

IMPORTANT

READ AND UNDERSTAND THIS
INSTRUCTION MANUAL BEFORE
USING THIS AIR CONDITIONER.
KEEP THIS MANUAL FOR
FUTURE REFERENCE.





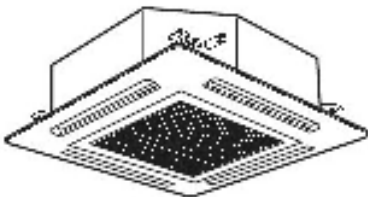
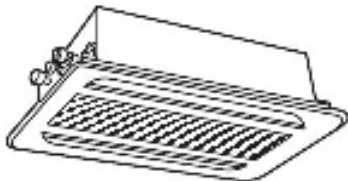
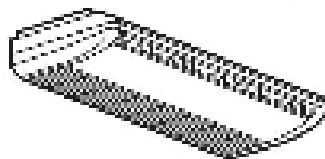

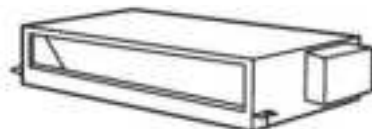
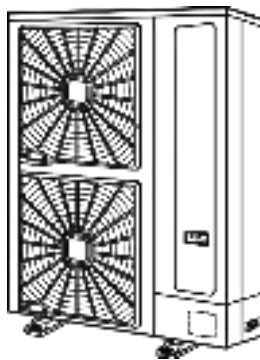
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HITACHI

Operation

Manual

**INVERTER-DRIVEN
MULTI-SPLIT SYSTEM**

CONTROL SYSTEM (Optional Parts)	<div data-bbox="493 488 868 846"></div> <div data-bbox="550 844 818 875">Remote Control Switch</div> <div data-bbox="1134 488 1305 846"></div> <div data-bbox="1048 844 1410 875">Wireless Remote Control Switch</div>
INDOOR UNIT	<div data-bbox="355 949 724 1144"></div> <div data-bbox="360 1160 678 1193">4-Way Cassette Type (RCI)</div> <div data-bbox="780 958 1128 1137"></div> <div data-bbox="732 1160 1061 1193">2-Way Cassette Type (RCD)</div> <div data-bbox="1176 987 1501 1144"></div> <div data-bbox="1204 1160 1433 1193">Ceiling Type (RPC)</div> <div data-bbox="545 1240 799 1368"></div> <div data-bbox="571 1400 769 1435">Wall Type (RPK)</div> <div data-bbox="975 1256 1347 1384"></div> <div data-bbox="1059 1400 1356 1435">In-The-Ceiling Type (RPI)</div>
OUTDOOR UNIT	<div data-bbox="772 1518 1032 1877"></div> <div data-bbox="887 1919 976 1955">(RAM)</div>

65MP2180-A1

Important Notice

- The air conditioning products are 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
 - Where the sea is near (in the salty environment)
 - An acid or alkaline environment
- Please do not use on food, animals, plants, precision machinery and preservation of works of art and other special purpose.
- Do not install the indoor unit, outdoor unit, controller, and cable within approximately 3meters from strong electromagnetic wave radiators such as medical equipment.
- In case that there is electric noise at the power supply for the indoor unit, provide a noise filter.

Definition of signal words



Danger : Immediate hazards which will result in serious injury or death.



Warning : Hazards or unsafe practices which May result in serious injury or death.



: Items to be aware of minor to warning



: Mandatory issues for general user.



: Prohibitions.



: Useful information for operation or maintenance.







: Reference indication page.

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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 “ Danger” and “ Caution”. As incorrect installation may cause injuries and hazards, precautions during installation are listed in the “ Danger” 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, please be sure to keep this manual, and placed in a clearly visible place.

About Installation and Electrical Works



Danger

- 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 service contractor 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 if ground wires fall off. Please contact the dealer as soon as possible to install the ground wire.
- Please install leakage circuit breaker to prevent electric shock and fire.



During Operation








Danger

- Do not attempt to operate the unit with wet hands to avoid electric shock.
- Do not insert your fingers or anything like slender stick into the air inlet or outlet grille of the unit, or even remove the air outlet grille while the unit is operating for it is likely to cause danger.
- Do not use combustibles in a room where the unit is operating. Flammable sprays such as spray paint, paint, and volatile oil (including engine oil) may cause fire.
- Do not place a burner directly towards the supply air of an indoor unit for it may cause incomplete combustion.
- Avoid an extended period of direct air flow to your body, it may be harmful to health.
- Although this air conditioner uses non-flammable, non-toxic, odorless safe refrigerant (hydrofluorocarbons HFC), toxic gas will still form in the event of heat source exposure or leak.
- If refrigerant leakage occurs, turn OFF the main switch immediately, open the windows, extinguish the fire, and contact the dealer.
- If earth leakage breaker (ELB) or fuse is often activated, stop the system, and contact your service contractor.
- When abnormal conditions occur (for example: there is a burning smell), immediately cut off the power to stop running. This is to avoid electric shock and fire hazard, then contact your service contractor.




