

# HITACHI

## Split Unit Inverter Air Conditioner

# HITACHI

## User's Manual

**Thank you for purchasing Hitachi air conditioners.**

Before installing and using, please read this manual and the installation manual carefully and keep them properly.



<b>Controller</b>	<div data-bbox="375 584 746 936" data-label="Image"> </div> <div data-bbox="338 949 772 985" data-label="Caption"> <p>Wired Remote Controller (optional)</p> </div> <div data-bbox="1070 584 1241 943" data-label="Image"> </div> <div data-bbox="949 949 1410 985" data-label="Caption"> <p>Wireless Remote Controller (optional)</p> </div>
<b>Indoor Unit</b>	<div data-bbox="272 1077 639 1272" data-label="Image"> </div> <div data-bbox="325 1352 590 1391" data-label="Caption"> <p>4-way Cassette (RCI)</p> </div> <div data-bbox="699 1144 1062 1272" data-label="Image"> </div> <div data-bbox="722 1352 1067 1391" data-label="Caption"> <p>Ducted Above Ceiling (RPI)</p> </div> <div data-bbox="1177 1010 1362 1554" data-label="Image"> </div> <div data-bbox="1165 1554 1385 1590" data-label="Caption"> <p>Floor Type (RPS)</p> </div>
<b>Outdoor Unit</b>	<div data-bbox="660 1644 1027 1980" data-label="Image"> </div> <div data-bbox="798 1980 884 2016" data-label="Caption"> <p>(RAC)</p> </div>

# Introduction

- The air conditioning products for general use.
- Do not install the indoor unit, outdoor unit, controller and cable at such places as;
  - Where there is oil vapor and the oil is dispersed.
  - Where the hot springs are near (in a sulfuric environment).
  - Where generation, flowing, staying or leaking of flammable gas is detected.
  - Environment with high salt contents, such as coastal areas.
  - An acid or alkaline environment.
- Do not use for storage of foods, animals and plants, precision machinery, and artworks.
- Do not install near in the medical instruments generating electromagnetic waves, it may caused malfunction of the air-conditioner. When installing the air-conditioner, do not point the emitting surface of electromagnetic waves toward the electrical control panel, remote controller, and remote controller cable of the air-conditioner.
- To avoid interference from electromagnetic waves in the air, keep machinery generating electromagnetic waves, such as radios, at least three meters away from the air-conditioner.

## Signs and Meanings



Warning

The warning sign means incorrect operation may cause danger or hazards.



Caution

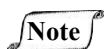
The caution sign means incorrect

operation may cause injury of users or damage of products.



Remark

Remarks other than warnings and cautions.



Note

: Note users should keep in mind.



The sign in the figure indicates prohibition



Indicates the instructions that must be followed.



Reference (please refer to relevant pages).

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## Safety Precaution

- Please read the “Safety Precaution” carefully before operating the unit to ensure correct usage of the unit.
- Pay special attention to signs of “△Warning” and “△Caution”. As incorrect installation may cause injuries and hazards, precautions during installation are listed in the “△ Warning” column. In the “△Caution” column, however, items that may cause hazards and danger are listed based on their situations. Regardless of their severity, please pay attention to items listed in either column and follow relevant instructions.
- After reading this manual, please keep it properly in places that can be reached easily.

### PRECAUTIONS DURING INSTALLATION & ELECTRICAL WORK



Warning

- Please ask your dealer or a qualified technician for the installation of your unit. Water leakage, electric shock, fire, or unit fall may occur if you install the unit by yourself.
- Pay attention to refrigerant leakage for installation in small enclosed areas. Emergency ventilation is required when refrigerant leakage occurs. High refrigerant intensity may cause oxygen insufficiency. Contact your dealer for details.
- Please hire a qualified electrician for the electrical work. Electric shock or fire may occur if you install the unit by yourself.
- There is risk of electric shock when earth is loosened. Contact your dealer immediately to earth the unit.
- Please install an earth leakage circuit breaker (ELBS) to prevent electric shock or fire.



### PRECAUTIONS DURING OPERATION








Warning

- Do not attempt to operate the unit with wet hands; this could cause fatal accident.
- Do not insert a finger, a rod or other objects into the air outlet or inlet. As the fan is rotating at a high speed, it will cause injury.
- Do not use combustibles in a room where the unit is operating. Flammable sprays such as spray paint and volatile oil (including engine oil) may cause fire.
- Do not direct cool air from the air-conditioner to burning appliances to prevent incomplete combustion.
- Avoid an extended period of direct airflow to your body, it is bad for your health.
- Although this air-conditioner uses non-flammable, non-toxic, and odorless safety refrigerant (HFC), toxic gas may form after contact with a heat source in a refrigerant leakage. Refrigerant will then cover the ground due to its heavier mass relative to air to cause oxygen insufficiency.
- When there is a refrigerant leakage, direct cool air from the air-conditioner to turn off all fire sources (e.g. stove, etc.). Remove coolant on the ground, open all doors and windows, and contact your dealer.
- If the safety device does not stop or does not work, immediately shut down the unit and disconnect it from the socket. Contact your dealer.
- When abnormal situation arise (like burning smell), immediately shut down the unit and disconnect it from the socket. Contact your dealer.




