

Masonry chimney on-site assessment

Assessment template for suitability to install an insert burning appliance in an existing masonry chimney in Canterbury

Project Details	
Address:	15 ^A Clyde Rd
Date of assessment:	3-3-22
Assessment undertaken by Greg Smith	
Company Name:	Heating On Time
Assessors Name:	Greg Smith
Contact details: (Address and Phone number)	
0274 777260	
Detail qualifications and experience	
NZHHA PBOB 01061	

Assessment Details	
Cleaning	The fireplace and interior of the chimney has been cleaned prior to the assessment inspection ☒ Y ☐ N Note: The chimney should be cleaned to ensure any cracking is exposed
Approximate age of the chimney	60
Chimney height & location	☐ One storey ☒ Two storey ☐ Located on the interior of the building ☒ Located on an exterior wall Damaged interior chimneys pose a high fire risk due to proximity to timber framing and lack of air movement for cooling. Where there is any doubt over the chimneys state linings should be removed to determine condition. Provide details of linings removed
No of fireplaces forming the structure	☒ One ☐ Two ☐ More (List)
Chimney material	☒ Clay brick ☐ Concrete brick ☐ Pumice concrete stack ☐ Concrete block ☐ Other (Describe) ☐ Reinforced ☐ Unreinforced

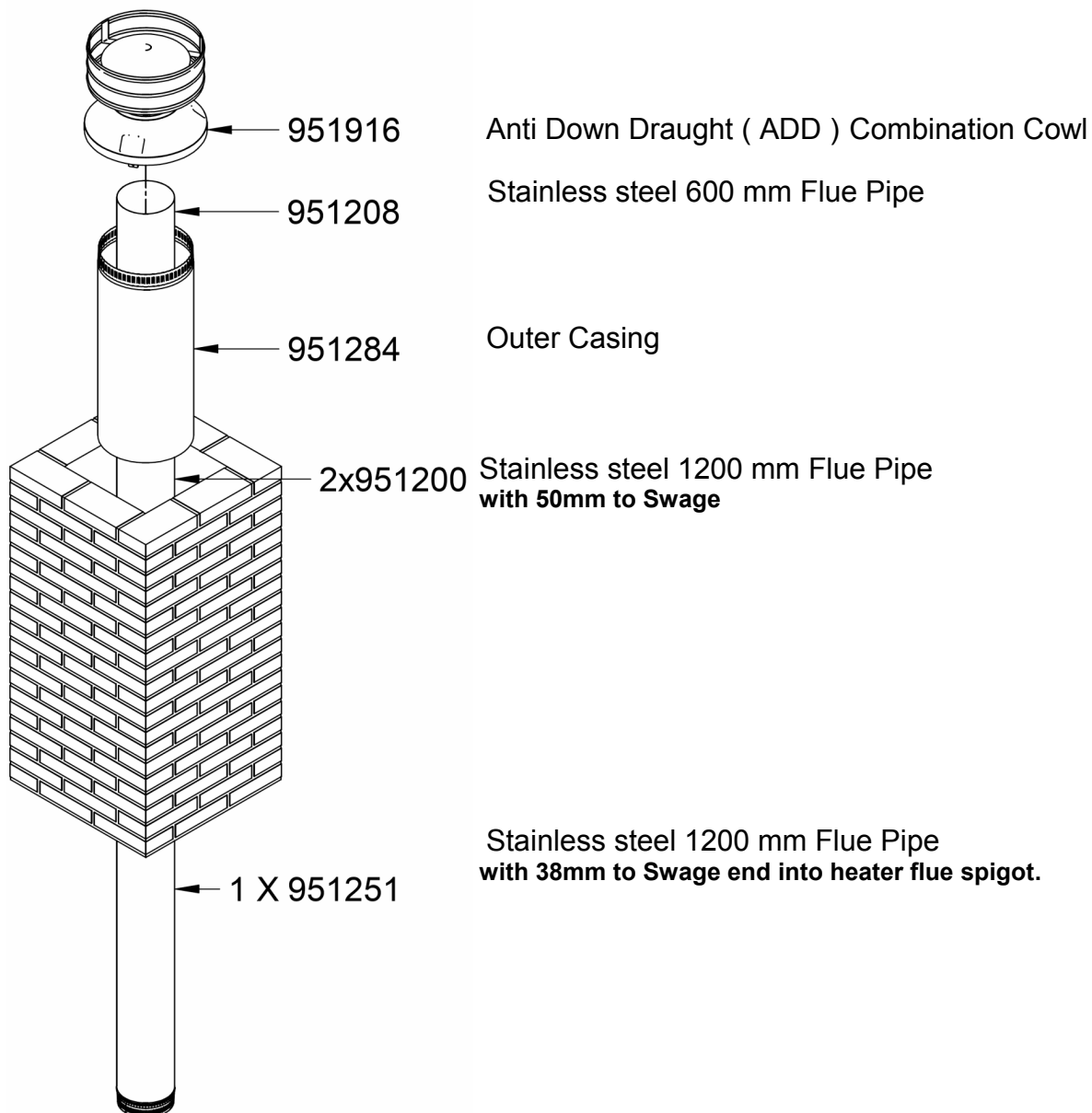
Mortar & bonding Condition of mortar Bonding of masonry	☐ Lime mortar ☒ Cement mortar Describe the condition of the existing mortar: <i>Good</i> Describe the soundness of existing masonry bonding: <i>Good</i>
Description of damage	Describe any damage to the existing chimney structure including the zone of the damage (upper, mid, lower, full height), foundation damage and settlement, width and length of cracks, cracks along mortar lines, cracks through masonry units: <i>No Damage Noted At Time of Inspection</i>
Repairs required to remediate damage or recommendation to demolish	Clearly describe any repairs or partial or complete demolition that is required: <i>NA</i> Note: Where repairs are proposed please provide photos of the damage and with the consent application include construction detailing clearly describing the work. Where necessary provide construction drawings for complex or substantial repairs. Complex and substantial repairs are usually specific design and require the involvement of a Structural Engineer.
Openings & gaps	Details of any openings that require sealing such as wetback penetrations or gaps between fireplace surrounds and the chimney structure <i>NA</i>

150 mm Chimney Wood Fire flue kit—Inbuilt with Combination Cowl

Complies with AS/NZS 2918:2001

Installation Instructions

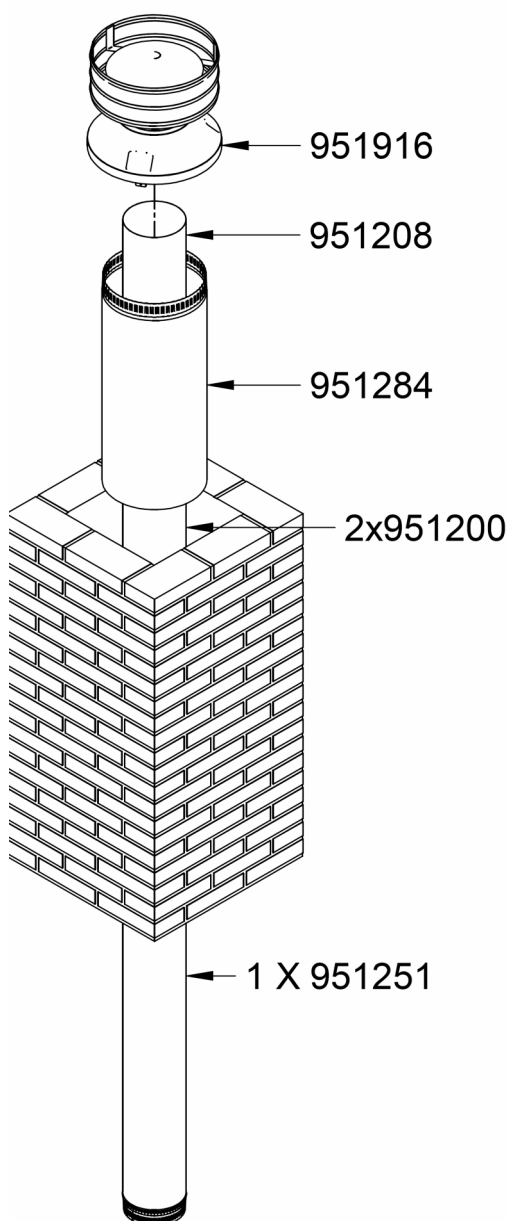
GDFLU001M
4m 150 WOOD FIRE
CHIMNEY FLUE KIT
951460



150mm Chimney Wood Fire Flue Kit Installation Instructions

This flue kit has been manufactured in accordance with AS/NZS 2918:2001. To ensure safety this flue kit must be installed as outlined in these instructions. The appliance to which it is connected must be installed in accordance with its manufacturer specifications.

GDFLU001M
4m 150 WOOD FIRE
CHIMNEY FLUE KIT
951460



1. Ensure the chimney is clean and free of soot. Check the chimney for structural soundness.
2. Install heater into fireplace according to manufacturer specifications.
3. By looking down chimney, check that heater flue outlet is in line with the chimney. If not a flue offset or bends will be required.
4. Assemble flue pipes together ensuring seams are off-set for neat fit. Joints must be compressed fully and secured with 3 rivets or self-tapping screws. **Make sure the flue pipe with 38mm to swage is used at the bottom to be inserted into firebox spigot.**
5. Lower assembled flue pipe with crimped end facing down, into heater flue spigot. Flue must be sealed into the firebox with Maniseal or similar. On some installations it may be desirable to assemble flue pipe lengths as they are lowered into the chimney. Flue pipe must be sealed into firebox with exhaust cement.
6. Secure Chimney flashing plate (not supplied) and/or Outer Heat Shield to chimney with suitable fasteners and weather seal to the chimney top with mortar and/or silicone.
7. Check the flue pipe extends above top of Outer Heat Shield 10.0mm. Add sufficient stainless steel flue pipe or trim Outer Heat Shield to attain this measurement.
8. Push Casing cover (with spigot inside flue pipe) down onto the Outer Heat Shield. The 3 locating brackets with holes must be on the outside of the Outer Heat Shield and are secured using 3 rivets or self tapping screws.
9. Fit cowl making sure of a tight fit, but do not secure, as removal for flue cleaning will be necessary.



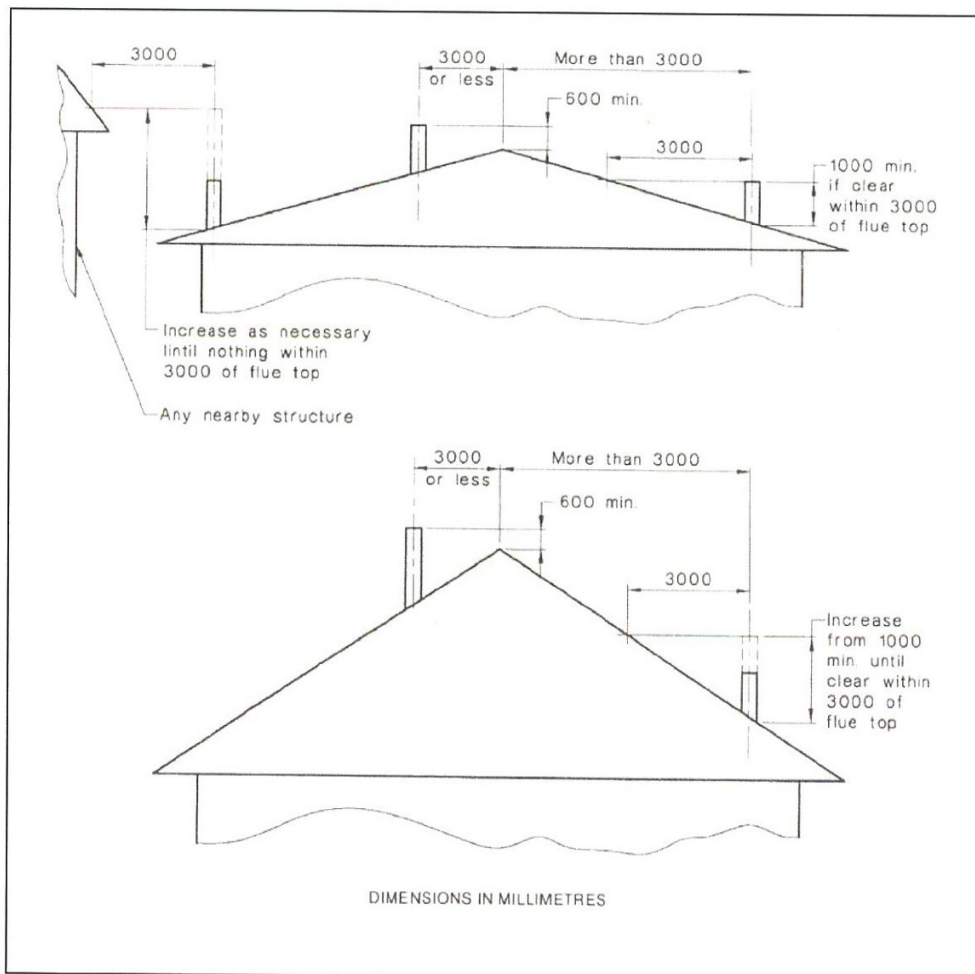
Stainless Steel Flue Pipe

Conditions of use

- The wood fire must be operated in accordance with the manufactures instructions, local clean air guidelines and regulations.
- The flue must be installed in accordance with GDA installation instructions, using flue components supplied by GDA. It is the responsibility of the installer to ensure no water leaks into the flue system
- The flue should not be used on a wood fire burning chemically treated, salt laden or unseasoned wood. Only use newspaper when lighting, never burn printed brochures or junk mail.
- The Flue must be swept by mechanical means only. We recommend mixed head or polypropylene brushes be used, Under No circumstances should chemical flue cleaners, soot destroyers or steel chimney brushes be used.
- The stainless flue pipe is warranted against mechanical defects for 5 years, providing the above conditions are met.
- Installation and performance are not covered under the warranty

Failure to observe these conditions may negate warranties

Diagram C AS/NZS 2918:2001 pg 37



Please give the Installation Instructions to the Owners !!!

