Enviroflo Hot Water Heat Pump

Operation guide

Rinnai

Important

This hot water system shall be installed in accordance with:

- Manufacturer’s installation instructions

Current:

- AS/NZS 3000 Electrical Standards
- AS/NZS 3500 Plumbing and Drainage Standards
- AS/NZS 5149 Refrigerating Systems Operation
- AS/NZS 5125.1:2014 Heat Pump Water Heaters

Appliance must be installed, commissioned, serviced, and removed by authorised personnel.

Not suitable as a spa or swimming pool heater.
Not suitable for hydronic applications.

Warning
Improper installation, adjustment, alteration, service or 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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For reliable operation the Rinnai Enviroflo Hot Water Heat Pump should be serviced **every two years**. A typical service would include cleaning the evaporator, checking the condition of the compressor and system connections, and ensuring there are no water leaks. Regular servicing will help extend the life of the system.

Safety and important messages

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. Children should be supervised to ensure they do not play with the appliance.

- DO NOT modify this appliance
- DO NOT touch power connections
- DO NOT operate the unit unless the cylinder is full of water
- DO NOT operate unless all covers are secured in place
- DO NOT store items on top of or against the unit
- Avoid touching exposed pipework and fittings connected to the unit as they can be HOT

To ensure continued safe operation, maintain the necessary clearances around the unit.

Warning about hot water

Excessively hot water is dangerous. The Rinnai Enviroflo is set to operate in 'Standard' (STAN) mode, with a water default temperature setting of 60 °C, it has a tempering valve to control the temperature of hot water to safe levels.

Always

- Test the water temperature with your elbow before placing your child in the bath, and feel the water yourself before bathing or showering.
- Supervise children whenever they are in the bathroom.
- Make sure the hot water tap is turned off.

Consider

Installing child proof tap covers or child resistant taps, both will prevent a child from being able to turn on a tap.

Never

Leave a toddler in the care of another child. They may not understand the need to have the water temperature set at a safe level.

Hot pipe work

Care should be taken not to touch the pipe work from the cylinder as this could be very hot.

Risk of fire

The unit uses R290 (propane) refrigerant, a class 3 flammable gas according to AS/NZS ISO 817. The refrigerant can only be handled by a refrigeration technician with the appropriate refrigerant handling license.

- If the refrigerant leaks[1], there is a possibility of a fire with an external ignition source
- DO NOT store chemicals or flammable materials near this unit
- DO NOT place the unit near any ignition sources
- DO NOT use a flammable spray such as hair spray, spray paint etc. near this unit as it may cause a fire

[1] The Rinnai Enviroflo has a sealed refrigerant system, leaks will not be common unless the internal components of the header have been punctured. If punctured a hissing sound could occur indicating a leak. Contact your installer or Rinnai as soon as possible if this occurs.

Safety devices
Your Rinnai hot water system is fitted with a:

- Temperature & Pressure Relief (TPR) valve that ensures the water remains at a safe pressure and temperature.
- Automatic thermostat to maintain water temperature.
- Temperature override cutout for the heating element.

  DANGER
  The operation of the thermal cutout can indicate a serious situation. Do not reset the thermal cutout until the system has been serviced by a qualified person.

Do not operate the system unless all the safety devices are fitted and are in working order.
It is also important that you do not tamper or remove any of these devices.

Element cover
Do not remove the element cover as this will expose 230 V wiring. It must only be removed by an authorised person.

Damaged components
If any component is damaged, it must only be replaced by an authorised person using Rinnai replacement parts.

Hydrogen gas
If hot water is not used for two weeks or more, for example after a holiday, a hot water cylinder with an anode can produce hydrogen gas, which is highly flammable. To remove any potential gas buildup it is recommended a hot tap be turned on for two minutes at a sink, basin, or bath. During this procedure there must be no smoking, open flame, or other appliance operating nearby.

Location and positioning
The Enviroflo is designed primarily for an outdoor installation. It may be possible to install the system internally if the proposed location is **not an occupied space** as defined by AS/NZS 5149. Please note that internally installed units will need adequate ventilation as the appliance has a cooling effect on the installed space, operating noise should also be considered. Rinnai strongly recommends discussing the installation with a qualified installer prior to installation.

- DO NOT install the unit in a location that may be exposed to combustible gas leaks. If combustible gas accumulates around the unit, it may cause a fire.
- DO NOT install the unit where noise may be a nuisance, such as near bedrooms or neighbouring properties. Do not place any objects on top of the unit, this could cause excessive vibration and increase noise levels.
- DO NOT install the unit where it will be directly exposed to sea wind and salt spray, this will significantly reduce the durability of the unit.