## Safety Precaution (cont'd)






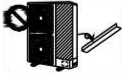




### PRECAUTIONS DURING OPERATION

 <b>Warning</b>	<ul style="list-style-type: none"> <li>When operating the unit with burning appliances, regularly ventilate the room to avoid oxygen insufficiency.</li> </ul>	 Ventilate regularly
 <b>Warning</b>	<ul style="list-style-type: none"> <li>Do not place plants directly under the airflow, as it is bad for them.</li> <li>Do not disconnect the power supply of the indoor unit during summer. Water condensed inside will not be drain but spilt from the container to wet the ceiling or floor.</li> </ul>	  Keep at the ON position during summer.

### PRECAUTIONS DURING SHIFTING OR MAINTENANCE

 <b>Warning</b>	<ul style="list-style-type: none"> <li>Please contact your dealer or a qualified technician for maintenance. Improper self-maintenance may cause electric shock or fire.</li> <li>Please contact dealer or a qualified technician if you need to remove and reinstall the unit. Electric shock or fire may occur if you remove and reinstall the unit by yourself improperly.</li> </ul>
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### OTHER PRECAUTIONS

 <b>Warning</b>	<ul style="list-style-type: none"> <li>When there is a fire, turn off the main switch immediately to prevent electric shock.</li> </ul>	
	<ul style="list-style-type: none"> <li>Turn off the main switch each time before maintenance and repair to prevent electric shock.</li> </ul>	
	<ul style="list-style-type: none"> <li>Do not put water containers (like a vase) on the indoor unit to avoid water from dripping into the unit. Dripping water will damage the insulator inside the unit and cause electric shock.</li> </ul>	
	<ul style="list-style-type: none"> <li>Do not touch the interior of the unit where protective devices and mainboards are installed to prevent accidents due to setting change.</li> </ul>	 Do not touch
	<ul style="list-style-type: none"> <li>Do not operate the unit when the cover and piping of the outdoor unit are disassembled to prevent electric shock from accidental contact with the electrical parts.</li> </ul>	
	<ul style="list-style-type: none"> <li>Do not wash the air-conditioner with water to prevent electric shock.</li> </ul>	
	<ul style="list-style-type: none"> <li>Do not modify the product or its electrical wiring to prevent accidents.</li> <li>Refrigerant inside the air-conditioner is stored in a high-pressure state. Except for qualified technicians, do not loosen piping to prevent accidents.</li> </ul>	
	<ul style="list-style-type: none"> <li>Make sure that the outdoor unit mounting frame is secure before maintenance to prevent falling off which may cause injury.</li> </ul>	
	<ul style="list-style-type: none"> <li>Do not leave water or cleaning agent inside the indoor unit after maintenance and repair to prevent an electrical short circuit, electric shock, or fire.</li> </ul>	
	<ul style="list-style-type: none"> <li>Do not leave water in the electrical parts and connectors after maintenance and repair to prevent an electrical short circuit, electric shock, or fire.</li> </ul>	
 <b>Caution</b>	<ul style="list-style-type: none"> <li>Do not climb on the outdoor unit or put objects on it to prevent fall or overturning, which may cause injury.</li> </ul>	
	<ul style="list-style-type: none"> <li>Please hold the fan grill and filter securely during installation and disassembly to prevent fall from causing injury.</li> </ul>	

# Best Way of Use

## Use of Range


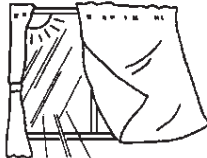

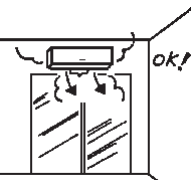
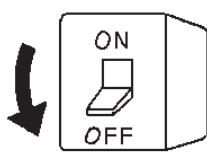
Please use the air-conditioner within the range below to ensure the optimal performance of air-conditioning.

Condition Function	Indoor Unit Air Temperature	Outdoor Unit Air Temperature (not indoor temperature)
Air-conditioning	-5°C DB to 43°C DB	21°C DB /15°C WB to 32°C DB /23°C WB

DB: Dry-bulb temperature / WB: Wet-bulb temperature

Note: • When operating out of these ranges, the product may stop due to the protective device or water may leak from the indoor unit due to condensation.

