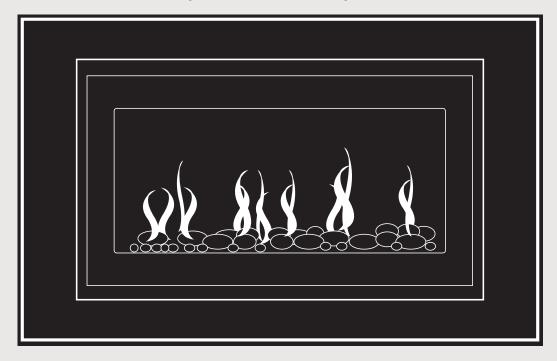
**Models:** RHFE952ETRN/RHFE952ETRL RHFE1252ETRN/RHFE1252ETRL



Evolve 952 / 1252 Installation guide

# Rinnai

## **Important**

Appliance must be installed with a Rinnai approved flue system.

This appliance must be installed in accordance with:

- Manufacturer's installation instructions
- AS/NZS 5601 Gas Installations
- AS/NZS 5263 Gas appliances standards

For use with Natural Gas or Universal LPG as indicated on the appliance.

Appliance must be installed, commissioned and serviced by an authorised person, being in New Zealand a licensed gasfitter.

#### Warning

Improper installation, adjustment, alteration, service and maintenance can cause property damage, personal injury or loss of life.

For more information about buying, using, and servicing of Rinnai appliances call: 0800 RINNAI (0800 746 624).

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Web: rinnai.co.nz

youtube.com/rinnainz facebook.com/rinnainz

#### Installer please note



When completing the installation it is ideal to have the homeowner present to test the Wi-Fi connectivity and correct operation of the fire.

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### Before you start

Unpack the appliance and components and check for damage. DO NOT install any damaged items. Check all components have been supplied and that you have the correct gas type.

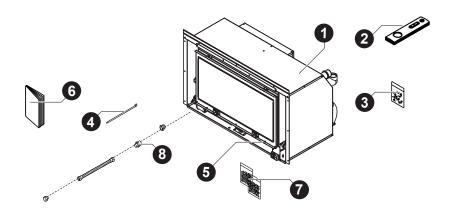
Read these instructions to get an overview of the steps required before starting the installation. Failure to follow these instructions could cause a malfunction of the appliance. This could result in serious injury and/or property damage.

### Flue installation guide

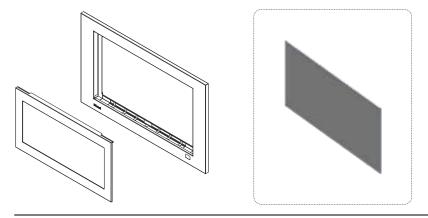
These instructions are to be used in conjunction with the Rinnai Arriva and Evolve flue installation guide supplied with the flue kits.

#### **Carton contents**

The components for the Evolve are supplied in three separate cartons (four if a mesh guard is purchased). Ensure all the components are supplied before starting the installation.



- Evolve engine
- Universal remote control with batteries
- Screw pack
- Cable tie
- Fascia mounting screws
- 6. Operation and installation guides
- Granule packs 952 (x2), 1252 (x3)
- Gas connections



- Inner frame
- Outer frame
- Mesh guard (optional accessory), packaged in a separate carton



Log set OR river stone set.

Images shown are for the 952 model, The Evolve 1252 log set has an extra two logs (10 in total), and the stone set contains an extra 10 stones (40 in total).

### **Specification**

Inbuilt power flued convection fan heater operated by a simple infra-red remote or by the Rinnai Wi-Fi app that allows full thermostatic control, as well as other features such as timers. Different burn media options are available.

#### **Specification summary**

•	•
Input	= 10-34 MJ/h
Output 952	= 2.4-8.1*  kW
Output 1252	= 2.4-8.4*  kW
Efficiency 952	= 86% (on high)
Efficiency 1252	= 88% (on high)
Heating area 952	= 82-125 m <sup>2**</sup>
Heating area 1252	= 84-130 m <sup>2**</sup>
Gas type	= NG or ULPG

<sup>\*</sup> Will vary according to gas type and flue configuration

#### Suitability

Ideal for living rooms and open plan areas. Versatile power flue system makes for easy installation in almost any living space, including bedrooms.

The Evolve is ideal for a new build installation into a false (mock) chimney.

#### Installation considerations

Room size—smaller rooms will heat up quickly, and due to the efficiency of the appliance, the Evolve will turn to a low flame setting once the set temperature has been reached.

For efficient performance Rinnai recommends installing the fire as close to the floor as possible. If the unit is installed higher up the wall the movement of air from the convection fan, depending on the room configuration, could create draughts.

#### Burn media

Choice of river stones or silky oak log set.

#### **Convection fan**

3-speed fan. Heat is distributed from the top of the appliance.

#### Data plate

Located inside the appliance, upper right hand side.

½ "BSP, the gas supply terminates inside the heater—lower left hand side of the appliance.

#### Ignition

Continuous spark electronic ignition.

Noise level - 37-45 dB(A)

#### Power flue

Inner 50 mm, outer 70~80 mm. Appliance must be installed with a Rinnai flue system.

