

Energysaver 309FT3, 559FT3, 561FT3, 1005FT3
Operation and 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
- Current AS/NZS 3000, AS/NZS 3500, AS/NZS 5601.1:2013 and G12/AS1

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.

Please retain this manual for future reference.

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).

Rinnai New Zealand Limited
105 Pavilion Drive, Mangere, Auckland
PO Box 53177, Auckland Airport, Auckland 2150

Phone: (09) 257-3800
Email: info@rinnai.co.nz
Web: rinnai.co.nz
[youtube.com/rinnainz](https://www.youtube.com/rinnainz)
[facebook.com/rinnainz](https://www.facebook.com/rinnainz)

Contents

About your Energysaver	4
Safety	6
Important	7
Setting the clock	8
Setting and operating the timers.....	9
Additional heater information.....	10
Care and maintenance	11
Troubleshooting.....	12
Error codes.....	13

Installation

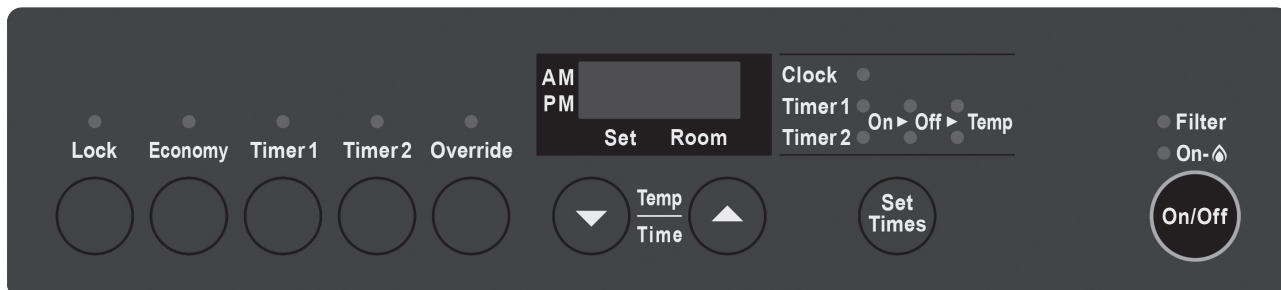
Carton contents and item checklist.....	15
Energysaver specification summary.....	16
Energysaver dimensions (mm).....	17
Positioning, gas, and electrical supply.....	18
Energysaver flueing guidelines.....	19
Energysaver flueing options (most common)	20
Installation	21
Commissioning	23
Wiring diagram RHFE-309, 559, 561FT3	24
Wiring diagram RHFE-1005FT3.....	25
Installation checklist and Installer details.....	26
Purchase details	27
Limited Warranty	28



Gas appliances, like cars, require regular maintenance and servicing. For reliable operation Rinnai Energysavers, in residential applications, should be serviced **every two years**, including inspection of the flue system.

About your Energysaver

Congratulations on the purchase of your Rinnai Energysaver. We hope you love this product as much as we do, and on the off chance that something does go wrong, or if you need help, we're only a phone call away.



Features

Push button ignition	Only one-touch is required to turn the heater on and off.
Lock function	Prevents children from altering settings when the heater is in use or activating the heater when turned off.
Preheat	Automatically functions in conjunction with the timers. When a timer is selected, the heater may operate anywhere within an hour prior to the programmed on time. The preheat function ensures the room reaches the desired temperature by the programmed start time.
Economy	Energy saving feature designed to control the room temperature and prevent the room from overheating.
Override	Temporarily changes the heater operation from on to off, or off to on, until the next programmed setting is reached.
Timer 1 / Timer 2	Allows you to program the appliance to come on for two separate periods each day, one in the morning and one in the evening.
Filter indicator	When the filter becomes covered with dust the filter indicator will flash indicating that cleaning is necessary.
Humidifier tray	Raise humidity in the room for extra comfort with the humidifier tray—can be filled with water as required.

On/Off button

Main switch for turning the heater on and off. To turn on, press the ON/OFF button, the heater will glow green, the spark generator will be heard before the burner ignites and the indicator will glow red. When the heater warms up the fan will start.

To turn the heater off, press the ON/OFF button, the indicator light will go out. The fan will continue to operate for a short time to cool the appliance.

Set times

Selects clock, timers, or temperatures for adjustment or programming.

Temp and time

Increases or decreases the temperature as well as changing the hours or minutes when in programming mode.

Override

Temporarily changes operation from ON to OFF or OFF to ON until the next programmed setting is reached.

Timer 1 and Timer 2

Displays which timer is operating.

Lock

Locks all controls when pressed except OFF. Hold for two seconds to deactivate. If the lock is pressed while the heater is off all functions will be locked, including turning the heater on, until it is deactivated.

Filter

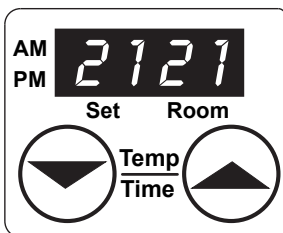
Indicates the filter needs cleaning. If you do not clean the filter at regular intervals and the filter indicator is allowed to remain flashing, the appliance will stop and the display will show error code 14. The filter will need cleaning before the appliance can be turned back on.

Clock and timer indicators

When programming, the indicators will glow to indicate what is being programmed. The 'Temp' indicator indicates the set temperature for the timer that is being set.

Display window

Shows either the time of day, temperature or error code.



Adjusting the room temperature

Pressing the up and down arrows will change the preset temperature by 1 °C. The temperature will be shown in the display window. The room temperature sensor is located behind the Energysaver so the temperature on the display may vary slightly from the actual room temperature.

The temperature can be set to:

L (low)

Typically used to keep the chill off a large room. The unit operates on the lowest burner setting. If the room temperature is above 10 °C, the burner will switch off, the fan will wind down, and the

appliance will stop heating. If the temperature then drops below 10 °C the heater will switch back on.

16-26 °C

Unit will modulate, and in some instances turn off and on, to maintain the selected temperature.

H (high)

Unit operates on the highest burner setting.



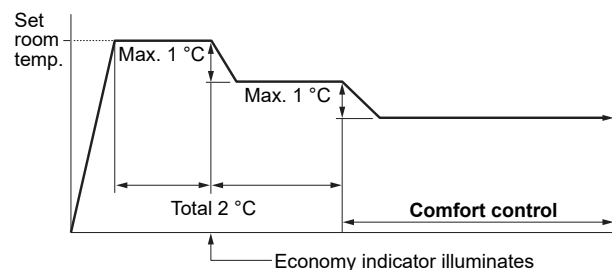
The 'L' and 'H' settings are not normally used as this means the heater operates without a set temperature.

Economy

Prevents the room overheating and reduces gas consumption.

How it works

After the room reaches the set temperature, the set temperature will automatically start decreasing, dropping by a maximum of 1 °C in 30 minute blocks, until 'comfort control' is reached. When in comfort control the unit alters combustion and fan speed to keep the room at a comfortable temperature.



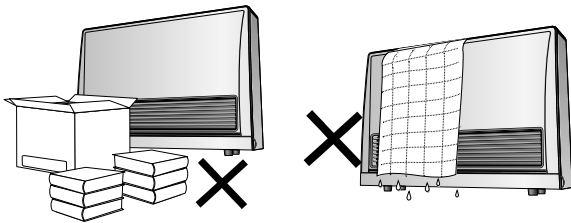
Safety

- Not to be connected to an LPG gas cylinder located indoors
- Do not place articles on or against this appliance
- Do not use or store flammable materials near this appliance
- Do not modify this appliance
- Do not spray aerosols in the vicinity of this appliance while operating

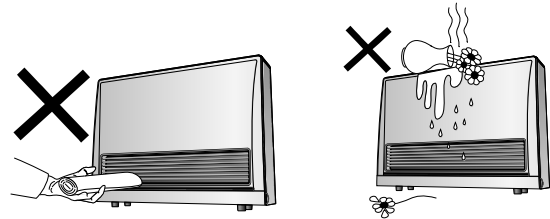
This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instructions concerning the use of this appliance by a person responsible for their safety.

