

# HITACHI

*SPLIT TYPE AIR CONDITIONER*

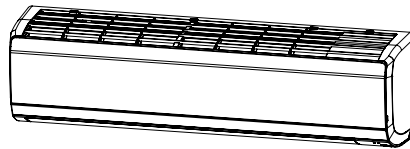
## INDOOR UNIT/OUTDOOR UNIT



MODEL

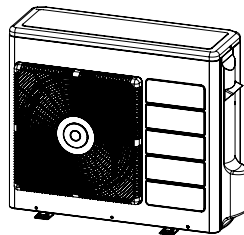
RAK-70PPD / RAC-70NPD

INDOOR UNIT



RAK-70PPD

OUTDOOR UNIT



RAC-70NPD

SUOMI NEDERLANDS SVENSKA Ελληνικά PORTUGUÊS ESPAÑOL ITALIANO FRANÇAIS DEUTSCH ENGLISH



# 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". The "Warning" section contains matters which, if not observed strictly, may cause death or serious injury. The "Caution" section contains matters which may result in serious consequences if not observed properly. Please observe all instructions strictly to ensure safety.
- The sign indicate the following meanings.

	Make sure to connect earth line.		The sign in the figure indicates prohibition.
	Indicates the instructions that must be followed.		

	<b>WARNING</b>	This symbol shows that this equipment uses a flammable refrigerant. If the refrigerant is leaked, together with an external ignition source, there is a possibility of ignition.
	<b>CAUTION</b>	This symbol shows that the Operation Instructions should be read carefully.
	<b>CAUTION</b>	This symbol shows that a service personnel should be handling this equipment with reference to the Installation Manual.
	<b>CAUTION</b>	This symbol shows that there is information included in the Operation Manual and/or Installation Manual

- Please keep this manual after reading.

## PRECAUTIONS DURING INSTALLATION

	<b>WARNING</b>	<ul style="list-style-type: none"> <li>• Do not reconstruct the unit. Water leakage, fault, short circuit or fire may occur if you reconstruct the unit by yourself. </li> <li>• Please ask your sales agent or qualified technician for the installation of your unit. Water leakage, short circuit or fire may occur if you install the unit by yourself.</li> </ul>
		<ul style="list-style-type: none"> <li>• Please use earth line. Do not place the earth line near water or gas pipes, lightning-conductor, or the earth line of telephone. Improper installation of earth line may cause electric shock. </li> <li>• Be sure to use the specified piping set for R32. Otherwise, this may result in broken copper pipes or faults.</li> <li>• Do not use refrigerant other than the one indicated on the outdoor unit (R32) when installing, moving or repairing. Using other refrigerants may cause trouble or damage to the unit, and personal injury.</li> </ul>
	<b>CAUTION</b>	<ul style="list-style-type: none"> <li>• A circuit breaker should be installed depending on the mounting site of the unit. Without a circuit breaker, the danger of electric shock exists. </li> <li>• Do not install near location where there is flammable gas. The outdoor unit may catch fire if flammable gas leaks around it. </li> <li>• Please ensure smooth flow of water when installing the drain hose.</li> <li>• Do not install the indoor unit in a machine shop or kitchen where vapor from oil or its mist flows to the indoor unit. The oil will deposit on the heat exchanger, thereby reducing the indoor unit performance and may deform and in the worst case, break the plastic parts of the indoor unit.</li> </ul>

## PRECAUTIONS DURING SHIFTING OR MAINTENANCE

	<b>WARNING</b>	<ul style="list-style-type: none"> <li>• Should abnormal situation arises (like burning smell), please stop operating the unit and turn off the circuit breaker. Contact your agent. Fault, short circuit or fire may occur if you continue to operate the unit under abnormal situation. </li> </ul>
		<ul style="list-style-type: none"> <li>• Please contact your agent for maintenance. Improper self maintenance may cause electric shock and fire.</li> </ul>
		<ul style="list-style-type: none"> <li>• Please contact your agent if you need to remove and reinstall the unit. Electric shock or fire may occur if you remove and reinstall the unit yourself improperly.</li> </ul>
		<ul style="list-style-type: none"> <li>• If the supply cord is damaged, it must be replaced by the special cord obtainable at authorized service/parts centers.</li> </ul>