Draining and filling the system
This normally occurs during installation or servicing and must be carried out by an authorised person. Draining water from the heat pump unit is necessary if the power will be shut off to the unit, and snow or frost conditions are expected. Arrange for an authorised person to carry out this task.

Installation by a licensed tradesperson
Only a licensed tradesperson can install, adjust, maintain, and remove this hot water system. Any work carried out by a non-licensed tradesperson is illegal and will void any warranty.

Legionella
To meet the New Zealand Building Code requirement[1] to disinfect water for legionella bacteria[2], the system has an auto disinfection cycle.

If the water temperature is < 70 °C over a 7-day period, the heat pump (with the electric element on) will start disinfection. During disinfection, the symbol (as shown above) will flash for two seconds then light up, water will be heated up to 70 °C and maintained at 65-70 °C for at least 30 mins. After 30 minutes it will exit disinfection. If the water cannot reach 70 °C the heat pump will run in disinfection mode for two hours then exit.

1 Clause G12.3.9, Acceptable Solution G12/AS1 6.14.32
2 Legionella is a bacterium that can cause Legionnaires' disease—a severe form of pneumonia

General information

The heat pump MUST be installed free-standing on a level and stable base capable of withstanding the weight of a full system.

Where property damage can occur as a result of water leakage, the system MUST be installed with a safe tray (overflow tray) and drain in accordance with AS/NZS 3500.4.

Unit orientation
The heat pump is designed for open air operation, requiring sufficient air supply to maintain operating efficiency. The air inlet and outlet of the heat pump must be positioned away from prevailing winds, and be provided with sufficient clearances as shown in the installation guide.

Genuine Rinnai parts
Only use the included accessories, and specified parts for installation. Using non-standard parts can cause water leaks, electrical shock, fire, and cause the unit to fail.

Defrost function and freeze protection
The unit will go into defrost when the evaporator temperature sensor reads temperatures below -5 °C for over one minute. This sensor signals the PCB in the unit to start the compressor which will discharge hot gas into the evaporator coil to gently melt the ice. The fan and pump will also run to accelerate the defrost function.

Defrost will stop once either of the below conditions are met:

- Defrost reaches 15 minutes
- Evaporator temperature sensor reads a temperature ≥ 5 °C

If you live in an area prone to frost and will be away for an extended period with the power supply disconnected, Rinnai recommend draining your system, by an authorised tradesperson, to prevent frost damage. Frost damage which is not covered by warranty.

Snow zone locations
If the location is prone to snow the system must be in a covered location. The system will not operate if snow is allowed to build up on top of the appliance.

Disposal guidelines
This system contains refrigerant and other potentially hazardous materials. Do not dispose of this system as household waste. Contact Rinnai for more information.

Electrical connection
The heat pump is fitted with a power cord and 15 A plug. It must be connected to an independent, fused AC 230 V 50 Hz power supply with an isolating switch installed at the switch board.

All electrical work and permanent wiring must be carried out by a qualified person in accordance with AS/NZS 3000 Wiring Rules.

Note about water / water blasting
The Enviroflo has an IP24 rating which means it's protected against splashing water, for example rain. It is **not protected** from sustained low or high pressure water, for example water blasting.

Power supply disruption
If the power goes off the system will retain all of its settings, including the day and time. When power is restored the system will come back on, approximately two minutes afterwards, in the operation mode that was previously set. The slight delay in operation is a safety feature designed to protect the compressor.

Condensation
During normal operation condensation occurs in the heat pump as air across the evaporator is cooled. In high humidity locations a large volume of condensate can be generated. The installer will ensure condensate is plumbed to a suitable drain.

We do not recommend switching the system off (without power connected) in areas where frost could occur or in the middle of winter. Damage to the system if not continually connected to the electricity supply is not covered by warranty.

About your Enviroflo hot water heat pump

How it works

The operating principle of an electric heat pump is very similar to a refrigerator, but in reverse. A heat pump operates by transferring heat from the ambient outside air into the water. Electricity is used to operate the system, but not to directly heat the water. Because of this energy consumption is significantly reduced when compared to an electric element hot water system. The warmer the climate in which the heat pump is installed, the more efficient the heat pump system will be at heating water.

The heat pump includes a highly efficient micro-channel heat exchanger wrapped around the inner cylinder for thermal conductivity. A temperature sensor in the cylinder is used to control the heat pump operation to achieve a suitable cylinder temperature.