The power point must be to the side of the heater. It must not be above the unit as this is a potential fire hazard.

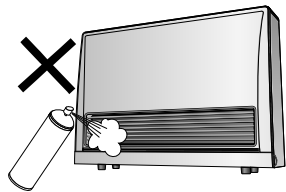
Do not restrict the warm air discharge by placing articles in front of the heater. This appliance must not be used for any purpose other than heating.



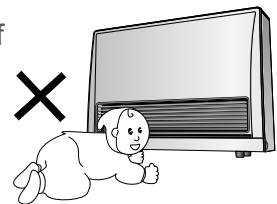
Do not allow anyone to post articles through the louvres, or let flammable and combustible materials come into contact with the heater. Do not place articles on or against the heater.



Do not spray aerosols while the appliance is operating. Most contain butane gas which can be a fire hazard if used near the appliance. Do not use or store flammable materials near this appliance. Combustible materials must not be placed where the heater could ignite them.

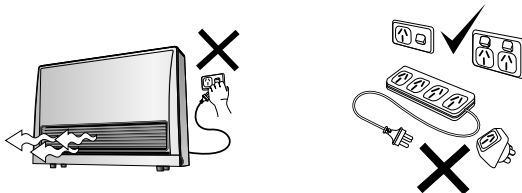


Children should be supervised at all times to ensure they do not play with the heater. Hand or body contact with the heater must be avoided, especially with the louvres, which can become very hot. Do not allow anyone to sit, lean or sleep directly in front of the heater.

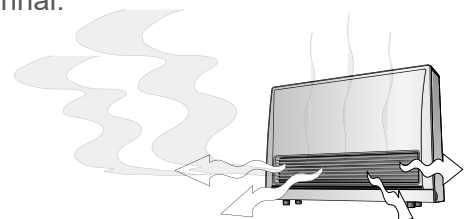


A dedicated 230 V 10 A power point must be used with this heater. Do not use double adaptors to operate this appliance.

Do not unplug the heater while it is still in use or while the fan is on.



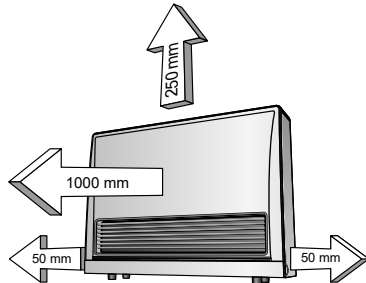
When the heater is used for the first time or after long periods of not being used, a slight odour may be emitted—this is normal. If odours persist turn the appliance off and contact Rinnai.



Important

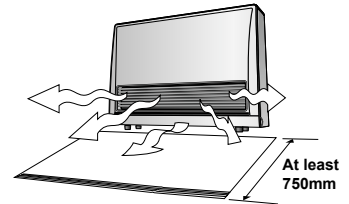
Clearances while the heater is operating

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.



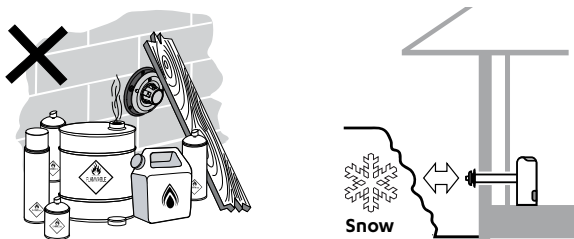
Floor protection

Energysavers discharge a large volume of warm air at a low level. Heat over time may affect the appearance of some flooring materials, such as, carpet, vinyl, cork, or timber. To avoid this occurring, it is recommended that a mat be placed in front of the appliance.



Outside flue terminal

Keep flammable materials, trees, shrubs, etc. away from the flue terminal. In areas subject to heavy snowfall, keep snow clear of the flue terminal at all times.



Outside flue terminal

On cold days steam may be discharged from the flue terminal. This is normal with high efficiency gas appliances like the Energysavers and does not indicate a fault.



Filters

During peak operating periods the filter(s) should be cleaned weekly. If the 'Filter' warning indicator flashes on the control panel display, immediately turn off the appliance and when the heater has cooled, clean the filter(s) before starting again.

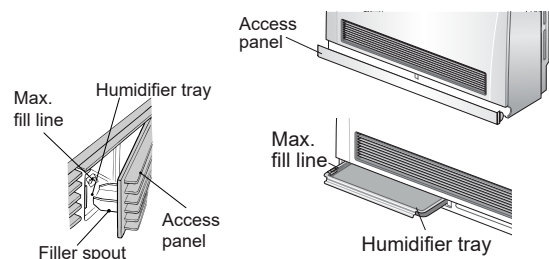
○ Filter

○ On-💧



Humidifier tray

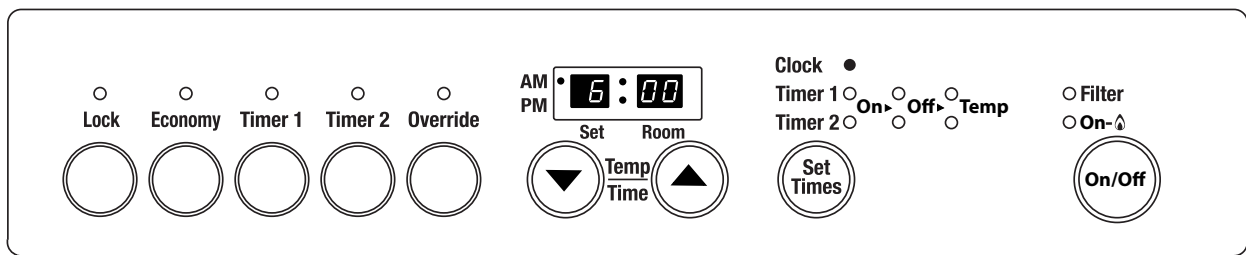
Do not overfill—there is a maximum water level indicator in the tray. Also do not fill while the heater is operating, more information on p.10.



Energysavers must not be built into bookcases or walls etc.

Energysavers are not recommended for installations in unusually dusty environments such as hair salons or where there are a large number of pets—this will cause continual blockage of the filter(s).

Setting the clock



When the appliance is first plugged in or after a power failure the digital display will show --: --.

▲ = UP button ▼ = DOWN button

Setting the clock (example - setting the clock to 6:00 am)

1. Press the Set Times button once, the clock indicator will flash.
2. Press and hold the UP button. It will cycle quickly through the minutes and then hours. Once you reach 6:00 AM release the UP button. If you need to add minutes keep pressing UP until the desired time is reached.
3. Confirm that you have selected AM, a small indicator on the left hand side of the digital display indicates the AM setting.
4. Press the Set Times button seven times to lock in the set time. The Clock and Timer indicators will go out and a small indicator on the display will flash to show the clock is operating. The display will dim approximately 10 seconds after the last button is pressed.

Digital display

The digital display is turned off when the appliance is turned OFF.

Daylight saving

Follow steps 1-4 to adjust for daylight saving and anytime the clock needs to be adjusted.

Setting and operating the timers

Before operating the timers the clock must be set.

The timers can be programmed to operate for any two time periods in 24 hours. A timer start and finish time, and a set temperature must be set for the timers to work. The programmed time and temperature must be selected and locked-in within one minute of the indicators flashing for the information to be saved.

Setting the timers and temperature

Example, program Timer 1 to heat the room by 7:10am and finish at 9:00am, at a temperature of 20°C.

1. Press the Set Times button twice. The digital display will show AM 6:00 and the Timer 1 indicator will flash. Press the UP or DOWN button until 7:00 appears, release, then press the UP or DOWN button again until AM 7:10 appears.
2. Press the Set Times button again, the Timer 1 OFF indicator will flash. Press the UP or DOWN button until AM 9:00 appears—the default is 9:00am.
3. To set the temperature use the UP or DOWN button until 20 appears.
4. Press the Set Times button four times to lock in the settings. The digital display will show the current time.