#### Power consumption/electrical supply

High = 90 WStandby = < 8 W

This heater has a 1.5 m power cord with a three pin plug supplied. The power cord passes through a slot in the back left hand corner of the appliance.

#### Safety devices

Flame failure sensing system, pressure relief, overheat safety switch, air temperature sensor, thermal fuse, overcurrent fuse, and spark detector.

#### **Temperature control**

Operated by using the basic infra-red remote\*, or for more features, such as timers and thermostatic control, using Rinnai's Wi-Fi fireplace controller app.

\* Temperature sensor is located in the bottom of the remote

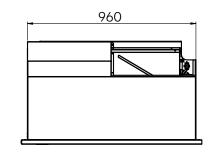
#### Weights

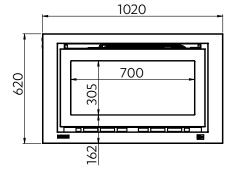
Evolve 952: 75 kg Evolve 1252: 100 kg

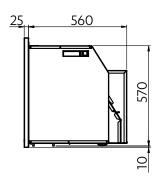
<sup>\*\*</sup> Will vary depending on geographical location in NZ

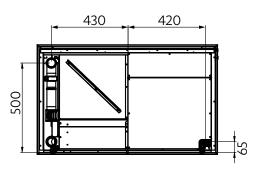
## **Dimensions (mm)**

### **Evolve 952**

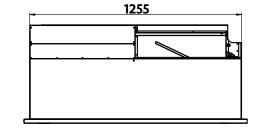


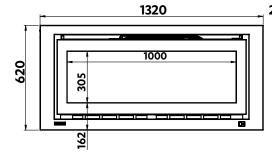


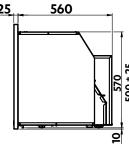


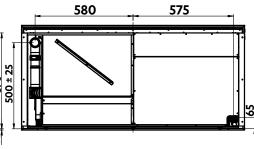


### **Evolve 1252**









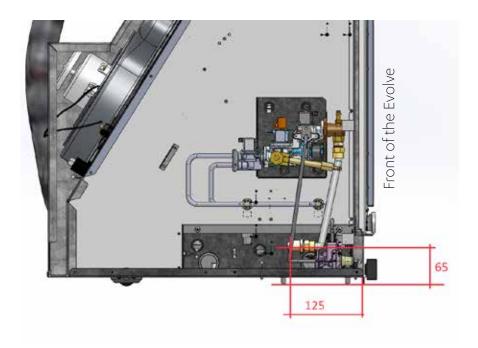
### Gas supply

Gas pipe sizing must consider the gas input to this appliance, as well as other gas appliances in the premises. The gas supply termination is inside the heater, and enters from the lower left hand side of the appliance.

#### Purging the gas supply

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

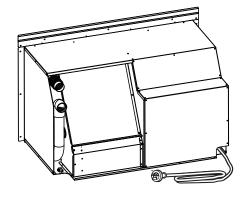
The use of rubber hose for any gas connection to a fixed appliance is NOT authorised by the manufacturer.



### **Electrical supply**

This heater has a 1.5 m power cord with a three pin plug supplied. The power cord passes through a slot in the back left hand corner of the appliance.

Rinnai recommend the heater be plugged into a 230 V, 10 A earthed power point. The power point must not be above the heater. Alternatively the appliance can be direct wired if the power supply is to be concealed. Consult a qualified electrician if direct wiring is required as it must comply with AS/NZS 5601.1 and AS/NZS 3000 and other relevant local regulations.



### Wall penetration

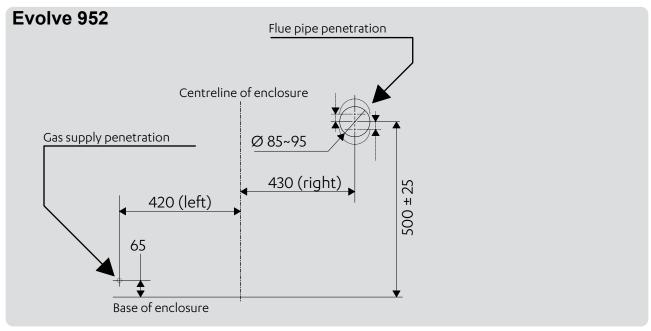
#### Direct flue wall penetration requirements

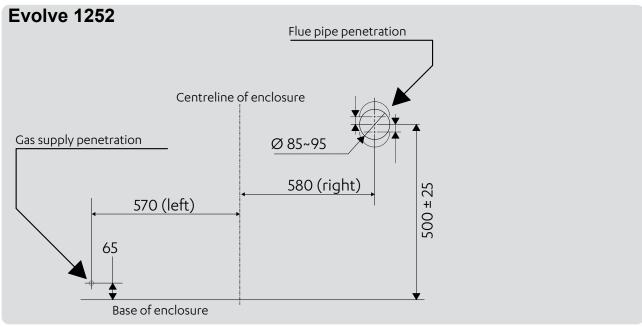
Use the guide pictured to mark the penetration points for the gas supply and flue transition locations. Consideration must be given to the position of any studs, noggins or other components of the wall structure on both sides of the wall. Mark these measurements accurately as this is critical to a successful installation.