During the occasional times when the ambient weather conditions are not suitable for the heat pump to operate, the electric element will provide heating to ensure a continued supply of hot water.

Modes of operation

Mode number	Mode	Controller display	Default water set temp.	Setting range	Explanation
01	Standard	St:AN	60 °C	15~60 °C	Factory preset mode, only the heat pump operates. Restart temp. difference[1] is 10 °C.
02	Economy	E:CO	55 °C	15~60 °C	Only the heat pump operates. Restart temp. difference[1] is 10 °C.
03	Hybrid	HY:b	65 °C	15~70 °C	Heat pump runs until the water temperature reaches 60 °C. When this temperature is reached the heat pump stops running. The electric heating element will then continue heating the water until it reaches the set temperature (if set higher than 60 °C). In this mode the default water temperature setting is 65 °C, and the restart temperature difference[1] is 10 °C.
04	Electric	E:LE	65 °C	15~70 °C	Heating element mode, only the electric heating element will work to heat the water. Restart temperature difference[1] is 10 °C.

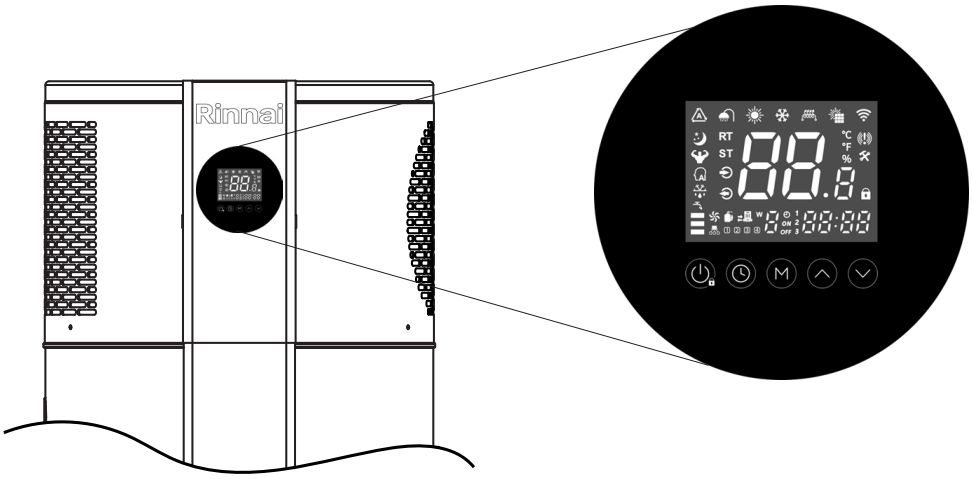
When the heat pump turns on, the control system initiates and will check the unit's operating parameters. The controller will do a check on all the sensors and pressure switches. If conditions are suitable (i.e. all reading within the operating conditions of the unit), and there is enough energy available in the surrounding air, the fan and compressor will turn on. If not enough energy is detected in the ambient air then the controller calls for the booster heating element to run.

There will be a delay from the time the heat pump is switched on before the fan and compressor begin operating.

The unit is self regulating so there are no internal adjustments that need to be made. When the unit is operated for the first time, it runs through an initial heat up cycle, depending on ambient conditions, this could take several hours.

[1] Restart temperature difference: The system will initiate a reheating cycle when the water temperature drops 10 °C below the set temperature.

Controller interface



On/Off

- On/Off button, hold for one second.
- Return button
- Escape button
- Lock / unlock button, hold for five seconds (will beep)

When the controller is in the normal display and there is no button operation for more than 60 seconds, it will automatically lock.

Clock

- Setting the clock, press and it will enter clock setting, then press again to switch between hours and minutes. Refer to p.10 for more information.
- Setting the timer, press and hold for three seconds. To cancel, press and hold for three seconds. Refer to p.10 for more information.

Mode

Press the On/Off button for five seconds to unlock the screen. Press the On/Off button again, the shower symbol should be displayed. Ensure this is displayed before pressing the M button.

- Press the M button to show the existing operation (will display for eight seconds before it disappears).
- Press the M button to cycle through the different modes.

You can change the settings in each of the modes by using the up and down buttons.

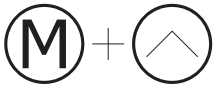
Important
If the shower icon is not displayed when pressing ‘M’, the menu settings can be accessed. DO NOT adjust anything here as this can affect how your unit performs. Escape this menu by pressing the On/Off button to return to the home screen.

Up / Down

Press either button to change the temperature setting value, or change the hour / minute values when in the Mode or Clock settings.

Water temperature setting
Unlock the controller, press the up or down buttons to increase or decrease the water temperature settings.