Timer 2 is programmed the same way—remember to ensure that the Timer 2 indicator is flashing before you start programming. The Timer 2 default settings are PM 5:00 on and PM 9:00 off. When finished press the Set Times button until you get back to the main display.

Operating the timers

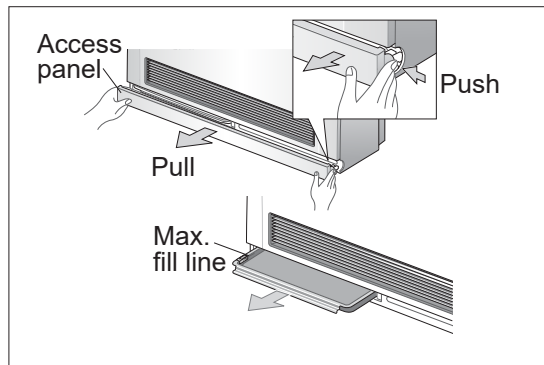
1. Press the ON/OFF button (ensure the clock and timer indicators are not flashing), the ON indicator will glow green.
2. Press the Timer 1 and Timer 2 buttons. The timer indicators will glow and the heater will remain on standby until the timer setting is reached—the timer indicator will flash and the heater will turn on.

Additional heater information

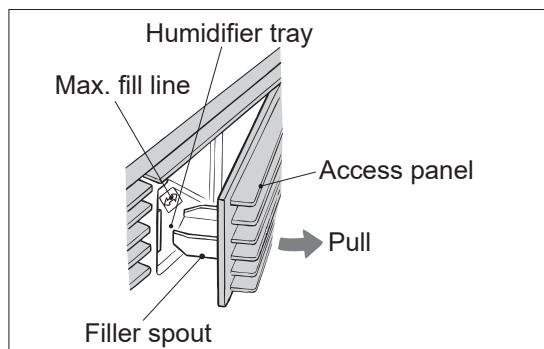
Humidifier tray

Your heater is fitted with an enamel humidifier tray. To fill the tray, open the access panel as shown below. Pour water into the tray, or in the case of the 1005, pour water into the filler spout built into the access panel.

309 / 559/ 561



1005



If you notice water in the humidifier tray, but you have not placed any in there do not be alarmed, this is normal. This will be condensate from the flue system—designed to drain into the humidifier tray.

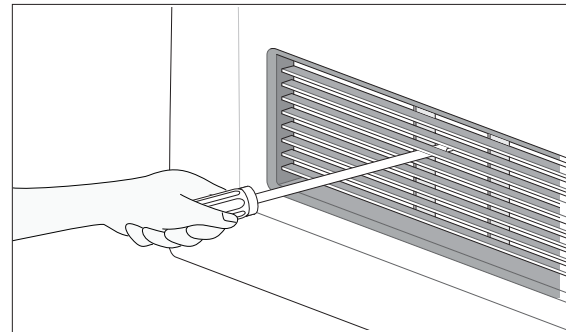
If you are using the humidifier tray, it will need filling approximately once a day.

- Do not fill the humidifier tray while the heater is on, it will be very hot and could cause burns—turn the heater off and wait at least five minutes.
- Do not operate the heater without the humidifier tray in place.

Vertical louvre adjustment

When the heater is turned off the direction of the warm air flow may be altered by carefully inserting a screwdriver or similar tool and gently bending the vertical louvres to the left or right.

The louvres are not designed to be adjusted more than six times as they will weaken and break.



Power failure

If a power failure occurs the unit will turn itself off. After power has been restored the unit will automatically turn on again—you may need to reset the clock depending on the length of the power cut.

If timer settings have been programmed the system memory will retain the timer settings, but the clock will stop at the time the power goes off and will be slow by however long the power has been off.

Preheat

Automatically functions in conjunction with the timers. When a timer is selected, the heater may operate anywhere within an hour prior to the programmed on time. The preheat function ensures the room reaches the desired temperature by the programmed start time.

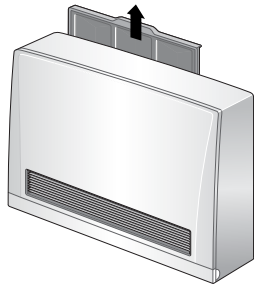
Care and maintenance

Before cleaning any part of the heater ensure it is turned off and has cooled down. All parts of the heater can be cleaned using a soft damp cloth and mild detergent—do not use solvents.

If the humidifier tray gets dirty it can be washed in warm soapy water.

Fan filter(s)

To protect the appliance from dust or lint a filter (two in the case of the 1005) is located at the rear of the appliance. If the filter becomes blocked the filter indicator will flash to indicate that it should be cleaned.



The build up of dust on the filter reduces the air flow through the heater. This reduces the efficiency and can lead to the appliance shutting down. Regular (weekly) filter cleaning during the heating season will stop this from happening.

If you do not clean the filter at regular intervals and the 'Filter' indicator is allowed to remain flashing, the appliance will stop (ON indicator will flash and the display will show error code 14). The filter will need to be cleaned before operating the appliance again.

- Do not remove the filter when the appliance is operating.
- Do not use the heater with the 'Filter' indicator flashing as this may cause the appliance to overheat.

Cleaning the fan filter(s)

- Dry dust/lint: Use a duster or vacuum to remove the dust.
- Oily residue: Wash using a mild detergent, drain off the water, and dry.



Ensure the fan filter is fitted back into the appliance after cleaning. DO NOT operate the appliance without the filter in place.

Maintenance and servicing

Rinnai has a maintenance, service and spare parts network with personnel who are fully trained and equipped to give the best advice on your Rinnai appliance. If your appliance needs maintenance or servicing, please call Rinnai (0800 746 624).

For reliable operation your Rinnai Energysaver, including inspection of the flue section, should be checked by a licensed tradesperson every two years. If located in a particularly dusty area or subject to excess lint, for example dog hair or where there are newly laid carpets, then annual servicing would be beneficial.

Regular maintenance and servicing is not covered by the Rinnai warranty.

If you have any other faults or problems, please contact your installer or call Rinnai.

Troubleshooting

Check the following information before making a service call. If you are still unsure or concerned after reading this section, please contact Rinnai.

Using the heater for the first time, or after a long period of non use

The heater may not start the first time it is operated due to air in the gas pipes. If ignition does not occur within approximately one minute the heater will attempt to start again. If it does not start the unit will switch itself off automatically—this is a safety feature. Try switching the heater back on if this occurs.

What's happening	Explanation and/or possible solution
Warm air not coming from the heater when it starts.	The heater's fan will start automatically after a short delay. This is to allow the appliance to warm up and to stop cold draughts.
Smoke or strange smells coming from the heater after it has been installed.	This is caused by grease, oil, or dust within the appliance. It will stop after a short time.
Clicking noises when the heater starts or stops, or changes to a higher or lower setting.	This is the expansion and contraction of the heat exchanger and is a normal part of operation.
Clunking noise when the thermostat operates.	This is the sound of the gas valve opening and closing to regulate the flow of gas and is a normal part of operation.
Fan continues to run after the heater is turned off.	This is to remove the heat from the appliance and will stop once the heater has cooled down.
Timer(s) do not operate at the set time.	Check the timers are set correctly as they may be inactivated or incorrectly programmed.
Smell of gas.	There may be a small leak in the appliance. Turn the heater off and contact Rinnai.
Heater doesn't start.	Check power cord is plugged in properly. Check the lock isn't on.

Error codes

The Energysaver range has built-in technology to continually monitor performance. If a fault occurs an error message will flash on the digital display on the control panel. This assists with diagnosing the fault and may enable you to overcome a problem without a service call.

In all cases you may be able to clear the error by turning the heater off and on again. If the error code remains or returns when the heater is used again, contact Rinnai.

