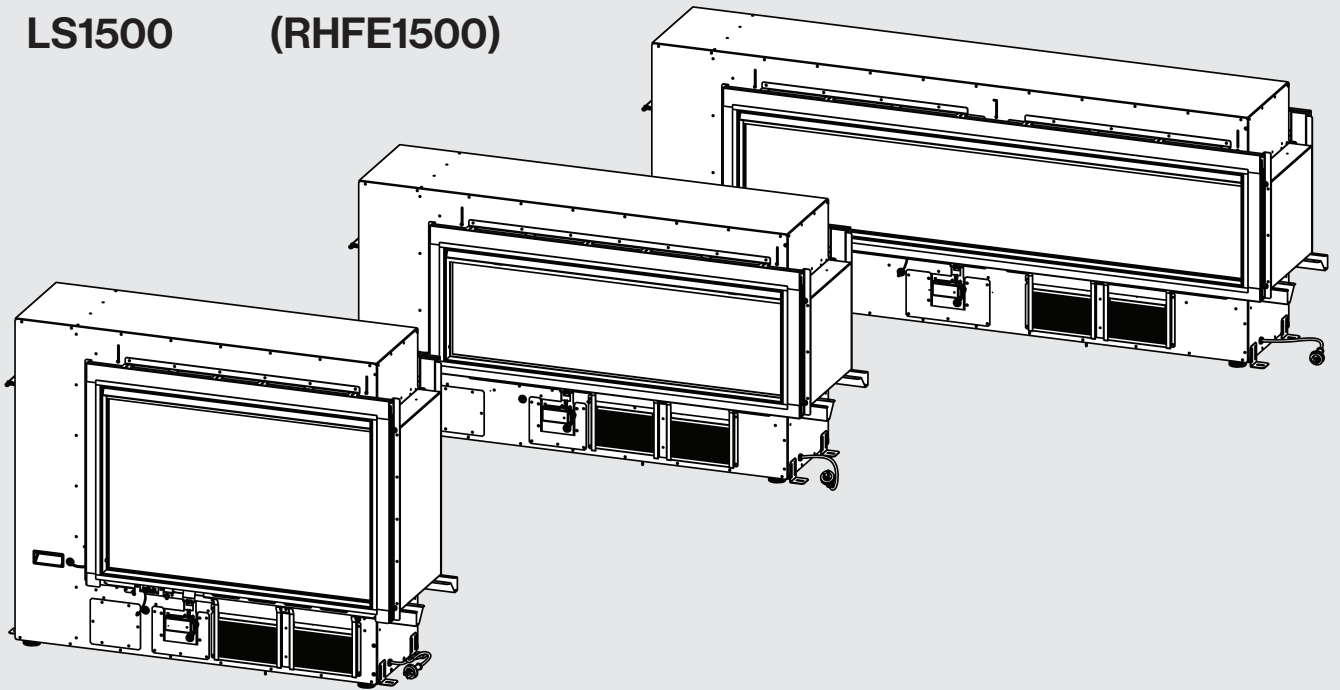


Models:

Flametech® (RHFE0800F)

LS1000 (RHFE1000)

LS1500 (RHFE1500)



LS Series - Gas Fireplace

Installation Manual

Rinnai

Congratulations on the purchase of your Rinnai LS Series Gas Fireplace. We trust you will have many years of comfort and enjoyment from your appliance.



BEFORE INSTALLING OR USING THIS APPLIANCE

Before proceeding with the operation or installation read this manual thoroughly and gain a full understanding of the appliance, to ensure safe and correct installation and use.

This appliance must be installed in accordance with:

- Manufacturer’s Installation Instructions
- Current AS/NZS 3000, AS/NZS 3500 & AS/NZS 5601
- Local Regulations and Municipal Building Codes including local OH&S requirements

This appliance must be installed, maintained and removed **ONLY** by an Authorised Person.

For continued safety of this appliance it must be installed and maintained in accordance with the manufacturer’s instructions.



The Australian Gas Association
All Rinnai gas products are A.G.A. certified.

This manual to suit LS - Series Heater Models:

Flametech® *	LS1000	LS1500
RHFE0800SF *	RHFE1000S	RHFE1500S
RHFE0800DF *	RHFE1000D	RHFE1500D

**Incorporates Flametech® self burning log technology.*

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This appliance **MUST** be installed, maintained and removed **ONLY** by an Authorised Person.

For continued safety of this appliance it **MUST** be installed and maintained in accordance with the manufacturers instructions.

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This appliance **MUST** be installed, maintained and removed **ONLY** by an Authorised Person.

For continued safety of this appliance it **MUST** be installed and maintained in accordance with the manufacturers instructions.

WARNINGS & IMPORTANT INFORMATION



BEFORE USING OR INSTALLING THIS APPLIANCE

Before proceeding with the operation or installation read this manual thoroughly and gain a full understanding of the appliance, to ensure safe and correct use.

Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in personal injury or death.

WARNINGS: Indicates a potentially hazardous situation which, if not avoided, could result in personal injury or death.

CAUTIONS: Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury or damage to the appliance. It may also be used to alert against unsafe practices.



REGULATORY INFORMATION

This appliance shall be installed in accordance with:

Manufacturer's Installation Instructions.

Current AS/NZS 3000, AS/NZS 3500 & AS/NZS 5601.

Local Regulations and Municipal Building Codes including local OH&S requirements.

This appliance has been certified by the Australian Gas Association. The A.G.A. Certification Number is shown on the data plate.

This appliance **MUST** be installed, maintained and removed **ONLY** by an Authorised Person.

For continued safety of this appliance it **MUST** be installed and maintained in accordance with the manufacturers instructions.

NOTICE TO VICTORIAN CONSUMERS

This appliance **MUST** be installed by a person licensed with the Victorian Building Authority. **ONLY** a licensed person will have insurance protecting their workmanship.

So make sure you use a licensed person to install this appliance and ask for your Compliance Certificate. For further information contact the Victorian Building Authority on 1300 815 127.



DRESS GUARD WARNINGS

The guard is fitted to this appliance to reduce the risk of fire or injury from burns and no part of it should be permanently removed. For protection of young children or the infirm, a secondary guard is required.

The glass dress guard supplied with this appliance **MUST NOT** be permanently removed as it fulfils an operational safety function. Additional dress guards including free standing types may be used in conjunction with, but **NOT** replace, the dress guard supplied with this appliance.



MANDATORY INSPECTION PRIOR TO INSTALLATION

Immediately report any damage or discrepancies to the Supplier of the appliance. This appliance was inspected and tested at the time of manufacture and packaging, and released for transportation without known damage. Upon receipt, inspect the exterior for evidence of rough handling in shipment. Ensure that the appliance is labelled correctly for the gas and electrical supply, and/or other services it is intended to be connected to.

For safety and warranty purposes, appliances that may be damaged or incorrect **MUST NOT** be installed or operated under **ANY** circumstances. Installation of damaged or incorrect appliances may contravene local government regulations. Rinnai disclaims any liability or responsibility whatsoever in relation to the installation or operation of damaged or incorrect appliances.

Take care when opening or unpacking this appliance. Failure to do so may result in serious injury or product failure.

Check the label for the correct gas type (refer rating plate, inside the appliance). Refer to local gas authority for confirmation of the gas type if you are in doubt.



MODIFICATIONS.

DO NOT MODIFY THIS APPLIANCE, modifying from original specifications may create a dangerous situation and will void your warranty. Failure to comply with these instructions could result in a fire or explosion, which could cause serious injury, death or property damage.

DO NOT modify the electrical wiring of this appliance.

If the power cord is damaged or deteriorated then it **MUST** be replaced by an authorised person. Failure to do so may result in electric shock, fire, serious injury or product failure.

Improper installation, adjustments, service or maintenance can cause serious injury, death or property damage. Such work **MUST ONLY** be performed by an authorised person.



GENERAL SAFETY WARNINGS

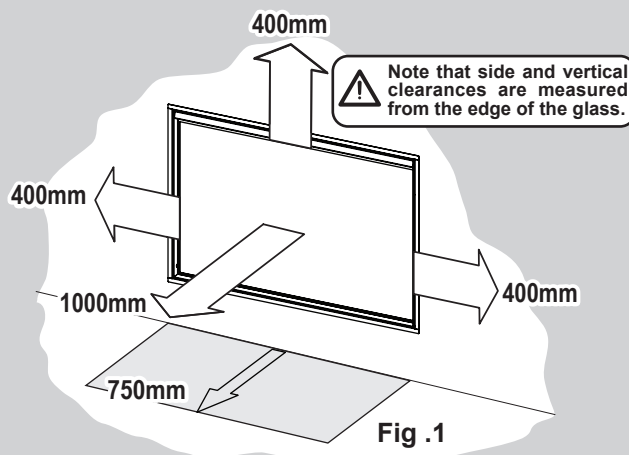
This appliance is **HEAVY**, during installation the use of a mechanical lifting aid is recommended, noting that improper lifting may result in serious injury.

WARNING: This heater **MUST NOT** be used if any of the glass panels are damaged.

Flue terminal **MUST** always vent directly to outdoors. **DO NOT** extend the flue vertically or horizontally in ways other than prescribed in this appliance manufacturer’s installation instructions. **ONLY** the flue components specified by Rinnai must be used.

When considering installation ensure minimum clearances as follows are adhered to, refer Fig. 1.

Heat radiating from the front of this heater may over time affect the appearance of some materials used for flooring such as carpet, vinyl, cork or timber. This effect may be amplified if the air in the room contains cooking vapours, candle vapours and cigarette smoke, etc. To avoid this possibility, it is recommended that a mat or similar protective sheet be placed in front of the appliance, extending at least 750 mm in front of the dress guard. Refer to the installation manual for mantle clearances, additional installation information and warnings.



This appliance **MUST NOT** be installed where curtains or other combustible materials could come into contact with it. In some cases curtains may need restraining.

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.

The appliance is **NOT** intended for use by young children or infirm persons without supervision. Young children and the infirm **SHOULD** be supervised at all times when in the vicinity of this heater while it is in operation.

The heater **MUST NOT** be located immediately below a power socket outlet.

A dedicated 230 V earthed 10 Amp power point must be used with this appliance.

Suitable **ONLY** for indoor installation.

DO NOT operate this appliance before leak checking hoses and gas cylinder connection.

NOT to be connected to an LP gas cylinder located indoors.

Please keep this instruction booklet in a safe place for future reference. All dimensions referred to in these instructions are in millimetres, unless otherwise specified.

DO NOT SPRAY AEROSOLS IN THE VICINITY OF THIS APPLIANCE.

DO NOT USE OR STORE FLAMMABLE MATERIALS IN OR NEAR THIS APPLIANCE.

DO NOT PLACE ARTICLES ON OR NEAR THIS APPLIANCE.

CARTON CONTENTS / ITEM CHECKLIST

The components for LS-Series heaters may be supplied in separate cartons, the following tables list which components are in each carton. Ensure that the components listed for the installation method being installed are present before proceeding with the installation.

COMPONENTS DESCRIPTION		CARTON CONTENTS		
		(A) Engine	(B) Burn Media	(C) Flue
(1)	LS-Series Heater Engine.	●		
(2)	Glass frame.	●		
(3)	½" BSP Flare Adaptor and Nut (packed separately in parts plastic bag).	●		
(4)	Remote control (batteries included)	●		
(5)	Operation and Installation manual.	●		
(6)	Burn media installation guide.	●		
(7)	Colour burn media placement sheet (attached to the glass frame)	●		
(8)	Commissioning sheet (attached in a plastic pouch inside engine)	●		
(9)	Burner media - RHFE0800F ONLY (shipped inside engine)	●		
(10)	Flue lock bracket and truss screws (x2)	●		
(11)	Burn media - RHFE1000/1500 ONLY (packaged separately).		●	
(12)	Flue components and accessory items are ordered separately.			●

GENERAL INSTALLATION INFORMATION

LOCATION

When positioning the heater, the main variables governing the location are Flueing and Warm Air Distribution.

This heater **MUST NOT** be installed where curtains or other combustible materials could come into contact with it. In some cases curtains may need restraining. Refer to "General Safety Warnings" on page 6 for additional safety considerations.



Horizontal and vertical clearances are measured from the edge of the burner box glass.

Combustible mantles and surrounds can be added to compliment the design provided that they conform to the following clearances requirements.

The minimum clearance from the edge of the burner box glass is 400 mm. The depth of the mantle or surround (**A**) at this minimum clearance may not exceed 250 mm.

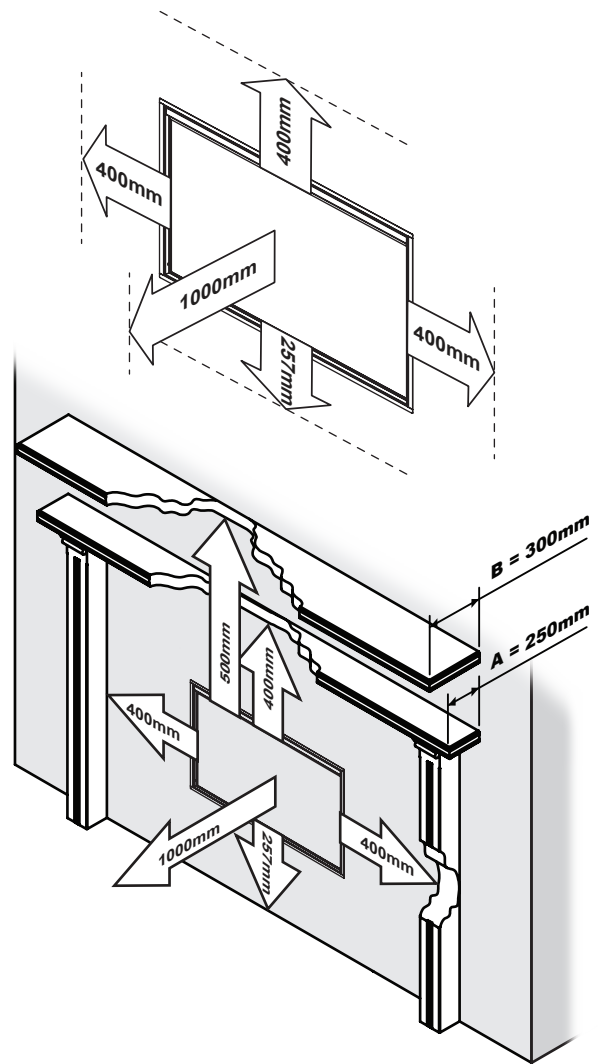
An additional 100 mm of clearance is required for every extra 50 mm of mantle depth. The depth of the mantle or surround (**B**) at 500 mm of clearance may not exceed 300 mm.

Refer to the section "Wall Lining Installation" starting on page 27 for additional information.

Refer "Cavity Ventilation" on page 9 for cavity ventilation details.



Combustion product spillage testing must be conducted during appliance commissioning. This testing may show a need for additional fixed ventilation.



TV & ORNAMENTATION WARNING



INSTALLATION OF TV OR ORNAMENTATION ABOVE THE HEATER

The installation of electrical appliances above and in the vicinity of the heater such as, but not limited to, Plasma TV, LCD TV, Home Theatre Screens, Speakers, etc must comply with their manufacturers' instructions. It is the responsibility of the installer/end-user to check the installation instructions of these items and to ensure the location is suitable.

This caution also extends to, but is not limited to, ornaments such as: Paintings, Prints, Photographs, Tapestries, Mirrors, Stuffed Animals, etc.

Please note the recommended clearances as per the diagram above. The temperature of the wall surface directly above the appliance may be elevated and may discolour paint finishes or distort vinyl wall coverings. For durability of surfaces you should contact the relevant manufacturer for their specification.



RINNAI DOES NOT TAKE ANY RESPONSIBILITY FOR ANY DAMAGE OCCURRING TO ANY ITEMS INSTALLED ABOVE AND IN THE VICINITY OF THE HEATER.



Use either a shelf or mantle below the TV or ornament or alternately you can construct a recess to mount TV or ornament in. Check the manufacturers installation instructions for these items and ensure the recess is suitable.

FRAMING DIMENSIONS

Framework of the installation must conform to local building codes. Non-combustible materials need not be used.

If the appliance is elevated from the ground within the structure, a base must be constructed using suitable material with supporting joists capable of supporting a minimum of 1.5 times the weight of the appliance.

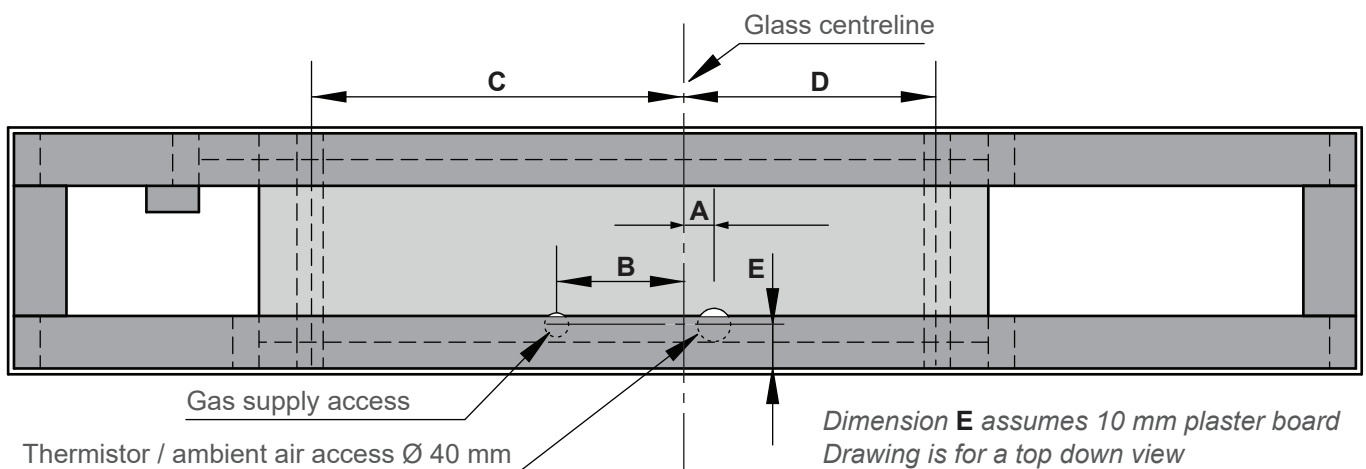


AS/NZS 5601 “GAS INSTALLATIONS” requires that flue components be supported independently of the appliance.