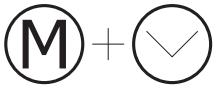
Button combinations
Buttons can also be used in combination for additional functions:



When heat pump is running and in heating mode, press and hold for three seconds to turn On/Off boost mode (i.e. turn off electric element).

Boost: The heat pump and cylinder element heat the water to the set temperature, in a one off boost so as to heat the water as quickly as possible.

When the controller is in normal display mode and the heat pump is ON, press M and the down button together for more than three seconds to enable boost mode. The heating element symbol will flash for one second then stay on. When the set temperature is reached, the heating element will turn off.



When heat pump is running, press and hold for five seconds to start/exit defrosting mode.

Controller LED icons

Symbol	Function	Meaning when lit	Meaning when flashing
	Heating mode	Heating mode active	
	Heating element	Heating element active	1s - boost mode 2s - disinfection mode
	Wi-Fi	Wi-Fi connected	
RT	Real water temperature	Displays actual temp.	
ST	Set water temperature	Displays set temp.	
	Defrosting	Defrosting active	Refrigerant recovery mode active
	Maintenance reminder	Maintenance required	
	Error warning	Error present	
	Screen locked	Screen lock active	
	Compressor running	Compressor active	
	High fan speed	High fan speed active	
	Low fan speed	Low fan speed active	
	Timer	Timer active	

Clock setting

1. Unlock display if the lock icon is showing–press the On/Off button for five seconds.
2. Press clock, the time will flash on the display.
3. Press clock icon, the hours will flash, adjust using the up and down buttons.
4. Press clock icon again, the minutes will flash, adjust using the up and down buttons.
5. Press clock to finish setting the time.

During the clock setting, if no button is pressed for one minute, the current clock setting will be confirmed and the system will go back to the home page.

Timers

Timers are used to turn the system on. In the normal day-to-day running of the heat pump timers would not need to be programmed as the system will modulate to maintain the set water temperature. However you may need to set a timer, if for example, you want the system to run at specific times, but be off at other times.

If setting timers, here's what you need to know:

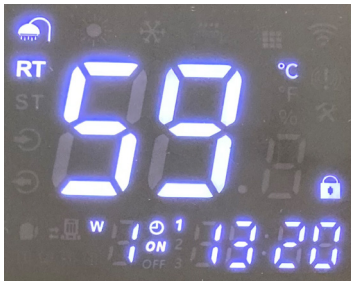
- There are three on/off timer period settings.
- When the weekday function is enabled, the timer cycle is a weekly one, e.g. every Monday.
- When the weekday function is disabled, the timer cycle is over 24 hours, e.g. every day between 16:00-20:00.
- When setting a timer you will need to cycle through all three timer periods. If you only want one you can set the start and end times for timers 2 and 3 to be the same (timer will not be set).
- To enable/disable timers, press and hold the clock button for three seconds.

Timers only (without week day enabled)

Press and hold the clock button for three seconds. Timer 1 will display, follow the prompts to enter the on and off times. Complete for timers 2 and 3 if applicable. If not applicable make the 2 and 3 start times the same, those timers will not be set.

- If the start time of a certain working period is greater than the end time, the end time is considered to be the next day.

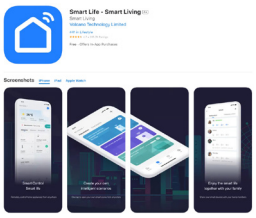
Week day function



Only enable the week day function if a weekly timer is going to be set.

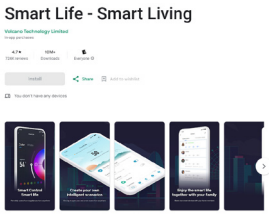
1. Unlock display if the lock icon is showing–press the On/Off button for five seconds.
2. Press the clock icon, the time will flash on the display. Press the clock icon again, the hours will flash.
3. With the hours flashing, press and hold the clock button for three seconds until you hear a beep. The weekday function will show.
4. Use the up and down buttons to adjust. When the week function is displayed it will show as Monday: 1, Tuesday: 2, Sunday 7 etc.
5. If set correctly the display will show 'W' and the number corresponding to the day of the week.