Safety Precaution







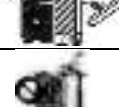



When the operation

 Danger	<ul style="list-style-type: none"> ● Simultaneous operation of the air conditioning unit and burner will lead to oxygen shortage: for prevention, always make sure that the ventilation unit is running. 	 always ventilate
 Warning	<ul style="list-style-type: none"> ● Do not put animals and plants directly exposed to the supply air of the air conditioning unit, for it will be harmful for plants and animals. 	
	<ul style="list-style-type: none"> ● Do not disconnect the power supply of the indoor unit during summer. Water condensed inside will not drain but split from the container and wet the ceiling or floor. 	 Setting 'ON'

Maintenance and Installation Precautions

 Danger	<ul style="list-style-type: none"> ● Please contact your dealer or a qualified technician for maintenance. Improper self-maintenance may cause electric shock and fire.
	<ul style="list-style-type: none"> ● 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 yourself improperly.

Others Danger and Warning

 Danger	<ul style="list-style-type: none"> ● When a fire occurs, immediately cut off the total power supply to avoid electric shock hazard. 	
	<ul style="list-style-type: none"> ● During maintenance, please turn off power supply to avoid electrical shock hazard. 	
	<ul style="list-style-type: none"> ● Do not place vases or other containers filled with water on top of air conditioners, dripping water may result in electrical shock and electrical parts insulation deterioration. 	
	<ul style="list-style-type: none"> ● Do not touch or adjust safety devices inside the indoor or outdoor units. If these devices are touched or readjusted, it may cause a serious accident. 	 Do not touch !!
	<ul style="list-style-type: none"> ● Do not open the service cover or access the indoor or outdoor units without turning OFF the main power supply. 	
	<ul style="list-style-type: none"> ● Do not pour water into the indoor or outdoor unit. These products are equipped with electrical parts. It may cause serious electrical shock. 	
	<ul style="list-style-type: none"> ● Do not alter the products electrical wiring to avoid major accidents. 	
	<ul style="list-style-type: none"> ● Refrigerant inside the air conditioner is stored in a high-pressure state. Except for qualified technicians, do not loosen the piping to prevent accidents. 	
	<ul style="list-style-type: none"> ● During maintenance, ensure that the mounting frame is fixed to avoid fall which may result in injury. 	
	<ul style="list-style-type: none"> ● 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. 	
 Warning	<ul style="list-style-type: none"> ● Do not leave water in the electrical parts and connectors after maintenance and repair to prevent an electrical short circuit, electric shock, or fire. 	
	<ul style="list-style-type: none"> ● Do not climb the outdoor unit or out objects on top of it to avoid fall or tip over, which may result to injury. 	
	<ul style="list-style-type: none"> ● Please hold the fan grill and filter securely during installation and disassembly to prevent fall from causing injury. 	

Useful Methods


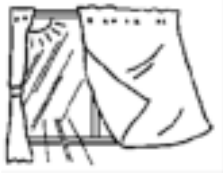

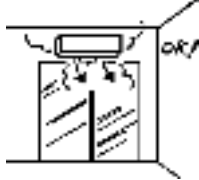

Use of range

Condition Item	Air inlet temperature of outdoor unit	Air inlet temperature of indoor unit (non-room temperature)
Cooling Operation	-5°CDB ~ 43°CDB	21°CDB/15°CWB ~ 32°CDB/23°CWB

DB : Dry Bulb WB : Wet Bulb

PS: Please note that if unit is running out of the range, protection device may take an action, the resulting unit cannot operate, or cause condensation of water fall indoor unit.

Useful Methods

Don't open the doors and windows for a long time The reasons causing poor air conditioning and indoor unit dewing.  Pay attention to ventilation	Block direct sunlight with curtains or blinds Prevent direct sunlight; the air conditioning effect will be better. 	Reduce using heating equipment when the air conditioner is operating The reasons causing poor air conditioning and indoor unit dewing. 
When the ceiling temperature is high, ventilate with a fan Improve indoor comfort, please contact your contractor. 	Turn OFF the main switch if not in use for a long time. Turn OFF the main switch of the air conditioner if it is not used for a long time. 	

Cautions when using the air conditioner

COOLING



- 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.)
- Fan speed**
 "MED" speed is used in general, and "HIGH" speed can cool a broader range.
- Temperature**
 The recommended temperature is 27 - 29°C. Lower the temperature if not cool enough.