The penetration for the flue transition only needs to be made for direct flue installations, where the terminal is directly to the rear of the appliance. If no flue pipe penetration is required the markings are still useful for indicating the correct position of the flue transition within the enclosure for other flue applications.

For weatherboard walls, drill through the centre of the weatherboard from the outside, then drill from the inside through the plaster board.

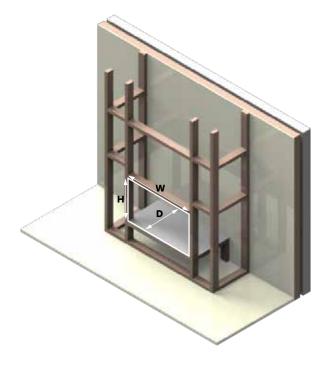
Dimensions are in mm.





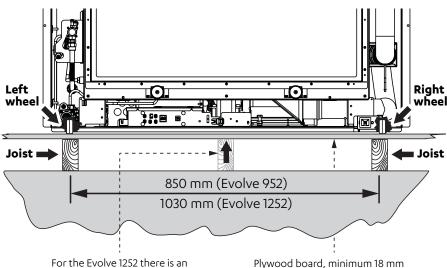
### Framing dimensions

The main points governing location are flueing and warm air distribution. The Rinnai Evolve has an integrated zero clearance box that isolates the appliance from combustible materials. This means it can be installed directly into a decorative fireplace constructed from materials such as wood or plaster.



additional wheel in the center

Enclosure dimensions			
	952	1252	
W-width	965-980 mm	1265-1280 mm	
H-height	570-580 mm	570-580 mm	
D-depth	570 mm min.	570 mm min.	



#### Installer please note

Issues caused by 'rattling' fires not installed on a flat level base, as detailed in these instructions, will not be covered by warranty.

To ensure the appliance performs correctly, without rattling, it must be installed on a flat level support base that allows free movement of the appliance. The joists used to support the appliance off the ground must be capable of supporting a minimum of 1.5 times the weight of the appliance.

Wheels, located at the rear of the heater, allow the unit to slide in and out of the enclosure for installation and maintenance.

### Clearances from combustibles

The clearances listed below, measured from the edge of the glass, are minimum clearances unless otherwise stated.

#### While the heater is operating

The appliance must not be installed where curtains or other combustible materials could come into contact with the fire. The 400 mm side clearance includes side walls. The 1000 mm clearance is in front of the fire.

#### Floor protection

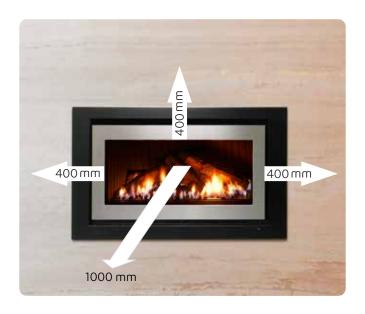
Heat emanating from this fire may over time affect the appearance of some materials used for flooring, such as, carpet, vinyl, cork or timber. This may be amplified if the air contains cooking vapours or cigarette smoke. To avoid this occurring, it is recommended that a mat be placed in front of the appliance.

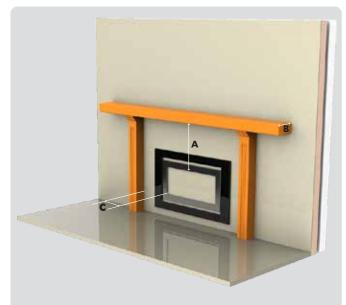
#### Mantels and surrounds

Combustible mantels and surrounds require clearance from the unit to minimise the risk of fire. Mantels and surrounds, made of combustible materials such as wood, are allowed providing they are outside the minimum clearances shown.

#### **Hearths**

A hearth is not necessary but can be used for decorative purposes or protection of sensitive flooring if required. A hearth must not obscure the front of the fire or obstruct the fire in any way (including the frame around the fire).





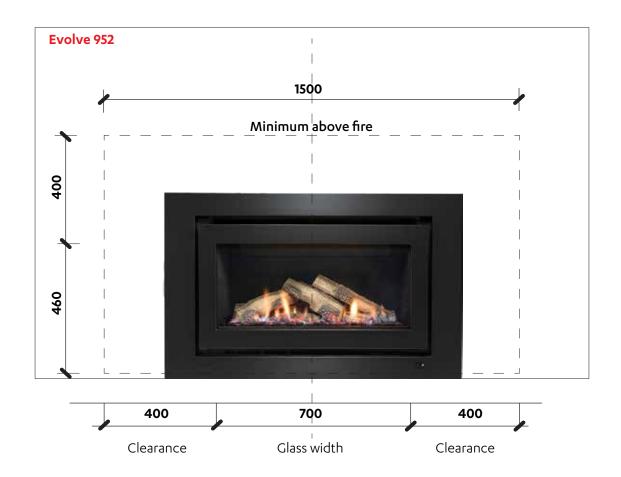
- Mantel needs to be a min. of 400 mm away from the edge of the glass.
- **B** Max. mantel depth at 400 mm (A) is 250 mm max.
- Surround needs to be a minimum of 400 mm away from the edge of the glass.