## Best Way of Use

<b>Do not open the door or window for a long time.</b> <ul style="list-style-type: none"> <li>Cooling effect is poorer.</li> <li>Condensation takes place in the indoor unit.</li> </ul>  <p>(Pay attention to ventilation.)</p>	<b>Block direct sunlight with curtains or blinds.</b> <ul style="list-style-type: none"> <li>Cooling effect is better by blocking direct sunlight.</li> </ul> 	<b>Reduce using heating equipment when the air-conditioner is operating.</b> <ul style="list-style-type: none"> <li>Cooling effect is poorer.</li> <li>Condensation takes place and water will drip from the indoor unit.</li> </ul> 
<b>When the ceiling temperature is high, ventilate with a fan.</b> <ul style="list-style-type: none"> <li>Contact your dealer for improving indoor cooling effect.</li> </ul> 	<b>Turn OFF the main if not in use for a long time.</b> <ul style="list-style-type: none"> <li>Turn OFF the main of the air-conditioner if it is not used for a long time.</li> </ul> 	



**Caution**

- Connect the air-conditioner to the power source 12 hours before use during summer for the oil heater to preheat the compressor for protection.
- Disconnect the air-conditioner from the power source after summer to save energy.

## Cautions for Use

1. Flow direction  
Adjust the air louver if you do not feel cool enough. (Note: With the air louver facing down for a long time, water will condense on the air louver and drip occasionally.)
2. Fan speed  
“MED” speed is used in general, and “HIGH” speed can cool a broader range.
3. Temperature  
The recommended temperature is 27-29°C. Lower the temperature if not cool enough.





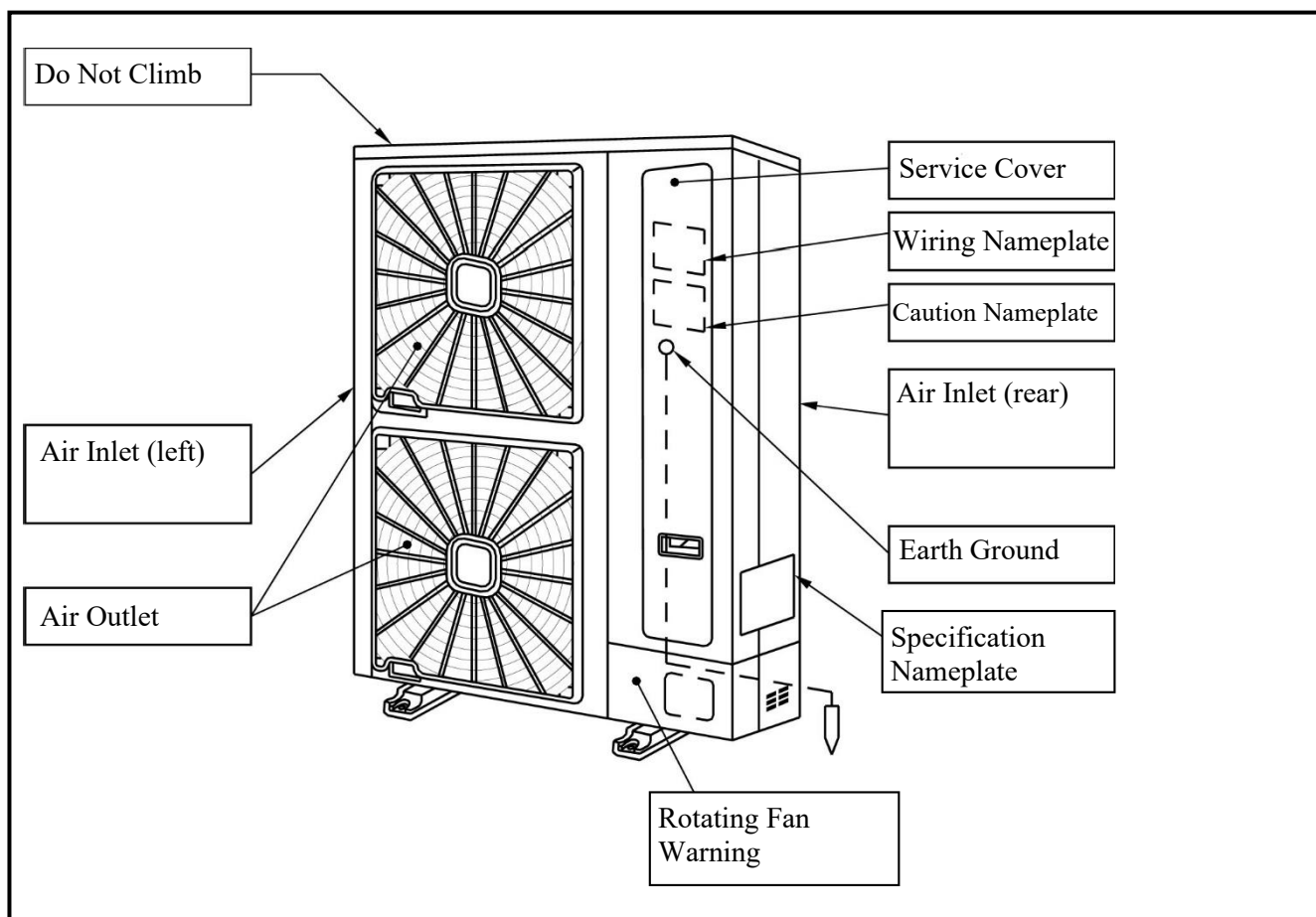
## Names of Each Part and Safety Precautions

