



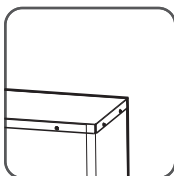
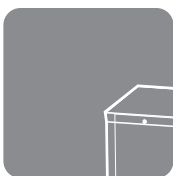
Please read carefully before use and follow the instructions correctly.  
Please retain this user's manual for future reference after reading it carefully.  
This manual can be downloaded from the website.  
[http://www.carrier.co.kr/support/aircon\\_manual.asp](http://www.carrier.co.kr/support/aircon_manual.asp)

P/N : 60WHD025-540010

# | Inverter Hybrid Boiler |

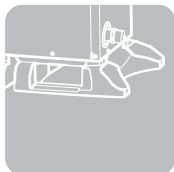
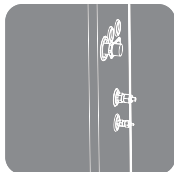
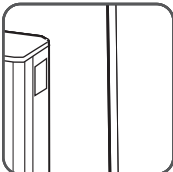
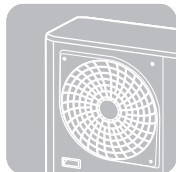


**User's  
Manual**



**Hydro Unit (Indoor unit)**  
30AWH-025QI

**Outdoor unit**  
30AWH-025QO



## Features of Product



**Carrier's 110 years innovation and inverter technology provides the following advantages.**

### **Dual inverter cascade**

The dual inverter cascade compression technology provides high efficiency solution and reduces energy consumption significantly compared to conventional fossil fuel and heater boilers.

### **ECO Green system**

ECO friendly R410A and R134a refrigerants are used in the cascade system.

### **Applicable in extremely cold climate**

It is possible to produce stable hot water up to 80°C at -15°C ambient temperature and possible to produce hot water up to 80°C at -20°C ambient temperature.

### **Smart remote control (optional)**

The operation, setting control and operation monitoring can be managed by a smart phone (Android).

### **Intelligent energy saving operation**

Both of inverter compressors in outdoor unit and a hydro unit are self controlled in accordance with ambient temperature and flow temperature.

### **Self-diagnosis function**

In case of malfunction, the self-diagnosis function displays error messages on the wired remote controller.

### **Inverter control operation**

Carrier's advanced energy saving inverter technology always ensures a comfortable indoor environment.

### **Improved convenient operation**

Repeat hours, quiet mode, outing mode are adopted for user convenience.

### **Requires minimum installation area**

Compact split system using high efficiency brazed plate heat exchanger requires minimized space and provides easy installation and maintenance

### **Built-in cooling fan**

The built-in cooling fan in the indoor unit enables quiet operation.

### **Provides external output contacts (optional)**

External output contact(s) is available as an option, if a connection with an external device is necessary.

# Table of Contents

<b>Operating Method</b>	Safety Precautions .....	2
<b>Prior to Use</b>	How to use a wired remote controller .....	9
	How to operate a wired remote controller .....	11
<b>Things to Be Aware of</b>	Scope of operation .....	14
	Troubleshooting and Checklist .....	15
	Checklist before making a request for technical support .....	16
	Disposal of waste electronics .....	17



**Wait!** This product uses 3-phase 4-wire 400V 50Hz electricity. You will need to furnish a separate power supply if 400V electricity is not available.

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 use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

- The purpose of these instructions is to prevent damages from unexpected accidents by ensuring the equipment in a safe and correct manner. For this reason, please follow the instructions carefully.

## Explanation of illustrated marks



Warning

Failure to observe this notice may result in death or serious injury



Caution

Failure to observe this notice may result in injury or damage to property.

## Explanation of illustrated marks



Prohibition

This symbol indicates a prohibition. The thing that is prohibited is specified in the symbol using a picture or phrase.



Mandatory

This symbol indicates mandatory obligations or requirements. What must be obeyed or complied with is specified in the symbol using a picture or phrase.



Caution

This symbol indicates caution. The thing that must be paid attention to is specified in the symbol using a picture or phrase.