Wireless connection



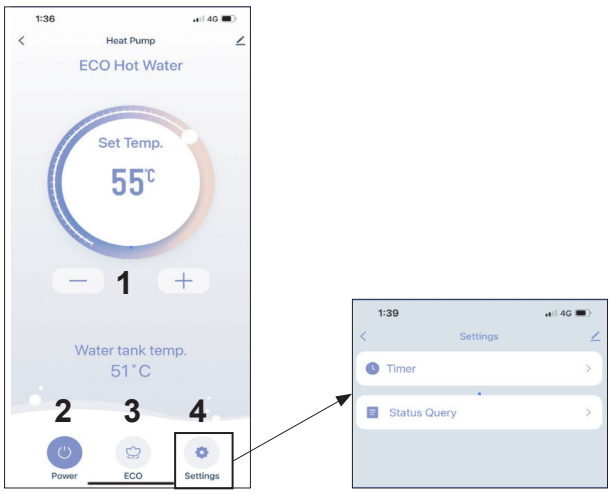
NOTE

The Smart Life - Smart Living App is a third party application independent of Rinnai. For this app to run, the home's Internet router must be running on 2.4 GHz (not 5 GHz)—check the wireless settings on your device. It needs to be within 10 m of the water heater.

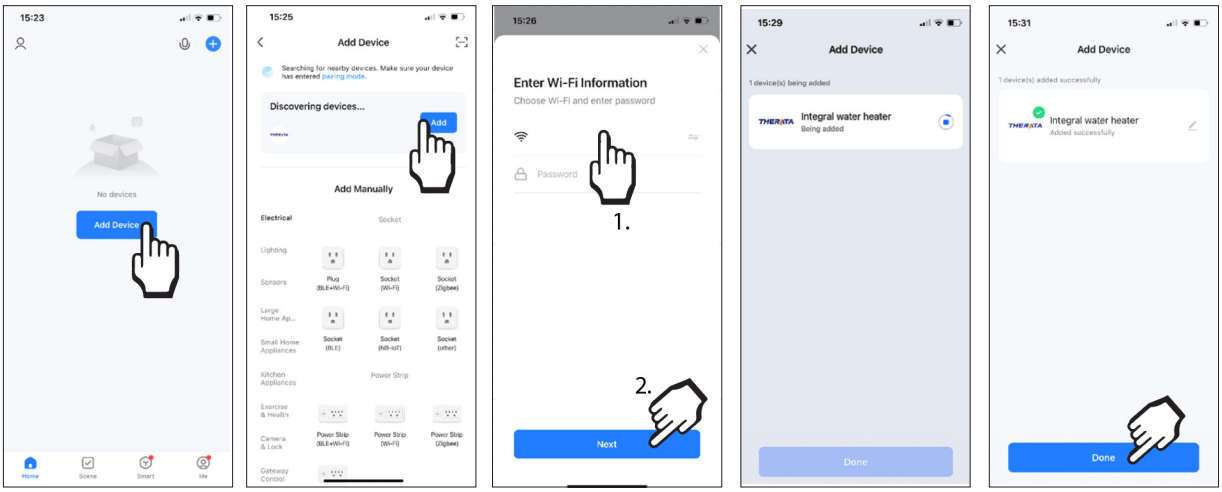


The main controls for the app are:

1. Adjusting the water temperature setting
2. Turning the system on and off
3. Checking and selecting different operation modes
4. Checking the timer



1. Ensure mobile device is connected to the home router and Bluetooth is on. After the connection is successful, you can turn off Bluetooth, the operation will not be affected.
2. Scan the QR code shown above or search for the app to download and install.
3. Open the app, register an account, and log in as prompted.
4. To connect the controller to your network press and hold the On/Off and the Up keys together for five seconds to enter into manual network connection mode. When the controller is available for connecting to a wireless network the wireless icon will flash, and if successful this icon will remain continuously lit. You will need to repeat this step if the icon stops flashing during the connection.
5. Connect to the SmartLife app as shown below.



6. Control the heat pump with the app.

Maintenance and servicing

For reliable operation the Rinnai Enviroflo Hot Water Heat Pump should be serviced **every two years**. A typical service would include cleaning the evaporator, checking the condition of the compressor and system connections, and ensuring there are no water leaks. Regular servicing will help extend the life of the system. In addition to this we also recommend the following.

Period	What needs to be done
Every six months	TPR (temperature & pressure relief) operate the easing gear
Year five	Inspection and service of the entire system, including element[1]. Anode(s) may need replacing.
Every 24 months after year five	Inspection and service of the entire system, including element[1]

[1] In hard water areas the element must be periodically descaled. To do this the cylinder must be drained and the element removed.

TPR valve
This valve is located near the top of the cylinder. It is essential for safe operation. The TPR valve works by automatically venting hot water if the temperature or pressure of the water in the cylinder gets too high.