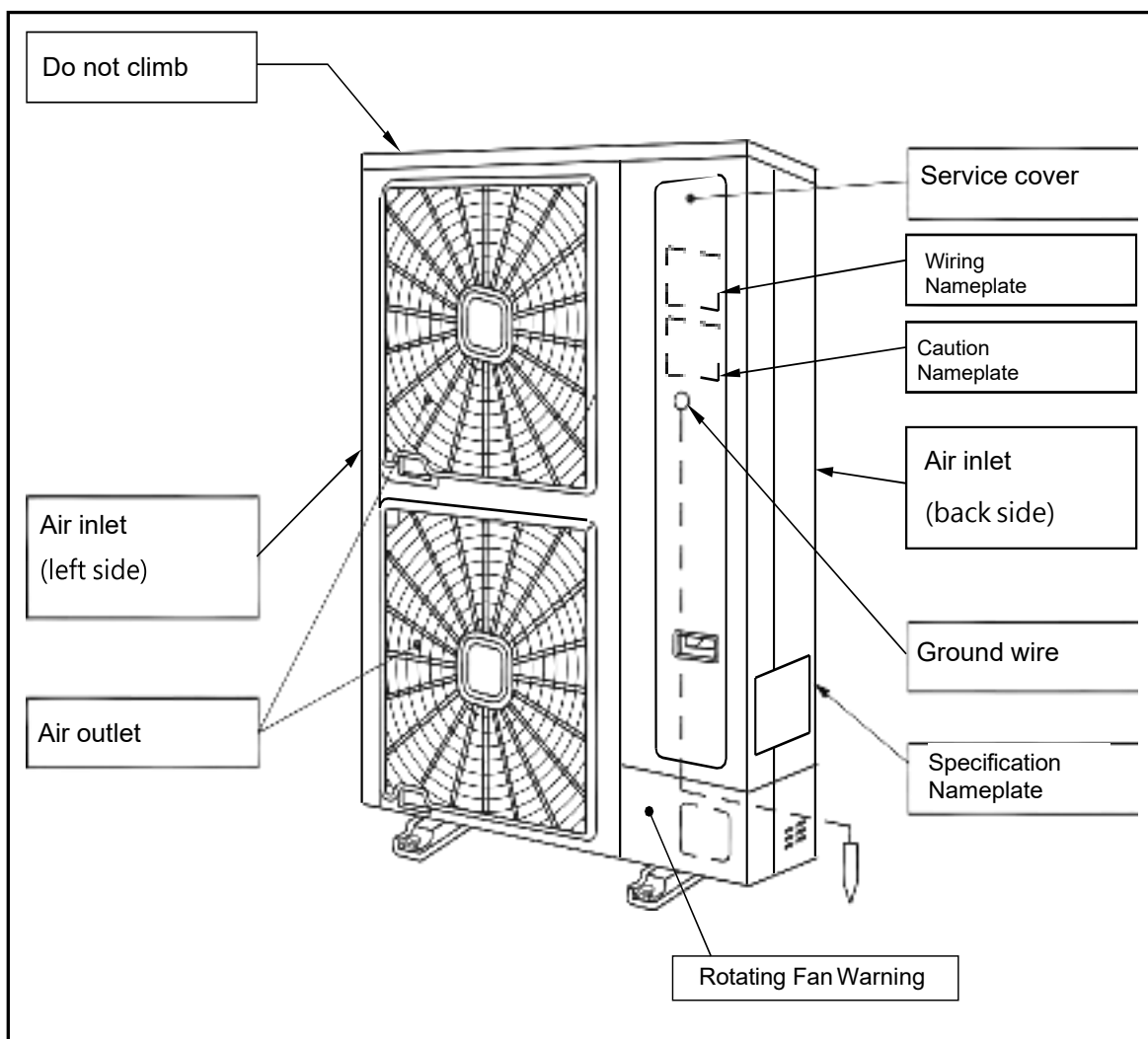
Unit's Label and Safety Precautions

Outdoor Unit

CAUTION

- Supply electrical power to the system for approximately 12 hours before start-up after long shutdown. Do not start the system immediately after power supply, it may cause a compressor failure, because the compressor is not heated well
- Turn OFF the main switch when the system is stopped for a long period of time. If the main switch is not turned OFF, electricity is consumed.
- 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.

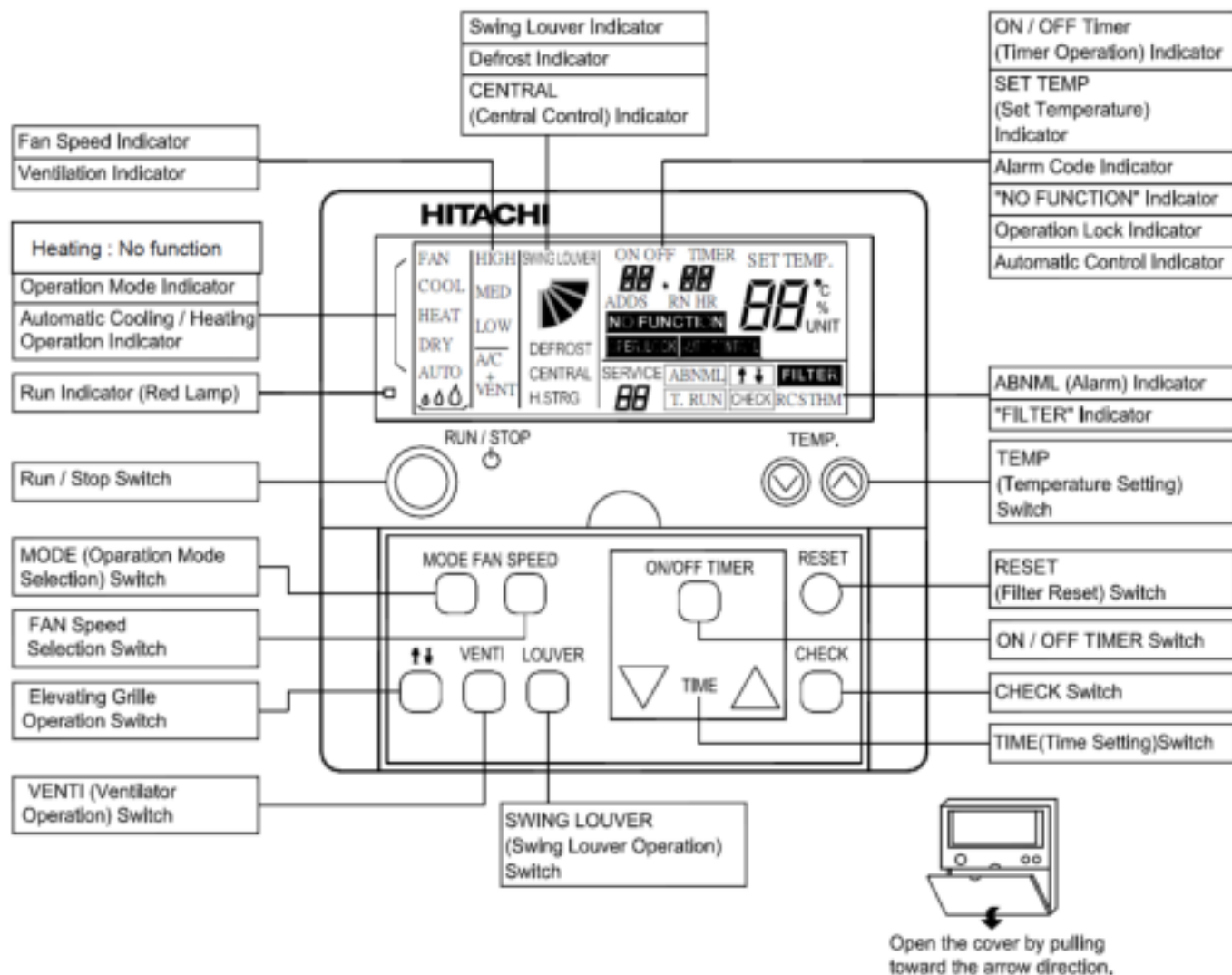
Safety Matters	Prohibit Climbing	Rotating Fan
Contents	 Warning Don't climb the unit, so as avoid fall and injuries.	 Danger Don't insert fingers or sticks to avoid injuries.