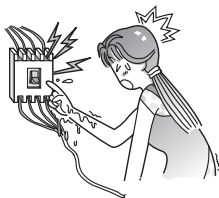
## When using the product

### Warning



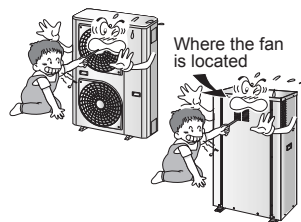
Wet Hand  
Prohibited

Do not touch the main power switch with a wet hand  
(may cause electric shock and failure)



Prohibited

Do not put your finger or a stick into the air inlet and outlet while the equipment is in operation.  
(may cause an injury, as the fan inside the equipment is rotating at a high speed. In particular, children should not be allowed access to the unit)



Mandatory

For installation, removal or reinstallation, always contact the dealer or an authorized service center.  
(may cause a failure, leakage, electric shock or fire where the installation is faulty)



Prohibited

Do not pull the power cable.  
(may cause fire or electric shock if it is damaged)



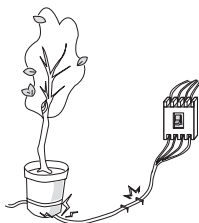
Caution

Extra installation and relocation fees and expenses will be charged to the customer.



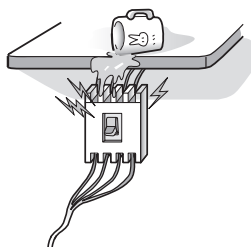
Prohibited

Do not staple the power cable or prevent it from being under a heavy item.  
(Broken internal wires in the power cable may cause a fire)



Prohibited

Do not allow water to run into electric parts. Install away from water sources.  
(may cause a failure or electric shock)



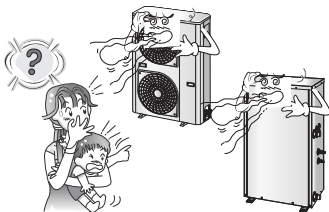


## When using the product

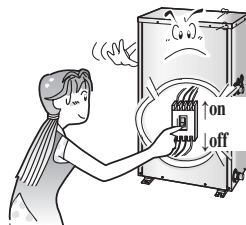
### Warning



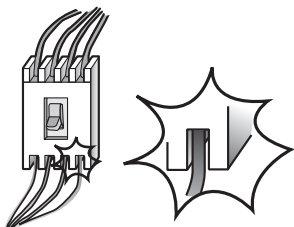
If you notice a strange smell or sound coming from the product, stop the operation, turn off the power and contact the authorized service center. (may cause failure, electric shock or fire if you continue operating the product in the presence of such abnormalities)



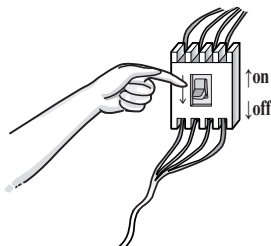
Do not turn off the power switch or pull out the power cable during operation. (may cause a fire or electric shock)



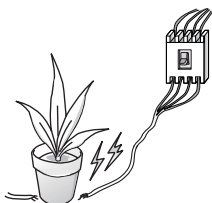
Make sure the power cable is securely connected to the connection terminals. (Insecure connection may cause a fire or electric shock)



In the event of a lightning storm, turn off the power and pull the power plug out. (may cause a failure)



If the power cable is damaged, call the authorized service center for repair : do not attempt to replace it by yourself.



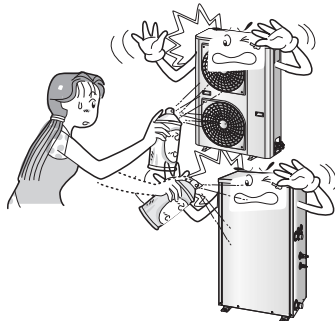


## When using the product

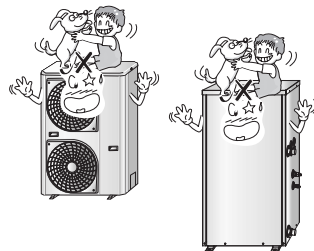
### Caution



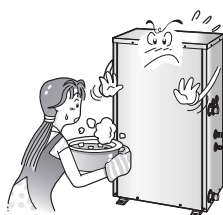
Do not spray insecticide or flammable materials during operation. (may cause failure)



