



REB-KA2024FF | REB-KA2529FF | REB-KA3135FF | R331 | RC34



-
- If the information in this manual is not followed exactly, it could cause property damage, personal injury or loss of life. So please read it carefully.
 - Keep this manual for future reference.
 - Appearance and specification of the project subject to change for quality improvement without notice in advance.









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Safety Information

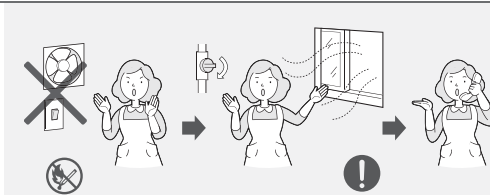
Please read this manual prior to use.

 Danger	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
 Warning	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 Caution	Indicates a potentially hazardous situation which, if not avoided, may in moderate or minor injury or property damage.
	Indicates a condition which must be complied.
	Indicates a condition which should be avoided.
	Indicates a ground connection for the prevention of an electric shock.
	Warns of a risk of fire. Keep the area clean and free from flammable materials.
	Warns of a risk of injury or property damage when contacting.

Danger

■ If you smell gas vapor,

- 1) Close the gas shutoff valve
 - 2) Open the windows and doors
 - 3) Contact the Rinnai service.
- Use a remotely located phone.













■ If you detect earthquake, fire, gas vapor, noise or irregular smell, turn off the power immediately and close the gas shutoff valve and open the windows and doors.

■ Excessively hot water is dangerous, especially for young children and the infirm. The water heater allows you to control the temperature of your hot water to safe levels.

- Water temperature over 50°C can cause severe burns instantly or even death from scalding.
- Children, disabled and the elderly are at the highest risk of being scalded by excessively hot water.
- Always test the temperature of the water before bathing or showering.
- Burns from hot water taps can result in very severe injuries to young children.
- Hot water at 60°C can severely burn a child in less than a second. At 50°C it takes five minutes.
- Burns can occur when children are exposed directly to hot water or when they are placed into a bath which is too hot.



Danger

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| ■ Do stay with children whenever they are in the bathroom. |  |
| <hr/> | |
| ■ Do take them out of the bathroom if you need to answer the phone or door. |  |
| <hr/> | |
| ■ Do test the temperature of the water with your elbow before placing your child in the bath. | |
| <hr/> | |
| ■ Do make sure that the tap is turned off tightly. |  |
| <hr/> | |
| ■ Do consider setting your Rinnai condensing at a maximum temperature or 50°C |  |
| <hr/> | |
| ■ Do install a child proof tap cover or a child resistant tap. |  |
| <hr/> | |
| ■ Consider child-resistant taps or inexpensive tap cover, both of which prevent a child's hand from turning on the tap. |  |
| <hr/> | |
| ■ Consider reducing the temperature of the water supplied to the hot tap 50°C. <ul style="list-style-type: none">· This approach can be extremely valuable because it requires a one time action for a long term reduction in risks of scalds.· This type of automatic protection is important during times when a parent or carer has been distracted, |  |
| <hr/> | |
| ■ Do not leave a toddler in the care of another small child. The older child may not have safely set the temperature. |  |
| <hr/> | |
| ■ This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, if they have been given supervision or instruction concerning the use of the appliance, in a safe way, and understand the hazards involved. |  |
| <hr/> | |
| ■ Children shall not play with the appliance.
Cleaning and user maintenance shall not be made by children without supervision. |  |
-

Warning

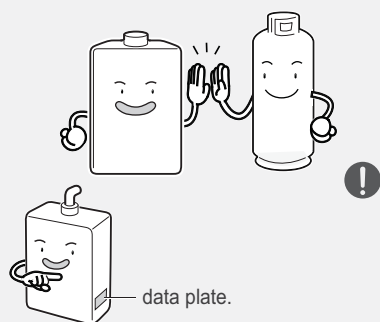
■ Do not place flammable objects near the boiler.

- It could cause a product failure or fire due to overheating.



■ Must use the gas indicated on the data plate

- Check to ensure that the gas in use matches with the gas indicated on the name plate. If they are not, there could be incomplete burning of the gas, resulting in carbon monoxide poisoning or product failure.
- When moving, check to ensure that the gas in use matches with the gas indicated on the data plate.



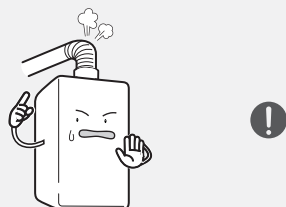
■ Must not attempt to repair, replace or disassemble the boiler.