For the following framing dimensions it is important to be aware that the studs are offset—the cavity needs to be framed based on the centreline of the glass, not the opening size.

Base Board and Cut-outs

To ensure everything lines up and fits properly, it is recommended that on the base the following dimensions are pencilled; glass centreline, unit depth centreline, feet position, gas and room thermistor cut-outs.



* Assumes 10mm plasterboard / All dimensions in mm

		RHFE0800F	RHFE1000	RHFE1500
A	Thermistor / ambient air access - right glass of centreline	50	50	225
B	Gas supply access - left of glass centreline	220	220	220
C	Support feet centres - left of glass centreline	640	740	990
D	Support feet centres - right glass of centreline	360	460	710
E	Gas supply / thermistor access - from front of enclosure*	77	77	77

CAVITY VENTILATION

Ventilation of at least 2000 mm² is recommended in the cavity ideally below the base of the heater engine. This is to provide room air at ambient room temperature to the fire thermistor located in the base of the heater engine. Ventilation can be via a vent or an open toe kick at the base of the cavity, however it **MUST** be in the same room and wall cavity as the heater.

Additionally the top of the cavity needs to be ventilated into the room or another space. This ventilation opening **MUST** be at least 2000 mm². This opening is to prevent heat build-up within the cavity, which if left unventilated could potentially cause damage to wall surfaces or coverings and / or cause the appliance to cut out.

ADDITIONAL FRAMING NOTES

Plaster board is set 1 mm back from the front edge of the frame to allow for a slim edge plaster finish.

To ensure the appliance performs correctly, without rattling, the heater engine **MUST** be installed on a flat level support base.



Issues caused by rattling fires not installed on a flat level base, as detailed in this guide, will NOT be covered by warranty.

FRAMING FOR RHFE0800F



All dimensions are assuming a 10 mm plaster board.

Studs and joists are required directly below the support feet of the appliance.

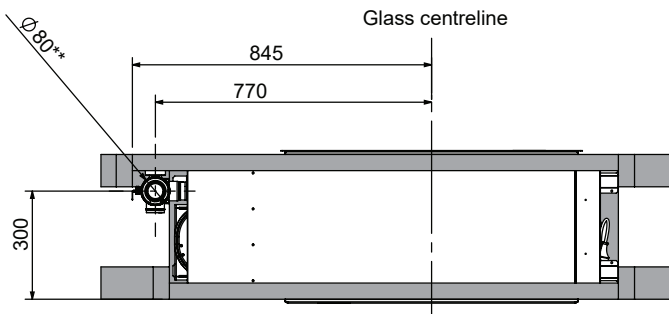
Framing shown is 90 x 45 mm.

Fire platform shown is 18 mm plywood.

Allow room underneath the appliance for the gas supply to enter the fire cavity (min. 100 mm).

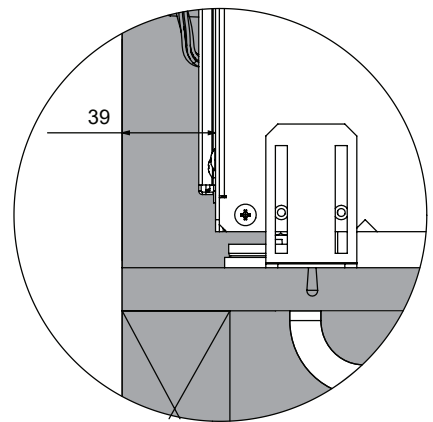
The framing dimensions have the studs offset. This is because the cavity needs to be framed based on the centreline of the Linear glass, NOT the opening size.

Where there is a requirement for a symmetrical installation, the cavity size will need to increase, refer diagram below.



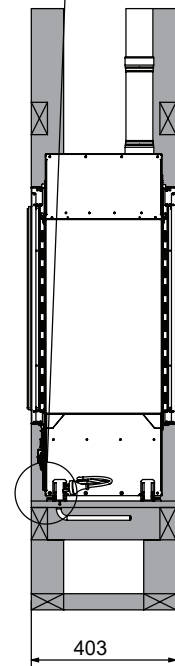
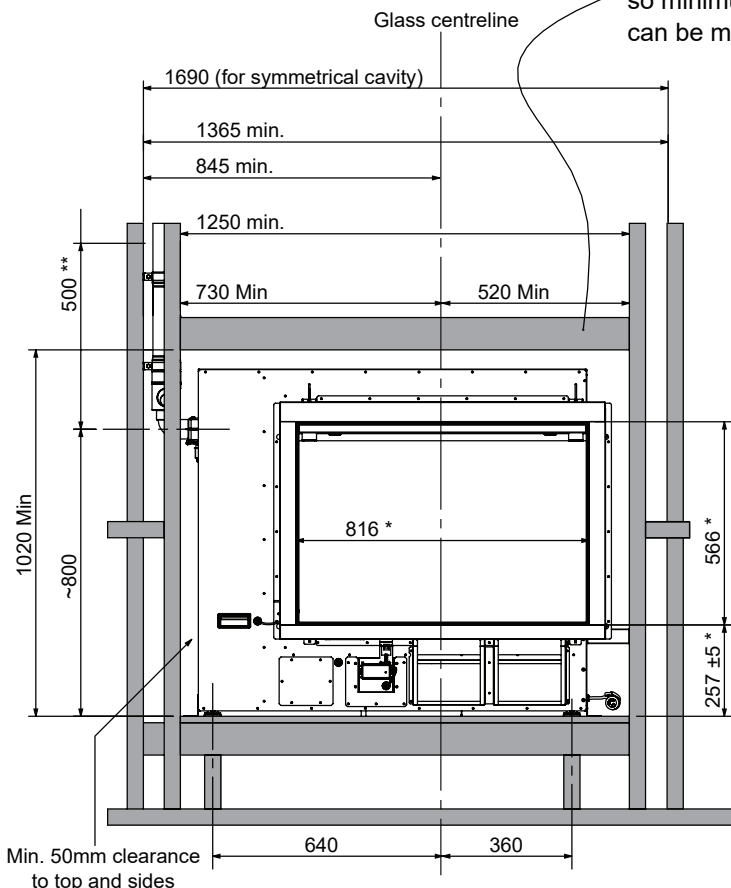
* Plaster board cutout for finishing trim

** Maintain 25 mm clearance to combustibles for first 500mm of flue



39 mm assumes 10 mm wallboard

Recommended that lintel is left until fire is installed so minimum clearances can be maintained



403 mm assumes a 10 mm wallboard on both sides of a double-sided unit.

415 mm is the min. for a single-sided unit to maintain 50 mm clearance to the back of the fire.

FRAMING FOR RHFE1000



All dimensions are assuming a 10 mm plaster board.

Studs and joists are required directly below the support feet of the appliance.

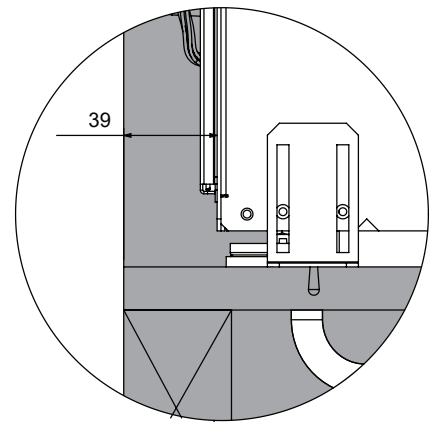
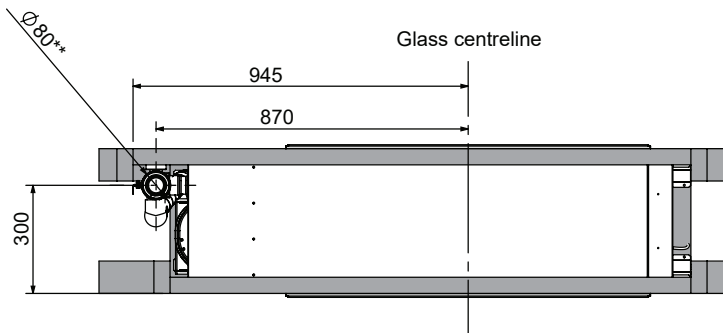
Framing shown is 90 x 45 mm.

Fire platform shown is 18 mm plywood.

Allow room underneath the appliance for the gas supply to enter the fire cavity (min. 100 mm).

The framing dimensions have the studs offset. This is because the cavity needs to be framed based on the centreline of the Linear glass, NOT the opening size.

Where there is a requirement for a symmetrical installation, the cavity size will need to increase, refer diagram below.

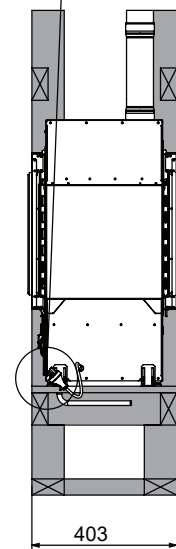
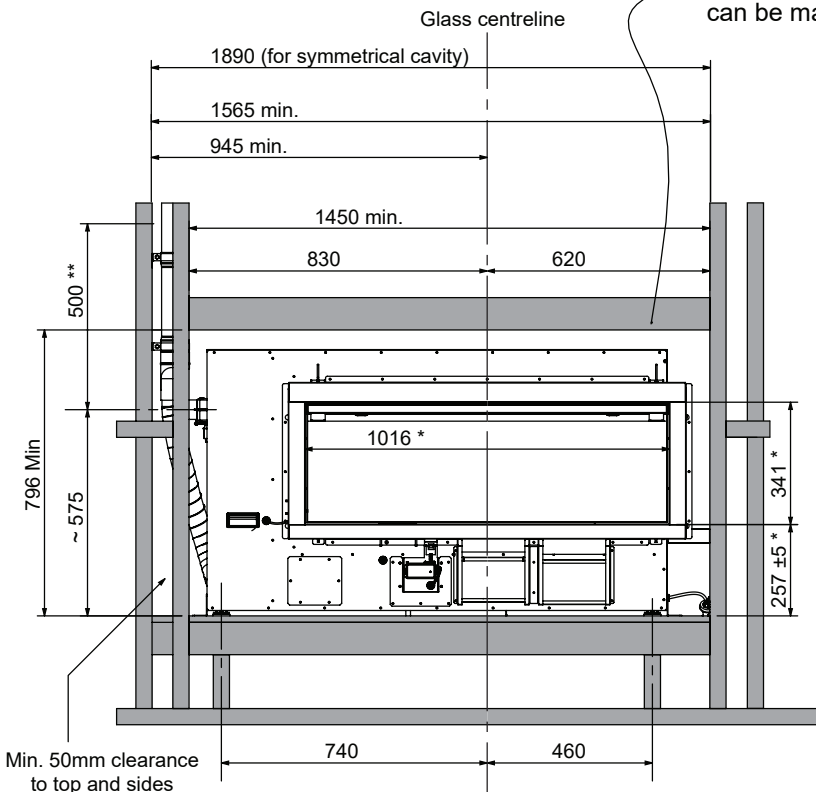


39 mm assumes 10 mm wallboard

* Plaster board cutout for finishing trim

** Maintain 25 mm clearance to combustibles for first 500mm of flue

Recommended that lintel is left until fire is installed so minimum clearances can be maintained



403 mm assumes a 10 mm wallboard on both sides of a double-sided unit.

415 mm is the min. for a single-sided unit to maintain 50 mm clearance to the back of the fire.

FRAMING FOR RHFE1500



All dimensions are assuming a 10 mm plaster board.

Studs and joists are required directly below the support feet of the appliance.

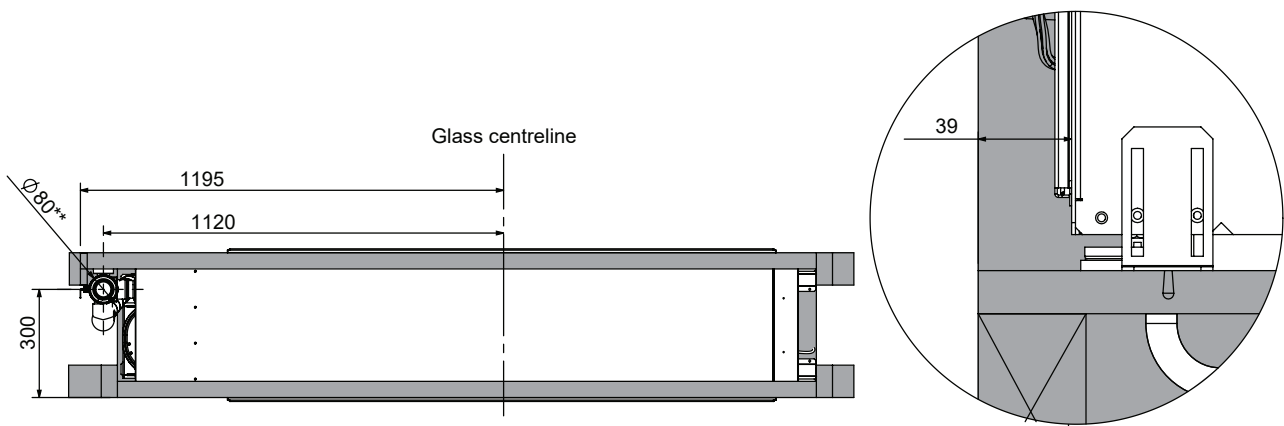
Framing shown is 90 x 45 mm.

Fire platform shown is 18 mm plywood.

Allow room underneath the appliance for the gas supply to enter the fire cavity (min. 100 mm).

The framing dimensions have the studs offset. This is because the cavity needs to be framed based on the centreline of the Linear glass, NOT the opening size.

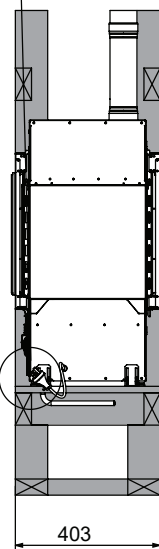
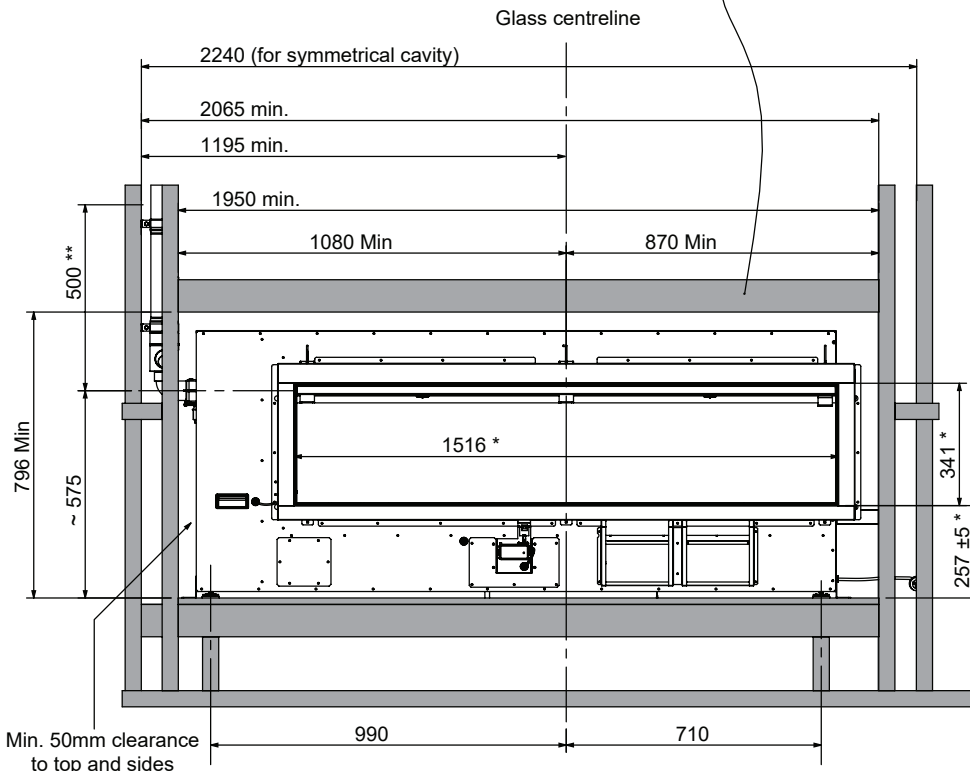
Where there is a requirement for a symmetrical installation, the cavity size will need to increase, refer diagram below.