Date of Installation : _____

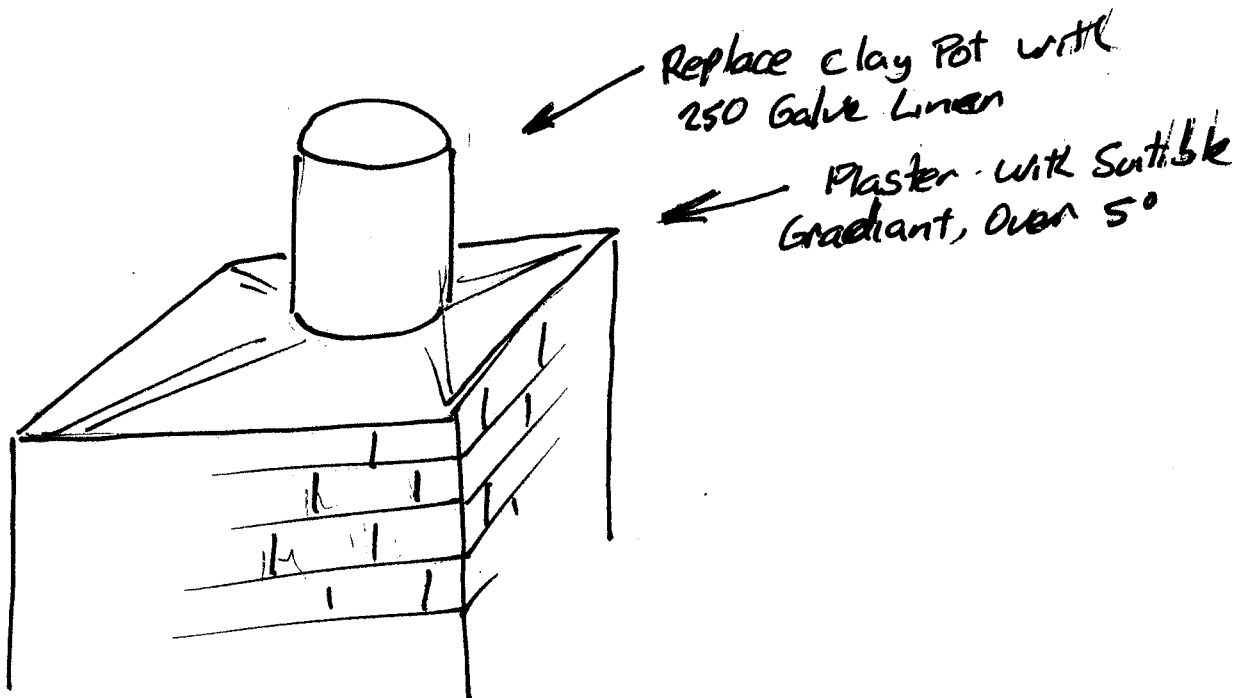
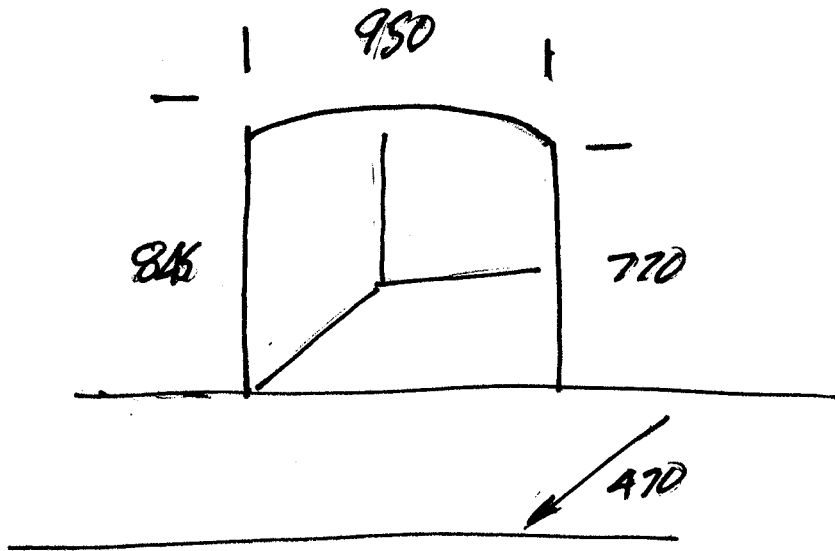
Wood Fire Make : _____

Wood Fire Model : _____

Serial No.: _____

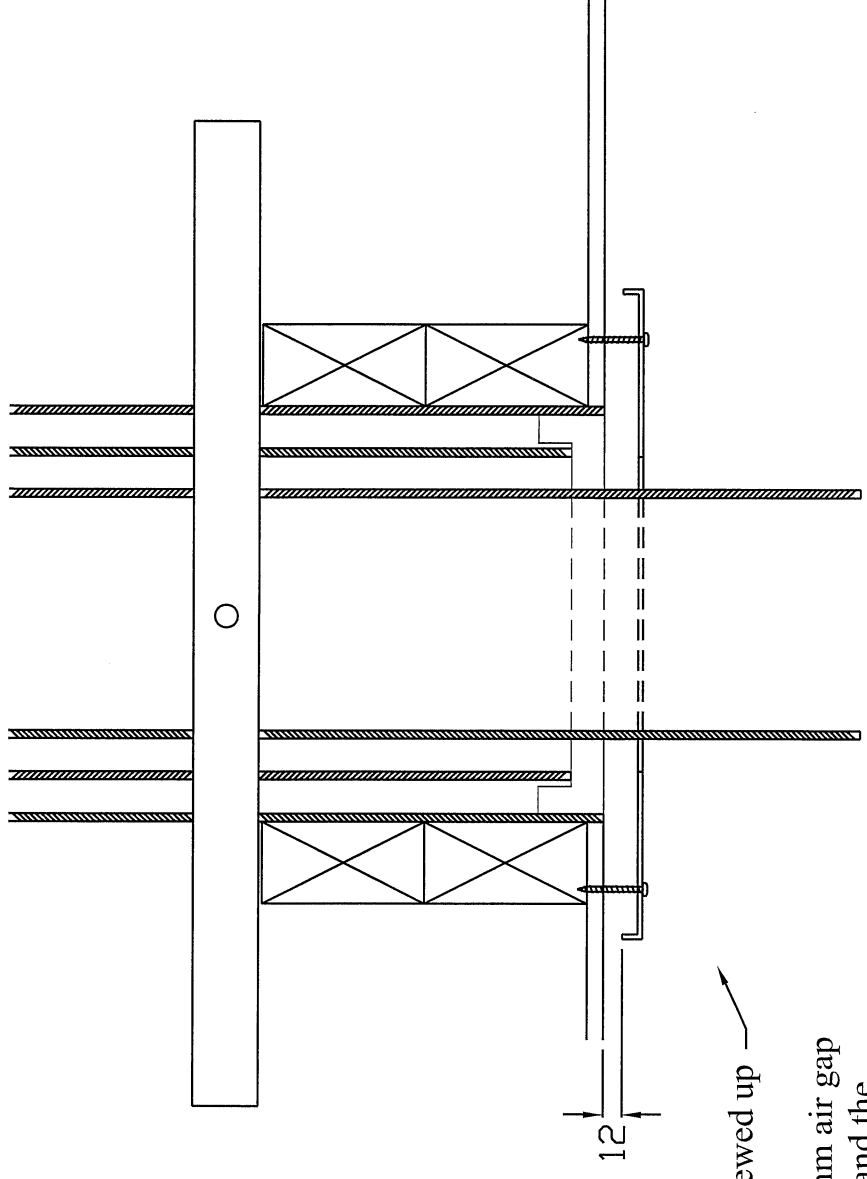
Installed By : _____

Owners: _____



NOTE 3:

POSITIONING LINERS AND CEILING PLATE



Ceiling plate not screwed up
hard against ceiling.
There must be a 12mm air gap
between the ceiling and the
ceiling plate.



RANGITATA (Insert & Built-In) Ultra-low Emission Burner Installation & Operation Manual

**THIS MANUAL CONTAINS IMPORTANT INFORMATION.
PLEASE KEEP IT IN A SAFE PLACE FOR FUTURE REFERENCE.**

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16th Jun 2020

Part No. 599461 V1.4

- Glen Dimplex New Zealand Ltd reserves the right to change specifications, the content of this manual, or the design of its product without prior notice.

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1.0 Introduction

Congratulations! You are the owner of a state-of-the-art **Ultra Low Emission Burner “Masport Rangitata”** designed and developed by Glen Dimplex New Zealand. Thank you for purchasing a Masport appliance.

The **Rangitata ULEB** is designed to provide you with all the warmth and comfort of a fireplace, at the same time having **ULTRA LOW** emissions to reduce the impact on the environment dramatically. The Rangitata ULEB can be installed in any region or clean air zone in New Zealand, including Environment Canterbury and Nelson. As it bears the Masport brand, it promises to provide you with the economy, safety, and efficiency.

The Rangitata ULEB is tested to comply with AS/NZS 2918:2001, Appendix E for installation in a sound masonry fireplace equipped with a sound masonry base & chimney or a masonry enclosure. Also. The Rangitata ULEB is tested to comply with AS/NZS 2918:2001, Appendix B, for installation in a timber-framed enclosure using a 'Zero Clearance' box kit.

To make the most of your appliance, it is important to install, operate, and maintain the burner correctly. Please take the time and read this installation and operations manual **carefully** before installing or operating your Rangitata ULEB.

1.1 Items supplied with the fire

- Rangitata ULEB
- Box of optional ash lips
 - o 1 x Deep Lip for Fascia with Ash Lip
 - o 1 x Short Lip for Fascia without Ash Lip
- Accessory Pack – which contains
 - 1 x Installation and operations manual
 - 1 x Door Handle
 - 1 x Air slide knob
 - 2 x Centralizing brackets
 - 2 x M6 x20 Hex Screws
 - 14 x 8Gx3/4” Self Tapping Screws

1.2 Handling and Transport

The Rangitata fire has a total weight of 140 kg.

Single person handling could cause injury; hence Glen Dimplex recommends suitable handling equipment and two persons while handling, both outside and inside the house. Removing bricks and loose items inside the firebox will help to reduce weight and will ease the handling of the burner during installation.

All precautions have been taken during the design of packaging to avoid transport damage until the burner reaches the customer's house. In case any damage is found while opening the fire, please report it to your dealer immediately before installing the burner.

1.3 Warnings

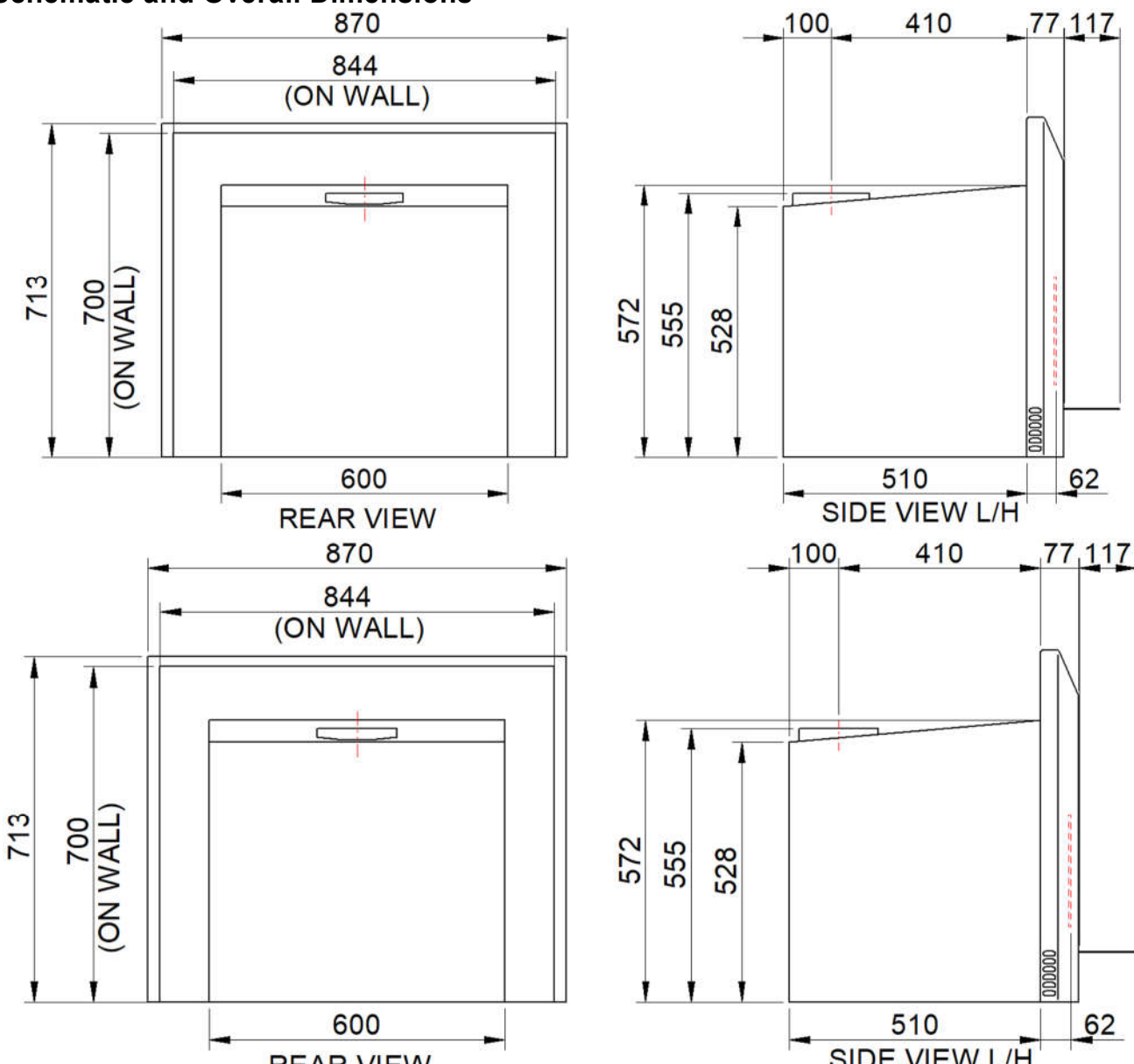
- The installation of the Rangitata ULEB requires a building consent before installation commences. Check with your local Building Authority whether there are any additional requirements before starting installation.
- The Rangitata ULEB burner and flue system shall be installed in accordance with AS/NZS 2918:2001 and appropriate requirements of the relevant local building codes.
- Glen Dimplex highly recommends NZHHA trained SFAIT (Solid Fuel Appliance Installation technician) installer for installation of Rangitata burner. Your dealer or heating specialist will be able to help with recommendations as well as advice on permits/consents required for the installation in your area.
- Please read carefully all the dimensions and recommendations provided on the technical specification section of this manual. The dimensions given comply with the required safety standard AS/NZS 2918:2001.
- Safety and emissions performance of Rangitata ULEB can be affected by altering the appliance; hence no modifications are allowed without written permission from the manufacturer.
- Please ensure that only components approved by Glen Dimplex New Zealand are used for the installation, as substitutes may adversely affect performance and might nullify compliance with the requirements of AS/NZS 2918 safety standard.
- The Rangitata ULEB is recommended to be installed with a Masport flue system or a flue kit that has been tested and comply with AS/NZS 2918:2001 Appendix F.
- Modifying the dimensional specification of components may result in hazardous conditions. Where such action is considered, the manufacturer should be consulted in the first instance.
- The Rangitata ULEB must be serviced at least once every 2 years from service agent trained and authorized by Glen Dimplex New Zealand.

1.4 Caution

- This appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Do not leave children unattended near the alighted fire and keep them well away from the burner when in use. Supervise young children to ensure that they do not play with the appliance.
- Do not use flammable liquids or aerosols to start or rekindle the fire. Also, do not use such flammable materials near this appliance when it is operating.
- Always keep clothing, firewood, furnishing, and other combustible materials at a safe distance from the fire.
- Do not touch any part of the fire other than the door and the damper handle when in use as all other components can be extremely hot.
- Cracked/broken door glass, makes the installation unsafe. Do not operate the fire with cracked glass.
- Do not attempt to clean or maintain the fire when in use or with hot embers in the firebox. Ensure that embers and all other parts of the burner have cooled down completely before starting ash removal or other maintenance.
- Do not use the fire if there is a malfunction, a suspicion of breakage, or unusual noises. Contact your nearest Masport dealer or customer service team at Glen Dimplex NZ.
- This appliance should always be operated & maintained as per instructions in this manual

Failure to follow above warnings, cautionary measures and instruction given in this installation and operation manual will void the Masport warranty of this product.

2.0 Rangitata ULEB (Masonry Insert) - Technical Specifications

Rangitata fire has been tested and complies to following standards & tests: Environment Canterbury’s Real-life test - Canterbury test method CM1 NZ National Environmental Test Standards - AS/NZS 4012:2014 & AS/NZS 4013:2014. NZ National Environmental Safety Test Standard - AS/NZS 2918:2001, Appendix E				
Insert Fascia Dimensions	870 mm Wide x 77 mm Deep x 713 mm High			
Firebox Dimensions	600 mm Wide x 510 mm Deep x 572 mm High			
Net Weight of Burner	140.0 kg			
Test Method	Emissions mg/MJ	Emissions g/kg	Efficiency %	Authorization Nos
Real-Life Test Canterbury Method V1.6	38 mg/MJ	-	-	CRC 203666
National Environment Standard AS/NZS 4012/13:2014	-	0.41 g/kg	68%	CRC 203667
Heating Capacity	Small to Medium Homes			
Schematic and Overall Dimensions				
				
Fig. 1 - Rangitata Insert Overall Dimensions				

3.0 Insert Installation of The Rangitata ULEB

Glen Dimplex highly recommends NZHHA trained SFAIT (Solid Fuel Appliance Installation technician) installer for installation of Rangitata ULEB and carrying out the following initial set up.

The Rangitata ULEB has been tested and complies with AS/NZS 2918:2001, Appendix E for installation in a sound masonry fireplace equipped with a sound masonry base & chimney or a masonry enclosure. The following instructions cover the installation of the Rangitata ULEB Insert burner into a sound masonry fireplace, which has an integral masonry chimney.

The Rangitata ULEB comes with fascia with optional deeper ash lip, which helps to reduce the floor protector depth.

3.1 Unpacking

Remove the shipping wooden crate and packing around the burner. Remove the loose pieces from the firebox. Remove and discard the screws holding the wood fire to the shipping pallet. Using appropriate lifting equipment, move the burner close to its installation position. Use correct lifting equipment to avoid injury while handling a Masport Rangitata ULEB burner.