Remote Control's Label

Wired Remote Control Switch (Optional)

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

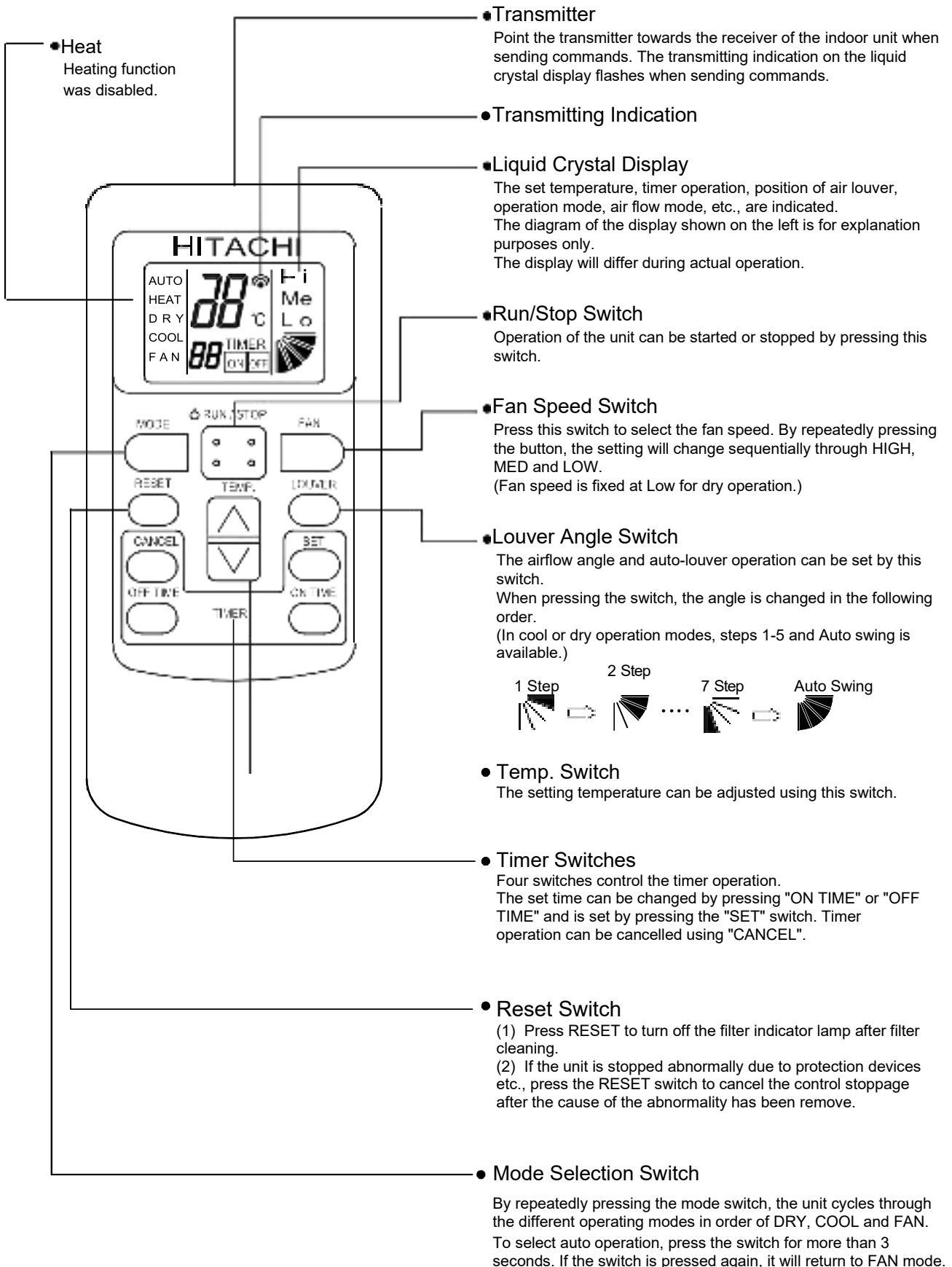


Operation (Buttons behind the cover)