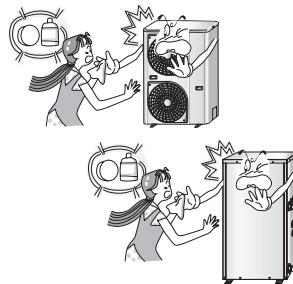
Do not step up or put anything on the product.  
(may cause failure, electric shock or injuries from falling)



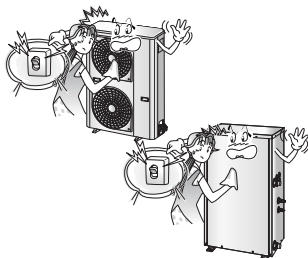
Do not disassemble, repair or modify the product arbitrarily. (may cause a fire or electric shock)



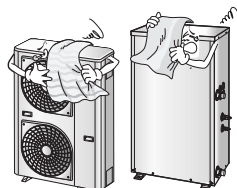
Do not use a wax, thinner or solvent when cleaning the product.  
(Use a dry cloth to avoid a failure or electric shock)



You must stop the product and turn off the power before cleaning the product.



Do not block the inlet or outlet of air flow.  
(may cause failure or an accident)





## Caution

### When using the product

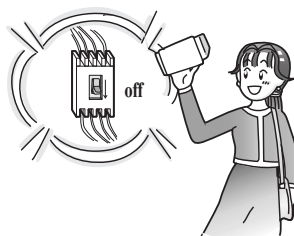


Turn off the main power switch if you are not planning to use the product for an extended period of time.

(can prevent an unexpected accident.)

Do not turn the power off during the winter season, even if the boiler is not in use.

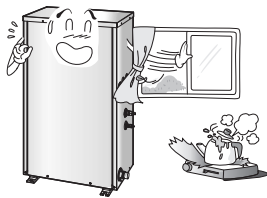
(may cause freezing or bursting of water piping)



Prohibited

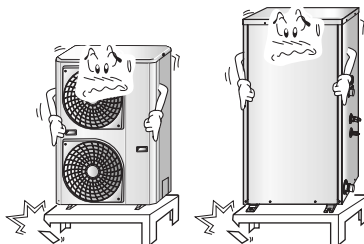
Ventilate the product room from time to time when operating it with a stove or heating elements, etc.

(may cause a fire or electric shock)



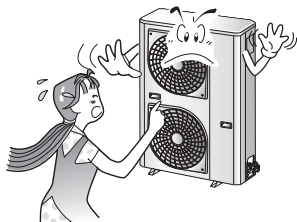
Caution

Check if the installation stand is damaged at least once a year.



Prohibited

Do not touch the fin of heat exchanger. (sharp edges could cause injury)



Mandatory

When the product is soaked (flooded or submerged) in water, contact an authorized service center for repair before using it again. (risk of fire or electric shock)



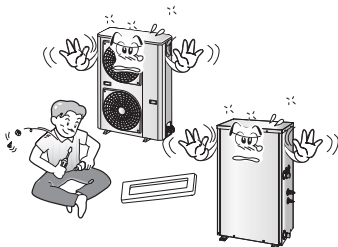


## When using the product

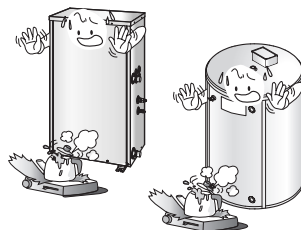
### Caution



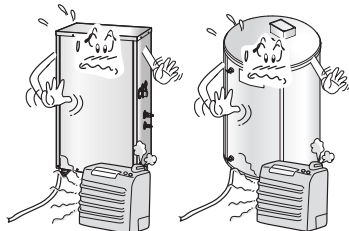
Do not modify the protection device or change its settings.  
(may cause a fire or explosion if other protective devices such as pressure switch or temperature switch are disconnected or forced to operate, or other components are used)



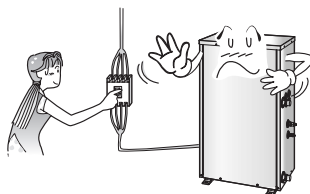
Do not place any heat source near the product.  
(may cause a fire or electric shock)