3.2 Masonry Chimney Preparation

Minimum Dimensions of Chimney Cavity

Chimney cavity must have the following minimum dimensions.

Width : 660mm

Height : 590mm

Depth : 525mm

Distance from the face of fireplace surround to the center of flue spigot: 410mm

For a safe installation the Rangitata ULEB, following matters must be attended to :

- Measure the chimney cavity and remove the bricks as necessary to fit the firebox.
- Clear away any rubble and clean the chimney cavity thoroughly and check for structural soundness.
- The chimney must not connect to a second fireplace.
- The base of the chimney cavity on which the Rangitata ULEB will be installed must be level. If it is not, it should be leveled using mortar.
- The joint between the chimney face and the fireplace surround must be checked and sealed to prevent leakage if necessary

3.3 Distances to Heat Sensitive Materials

Side Walls:

Minimum distance to heat-sensitive (combustible) sidewalls should be **600mm from the centerline of the burner**.

Mantle Shelf Column:

The minimum distance of mantle shelf columns should be **460mm from the centerline of the burner**.

The maximum projection of the mantle shelf column should be **105mm out from the fireplace surround**.

Mantle Shelf:

The minimum height of the mantle shelf must be not less than **1210mm above the bottom of the fascia or 497mm above the top of the fascia**.

Mantel shelf should not protrude more than **80mm from the face of the fireplace surround**.

No wall or other fixed objects should be closer to the front of the Rangitata burner than two meters. Consider heat resistant walls with heat-sensitive surface treatments (e.g., wallpaper or heat-sensitive paints) as heat-sensitive walls.

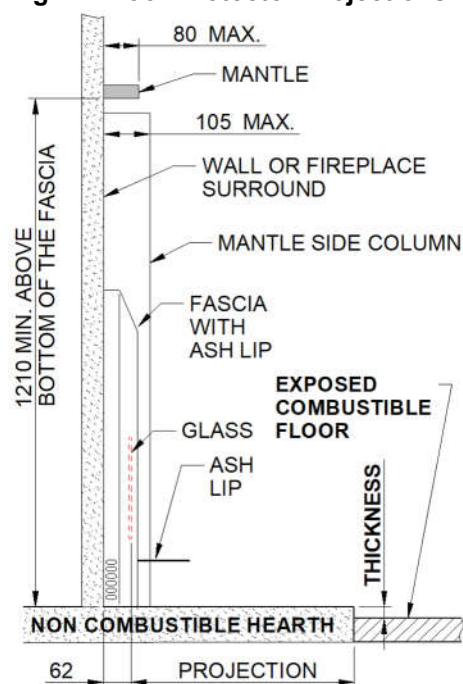
Any proposed deviation from the specified clearances should be discussed with a registered "NZHHA" approved installer or GDNZ's technical team.

3.4 Floor Protector Requirements

Installation of the Rangitata ULEB into masonry chimney needs an insulating base and the insulating floor protector (hearth). The floor protector must be at least 900mm wide. The floor protector must extend all the way inside the masonry chimney to ensure that the bottom of the fire does not rest below the top surface of the floor protector. An existing masonry chimney may already have a suitable non-combustible base/hearth. Make sure that the hearth level is matched with the floor protector height.

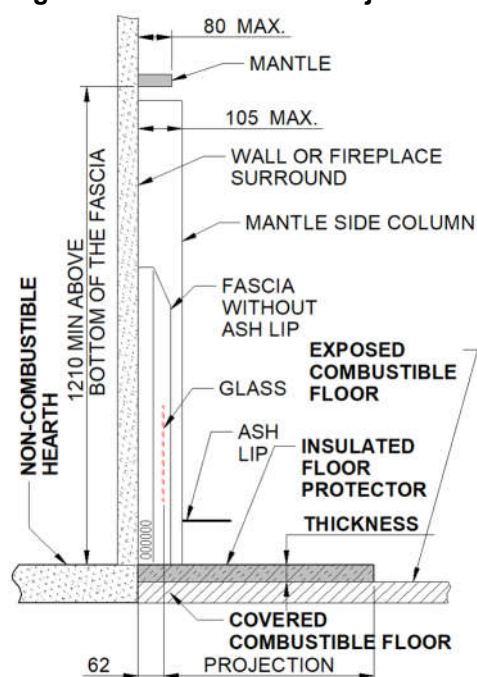
The insulated floor protector can be constructed with the material like Eterpan LD, Promatect or similar with a heat transition coefficient of $5 \text{ W/m}^2 \text{ K}$ and layer of tiles or slate. The thickness of the floor protector for the Rangitata ULEB depends upon the fascia option chosen and the floor type. Fig 2, 2A, 3 & 3A gives the required floor protector thickness and projection from the door glass depending upon the **type of floor** and the **fascia with or without the ash lip**.

Fig. 2 - Floor Protector Projections for Fascia with Ash Lip on a Non-Combustible Floor



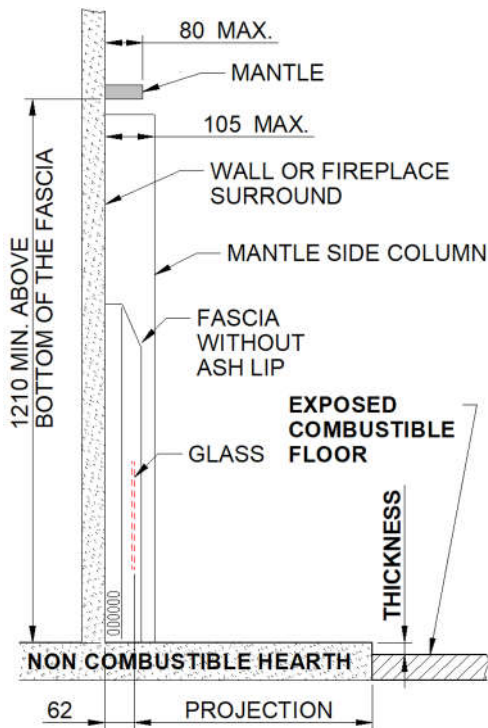
Hearth / Floor Protector Thickness in mm		
Thickness above Non-Combustible Floor	Projection from Glass	Distance from Fire Place Surround
0	398	460
10	371	433
14	359	421
20	344	406
30	311	373
33 & above	300	362

Fig. 2A - Floor Protector Projections for Fascia with Ash Lip on a Combustible Floor



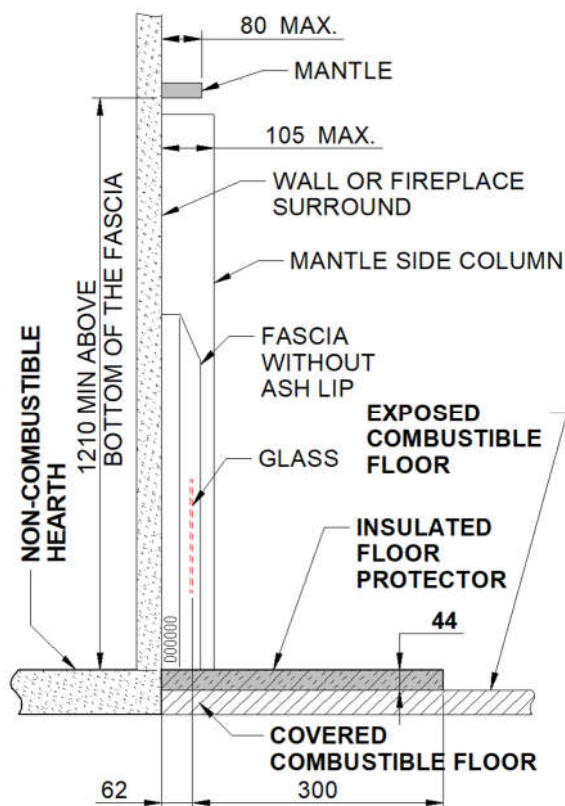
Insulated Floor Protector thickness in mm		
Thickness above Combustible Floor	Projection from Glass	Distance from Fire Place Surround
14 (minimum)	359	421
20	344	406
30	311	373
33 & above	300	362

Fig. 3 - Floor Protector Projections for Fascia without Ash Lip on a Non-combustible Floor



Hearth / Floor Protector Thickness in mm		
Thickness above Non-Combustible Floor	Projection from Glass	Distance from Fire Place Surround
0	392	454
10	368	430
20	347	409
30	326	388
40	305	367
44 & above	300	362

Fig. 3A - Floor Protector for Fascia without Ash Lip on a Combustible Floor



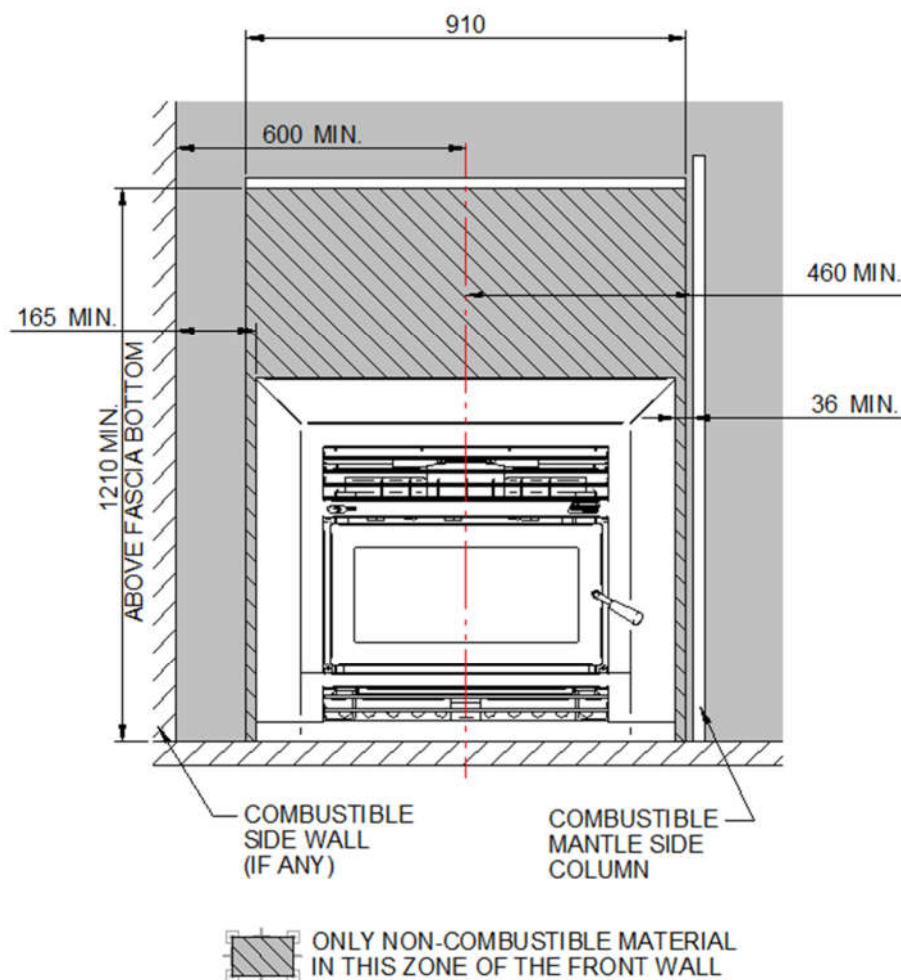


Fig. 4 Non-combustible Only Front Wall Zone

Please note that the dimensions given are minimum, and we recommend using a slightly larger distance to the combustible or the size of the floor protector.

3.5 Reducing Clearances

The clearances to combustible specified in section 3.3 of this manual, can be safely reduced by following guidelines specified in AS/NZS 2918:2001 table 3.1 & 3.2.

- Heatshield should be made of non-combustible material like metal
- Installed between the fascia and the mantel shelf or mantle shelf column
- With an air gap behind it and vented top and bottom
- The shield for the mantle shelf should extend a minimum of 100mm beyond the width of the fascia and protrude 10~15mm off the depth of the mantle shelf.

Clearance factors for heat shield which is within 45 degrees of the vertical

Heat Shield Construction	Minimum Air Gap Dimension	Clearance Factor
Single-layer of continuous material	12mm	0.4
Single-layer of continuous material	25mm	0.3
Two spaced layers of continuous material	12mm+12mm	0.2

Clearance factors for heat shield which is more than 45 degrees off the vertical

Heat Shield Construction	Minimum Air Gap Dimension	Clearance Factor
Single-layer of continuous material	12mm	0.8
Single-layer of continuous material	25mm	0.6

3.6 Flue Requirements

Standard 4.2M long, 150mm diameter Masport masonry insert flue systems or flue system that has been tested and comply with the standard AS/NZS 2918:2001 Appendix F must be used for Rangitata ULEB burner.

If a flue exits out of the roof within 3 meters from the ridge, the outer shield shall be not less than 600mm above the ridge. If the flue exits further than 3 meters out from the roof ridge, then it must project at least 1000mm above roof penetration. This dimension may need increasing to ensure that the top of the flue is at least 3 meters away from the roof or other obstruction when measured horizontally.

The flue pipe shall extend not less than 4.2m above the top of the burner. Due to factors such as roof pitch, predominant winds, nearby obstructions (i.e., trees, buildings) and fire placement, flue lengths and flue terminations/cowls may vary. (Refer to Figure 3.3.1) Additional components may be required to complete the installation and meet all AS/NZS 2918:2001 guidelines for flue termination.

Guidelines given in AS/NZS2918:2001 should be followed for any deviation to these standard configurations. **Detailed instructions for roof penetrations etc. supplied along with the flue kit** must be followed closely, including the minimum flue exit height from the top of the floor protector and the minimum exit height above the roofline or roof ridge as detailed in the instructions.

The flue to the flue spigot and all other flue pipe joints should be sealed using firebox cement and Stainless-Steel Rivets. Sealing all the joints is essential for achieving the desired performance of the Rangitata burner.