### Outdoor Unit

#### Remark

- Connect the air-conditioner to the power source 12 hours before use during summer for the oil heater to preheat the compressor for protection.
- Disconnect the air-conditioner from the power source after summer to save energy.
- Safety instructions are indicated on respective units for customers to use the air-conditioner correctly and safely. To ensure safety in use and during inspection, please follow all safety instructions.

Safety Instructions	Do Not Climb	Rotating Fan
Contents	<div><b>Caution</b> Do not climb on the outdoor unit to prevent falls, which may cause injury.</div>	<div><b>Warning</b> Do not insert a finger, a rod or other objects into the air outlet or inlet. Rotating fan will cause injury.</div>

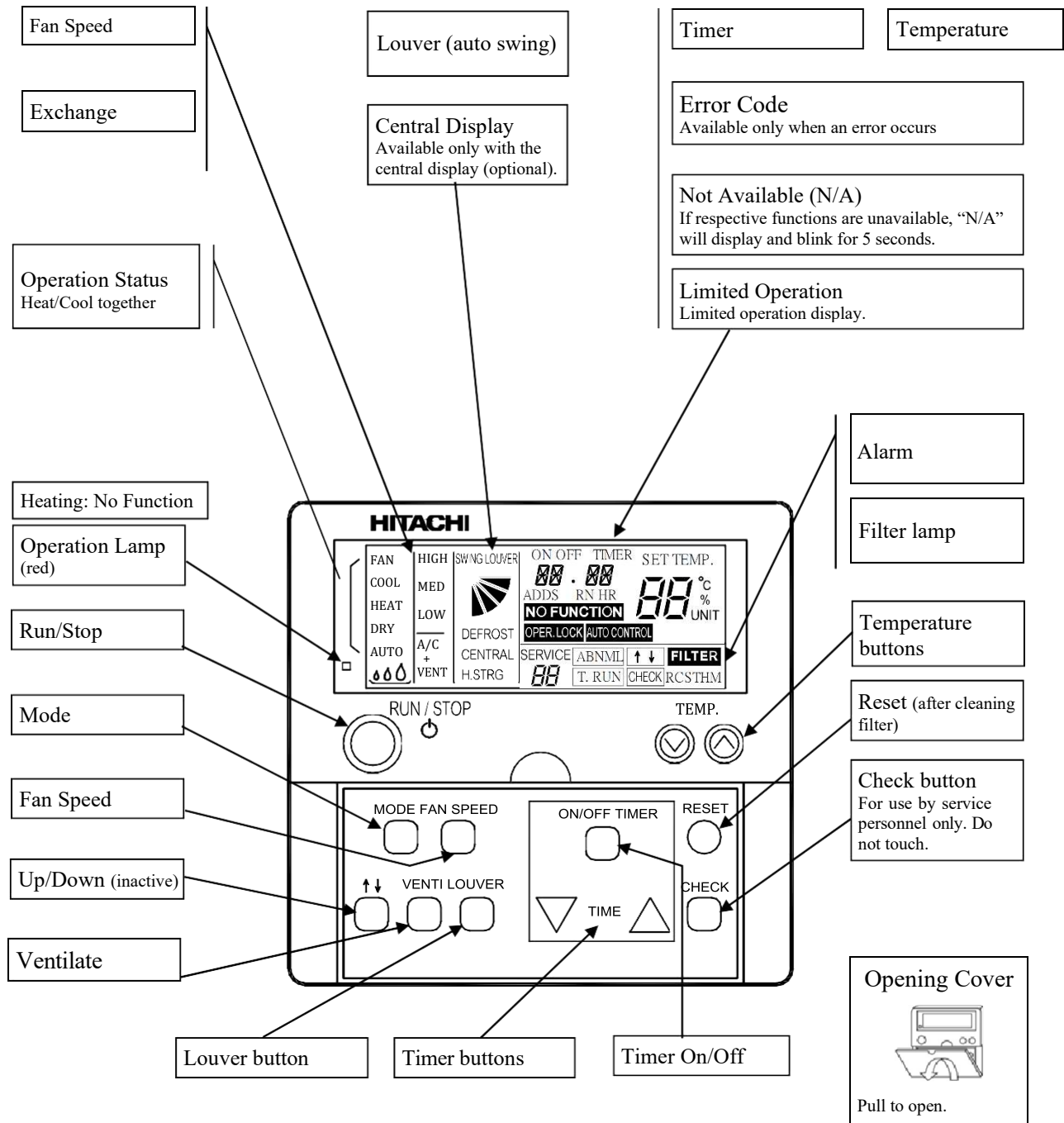




## Names of Each Part of Remote Controllers

### Wired Remote Controller (optional)

**Display** (Descriptions in this manual may differ from the actual display on the remote control)



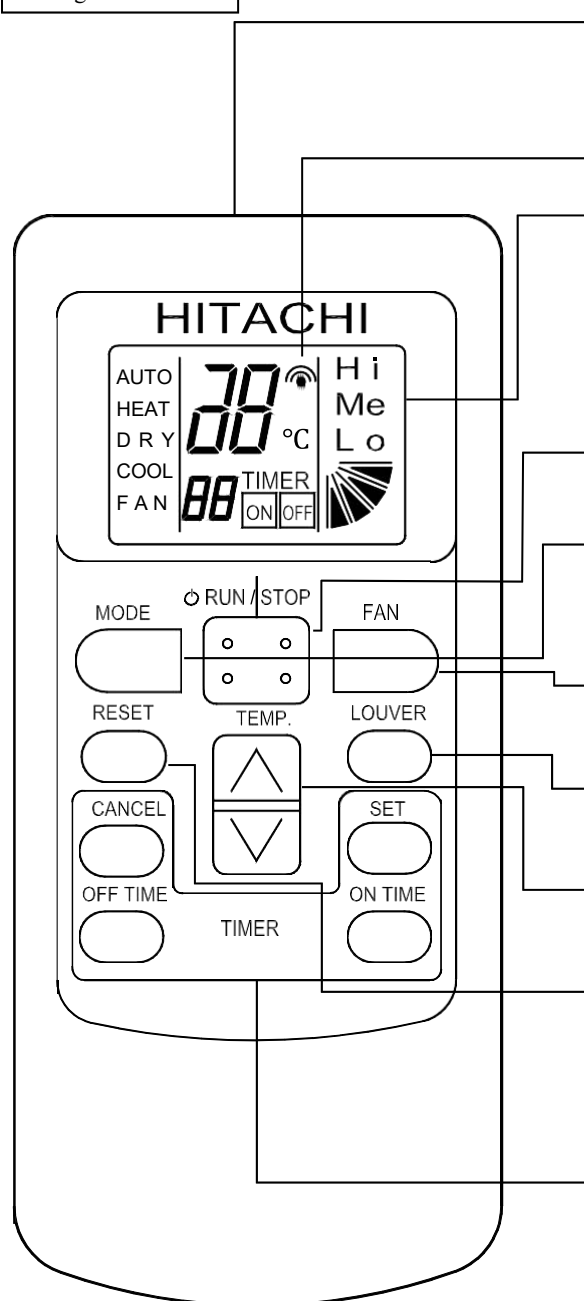
### Operation (Buttons behind the cover)

## ► Names of Each Part of Remote Controllers (cont'd)

### Wireless Remote Controller (optional)

**Display** (Descriptions in this manual may differ from the actual display on the remote control)

Heating: No Function



#### Signal emitting window

Point this window toward the indoor unit when controlling it. The transmission sign blinks when a signal is sent.

#### Transmission sign

#### Display

This indicates the temperature settings, timer status, louver status, mode, and fan speed.

The diagram on the left shows all information displayed on the remote control. In actual operation, not all items are shown in the display.

#### RUN/STOP button

Press this button to start operation. Press it again to stop operation.

#### MODE selector

Press the button to select functions in the following order:

AUTO → DRY → COOL → FAN

#### FAN SPEED selector

Press the button to select fan speed. Every time you press this button, fan speed will change from:

HI → MED → LOW

#### LOUVER button

Controls the angle of the louver or auto swing.

#### TEMPERATURE buttons

Adjust temperature settings with these buttons.

#### RESET button

- After cleaning the filter, press this button to turn off the "FILTER" lamp.
- When operation is stopped by the protective device, press this button to disable stop control after the alarm is removed.

#### TIMER buttons

Press the TIMER ON and TIMER OFF time to input the unit on and unit off time. Press SET to activate or CANCEL to deactivate the timer.



## Automatic Operation

- To protect the indoor unit and to ensure comfortable feeling, the following functions are operated automatically.