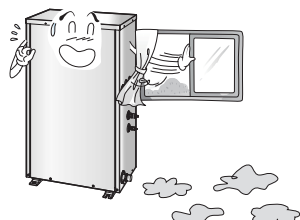
Do not place the power cable near any heat source.  
(may cause a fire or electric shock)



Do not turn off the hydro unit by switching off the main power supply.  
(may cause a failure, fire or electric shock)



Open the window for ventilation before turn the product on in case of a gas leakage.  
(may cause an explosion or fire)



Do not drink the water from the hydro unit.  
(may cause a stomachache)







## When using the product

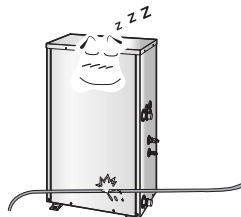
### Caution



Mandatory

Ensure that any interruption to the power supply during winter is resolved as quickly as possible, as an extended blackout in the winter season affect the anti-freeze function.

(deactivated anti-freeze function may cause freezing and bursting of tubes and pipes in the product)



Mandatory

Be careful not to let your skin touch the outlet of the heating section.  
- It may cause a burn.



Mandatory

You must install a water softener when using a groundwater with minerals such as limestone or calcium, or when using saline water near the beach.  
- Failure to use soft water may cause or accelerate the corrosion of the product or its parts.



Mandatory

Put or replace anticorrosive agent annually.  
- Failure to use an anticorrosive agent may accelerate the pipe corrosion.



Mandatory

Be careful not to cause pipe leakage, overflow from expansion tank.  
- Pipe leakage, overflow from expansion tank may result in the supply of dissolved oxygen, which will lead to acceleration of pipe corrosion.



Mandatory

Use a professional service provider when disposing of the boiler after replacement.  
- Illegal or arbitrary disposal may cause safety accidents, affecting the elderly or children.

## When installing a new domestic hot water tank

- Put an anticorrosive agent at the time of installation, and fill or replace the anticorrosive agent annually.
  - Failure to use an anticorrosive agent may accelerate pipe corrosion.
  - Pipe corrosion may be accelerated due to the supply of dissolved oxygen resulting from leakage on the pipe fittings, circulation pump leakage, overflow from expansion tank, even if an anticorrosive agent is filled into the tank.
- Please make sure there is no pipe leakage, overflow from expansion tank.
  - Pipe leakage, overflow from tank expansion may result in the supply of dissolved oxygen, which will lead to acceleration of pipe corrosion.
- Use a professional service provider when disposing of the boiler after replacement.
  - Illegal or arbitrary disposal may cause safety accidents, affecting the elderly or children.



## When you use the product

### Warning

### Precautions when using the remote controller

- Do not place any heat source near the product.
  - It may cause a fire.
- Do not spill water inside the product.
  - It may cause an electric shock or failure.
- Do not apply an impact to the product.
  - It may cause a failure.
- Do not apply an impact to the product with a sharp, pointed object.
  - It may cause damage to components, which may lead to a failure.