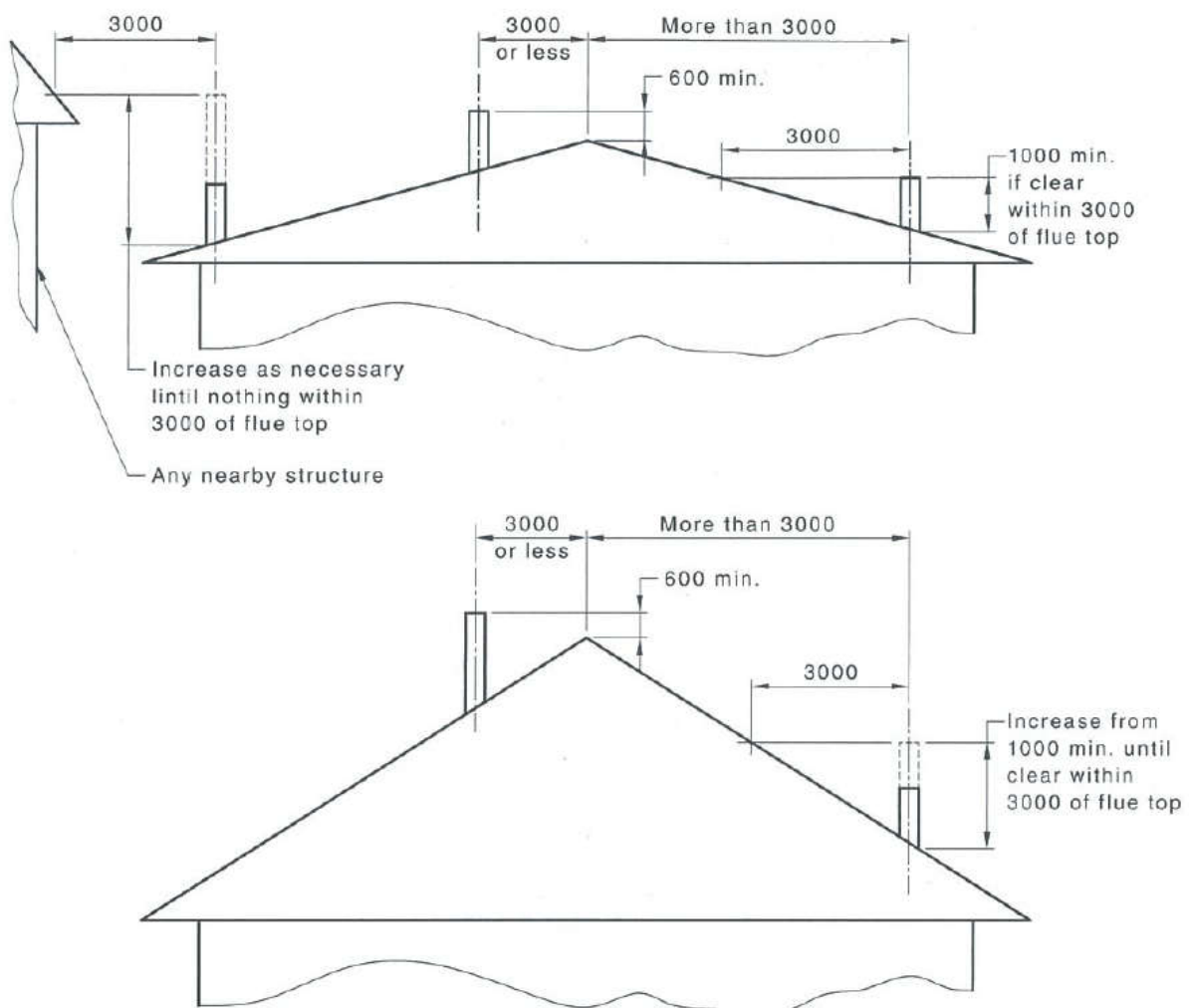


Fig. 5

3.7 Installing the Firebox and Flue

- Remove the door from the fire by opening it and lifting it until the top pivot comes free and then lower the door until the bottom pivot comes free.
- Check the distance back from the face of the surround to the center of the chimney to determine whether the flue will require an offset fitting. If needed, fix it to the lower end of the assembled flue sections in the chimney.
- Lift the flue assembly while the firebox case is pushed back into the recess. Verify that the case will be fully supported in a level position when installed.
- The Rangitata firebox comes with an insulating blanket fitted out the outer cabinet. It hangs on either side of the firebox from left to right and a bit at the rear. Do not remove the blanket in any circumstances.
- Slide the case into the cavity and adjust its position so that flanges of the two side brackets are in line with the face of the fireplace surround. Refer Fig. 7
- To access the spigot for fitting and fixing the flue, slide-out the top front section of the case.
- Lower the flue into position. Seal the flue pipe at the firebox spigot using fire cement or fiberglass rope.
- Secure the flue to the spigot. Use stainless steel screws.
- Re-fit the sliding panel with the insulating blanket on top of the firebox outer cabinet.
- In New Zealand, safety standards require that the woodfire be secured to prevent shifting in the event of an earthquake. **To provide seismic restraint**, screw the case to the base of the fireplace recess with at least two 6mm masonry anchors (Dynabolts) or equivalent. (Fasteners not supplied with the Rangitata firebox). Refer Fig. 7 for bolt location
- Ensure that the ceiling baffle, secondary air tubes, and the eight side bricks and the two rear bricks are in their correct position.

3.8 Installing the Fascia

- Unpack the Rangitata fascia.
- The Rangitata ULEB fire crate includes a box of the deep and short lip to create fascia with or without ash lip.
- Unpack the required lip and attach it to the main fascia using 2x M4 Nuts and 2x self-tapping holes. First, hook threaded studs on the lip into the holes on the fascia front. Use M4 nuts provided to engage loosely. Then screw the lip to the flange on the fascia side panel. Tighten the M4 nuts. Refer Fig. 6 for particular locations. Take care not to scratch any fascia panels.
- Move fascia to the front of the burner and gently slide the assembly inwards weaving air slide into the slot on the fascia.
- Secure fascia to the firebox with four screws to the cabinet. The screws are positioned on either side of the door opening. Refer Fig. 6 for the location of screw and speed/clip nuts on the firebox side flanges.
- Push and attach the plastic knob on to the air slide handle.
- Fit the door. Hook the bottom pivot over the lower end of the hinge pin and lift the door until the top pivot drops over the top end of the hinge pin.

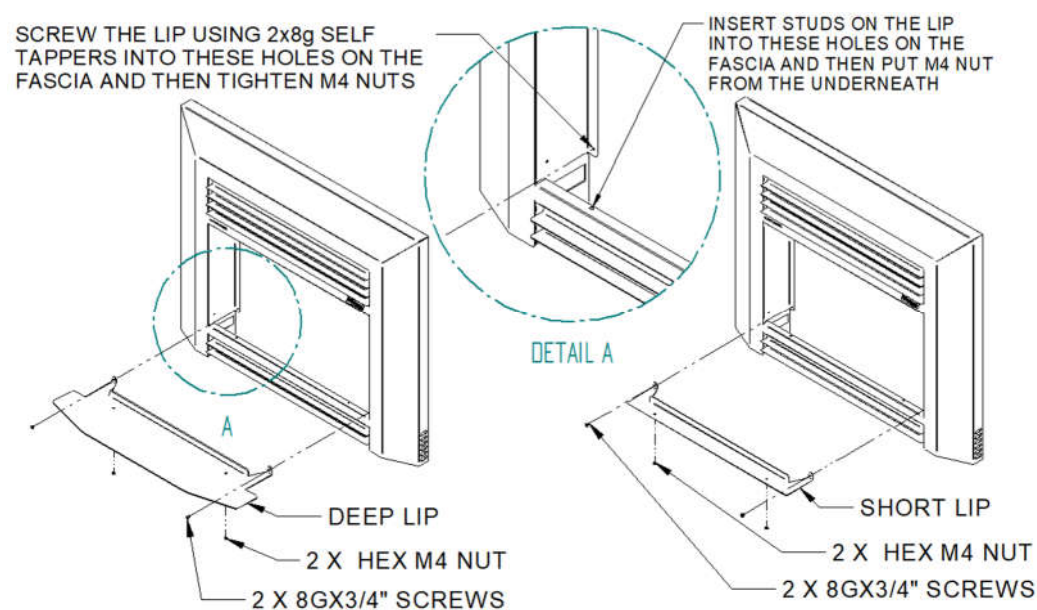


Fig. 6 – Fascia Ash Lip Options and Fitting Instructions

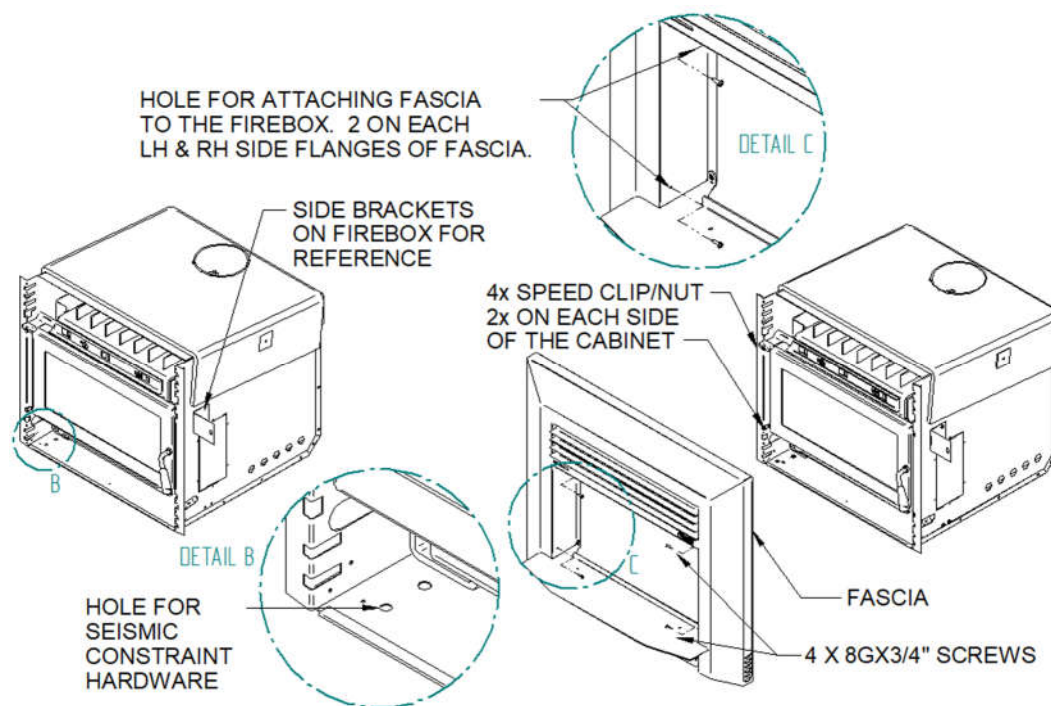


Fig. 7 - Seismic Holes, Side Brackets & Fascia Mounting holes

3.9 Installing Bricks and Baffle

- Install Bricks in the following configurations. Refer Fig. 8
- First, install two full bricks 245x220x25 on the rear wall of the firebox by locking under the central brick retainer.
- Then install three full bricks 230x115x25 on each left and the right side wall of the firebox. Push these bricks towards the rear of the firebox.
- In the end, install one cut brick 230x90x25 each on the left and right side wall towards the front of the firebox.
- The front and rear baffles of Rangitata ULEB are already in place. Make sure that the rear flange of the rear baffle is tucked behind the side supports and hard against the rear wall of the firebox. And also, the front baffle is pushed back hard against the front of the rear baffle.
- Check that both the baffles are locked and hard up against the rear wall of the firebox.
- The front and the rear air tubes are already in place.

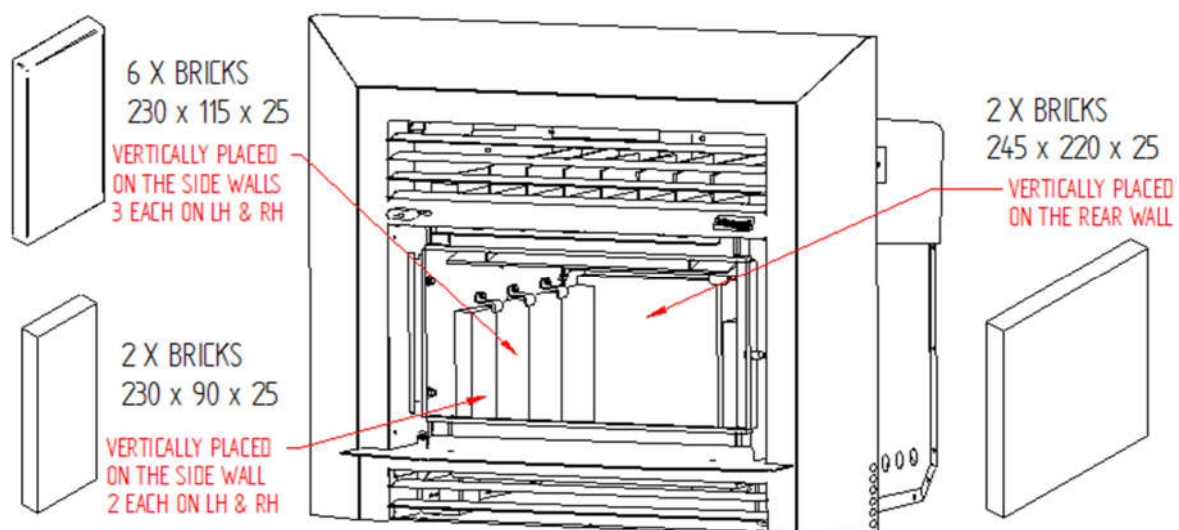


Fig. 8 - Rangitata Brick Configuration

- Refer Fig. 9 to check the configuration of all internal firebox components.

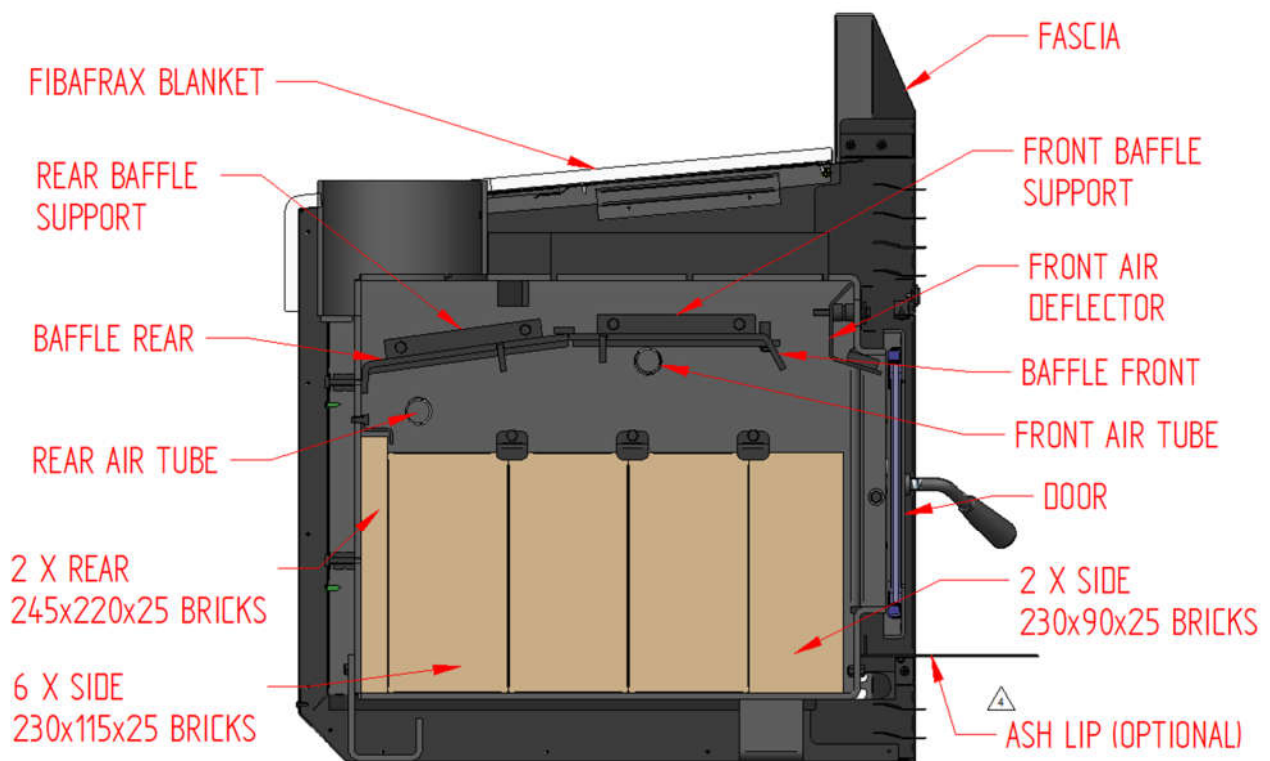


Fig. 9 - Rangitata Firebox Internal Component Configuration

- Check the installation.
- Hand over the owner's manual to the owner of the fire.