Every six months operate the easing gear to remove lime deposits and to check that it is not blocked. Easing the lever discharges hot water, ensure no one is near the drain line.

WARNING

DANGER
Failure to operate the relief valve easing gear at least once every six months may result in the water heater exploding.

Continuous leakage of water from the valve may indicate a problem. It is important that you raise and lower the easing gear GENTLY.

During the operation, if the valve does not discharge water when the easing gear is lifted, or does not seal again when closed arrange for an authorised person to come and inspect the system immediately.

IMPORTANT

During servicing of your cylinder the TPR valve needs to be checked and/or replaced. This needs to be done by an authorised person at intervals not exceeding five years, or more frequently in areas where the water is classified as hard.

A TPR valve must not be replaced with one that has a higher pressure rating than that specified for the cylinder.

Clearing debris and pooling water
Ensure that water does not pool around the cylinder base, and that debris around the base is regularly cleared and does not build up.

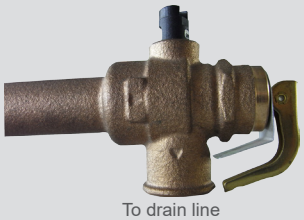
Regular visual inspection
Regularly check your system to ensure there is no buildup around or on top of the unit, and that there are no water leaks. The exterior needs to be kept clean.

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

For help locating a service person in your area call 0800 RINNAI (0800 746 624).

TPR position - top of cylinder

How to operate the easing gear



Anodes in enamel tanks

Storage cylinders manufactured from enamel can be susceptible to corrosion. The combined effects of water pressure, temperature and water chemistry can create an aggressive environment for corrosion of some materials. For this reason anodes are placed in enamel tanks so as to corrode first.

The water heater is fitted with a sacrificial anode to extend its life. It will slowly dissipate whilst protecting the cylinder. The life of the water heater may be extended by arranging an authorised person to inspect the anode(s) and replace it if required. It is recommended that the anode(s) be changed every fives years, or more frequently in hard or aggressive water areas.

The factory fitted anode is Magnesium based. This anode is suitable when the total dissolved solids (TDS) content in the water supply does not exceed 600 mg/L, which is the case in most areas.

Error codes

When the system encounters an error, the error code will display on the screen. Take a note of the error code and contact Rinnai or your installer. They may advise you to switch to ‘Electric’ mode to ensure a continued supply of hot water until someone is able to come and check the unit.

Electric mode, means water in the cylinder is heated only by the electric element, like a traditional storage cylinder. If this isn’t addressed quickly it may result in a larger than normal power bill.

Fault code	Event / fault description	Action
-	No hot water	Check if there is power to the cylinder. Check that the circuit breaker in the distribution board is on. Check ripple control is on.
-	Display not visible	Timeout may have occurred, press any button. If this doesn’t work the screen may be ‘locked’ in the operation mode, press and hold the On/Off button for 3-5 seconds.
E05	High pressure protection	High pressure switch is broken / connection is loose. Contact Rinnai.
E09	Communication fault	Signal wire connection loose or faulty. There is a strong magnetic field, or PCB is faulty. Contact Rinnai.
E12	Exhaust temperature too high	Lack of refrigerant / system leak. Contact Rinnai.
E14	Tank temperature sensor fault	Sensor fault / connection is loose. Contact Rinnai.
E16	Coil temperature sensor fault	Sensor fault / connection is loose. Contact Rinnai.
E18	Exhaust temperature sensor fault	Sensor fault / connection is loose. Contact Rinnai.
E21	Ambient temperature sensor fault	Sensor fault / connection is loose. Contact Rinnai.
E29	Suction temperature sensor fault	Sensor fault / connection is loose. Contact Rinnai.

Troubleshooting

Do not attempt to carry out any work other than that mentioned in this troubleshooting section. If you have any other faults or problems, please contact your installer, or contact Rinnai.