<b>3-minute Shutdown Protection</b>		To protect the compressor in the outdoor unit, the air-conditioner cannot operate for at least three minutes after shutdown. Users will need to wait for three minutes to re-start the air-conditioner.
<b>3-minute Operation Protection</b>		To ensure the compressor runs for at least three minutes, even if the temperature switch is turned off, the compressor will not stop within the next three minutes. After operating for three minutes, however, users can shut down the compressor from the remote control.
<b>A/C Operation</b>	<b>Defrost</b>	The compressor will stop when the temperature of the heat exchange in the indoor unit is extremely low. The fan will run continuously to prevent frost on the heat exchange.
	<b>Oil Reflux Operation</b>	When the air-conditioner is running and the indoor unit is idle over two hours, the unit will run automatically after some time to prevent cooling oil from staying in the idle indoor unit.

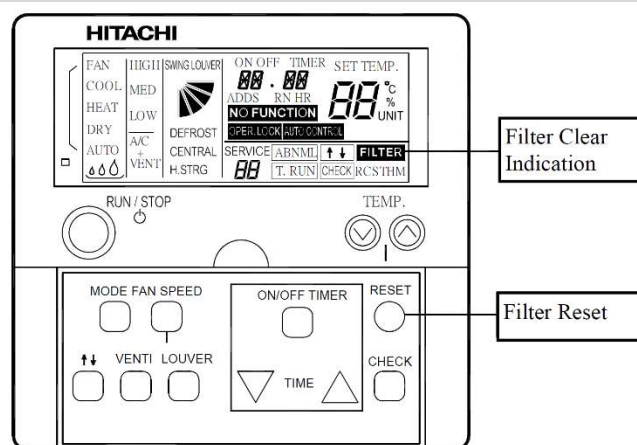
## Maintenance and Check

Please refer to p. 2 for warnings and cautions during maintenance and repairs.

### Routine Maintenance

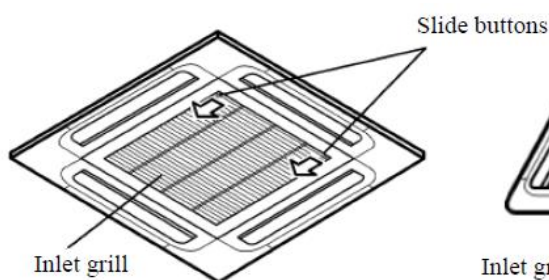
#### Filter Cleaning

When the **FILTER** sign appears, remove the filter and wash it

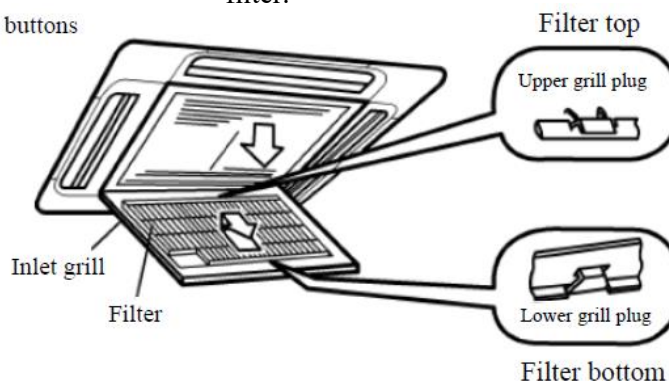


#### 1 Take out the Filter

1. Push the slide buttons on the inlet grill in the direction shown below to release the grill.



2. Hold the grill bottom, lift the filter to release it from the plug, and remove the filter.



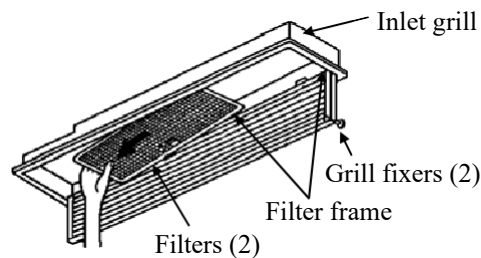


## Maintenance and Check (cont'd)

### Ducted Above Ceiling (RPI)

(venues using inlet grill with filter)

Please remove the filter installed behind the inlet grill. Pull at the middle of the grill to remove the filter.



### Floor Type

1. Remove the inlet grill (left photo).
2. Pull and lift to remove the filter (right photo).



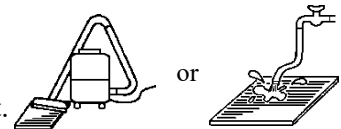
Grill



Filter

### 2 Filter Cleaning

- Clean the filter biweekly to save energy.
- Clean the filter with a vacuum cleaner or wash with water and mild detergent.
- Dry the filter in a cool place afterwards.



### 3 Filter Installation

After cleaning/washing the filter, dry it before installing back in position and secure with all fixers.

### 4 Grill Restoration

#### Note

Before closing the grill, make sure the filter is installed in position.  
(Absence of the filter may cause the machine to damage).

### 5 Press the RESET button (○)

After turning on the unit, press the RESET button and the **FILTER** sign (11 filter cleaning) will disappear. Then, re-calculate the next cleaning time.

#### Remark

- Do not dry the filter with fire, hairdryers, or heater to prevent deformation.
- Do not wash the filter in hot water over 50°C to prevent deformation.