## PRECAUTIONS DURING OPERATION

	<b>WARNING</b>	<ul style="list-style-type: none"> <li>• Avoid an extended period of direct air flow for your health. </li> </ul>
		<ul style="list-style-type: none"> <li>• 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. Before cleaning, be sure to stop the operation and turn the breaker OFF. </li> </ul>
		<ul style="list-style-type: none"> <li>• Do not use any conductor as fuse wire, this could cause fatal accident. </li> </ul>
		<ul style="list-style-type: none"> <li>• During thunder storm, disconnect and turn off the circuit breaker. </li> </ul>
		<ul style="list-style-type: none"> <li>• Spray cans and other combustibles should not be located within a meter of the air outlets of both indoor and outdoor units. As a spray can's internal pressure can be increased by hot air, a rupture may result. </li> </ul>

## PRECAUTIONS DURING OPERATION

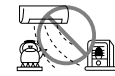
ENGLISH

- The product shall be operated under the manufacturer specification and not for any other intended use.



- Do not attempt to operate the unit with wet hands, this could cause fatal accident.

- When operating the unit with burning equipments, regularly ventilate the room to avoid oxygen insufficiency.



- Do not direct the cool air coming out from the air-conditioner panel to face household heating apparatus as this may affect the working of apparatus such as the electric kettle, oven etc.

- Please ensure that outdoor mounting frame is always stable, firm and without defect. If not, the outdoor unit may collapse and cause danger.



- Do not splash or direct water to the body of the unit when cleaning it as this may cause short circuit.

- Do not use any aerosol or hair sprays near the indoor unit. This chemical can adhere on heat exchanger fin and blocked the evaporation water flow to drain pan. The water will drop on tangential fan and cause water splashing out from indoor unit.



- Please switch off the unit and turn off the circuit breaker during cleaning, the high-speed fan inside the unit may cause danger.

- Turn off the circuit breaker if the unit is not to be operated for a long period.



- Do not climb on the outdoor unit or put objects on it.

- Do not put water container (like vase) on the indoor unit to avoid water dripping into the unit. Dripping water will damage the insulator inside the unit and causes short-circuit.



- Do not place plants directly under the air flow as it is bad for the plants.

- When operating the unit with the door and windows opened, (the room humidity is always above 80%) and with the air deflector facing down or moving automatically for a long period of time, water will condense on the air deflector and drips down occasionally. This will wet your furniture. Therefore, do not operate under such condition for a long time.

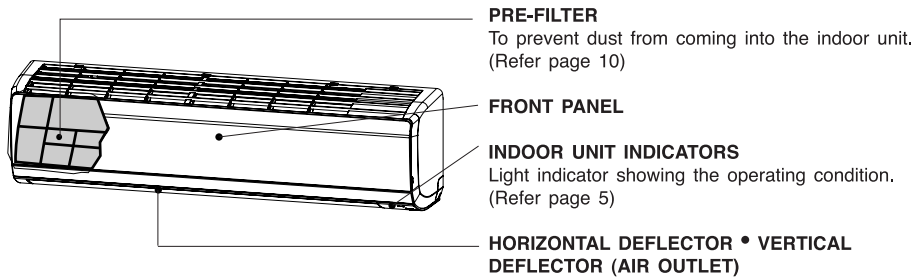
- If the amount of heat in the room is above the cooling or heating capability of the unit (for example: more people entering the room, using heating equipments and etc.), the preset room temperature cannot be achieved.

- 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.