- Improper adjustment, alteration, service or maintenance could significantly affect the safety of the product. Contact the Rinnai service or refer the manual if you detect any unusual condition.



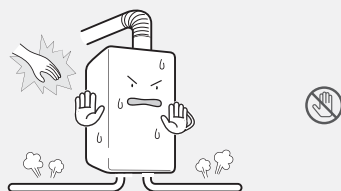
■ Must check that a exhaust pipe is properly installed.

- Must check that a exhaust pipe is connected well and good condition.



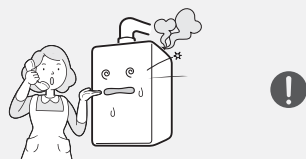
■ Do not touch exhaust pipe or vent system of the boiler when operating.

- Burns can occur.



■ When you detect abnormal noise, vibration or gas,

- Stop the boiler and then, contact the Rinnai service. Use it only after the inspection.



Caution

■ Check the installation condition.

- The gas boiler should be installed by a qualified installer.

■ Must check the shut-off valve to make sure that it is opened.

- Check to make sure that the gas shut-off valve is opened.
- When there is no supply of gas, the boiler would not operate.

■ A metal pipe or metal flexible hose should be used as gas pipes to be connected to the boiler.

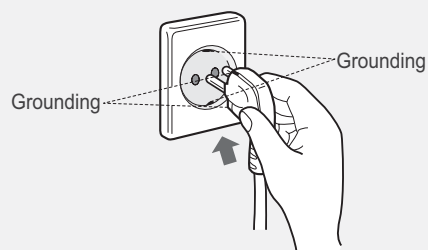
- Rubber hose might get damaged.
- As for the gas shut-off valve, use a ball valve for gas.



■ Check the voltage at the electrical outlet to make sure that it is within the range of voltage. (195V~253V)

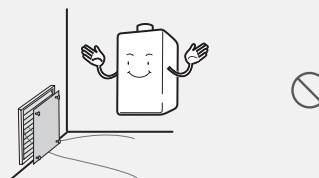
Also, do not attempt to extend a power cord.

The extension of a power cord by using a multi-tap or others could result in an electric shock or fire.



■ Do not block the exhaust vent.

- Covering the exhaust vent with vinyl or fabric to prevent wind or rain could cause monoxide poisoning.



■ Use the boiler only for heating or water heating.

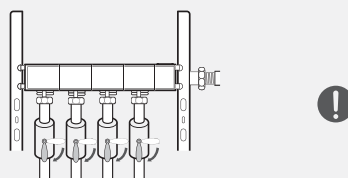
- Use of the boiler for improper purposes could result in fire or malfunction of the boiler.

■ Do not drink water collected inside the unit or use it for cooking. It might be polluted by bacteria and/or rust.

■ Do not use heating appliances under the room controller.

- Failure to read the indoor temperature could lead to malfunction of the boiler.

■ Check to make sure that each room valve of allotter is opened and air is properly removed.



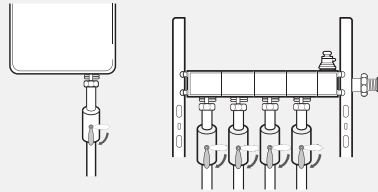
Caution for freeze protection

■ Check if the power cord of the boiler is plugged.

- A freeze protection function activates only when the boiler is on.

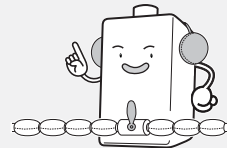


■ Do not close the each room valves of alloter and shut-off valves even if the boiler is not used for 2 to 3 days.



■ Exposed pipes must be wrapped with insulating materials.

- Installation of hot wires on pipes could protect the boiler from freezing.