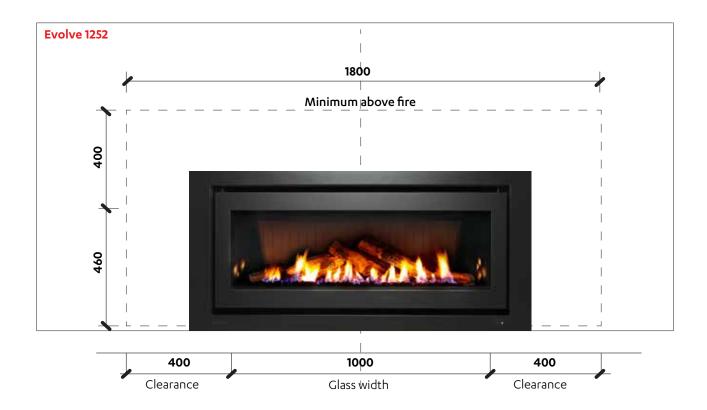
For every 50 mm of added mantel depth there must be an additional 100 mm of clearance from the edge of the glass. For example:

MANTEL DEPTH A: CLEARANCE REQUIRED

300 mm 500 mm 350 mm 600 mm 400 mm 700 mm

The below diagrams are to assist people who are determining the clearance area around the Evolve without having the unit on site.





### TV installation

The Evolve has a fan that distributes warm air from the top of the appliance out into the room. As warm air is dispersed outwards and not directly upwards, installation of a TV may be an option.

The diagram shows recommended clearances when installing a TV directly above the Evolve, or into a recess. All dimensions are in millimetres.

#### 400 mm dimension

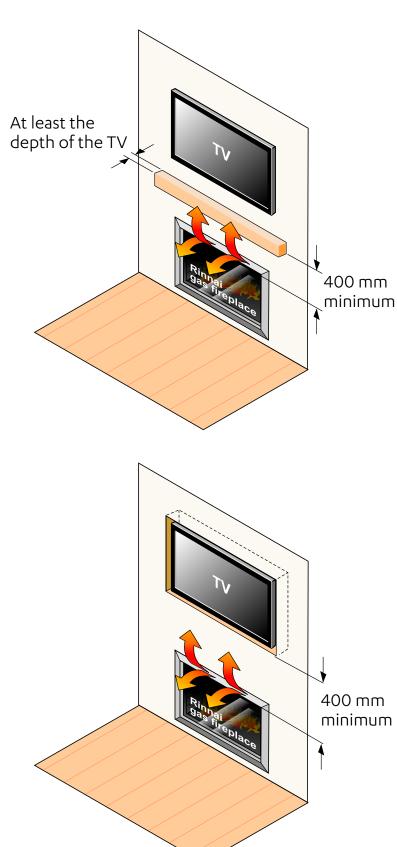
The 400 mm dimension is the minimum clearance required to to a mantel. The image adjacent shows the dimension from the edge of the frame, in the case of the Evolve the 400 mm dimension can be taken from the edge of the glass.

For a TV mounted directly above the unit, the mantel must be at least the depth of the TV to deflect heat away.

#### Always check with the TV manufacturer

It is up to the owner to check the TV installation with the TV manufacturer—some have warranty conditions that state a TV is not to be installed above a fireplace.

Rinnai does not accept any responsibility for damage to a TV resulting from the use of this information.



### Flueing options



Maximum flue length is 8.5 m, and the maximum number of bends is three

One 90° bend is 1 m. For every 90° bend the overall length must be reduced by 1 m. For example, if an installation has three 90° bends, the maximum length can be 5.5 m. The adaption flue (EVOKITO3) is counted as one 90° bend.

For lowest cost, optimal performance, ease of installation and servicing, Rinnai recommend direct flued installations are considered before all other options.



#### Direct and direct extended flueing

Direct through-the-wall flueing for walls up to 385 mm thick. Flue can be extended if the wall thickness is greater than 385 mm by using the ASPDFK flue kit and additional lengths of ESPIPE900.

#### Direct

- Direct flue (ASPDFK)

#### **Direct extended**

- Direct flue (ASPDFK)
- Flue pipe (ESPIPE900)\*



#### Sideways flueing

The sideways flue installation can run along the left or right hand side of an internal wall behind the unit. When considering the location of the fire ensure the flue path is free from obstructions such as studs, noggins, wiring, joists etc.

- Adaption flue (EVOKIT03)
- Flue pipe (ESPIPE900)\*
- Wall terminal (ESWTERM)



#### Down-and-out flueing

The down-and-out flue option allows for the adaption flue kit to face downwards and for the flue to run vertically through a hole in the floor, and then terminate horizontally outside (must be 300 mm above ground).

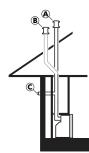
- Adaption flue (EVOKIT03)
- Flue pipe (ESPIPE900)\*
- 45 ° bends (ESBEND)
- Wall terminal (ESWTERM)



#### Through-wall vertical flueing

For the small number of instances where the appliance cannot be directly flued or flued via an internal wall. In some cases a large portion of the flue may be visible from the outside.

- Direct flue (ASPDFK)
- 45 ° bends (ESBEND)
- Flue pipe (ESPIPE900)\*
- Condensate trap (ESCONDK)
- Roof cowl (ESROOFCOWL)



#### In-wall vertical flueing

The vertical in-wall flue installation is installed against an internal wall within a false fireplace or other suitable cavity, and is run vertically upwards to a vertical or horizontal termination point.