Faults caused by insufficient gas supply, gas quality, installation or operation errors are not covered by the Rinnai warranty.

Error code	Likely cause	Suggested solution
11	Ignition failure	Check gas supply is turned on, turn the heater OFF then ON again. If the error persists a service call is required.
12	Flame failure	As above.
14	Filter blockage/overheat	Clean filter(s), if the error continues a service call is required.
16	Room overheat*	Lower the room temperature below 40 °C.
30	Overheat temperature sensor faulty	Service call.
31-32	Room temperature sensor faulty	Service call.
33-35	Overheat temperature sensor faulty	Service call.
40	Sensor sensing tube failure	Service call. Installer: Confirm commissioning has been completed in accordance with the instructions. Ensure that the pressure check tube is not blocked, pinched or crushed.
49	Sensor breakdown	Service call.
53	Spark sensor faulty	Service call.
61	Combustion fan faulty	Service call.
62	Convection fan faulty	Service call.
70	Faulty ON/OFF switch	Service call.
71	Faulty solenoids	Service call.
72	Flame detection circuit fault	Service call.
73	Communication error	Service call.
81	Faulty solenoids	Service call.
99	Flue terminal blocked	Owner: Check that the flue terminal is free of any obstructions. If the error persists a service call is required. Installer: Confirm commissioning has been completed in accordance with the instructions. Check that the flue terminal is free of any obstructions. Ensure that the pressure check tube is not blocked, pinched or crushed.

* If the unit detects 40 °C for over ten minutes, the unit will stop operating.

Installation

Installation, servicing and repair shall be carried out only by authorised personnel.

Carton contents and item checklist

Unpacking the appliance

The heater is supplied in one carton. This contains the heater, standard rear panel set, screw pack, and additional installation components—refer table below for details.








Remove all packaging materials and check for damage. If any damage is evident do not install or operate the appliance—contact your place of purchase for advice.

Before installing the heater, check it is labelled for the correct gas type. Refer to the data label at the rear of the heater.

The heater does not come supplied with flue components. These are purchased separately. Only Rinnai Energysaver flue components can be used with this appliance.

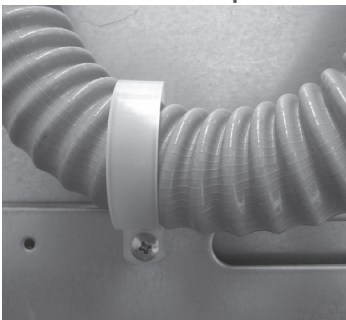
Carton contents and item checklist, check you have:

- One of the following Rinnai Energysavers
 - RHFE-309FT3 - RHFE-559FT3
 - RHFE-561FT3 - RHFE1005FT3
- One rear panel set comprising of left, right, and top panels
- One pack containing the following

PART		RHFE-1005FT3	RHFE-309/559/561FT3
Plastic inlet hose clips (holds the air intake hose in place)		0	2
Air intake baffle ring* (ensures the max. efficiency on the heater)		0	1
Stainless steel sheath clamp (holds the protective sock on the exhaust pipe in place)		1	1
Securing brackets (secures the heater to the wall)		2	2
Cable tie (secures the air inlet elbow onto the flue)		1	1
Flue lock clamp (secures the exhaust pipe assembly onto the flue)		1 - large 1 - small	1 - small
Screw pack		1	1

* The air intake baffle ring is only required to be installed on the 309, 559, and 561 models which use the ESDFK component in a direct flue installation. It improves the efficiency of the unit slightly. It is not critical to the safe operation of the unit and does not need to be fitted if it has been misplaced.

Plastic inlet hose clip



Stainless steel sheath



Cable tie



Flue lock clamp



Energysaver specification summary

	309FT3	559FT3	561FT3	1005FT3
Colour	White with grey louvres and rear panel	White with grey louvres and rear panel	White with grey louvres and rear panel	White with grey louvres and rear panel
Input*	5.8-13 MJ/h	9-23 MJ/h	9-23 MJ/h	15.5-37 MJ/h
Output*	1.3-3.2 kW	2.2-5.3 kW	2.2-5.3 kW	3.5-8.9 kW
Temp. range	16-26 °C	16-26 °C	16-26 °C	16-26 °C
Efficiency*	84.6%	82.8%	82.9%	83.4%
Noise level	31-38 dB(A)	33-42 dB(A)	34-42 dB(A)	39-45 dB(A)
Power consumption	Approx. 24 W (high) <1 W on standby	Approx. 30 W (high) <1 W on standby	Approx. 36 W (high) <1 W on standby	Approx. 59 W (high) <1 W on standby
Gas connection	15 mm BSP male thread	15 mm BSP male thread	15 mm BSP male thread	15 mm BSP male thread
Humidifier tray capacity	0.8 L	1.0 L	1.0 L	3.0 L
Data plate position	Lower RHS	Lower RHS	Lower RHS	Lower RHS
Injectors NG	2 x Ø1.25 mm	4 x Ø1.25 mm	4 x Ø1.25 mm	4 x Ø1.50 mm 1 x Ø0.45 mm
Injectors ULPG	2 x Ø0.85 mm	4 x Ø0.82 mm	4 x Ø0.82 mm	4 x Ø1.00 mm 1 x Ø0.30 mm
Remote switching capability	Yes**	Yes**	Yes**	Yes**
Weight	19 kg	24 kg	23 kg	40 kg
Features	<ul style="list-style-type: none"> • Preheat function • Dual timers • Manual control • Electronic ignition • Economy mode • Fan filter • Overheat safety device • Lock 			

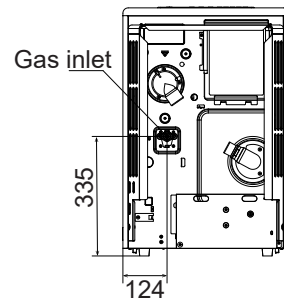
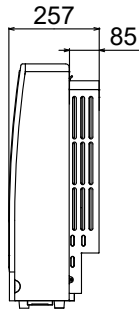
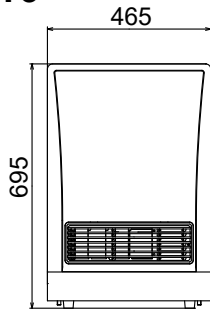
* Input, output, and efficiency will vary depending on gas type and flue length

** Requires the remote switching kit R1349

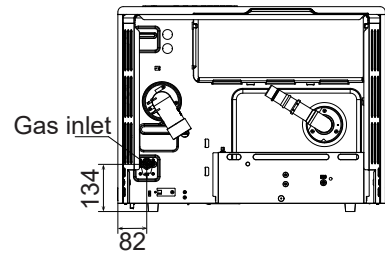
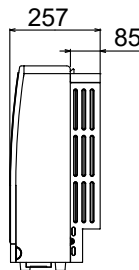
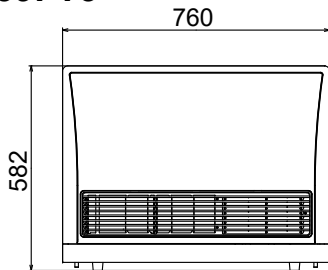
For gas pressures and gas type, refer to the data plate on the lower right hand side of the appliance

Energysaver dimensions (mm)

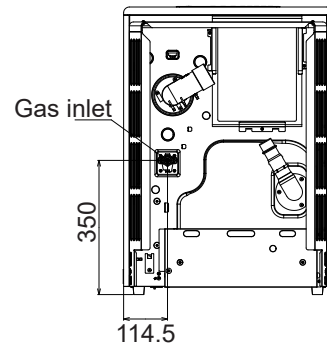
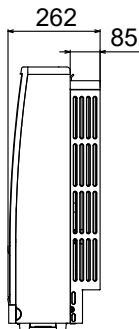
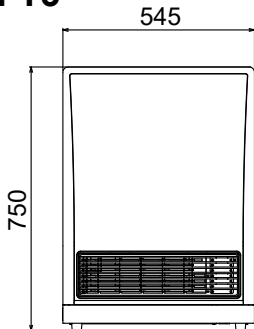
309FT3