INSUFFICIENT OR NO HOT WATER	
Heat pump unit not powered	Check to ensure the electric isolating switch at the switchboard, usually marked ‘Hot water’ or ‘water heater’ is turned on. Note: The compressor will not start up for five minutes after the power is turned on.
Excessive hot water consumption	Often people are surprised at the amount of hot water used, especially when showering. If the amount of hot water used during the day exceeds the storage capacity of the cylinder, it is likely there will be insufficient hot water.
Temperature & Pressure Relief (TPR) valve continually discharging water	It is normal that this valve allows a small quantity of water to be discharged during the heating cycle. If it discharges more than a bucket of water during a 24 hour period or discharges continuously there may be another problem. If the valve dribbles continuously, try easing the valve gear for a few seconds as described on p.12. This may dislodge any foreign matter and alleviate the problem. If the valve discharges at high flows, especially at night, it may be as a result of the water pressure exceeding the design pressure of the system. Contact your installer about fitting a Pressure Limiting Valve (PLV).
Expansion Control Valve (ECV) continually discharging water	It is normal that this valve allows a small quantity of water to be discharged during the heating cycle. If it discharges more than a bucket of water during a 24 hour period or discharges continuously there may be another problem. If the valve dribbles continuously, try easing the valve gear for a few seconds. This may dislodge any foreign matter and alleviate the problem. If this does not solve the problem contact your installer or Rinnai.
Ambient conditions too hot	To protect the components of the heat pump unit, it may not operate when the ambient temperature is higher than 45 °C. The heating element will operate if water heating is required, but may take longer to heat the water.
Ambient conditions too cold	To protect the components of the heat pump unit, it may not operate when the ambient temperature is less than -5 °C. The heating element will operate if water heating is required, but may take longer to heat the water.
NO WATER FROM THE TAP	
Restriction in the hot tap or failure of the cold water supply to the water heater	Check for water flow at the other taps and that the cold water isolation valve is fully open.
HIGH ELECTRICITY BILLS	
Excessive hot water consumption	Refer ‘Insufficient or no hot water’.
High electricity tariffs	The electricity tariff will determine the running costs of the system. Refer to your latest bill or contact your electricity provider to confirm what plan you are on and what you are paying.
Higher cylinder element usage	In extremely cold conditions the cylinder element may be operating more than normal.
WATER FLOW FLUCTUATIONS	
One or more taps opened at the same time	More than one or two hot taps in use at the same time may cause a decrease in the hot water flow. Is there more than one or two hot taps open, or are appliances such as a dishwasher or washing machine, in use at the same time?

WATER HAMMER	
Hot and cold water plumbing in the premises	Have a plumber check clipping of hot and cold water pipe work and install a pressure limiting valve and water hammer arrestor as required.
HEAT PUMP ICING UP	
Defrosting function	The heat pump has an inbuilt defrost function which may operate and remove any ice.
HEAT PUMP ERROR INDICATOR	
LED indicator is flashing on the display	This will flash if an error is detected with the heat pump, refer error code table and then contact Rinnai for assistance.
WATER LEAK FROM TOP OF CYLINDER	
Possible heat exchanger fault	Turn the unit off and contact your installer or Rinnai for assistance.
ERROR CODE AFTER A POWER DISRUPTION	
Error code appearing after a power disruption	If there is a power cut while the unit is running an error code may appear on the display. If this occurs try powering off the system, wait for approximately ten seconds, then turn on again. If the error code reappears contact Rinnai for assistance.

Limited Warranty - Enviroflo

Rinnai Enviroflo warranty summary

	Refrigeration components[1]	Cylinder	All other components[2]
Product	Residential - 3 years Commercial - 1 year	Residential - 5 years Commercial - 1 year	Residential - 1 year Commercial - 1 year
Labour	1 year	1 year	1 year

All terms of the warranty are effective from the first date of installation. Proof of installation will be required. Where the date of installation is not known or cannot be proven, the warranty will be based on the date of manufacture. Any warranty claim must be made within a reasonable time of discovery of the potential fault or defect.

[1] Refrigeration components include, but are not limited to; compressor, condenser, expansion valve, heat exchanger, evaporator and associated pipe work.

[2] All other components include, but are not limited to; sensors, thermostats, valves, electric heating elements, anodes.

General warranty terms

Rinnai reserves the right to make modifications and change specifications and its parts without notice.

For the purposes of the Consumer Guarantees Act 1993, Rinnai only guarantees the availability of repair facilities and spare parts for the express warranty periods recorded in the Rinnai warranty summary table.

If the Rinnai Enviroflo is being acquired for personal, domestic or household use*, this warranty does not limit any consumer rights or guarantees that may apply under the Consumer Guarantees Act 1993. If the product is being 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 this warranty, apply.

*A residential application is defined as an installation where the water heater, with the thermostat set at 70 °C and below, delivers hot water to a single family dwelling, not used for commercial purposes. Examples where a residential dwelling is used for commercial purposes: hair salon, catering kitchen, communal care facility etc. These installations would be considered commercial applications. An exception would be an accommodation business such as a motel, where the water heater serves the equivalent of a single family dwelling, this would be a residential application.