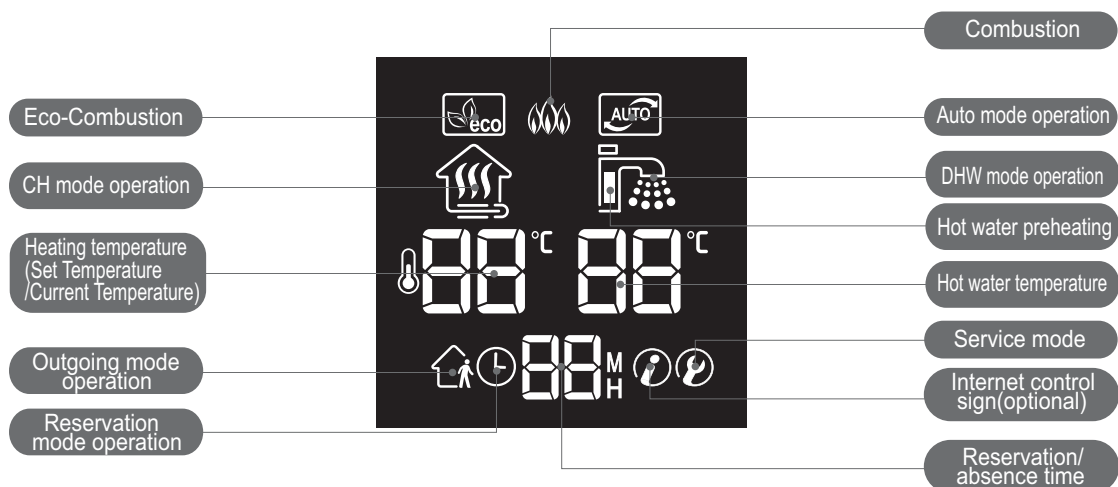
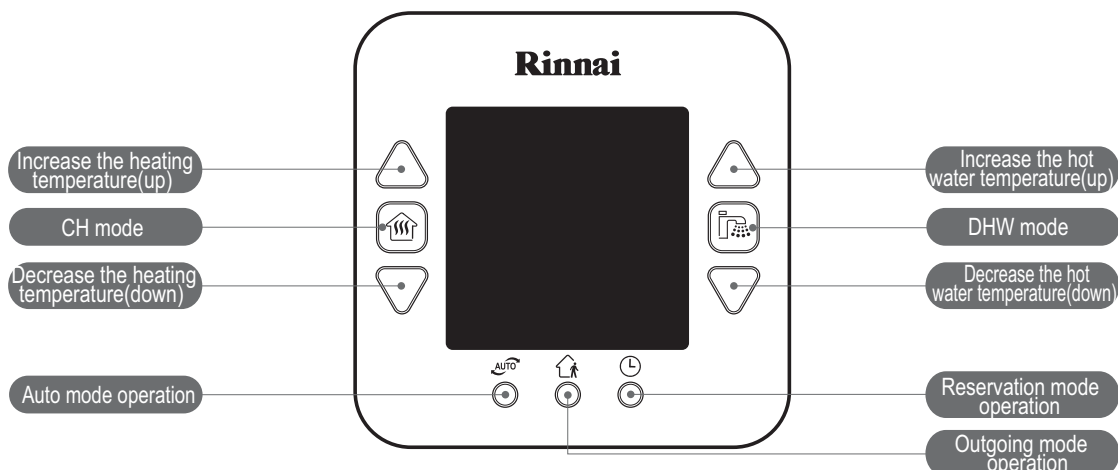


Emergency Measures for Frozen Water Pipes

■ If water pipes are frozen, there would be no supply of hot water. Use a hair dryer or a portable electric heater to unfreeze the water pipes and hot water pipes, and if such emergency measure does not work, contact the Rinnai service.

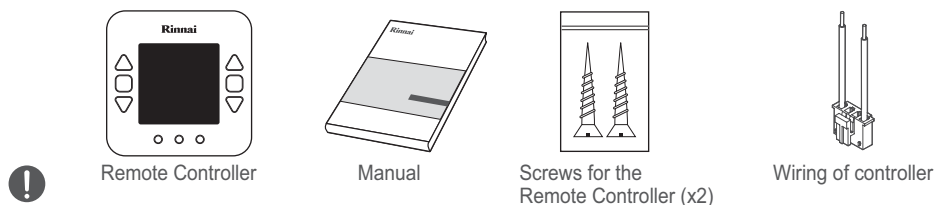
- Installation of hot wires on pipes could protect the boiler from freezing.

Room temperature controller



■ Accessories

- Check to make sure all the accessories shown in below come with the boiler.



- Check the number of all the accessories.
- Remove the packaging paper, Styrofoam and tape from the accessories.
- Keep this manual for future reference.

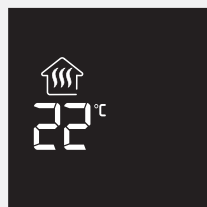
Operation

There are two heating modes: Space heating mode and flow temperature mode.

■ Space Heating Mode.