- * Plaster board cutout for finishing trim
- ** Maintain 25 mm clearance to combustibles for first 500mm of flue

Recommended that lintel is left until fire is installed so minimum clearances can be maintained

39 mm assumes 10 mm wallboard



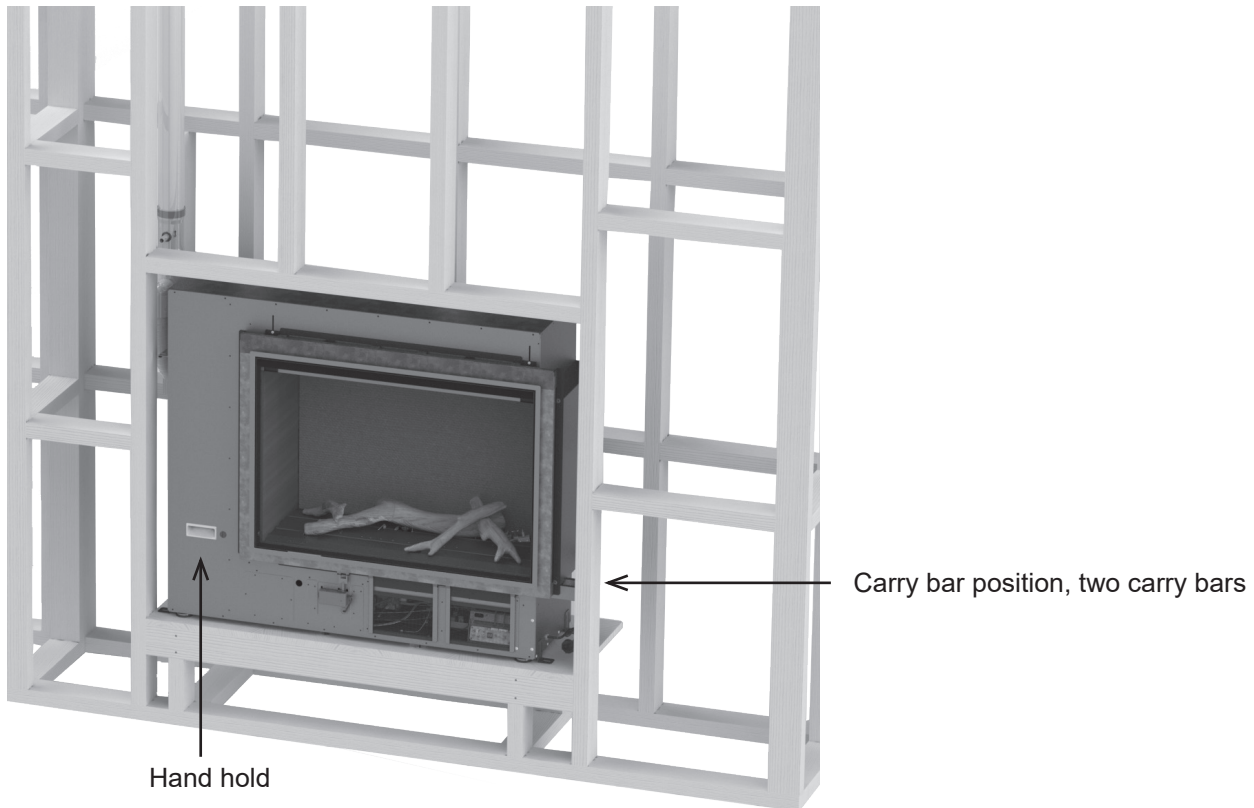
403 mm assumes a 10 mm wallboard on both sides of a double-sided unit.

415 mm is the min. for a single-sided unit to maintain 50 mm clearance to the back of the fire.

SUPPLY CONNECTIONS

INSTALLING ENGINE INTO CAVITY

Using the handholds (white slots on the left hand end and carry bars on the right hand end), carefully lift and slide the heater engine into the enclosure and position in place.



Adjustable Feet

Use the feet on all corners of the unit to adjust the fire so that it is level. The feet are adjustable. Having the unit level is critical to the installation, so the wall lining can be installed flush with the frame edge of the appliance.

Seismic Brackets

In areas where seismic activity can be expected. Secure the heater engine to the bottom of the cavity using the four seismic brackets.



To level the unit and not affect where the feet go, the seismic brackets need to be elevated before the unit is installed into the cavity

REMOVING THE BURNER BOX GLASS

The glass front sits in a narrow channel at the bottom of the fire and is held in place by glass retainer latches positioned at the top, either side of the unit (the 1500 model has an extra glass retainer latch in the centre).

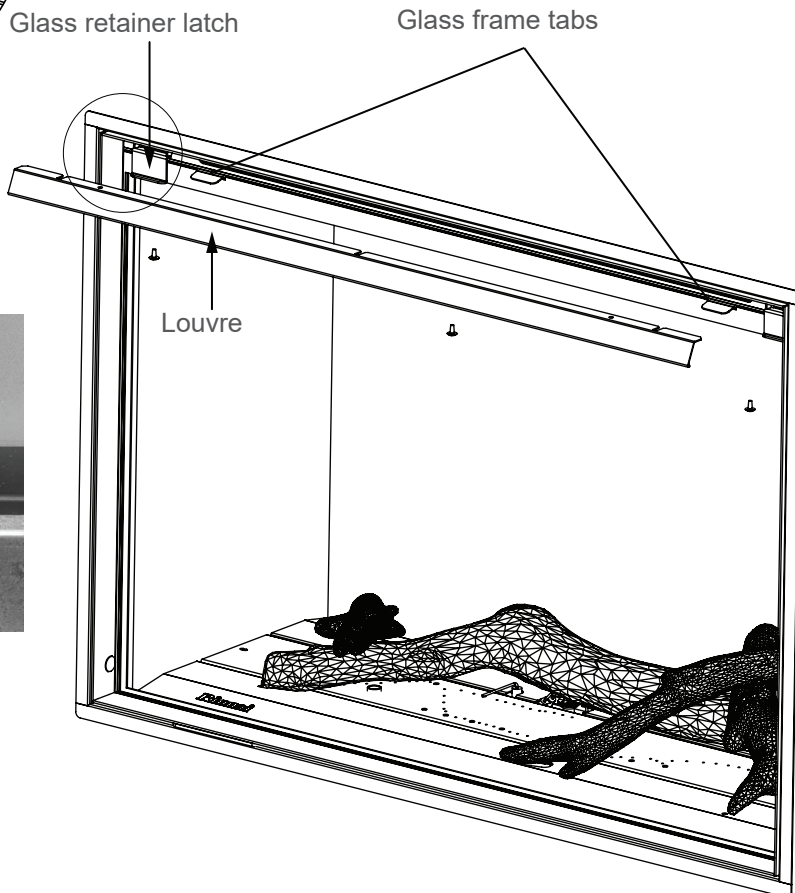
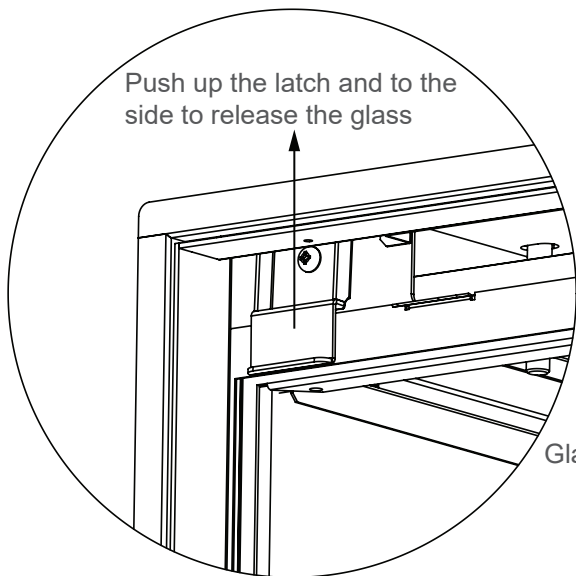


Take care when lifting the glass from the engine noting the glass for the RHFE1500 weighs approximately 7 kg.

Removal Procedure:

Using a screwdriver, loosen the three screws holding the louvre in place, remove the louvre, and then remove the screws (so the glass can come out) and put the louvre to one side.

1. Push the top glass retainer latches up and slightly to one side to release the top section of the glass. These will stay in the upright position if moved slightly to one side



2. Using the frame tabs at the top of the glass frame, lift up and gently slide to the right and rotate the glass until the left section comes free, then move the glass panel to the left to remove the right section.

GAS SUPPLY



Gas pipe sizing must consider the gas input to this appliance as well as all other gas appliances in the premises. The gas meter and regulator must be specified for the total gas rate.

A suitable sizing chart such as the one in AS/NZS 5601 should be used.

The use of rubber hose for any gas connection to a fixed appliance is NOT authorised by the manufacturer.



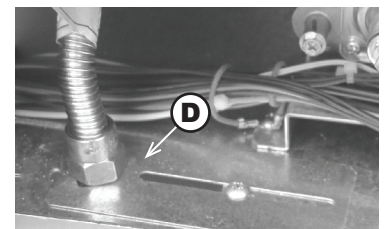
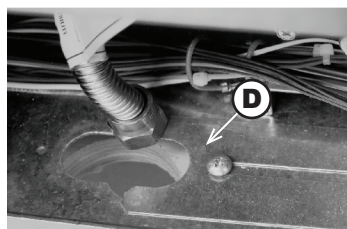
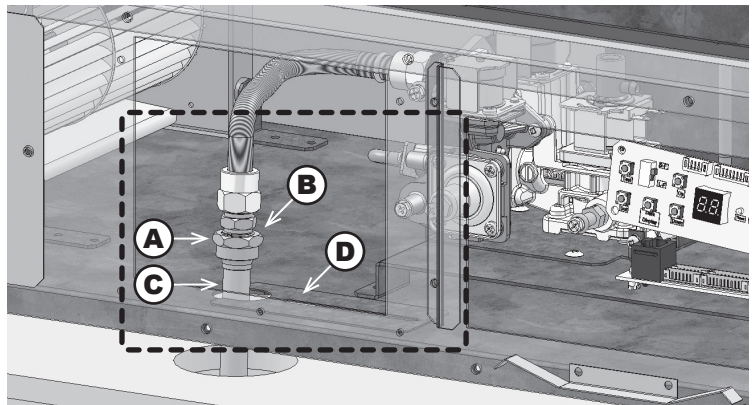
Confirm correct gas type (see labels located on top or rear panels). Refer to local gas authority for confirmation of gas type if you are in doubt.

Installation of Consumer Piping

The gas supply (consumer piping), termination is inside the heater and enters through the base of the appliance.

A 1/2" BSP flared nut (A) and a 1/2" BSP Male Flare x 1/2" Barrel Union (B) are provided for connection to the consumer piping (C). They are shipped inside the engine attached to on the gas inlet connection of the heater.

Once the gas connection is made lock the sliding plate (D) in place to stop the connection rattling, refer to the images right.



Purging Gas Supply

Foreign materials and debris such as swarf, filings, etc. **MUST** be purged / removed from the gas supply, failure to do so may cause damage to the gas control valve causing it to malfunction.

Leak Testing the Connection

Plug the end of the consumer piping gas and leak test all joints.



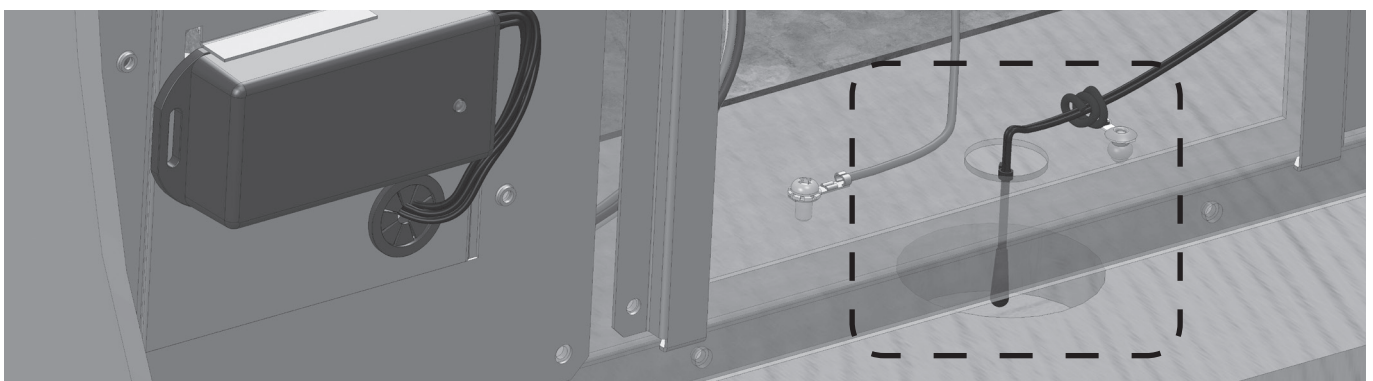
Use a soapy solution to test all gas connections. If a leak is present bubbles will form at the leak point. When finished remove any residue with a rag. Prevent any soapy solution from coming in contact with electrical components.

ROOM THERMISTOR

Once installed the room temperature thermistor should be set so the bulb on the end is outside of the fire box and into an area where room air will be drawn over it, refer to the image below.



Make sure the room temperature thermistor is still accessible for service after the wall linings have been installed.



SUPPLY CONNECTIONS

ELECTRICAL SUPPLY



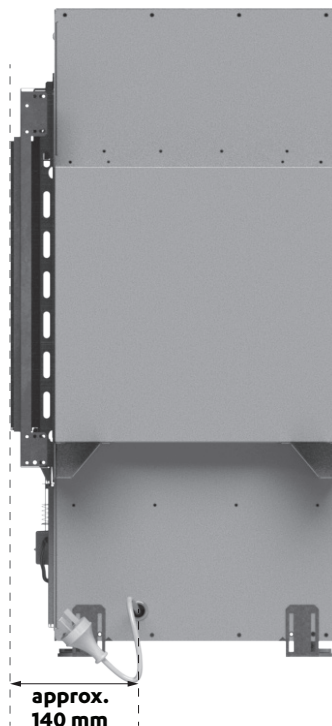
HAZARDOUS VOLTAGE.
Risk of Electrical Shock.



Disconnect all sources of supply prior to servicing



This heater has a 1.5 m power cord with a three pin plug supplied. The power cord passes through a slot in the front right hand side of the appliance, approximately 140 mm from the front of the unit.



If a power point is used it **MUST** be 230 V, rated at 10A and **MUST** be earthed.

This power point **MUST NOT** be located above the heater and a switch provided to electrically isolate the appliance for servicing.

Direct Wired Installations

Alternatively the appliance can be direct wired to conceal the power supply.



A qualified electrician will need to be consulted where a direct wired installation is required.

Any such installation must comply with the requirements of AS/NZS 5601, AS/NZS 3000 and any other relevant local regulations.

FLUE INSTALLATION OPTIONS



The following diagram provides an overview of the flue installation options available for LS-series heaters. For detailed flue installation instructions refer to the Rinnai 'Gas Fireplace Co-axial Flue System Installation Manual'.

ONLY the Rinnai flue system components specified in this and the above referenced manual **MUST** be used. Components **NOT** specified in these manuals, whether manufactured by Rinnai or otherwise, are **NOT** compatible and **MUST NOT** be used!

Use **ONLY** the supplied silicon grease when lubricating the O-rings.

Rinnai appliance warranty conditions may be voided if non Rinnai flue components are fitted.

ONLY an authorised person **MUST** install, service and remove the Rinnai LS-series heater & flue system.

The maximum flue length is 8.5m* and the maximum number of 90° bends is 3**.

* For every 90° bend, the overall flue length **MUST** be reduced by 1m.

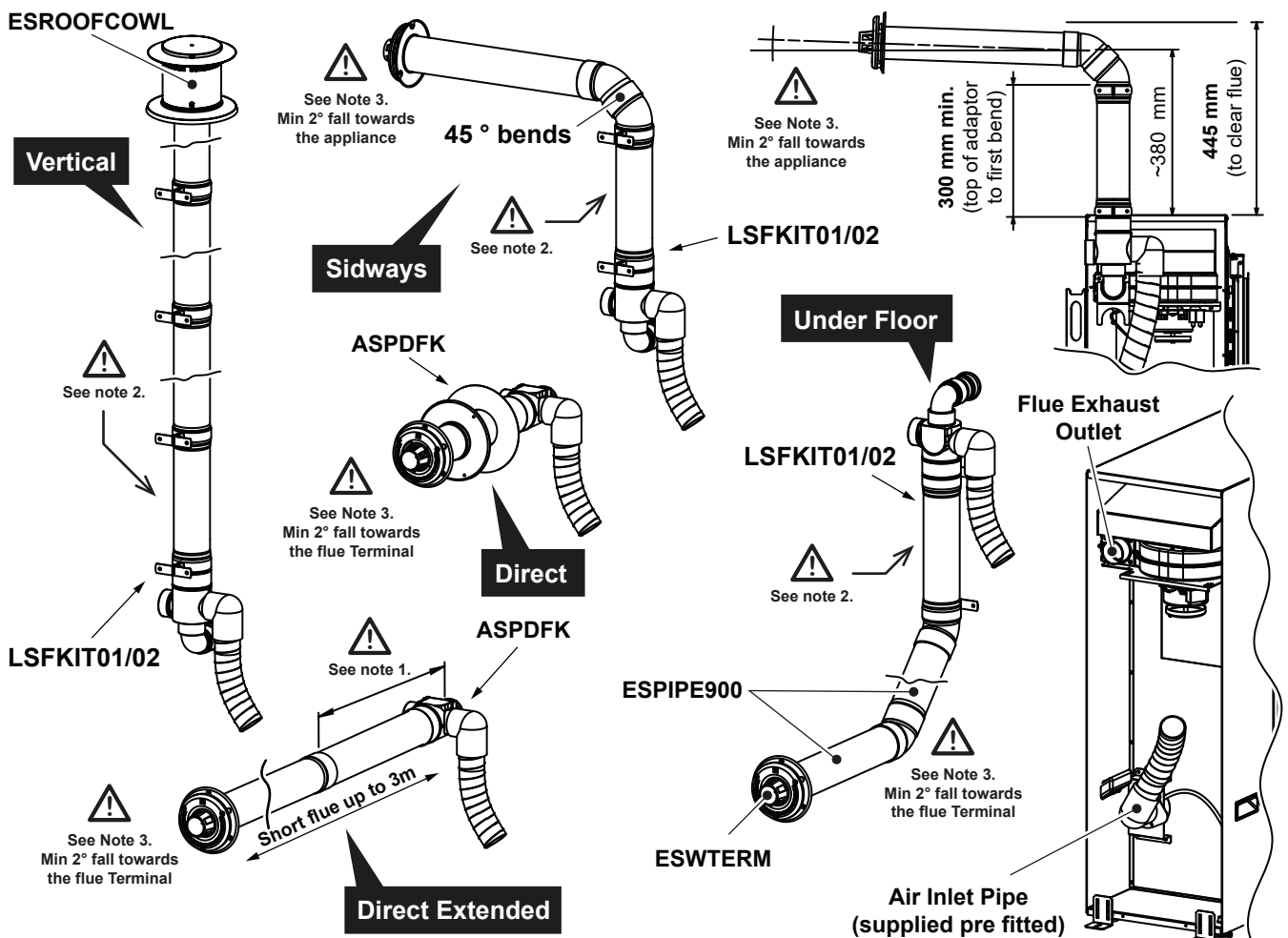
** The 90° bend of the flue transition piece is **NOT** counted as a 90° bend.