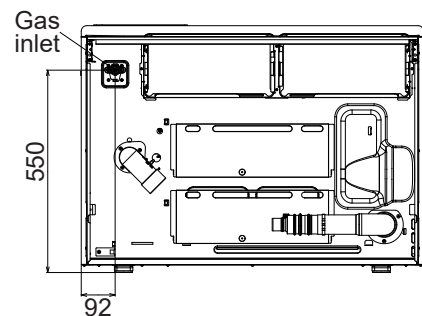
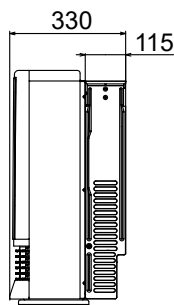
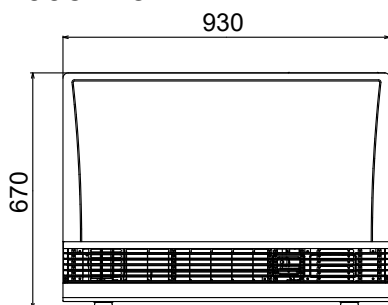
559FT3



561FT3



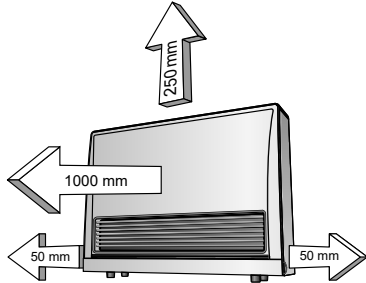
1005FT3



Positioning, gas, and electrical supply

Positioning

The main points governing the location of the heater are flueing and warm air distribution. The heater must not be installed where curtains or other combustible materials could come into contact with the appliance, refer clearances diagram below. In some cases curtains may need restraining.



Energysavers are not recommended for installations in unusually dusty environments such as hair salons or where there are a large number of pets, these environments will cause continual blockages of the fan filter.

Energysavers **MUST NOT** be built into bookcases or walls.

Gas supply

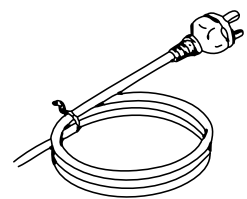
The gas supply terminates outside the heater at the rear of the appliance. The gap required between the wall and the heater body is 85 mm for the standard rear panels (115 mm for the 1005FT3), or 200 mm for the back spacer kit (230 mm for the 1005FT3).

Gas piping must consider the gas input to this appliance as well as other gas appliances in the building. An approved sizing chart such as the one in AS/NZS 5601.1:2013 should be used.

All foreign materials, such as filings, must be purged from the gas supply as they may cause the gas control valve to malfunction.

Electrical supply

The electrical connection is to the right hand side of the heater (passes out behind the heater). A 3-pin plug with a 1500 mm power cord is supplied. This must be connected to a dedicated earthed power point. The power point must not be above the unit as this is a potential fire hazard.



Alternatively the appliance can be direct wired if the power supply is to be concealed. The electric isolation switch **MUST BE** accessible after the appliance has been installed. Consult a qualified electrician if direct wiring is required as this must comply with the requirement of AS/NZS 5601.1:2013 and AS/NZS 3000 and other relevant local regulations.

If the supply cord is damaged and requires replacing, it must be replaced by a licensed tradesperson. This must be a genuine replacement part available from Rinnai.

Energysaver flueing guidelines

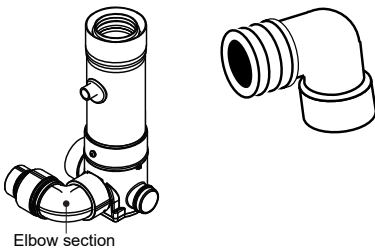
Every Energysaver heater requires a flue system that will draw effectively and clear products safely under all potential wind and climatic conditions. It is the responsibility of the installer to ensure that the appliance is provided with an effective flue. Some guidelines to assist with flue design are in this guide. These must be read and modified as necessary with reference to the particular installation.

All Rinnai Energysavers must be installed with an approved Rinnai flue system.

Flue clearance to combustibles

Energysaver flue components, except the elbow section of the ESKIT03, and ESELBOWB, have zero clearance.

The ESKIT03 and ESELBOWB require a minimum clearance of 25 mm from combustible materials.



Condensate trap

A condensate trap is required for all vertical installations to ensure condensate generated during combustion is trapped and prevented from entering the chamber of the heater.

2° fall to wall terminal

For direct, sideways, and down-and-out installations there must be a continuous fall of 2° to the wall terminal (equates to 20 mm per metre). The Energysaver A/AA direct mushroom flues have an inbuilt 2° fall, and the wall plate of the ESDFK kit has a 2° offset.

Flue terminal locations

Must be compliant with AS/NZS 5601.1:2013.

- Do not flue into natural draft flues or fireplaces
- Do not flue into other rooms, roof spaces, or under floor spaces

The flue terminal must be positioned away from flammable materials.

Keep snow and other items, such as outdoor furniture well clear of the flue terminal at all times.

Flashings

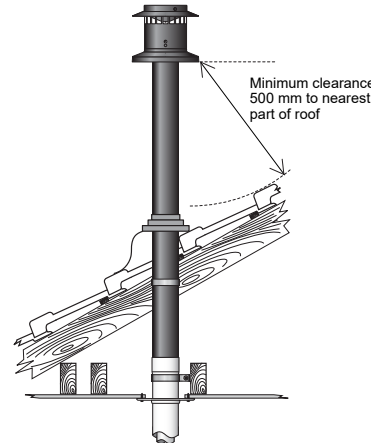
Flashings are not part of the flue kit and must be specified.

Vertical flue cowl clearance

To ensure products of combustion are cleared, adequate clearance from the building is required.

The flue cowl should have a 500 mm clearance from any part of the building. This also applies to steeped and pitched roofs where the flue cowl should be 500 mm clear of the ridge line.

An adequate flow of fresh air must exist around the flue cowl following installation. Minimum clearances are shown in AS/NZS 5601.1:2013.



Maximum flue length and number of bends

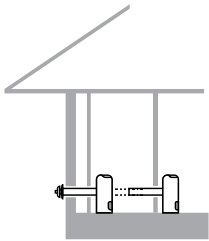
Maximum flue length = 9 m
Maximum number of bends = 3

One 90° bend equals 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 flue length can be 6 m.

The flue transition connection for the ESKIT03 and ESELBOWB is counted as a 90° bend.

Energysaver flueing options (most common)

Direct and direct extended flueing



Direct through the wall flueing for walls 75-385 mm thick.

Flue can be extended if wall thickness is greater than 385 mm using the ESDFK and additional lengths of flue pipe ESPIPE900.

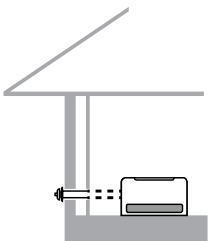
Direct

R1350: Mushroom flue kit for walls 75-115 mm
R1351: Mushroom flue kit for walls 115-240 mm
ESDFK¹: Straight horiz. kit for walls up to 385 mm

Direct extended

ESDFK¹ + ESPIPE900²

Sideways extension flueing



Flue runs along the left or right hand side of an internal wall behind the unit.

If retrofitting the flue can be boxed in along the floor or behind a 125 mm false wall. The installation requires additional clearance off the wall, a back spacer kit is required.

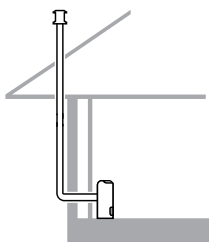
Sideways in-wall

ESDFK¹ + ESELBOWB + ESPIPE900²

Sideways front-of-wall

Back spacer kit + ESDFK¹ + ESPIPE900²

Vertical extension through-wall flueing

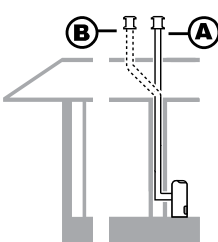


Flue runs directly from the unit to a vertical termination on the roof.