- The space heating mode is to maintain the indoor temperature at the set temperature while the temperature sensor detects the indoor temperature. When a user sets the indoor temperature, the space heating supply water temperature is set and the boiler starts to operate.

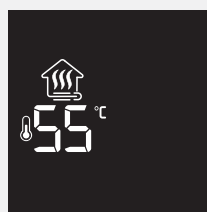
※ The default heating mode is the space heating mode.



The default spaceheating temperature is 22°C.

■ Flow temperature mode

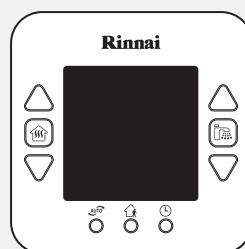
- The flow temperature mode is detecting the heating supply water temperature. A user can manually adjust the heating supply water temperature.



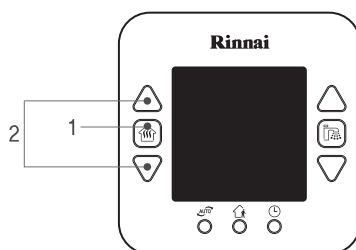
The default flow temperature is 55°C.

■ Flow temperature mode(🏠 + ⌚)

- To change the CH mode operation and then, hold both the outgoing button and the reservation button for 3 seconds.





CH mode operation()



1 Press the CH mode button. ()

The boiler starts to operate.

- When the boiler starts to operate, () and () appear on the display.



2 Press (Up) or (Down) button until the desired temperature appears on the display.

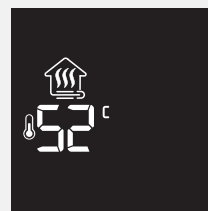
- When the current temperature is higher than the set temperature, the boiler does not operate.
- To cancel the CH mode operation, press the CH mode button once.
- ※ When the [Space heating mode] is on, the set temperature appears on the display and when the [Flow temperature mode] is on, the current temperature appears on the display.

(Space temperature)



(5°C ~ 40°C)

(Flow temperature)



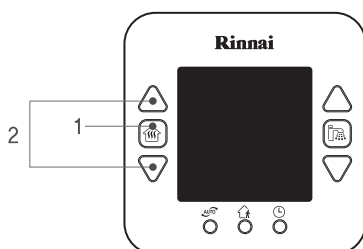
(50°C ~ 80°C)



Eco Sign appears on the display when the boiler operates in the eco-friendly combustion, which could lower the gas cost and minimize the emission of hazardous gases due to the high energy efficiency.

- ※ To view the heating supply hot water temperature, press the auto mode button for 2 seconds. Then, the supply hot water temperature appears on the display for 10s.

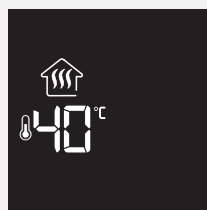
Rapid heating()



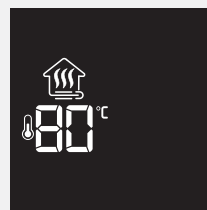
1 Press the CH mode button. ()

2 Press both (Up) and (Down) buttons.

- It'll be changed to max temperature automatically as pictures.
(40°C:Space heating, 80°C:Flow temperature heating)
- To cancel the Rapid heating Operation, change the set heating temperature, or press both (Up) and (Down) buttons again.



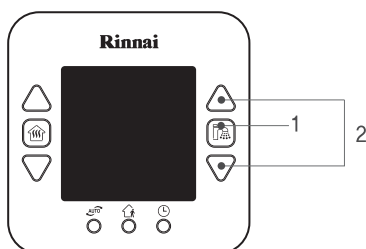
(Max space temperature)



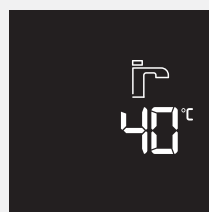
(Max flow temperature)

※ When the room temperature is too low, it is possible to raise the room temperature with the rapid heating. The rapid heating Operation can operate for up to 25 minutes. After that period, the heating temperature automatically returns to the previous set heating temperature.

DHW mode operation()

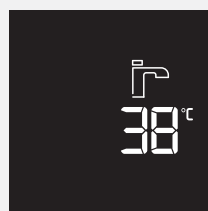


1 Press the DHW mode button.()





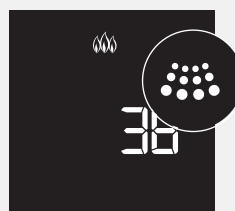
2 Press (Up) or (Down) button until the desired temperature appears on the display.