#### A: Direct

- Adaption flue (EVOKIT03)
- Flue pipe (ESPIPE900)\*
- Roof cowl (ESROOFCOWL)

#### B: Offset

- Adaption flue (EVOKIT03)
- Flue pipe (ESPIPE900)\*
- 45 ° bends (ESBEND)
- Roof cowl (ESROOFCOWL)

#### C: Horizontal termination

- Adaption flue (EVOKIT03)
- Flue pipe (ESPIPE900)\*
- 45 ° bends (ESBEND)
- Wall terminal (ESWTERM)

### **Evolve installation overview**

1. Construct a frame as per enclosure dimensions on p. 9.



4. Connect the flue system.



7. Commission the unit and check the Wi-Fi connection, p.24.



**10**. Complete the installation checklist in the operation guide and complete customer handover.



2. Line wall—could also plaster at this stage.



5. Install the unit into the enclosure<sup>1</sup>, screw to frame, and complete the gas, air hose, and flue connection (p.16).



8. Install the outer frame, mesh guard (if purchased), and inner frame, p.25.



<sup>1</sup> Two hand-holds, either side of the unit, have been added to help move and lift the fire into place.



3. Complete the gas connection, refer p.7. Electrical supply can also be completed at this point.



6. Install the burn media, refer p.18-23.



9. Test operation and lighting sequence, p.26.



### Connect flue system

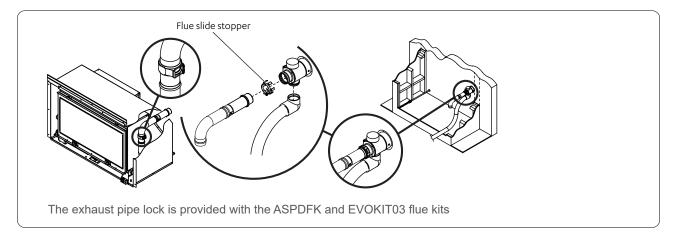
Consult the Rinnai Arriva and Evolve flue installation guide supplied with the Arriva/ Evolve flue kits for detailed flue installation instructions. For connection of the flue to the heater refer information below.

#### Removing the pipe clamp, extension tube and exhaust pipe

Before installing the heater into the enclosure the pipe clamp, telescopic extension tube, and exhaust pipe need to be removed so there is room to connect the flue system.

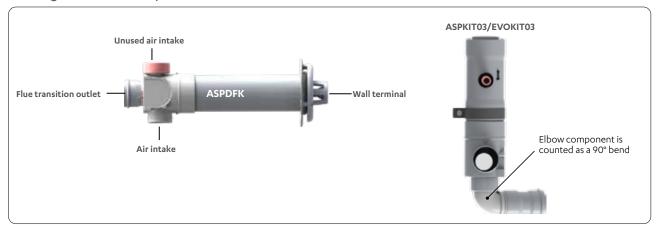
- 1. Undo the pipe clamp and remove the telescopic extension tube from the exhaust pipe.
- 2. Secure the telescopic extension tube to the flue system with the exhaust pipe lock.
- 3. Attach the air hose to the flue transition and secure with the cable tie provided.

Please note that in the adjacent image in step 4 the air hose is already connected to the flue. It is much easier to connect the air hose to the unit than to connect the air hose to the flue once the heater is in place. Ensure the air intake hose of the heater is properly secured to the air connection on the flue system using the cable tie provided, and that the rubber seal is placed on the unused air intake connection.



#### Flue transition (ASPDFK, EVOKIT03)

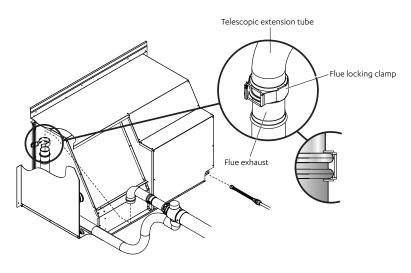
The flue transition provides a connection between the flue system and the heater's flue spigot and air intake. For all flueing installations, except horizontal direct flueing, the flue transition is counted as a 90 ° bend. The flue transition requires a 5 mm clearance from combustibles. This clearance is provided automatically when the supplied standoff brackets are used. All other flue components, except the elbow section of the EVOKIT03, are designed for zero clearance and can be placed hard against timber or plasterboard.



### Install heater into enclosure

- 1. Carefully move the heater into the enclosure, guiding the piping, flexible gas connection, and telescopic extension tube into the access openings and through the appliance. Ensure that the air hose is not in a position where it could get caught or crushed by the unit.
- 2. Once the engine is in place reconnect the flue exhaust to the telescopic extension tube and secure together with the pipe clamp.
- 3. Secure the heater flange in place using 11 screws (seismic constraint).
- 4. Complete gas, air hose, and flue connection. If vertically flueing ensure condensate tube, provided with the EVOKIT03 flue kit, is attached to the condensate pipe on the heater—refer images below.