Examples for this option would be an Energysaver installed against a solid brick wall or where there are flue clearance restrictions.

ESDFK + ESBEND³ + ESPIPE900² + ESCONDK + ESROOFCOWL

Vertical extension in-wall flueing



Flue is installed within a stud wall, minimum cavity depth 90 mm, and is run vertically. This type of installation is usually completed at the framing stage.

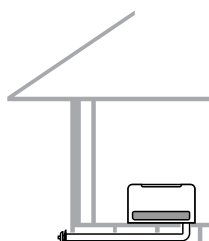
A - Direct

ESKIT03 + ESPIPE900² + ESROOFCOWL

B - Offset

ESKIT03 + ESPIPE900² + ESBEND³ x 2 + ESROOFCOWL

Down and out flueing



Flue runs below the floor to an external termination—must have a continuous fall of 2° to the termination point to drain condensate. Ideal for Energysavers that need to be located in a central position of a building.

If not going in-wall the flue will require additional clearance off the wall—back spacer kit required.

Down and out

Back spacer kit + ESDFK¹ + ESPIPE900² + ESBEND³

Down and out in-wall

ESELBOWB + ESDFK¹ + ESBEND³ + ESPIPE900²

Down and out through-wall⁴

ESDFK¹ + ESBEND³ x 2 + ESPIPE900²

¹ Use terminal off ESDFK on outside wall

³ ESBEND kit contains 2 x 45° bends

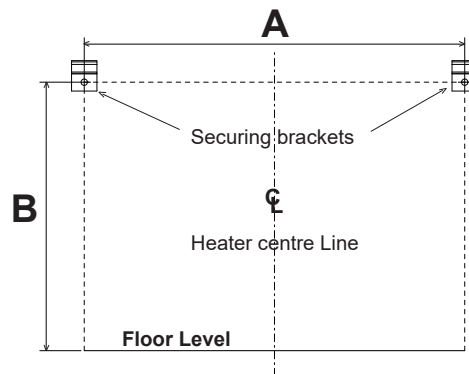
² ESPIPE900, order lengths as required

⁴ Installation that goes out into another room then down and out

Installation

1. Remove the plastic protection cap from the threaded gas inlet located at the rear of the appliance.
2. Position the appliance gas inlet in line with the gas supply.
3. Attach the gas supply pipe to the appliance gas inlet and tighten (finger tight).
4. On the wall behind the appliance, at a level of approximately the midway of the heater height, mark the vertical centreline of the heater.
5. Mark the flue penetration position in accordance with the Energysaver flue installation guide.
6. Undo the gas connection, and remove the heater.
7. Cut the flue penetration.
8. Mark out the securing bracket screw holes in accordance with the table below, using the centreline as reference.

Model	Dim. A	Dim. B
309FT3	250 mm 125 mm either side of CL	624 mm
559FT3	350 mm 175 mm either side of CL	537 mm
561FT3	280 mm 140 mm either side of CL	688 mm
1005FT3	875 mm 437.5 mm either side of CL	622 mm

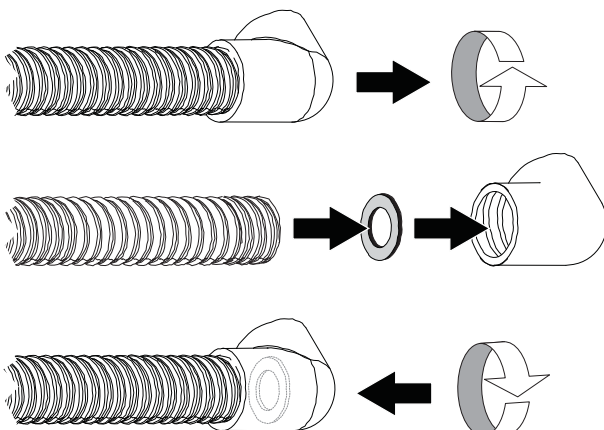


9. Attach the two securing brackets supplied to the wall using the two 8 g x 30 mm screws supplied, or suitable equivalent.

Models: 309FT3, 559FT3, 561FT3 only - install baffle ring

This step is only for the above models using the ESDFK component in a direct flue installation. The baffle ring is installed to ensure maximum efficiency of the appliance. If it has been misplaced don't worry, it's not important to the safe and reliable operation of the unit.

1. Unscrew the air intake elbow from the air intake hose, left handed thread, clockwise to undo.
2. Insert the air intake baffle ring into the appliance end of the air intake elbow.
3. Screw the air intake hose back into the air intake elbow, ensuring the air intake baffle ring is seated flush against the end of the air intake hose.



Installation continued

Install flue

Install the flue as per the instructions in the Energysaver flue installation guide. Return the Energysaver to its final position and connect to the flue.

Connect the gas supply line and fully tighten the connection. 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 into contact with electrical components.

Fit the rear panels

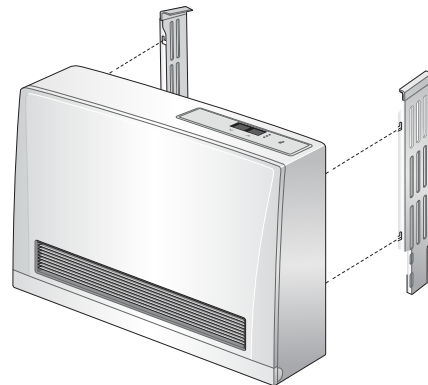
The rear panels are NOT an optional component and **MUST BE** fitted to ensure the correct and safe operation of the appliance while also providing concealment and protection of the flue and gas connections. Failure to fit the panels will void any warranty.

1. Fit the left and right cover panels to the rear of the appliance by clipping the panels onto the location tabs, then fastening into position using the two 6 g x 8 mm self tapping screws. These screws locate into the pre-drilled and formed recesses of the panels and the appliance.

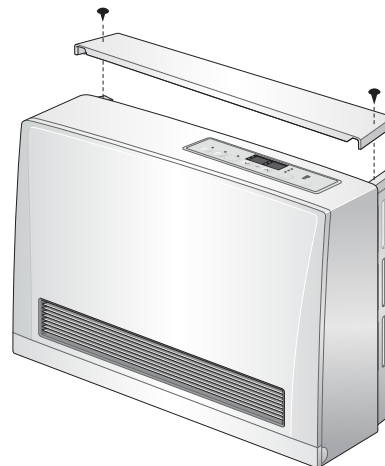
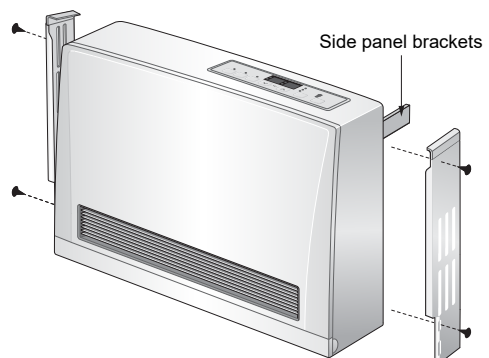
The 1005FT3 model, in addition to the above step, also requires securing into the two side panel brackets, refer image.

2. Remove the fan filter(s).
3. Carefully fit the top cover panel ensuring the rear fold locates neatly between the two securing brackets and the wall. Secure the top panel cover with the 6 g x 8 mm pan head screws supplied (two for the 309, 559, 561, and three for the 1005).
4. Replace the filter(s).

Models: 309, 559, 561



Models: 1005



Commissioning

For commissioning instructions refer to the Commissioning sheet attached to the front panel of the appliance.