## Grill and Cover Maintenance

Wipe with a dampened soft cloth.

#### Remark

- Wipe the unit surface (all kinds of covers) with a soft cloth dampened with mild detergent. Do not use volatile thinners or surfactants. They will cause plastic deformation and color change.
- During the typhoon season, check if the outdoor unit is securely fastened and the cover screws are secured to prevent strong wind from blowing off covers that may cause injury.

# Maintenance and Check (cont'd)

## Maintenance Before and After Summer

### Season Starts

Remove all obstacles in front of the air inlet and outlet of both the indoor and outdoor units.  
Check if filters are clogged.

### Season Ends

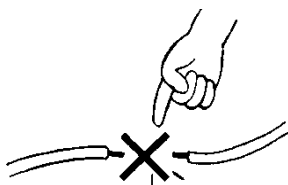
Clean the filter and grills of the indoor unit.

## Check

Please perform a periodic check every six months to one year or before or after summer to confirm the following items. If you are not sure, please contact the Hitachi service center or your dealer.

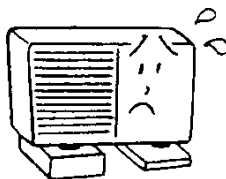
### 1 Earth

- Check if the earth wire is loosened or broken.



### 2 Mounting Frame

- Check if the mounting frame is rusted or if the outdoor unit is unstable.

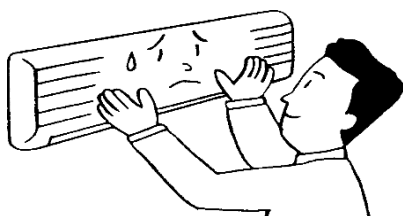


### 3 Check and Repair

Both the indoor and outdoor units will be contaminated after long-term of use and can reduce their performance.

- Based on the condition of use, odor may be emitted. The drain may be clogged by impurities or dust to stop condensate from draining. Therefore, regular maintenance, checks and repairs (paid service) are also important.
- Please contact the Hitachi service station or your dealer for the exact fees for checks and repairs of indoor and outdoor units.

Maintenance and check



### Remark

- Use genuine filters only to ensure unit performance and life.
- Do not operate the unit without filters to prevent dust and dirt from entering and damaging the unit.
- Check and clean the radiator to prevent dust and dirt from reducing the cooling effect.

## Troubles

None of the following troubles is a product fault

Trouble		Cause
Indoor Unit	Operation Stops	<ul style="list-style-type: none"> <li>No display on the LCD display.</li> </ul>
		<ul style="list-style-type: none"> <li>The microcomputer reacts to the EMI to protect the air-conditioner. Please re-start the air-conditioner according to the procedures.</li> </ul>
	Vapor	<ul style="list-style-type: none"> <li>After power outage</li> </ul>
		<ul style="list-style-type: none"> <li>Please re-start the air-conditioner according to the operating procedure.</li> <li>The unit will operate automatically if power outage lasts less than two seconds.</li> </ul>
		<ul style="list-style-type: none"> <li>When the air-conditioner is used in the restaurant or kitchen.</li> </ul>
	Odor	<ul style="list-style-type: none"> <li>Grease deposited on the radiator of the heat exchange reduces heat exchange performance and gives rise to vapor.</li> <li>Install a pre-filter.</li> </ul>
		<ul style="list-style-type: none"> <li>Operate in the DRY mode.</li> <li>Operate in the COOL mode in a humid environment.</li> </ul>
	Noise	<ul style="list-style-type: none"> <li>The outlet temperature is too low. Change operation mode.</li> </ul>
		<ul style="list-style-type: none"> <li>Odor flows out from the indoor unit.</li> </ul>
		<ul style="list-style-type: none"> <li>Smoke or odor in the interior adhered to the indoor unit. Clean the filter and the grill and ventilate thoroughly.</li> </ul>
Frost	Noise	<ul style="list-style-type: none"> <li>Clicking sound when the unit starts and stops.</li> </ul>
		<ul style="list-style-type: none"> <li>The friction sound of plastic parts because of temperature change.</li> </ul>
		<ul style="list-style-type: none"> <li>Flowing water sound when the unit is in operation.</li> </ul>
Frost	Noise	<ul style="list-style-type: none"> <li>It is caused by either the refrigerant or the condensate. The sound is distinct when the unit starts, or the compressor stops (about three minutes).</li> </ul>
		<ul style="list-style-type: none"> <li>Cracking sound when the unit starts and stops.</li> <li>Melting sound of water or frost on the surface of the heat exchange in the indoor unit.</li> </ul>
Frost	Frost	<ul style="list-style-type: none"> <li>Condensation at the outlet grill or cover.</li> </ul>
		<ul style="list-style-type: none"> <li>This happens when the unit operates for a long time at high humidity (R.H. &gt;80%).</li> </ul>

## ► Troubles (cont'd)

None of the following troubles is a product fault

Trouble			Cause
Outdoor Unit	The outdoor unit did not stop immediately after shutdown.	When pressing the RUN/STOP button on the remote control.	To extend the lifespan of product, the outdoor unit will stop in the optimal condition.
	The compressor does not run.	The compressor stops for three minutes during operation.	To prevent the electronic valve of the indoor unit from expansion after running continuously for eighteen hours.
			To protect the compressor, it may be idle for six minutes.