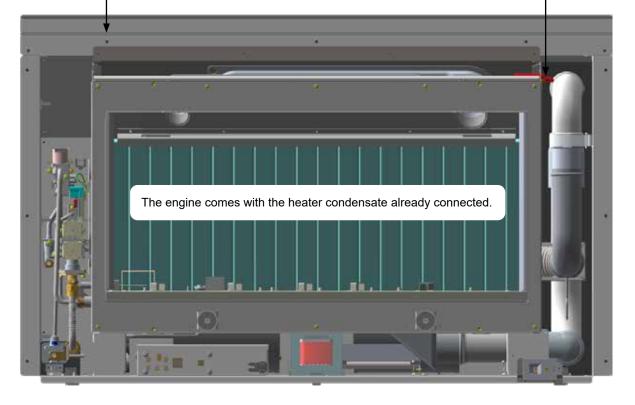
Please note: The unit is supplied with the heater condensate already connected.





Flange screw position—11 in total

Flue condensate pipe connection



### Removing and replacing the glass panel

Before the burn media can be installed into the combustion chamber, the glass panel needs to be removed. Remove the four retaining screws—two at the top and two at the bottom. When replacing tighten all four screws and then back off by quarter of a turn. If the glass panel is screwed too tight, the panel will bow and the spring release mechanism won't work properly.

The glass panel needs to be replaced after installing the burn media and before commissioning.



Front panel of the Evolve showing the four screw positions for removing and replacing the glass panel

### Install burn media - log set

The glass retainer will need to be removed before installing the log set and granules. Use extreme care when handling the log pieces, they are made from a fragile material and will damage easily.



Use these instructions in conjunction with the burn media guide sheet, which is attached to the engine. Experience has shown that the majority of performance problems have been caused by the burn media being installed incorrectly.

**Evolve 952** 

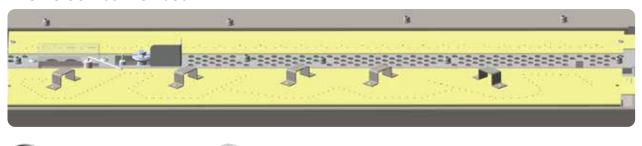


**Evolve 1252** 



It is important to place the pieces in the correct position. Incorrect placement can create carbon build-up and affect performance. Malfunctioning due to improper log/granule placement is not covered by warranty. The unit must never be used with broken logs or other burn media (except those specifically designed for the Evolve).

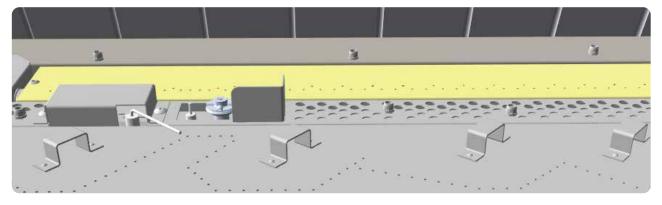
#### **Evolve 952 burner bed**







#### **Evolve 1252 burner bed**



The installation procedure for both models is the same. The only difference is the position of log eight and the addition of logs 9 and 10—the Evolve 1252 has an extra two logs.

#### 1. Back left log

Align bottom locating holes with the locating pins at the back of the burner—the log will sit up against the back of the combustion chamber.



#### 3. Front left small log

Refer fully assembled image for reference. Place onto the middle left locating pin and left front locator bracket.



#### 5. Front middle small log

Refer fully assembled image for reference. Place onto the middle locating pin and central front locator bracket.



#### 7. Front large middle log

Place onto the locating pin of log four and slot onto the right front locating bracket.



#### 2. Back right log

Align bottom locating holes with the locating pins at the back of the burner—the log will sit up against the back of the combustion chamber, and there will be a gap between the back two logs.



#### 4. Front right small log

Refer fully assembled image for reference. Place onto the middle right locating pin and right front locator bracket.



#### 6. Front large left log

Place onto the locating pin of the first log and slot onto the left front locating bracket.



#### 8. Top upper right large log

Place onto the locating pin of log seven and swivel OVER log 4. For the 952 the end rests into the burner slot. For the 1252 the end will rest in FRONT of the locator tab.



#### 9. Far LHS small log (1252 model only)

Fit the far small left hand log onto the two locator



#### 10. Far RHS small log (1252 model only)

Fit the far small right hand log onto the two locator



### Adding the granules

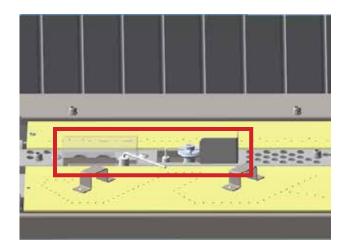
Evolve 952: Two granule packs Evolve 1252: Three granule packs

#### Adding the granules

The granules as well as being added to create a more realistic log flame affect (by diffusing the gas flames through the burner ports) also assist in soot prevention and are CRITICAL to the performance of the heater. **Never pour** the granules directly from the pack as dust particles from the plastic bag may block the ports.

DO NOT place the granules near the flame rods or the pilot (areas highlighted in the image below) as this will cause a blockage and the unit will not start.

Place the granules evenly (do not stack) around the logs in the front part of the burner and on the middle section of the burner (in the gaps between the logs)—refer fully assembled image.



### Install burn media - stones

The glass retainer will need to be removed before installing the stone set and granules. Use extreme care when handling the stones, they are made from a fragile material and will damage easily.