Remote Control's Label

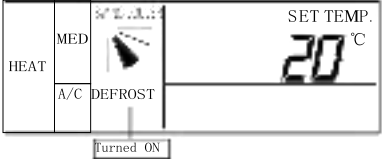
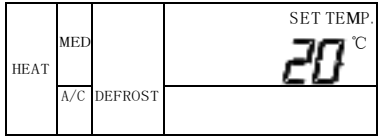
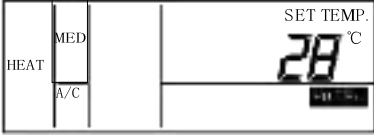
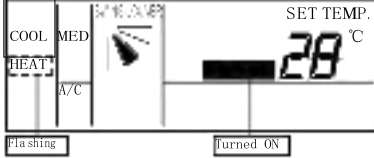
Wireless Remote Control Switch (Optional)

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

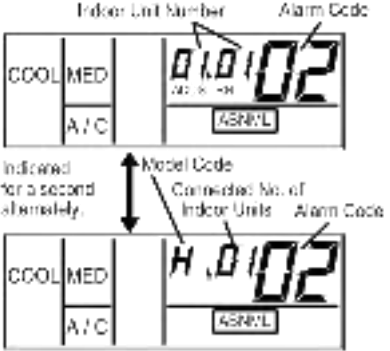


Other Indications

Indications When in Normal Condition

Defrost	When the defrost operation is performed. <ul style="list-style-type: none"> “DEFROST” light will turn ON and the indoor fan will stop. Louver will be fixed at horizontal position, but the LCD will show as louver is still swinging. (Only if the indoor unit louver is set to swing automatically) 	
	When the unit is stopped during defrost operation. <ul style="list-style-type: none"> The RUN indicator (Red) is OFF. However, the operation continues with "DEFROST" indication, and the unit is stopped after the defrost operation is finished. 	
Filter	Filter clogging <ul style="list-style-type: none"> “FILTER” indication is ON when the filter is clogged with dust, etc. Clean up the filter. Press the RESET switch after cleaning up filter. The “FILTER” indication is OFF. 	
	When wired remote control mode and set the operation mode of the outdoor unit is not the same. (Beside the outdoor unit with heating and cooling operation) <ul style="list-style-type: none"> AUTO CONTROL indication is ON. Operation mode indicator is OFF. 	 <p>Indication when "Cooling" operation is set by the controller at the outdoor unit</p>

Indications When in Abnormal Condition

Abnormality	<ul style="list-style-type: none"> The RUN indicator (Red) is ON. "ALARM" is indicated on the liquid crystal display. The indoor unit number, the alarm code, the model code, and the connected number of indoor units are indicated on the liquid crystal display. In the case that the multiple indoor units are connected, the above items for each indoor unit are indicated one by one. 	
Power Failure	<ul style="list-style-type: none"> All the indications are OFF. Once the unit is stopped by power failure, the unit will not be started again although the power recovers. Perform the starting procedures again. In case of instantaneous power failure within 2 seconds the unit will be started again automatically. 	
Electric Noise	<ul style="list-style-type: none"> There could be a case that all the indications are OFF, and the unit is stopped. This is occurred by the activation of the microcomputer for the unit protection from the electric noise. 	

Automatic Operation

- To increase the unit's protection and comfort, the following functions will automatically be activated

Three-Minute Shutdown Protection (Enforced Stoppage)		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 restart the air conditioner.
Three-Minute Operation Protection (Enforced Operation)		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.
Cooling	Frost Prevention During Cooling Operation	When the indoor unit is operated at low discharge air temperature, the cooling operation may be changed to fan operation for a while to avoid frost formation on the indoor heat exchanger.
	Oil Return Operation	<p>If an indoor unit is stopped more than 2 hours continuously, this function is operated during a few minutes.</p> <p>It has this function to prevent to accumulate in the heat exchanger of stoppage indoor unit at cooling operation.</p>

Maintenance Methods

Maintenance warnings and caution, please see page 2.

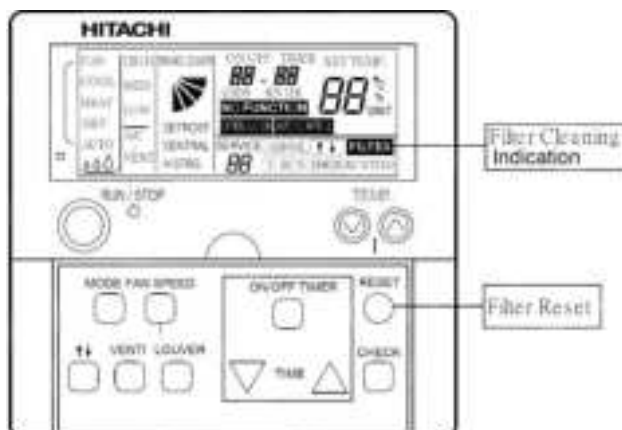
Routine Maintenance

Filter Cleaning

When **FILTER** indicate, please take out the filter.