LS-series heaters are factory set for "short flue installations", which is for flue runs that are 3 metres or less. Flue runs that are greater than 3 metres in length, are specified as "long flue installations" and will require a dip switch change, refer commissioning instructions for details.

Note 1. When cutting the flue transition for joining to other components the minimum total length is **NOT** to be less than 300mm!

Note 2. The flue extension component **MUST** be fitted at this point.

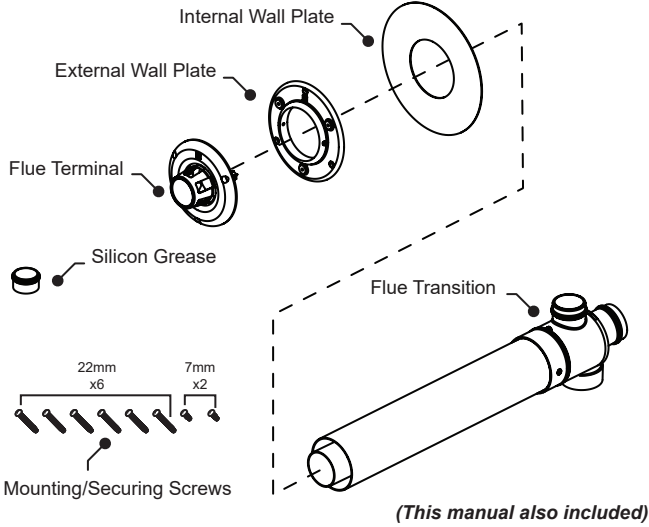
Note 3. Where stipulated a Minimum 2° fall is required to ensure correct drainage of condensation formed in the discharge flue.



LS-SERIES FLUE COMPONENTS

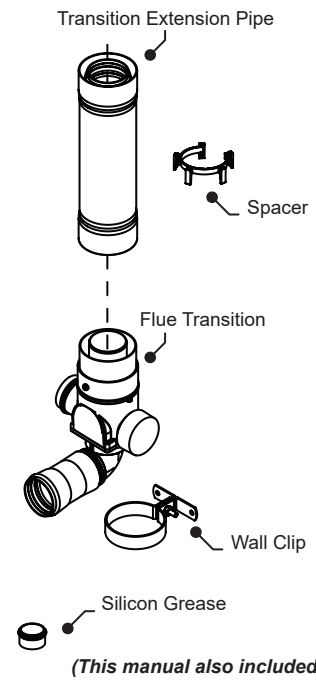
ASPDFK

(Direct Flue Kit for Rinnai Flamefires)



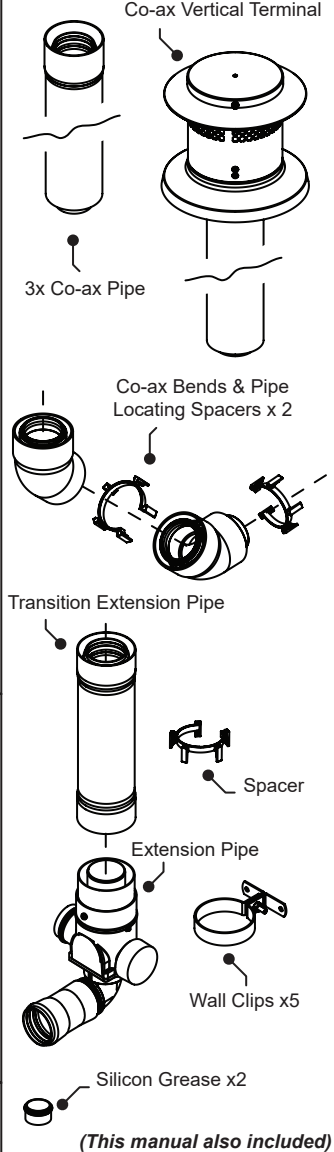
LSFKIT01

(Flue Adaption Kit for Rinnai LS-series heaters)



LSFKIT02

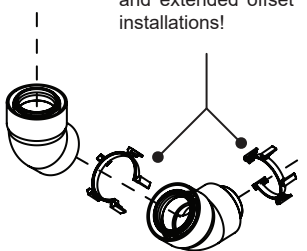
(Extended Flue Adaption Kit for Rinnai LS-series heaters)



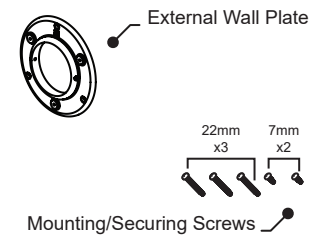
ESBEND

Co-ax Bends & Pipe Locating Spacer x2

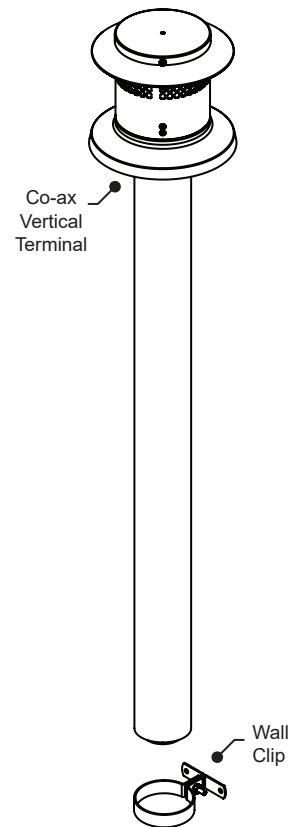
BOTH spacers are required for all offset and extended offset installations!



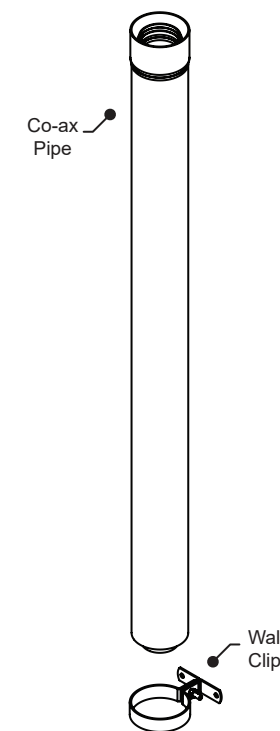
ESPLATE



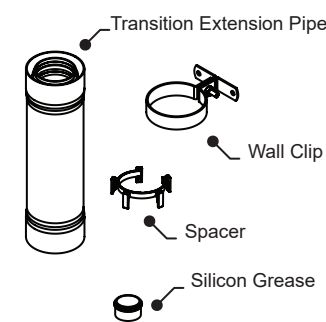
ESROOFCOWL



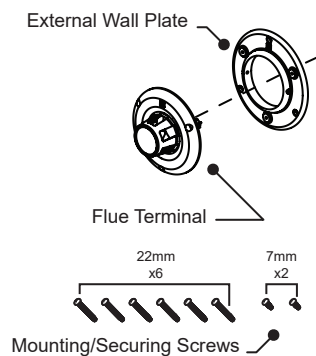
ESPIPE900



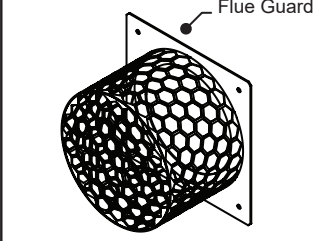
LSFEXTKIT01



ESWTERM

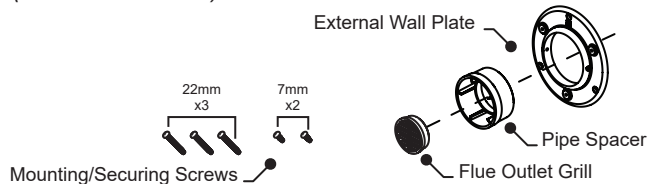


ESWFG



ESWTKIT

(Wall Terminal Kit)



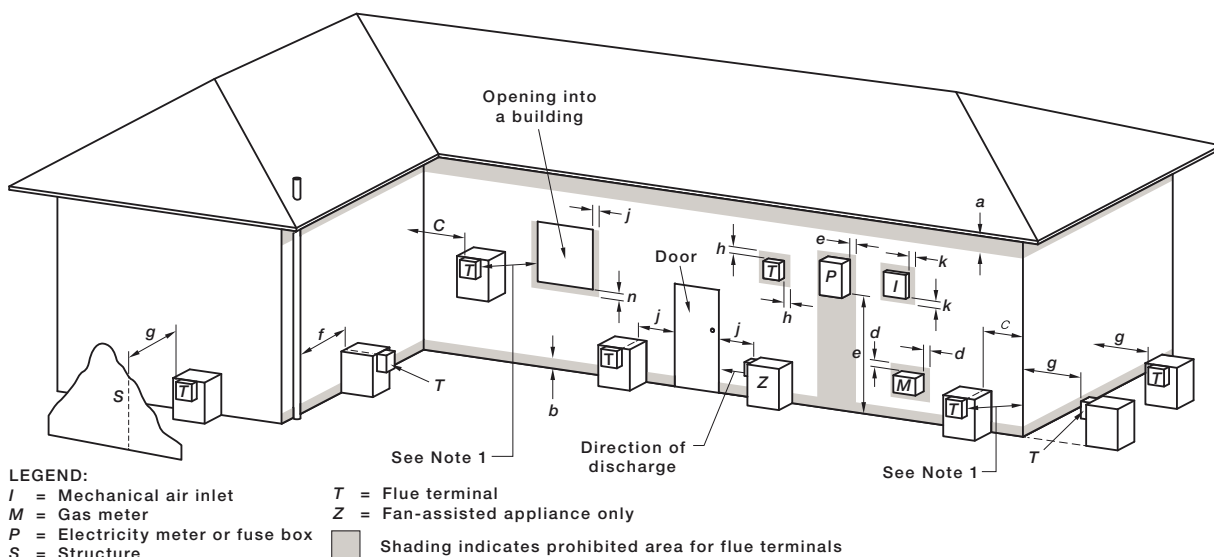
FLUE TERMINAL LOCATION



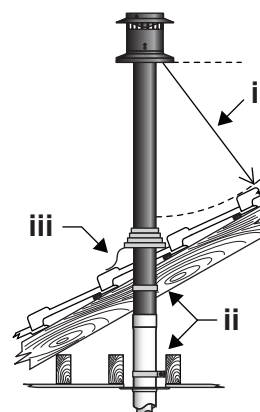
Ensure that the location of the flue terminal can comply with the requirements of AS/NZS 5601 - Fig. 6.2 which is reproduced in part below.

AS/NZ 5601 was current at the time of printing but may have been superseded. It is the installer's responsibility to ensure that requirements of the current version of AS/NZS 5601 are met.

Refer to separately supplied Rinnai LS-series Gas Fireplace - Flue Installation Manual for comprehensive flue installation details.



Ref.	Item	Min. Clearances (mm)
		Natural Draught
a	Below eaves, balconies and other projections:	
	• Appliances up to 50 MJ/h input	300
	• Appliances over 50 MJ/h input	500
b	From the ground, above a balcony or other surface *	300
c	Front a return wall or external corner *	500
d	From a gas meter (M) (see 5.11.5.9 for vent terminal location of regulator) (see Table 6.6 for New Zealand requirements)	1000
e	From an electricity meter or fuse box (P) †	500
f	From a drain pipe or soil pipe	150
g	Horizontally from any building structure* = or obstruction facing a terminal	500
h	From any other flue terminal, cowl, or combustion air intake †	500
j	Horizontally from an openable window, door, non-mechanical air inlet, or any other opening into a building with the exception of sub-floor ventilation:	
	• Appliances up to 150 MJ/h input *	500
	• Appliances over 150 MJ/h input up to 200 MJ/h input *	1500
	• Appliances over 200 MJ/h input up to 250 MJ/h input *	1500
	• Appliances over 250 MJ/h input *	1500
	• All fan-assisted flue appliances, in the direction of discharge	-
k	From a mechanical air inlet, including a spa blower	1500
n	Vertically below an openable window, non-mechanical air inlet, or any other opening into a building with the exception of sub-floor ventilation:	
	• Space heaters up to 50 MJ/hr input	150
	• Other appliances up to 50 MJ/hr input	500
	• Appliances over 50 MJ/h input and up to 150 MJ/h input	1000
	• Appliances over 150 MJ/h input	1500



- i Minimum clearance 500mm to nearest part of roof
- ii Minimum clearance 25mm to any combustibles
- iii Deck/lead or lead collar flashing

* - unless appliance is certified for closer installation
 † - Prohibited area below electricity meter or fuse box extends to ground level.

- NOTES:**
- Where dimensions c, j or k cannot be achieved an equivalent horizontal distance measured diagonally from the nearest discharge point of the terminal to the opening may be deemed by the Technical Regulator to comply.
 - See Clause 6.9.4 for restrictions on a flue terminal under a covered area.
 - See Figure J3 for clearances required from a flue terminal to an LP Gas cylinder. A flue terminal is considered to be a source of ignition.
 - For appliances not addressed above acceptance should be obtained from the Technical Regulator.

FIGURE 6.2 (in-part) MINIMUM CLEARANCES REQUIRED FOR FAN-ASSISTED FLUE TERMINALS, ROOM-SEALED APPLIANCE TERMINALS AND OPENINGS OF OUTDOOR APPLIANCES

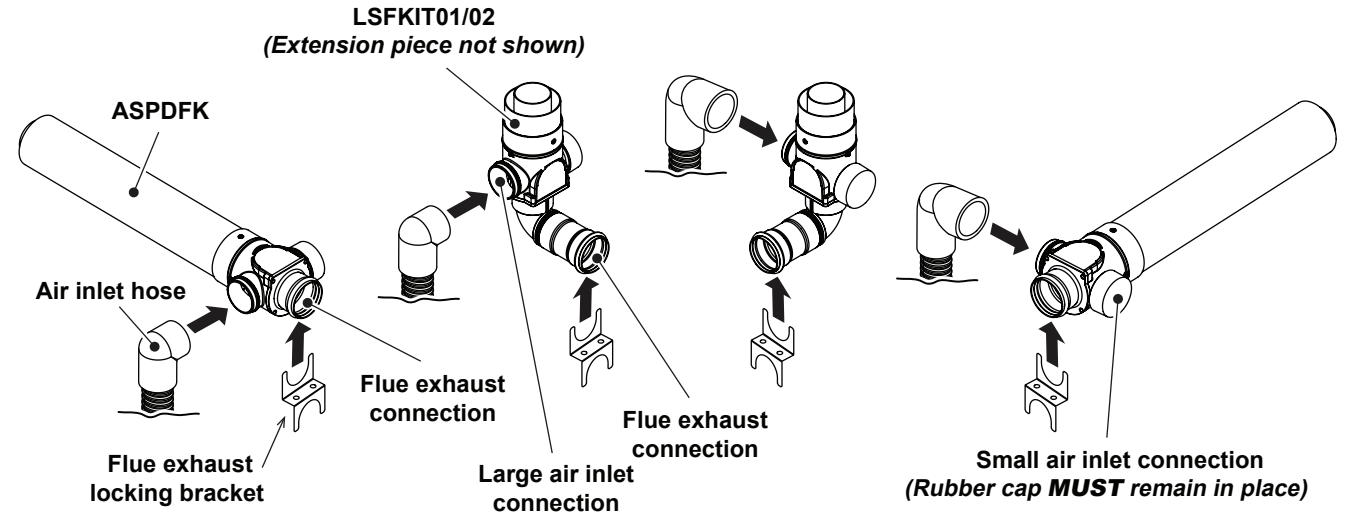
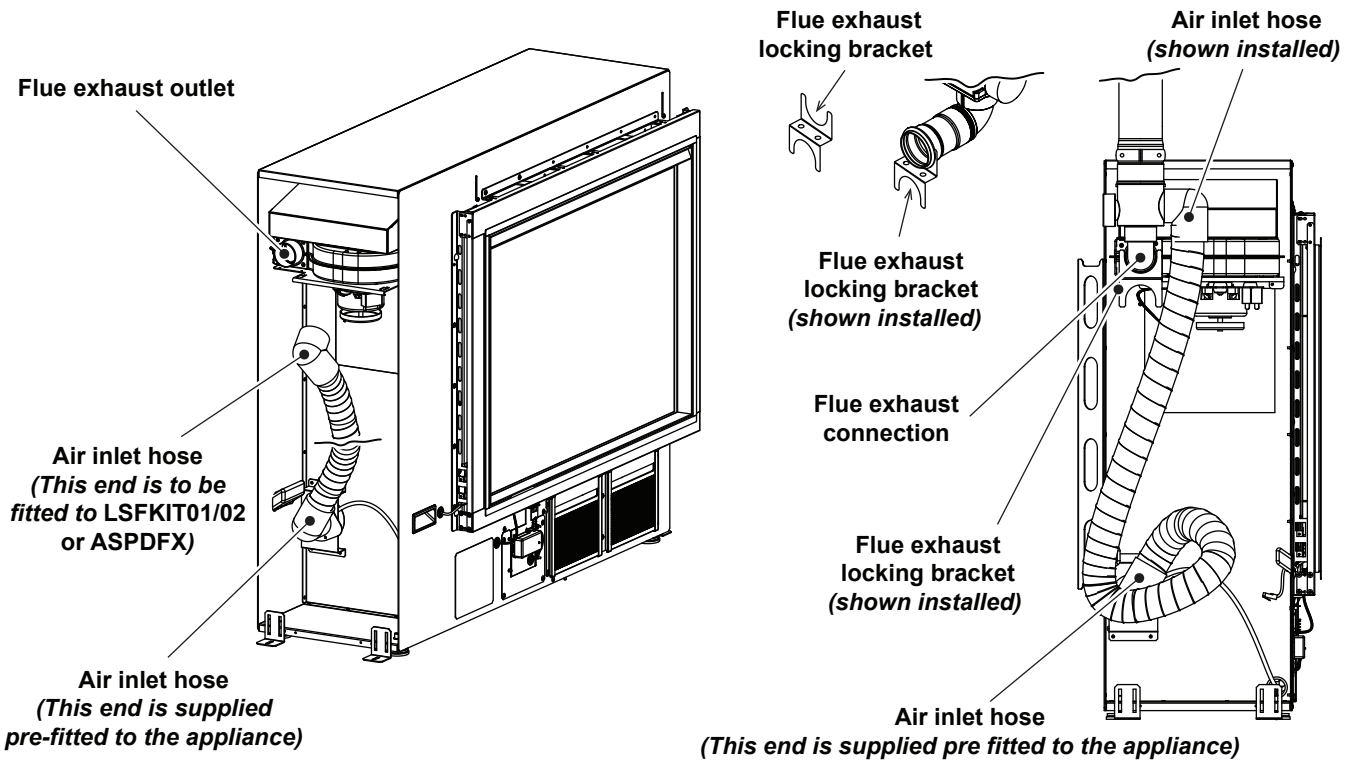


The flue terminal should be positioned away flammable materials.