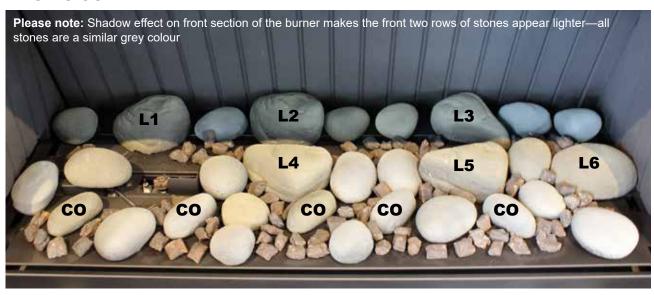


Use these instructions in conjunction with the burn media guide sheet, which is attached to the engine. Experience has shown that the majority of performance IMPORTANT problems have been caused by the burn media being installed incorrectly.

It is important to place the pieces in the correct position. Incorrect placement can create carbon build-up and affect performance. Malfunctioning due to improper stone/granule placement is not covered by warranty. The unit must never be used with broken stones or other burn media (except those specifically designed for the Evolve).

Before commencing installation ensure you have the correct stone set. The Evolve 952 stone set contains 30 stones, the Evolve 1252 stone set contains 40 stones. The installation between the two models varies slightly.

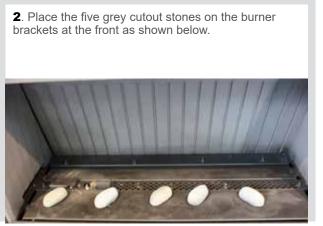
#### Evolve 952



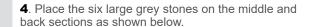
CO = front grey cut out stones (x5) L1-L6 = large grey stones

N.B: The flame rod and pilot position has changed, these photos depict an older model.





3. From the stone set box identify the six L1-L6 large grey stones.







5. Start placing the remaining stones on the burner, starting at the front—8 stones (identified with a dot).

6. Place remaining grey stones on the back section of the burner—6 stones (identified with a dot).





**7**. Place the remaining 5 grey stones (identified with a dot) through the middle section of the burner. You may need to tweak the position of the other stones for them to fit and sit properly.

#### 8. Add the granules

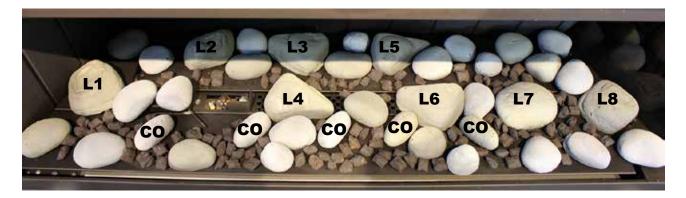


Never pour the granules directly from the pack as dust particles from the plastic bag may block the ports.

Place the granules evenly (do not stack) around the stones with particular attention to the front burner. Ensure there are no granules placed directly over the burner ports to the front and back of the pilot burner or on the flame rods (refer image on coloured burn media guide sheet), as this will cause a blockage and the unit will not start.



#### **Evolve 1252**



**1**. From the stone set box identify the five front grey cutout stones and place these on the burner brackets at the front as shown below.



**3**. Start placing the remaining stones on the burner, starting at the front—10 stones (identified with a dot).



**5**. Place the remaining 5 grey stones ((identified with a dot) through the middle section of the burner. You may need to tweak the position of the other stones for them to fit and sit properly.



2. From the stone set box identify the eight L1-L8 large grey stones and place them on the burner as shown in the above and below images.



**4**. Place remaining grey stones on the back section of the burner—12 stones (identified with a dot).



6. Add the granules Refer step 8 on previous page.



### **Commissioning**

The gas pressures of the appliance are factory preset for direct flue installations (most common type of installation) and will normally not require adjustment. The combustion chamber glass must be on when checking the operating pressures.

The commissioning sheet is located in a plastic pouch inside the unit on the right hand side.

For all Evolve flueing EXCEPT direct flueing, the appliance must be down rated as per the instructions on the commissioning sheet.

Follow the commissioning instructions to complete the gas pressure adjustments. When commissioning is complete check for full and correct operation of the appliance, and return the commissioning sheet to its plastic pouch.



Commissioning sheet—located inside a plastic pouch inside the unit (right hand side)

### Check the Wi-Fi connection

Reconnect the power supply and observe the LED on the Wi-Fi board. The LED will blink red and then turn a solid red when you plug the Wi-Fi into the PCB.

Connect the App. The LED will blink green and then turn a solid green when the Wi-Fi connects to the home network. If unable to connect, the board must be reset. The reset button is a small hole in the base of the board, underneath the LED. Using a paper clip or similar, press and hold the reset button for 10 seconds. Once connected, guide the homeowner through the step by step instructions on the App. The Wi-Fi App is available on:

- Google play > search Rinnai Fire App
- App store > search Rinnai Fire App



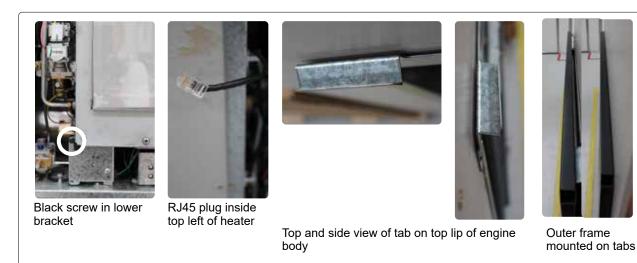
<sup>&</sup>lt;sup>1</sup> On initial startup the Wi-Fi module in the fire scans for a Wi-Fi network, and if at first it doesn't work it will only scan again after ten minutes.