- . You can adjust the hot water temperature within a range of 35°C to 55°C while hot water is being used, for safety. Close all hot water faucets if you are willing to increase the hot water temperature to 60°C.



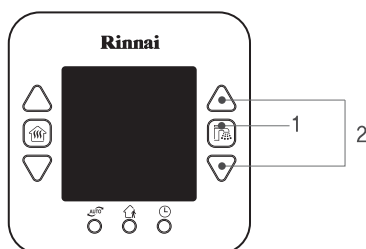
(35°C ~ 60°C)

When the hot water faucet is opened, () blinks and () appears on the display and hot water starts to run.



- ※ You can still operate the CH mode while the DHW mode is on. Just press the CH mode button while the DHW mode is on.
- ※ The CH mode is not on when only the DHW mode appears on the display.

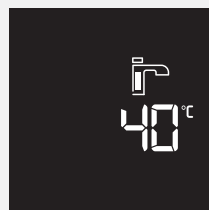
DHW Preheating()



1 Press the DHW mode button.()

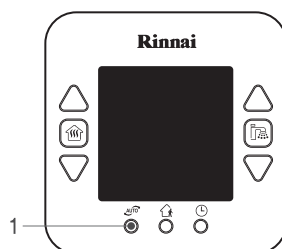
2 Press (Up) or (Down) button until the desired temperature appears on the display.

- A red signal appears on the display, indicating that preheating is on.
- Open a DHW faucet or press both (Up) and (Down) buttons again to cancel the DHW Preheating.



-
- ※ You can use the DHW with this hot water preheating function.
 - ※ The DHW preheating automatically turns off after 30min.
-

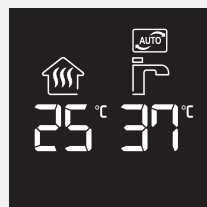
Auto mode operation()



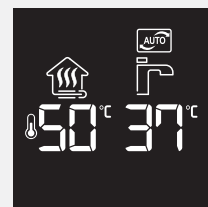
1 Press the auto mode button. ()

- You cannot adjust the heating temperature and the hot water temperature.
- To cancel the auto mode, press either CH mode button or DHW mode button or auto mode button while the auto mode is on.
- When the outgoing mode button is pressed while the auto mode is on, it automatically changes to the outgoing mode.

Display when the Auto mode for the [Space heating Mode] is on



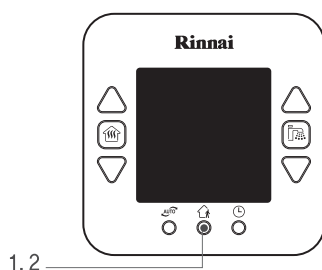
Display when the Auto mode for the [Flow temperature Mode] is on



This auto mode is designed for maximizing users' convenience by automatically controlling both heating and hot water temperatures by detecting a difference between outdoor and indoor temperatures, which are measured with the outdoor temperature thermostat on the air inlet and the indoor temperature thermostat on the bottom of the boiler, respectively.

- ※ This auto mode could be easily operated for the elderly and children.
- ※ The sensible temperature could be varied upon the installation/operation environment.

Outgoing mode operation()



1 Press the outgoing mode button.()

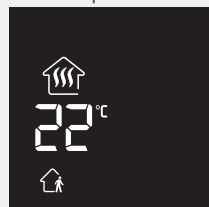
2 Press the outgoing mode button to set the boiler activation period in CH mode.

- Press the outgoing mode button to set the heating operation to activate after 4 hours. (You cannot change the heating temperature of the outgoing mode when the outgoing mode is on).
- Press the outgoing mode button twice or more to set the heating operation to activate after the following periods of time.

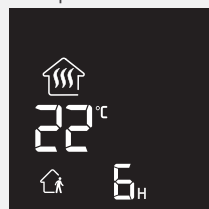


- The CH mode automatically activates after the set period of time in absence. (You can change the heating temperature of the Outgoing mode while setting.)
- To cancel the auto mode, press either outgoing mode button or CH mode button while the auto mode is on.