4.0 Rangitata ULEB (Zero Clearance) - Technical Specifications

Rangitata fire has been tested and complies to following standards & tests:
Environment Canterbury's Real-life test - Canterbury test method CM1
NZ National Environmental Test Standards - AS/NZS 4012:2014 & AS/NZS 4013:2014.
NZ National Environmental Safety Test Standard - AS/NZS 2918:2001, Appendix B

Built-In Fascia Dimensions	870 mm Wide x 77 mm Deep x 782 mm High			
Firebox with ZC Dimensions	770 mm Wide x 607 mm Deep x 680 mm High			
Net Weight of Burner	140.0 kg			
Test Method	Emissions mg/MJ	Emissions g/kg	Efficiency %	Authorization Nos
Real-Life Test Canterbury Method V1.6	38 mg/MJ	-	-	CRC 203666
National Environment Standard AS/NZS 4012/13:2015	-	0.41 g/kg	68%	CRC 203667
Heating Capacity	Small to Medium Homes			

Schematic and Overall Dimensions

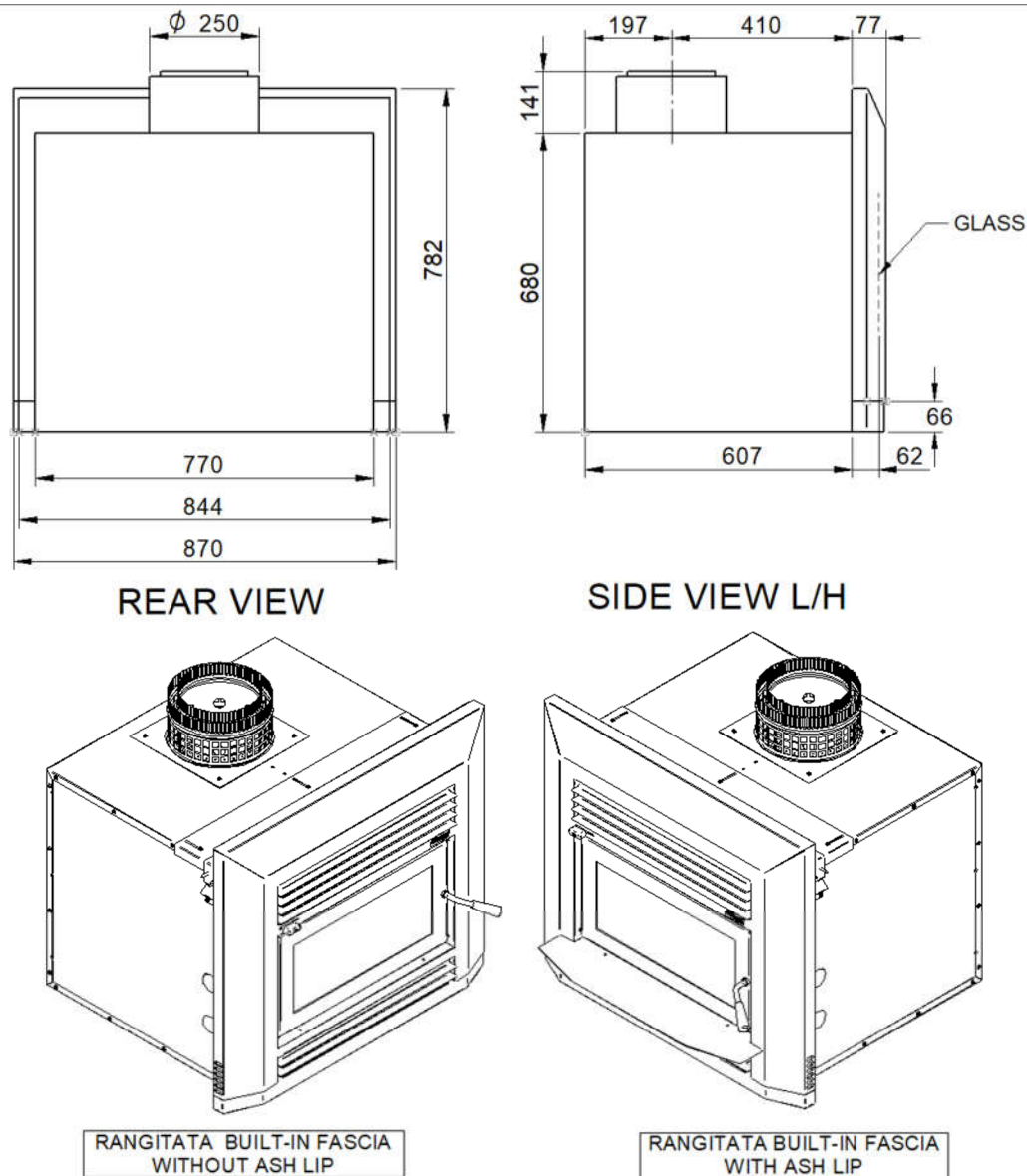


Fig. 10 - Rangitata Built-In ZC Overall Dimensions

5.0 Built-In Installation of The Rangitata ULEB

The Rangitata ULEB is tested to comply with AS/NZS 2918:2001, Appendix B in a timber-framed cavity/enclosure using a 'Zero Clearance' (ZC) Box Kit. The schematic below shows various stages of following instructions cover the installation of the Rangitata ULEB ZC into a timber-framed cavity or enclosure.

The schematic below shows the major steps of the Rangitata ULEB into a timber-framed cavity using a Zero Clearance Box.

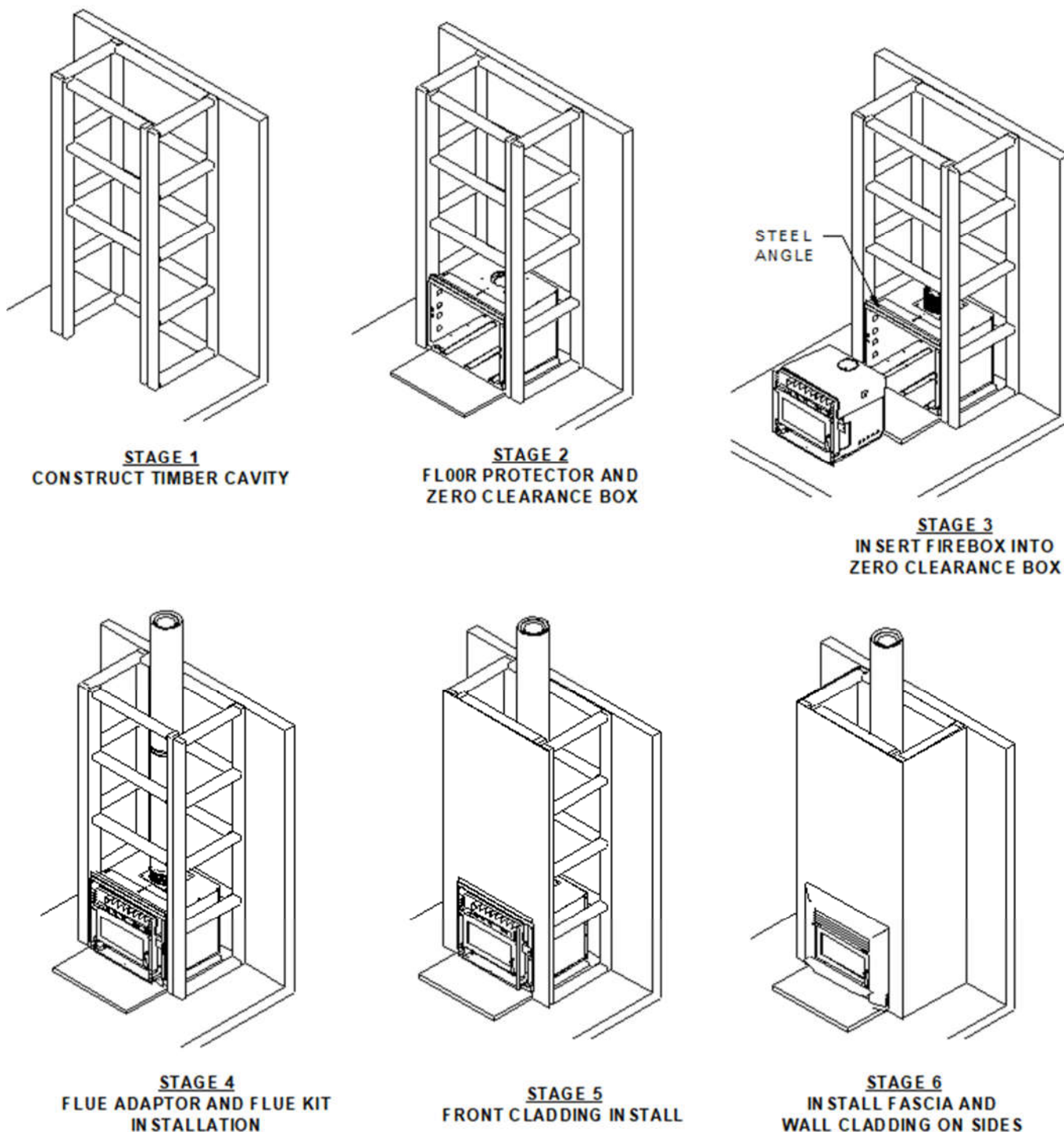


Fig. 11 - Major Stage of Rangitata ULEB installation

5.1 Things to Consider Before Constructing a Built-In Cavity / Enclosure

It is advisable to consider the following things before starting the construction of the built-in cavity.

Ash Lip Options

The Rangitata ULEB comes with optional ash lip, which helps to reduce the floor protector thickness and depth. Depending upon the type of floor, workout the floor protector type, size, and thickness.

Front wall cladding

Thickness and type of cladding will determine the size and construction of the timber frame.

Elevation of fire above ground

The height above the ground determines the floor protector size and thickness. For installations with elevation 300mm above ground will need only ash floor protector with 362mm depth.

Cavity venting

The built-in cavity for the ZC installation must be vented. It should have unrestricted air inlets both, at the bottom of the cavity and air outlet at the top of the cavity with a minimum open area of 13600 mm².

Air inlet at the bottom can be on the side or rear of the built-in cavity. Air can enter the built-in cavity from the same room, adjacent room, or from the exterior. The air vents that are on the external walls should be weatherproof. For both internal and external vents, the opening must be covered with an appropriate mesh or similar to prevent vermin or debris from entering or blocking the airflow.

The built-in cavity can be vented at the top either using 300mm casing or vent situated close to the top of the cavity, into roof space, or combination of these multiple locations. Both inlet and outlet vent can be of any shape and size as long as they have an open area of 13600 mm² minimum.

Fig 12 shows the major four types of built-in cavities and venting options.

- Exterior cavity – with exterior bottom vent and top vent, either using 300mm casing or side of the cavity.
- Interior cavity – with interior bottom vent and top vented into roofing space
- Interior cavity – with internal bottom vent, top vented into the same room just below ceiling level and into roofing space with a 25mm gap around 250mm casing.
- Interior cavity – with interior bottom vent, top vented into the same room just below ceiling level and further top portion of the cavity vented using 300mm casing or a side vent at the top of the cavity.

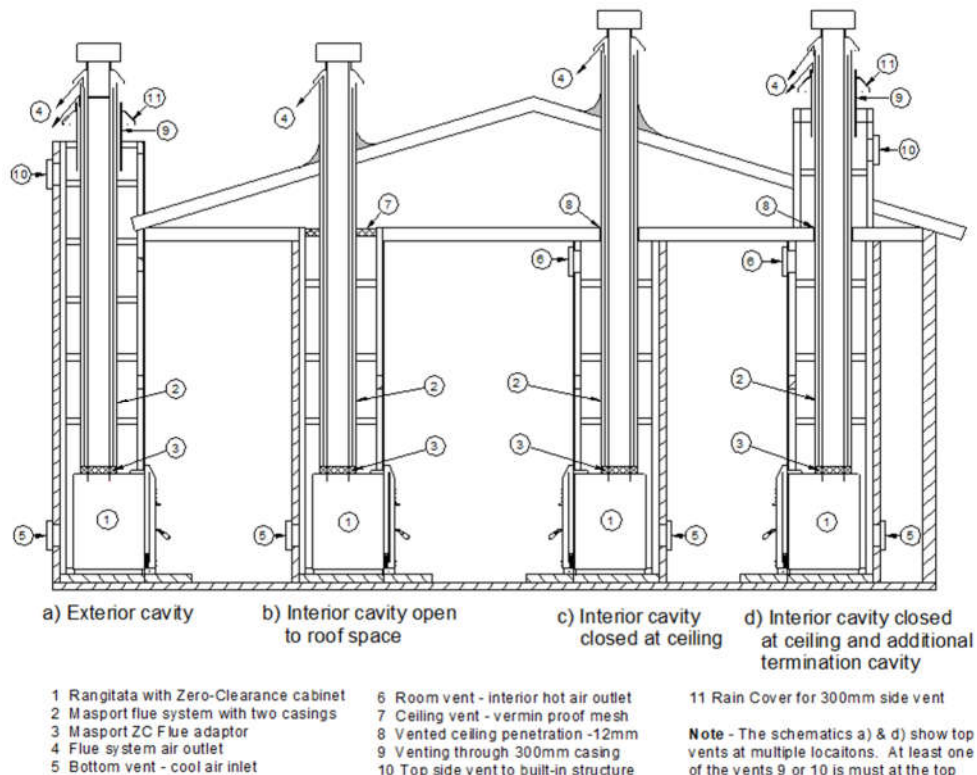
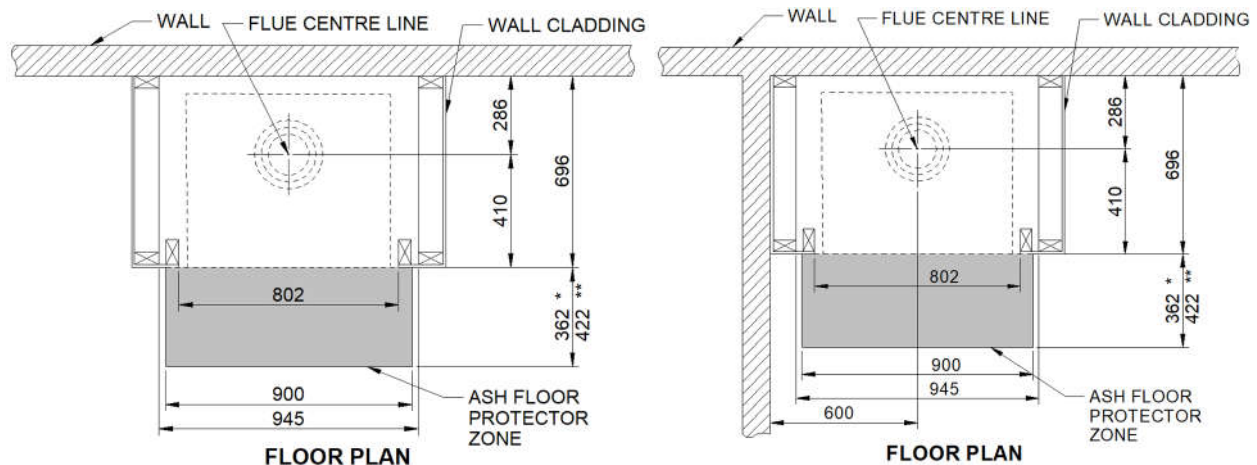


Fig. 12 - Schematic Diagram for Built-In Cavities and Vents

5.2 Stages of The Rangitata ULEB installation



Floor Protector Depth - * Fascia with Ash Lip and ** Fascia without Ash Lip

Fig. 13 – Dimensions of Timber Enclosure or Cavity

1. Inspect the house construction at the proposed installation position to verify that the flue casing (250mm diameter, plus 12mm clearance all around) can pass right up through the ceiling space without requiring the removal of the essential roof or ceiling support beams. The flue center line will be 286mm from the rear wall, and it must be at least 600mm distant from any sidewall. (See Fig. 13).
2. Drop a plumb line from the ceiling to the floor to verify the centerline and cut a hole at least 275mm square through the ceiling on this centerline. If preferred, there may be no ceiling inside the built-in enclosure.
3. Ensure that there are suitable noggins at either the ceiling or roof level (or both) to provide anchorage for the outer flue casing bracing angles.
4. Frame up the built-in cavity/enclosure using normal 90x45mm dressed timber, verifying that it will be on the flue centerline. (See Fig. 13). The overall depth should be $(696 - t)$ mm, where 't' is the cladding thickness. The distance between the front uprights must be 802mm (use the supplied metal support angle as a spacer).
5. Fix the metal support angle supplied with the ZC box between the two front uprights at the height of 688mm above the bottom of the ZC box. This non-combustible angle is for screwing the front cladding so that the combustible horizontal nog is well at the mantle height 1270 or above.
6. For an elevated' installation (See Fig. 23), fix two extra noggins (90x45x802) across the front opening of the enclosure, one at the bottom and the other at the desired 'elevation' height. These extra nogs will carry the front cladding below the heater. Fix two 90x45 bearers running from front to back behind the top extra noggins, positioned 240mm each side of the enclosure centerline to provide support for the ZC box rails. The bearer tops must be flush with the top of the top extra nog. Provide proper support at the rear ends of the bearers to carry the weight of the appliance. The ZC box can sit directly on the bearers without any insulation. The usual three noggins may be fixed at each side of the enclosure. At the front, the lowest wooden nog 'N' must have its lower face at least 1210mm above the top of the floor protector (or 1210mm above the bearers for an elevated installation). Further wooden nogs can be fitted above this one.
7. Fix the cladding to the front of the enclosure, including down each side of the opening. All front cladding (including cladding below the heater in elevated installations), which is less than 1270mm above the bottom of the ZC box (or the bearers in elevated installations), must be non-combustible material such as Calcium Silicate board, Eterpan or Supalux. For the front cladding, it is usually convenient to carry the same material right up to the ceiling level. Do not use paper-backed plasterboard or GIB board for front cladding.