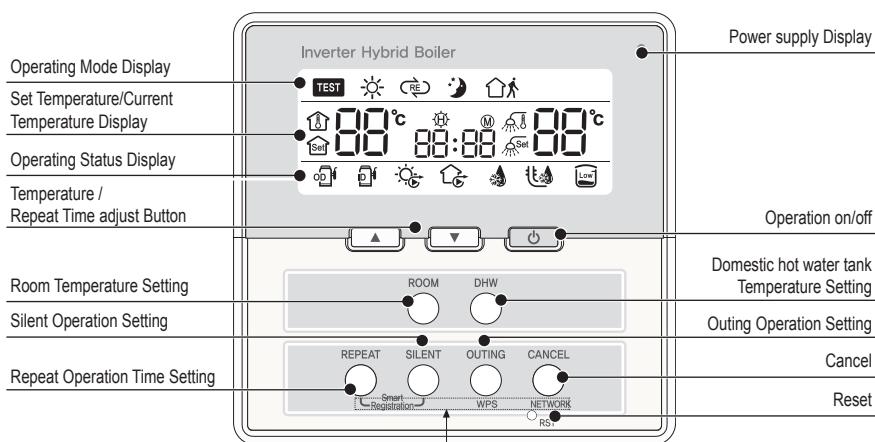
## When you use the product

### Caution

### Precautions when using the remote controller

- Do not clean it with a strong detergent solvent. Wipe with a soft cloth.
  - Use of a strong detergent solvent may cause a fire or product deformation.
- Do not apply hard pressure on the screen, or push 2 buttons at the same time.
  - It may cause a failure or malfunction.
- Do not touch it with a wet hand, or pull the connection cable.
  - It may cause a failure or electric shock.

## Button names of wired remote controller

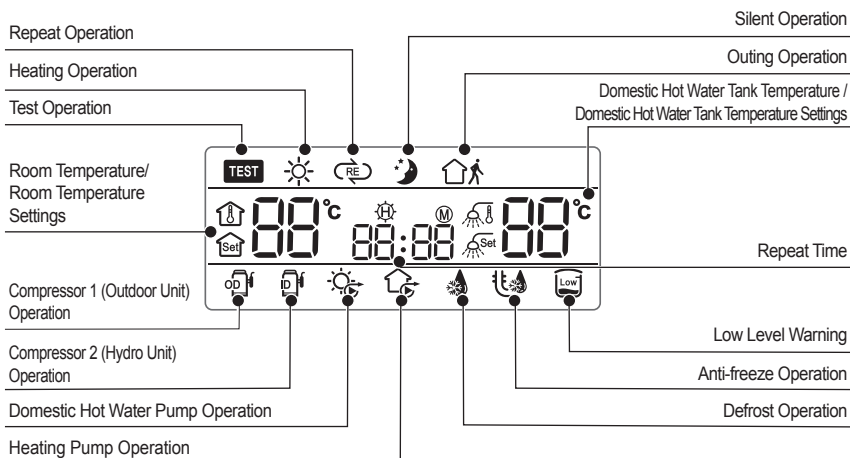


Note) This function applies to smart remote control (optional)

### • Button functions of remote controller

NO	KEY INPUT	PRINT	Function Description
SW01	Temperature/Time Adjust ▲	▲	1STEP INCREASE (TEMP, TIME, ETC)
SW02	Temperature/Time Adjust ▼	▼	1STEP DECREASE (TEMP, TIME, ETC)
SW03	ON/OFF		Operation On/Off
SW04	Room Temperature Setting Mode	ROOM	Sets the room temperature
SW05	Domestic hot water tank Temperature Setting Mode	DHW	Sets the temperature of the Domestic hot water tank
SW06	Repeat Time Mode	REPEAT	Repeats the operation of the system at intervals specified by the user
SW07	Silent Mode	SILENT	Activates the silent mode
SW08	Outing Mode	OUTING	Activates the outing mode
SW09	Cancel Mode	CANCEL	Deactivates the repeat time/silent/outing mode
SW10	RESET	RESET	Wired remote controller RESET
SW11	LCD TEST	-	LCD RESET

## Display of wired remote controller

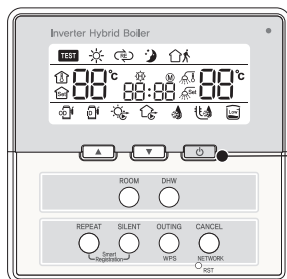




### ● Descriptions of LCD Display

Name	Test Operation	Heating Operating	Repeat Time	Silent	Outing		
ICON							
Name	Room Temperature/ Room Temperature Settings		Repeat Time	Domestic Hot Water Tank Temperature / Domestic Hot Water Tank Temperature Settings			
ICON							
Name	Outdoor Unit Compressor Operating	Hydro Unit Compressor Operating	Domestic Hot Water Pump	Heating Pump	Defrost	Anti-freeze	Low Level
ICON							
Power ON/OFF	Power Input Status (the LCD display will be blank when there is no power supply)						

## Heating operation

This function increases the flow temperature in the indoor unit (hydro unit). It provides heat to indoors through the floor heating coil or radiators.