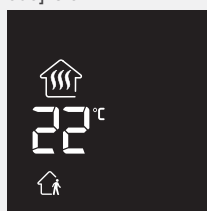
Display when the Outgoing mode Button is pressed once



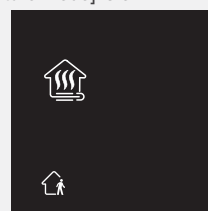
Display when the Outgoing mode Button is pressed twice or more



Display when the Outgoing mode for the [Space heating Mode] is on



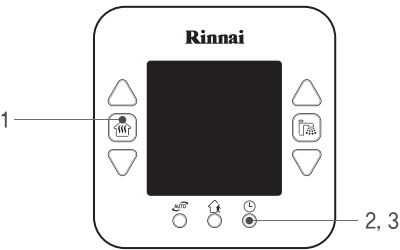
Display when the Outgoing mode for the [Flow temperature Mode] is on



The outgoing mode is to activate the boiler in a CH mode at the minimum heating temperature of 50°C or setting temperature after a set period of time.

※ This function is useful to keep the place warm even when users are in absence, at a low cost.

Reservation mode operation (🕒)



1 Press the CH mode button.(🏠)

2 Press the reservation mode button.(🕒)

3 Press the reservation mode button to set fixed time slots for heating.(🕒)

- Press the reservation mode button to set fixed time slots as the following.



Step	Combustion period	Stand by	Remark
30min	60min	30min	User's setting temperature
1 hour	60min	60min	
2 hour	60min	120min	
⋮	⋮	⋮	
12 hour	60min	720min	
Cancel	-	-	

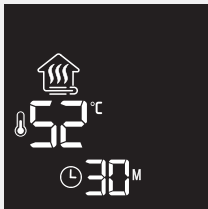
- It will be respected till the cancelation of the reservation mode.
- Reservation mode will start from current setting of the boiler.
- To cancel the reservation mode operation, press the reservation mode button once again.



Display when the Reservation mode for the [Space heating mode] is on



Display when the Reservation mode for the [Flow temperature mode] is on



※ This function could be handy during spring/fall/sleeping hours when heating is required at intervals.

Cleaning & Maintenance

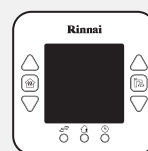
- Keep the boiler clean at all times.
- Unplug the boiler prior to cleaning and/or maintenance.
- Do not wipe the boiler and remote controllers with a wet cloth.
 - Risk of an electric shock or malfunction.
- Do not use a brush or a polish on the boiler.
 - It could result in discoloration or peeling.
- After cleaning and/or maintenance, check to ensure that all the components of the boiler are intact.



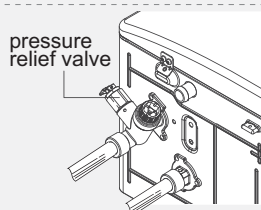
- Leakage of exhaust gases could lead to carbon monoxide poisoning.
- If the CH return filter and / DHW inlet filter is blocked by foreign substances, it could deteriorate the performance of the boiler as well as its service life.
- Clean the filters regularly in compliance with the following instruction.

Cleaning the CH return Filter

1. Unplug the boiler. Wait for 20 minutes.
When the CH return filter is blocked, [] Blinks on the display.



2. Close the water supply valve and then, pull the pressure relief valve out. Drain the water inside of the boiler (About 5L). Be careful since the water could be hot.



3. Turn the handle of the CH return filter to the left and then, remove it by using a coin. Be careful since the remaining water could be hot.



4. Clean the CH return filter and then, return it.
 - Do not forget to close the drain point.
 - Make sure that there is no damage/foreign substance on a O-ring.

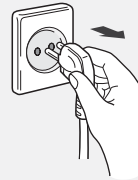


5. Connect the power supply and then, open the water supply valve and turn on the boiler by pressing the CH mode button() or DHW mode button().

Cleaning the DHW Inlet Filter(Recommended more a time per year)

1. Unplug the boiler.

- When the boiler is completely off, start to clean the water inlet filter.



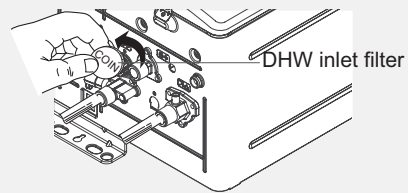
2. Close the water supply valve and then, open the water tap and allow the water drain. (About 1~2L)

Be careful since the water could be hot.



3. Turn the handle of the DHW inlet filter to the left and then, remove it by using a coin.

Be careful since the remaining water could be hot.



4. Clean the DHW inlet filter and then, return it.

- Do not forget to close the drain point.
- Make sure that there is no damage/foreign substance on a O-ring.



5. Connect the power supply and then, open the water supply valve and turn on the boiler by pressing the CH mode button() or DHW mode button().