FLUE EXHAUST & AIR INLET CONNECTIONS

WARNING The following steps in the installation are critical. If the connections are not secured correctly, then products of combustion could disperse into the room being heated.

1. Connect the flue terminal exhaust connection to the flue exhaust outlet, and secure in place (two screws) with the flue locking bracket (supplied in the accessories plastic bag with the remote control).
2. Secure the flue transition to the framing using a wall clip (supplied with LSKIT01/02 or ASPDFK).
3. Attach the air intake hose to the large air inlet connection on the flue transition (LSFKIT01/02 or ASPDFK) and secure in place with the supplied cable tie (also supplied), noting that the other end of the air inlet hose is already pre-installed to the appliance.
4. Ensure that the rubber cap remains secured in place on the unused (small) air inlet connection.



COMMISSIONING

GENERAL INFORMATION



Accessing the commissioning instructions installed in the bottom of the unit will not normally occur during installation, which is why the instructions are detailed in this section of the manual.

For servicing and maintenance purposes the commissioning instructions are also included in the service manual. The location of the commissioning instruction pouch within the appliance is as follows:

RHFE1500 - Located to the right hand side of the gas control

RHFE0800F/1000 - Located tucked in behind the Wi-Fi module



HAZARDOUS VOLTAGE. Risk of Electrical Shock.



Disconnect all sources of supply prior to servicing



When performing the commissioning, the appliance electrical power will need to be connected. Exercise **CAUTION** as there is potential for electric shock from the exposed wiring and circuitry. **DO NOT** leave the appliance unattended when power is connected and the panels are removed.

Installation and commissioning must be carried out by an Authorised person.

Wiring inside this appliance may be at 240V potential.

DO NOT test for gas escapes with an open flame.



LS-series heaters have two dipswitch settings for flue length.

L-F (Long Flue) this is the factory set default and in general will not require alteration.

S-F (Short Flue) refer to service manual or contact Rinnai for further details.

During commissioning the plastic push buttons on the PCB are required to be pressed to make adjustments. **DO NOT** use mechanical items such as screwdrivers to depress these button as this may lead to breakage.

GAS PRESSURE SETTING



The LS-series heaters come with the high and low operating pressures factory pre-set.

Under normal circumstances the operating pressures **DO NOT** require adjustment during installation. Make adjustments **ONLY** if the unit is not operating correctly and all other possible causes for incorrect operation have been eliminated.

Inlet supply pressure to the appliance **MUST** be checked and set within the operating parameters of the appliance in all instances. If the appliance cannot be adjusted to perform correctly contact Rinnai for advice.

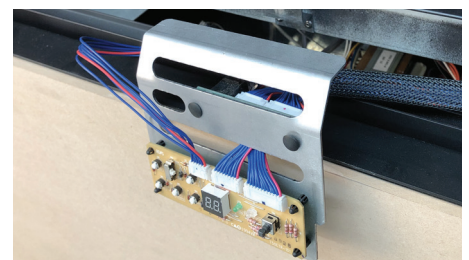
Confirm gas type: this appliance available in either Natural or Propane gas, check labelling on top panel to verify gas type. Contact local gas authority to confirm gas supply type if you are in doubt.

If setting the gas pressures is required, this is to be done with the glass off and before the burn media* is added.

* For heaters fitted with the Flametech® burner media (models RHFE0800SF/DF), the two large logs supplied with the burn media are also the main burners for these appliances. As such it is necessary to temporarily install these logs onto the aeration sleeves during commissioning.

The pressures can be checked by operating the buttons on the control panel PCB through the front access panels of the heater before the wall lining has been installed, or by pulling out the control panel PCB and accessing the buttons through the opening from the front of the appliance as shown right.

Check the pressures against those printed on the data plate of the appliance. If the data plate is not easily accessible the pressures are also detailed on the next page. Even if no adjustment of the gas pressures is required, access to the 'SET' button may be required to proceed to the next setting.

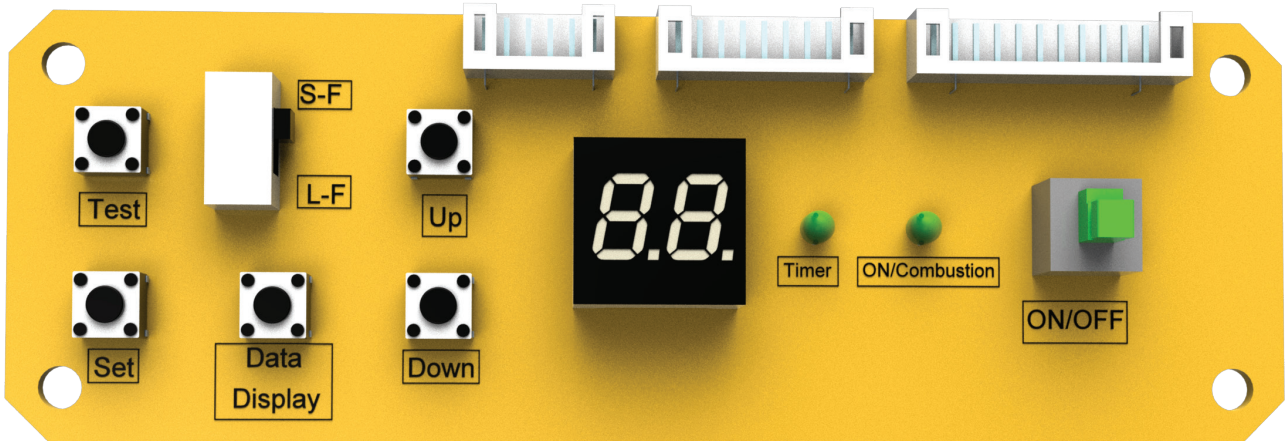


COMMISSIONING THE PCB



PCB commissioning steps are ONLY to be done if the PCB is being replaced or after a gas conversion.

1. Turn on the gas and power supply.
2. Press the 'Test' button, the display will now show the gas code (N = Natural, L = Propane). Press the 'Up' and 'Down' buttons to obtain the gas code for the unit, and press 'Set' to lock in the code.



Commissioning of the PCB is now complete and the gas pressures can now be checked.

ROOM THERMISTOR OFFSET



The PCB has an additional LED display sequence which will appear after the gas code. This is for the setting of room thermistor offset. By default this is factory pre-set to 0 (0°C) and **ONLY** needs adjustment if there is significant variation in the thermistor reading and the actual temperature of the room. Adjustment of this setting is typically **NOT** required and is **NOT** part of commissioning.

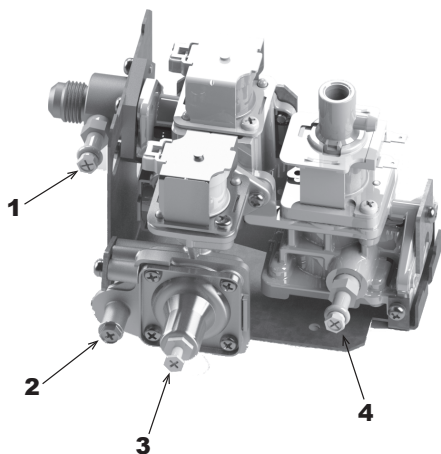
Thermistor Offset Adjustment

When required adjustment of the offset can be made in 1/3°C steps to ±5°C. Pressing the 'Up' button offsets the temperature +°C, pressing the 'Down' button offsets the temperature -°C. Refer below for the full adjustment range.

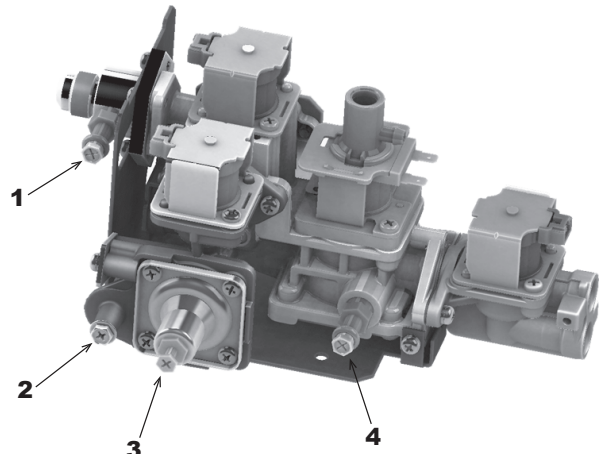
± Display Value	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
± Temp. Offset °C	0	1/3	2/3	1	1 1/3	1 2/3	2	2 1/3	2 2/3	3	3 1/3	3 2/3	4	4 1/3	4 2/3	5

GAS CONTROL SOLENOIDS

Gas control RHFE0800F/1000



Gas control RHFE1500 (additional solenoid)



1	Inlet pressure test point screw	3	Pilot pressure adjustment screw
2	Pilot pressure test point screw	4	Main burner pressure test point screw

GAS PRESSURES

RHFE0800SF/DF					
Gas Type	Natural		Propane		Unit
	S-F	L-F	S-F	L-F	
Gas rate Hi	35	32	35	32	MJ/hr
Gas rate Lo	15		15		
LH RH injector Ø	2.0		1.30		mm
Aeration sleeve LH RH	4.5 x 1		9 x 2		
Pilot	0.98		2.0		kPa
PL	0.20		0.25		
PH	0.95	0.79	1.70	1.35	

RHFE1000S/D					
Gas Type	Natural		Propane		Unit
	S-F	L-F	S-F	L-F	
Gas rate Hi	34	31	32	29	MJ/hr
Gas rate Lo	15		14		
LH RH injector Ø	2.8		1.7		mm
Aeration sleeve LH RH	22		0		
Pilot	0.98		2.0		kPa
PL	0.19		0.40		
PH	0.80	0.65	1.85	1.57	

RHFE1500S/D					
Gas Type	Natural		Propane		Unit
	S-F	L-F	S-F	L-F	
Gas rate Hi	40	37	40	37	MJ/hr
Gas rate Lo	14		14		
Main injector Ø	2.3		1.4		mm
LH RH injector Ø	1.6		0.95		
Aeration sleeve centre	22.5		N/A		
Aeration sleeve LH RH	21		17		kPa
Pilot	0.98		2.0		
PL	0.3		1.0		
PF	0.87		2.0		kPa
PA	0.59		1.0		
PH	0.80	0.67	1.90	1.54	

S-F = Short Flue Setting **PL** = Main burner on Low
L-F = Long Flue Setting **PF** = Main burner on High
LH = Left Hand **PA** = All burners on Low
RH = Right Hand **PH** = All burners on High

SETTING GAS PRESSURES



The sequence will vary slightly depending on the model:

Linear 800, 1000: PL > PH

Linear 1500: PL > PF > PA > PH

Checking the Supply Pressure

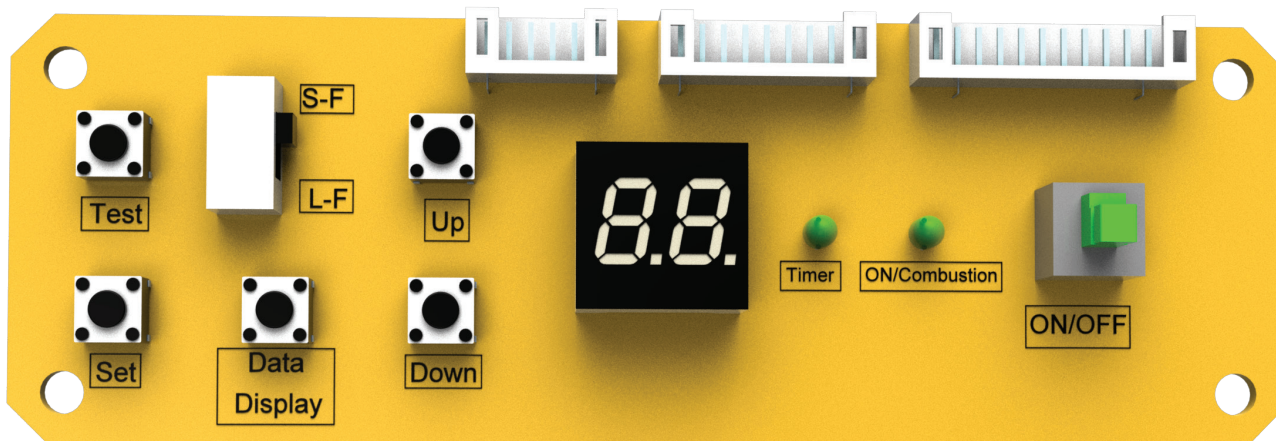
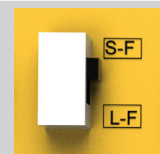
1. Remove the inlet test point screw and connect the manometer hose.
2. Press the heater 'ON/OFF' button to start the ignition sequence, ensuring the correct inlet pressure is available with all other gas appliances operating on high.
3. Press the heater 'ON/OFF' button to stop the heater operation.
4. Disconnect the manometer hose and replace the inlet test point screw.

Setting the Pilot Pressure



Before commencing with the setting of the burner pressures the correct flue length **MUST** be set.

The flue length dip switch is factory set to **L-F** (long flue). For information regarding the **S-F** (short flue) setting, refer to the service manual or contact Rinnai.



1. Remove the pilot test point screw and connect the manometer hose.
2. Press the heater 'ON/OFF' button to start the ignition sequence, ensuring the correct inlet pressure is available with all other gas appliances operating on high.
3. Press the 'Test' button twice, the heater will light to main burner on its lowest setting (stage 1) and the display will show P_L .
4. Adjust the pilot pressure as required by manually adjusting the pilot pressure adjustment screw. Press the 'ON/OFF' button to stop the heater operation.
5. Disconnect the manometer hose and replace the pilot test point screw.

Setting the Operating Pressure

1. Remove the main burner test point screw and connect the positive manometer hose.
2. Press the heater 'ON/OFF' button to start the heater.
3. Press the 'Test' button twice, the heater will light to the main burner on its lowest setting (stage 1) and the digital display will show P_L .
4. Press the 'Up' or 'Down' buttons to set the pressure for the appropriate gas type. Press the 'Set' button once to save the setting.

For RHFE1500 **ONLY**:

5. The display will now show P_F (main burner stage 3). Press the 'Up' or 'Down' buttons to set the pressure for the appropriate gas type. Press the 'Set' button once to save the setting.
6. The display will show P_H (main burner stage 4). Press the 'Up' and 'Down' buttons to set the pressure for the appropriate gas type. Press the 'Set' button once to save the setting. It can take several seconds for the solenoid to open and the pressure to stabilise.
7. The display will show P_H (main burner stage 7). Press the 'Up' or 'Down' buttons to set the differential for the appropriate gas type. Press the 'Set' button once to save the setting.
8. For RHFE0800F/1000 the display will show: $\overline{7}$
For RHFE1500 the display will show: $\overline{7}$
If the display does not change, then there is a commissioning error - repeat steps.
9. Press the 'ON/OFF' button to stop the unit.
10. Remove the manometer hose and replace the gas control test point screw.

Commissioning is now complete.

BURN MEDIA INSTALLATION



Due to the number of steps involved, separate instructions have been supplied with each burn media type and a colour placement sheet is also provided attached to burner box glass.

Experience has shown that the majority of performance problems are caused by burn media being installed incorrectly, as such correct placement of the burn media is critical. Ensure you have read through and understood the supplied burn media instructions before attempting installation. It is important to place the burn media in the correct position as incorrect placement can create carbon build-up and affect the heaters performance.

Malfunions due to incorrect burn media placement are **NOT** covered by warranty.