### Check before Calling for Service

Problem	Check	Restart
No operation	• Please check if the main switch is ON.	• Turn the main switch to ON.
	• Please check if the breaker is tripped or the fuse is blown.	• Reset the breaker to ON or replace a new fuse. Contact your dealer if the situation persists.
Stop suddenly during operation	• Check if the air inlet or outlet of the outdoor unit is blocked by paper, plastic bags, or cloths.	• Remove objects blocking the air inlet or outlet.
Not cool enough	• Check if the correct mode is selected.	• Switch to COOL if it is in the FAN mode.
	• Check if temperature settings are appropriate.	• Press the DOWN arrow button (⏮) to adjust temperature.
	• Check if the flow direction is appropriate.	• Adjust flow direction.
	• Check if the filter is clogged.	• Wash the filter.
	• Check if doors and windows are properly close.	• Shut all doors and windows.
	• Check if the air inlet or outlet of the indoor or outdoor unit is blocked.	• Remove obstacles.





## Troubles (cont'd)

### Immediate Service

- If the situation persists after the above checks, please stop the air conditioner, and contact your dealer. Please inform your dealer of the following information:

Inform your  
dealer

- 1 Type: Warranty Card or Specification Plate (  p. 4)
- 2 Fault: As detailed as possible.
- 3 Error Code: (  p. 13)



**Warning**

Should abnormal situation arise (like burning smell), immediately shut down the unit and disconnect it from the power source to prevent electric shock and fire. Then, contact your dealer.



Symptom	Contact Dealer Again
Fuse, breaker, ELCB and other safety devices are activated with incomplete operation.	Disconnect the unit from the power source.
Air-conditioner dripping	Stop operation.

## Troubles (cont'd)

### Error Code and Meaning

Code	Content of Abnormality	Code	Content of Abnormality
01	Activation of indoor unit protective device.	31	Capacity incompatibility of the indoor and outdoor units.
02	Activation of outdoor unit protective device.	35	Setup error of indoor unit number.
03	Noise between the indoor and outdoor units.	38	An anomaly found in the protective circuit of the outdoor unit.
04	Noise from the inverter.	41	Cooling overload.
05	Phase abnormality.	42	Heating overload.
06	Under voltage or over voltage of the outdoor unit.	47	Activation of protection against low pressure drop.
07	Abnormal temperature drop of the discharged coolant.	48	Activation of overload protection.
08	Reading of the compressor thermometer is too high.	51	Abnormal current of the inverter.
11	Inlet temperature sensor anomaly (indoor unit).	53	Activation of power module protection.
12	Outlet temperature sensor anomaly (indoor unit).	54	Inverter radiator sensor anomaly, activation of protection.
13	Anti-frost temperature sensor anomaly (indoor unit).	55	Inverter anomaly.
14	Heat exchange piping temperature sensor anomaly (indoor unit).	57	Activation of fan controller protective device (outdoor unit).
19	Activation of Fan motor protection (indoor unit).	59	Inverter radiator sensor anomaly.
20	Anti-frost temperature sensor anomaly (outdoor unit).	b1	Coolant system setting error.
22	Outlet temperature sensor anomaly (outdoor unit).	EE	Compressor protection error.
24	Piping temperature sensor anomaly.		

## Warranty and After Sales Service

### Warranty

There is a warranty card on the unit. Please show the warranty card to the service personnel when there is a fault during the warranty period. Customers can enjoy free repair or discount for materials based on the warranty terms.

### After Sales Service

When an abnormality in the product occurs, please check according to the instructions in this manual. If failed to improve, contact your dealer immediately.

## Emergency Treatment

Shut down the air-conditioner and turn off the breaker for the air-conditioner immediately under any of the following situations: overheat, surface insulation damage, or melting of the power cable; the fuse is blown or the breaker trips; or the unit does not respond properly to run/stop commands. Do not attempt to replace parts by yourself. Contact the local dealer for service.

## **Bosch Home Comfort Philippines Inc.**

**Bosch Home Comfort Group is a trademark Licensee of Hitachi, Ltd.**

### **Address**

Subic Bay Industrial Park Phase II  
Subic Bay Freeport Zone Philippines

### **Customer Service**

TEL: (02)362-4847

TEL(SERVICE): (02)362-3842