The indication "FILTER" is shown on the display of the remote control switch after approximately 1,200 hour operation.

Perform maintenance on the air filter according to the following steps.

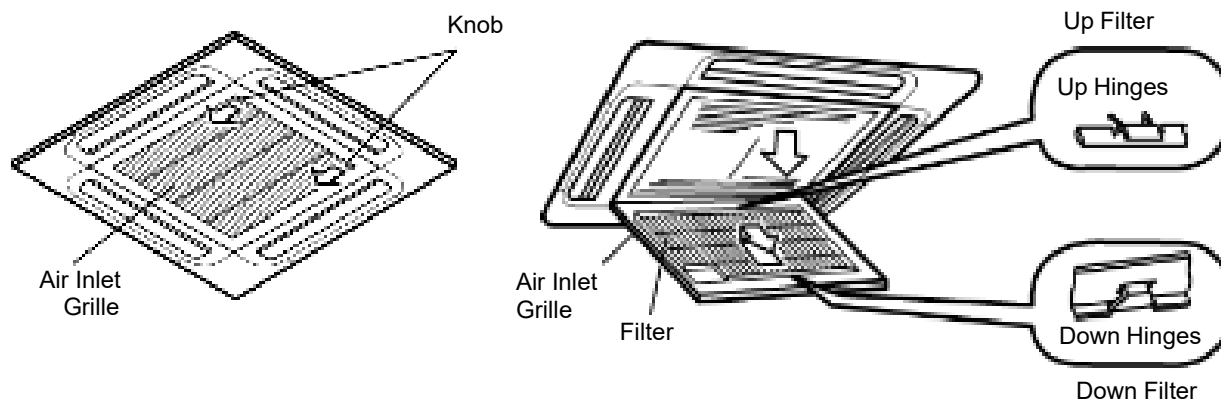


1 Taking Out the Filter

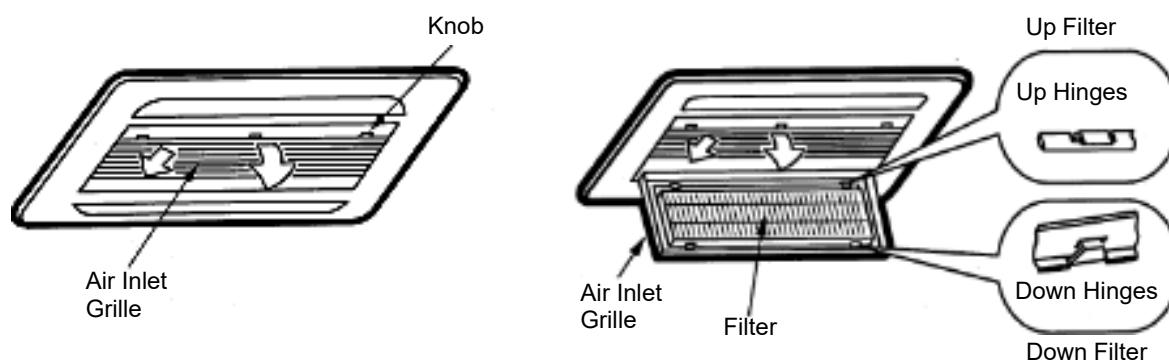
Cassette Type (4-Way, 2-Way)

1. Open the air inlet grille after pushing the two knobs as shown by the arrow mark.
2. Take out the air filter from the air inlet grille by supporting the air grille and lifting the air filter after detaching the filter from two hinges.

● 4-Way Cassette Type



● 2-Way Cassette Type



Maintenance Methods (Cont.)

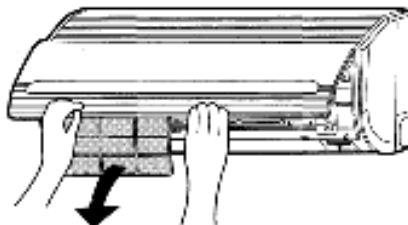
Wall Type

1. Pull up the air inlet grille after pushing two 'PUSH' mark of right and left side on the grille.

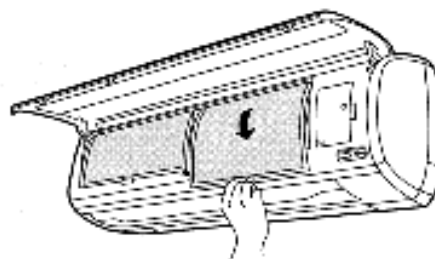
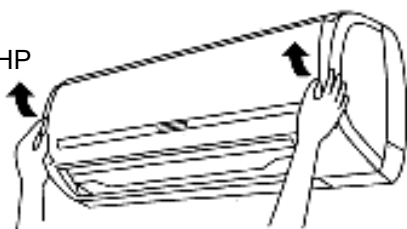
2. Pull the air filter down after removing it from the hinge.

● 1.5HP

Filter is inserted in the inside of the air inlet grille.

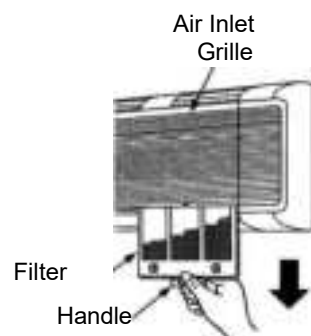


● 2.0HP



● 2.5~4.0HP

Pull the air filter down from handle.