Caution

- After cleaning process, please make sure that if any water leakage happens or not by opening and closing water tab.

Basic troubleshooting

When the boiler does not operate properly, check the troubleshooting chart below before contacting the Rinnai service.



Problem	Possible Cause	What to do
If you smell gas	<ol style="list-style-type: none"> 1. Stop the boiler and gas immediately. Open all the windows and doors. 2. Do not try to light any appliances. It may cause an explosion. 3. Contact Gas Supplier. <p>Periodically check your gas valve using soap bubbles to ensure that there is no gas leakage.</p>	
If you smell exhaust gas	<ol style="list-style-type: none"> 1. Is the air inlet/exhaust blocked? 2. Is the air inlet/exhaust pipe not connected or bended? 	<ol style="list-style-type: none"> 1. Stop the boiler immediately. 2. Contact the Rinnai service for maintenance.
Ignition Failure	<ol style="list-style-type: none"> 1. Is there power to the boiler? 2. Is the set temperature lower than the current temperature? 3. Is [11] shown on the display? 4. Is there gas supply to the boiler? 	<ol style="list-style-type: none"> 1. Plug into the outlet with the correct voltage. 2. Check the set temperature and the current temperature. 3. Turn off the boiler and then, turn it on again. If the same condition is repeated, contact the Rinnai service. 4. Open the gas supply valve.
Noise	<ol style="list-style-type: none"> 1. Is the boiler well attached to the wall? 2. Is the noise from the air inlet/exhaust pipe? 3. Is the sound of water flowing inside of the pipes too loud? 	<ol style="list-style-type: none"> 1. Fasten the screws. 2. Contact the Rinnai service for maintenance. 3. Open the manual air drain point, which is on the upper side of the allotter, to remove air.
The room is not hot enough	<ol style="list-style-type: none"> 1. Is the CH mode on? 2. Is the set heating temperature too low? 3. Is the reservation mode/Outgoing mode on? 4. Is the hot water being used? 5. Is the room heating valve of allotter closed? 6. Is the remote controller on? 7. Is the CH return filter blocked? 8. Is air remained on the pipes? 	<ol style="list-style-type: none"> 1. Press the CH mode button. 2. Adjust the heating temperature. 3. Adjust the period, or cancel the outgoing mode. 4. CH mode does not operate while hot water is being used. 5. Open the room heating valve of allotter. 6. Adjust the heating temperature for each room. 7. Clean the CH return filter. 8. Open the manual air drain point, which is on the upper side of the allotter, to remove air.
There is no hot water.	<ol style="list-style-type: none"> 1. Is the DHW mode on? 2. Is there water Supply to the boiler? 3. Is the water pressure too low? 4. Is the water supply valve not sufficiently opened? 5. Is the water supply valve for cold water too opened? 	<ol style="list-style-type: none"> 1. Press the DHW mode button. 2. Wait till the water supply is back, or open the water supply valve. 3. If the volume of water is 2.3L or less per minute due to low water pressure, it is not possible to activate the DHW mode. Request the installation of a pressure device. 4. Open the water supply valve to reach at least 2.3L per minute. 5. Check the amount of cold water to be mixed.
The hot water is not hot enough.	<ol style="list-style-type: none"> 1. Is hot water temp set too low? 2. Is hot water used in several place? 3. Is cold water mixed too much? 	<ol style="list-style-type: none"> 1. Adjust the hot water temperature. 2. When the hot water is used for multiple places at once, the volume of the hot water would decrease. 3. Adjust the amount of cold water to be mixed.

Basic troubleshooting

When the boiler does not operate properly and 'Error Code' displays, check the troubleshooting chart below. (Check the figures on the left on the display)



(Error Display) (Model Display)