8. Wall surfaces directly above the heater may reach 85 degrees C, so materials such as wallpaper and water-based paint may be adversely affected. For the durability of finishes and surfaces, you should contact the relevant manufacturers for their specifications. Glen Dimplex New Zealand Ltd accepts no responsibility for the deterioration of surface finishes.
9. Construct a floor protector depending upon the type of the floor and the ash lip option chosen. Refer Fig. 21, 22 & 23
10. Installation on non-combustible floors like concrete floor, refer to Fig. 13 & 21 for the required floor protector zone. The zone shown in Fig.13 should remain non-combustible. It can be just concrete or tiles over the non-combustible floor. The zone area needs to be minimum 900mm wide and *361mm or **422mm in the front depending upon fascia with or without ash lip.
11. Installation on heat-sensitive combustible floors, refer to Fig. 13 & 22 for the required insulated floor protector. The insulating floor needs to be minimum 34mm thick. The insulating floor protector must be at least 900mm wide and must be extended *362mm for fascia with ash lip or **422mm for fascia without ash lip, from the face of the front cladding. It is desirable to level the base of the ZC box with the top of the insulating floor protector so that the bottom of the ZC box does not rest below the top surface of the floor protector. See Notes on page 24 for the recommended construction of an insulating floor protector.
12. Elevated installations 300mm above the floor, refer to Fig. 23 for the required ash floor protector. The ash floor protector must be at least 900mm wide and must extend *362mm from the face of the front cladding, for both with and without ash lip fascias. See Notes on page 24 for the recommended construction of an ash floor protector. The part inside the timber cavity will not be visible and therefore does not need complete coverage. It is necessary to fix the finishing layer only under the support rails in this area. For such elevated installations, floor protector can be installed after the heater is in position as it does not need to extend into the enclosure. However, its rear edge must butt up against the face of the heat-proof front cladding below the heater, and the joint at that point must be sealed to prevent the possibility of ember penetration. The visible edges of the floor protector are best finished with wood trim or tiles after the burner has been installed.
13. Penetrate the roofing material on the flue centerline. Working from the bottom, assemble sections of the flue and the inner and outer flue casings and pass them up through the hole in the roof. The flue sections must be fixed together at each joint with at least two rustproof fasteners, and the crimped ends of the flue casings go to the top. When the flue system is finally in position, the top of the inner casing and the top of the outer casings must be at the same height.
14. 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 shield must extend at least 1000mm above the point of roof penetration. In some cases where there are trees or high buildings in the vicinity, it may be necessary to increase the height to avoid down-draughts. Check the local council rules for the bracing of the flue extended about the roofline. Generally, consider using braces for flue lengths more than 1200mm above the roof penetration point.
15. Unpack the Rangitata Zero Clearance pack & assemble the various components referring to Fig. 14 & 15. Assemble the base, sides, back, top shield assembly, and top panel of the **zero clearance box**. Do not fit the flanged flue-spigot adaptor ring at this stage.
16. Note that the special adapter spigot ring with holes to ventilate the space between the flue and the inner casing as well as the space between the inner casing and the outer casing has to be attached with four screws and locking nuts to the top of the ZC box. Both flue casings (inner & outer) will engage with this special adapter spigot ring. The fitting of the flue-spigot adaptor ring to the top of the ZC box should be done after the ZC box is pushed into the enclosure.
17. Slide the adjustable top panel of the ZC box into its correct position, depending upon the thickness of the front cladding. The gap between the adjustable panel and the front of the flanges of the side panels should be wide enough to accommodate the front cladding of the enclosure. Secure it by tightening the three screws.

18. Position the ZC Box into the timber frame. Slide the ZC box into place, considering the thickness of the front cladding. Check the ZC box is central by ensuring the clearance between each side of the box and side vertical nogs. The front flanges of the ZC box must be flush with the front face of the front cladding. Use four screws 8gx $\frac{1}{2}$ ".
19. In New Zealand, AS/NZS 2918:2001 standards require that the woodfire be secured to prevent shifting in the event of an earthquake. To provide seismic restraint, fix the zero clearance box to the floor (bearers in an elevated installation) with two 6mm masonry anchors (Dynabolts) or two 12 gauge screws. Use the two holes in the bottom front of the zero clearance box spaced 670mm apart. Refer Fig. 18
20. On the firebox cabinet, remove the two retaining screws and slide out the top section of the firebox cabinet.
21. Attach the two centralizing angles to the side panels of the firebox cabinet, flanges facing forward and outwards. Use three screws provided for each bracket. They may have already been fitted in the factory.
22. Slide the firebox cabinet into the ZC box. Firebox comes with the insulating blanket fitted to the cabinet. Do not remove the blanket in any circumstances. Centralize the firebox cabinet and secure the restraint brackets to the ZC box flanges.
23. Complete the seismic restraint of the fire by screwing the base plate of the fire to the bottom of the ZC box with two M6x16 screws. Use the two holes in the base spaced 525mm apart. Refer Fig. 19
24. Lower the assembled flue and seal and fix it to the flue spigot of the burner using a stainless steel screw. Lower the inner flue casing and engage it with the flue-spigot adaptor, repeat this step with the outer flue casing. See Fig. 16 & 17 for flue and casing lengths.
25. Fit the two flue casing bracing angles at either ceiling or roof level as appropriate. Fix a suitable flashing where the outer casing penetrates the roof.
26. If the built-in cavity is vented into the roofing space (Fig 12 b)), cover the open area surrounding the outer flue casing at the ceiling level with a wire netting which has mesh small enough to prevent the entry of the birds or vermin into the cavity.
27. At the top of the flue, fix the flashing cone, and fit the cowl as per flue kit instructions.
28. Re-fit the removable top section of the firebox cabinet and secure it with two screws. Ensure that the insulating blanket is in its proper place.
29. Fix the side cladding to the built-in enclosure. The side cladding of the enclosure may be GIB board or any other wall cladding material. You must leave the cladding off at least one side until the flue system has been installed.
30. Fit the additional bottom piece that comes with the ZC box using three 8G x $\frac{1}{2}$ " self-tapping screws. Refer Fig. 20
31. Fit the fascia. Refer section 3.8 on Page 11.
32. Install and ensure that the ceiling baffle, secondary air tubes, and the side bricks and the rear bricks are in the correct position. Refer section 3.9 on Page 12.
33. Finish the floor protector by installing an edge trim, if required.

RANGITATA ZERO CLEARANCE (ZC) BOX

Part ID	Qty	Descriptions	
521076	2	SCREW; M6X16 HEX ZP	
521637	8	SCREW; S/T 12GX25 TIMBERTITE	
521643	40	SCREW; S/T 8GX1/2" HEX POZI BLK	
523031	2	WASHER; FLAT M6 ZP	
993374	1	FLANGED - FLUE SPIGOT ADAPTOR	
993527	1	FRONT CLADDING - SUPPORT ANGLE	
999455	1	RANGITATA ZC FASCIA LOWER PANEL	
993590	1	RANGITATA ZC PANEL ASSY BOTTOM	
993591	1	RANGITATA ZC PANEL ASSY L/H	
993592	1	RANGITATA ZC PANEL ASSY R/H	
993593	1	RANGITATA Z/C TOP SHIELD ASSY	
993594	1	RANGITATA ZC PANEL ASSY REAR	
993595	1	RANGITATA ZC PANEL ASSY TOP	

Fig. 14 – Contents of the Rangitata Zero Clearance Box Pack

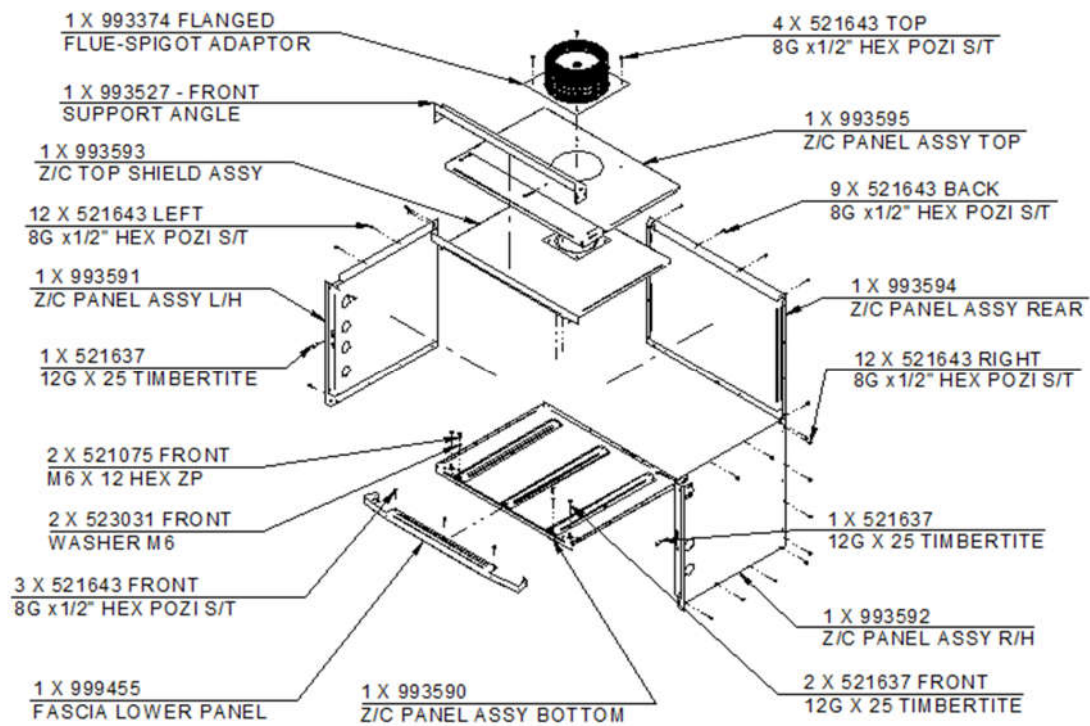
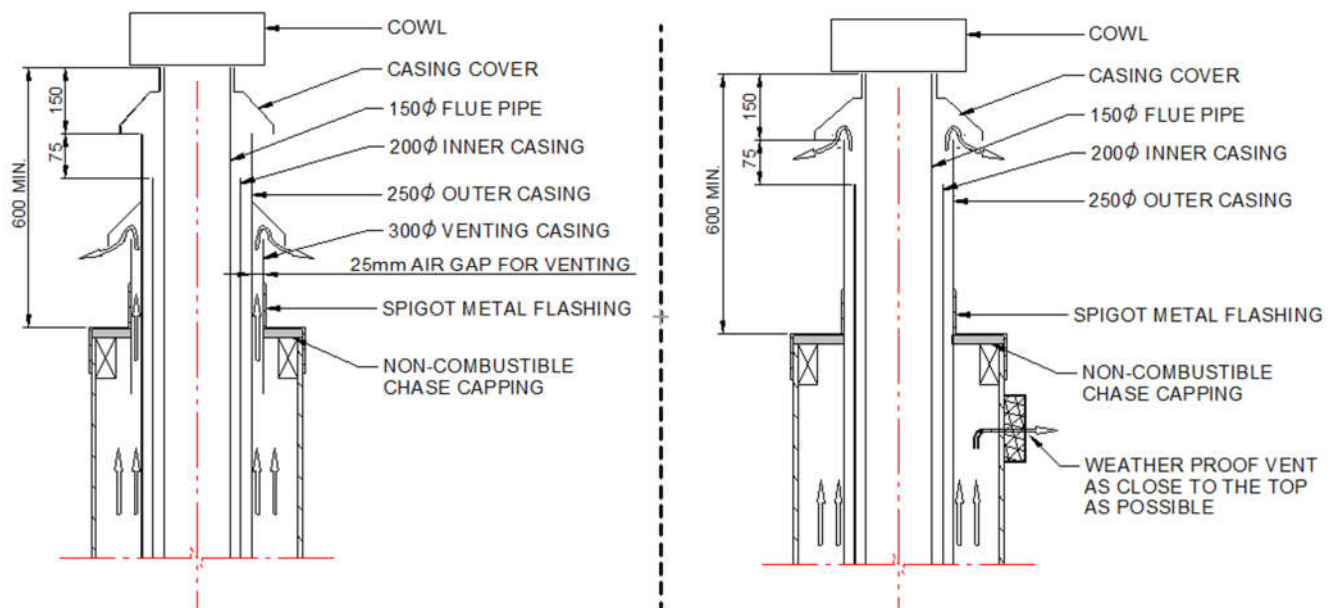


Fig. 15 – Exploded Diagram of Rangitata Zero Clearance Box



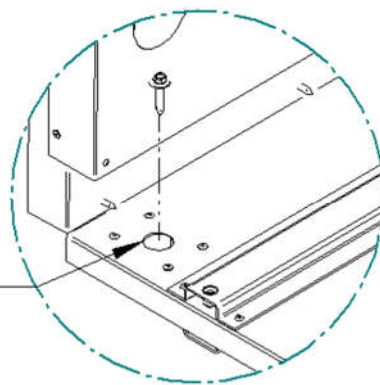
HEIGHTS OF FLUE PIPE, CASINGS OF STANDARD CASING COVER & TOP FLUE PIPE SPACER BRACKET BY GLEN DIMPLEX NZ

Note: Ensure Capping and Flashing joints are weather tight to prevent ingress of moisture.

Fig. 16 – False Chimney of Built-In Cavity Vented through 300 Dia Casing

Fig. 17 – False Chimney of Built-In Cavity Vented through Side Vent

LOCATION FOR
SEISMIC
CONSTRAINT
HARDWARE



DETAIL D

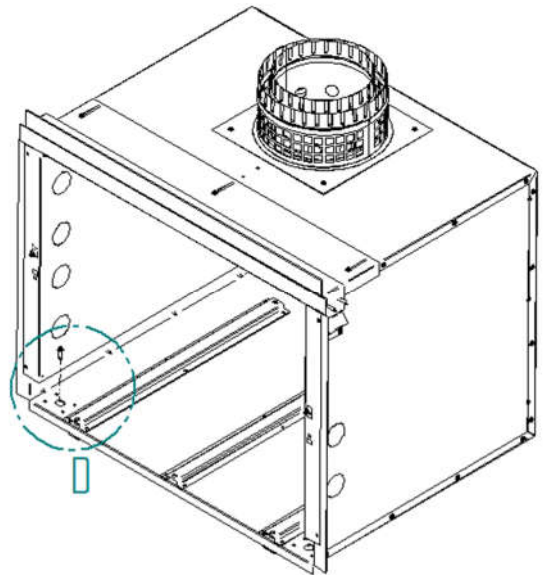
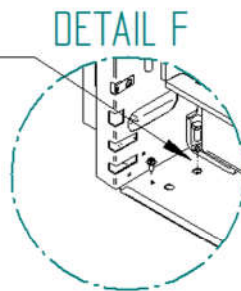


Fig. 18 – Seismic Constraint for ZC Box

SCREWS LOCATION
FOR JOINING FIREBOX
WITH ZC BOX



2x SCREWS
HEX M6X16

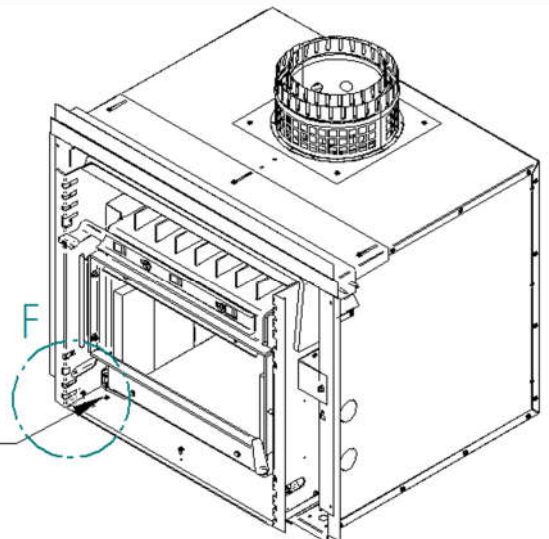
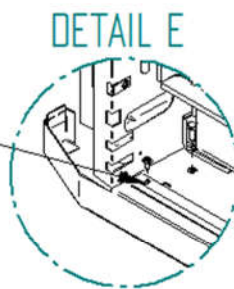


Fig. 19 – Joining Firebox With ZC Box

SCREW LOCATION
FOR ADDITIONAL
FASCIA BOTTOM
PIECE FOR ZC



3x SELF TAPPING
SCREWS 8G x 1/2"