The appliance **MUST NEVER** be used with other burn media or burn media that is damaged.

The burn media sets are different and can **NOT** be interchanged, please ensure you have ordered the correct set before installation.

TEST OPERATION AND LIGHTING SEQUENCE

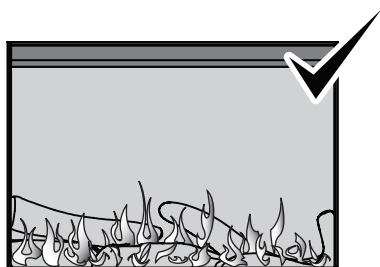
It may take approximately two hours of operation for the burn media to achieve their full flame pattern and glow. During the initial burning-in period, some smoke and smell may be experienced. The appliance should run on a high setting in a well ventilated room until these dissipate. It is important to check the flame pattern during this time.

ABNORMAL FLAME PATTERN

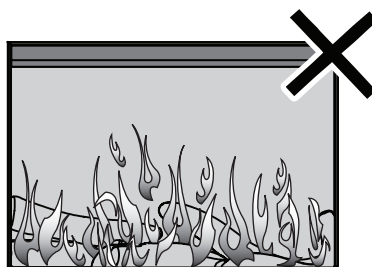
Each Rinnai Gas Fireplace heater has a distinct flame pattern. The flame should look the same every time you operate your heater, after an initial warm up period of approximately 15 minutes.

Abnormal flame performance and/or pattern can indicate a problem with your heater, such as blocked gas injectors, incorrectly installed / inadequate flue system or the artificial logs/burn media may have shifted from when the heater was first installed.

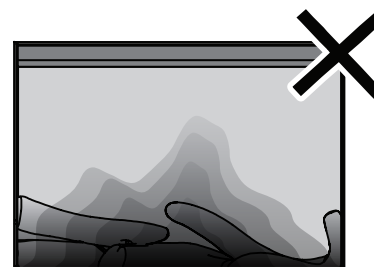
There are some warning signs that could indicate a problem. If any of the signs below occur, please contact Rinnai.



NORMAL FLAME PATTERN



ABNORMAL FLAME PATTERN



SOOT BUILD UP

Key signs of abnormal flame performance:

- Appliance turns 'OFF' soon after start up and does not relight.
- Continued difficulty or delay in establishing a flame
- Flame appears overly orange-yellow.
- Flame appears either very short or very long.
- Flame only burns part way across the burner.
- Severe soot building up on the inside of the glass or on logs.
- Continuous unusual smell from the appliance.
- Continued difficulty or delay in establishing a flame.
- Severe soot building up on the inside of the glass.



Be advised that appliances incorporating a live fuel effect, and designed to operate with luminous flames, may exhibit slight carbon deposition, this is normal operation.

CHECK Wi-Fi CONNECTIVITY

Part of the installation process is to test the Wi-Fi connectivity and correct operation with the appliance, with the owner/customer.

When the power is on the Wi-Fi LED should flash and then turn a solid red to indicate everything is ready for setup via a smart device.

Summary of how the app works

Wi-Fi module in the fire, once installed and has power connected, is on.

Homeowner downloads the Rinnai Wi-Fi app on their smart device.

Through the app, the Wi-Fi in the fire links (pairs) to the homeowners smart device.

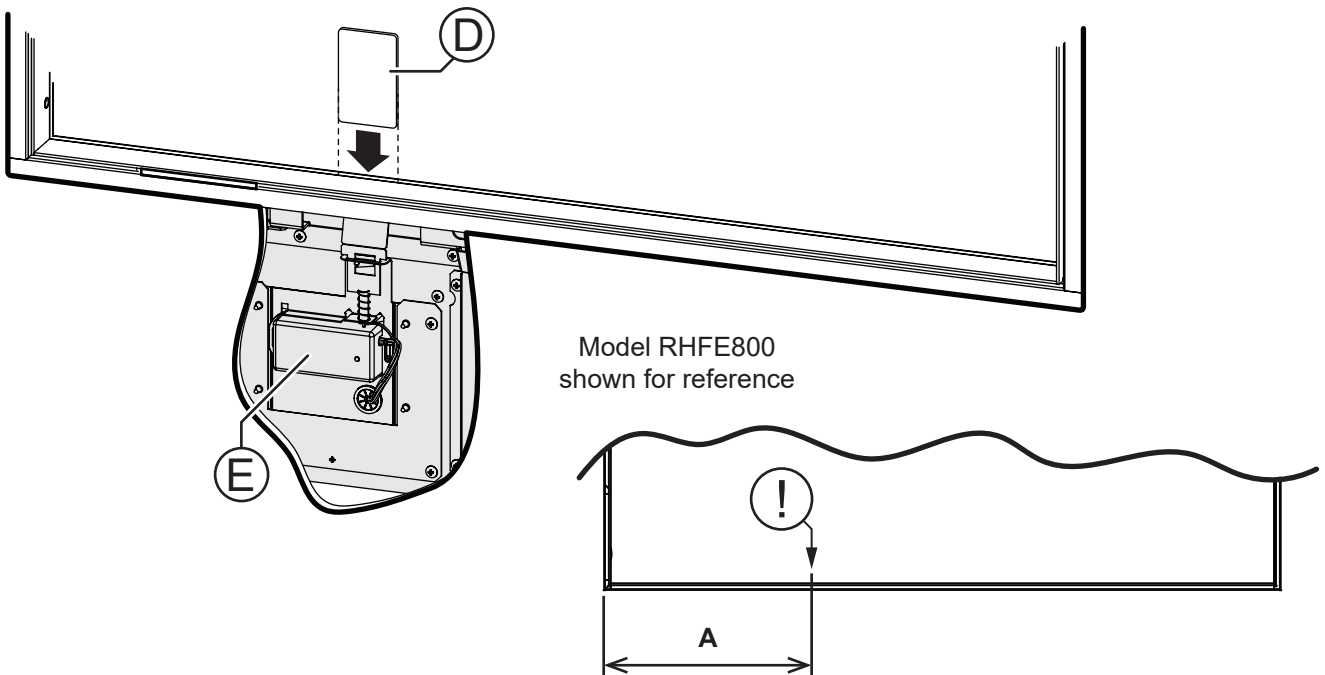
Homeowner, through the app setup process, then links the Wi-Fi in the fire to the Wi-Fi router in the home—this essentially makes the smart device the fireplace controller.

If unable to connect, the Wi-Fi board must be reset

RESETTING Wi-Fi MODULE

If there is a problem with the Wi-Fi connectivity, there may be a requirement for you to reset the Wi-Fi module (E) of the appliance. With the appliance in the ON / Standby state do the following:

1. Take a thin non-metallic card (similar to the size and thickness of a credit card).
2. Use the diagram and table below locate the narrow gap in the heaters lower frame (D).



Model RHFE800 shown for reference

Heater Model	RHFE0800F	RHFE1000	RHFE1500
Location of reset point. (A)	265mm	350mm	650mm

3. Using your card, gently press down to reset the Wi-Fi module.
4. Restart your app and follow the app instructions.

If this doesn't work switch the power off and then back on again to reset the heater and retry the resetting procedure, if the issue is still unable to be resolved contact Rinnai for advice.

INSTALLATION CHECKLIST & INSTALLATION RECORD



It is the responsibility of the installer to complete both the "Installation Checklist" and the "Installation Record" on pages 16 and 17 of the operation manual at the completion of installation.

WALL LINING INSTALLATION



There are some aspects of the wall lining installation that are critical to the safe operation of the appliance. An air gap of at least 3 mm around the fire is critical to the safe operation of the LS-series to ensure air flow in and around the unit.

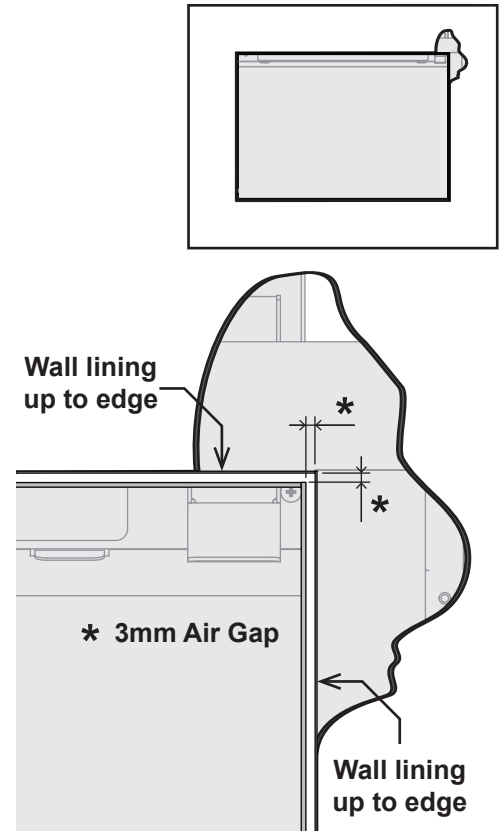
Avoid getting plaster in the air gap around the fire edges.

ADDITIONAL NOTES:

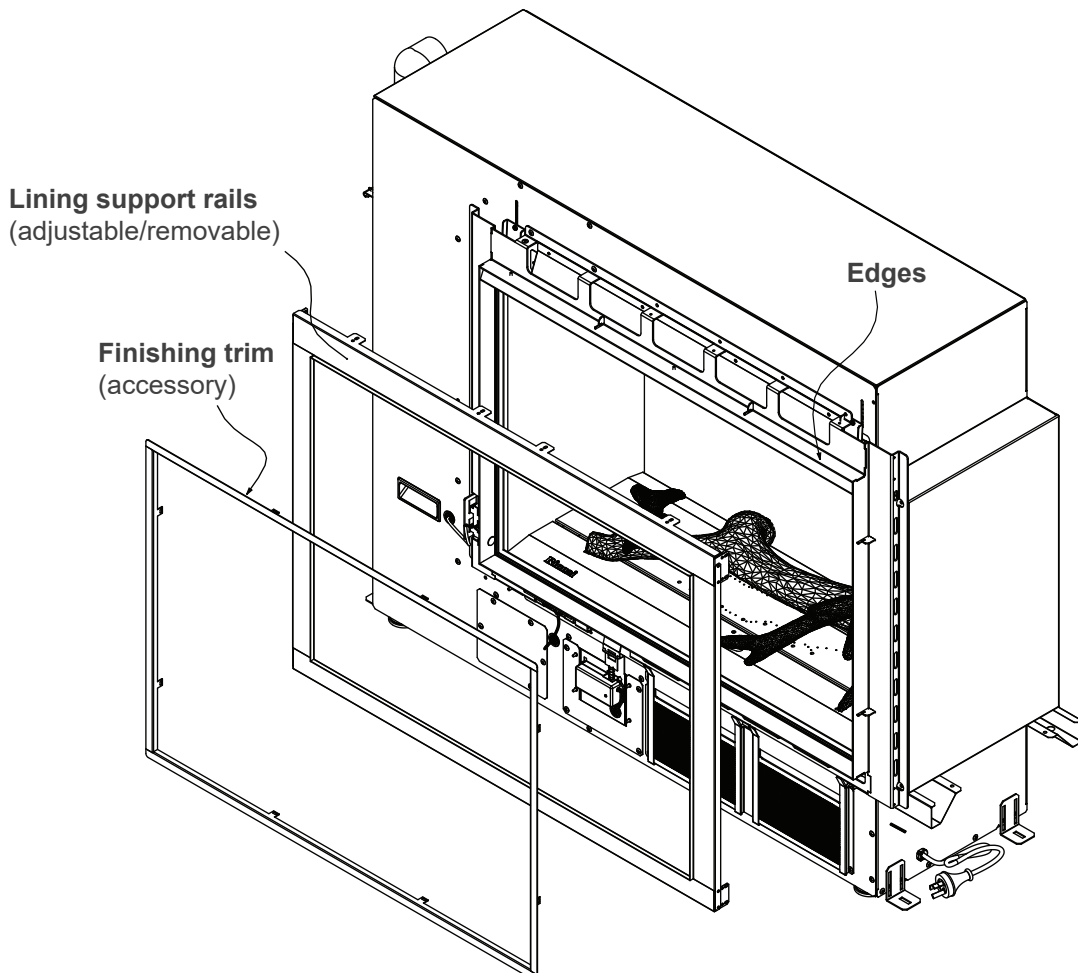
While the fire is safe when installed with combustible wall linings in accordance with these instructions, please be aware that the wall will go through hot and cold cycles and can reach temperatures of up to 80 °C. This could impact the durability of timber or wallpaper finishes.

If screws are used (maximum length 25 mm) around the edge, ensure they do not interfere with the working parts of the fire (latches, IR receiver, On/Off button).

Cut-out ref.		RHFE0800F	RHFE100	RHFE1500
A	Minimum	816 x 566	1016 x 341	1516 x 341
	Maximum	830 x 580	1030 x 355	1530 x 355
B		816 x 566	1016 x 341	1516 x 341
C		810 x 560	1030 x 355	1530 x 355

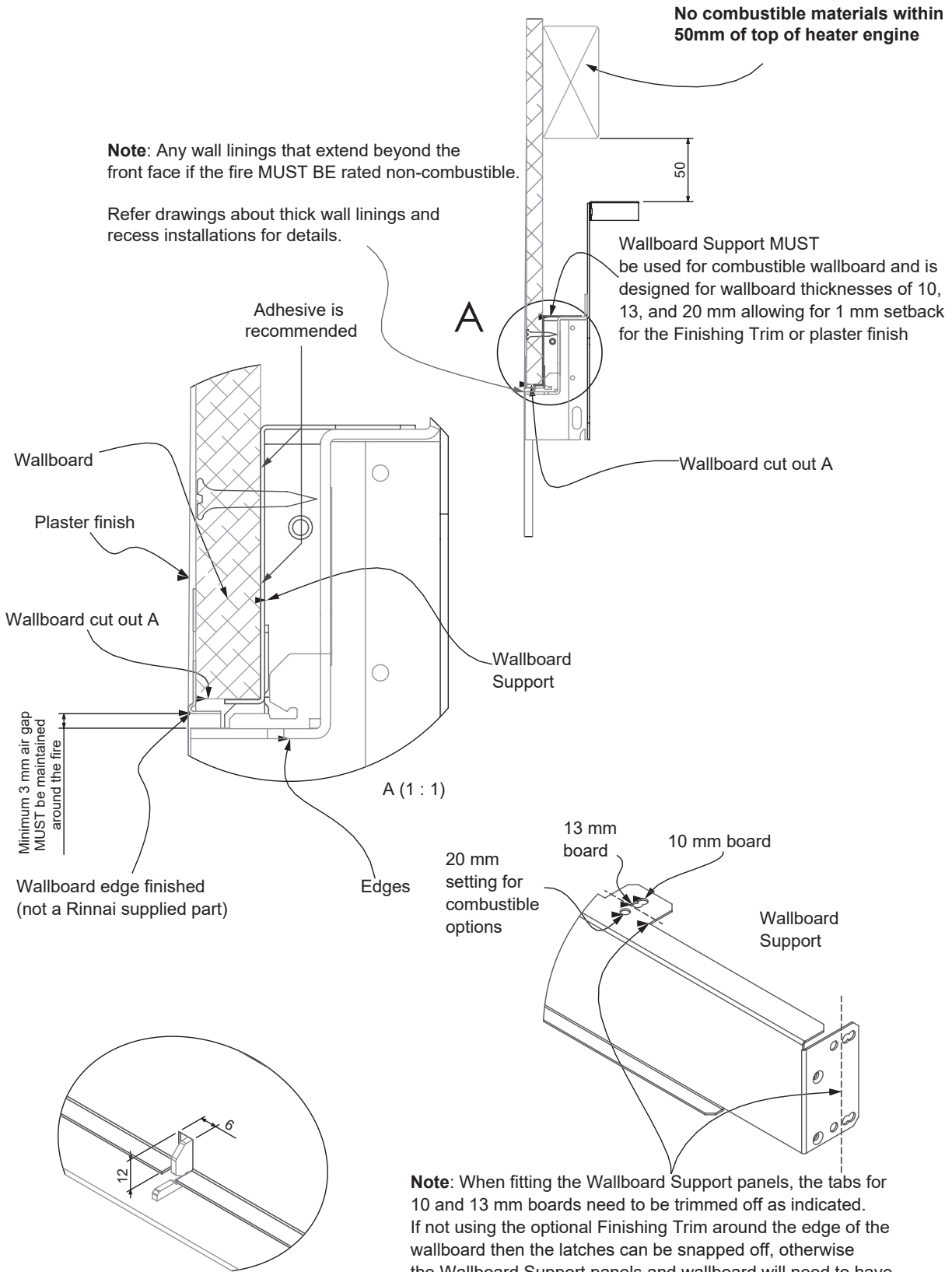


Below is an image to highlight the position and names of the different LS-series framing components. Adjust as and where necessary, depending on the wall lining being installed.