Ensure you leave this guide and the completed installation checklist with the customer. Explain to the customer about the use and care of the unit and that they understand the instructions and the safe operation of the heater.

It is the responsibility of the installer to check that all the flue gases are exhausted to the 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.

Burning in period

Advise the customer that during the initial burning in period of approximately two hours some vapour and smell may come from the heater, this is normal. During this burning in period the heater should be operated on high, ensure the space being heated is well ventilated.

Flue block sensing technology



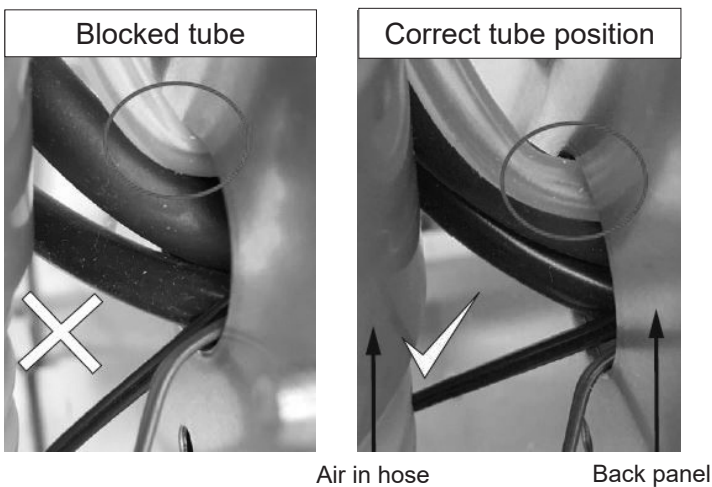
This product incorporates flue block sensing technology. If the unit has error codes 40 and 99, check tube connections and position.

Issues with pressure hoses

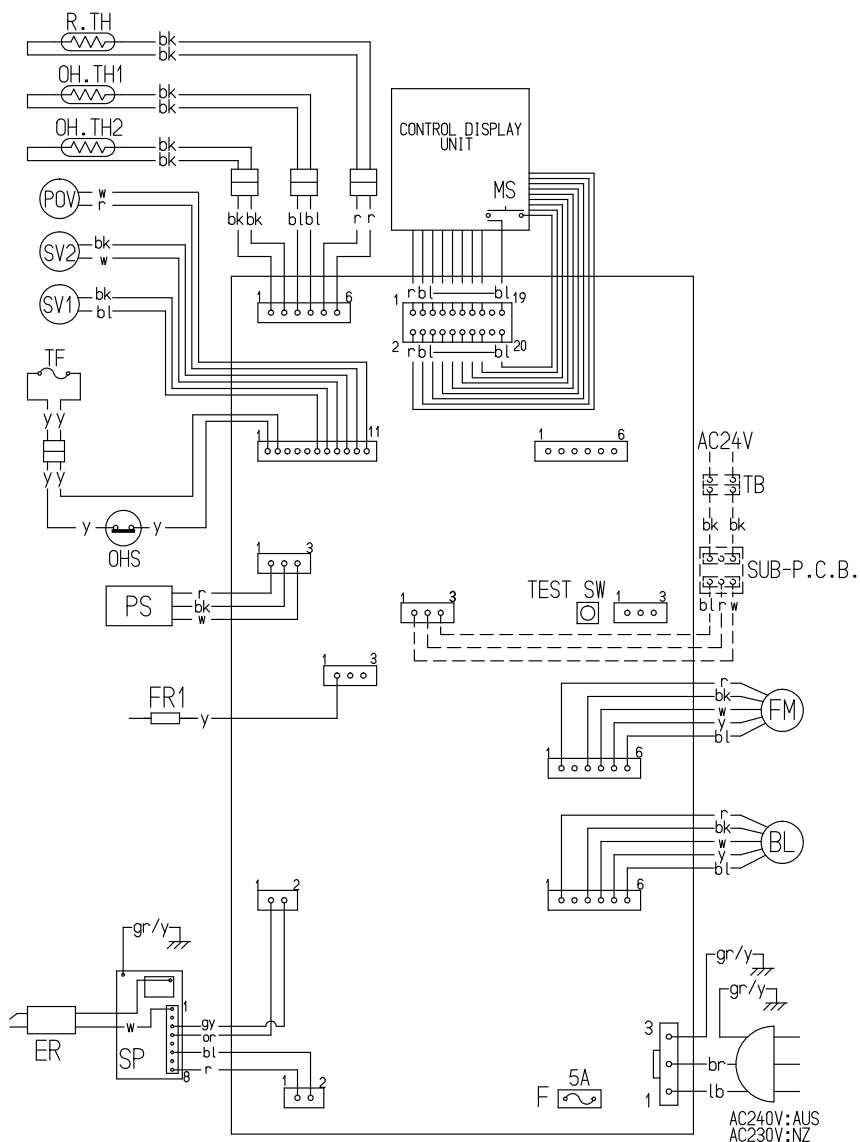
Ensure the pressure check tube is not blocked, pinched or crushed.

Issues with flue

Check the entire flue installation from exhaust spigot/inlet elbow to the flue terminal.