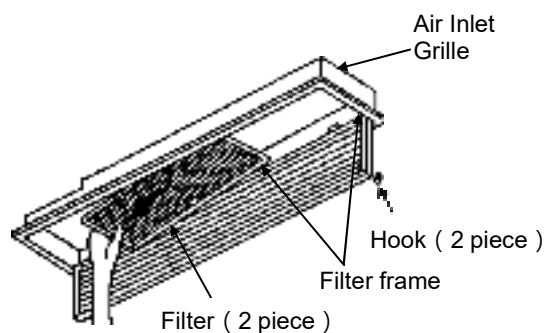
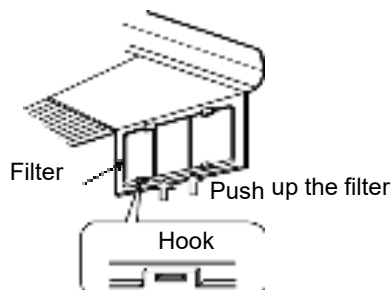
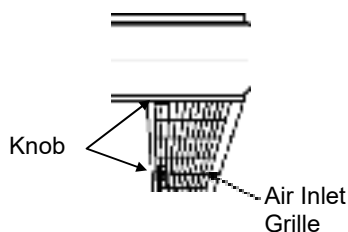


Ceiling Type

1. Slide the knobs.

2. Open the air inlet grille.

3. Push the filter up, make the filter into a bow shape and remove from the hook. And then pull forward; take out the air filter from the air inlet grille.



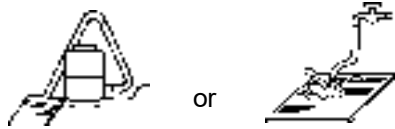
In-The-Ceiling Type (Filter used)

Remove the filter from the air inlet grille, pull to the side from the central of the air inlet grille, and take out the air filter.

Maintenance Methods (Cont.)

2 Clean the Filter

- Please clean the filter twice a month.
- Use a vacuum cleaner or let water flow onto the air filter for removing the dirt from the air filter.



- Dry the air filter in the shade after shaking off moisture.



Caution

- Do not use fire, hair dryer to dry the filter, to avoid distortion.
- Do not use hot water higher than approximately 50°C.

3 Install the Filter

After cleaning the filter, be sure to replace the original position after drying and return the hook back.

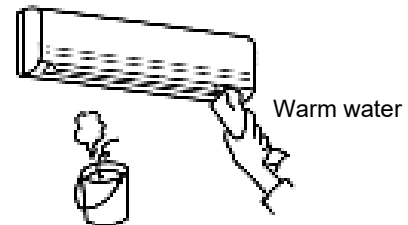
4 Return Air Inlet Grille

NOTE

When air inlet grille is closed, make sure the filter is already installed back.

5 Reset of Filter Indication

After cleaning the air filter, press the RESET button. The FILTER indication will disappear and the next filter cleaning time will be set.



Air Inlet, Outlet Grille and Cover Maintenance Methods

Please use a soft cloth soaked with warm water, twist dry and wipe it.

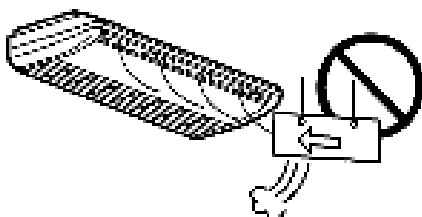
Caution

- Do not use volatile oils, thinners, cleaning agents or other solvents, it will cause deformity or discoloration.
- 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 to cause injury.

Start and End of the Season Maintenance

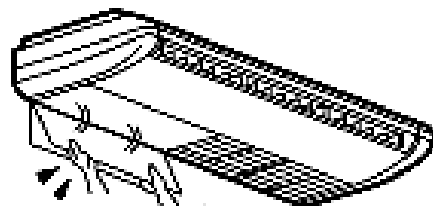
Start of the season

- Please clear the air intake or air blowing export obstacles.
- Check if the air filter is clogged with dust.



End of the season

- Please clean the air filter, air inlet and outlet grille.



Maintenance Methods (Cont.)

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 a Hitachi service center or your dealer.

1 Ground wire

- Is ground wire fall off or broken it?



2 Mounting frame

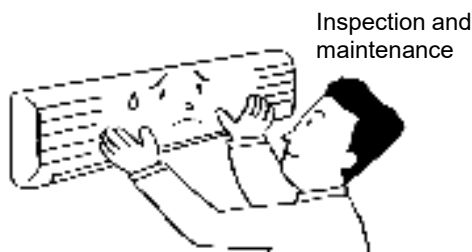
- Check if the mounting frame is rusted or if the outdoor unit is unstable.



3 Inspection and maintenance

Both the indoor and outdoor units will be contaminated after long-term use and reducing unit 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.



caution

- 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 heat exchanger to prevent dust and dirt from reducing the cooling effect.

