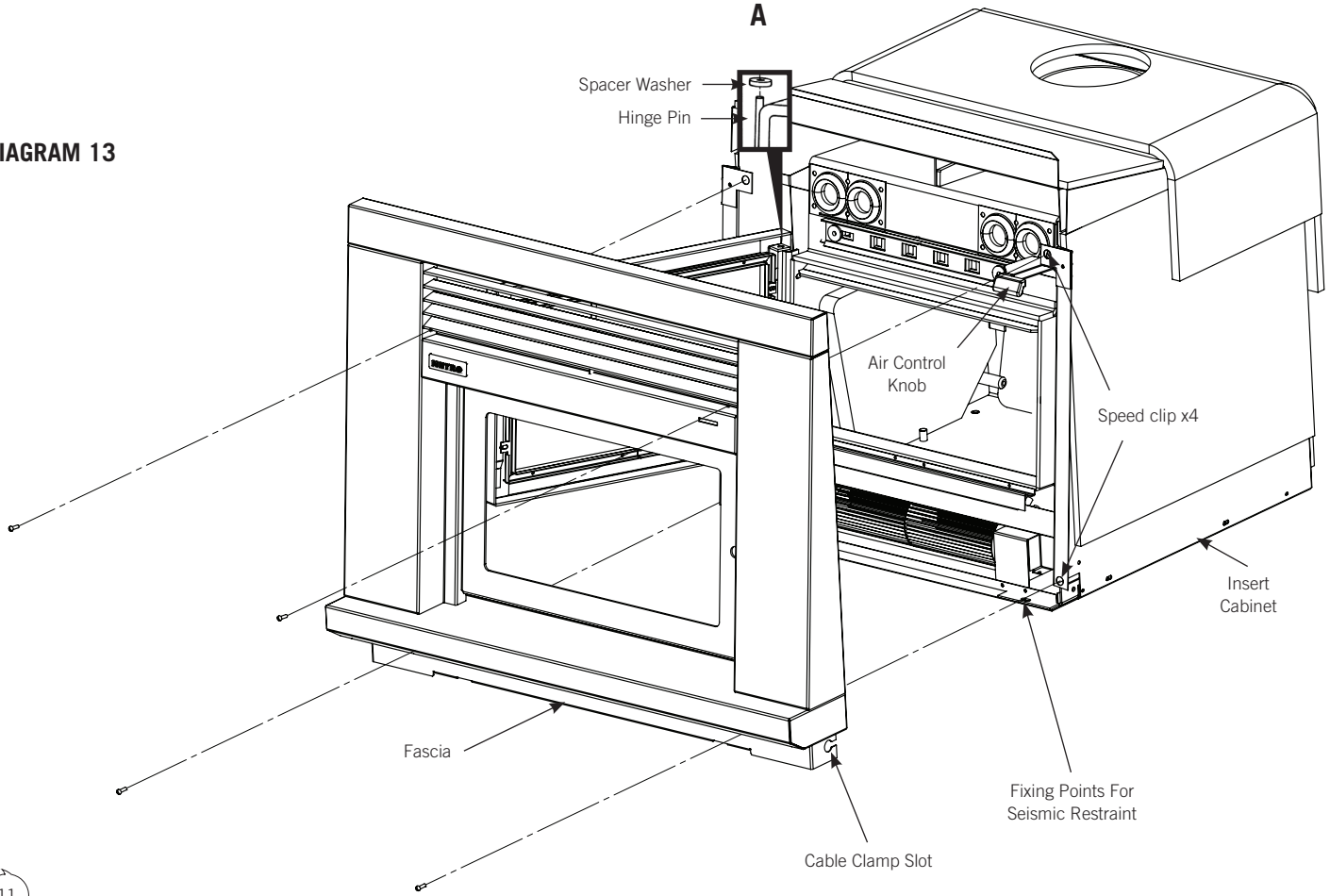



DIAGRAM 13