PLASTERBOARD WALL WITH PLASTERED FINISH

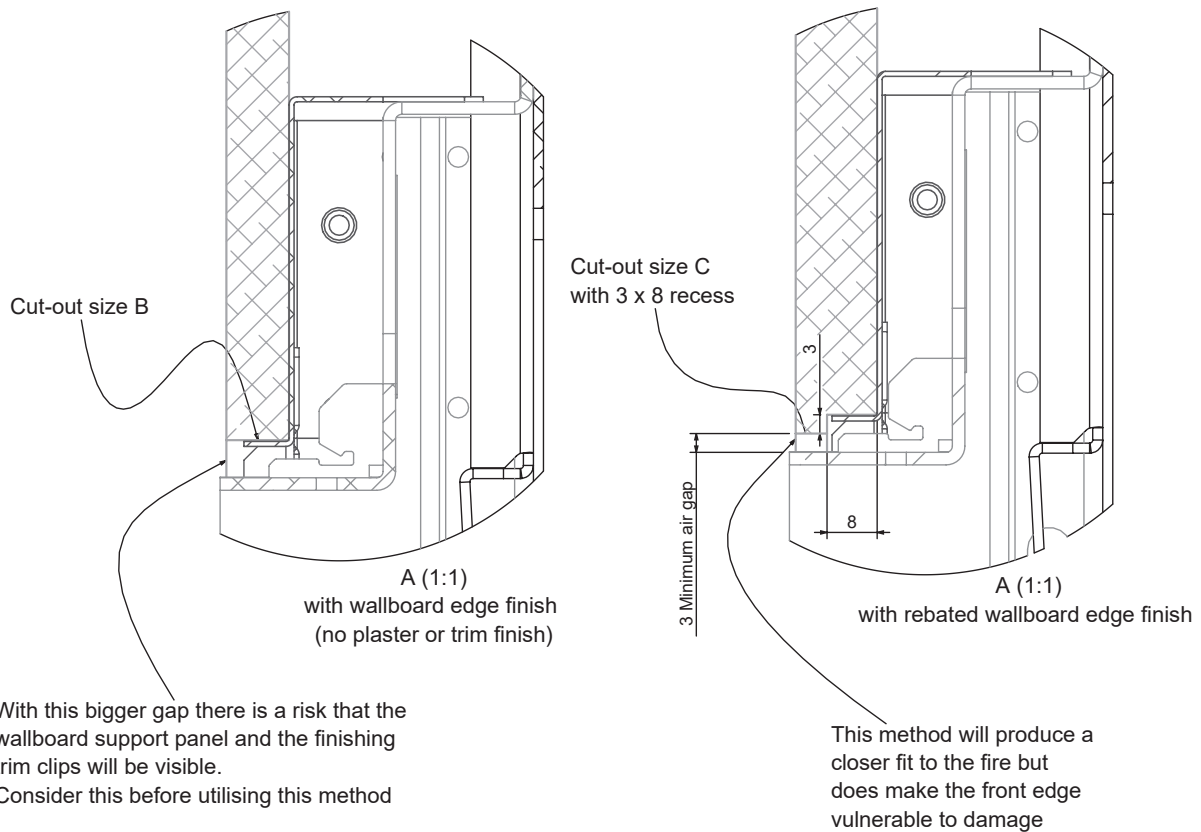
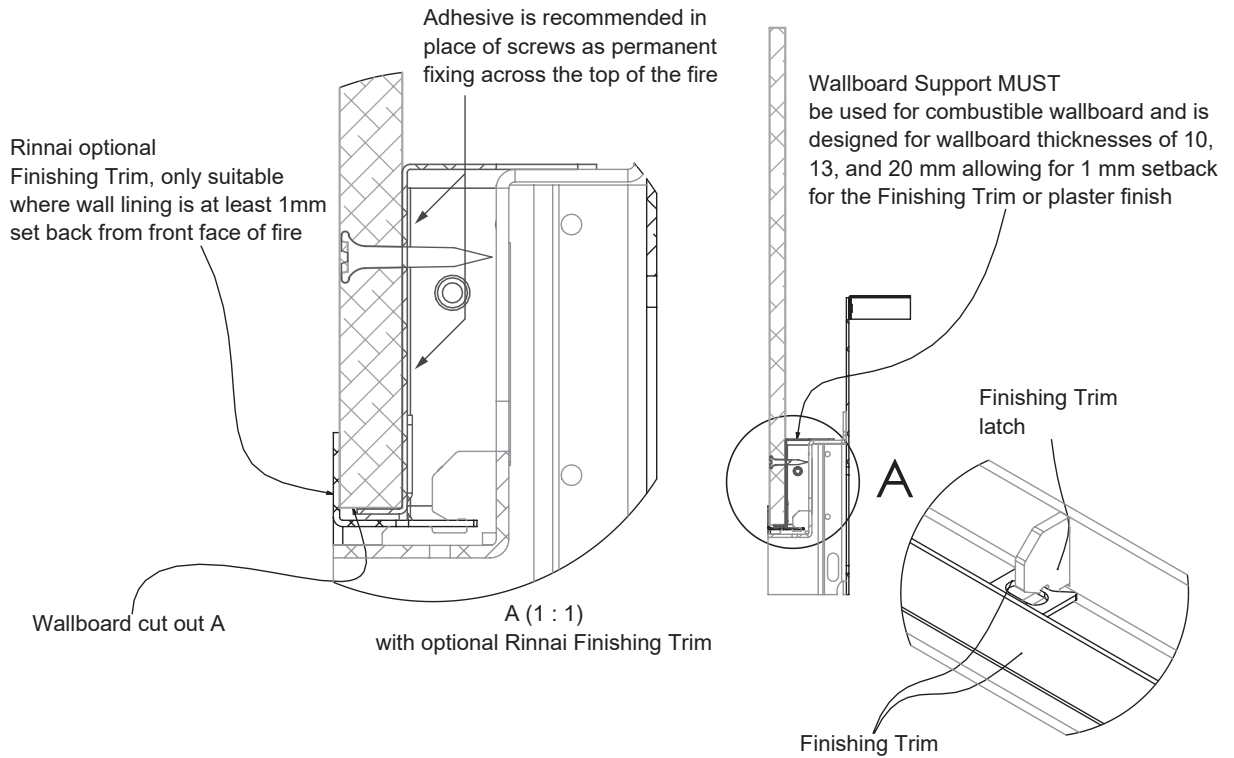
(wall flush with front of heater only)



Note: When fitting the Wallboard Support panels, the tabs for 10 and 13 mm boards need to be trimmed off as indicated. If not using the optional Finishing Trim around the edge of the wallboard then the latches can be snapped off, otherwise the Wallboard Support panels and wallboard will need to have clearance applied to allow proper fitting.

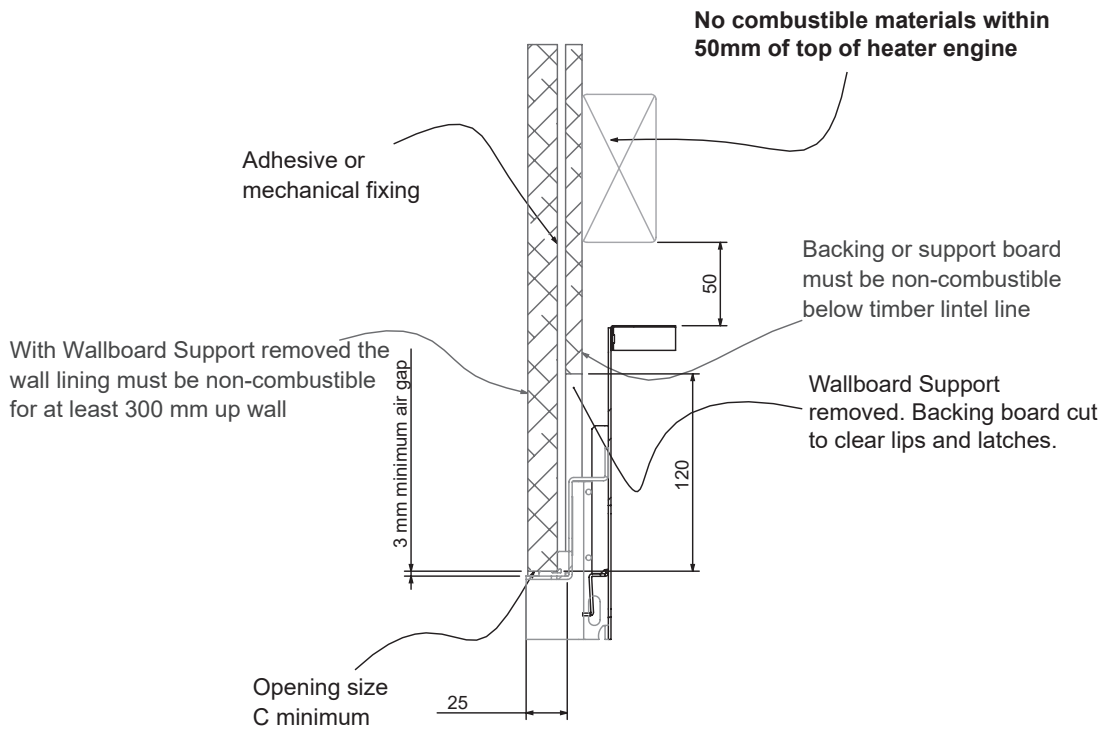
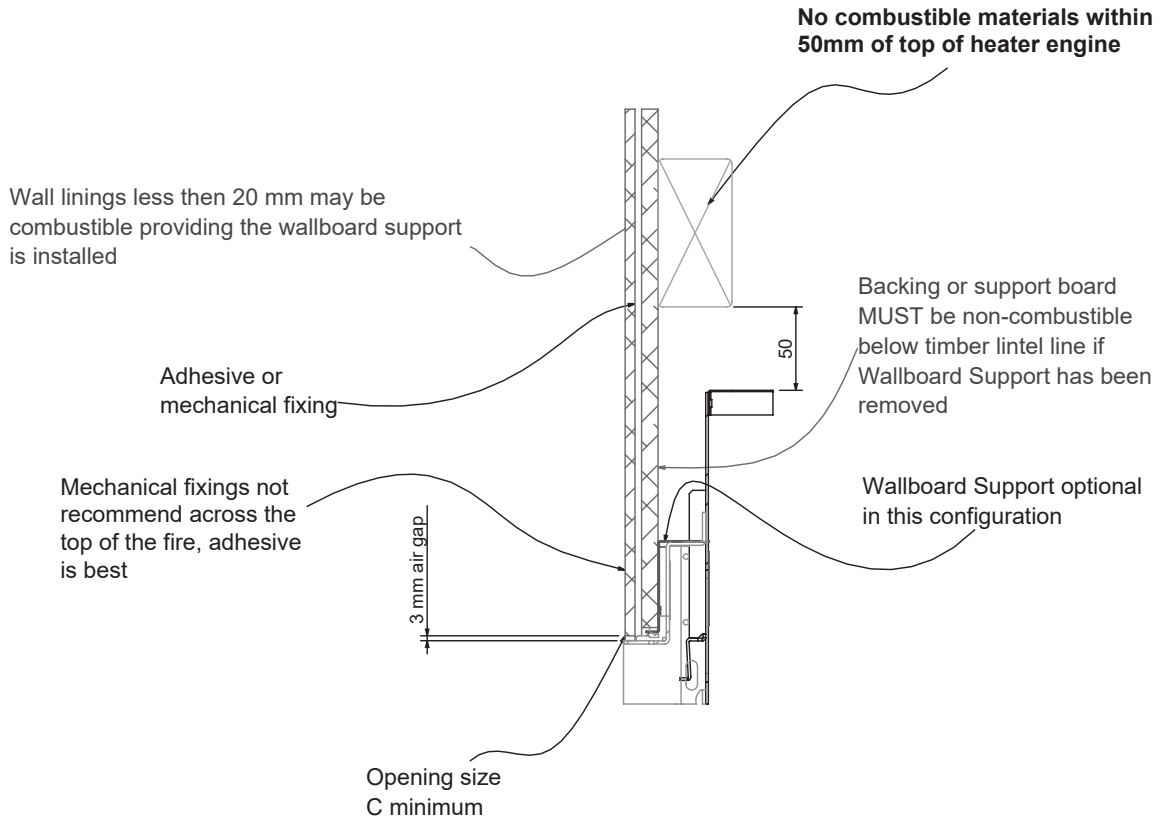
EDGE FINISHING OPTIONS

(applicable to any installation method)

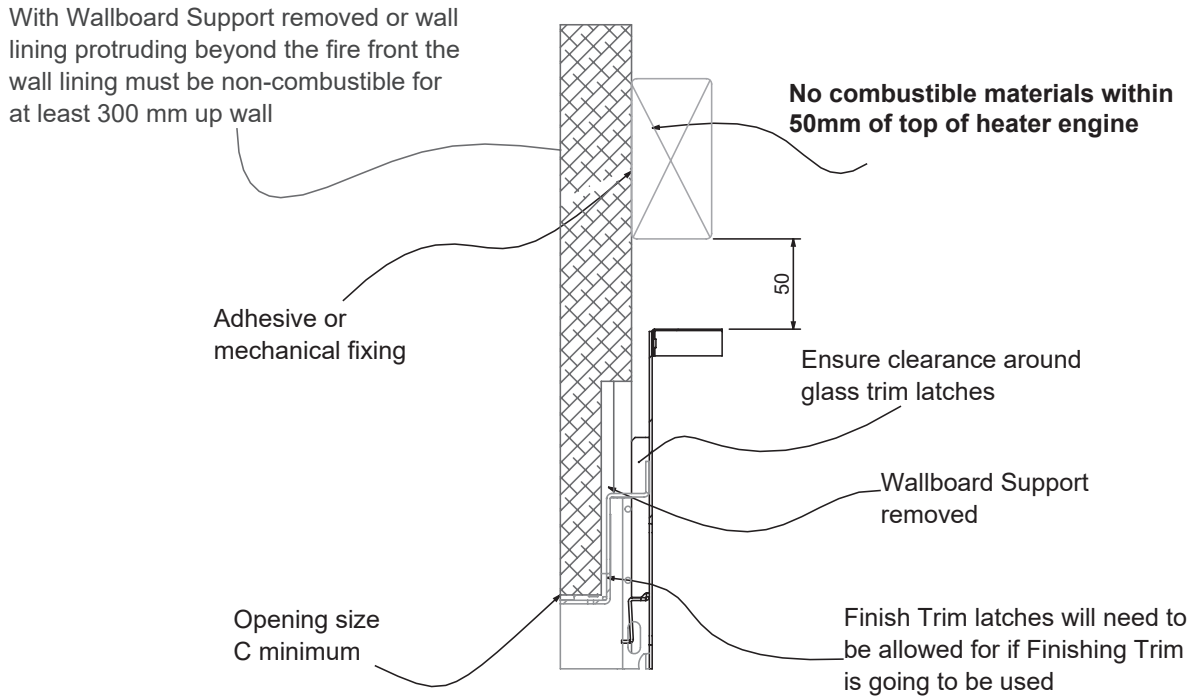
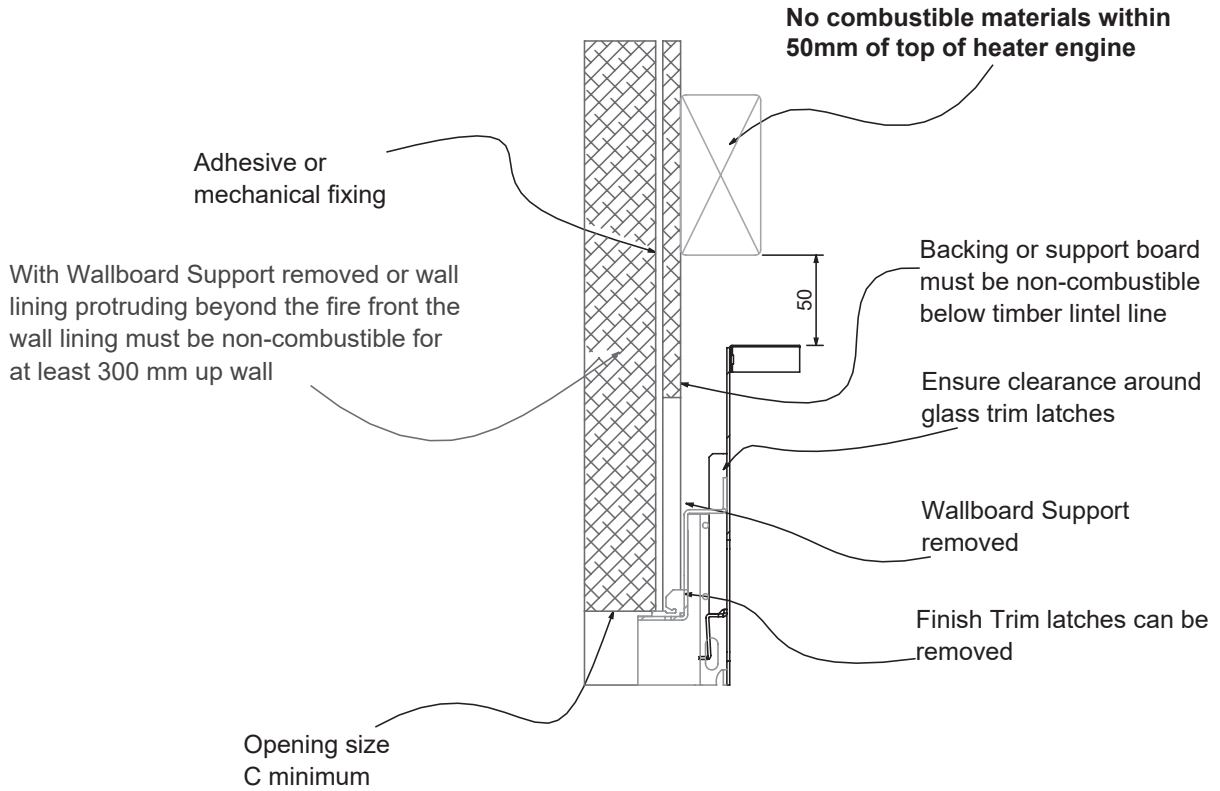