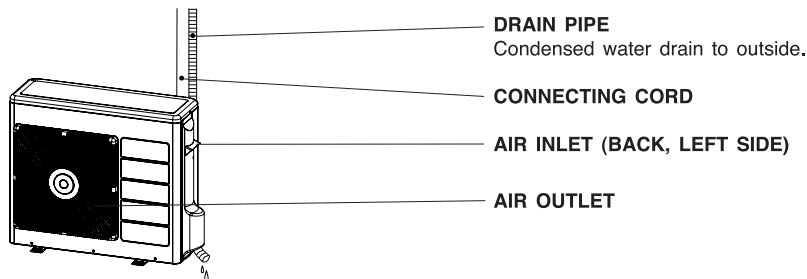
CAUTION

## NAMES AND FUNCTIONS OF EACH PART

### INDOOR UNIT



### OUTDOOR UNIT



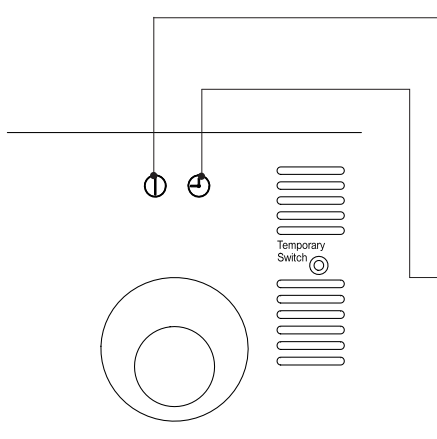
#### ⚠ CAUTION

- When heating operation, drain or defrosted water flows out from outdoor unit. Don't close drain outlet portion in chilly area so as not to freeze these.

### MODEL NAME AND DIMENSIONS

MODEL	WIDTH (mm)	HEIGHT (mm)	DEPTH (mm)
RAK-70PPD	1100	300	260
RAC-70NPD	850	800	298

**INDOOR UNIT INDICATORS**



**OPERATION LAMP**

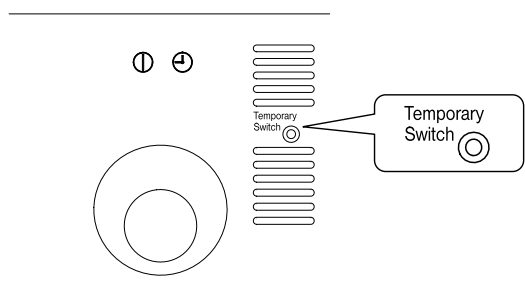
This lamp lights during operation. The OPERATION LAMP flashes in the following cases during heating.

- (1) **During preheating**  
For about 2–3 minutes after starting up.
- (2) **During defrosting**  
Defrosting will be performed about once every one hour when frost forms on the heat exchanger of the outdoor unit, for 5–10 minutes each time.

**TIMER LAMP**

This lamp lights when the timer is working.

**OPERATION INDICATOR**



**TEMPORARY SWITCH**

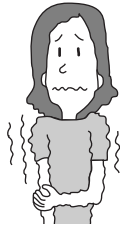
Use this switch to start and stop when the remote controller does not work. [Use non-conductor stick (example: toothpick)]

- By pressing the temporary switch, the operation is done in automatic mode.
- When the operation is done using the temporary switch after the power source is turned off and turn on again, the operation is done in automatic mode.



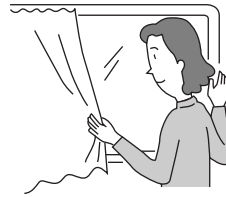
## THE IDEAL WAYS OF OPERATION

### Suitable Room Temperature



**⚠ Warning**  
Freezing temperature is bad for health and a waste of electric power.

### Install curtain or blinds



It is possible to reduce heat entering the room through windows.

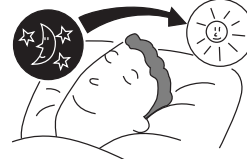
### Ventilation

**⚠ Caution**  
Do not close the room for a long period of time. Occasionally open the door and windows to allow the entrance of fresh air.