Troubleshooting

Normal Cases

Situation			Cause
Indoor	Stop running	● No display	● The microcomputer reacts to the EMI to protect the air-conditioner. Please re-start the air-conditioner according to the procedures.
		● Power failure	● Restart the air conditioner according to the operating procedure. See Operation Method ● The unit will operate automatically if power outage lasts less than two seconds.
	Steam	● When heating operation	● This is due to the heat exchanger attached to the dust emitted by drying.
	Vapor	● When in use in the restaurants or kitchen	● Grease deposited on the radiator of the heat exchange reduces heat exchange performance and gives rise to vapor. ● Please install the filter in the air panel.
		● Dry operation	● The outlet temperature is too low. Please change operation mode.
		● Cooling operation in a humid environment	
	Odor	● Smell from indoor unit	● Smoke or odor in the interior adhered to the indoor unit. Clean the filter and the grill and ventilate thoroughly.
	Noise	● Clicking sound when the unit starts and stops.	● The friction sound of plastic parts because of temperature change.
		● Refrigerant flow	● While the system is being started or stopped, sounds from the refrigerant flow may be heard. (About 3 minutes).
		● Defrosting	● Melting sound of ice or frost on the surface of the heat exchange in the indoor unit.
	Moisture	● Condensation at the outlet grill or cover.	● When the cooling operation continues for a long period of time under high humidity conditions (higher than 27°C /80% R.H.), dew can form on the air panel.

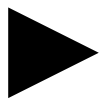
Troubleshooting (Cont.)

Normal Cases

Situation			Cause
Outdoor	Functioning after shutting off	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.
	Compressor is not running	When 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 maximum of 6 minutes delay before it operates.

Customer Diagnostic Guide



Situation		Examination method	Solution
Unable to start		● Check the toggle position of the main power switch.	● Turn ON the main power switch.
		● Verify if there is a tripped breaker or a busted fuse.	● Replace the fuse with the same ampere rating or higher or reset the breaker. If nothing happens, contact a professional service technician.
Unusual operation	Cooling	● Make sure that no object/s blocks the air inlet or outlet of the outdoor unit.	● Remove any unwanted thing/s that blocks the air inlet and outlet of the outdoor unit.
Insufficient cooling		● Check the operation mode.	● If operation mode was set to "FAN"; change it to "COOL".
		● Verify the temperature settings.	● Change the settings to desired room temperature.
		● Observe the air flow direction.	● Adjust the air flow angle.
		● Look at the air filter if still clean or free from dust.	● Clean the air filter.
		● Check if there are open windows and doors.	● Fully close all the windows and doors.
		● See if there are things that blocks the air inlet and outlet of both indoor and outdoor units.	● Free the air passages of both indoor and outdoor units.



Troubleshooting (Cont.)

Immediate Attention

- In the event of having the same concerns after doing the procedures from this operation manual, it is recommended to stop the air conditioning unit and contact your dealer. Kindly advise your dealer on the following information below:

1. **Unit Model Name** — Warranty. or nameplate specification ( Reference Page 4)
2. **Content of Trouble** — Detail as possible
3. **Alarm Code No. on Liquid Crystal Display** ( Reference Page 16)



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.



Situation	Solution
Fuses, circuit breakers, earth leakage breakers and other safety devices activated, and operation switch action is not functioning.	Disconnect the unit from the power source and contact your dealer
Air-conditioning water leakage	Stop operation

Troubleshooting (Cont.)

Error Codes

Code No	Content of Abnormality	Code No	Content of Abnormality
01	Indoor Unit Tripping of Protection Device	31	Incorrect Setting of Indoor and Outdoor Unit
02	Outdoor Unit Tripping of Protection Device	35	Incorrect Setting in Indoor Unit No.
03	Abnormal Transmission Between Indoor and Outdoor	38	Abnormality of Protective Circuit in Outdoor Unit
04	Inverter Tripping of Outdoor Unit	41	Overload of Cooling Operation
05	Abnormality of Power Source Phase	42	Overload of Heating Operation (No function)
06	Voltage Drop in Outdoor Unit Excessively Low or High Voltage to Outdoor Unit	47	Low Pressure Decrease Protection Activating
07	Decrease in Discharge Gas Superheat	48	Protection Activating of Overload Operation
08	Temperature is too high on the Compressor Surface	51	Abnormality of Current Sensor for Inverter Thermal Protection Activating
11	Abnormality of Inlet Air Thermistor(Indoor Unit)	53	ISPM Protection Activating
12	Abnormality of Outlet Air Thermistor(Indoor Unit)	54	Abnormality of Inverter Fin Temperature
13	Abnormality of Freeze Protection Thermistor (Indoor Unit)	55	Abnormality of Inverter
14	Abnormality of Heat exchanger's Gas Piping Thermistor	57	Outdoor Fan Controller Protection Activating
19	Indoor Fan Motor Tripping of Protection Device	59	Abnormality of Inverter Fin Protection Thermistor
20	Abnormality of Compressor Surface Thermistor (Outdoor Unit)	b1	Incorrect Setting of Unit Refrigerant Cycle No.
22	Abnormality of Outdoor Air Thermistor(Outdoor Unit)	EE	Abnormality of Compressor Protection
24	Abnormality of Evaporating Thermistor		

Guarantee and After-Sales Service

Warranty

A warranty card is given upon purchase of the unit. In the warranty period, show the card to a service personnel when having an initial repair of the unit to avail free service and discounts on materials that needs to be replace depend on the warranty terms and conditions.

After-Sales Service

When abnormalities occur, follow the instructions in this manual. If the unit's operation still fails, contact your dealer immediately.

Emergency Indication

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 se

Notes:

Bosch Home Comfort Philippines Inc.

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Customer Service

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