TILED OR SECOND SKIN WALL LININGS

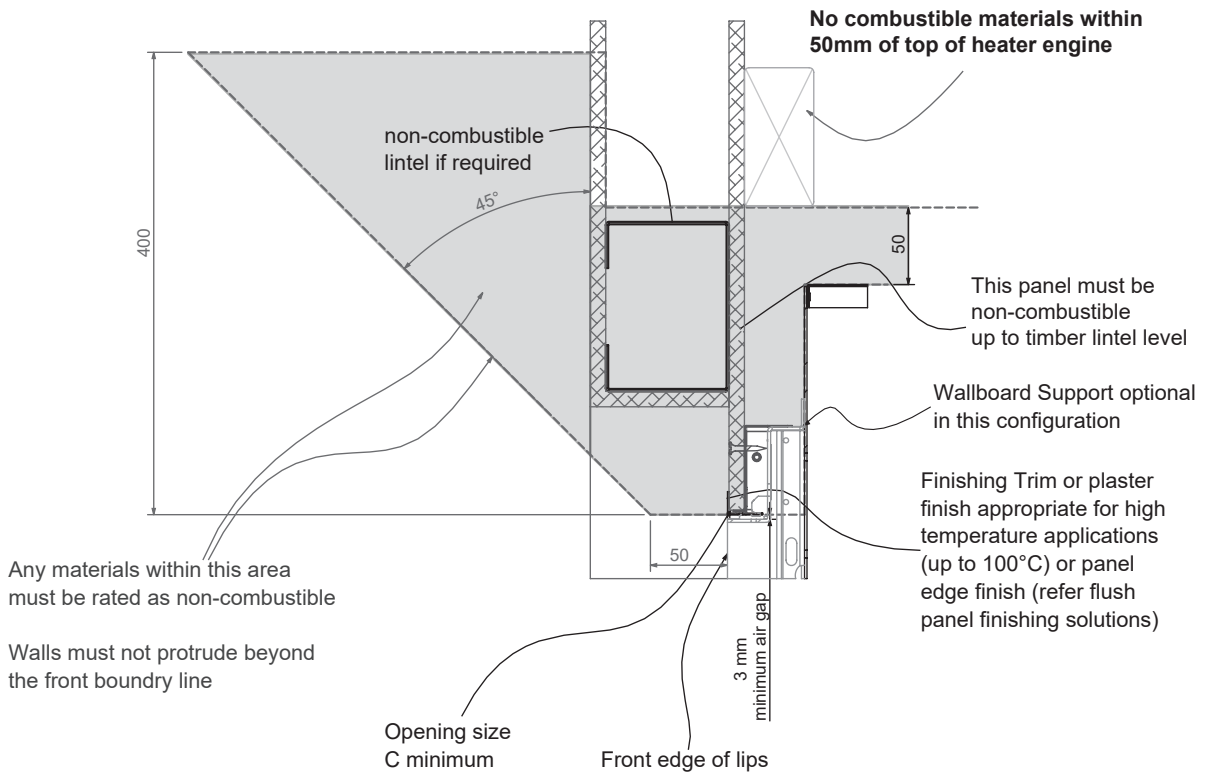
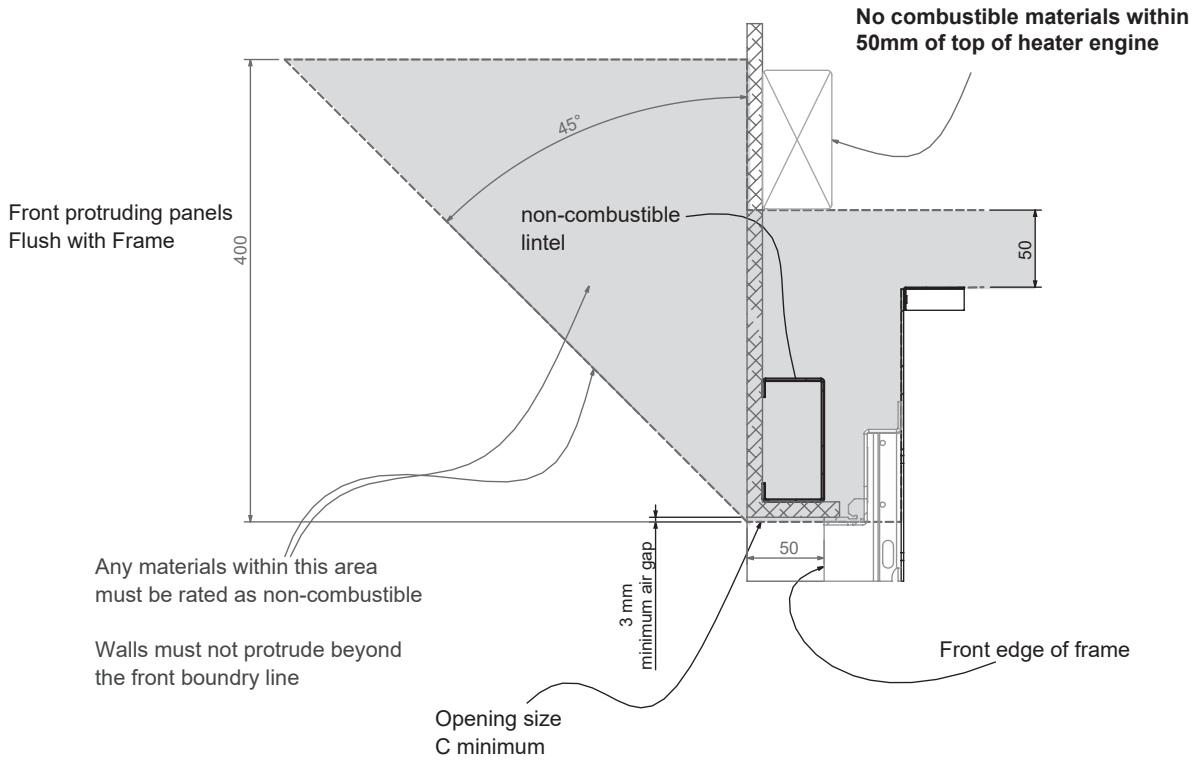
(combustible and non-combustible options)



NON-COMBUSTIBLE THICK WALL LININGS



NON-COMBUSTIBLE RECESS INSTALLATIONS



SPECIFICATIONS

TABLE 1. APPLIANCE DETAILS

Model Number	RHFE0800SF/DF		RHFE1000S/D		RHFE1500S/D	
Model Name	Flametech®		LS1000		LS1500	
General Description	Inbuilt, Fan Exhaust Balanced Flued Convection Flame Fire with IR & Wi-Fi Remote Control.					
Features	Burning log effect single / double sided glass front Convection fan, top warm air outlet, mesh dress guard					
Installation	Inbuilt ONLY.					
Number of Burners	2		1		3	
Combustion System	Multi-port burners, forced exhaust.					
Flue Type	Forced Combustion, twin chamber coaxial flue system, provides air for combustion to the appliance and allows expulsion of combustion products to atmosphere. Results in 'room sealed' appliance.					
Convection Fan	Single drum 180mm x 60mm (diameter) 2 speed - centrifugal					
Gas Connection	½ " BSP, the gas supply terminates inside the heater—lower left hand side of the appliance.					
Remote Control	Infra Red (IR) type. 2 x CR2450 button batteries / Wi-Fi via app.					
Operation	ON/Standby (Manual button), IR Remote control, Smartphone App.					
Ignition	Continuous spark electronic ignition.					
Gas Types	NG, Propane (AU) / NG, Universal LPG (NZ Only!)					
Appliance Data Plate location	Bottom panel, front inside of appliance.					
Ignition	Continuous Spark Electronic Ignition.					
Power Supply	240 V 50 Hz, 1500 mm cord is supplied with a 3 pin plug.					
Power Consumption High	W	50				
Safety Devices	Flame Failure Thermocouple Overheat Switch (Bi-metal strip) Fan delay (Bi-metal strip) Electrical Fuse Power Failure Protection					
Glass	Ceramic Glass.					
Dress Guard	Wire Mesh					
Glass seal material	Woven fibreglass chord - Hytex® 1000 by mid Mountain USA.					
Log Set	Flametech® <i>Self burning log technology</i>		Ceramic		Ceramic	
Noise Level	dB(A)	37 - 45				
Fan	2 speed fan. Heat is distributed from the top of the appliance.					
Weight - Packaged / Unit	kg	100 / 120		100 / 125		110 / 140

SPECIFICATIONS

TABLE 2. DIMENSIONS

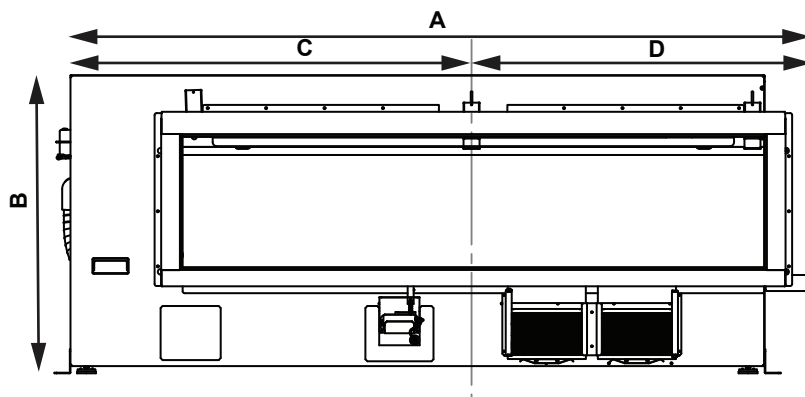
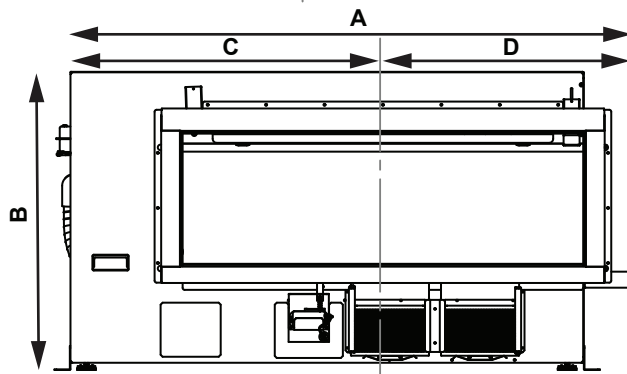
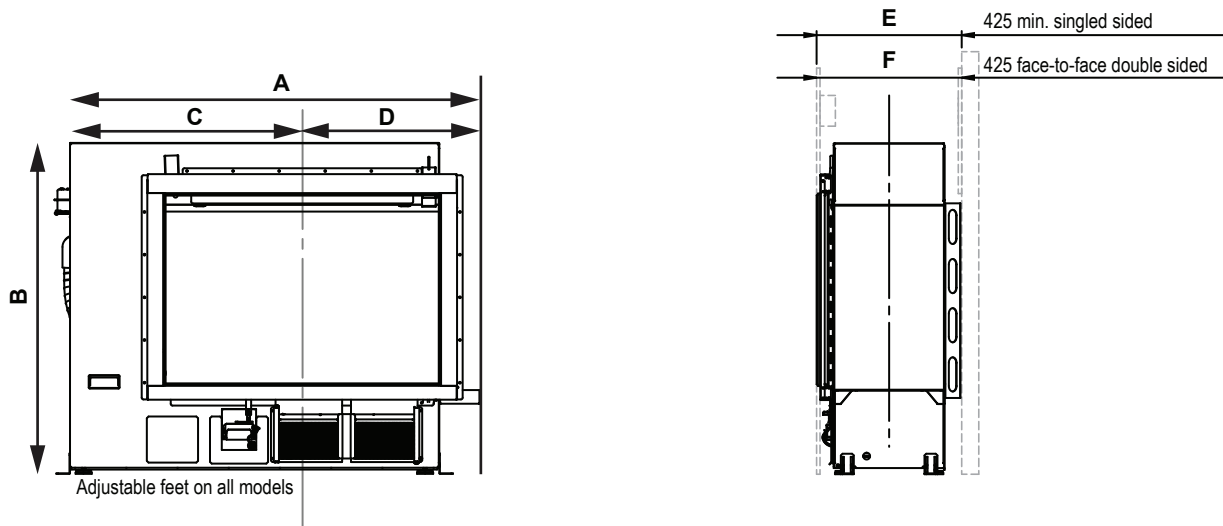
		RHFE800S/SF/D/DF	RHFE1000S/D	RHFE1500S/D
A	Engine Width	1245	1435	1935
B	Engine Height	966 ± 5	741 ± 5	741 ± 5
C	Glass Centre - Right	519	619	869
D	Glass Centre - Left	726	816	1066
E	Depth - Minimum, Single sided	425	425	425
F	Depth - Face to face, Double sided	425	425	425



All dimensions are in mm

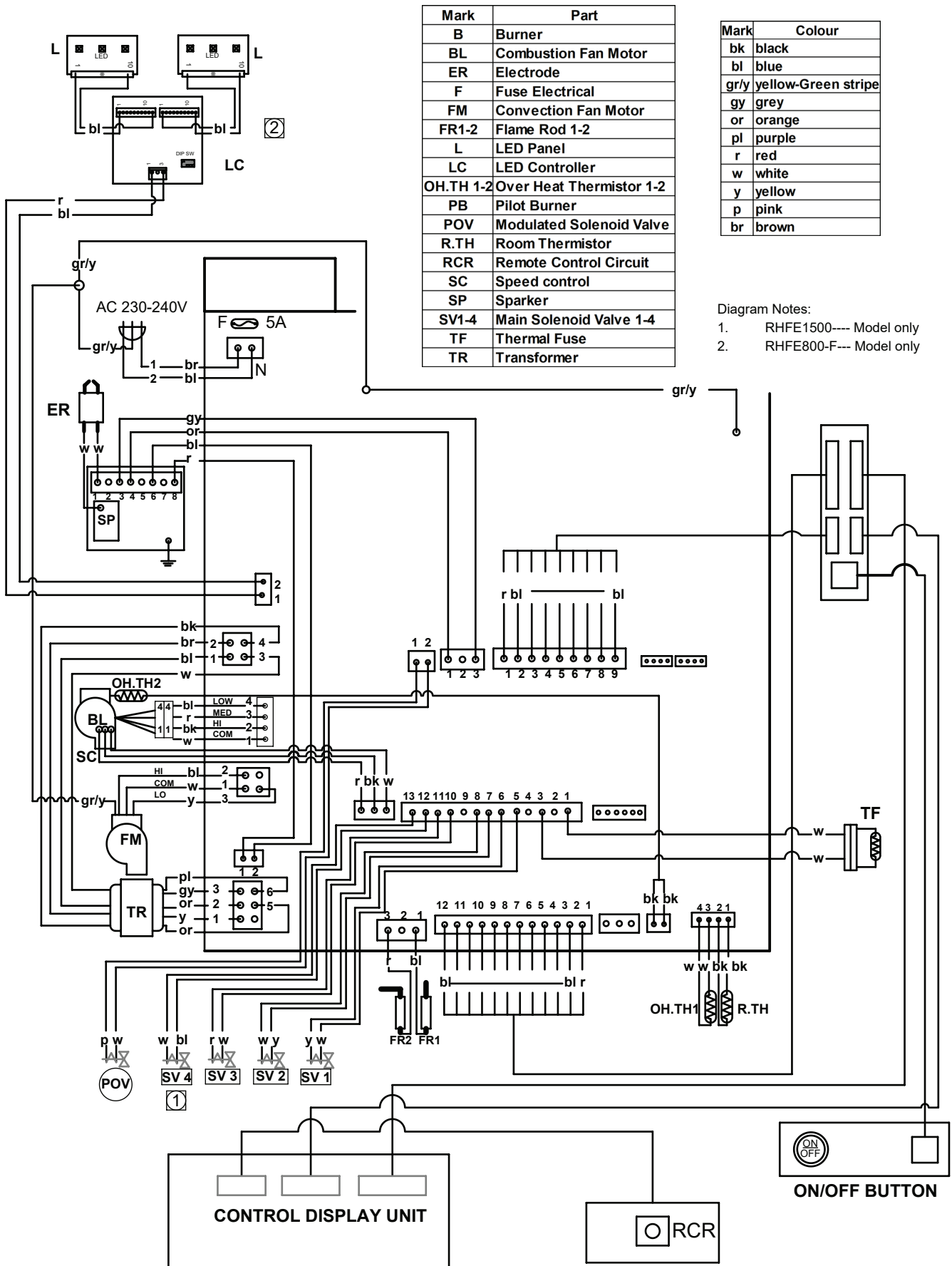
Fascia protrusion is approximately 1mm.

Above dimension are for the engine **ONLY**. For framing dimensions refer to section "Framing" starting on page 9.



Glass dimensions
800 800 x 505 mm
1000 1000 x 280 mm
1500 1500 x 280 mm

WIRING DIAGRAM



Mark	Part
B	Burner
BL	Combustion Fan Motor
ER	Electrode
F	Fuse Electrical
FM	Convection Fan Motor
FR1-2	Flame Rod 1-2
L	LED Panel
LC	LED Controller
OH.TH 1-2	Over Heat Thermistor 1-2
PB	Pilot Burner
POV	Modulated Solenoid Valve
R.TH	Room Thermistor
RCR	Remote Control Circuit
SC	Speed control
SP	Sparker
SV1-4	Main Solenoid Valve 1-4
TF	Thermal Fuse
TR	Transformer

Mark	Colour
bk	black
bl	blue
gr/y	yellow-Green stripe
gy	grey
or	orange
pl	purple
r	red
w	white
y	yellow
p	pink
br	brown

- Diagram Notes:
 1. RHFE1500---- Model only
 2. RHFE800-F--- Model only

WIRING DIAGRAM UNI CONTROL MODEL 2
 Linear Collection
 2 Burners and Combustion Fan and LED's
 Issue A

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Monday to Friday, 8.00 am to 5.00 pm EST.

**Cost of a local call higher from mobile or public phones.*

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or email enquiry@rinnai.com.au

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