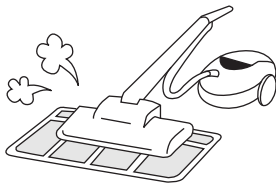
### Effective Usage Of Timer

At night, please use the "OFF or ON timer operation mode", together with your wake up time in the morning. This will enable you to enjoy a comfortable room temperature. Please use the timer effectively.



### Do Not Forget To Clean The Pre-Filter

Dusty pre-filter will reduce the air volume and the cooling efficiency. To prevent from wasting electric energy, please clean the pre-filter every 2 weeks.



### Please Adjust Suitable Temperature For Baby And Children

Please pay attention to the room temperature and air flow direction when operating the unit for baby, children and old folks who have difficulty in movement.

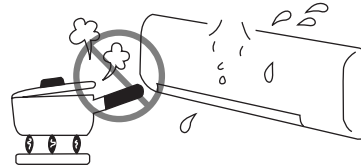


## FOR USER'S INFORMATION

### The Air Conditioner And The Heat Source In The Room

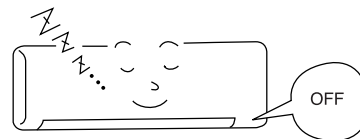
#### ⚠ Caution

If the amount of heat in the room is above the cooling capability of the air conditioner (for example: more people entering the room, using heating equipments and etc.), the preset room temperature cannot be achieved.



### Not Operating For A Long Time

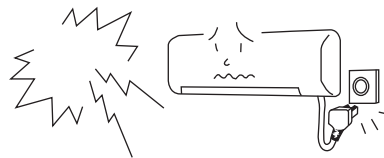
When the indoor unit is not to be used for a long period of time, please switch off the power from the mains. If the power from mains remains "ON", the indoor unit still consumes about 3W in the operation control circuit even if it is in "OFF" mode.



### When Lightning Occurs

#### ⚠ Warning

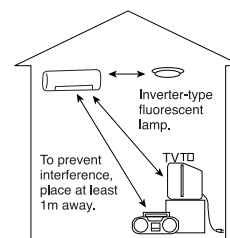
To protect the whole unit during lightning, please stop operating the unit and remove the plug from the socket.



### Interference From Electrical Products

#### ⚠ Caution

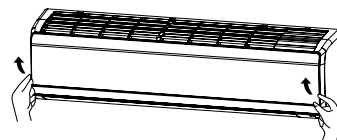
To avoid noise interference, please place the indoor unit and its remote controller at least 1m away from electrical products.



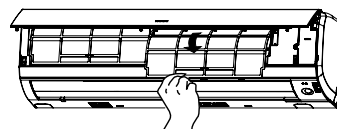


## ATTACHING THE AIR PURIFYING FILTERS

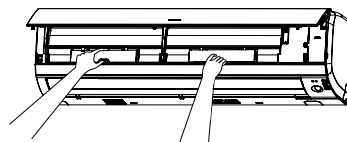
- 1** **Open the front panel**
- Pull up the front panel by holding it at both sides with both hands.



- 2** **Remove the Pre-filter**
- Push upward to release the claws and pull out the Pre-filter.



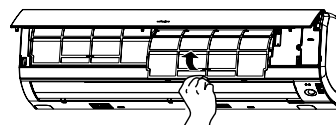
- 3** **Attaching the air purifying filters**
- Attach the air purifying filters to the frame by gently compress its both sides and release after insertion into Pre-filter frame.



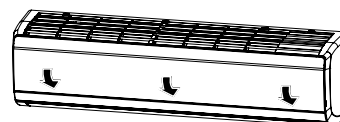
**CAUTION**

Do not bend the air purifying filter as it may cause damage to the structure.

Please do not smell direct from source of filter.



- 4** **Attach the Pre-filters**
- Attach the Pre-filters by ensuring that the surface written "FRONT" is facing front.
  - After attaching the Pre-filters, push the front panel at three arrow portions as shown in figure and close it.