Warranty terms and conditions

- All terms of this warranty are effective from the date of first installation. The attending service person reserves the right to verify this date.
- All Rinnai appliances must be installed, commissioned, serviced, repaired and removed in accordance with the manufacturer’s instructions, local regulations, and municipal building codes by persons authorised to do so.
- All appliances must be operated and maintained in accordance with the manufacturer’s operating instructions.
- This warranty applies only to the components supplied by Rinnai. It does not apply to components supplied by others, such as, isolating valves, electrical switches, pipe work, electrical cables, fuses, but not limited to these.

- Where the appliance has not been sited in accordance with the installation instructions or installed such that normal service access is difficult, a service charge will apply. If at the discretion of the attending service person the installation is deemed illegal or access is dangerous, service will be refused. Any work required to gain access to the appliance will be chargeable by the attending service person (for example, removal of walls, or the use of special equipment to move components, but not limited to these).

- Where a failed component is replaced under warranty, the balance of the original appliance warranty will remain effective. The replacement part or appliance does not carry a new warranty.

- Rinnai reserve the right to transfer functional components from defective appliances if they are suitable.

- Rinnai reserve the right to have installed product returned to the factory for inspection.
  - The decision of whether to repair or replace a faulty component is at the sole discretion of Rinnai.

  - Where Rinnai determines that the heat pump unit needs to be removed for repair, Rinnai may undertake such removal and may permanently replace the defective heat pump unit with a substitute unit that is in the reasonable opinion of Rinnai, in a better or equal condition to the defective unit.

- Where the heat pump is installed outside the metropolitan area or further than 40 km from an authorised repairer, 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 costs of parts (if required).

- Accidental damage, defects or failure caused by acts of nature (fire, wind, lightning, flood, storm, hail storm fallout), vandalism, earthquake, war, civil unrest, pests, animals, insects, or entry of foreign objects or matter into the product such as dirt, debris or moisture.

- Defects or failure due to environmental damage such as corrosion.

- Failure due to abuse or misuse, improper maintenance or improper storage.

- Failure due to incorrect or unauthorised installations.

- Failure or damage caused by alterations, service or repair work carried out by unauthorised personnel.

- Where the heat pump or cylinder has failed directly or indirectly as a result of poor water quality outside the limits specified (refer next page).

- Where it is found that there is no fault with the appliance and the issue is related to the installation or is due to power failure.

- Subject to any statutory provisions to the contrary, Rinnai does not accept:
  - Liability for consequential damage or any incidental expenses resulting from any breach of the warranty.
  - Claims for damage to buildings or any other consequential loss either directly or indirectly due to leaks from the heat pump or any other faults.

Water quality

Water chemistry has a direct impact on hot water heaters, affecting corrosion protection measures, or causing scale buildup.

Water quality MUST:

1. Meet the Water Services (Drinking Water Standards for New Zealand) Regulations 2022 and the Aesthetic Values for Drinking Water Notice 2022, or the water standards as statutorily defined at the time; AND
2. Be within the limits shown in the table below.

Water quality outside these limits will void this warranty.

Water quality and impurity limits

TDS (Total Dissolved Solids)	<600 mg/L	**Manganese**	<0.01 mg/L
Total Hardness $CaCO_3$	<200 mg/L	**Sodium**	<150 mg/L
Alkalinity	150-200 mg/L	**Iron**	<0.1 mg/L
Dissolved (free) CO_2	<25 mg/L	**Sulphate**	<100 mg/L
pH	6.8-7.5	**Nitrate**	<11 mg/L
Chlorides	<150 mg/L	**Alkalinity/Sulphate ratio**	>1
Free Chlorine	<1 mg/L	**LSI[1]**	-1.0-0.8 @20 °C
[1] Langelier Saturation index—scaling potential of water.			

Water quality warranty guidelines

Filtration

Where there is discolouration, debris, or silt present in the water, an inline filter must be fitted into the water supply to protect the copper in the system from corrosion. Particulates and deposits in hot water systems are corrosive to copper and stainless steel and can lead to premature pitting. The filters must be periodically replaced to maintain the integrity of the system.

Stagnation

Leaving water stagnant in the system will promote corrosion. It is recommended that systems, if not in use, are flushed on an eight week cycle.

Bore and tank water

Bore and tank water supplies should be considered to be corrosive and should be tested prior to using the system. Bore and tank water must meet the water quality parameters stated in the above table.

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.

Register your system online: **www.rinnai.co.nz/register/** for service reminders, product updates, and special offers. You can unsubscribe at any time.

Installer details

Company name:

Installer name:

Address:

Phone:

Mobile:

Signed:

Date:

Rinnai.co.nz

Tel: 0800 746 624
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