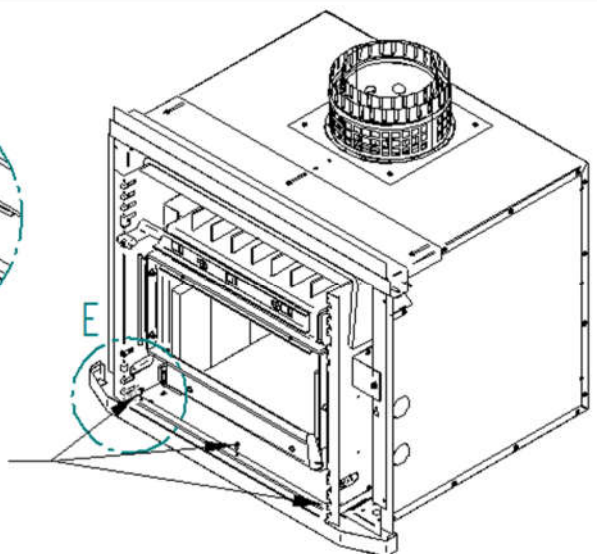


Fig. 20 – Additional Fascia Bottom Piece for ZC

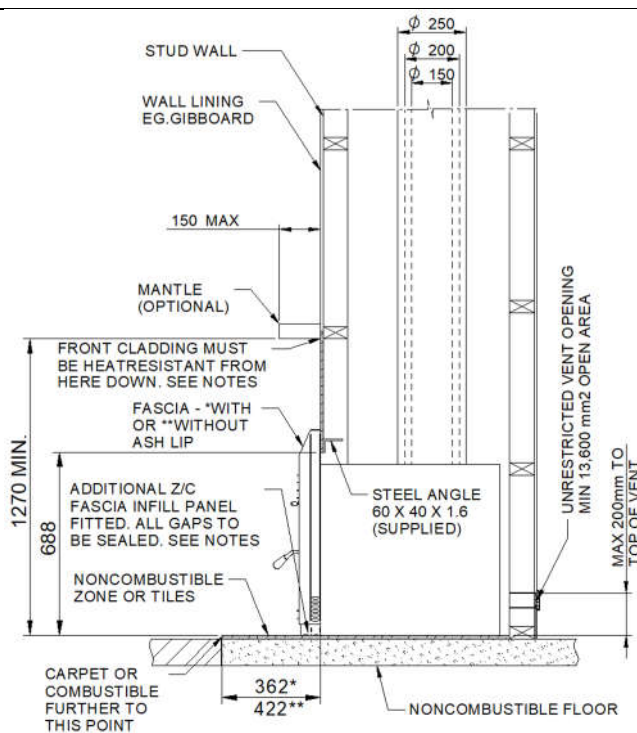


Fig. 21 – Installation on Non-combustible Floor
*Fascia with Ash Lip & ** Fascia without Ash Lip

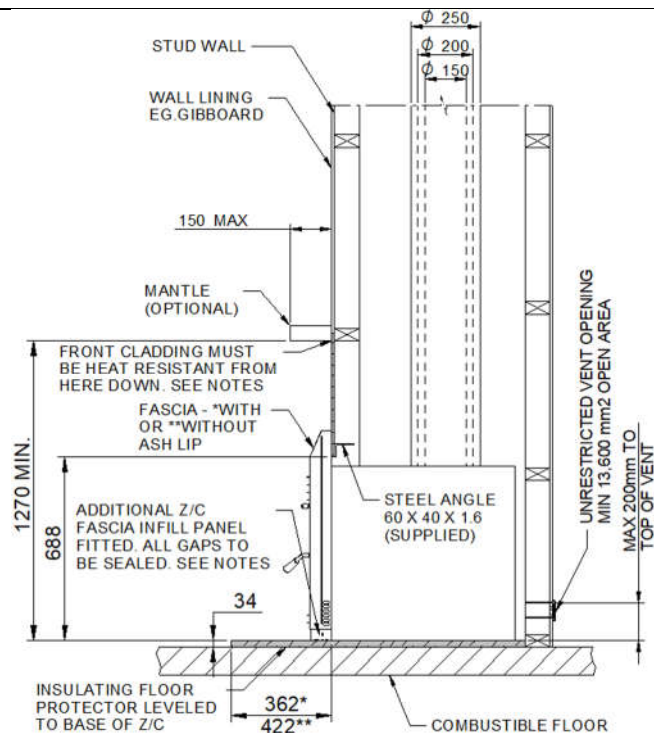


Fig. 22 – Installation on Combustible Floor
*Fascia with Ash Lip & ** Fascia without Ash Lip

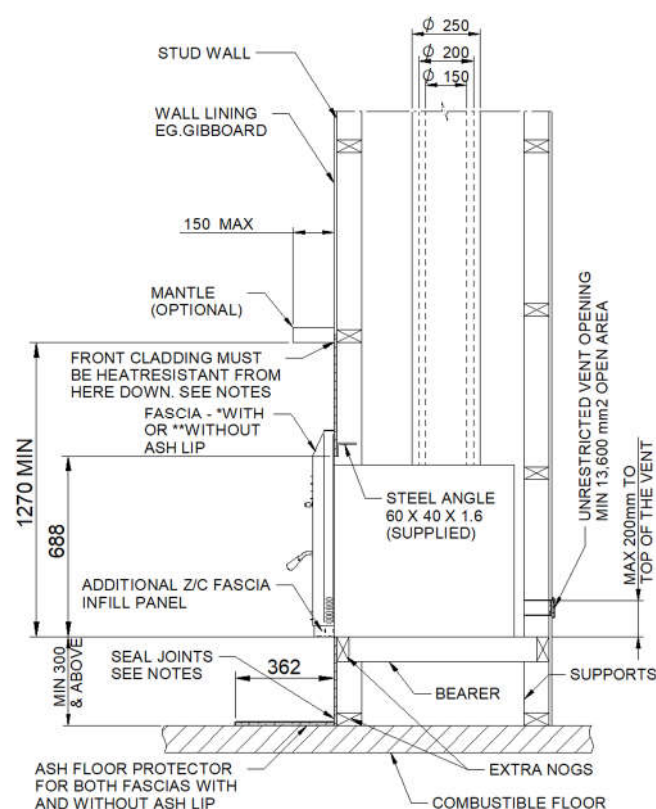
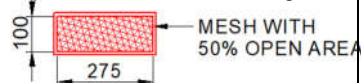


Fig. 23 – Installation at Elevation

Notes:

1. Depth of tiles or non-combustible zone for installation on the non-combustible floor should be a minimum 900mm wide and *362mm in case of fascia with ash lip and **422mm in case of fascia without ash lip, from the face of the front cladding.
2. Depth of an Insulating Floor Protector for installation on the combustible floor should be minimum 900mm wide and *362mm in case of fascia with ash lip and **422mm in case of fascia without ash lip, from the face of the front cladding and minimum 34mm of thickness.
3. Depth of Ash Floor Protector for installation at an elevated height above 300mm should be minimum 362mm for both fascias with or without ash lip, from the face of the front cladding.
4. The recommended construction of an ash floor protector is non-combustible material like:
 - Ceramic tiles or slate with grouted joints over a hard base like hardy's tile and slate underlay.
 - 4mm thick steel plate
 - Marble or stone of reasonable thickness laid over the combustible floor.
5. The recommended construction of an Insulating floor protector is 8mm ceramic tiles with grouted joints over 26mm thick non-combustible Calcium Silicate board like Promatect, Eterpan LD, or Supalux.
6. Heat-resistant cladding on the front wall must be non-combustible Calcium Silicate board like Promatect H, Eterpan, or Supalux.
7. The unrestricted vents must have an open free area of 13,600mm². The vents through an external wall must be weatherproof. The vents must be covered with an appropriate mesh or similar to prevent vermin and debris from entering or restricting the air vents
8. The vents can be through an external wall or can be at the rear, side, or bottom of the built-in enclosure. Also, they can be divided into two vents with an equivalent open area of 13,600 mm²
9. The vents with grill or mesh should maintain the minimum open vent area of 13,600 mm². A sample vent with a mesh having 50% open area is shown below:



6.0 Operational Instructions for the Rangitata ULEB

Before the first light-up, make sure that the burner is correctly installed and signed off by an approved installer. All local council's wood fire permission or permit requirements have been completed satisfactorily.

6.1 Preparing the Burner for First Light-up

Refer to the instructions given in Section 3.7, 3.8, and 3.9 on pages 11, 12, and 13 to install fascia, masonry bricks that are packed loose separately along with the main burner.

6.2 Permitted Fuels

The quality of the firewood you burn can have a considerable effect on the performance of the Rangitata ULEB. Moisture content, tree species, and log size are the main factors that affect the emissions that are produced by any wood burner. The Rangitata ULEB is designed to burn wood fuel that meets the following criteria:

- Less than 25% moisture content
- Has not been treated with preservatives or impregnated with chemicals or glue
- Is not chipboard, particleboard, or laminated board
- Is not painted, stained or oiled
- Is not driftwood or other salt impregnated wood

Burning materials that do not meet the above criteria can damage the firebox and put you at the risk of voiding the warranty of the Rangitata ULEB.

In NZ, radiata pine or macrocarpa is the most commonly available softwood species that are suitable as firewood. Other hardwood species like eucalyptus (bluegum) can also be mixed with softwood to achieve longer burns.

If you are cutting your firewood, only wood that has been air-dried in a sheltered, well-ventilated stack, preferably for at least 12 months, maybe burned in the Rangitata ULEB. To ensure that the wood has a moisture content of 25% or less, store it under a roof or protected against heavy rain. If you purchase firewood, buy firewood that is well seasoned and having moisture level below 25%. We recommend "Good Wood" merchants approved by your local council.

Do not burn coal, driftwood, treated or painted wood, highly resinous wood, such as "Old Man's Pine," plastic, plywood, chipboard, garbage, flammable fluids such as gasoline, naphtha, engine oil, refuse, milk cartons, colored or printed paper. The combustion of such materials can emit toxic, corrosive, and hazardous fumes that will pollute the environment.

6.3 Testing Wood Moisture

There are several ways to confirm if the wood is dry enough.

- The wood moisture meter is the best way to check the moisture content of the wood fuel. Split a piece of wood and then press the metering prongs firmly into the long side of a split piece to test moisture content. 15-20% percent of moisture content is ideal.
- If you are purchasing firewood, ask for dry seasoned wood and get it checked from your wood merchant.
- Dry wood weighs much less than wet wood.
- Wet wood is hard to light and will emit moisture from the ends while burning.
- Two dry pieces banged together sound hollow, and wet pieces sound solid and dull.

6.4 Recommended Log Sizes & Fire Starters

- A packet of matches or lighter
- A packet of firelighters. We recommend green firelighters made of wood waste
- Seasoned firewood about 300~330mm long in various sizes
 - o (3.2A) For kindling - 15-16 finely split, dry softwood (total 1.5 kg approximately)
 - o (3.2B) For intermediate 1 load – 4 pieces (total 1.5 kg, 375 g each approximately)
 - o (3.2C) For intermediate 2 loads – 4 pieces (total 3.0 kg, 750 g each approximately)
 - o (3.2D) For main load – 3 or more pieces (Total 4.0 kg, 1.3 kg each approximately)



7.0 Operational Sequence

7.1 Before First Light-up

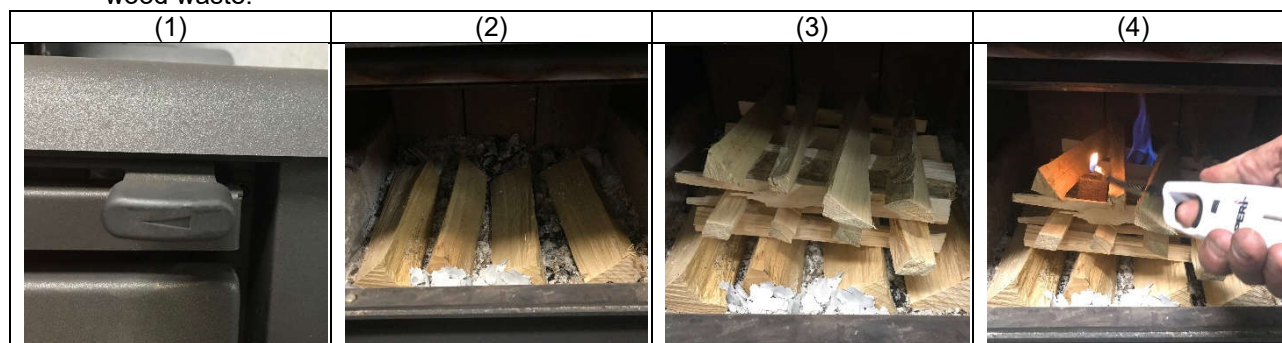
- **Make sure that all the packing material has been removed from the combustion chambers.**
- **Make sure the bricks and air tubes are installed correctly, and both the baffles are pushed back.**

Please note that the special high-temperature paint is used in the firebox that will emit some smoke as it cures during the initial two to three sessions of running. Ventilate the house during these initial burns. While curing the surface, heated paint softens, so do not touch hot surfaces during this process. Babies, small children, pregnant women, elderly persons, persons subject to pulmonary hypersensitivity, and pets should avoid exposure to this smoke. Open doors and windows and use a fan, if necessary. After these initial burns, there should be no smoke.

7.2 Cold Startup

7.2.1 Initial light-up with kindling and intermediate load

1. Slide the air slide control to the **"HIGH"** position.
2. Stack intermediate load, i.e., 4 x small size logs at the base of the firebox.
3. Stack around 15-16 very small kindling pieces on top of these logs. This is the **"Top-Down Start-Up"** method, which reduces the particle emission during the start-up phase considerably.
4. Place the firelighters on top of kindling and light the fire. We recommend green firelighters made of wood waste.



7.2.2 Intermediate load 2

5. Keep the door ajar slightly.
6. Close the door approximately **after 10 mins** making sure that the kindling is well alight. Do not change the air slide position at this stage.
7. **After 15~17 mins**, once the small logs are more than 50% burnt, open the door to add 2nd intermediate load, i.e., 4 pieces of medium firelogs. Close the door and continue to lite the fire on the "HIGH" air slide setting.

(5)	(6) – 10 mins	(7) – 15~17 mins	(8) – 40~45 mins
			
DO NOT LEAVE BURNER UNATTENDED DURING THIS INITIAL LIGHT-UP PERIOD			

7.2.3 Main load and controlling output

8. Around 40~45 mins, when the intermediate load 2 is burnt more than 50%, open the door for loading the main load.
9. Add 3 large size logs and close the main fuel loading door.
10. Once the large size logs are fully alight, the burner is ready to adjust the output by operating the air slide.
11. Adjust the air slide to the medium or low position to control the output.

(9) – 40+mins	(10) – 50+ mins	(11) – 70+ mins	
			
Always open the door in two stages : 1. Unlatch the door and keep it slightly ajar for 15~20 seconds 2. Then open the door fully. Always switch the air slide knob gently and gradually. This practice is essential to avoid puff of smoke coming into the room.			

7.2.4 Refueling and Shut-down

12. Before opening the door for reloading, make sure that the air slide is on the "HIGH" setting. Reload one or two logs at a time. After reloading, keep the air slide to the "HIGH" position till logs are fully alight.
13. To shut down the burner, let the fire extinguish and leave the burner doors closed until it has cooled down

- **DO NOT EVER USE THE BURNER WITH A CRACKED GLASS**
- **DO NOT USE FLAMMABLE LIQUIDS OR AEROSOLS TO START OR REKINDLE THE BURNER**
- **ALWAYS MOVE THE AIR CONTROL TO THE OPEN POSITION (TO THE RIGHT) BEFORE OPENING THE BURNER DOOR**

Note – The timing given for various steps of the light-up process may vary slightly depending upon wood, log length. After a couple of burns, the user will be able to judge for themselves.