**NOTE**

- In case of removing the air purifying filters, please follow the above procedures.
- The cooling capacity is slightly weakened and the cooling speed becomes slower when the air purifying filters are used. So, set the fan speed to "HIGH" when using it in this condition.
- The air purifying filters are not washable. It is recommended to use vacuum to clean. It can be used for 1 year. When you want to renew it, please ask your sales agent. Type number for this air purifying filter is <SPX-NTW4>. Please use this number for ordering when you want to replace it.
- Do not use detergent on the air purifying filter as some detergent may deteriorate the air purifying filter electrostatic performance.



## MAINTENANCE

### CAUTION

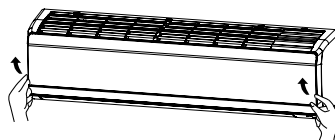
Cleaning and maintenance must be carried out only by qualified service personnel. Before cleaning, stop operation and switch off the power supply.

### 1. PRE-FILTER

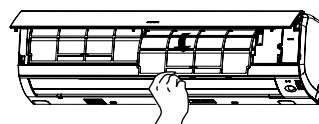
Clean the Pre-filter, as it removes dust inside the room. In case the Pre-filter is full of dust, the air flow will decrease and the cooling capacity will be reduced. Further, noise may occur. Be sure to clean the Pre-filter following the procedure below.

#### PROCEDURE

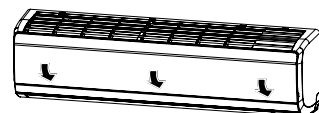
- 1 Open the front panel and remove the Pre-filter
  - Gently lift and remove the air purifying filters from the air purifying filter frame.



- 2 Vacuum dust from the Pre-filter and air purifying filter using vacuum cleaner. If there is too much dust, rinse under running tap water and gently brush it with soft bristle brush. Allow filters to dry in shade.



- 3
  - Re-insert the air purifying filter to the filter frame. Set the Pre-filter with "FRONT" mark facing front, and slot them into the original state.
  - After attaching the Pre-filters, push the front panel at three arrow portions as shown in figure and close it.



#### NOTE:

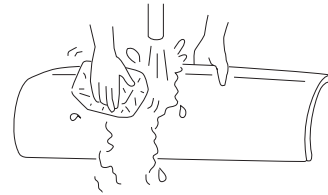
- Air purifying filter should be cleaned every month or sooner if noticeable loading occurs. When used overtime, it may lose its deodorizing function. For maximum performance, it is recommended to replace it every 1 year depending on application requirements.

### CAUTION

- Do not operate the air conditioner without Pre-filter. Dust may enter the air conditioner and fault may occur.

## 2. CLEANING OF FRONT PANEL

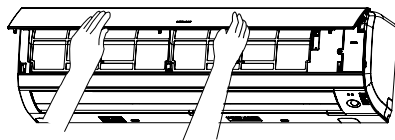
- Remove the front panel and wash with clean water. Wash it with a soft sponge. After using neutral detergent, wash thoroughly with clean water.
- When front panel is not removed, wipe it with a soft dry cloth. Wipe the remote controller thoroughly with a soft dry cloth.
- Wipe the water thoroughly. If water remains at indicators or signal receiver of indoor unit, it causes trouble.



Method of removing the front panel.  
Be sure to hold the front panel with both hands to detach and attach it.

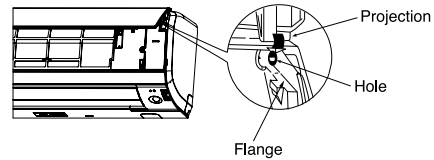


### Removing the Front Panel



- When the front panel is fully opened with both hands, push the right arm to the outside to release it, and while closing the front panel slightly, pull it out forward.

### Attaching the Front Panel



- Move the projections of the left and right arms into the Flanges in the unit and securely insert them into the holes.