- The automatic heating operation is activated when pressing the ON/OFF (  ) button.
- The operation stops when you press the ON/OFF (  ) button once again during operation. (However, when heating pump is controlled by existing remote controller of existing electric heater boiler, only the Thermal storage operating is running)

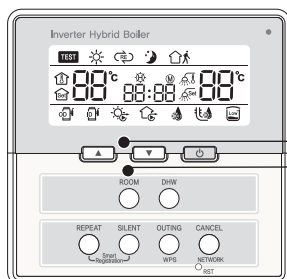





### Reference

- Heating operation will not be activated when the desired temperature is set below the current temperature reading.
- Default setting of room temperature and the domestic hot water tank temperature are 25°C and 80°C, respectively.
- Automatic heating operation refers to the operation of the heating system which selects the operating mode (heating, thermal storage, thermal storage and heating at the same time) based on the automatic detection of the domestic hot water tank temperature and the room temperature by the system itself.

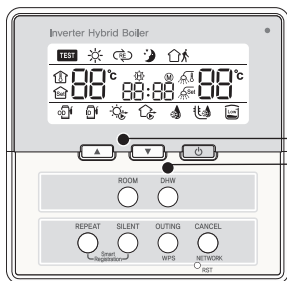
## Room temperature settings

This function sets the desired room temperature. The current room temperature is displayed 3 seconds after changing the room temperature settings.



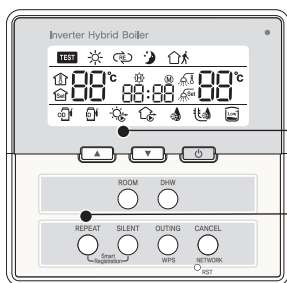
- To set the room temperature, press the ROOM button first, and then press the TEMP/TIME adjust buttons (▲, ▼) to adjust the temperature settings. (only available in an indoor environment where a wired remote controller is installed)
  - You can adjust the temperature setting by 1°C per one time pressing in a range from 17 to 30°C.
  - How to set the room temperature
    - : When you push the Room button, a "  " display is prompted, and the temperature reading flickers at 1-second intervals.
    - : The "  " display disappears 3 seconds after setting is completed and the "  " display is activated. In addition, the temperature displays the current room temperature.

## Domestic hot water tank temperature Setting



- To set the domestic hot water tank temperature, press the DHW button first, and press the TEMP/TIME adjust buttons (▲, ▼) to adjust the temperature setting.
  - You can adjust the temperature setting by 1°C per one time pressing in a range from 35 to 80°C.
  - How to set the domestic hot water tank temperature
    - : When you push the DHW button, a "Set" display is prompted, and the temperature reading flickers at a 1-second interval.
    - : The "Set" display disappears 3 seconds after the setting is completed and the "Set" display is activated.
  - In addition, the temperature displays the current domestic hot water tank temperature.
  - Adjust the domestic hot water temperature depending on the season as appropriate.

## Repeat time operation

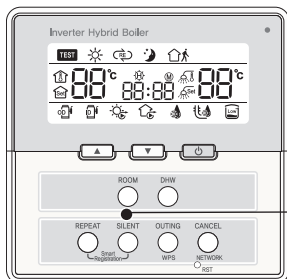


The repeat time operation means the function that sets the operation and stop time of the heating pump by a consumer.

- To set the interval, press the REPEAT button, and then press the TEMP/TIME adjust button to adjust the time interval.
- When you push the REPEAT button, the "RE" display is prompted and flickers at a 1-second interval and the "RE" signal appears on the operating mode display.
- You can set the repeat interval as follows:
  - Press the REPEAT button → The segment (RE) of the operation (RE) flickers at a 1-second interval → Set the desired heating pump operation time using the (▲, ▼) buttons → Press the REPEAT button again → The segment (RE) of the stop (RE) flickers at a 1-second interval → Set the desired heating pump stop time using the (▲, ▼) buttons → Press the REPEAT button again (setting complete)
  - You can adjust the operation and stop time setting range from 0 to 99 minutes. If your input exceeds the adjustable range, the value starts from 0 again.
  - If you press the CANCEL button during Repeat Time mode or while setting the Repeat Time, the settings you've changed are canceled.