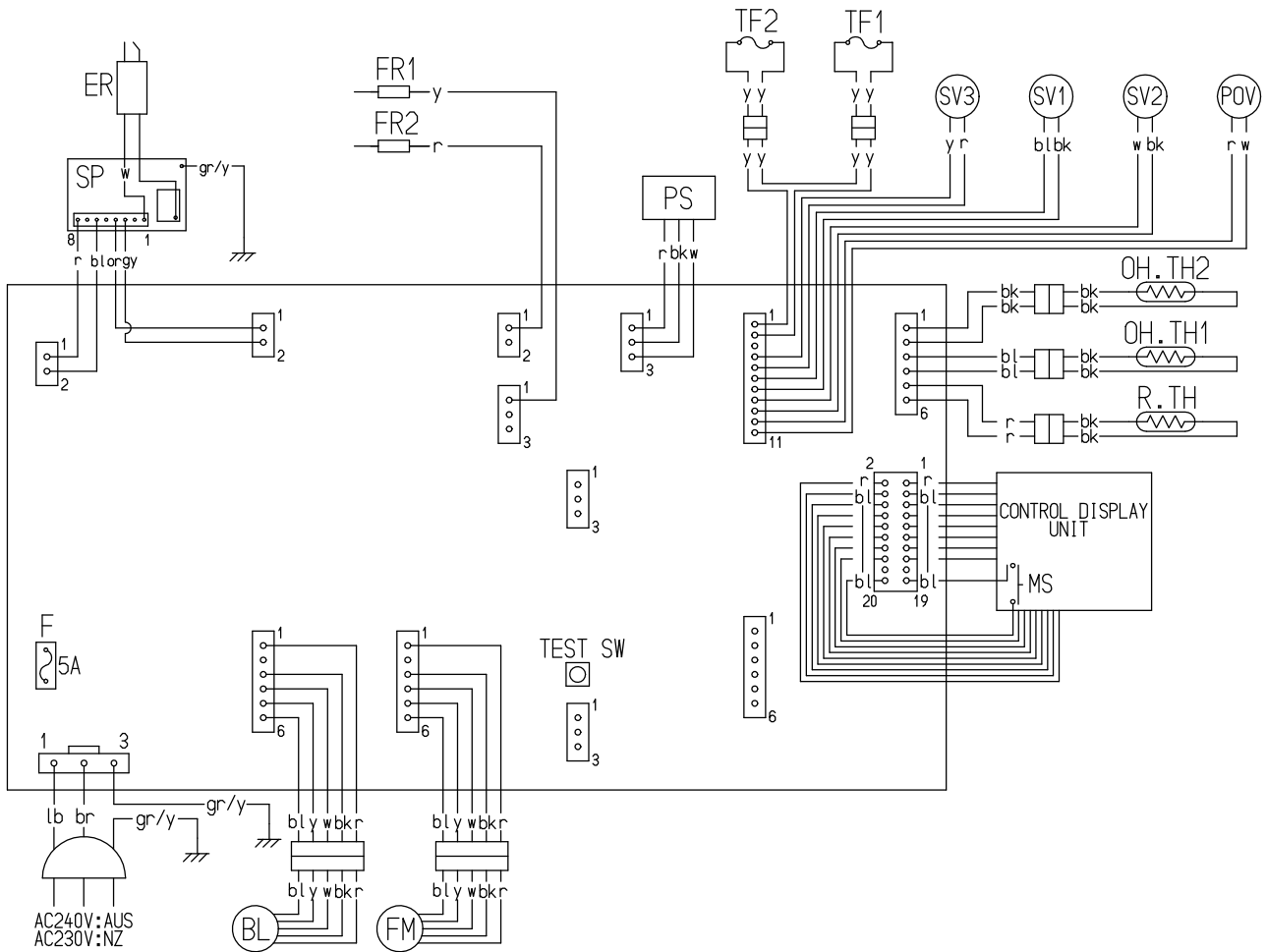
Wiring diagram RHFE-309, 559, 561FT3



CODE	COLOR	CODE	COLOR
bk	black	w	white
bl	blue	y	yellow
lb	light blue	gy	gray
gr/y	green/yellow	or	orange
r	red	br	brown

MARK	PARTS NAME	MARK	PARTS NAME
MS	MAIN SWITCH	OH.TH1,2	OVER HEAT THERMISTOR 1,2
R.TH	ROOM THERMISTOR	OHS	OVER HEAT SWITCH
TF	THERMAL FUSE	FM	CONVECTION FAN MOTOR
F	FUSE	SP	SPARKER
ER	ELECTRODE	SV1,2	MAIN SOLENOID VALVE 1,2
POV	MODULATING SOLENOID VALVE	BL	COMBUSTION FAN MOTOR
PS	PRESSURE SENSOR	FR	FLAME ROD
TB	TERMINAL BLOCK		

Wiring diagram RHFE-1005FT3



CODE	COLOR	CODE	COLOR
bk	black	w	white
bl	blue	y	yellow
lb	light blue	gy	gray
gr/y	green/yellow	or	orange
r	red	br	brown

MARK	PARTS NAME	MARK	PARTS NAME
MS	MAIN SWITCH	OH.TH1,2	OVER HEAT THERMISTOR 1,2
R.TH	ROOM THERMISTOR	FM	CONVECTION FAN MOTOR
TF1,2	THERMAL FUSE 1,2	SP	SPARKER
F	FUSE	SV1,2	MAIN SOLENOID VALVE 1,2
ER	ELECTRODE	SV3	SOLENOID VALVE 3
POV	MODULATING SOLENOID VALVE	BL	COMBUSTION FAN MOTOR
PS	PRESSURE SENSOR	FR1,2	FLAME ROD 1,2

Installation checklist

The installer must complete the installation checklist below and make sure the guide is left with the homeowner. They must also instruct the homeowner about the use and care of the appliance and ensure understanding about the safety instructions.

- Appliance positioned in a suitable location with required clearances
- All packaging and protective materials removed prior to operation
- Appliance test point pressure correct for the installation, and flue config. adjusted if necessary
- Only Rinnai Energysaver flue components used
- Air inlet hose and flue connections secure
- Heater secured to the wall
- Gas connection correct and gas supply pipe purged of foreign matter before connection
- Appliance inlet pressure correct with all other gas appliances operating
- Where applicable condensate trap has been installed and connected
- Flue clearances and installation as per AS/NZS 5601.1:2013
- Customer advised to service the heater every two years

Installer details

Company name:

Installer name:

Address:

Phone:

Mobile:

Certificate of compliance number for installation:

Signed:

Date:

Purchase details

Record your purchase details below

ATTACH YOUR PROOF OF
PURCHASE HERE:



Retailer:

Retailer address:

Date of purchase:

Product details:

Please keep these details in a safe place for future reference.

Limited Warranty

Rinnai brings you peace of mind with a:

2-year warranty



This warranty is applicable to all Rinnai Energysavers.

All terms of the warranty, subject to the conditions below, are effective from the date of first installation. The attending service person reserves the right to verify this by requesting a copy of the gas certificate of compliance prior to commencement of any warranty work. Proof of purchase and installation date will be required at the time of any warranty claim. This warranty is only valid within the country of purchase.

Any warranty claim must be made within a reasonable time of discovery of the potential fault or defect.

General warranty terms

All Rinnai appliances meet or exceed the safety standards required by New Zealand gas and electrical regulations. The company is constantly improving its products and as such, specifications are subject to change or variation without notice.

This warranty does not limit any consumer rights or guarantees that may apply under the Consumer Guarantees Act 1993. If the product is acquired for the purposes of a business, the provisions of the Consumer Guarantees Act 1993 do not apply and no other warranties (either express or implied by law) apart from those stated in the warranty will apply.

Warranty terms and conditions

1. All terms of this warranty are effective from the date of first installation. The attending service person reserves the right to verify this by requesting a copy of the gas certificate of compliance prior to commencement of any warranty work. The installer must issue a certificate of compliance by law in New Zealand. Warranty claims may be invalid if not accompanied by details of the installing or supervising gas fitter's registration number and the gas certification number.
2. All Rinnai appliances must be installed, commissioned, serviced, repaired and removed in accordance with the manufacturer's installation instructions, local regulations, and building codes by persons authorised by local regulations to do so.
3. All appliances must be operated and maintained in accordance with the manufacturer's operating instructions. Rinnai recommends that Energysavers are serviced every two years, including inspection of the flue system.
4. Servicing of the product is to be carried out by a Rinnai authorised service centre.
5. The warranty applies only to components supplied by Rinnai. It does not apply to components supplied by others, such as electrical switches, electrical cables, and fuses, but is not limited to these.
6. Where a failed component is replaced under warranty, the balance of the original warranty will remain effective.

Limited Warranty

Rinnai brings you peace of mind with a:

2-year warranty



Warranty terms and conditions continued

7. Rinnai reserves the right to transfer functional components from defective appliances if they are suitable.
8. Rinnai reserves the right to have installed product returned to the factory for inspection.
9. Where the heater is installed outside the metropolitan area or further than 40 km from a Rinnai authorised service centre, travel costs shall be the owner's responsibility.

Warranty exclusions

The following exclusions may cause the warranty to become void and will result in a service charge and cost of parts (if required).

1. Accidental damage and acts of God.
2. Failure due to abuse or misuse, improper maintenance or improper storage.
3. Failure due to incorrect or unauthorised installations including but not limited to the use of products, including flue systems, that are not specified by Rinnai.
4. Failure or damage caused by alterations, service or repair work carried out by persons other than Rinnai service persons or service centres.
5. Where it is found that there is no fault with the appliance and the issue is related to the installation or is due to the failure of electricity or gas supplies.
6. Noise caused by minor contraction, movement or expansion of certain parts.
7. Cost of building work to access parts that need repair or replacement, or the costs of building repairs afterwards.
8. Subjective issues such as noise or smell that Rinnai have investigated (or a Rinnai service centre has investigated) and are established to be within normal operating parameters.
9. Subject to any statutory provisions to the contrary, Rinnai does not accept:
 - a. liability for consequential damage or any incidental expenses resulting from any breach of warranty.
 - b. claims for damage to building or any other consequential loss either directly or indirectly.

Register your Energysaver online

Register your appliance online at www.rinnai.co.nz/register/. You'll need to know the model, and also the serial number—shown on the data plate on the lower right hand side of the heater.

Warranty claim

To make a warranty claim, contact Rinnai on 0800 RINNAI (0800 746 624) or email info@rinnai.co.nz.

Rinnai.co.nz

Tel: 0800 746 624

<http://www.youtube.com/rinnainz>

<http://facebook.com/rinnainz>

Rinnai Energysaver FT3 operation and installation guide

RHF1006-1760(01)



(For factory use)



109226