8.0 Operating Hints for Clean Burning and Best Efficiency

- Always use good quality wood fuel. Refer to section 6.0 for details of wood logs that can be used.
- Add fuel reasonably often. A large fuel load placed on a dying fire can drop combustion temperatures undesirably. The best time to refuel is when there is a minimal flame in the heater.
- Avoid large smoldering fires. A small intense fire is more efficient.
- Move the heat control to a "HIGH" setting for a minute before opening the door on a low burning fire. This will clear away any fumes in the firebox.
- Always open the door SLOWLY, and close and latch it shut securely again as soon as possible after re-loading.
- When loading fuel, place the pieces of wood in a Front-to-Back direction to ensure proper air access and the cleanest possible burning. This will give you the overall emission and room heating efficiency that the fire was designed and tested to achieve.
- While loading fuel, take care to avoid damage to the firebricks or top baffle. Do not throw logs into the fire.
- If smoke wafts into the room from a fully established fire while the door is open, the first check that make-up air can flow freely into the room to replace the air passing up the flue. Make-up air is the replacement air used by fire for combustion, which needs to come into the room from external sources (see box below).
- Check that the flue is not obstructed in any way, particularly by the rain cap being too close to the end of the flue. Check flue is sealed correctly. (See the flue cleaning requirements in the maintenance section 9.2. If these checks do not uncover the fault, you may need to add an extra length of flue and casings (with bracing, if necessary) to counteract the down draught effects caused by roof shape, nearby buildings, hills, or trees. Consult experienced wood fire installer for solutions.
- After a season, adjust the door to eliminate any minor leakage of required.



For the fire to draw correctly, air must be able to enter the room where your Rangitata ULEB burner is installed. You may have to leave a room door slightly open and perhaps a window elsewhere in the house if your home is of modern airtight construction. This is particularly important if an air extraction fan is operating somewhere in the house. Leaving the door open will help spread warmth through the rest of your home.

9.0 Maintenance of The Rangitata ULEB

Further sections will describe the systematic process of carrying out regular and periodic maintenance and servicing of different parts of the firebox, and flue. Replace parts only with genuine GLEN DIMPLEX spare components:

9.1 Ash Removal

Ash removal is necessary when the ash level is up to the lower door opening. Before carrying out ash removal, make sure that the burner is cold and there are no hot embers in the firebox. Simply shovel out any excess, leaving a 15-20mm bed of ash in the firebox. Place the removed ashes in a non-combustible container with a tightly fitting lid, and move the container outdoors immediately to a place clear of combustible materials.

9.2 Cleaning the Glass

A good hot fire will burn away any deposits left from a long slow burn. A dampened newspaper with ash or a non-caustic oven cleaner can be used to clean the glass.

9.3 Cleaning the Fascia

A soft rag is sufficient to clean and maintain the finish of the panels. The household detergent may damage painted panels or give bad odors while running the fire.

9.4 Adjusting the Door Latch

- Open the main fuel loading door
- Remove the grub screw pin from the bush, which is on the inner side of the door, just above the door spindle.
- This screw stops the full rotation of the handle.
- Wind the door handle in or out depending upon whether you want to loosen or tighten the door seal.
- Sandwich a piece of paper between the firebox edge and the door seal to check the door seal.
- Close the door and try to pull the piece of paper.
- The paper will be jammed or will slide with effort when the seal is good or sufficient.
- Carry out this test on all four sides of the door to ensure the seal is even on all sides.

9.5 Door and Door Glass Seals

Door seals of the main door should be checked and, if required, will need replacement periodically depending upon the usage of the Rangitata burner. Over the period, the door and glass seals will become hard and cause air leak into the firebox. This excess air can lead to the 'over-firing' of the burner and damage the burner parts. If any part of the burner or flue system is glowing, the burner is being over-fired.

9.6 Heat Output Control (Air Slide)

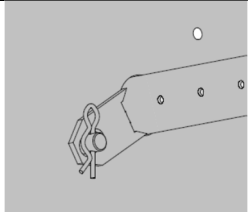
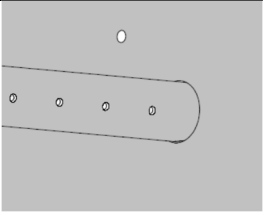
If the air slide does not move freely, have an installer inspect the unit and apply a small amount of heat resistant air slide lubricant, available from Glen Dimplex

9.7 Firebox Masonry Bricks

The masonry bricks in your Rangitata burner are an essential part of the burner to achieve clean and efficient burn. These bricks are likely to degrade with time and will need to be replaced accordingly. The life of the bricks will depend upon usage, type of fuel burnt, and care taken during operations and maintenance. The bricks are held in place using the brackets screwed to the firebox sides and the rear. Due to the high temperature in the firebox, the bricks may crack with use, and this is regarded as normal. If the bricks crack but remain in place, it will not affect the performance of the fire and subsequently can continue to be used. The bricks should be replaced only when they are damaged enough in place and cannot perform their intended task. Refer Fig 6.1 for location and sequence of assembly of bricks in the firebox of the Rangitata burner.

9.8 Secondary Air Tubes Removal

There are two air tubes in the Rangitata ULEB burner fitted with a removable "R" clip, on the left-hand side of the firebox. To remove the air tube, remove the "R" Clip and move the tube to the right. This will remove the tube from the left-hand side of the firebox. Then push down and tilt the left end to release the tube from the right end of the firebox. Maneuver the tube out of the firebox once released from both ends.

Air Tube Style	"R" Clip on Left side of the firebox	The right end of the Firebox	
Left Hand R Clip			

9.9 Firebox Baffle

- The steel baffle used in Rangitata ULEB has two sections. For flue cleaning or baffle replacement, the secondary air tubes must first be removed as described above.
- First, pull forward the front baffle slightly and then push it to one side so that the baffle is off the other side support. Keep dropping and tilting the other side to dislodge it entirely from the supports and then maneuver the baffle out of the firebox.
- The rear flange of the rear baffle is engaged behind the side supports. So first lift it at the rear and slightly move it forward. Use the same technique if moving to one side, then dropping, tilting to dislodge from the side supports, and finally maneuver out of the firebox.
- For replacing the baffle, reverse the steps mentioned above, starting with rear and then the front baffle.
- Make sure that the rear flange of the rear baffle is tucked behind the side supports and hard against the back wall of the firebox. Also, ensure that it is sitting on top of the supporting shelves on both sides of the firebox.
- The front baffle is pushed back hard against the front of the rear baffle.
- Check that both the baffles are locked and hard up against the rear wall of the firebox.

9.10 Flue Inspection & Cleaning

Flue system should be checked at least once a year depending upon usage and, if needed, be swept by a professional chimney sweep. Do not use chemical chimney cleaners. Check the flue sections nearest the firebox. If a flue system is becoming excessively blocked or needs frequent cleaning, investigate the installation, fuel, and operation of the burner with the help of a professional.

Refer section 9.6, 9.7 & 9.8 for removing bricks, air tubes, and baffle. This will enable to drop and collect all the chimney dirt into the firebox without removing the main flue pipe. Once chimney sweep operation is complete, clean the firebox chamber properly and put back both front & rear baffle, both the air tubes and the bricks.

10.0 Rangitata Replacement Parts

Some parts of the Rangitata burner are considered consumable. These parts will wear out or degrade over time. The life of these parts will vary upon

- How frequently the fire is used
- Type of fuel. Some species of wood fuel are harsher than others.

Following items are considered as consumables: Refer Fig 9 on page 13

Bricks - Set of masonry bricks for the main combustion chamber or firebox.

Front & Rear Steel Baffle

Front & Rear Air Tubes

Front Air Deflector.

Seals - Main Door Seal and Door Glass Seal

Door Glass - Main Door Glass

Other Spare Parts/Kits available - Main Door Handle Kit

These consumable parts should be replaced as soon as they show signs of wear. Running your burner with worn or broken parts may result in reduced output, an increase in fuel consumption, and even can damage the firebox or other vital parts of the burner. We highly recommend a frequent visual check of these consumables and other parts of the burner. Refer to the schematic below of various Rangitata parts.

11.0 Troubleshooting: Causes & Remedy

Problem	Reason for Problem	Solution
Dark, dirty film on the door glass	Burning wet or green firewood OR Leaking door seals.	Ensure only dry seasoned wood is used. As per the new air plan, it is an offense in the Environment Canterbury region to burn wood with greater than 25% moisture. Check the door and glass seals. Your Masport Dealer can help with this. To remove the dirty film, try the following: 1. Burn with the damper open for 30 minutes. 2. Try to clean glass with damp newspaper and ash when the fire has completely cooled down 3. Try using non-caustic oven cleaner Caution: Do not scrub using steel products or abrasive material, as it can leave scratch marks on the glass or damage printing on the glass.
Creosote Build-up	Creosote is a tar-like substance that builds-up when the organic compounds in smoke condense onto cooler surfaces. Creosote can build up over time and restrict the airflow of the flue and impair the performance of the wood heater.	The most effective way to control the creosote formation is to burn the woodstove on high regularly and never allow a fire to smolder.
Occasional puffs of smoke or smoke entering the room the room.	This can happen when the air circulates down from the chimney towards the interior of the house, which is at negative pressure. Energy efficiency practices and new building code rules are making our houses increasingly airtight. This makes the house's energy-efficient but also makes them more sensitive to negative pressure	To prevent this extreme negative pressure, open a window approximately 6mm to allow combustion air to enter the room. If this doesn't work carry out visual inspection of combustor by following steps in section 6.3

	when air is exhausted from the house. This can be because of large extraction fans, which cause extreme negative pressure in the house when they are operating. This negative pressure works against the flue system draft. In severe cases, the negative pressure in the house overcomes the flue system draft, and the appliance begins to spill smoke, especially when a fire is started or when it dries down to coals. Also, it can starve fire from air needed resulting in poor performance.	
Over firing of the fire or Glowing red hot any part of fire at any time	This is the opposite of a negative pressure effect. Some modern heat pumps or heat recovery or ventilation systems can positively pressurize the house causing over firing.	1. Try turning down heat output control on the fire. 2. Try opening the window to achieve the pressure balance of the house. 3. If the problem persists, contact the Masport dealer or installer to diagnose the issue further.
The poor performance of the fire – not enough heat or drop in output	Number of causes can result in less output 1. Green/wet wood or inappropriate fuel 2. The baffle is not in the correct position.	1. Use seasoned wood. Refer Section 6 for details of appropriate fuel and testing fuel. Run the burner a couple of times using correct fuel and steps given in section 7.2 2. Make sure front and rear baffles are installed correctly and pushed back fully towards the rear of the firebox.

GLEN DIMPLEX WARRANTY REGISTRATION

RANGITATA ULTRA LOW EMISSION BURNER

Thank you for purchasing a Masport Fire. We ask you to complete the following information and return to the Glen Dimplex Warranty Registration Department on the following address:

New Zealand : P O Box 58473, Botany, Manukau 2163, Auckland
Australia : Unit 1, 21 Lionel Road, Mount Waverley, Victoria 3149

Mr / Mrs / Miss / Ms Name: _____

Address: _____

Post Code: _____

Telephone: _____ Fax: _____

Email _____

Model: _____ Serial Number: _____

Retailer: _____ Purchase Date: _____

Price: _____

Installed By: _____ Date Installed: _____

We at Glen Dimplex strive to provide you with quality products and have a continuous product development program. To help achieve our objectives to our mutual benefit we would welcome your feedback on the following questionnaire.

Question	Please tick appropriate remark			
1.General presentation of Product	☐ Excellent	☐ Good	☐ Ok	☐ Needs to Improve
2.Styling and Looks	☐ Excellent	☐ Good	☐ Ok	☐ Needs to Improve
3.Packaging	☐ Excellent	☐ Good	☐ Ok	☐ Needs to Improve
4.Is documentation easy to follow and informative?	☐ Excellent	☐ Good	☐ Ok	☐ Needs to Improve
5.Fixtures & Fittings (Loose parts)	☐ In order	☐ Items missing	☐ Needs to Improve	
6.Do you currently own Masport or Dimplex product?	☐ Yes	☐ No	Which? -	
7.Why did you decide on Masport? (tick one or more options)	☐ Knew this brand		☐ Suggested by Friend	
	☐ Dealer recommended		☐ Better Price	
	☐ Performance		☐ Features	
8.Other Comments				

Privacy Act Notice: the owner named on the Warranty Registration consents and agrees that Glen Dimplex may retain and use the information in this warranty card, including details about the owner for marketing and development purposes. The owner also agrees that Glen Dimplex may also share purposes with [intended recipients of such information]. In accordance with the New Zealand Privacy Act 1993 and the Australian Privacy Act 1988, the owner shall have the right to request the correction of, as well as inspect, all personal information held by Glen Dimplex on that owner.

**Please cut and mail this completed form within 30 days of installation to your
Glen Dimplex Warranty Registration Department at the above address**



WARRANTY FOR MASPORT RANGITATA ULTRA-LOW EMISSION BURNER

This warranty is provided in New Zealand by Glen Dimplex New Zealand Ltd and in Australia by Glen Dimplex Australia Pty Ltd. (together referred as "Glen Dimplex") This warranty is provided to the first domestic purchaser of a Masport Rangitata Ultra-low Emission Burner. It applies from the date of purchase from or through an authorized Masport Fire Distributor in relation to each product or component for the period below.

TYPE OF PART	WARRANTY (In Years)	
	PARTS	LABOUR
BURNER's STEEL FIRE BOX	20	10
DOOR GLASS & SEAL	2	1
MASONRY BRICKS	2	1
SECONDARY AIR TUBES	2	1
STEEL BAFFLE COMPONENTS	2	1
GLEN DIMPLEX FLUE SYSTEM	2	1

During the warranty period, Glen Dimplex will repair or replace (at its option) any Masport Wood Fire which is found to be defective in materials or workmanship. Repairs will be carried out by an approved Masport Heating Service Agent.

What is covered under this warranty?

- Repair or replacement of parts
- Labor costs relating to the Wood Burner
- Reasonable transport or travel costs.

Consumers may have additional rights under the Consumer Guarantees Act 1993 (New Zealand) or the Australian Trade Practices Act 1974 including the Australian Consumer Law.

Conditions

This warranty does not apply and will be void where:

- The Wood Burner is not installed in accordance with AS/NZS2918/:2001 or any building code or consent;
- The Wood Burner is not installed by a qualified specialist installer;
- Any electrical work has not been carried out by a Registered Electrician;
- The Wood Burner has been moved and reinstalled, or has been modified in a manner that is not consistent with the Installation Guide or the Owner's Manual;
- The Wood Burner has not been installed, operated, or maintained according to the Installation and Operations Manual;
- The Wood Burner is acquired for business use in any way.

What is not covered?

- Wear and tear, including wear and tear through normal use on Multi-fuel fire grates and cast-iron firebox liners.
- Labor costs relating exclusively to components not manufactured by Glen Dimplex.
- Damage caused by incorrect use or the burning of treated or painted wood, driftwood or other fuels which are not recommended;
- Travel costs for a distance greater than 50 km from the nearest approved Masport Heating Service Agent. (The location of the Wood Fire must be advised to Glen Dimplex or its sales agents at the time of purchase or using warranty registration form)
- Defects, malfunctions, or failures caused by incorrect installation, poor installation, normal wear and tear, misuse, neglect, accidental damage, or failure to follow operating instructions in the Owner's Manual (including fuel selection, product operation and maintenance instructions), repairs or modifications by persons not authorised by Glen Dimplex, use of parts not supplied by Glen Dimplex, or damage or other events which have occurred since the product left the control of Glen Dimplex.
- Direct, indirect, or consequential losses or special damages of any kind (including costs of collection and delivery) other than repair or replacement of products or components under this warranty, where any goods are acquired or used for the purposes of a business;

How to obtain warranty service?

- Completed Warranty registration form (previous page) needs to be mailed within 30 days of installation to your Glen Dimplex Warranty Registration Department.
- Warranty Claims must be made at the place of purchase.
- Reasonable proof of purchase date is required to make a warranty claim. You should keep your purchase receipt.
- Warranty repair will be completed according to the normal work practices of the service agent.
- Make the faulty part(s) available to Glen Dimplex for inspection so that the validity of the claim can be established by them.

Manufactured in New Zealand by:

GLEN DIMPLEX NEW ZEALAND LTD

NZ Registration No – 1506305

P.O. Box 58473, Botany,
Manukau, Auckland 2163

Phone: 0800 666 2824

Fax : 09 274 8472

Email : sales@glendimplex.co.nz

Web : www.glendimplex.co.nz

*Glen Dimplex New Zealand Ltd reserves the right to change specifications, the content of this manual, or the design of its product without prior notice.