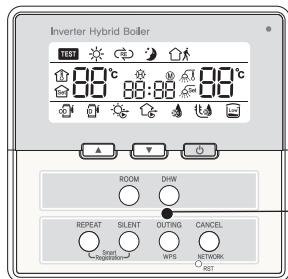
## Silent operation

This function restricts the revolutions of the compressor.



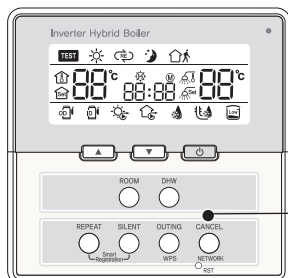
- When you press the SILENT button, the revolutions of the compressor are limited to 70rpm.
  - "Moon" appears on the operating mode display.
  - Silent mode is canceled when you press the SILENT button again or press the CANCEL button while in silent mode.

## Outing operation



- Outing mode is activated when you press the OUTING button.
  - "🏠" appears on the operating display.
  - The domestic hot water tank temperature and the room temperature for outing mode are set to 80°C and 20°C, respectively.
  - Outing mode is canceled when you press the OUTING button again or press the CANCEL button while in outing mode.

## Cancel

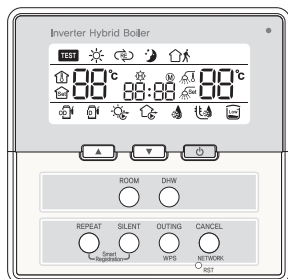


- If you press the CANCEL button, the repeat time, silent and / or outing function in operation is deactivated.
  - The repeat time, silent or outing operation configured is deactivated and the current settings return to room temperature setting or domestic hot water tank temperature prior to the activation of the repeat time, silent or outing mode.

## Error code display

An error code will be displayed on the wired remote controller in the event of an error in the indoor or outdoor unit.

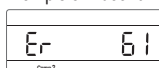
Please contact a professional installation agency or the authorized service center.



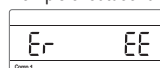
- Error Display
  - Error codes for the indoor/outdoor unit are as follows.

Appears on the room temperature display	Appears on the domestic hot water tank temperature display	Error in the outdoor unit	Error in the indoor unit
Er	Error code	🏠 is flickering	🏠 is flickering

① Example of indoor unit error

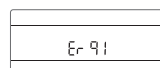


② Example of outdoor unit error

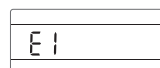


- A wired remote controller error is displayed on the repeat time display.
 

Example of wired remote controller error



- A initial communication error of the wired remote controller is displayed on the indoor temperature display.



## Scope of operation

### 1 Operating conditions

- ① The temperature range that will ensure the normal operation of the product is as follows.

Ambient temperature of the outdoor unit	-20 °C ~ 40 °C
Ambient temperature of the hydro unit	5 °C ~ 40 °C

- ② If the product operates in an environment out of the temperature limits for an extended period of time, the system may detect an error and stop operation.

### 2 Time delay

- When restarting the system, the compressor starts 3 minutes after the power is restored. (however, the time delay is 5 minutes in the event of a shutdown through self diagnosis)

### 3 Minimum operating time

- It takes 7 minutes for the compressor to stop its operation once it is activated in normal conditions.

### 4 Heating features

- A warm-up time is required prior to the start of heating operation when the outdoor temperature is 10 °C or less.
- The heating performance may be deteriorated if the outdoor temperature is very low. We recommend that you use an auxiliary heating source if the room temperature is insufficient in the winter season.

### 5 Defrost operation

- If the heat exchanger of outdoor unit becomes frosted during the heating operation, the fan of outdoor unit will stop while defrosting heat exchanger of outdoor unit.
- When the heat exchanger of outdoor unit is completely defrosted, the heating operation is put back on track automatically.

### 6 Power outage recovery function

- When the power is cut during the operation, the product will remember the last operating conditions and automatically apply these conditions when the power is restored.

### 7 Normal operation

- You can hear the sound of refrigerant flowing in the product when the product is in operation or stops operation.
- The outdoor unit fan may not operate during the heating operation, which may be observed in the defrost mode.