### CAUTION


- Never use hot water (above 40°C), benzine, gasoline, acid, thinner or a brush, because they will damage the plastic surface and the coating.

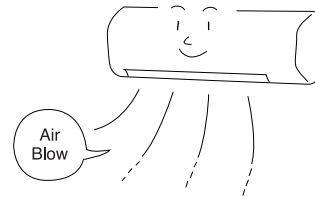


**CAUTION**

Cleaning and maintenance must be carried out only by qualified service personnel. Before cleaning, stop operation and switch off the power supply.

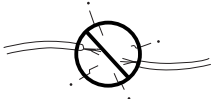
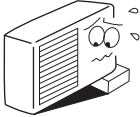
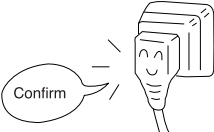
**3. MAINTENANCE AT BEGINNING OF LONG OFF PERIOD**

- Run the unit by setting the operation mode to  (COOL), the temperature to 32°C and the fan speed to HI for about half a day on a fine day, and dry the whole of the unit.
- Switch off the power plug.



**REGULAR INSPECTION**

PLEASE CHECK THE FOLLOWING POINTS BY QUALIFIED SERVICE PERSONNEL EITHER EVERY HALF YEARLY OR YEARLY. CONTACT YOUR SALES AGENT OR SERVICE SHOP.

1		Is the earth line disconnected or broken?
2		Is the mounting frame seriously affected by rust and is the outdoor unit tilted or unstable?
3		Is the plug of power line firmly plugged into the socket? (Please ensure no loose contact between them).

## AFTER SALE SERVICE AND WARRANTY

### WHEN ASKING FOR SERVICE, CHECK THE FOLLOWING POINTS.

CONDITION	CHECK THE FOLLOWING POINTS
<p>If the remote controller is not transmitting a signal. (Remote controller display is dim or blank.)</p>	<ul style="list-style-type: none"> <li>Do the batteries need replacement?</li> <li>Is the polarity of the inserted batteries correct?</li> </ul>
<p>When it does not operate</p>	<ul style="list-style-type: none"> <li>Is the fuse all right?</li> <li>Is the voltage extremely high or low?</li> <li>Is the circuit breaker "ON"?</li> <li>Is the setting of operation mode different from other indoor units?</li> </ul>
<p>When it does not cool well When it does not heat well</p>	<ul style="list-style-type: none"> <li>Is the pre-filter blocked with dust?</li> <li>Does sunlight fall directly on the outdoor unit?</li> <li>Is the air flow of the outdoor unit obstructed?</li> <li>Are the doors or windows opened, or is there any source of heat in the room?</li> <li>Is the set temperature suitable?</li> <li>Are the air inlets or air outlets of indoor and outdoor units blocked?</li> <li>Is the fan speed "LOW" or "SILENT"?</li> </ul>

#### Notes



- In quiet operation or stopping the operation, the following phenomena may occasionally occur, but they are not abnormal for the operation.
  - Slight flowing noise of refrigerant in the refrigerating cycle.
  - Slight rubbing noise from the fan casing which is cooled and then gradually warmed as operation stops.
- The odor will possibly be emitted from the room air conditioner because the various odor, emitted by smoke, foodstuffs, cosmetics and so on, sticks to it. So the pre-filter and the evaporator regularly must be cleaned to reduce the odor.

- Please contact your sales agent immediately if the air conditioner still fails to operate normally after the above inspections. Inform your agent of the model of your unit, production number, date of installation. Please also inform him regarding the fault.
- Power supply shall be connected at the rated voltage, otherwise the unit will be broken or could not reach the specified capacity.

#### NOTE:

- If the supply cord is damaged, it must be replaced by the special cord obtainable at authorized service parts centers.
- On switching on the equipment, particularly when the room light is dimmed, a slight brightness fluctuation may occur. This is of no consequence. The conditions of the local Power Supply Companies are to be observed.