- Wi-Fi LED
- Wi-Fi module reset hole position

### Install the inner and outer frames

#### Installing the outer frame

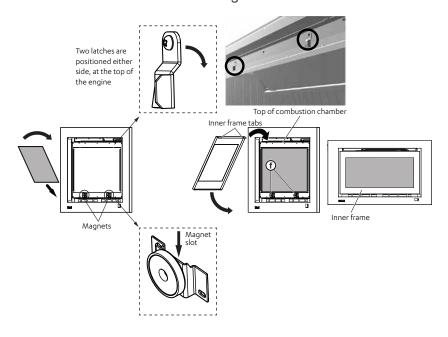
- 1. Remove, but don't discard, the two black screws installed in the lower bracket of the heater engine.
- 2. Position the outer frame close to the heater engine and connect the RJ45 plug into the socket on the inside top left of the heater. This connects the push button control panel via a communications cable to the engine control box.
- 3. Mount the outer frame to the heater by hooking the top over the two tabs on the top lip of the engine body, then push in until the frame sits flush with the wall. Secure with the two black retaining screws removed in step 1.



#### Installing the optional mesh guard and inner frame

The optional mesh guard, if purchased, needs to be installed before the inner frame as the inner frame holds it in place.

- 1. Insert the bottom of the mesh guard into the magnet slots and secure in place using the
- 2. Mount the inner frame to the engine by hooking the tabs on the inside to the top lip of the combustion chamber.
- 3. Rotate the bottom of the inner frame in towards the engine body allowing the magnets to secure the inner frame to the engine.



### 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 the high setting in a well ventilated room until these dissipate. It is important to check the flame pattern during this time.

#### Abnormal flame pattern

Abnormal flame performance and/or pattern can indicate a problem with your fire, such as blocked gas injectors, or that the burn media has shifted. There are some warning signs that could indicate a problem.

- Unusual smell from the appliance
- Continued difficulty or delay in establishing
- Flame appears either very short or very
- Flame only burns part way across the burner
- Severe soot building up on the inside of the glass door

Abnormal flame pattern

Normal flame pattern

#### **Important**

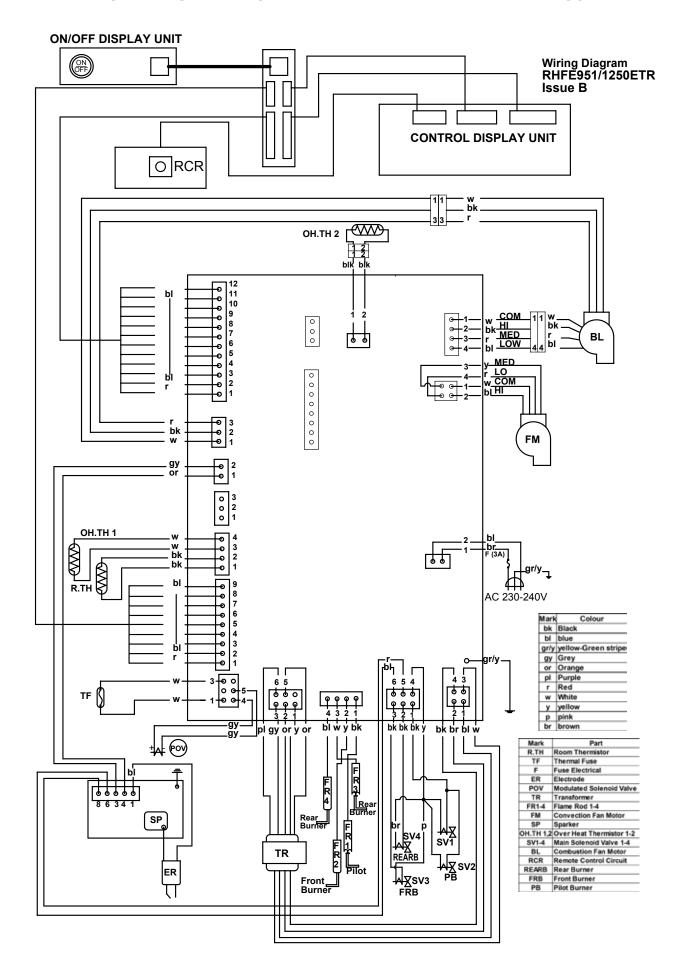
It is the responsibility of the installer to check that under normal conditions of the appliance, all flue gases are exhausted to the outside atmosphere, and that there is no spillage of combustion gases into the room.

If the appliance cannot be made to perform correctly please contact Rinnai.

### Installation checklist and customer handover

Complete the installation checklist in the customer operation guide, and make sure you leave the guide with the customer. Explain to the customer about the use and care of the unit, and ensure they understand the instructions and operation of the appliance.

## Wiring diagram (part of commissioning)



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