Self-Diagnosis	Operation State	Possible Cause	What to do
07	DHW	Use of DHW continuously for 8 hours	<ul style="list-style-type: none"> Close the hot water faucet and then, press the DHW mode button to reactivate the boiler. If no hot water faucet is opened, there is a possibility of leakage on DHW pipes. Contact the Rinnai service.
“  ” (blinks)	DHW	Use of DHW or drain water continuously for 1 hour	<ul style="list-style-type: none"> Check the DHW or water supply valves to ensure that they are properly closed/opened and no water leakage. When DHW is continuously used for 1 hour or more, the DHW Mode Sign blinks.
“  ” (blinks)	CH	Blocked CH return filter	<ul style="list-style-type: none"> Clean the CH return filter.
11	CH & DHW	Ignition failure	<ul style="list-style-type: none"> Check the gas shut off valve is opened. Turn off the CH mode and then, turn it on again.
12	CH & DHW	Misfire	<ul style="list-style-type: none"> Check the gas supply pressure (Turn on other gas appliances) Contact the gas supplier.
14	CH & DHW	Safety circuit malfunction /temperature fuse malfunction/overheating protection device	<ul style="list-style-type: none"> Stop the boiler for up to 30 minutes and then, press the CH mode or DHW mode Button. When the same condition is repeated, contact the Rinnai service.
15	CH & DHW	Improper water circulation	<ul style="list-style-type: none"> Check the water supply. Check to ensure that CH/DHW pipes are not frozen. Air might not be removed sufficiently so unplug the boiler and then, plug it and start the test operation. If no abnormal condition is detected, unplug the boiler and then, plug it again and turn it on.
16	CH & DHW	Overheating detection	<ul style="list-style-type: none"> Check to ensure that the room valve is opened (At least one valve should be opened). Open the manual air drain point, which is on the upper side of the allotter, to remove air. Clean the CH return filter.
31	CH & DHW	CH thermistor malfunction	<ul style="list-style-type: none"> Press either CH or DHW mode button to turn it off and then, turn it on again. When the same condition is repeated, contact the Rinnai service.
32	CH & DHW	Low temperature thermistor malfunction	<ul style="list-style-type: none"> Press either CH or DHW mode button to turn it off and then, turn it on again. When the same condition is repeated, contact the Rinnai service.

Basic troubleshooting

When the boiler does not operate properly and 'Error code' displays, check the troubleshooting chart below. (Check the figures on the left on the display)

Self-Diagnosis	Operation State	Possible Cause	What to do
34	DHW	DHW thermistor malfunction	<ul style="list-style-type: none"> Press either CH or DHW mode button to turn it off and then, turn it on again. When the same condition is repeated, contact the Rinnai service.
35	CH	Space temperature malfunction	<ul style="list-style-type: none"> Contact to Rinnai service agent and change the CH mode to how temperature.
36	CH	Frozen prevention / Thermistor malfunction	<ul style="list-style-type: none"> Press either CH mode or DHW mode button to turn it off and then, turn it on again. When the same condition is repeated, contact the Rinnai service.
43	CH & DHW	Short of water	<ul style="list-style-type: none"> Refer to p.52 water feeding process.
45	CH & DHW	Neutral fluid full level detection	<ul style="list-style-type: none"> Check to ensure that neutral fluid outlet pipes are not twisted or blocked.
47	CH & DHW	Abnormal supplied gas pressure	<ul style="list-style-type: none"> Check to ensure that gas valves are completely opened. Turn off CH and DHW mode operations and then, turn it on again. When the same condition is repeated, contact the Rinnai service.
52	CH & DHW	Gas governor control malfunction	<ul style="list-style-type: none"> Press either CH or DHW mode button to turn it off and then, turn it on again. When the same condition is repeated, contact the Rinnai service.
61	CH & DHW	Fan control malfunction	<ul style="list-style-type: none"> Check the exhaust installation condition (blockage, twist) Turn off the boiler and then, turn it on again. When the same condition is repeated, contact the Rinnai service.
71	CH & DHW	Abnormal solenoid	<ul style="list-style-type: none"> Press either CH or DHW mode button to turn it off and then, turn it on again. When the same condition is repeated, contact the Rinnai service.
72	CH & DHW	Short of water	<ul style="list-style-type: none"> Press either CH or DHW mode button to turn it off and then, turn it on again. When the same condition is repeated, contact the Rinnai service.
89	Power Connection	Complete frozen detection	<ul style="list-style-type: none"> Defrost it using CH apparatus and then, exchange the damaged components. When there is a leakage due to damaged components, contact the Rinnai service.
90	CH & DHW	Fan rotation detection malfunction	<ul style="list-style-type: none"> Turn off the CH mode operation and then, turn it on again. Check the installation, condition, blockage, and damage of the exhaust. Contact the Rinnai service.
96	Test Operation	DHW test operation malfunction detection	<ul style="list-style-type: none"> Check to ensure that the water supply valve is opened. Unplug it first and then, plug it again and start the test operation again.
99 21	CH & DHW	Exhaust blockage	<ul style="list-style-type: none"> Check the installation, condition, blockage, and damage of the exhaust. Contact the Rinnai service.

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