

USER'S MANUAL

# MATRIX SERIES

ASH-09AIM PT, ASH-13AIM PT



“Original instructions”

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This symbol stands for the items should be forbidden.



This symbol stands for the items should be followed

The products in this manual may be different with the real one, according to different models, some models have displayer and some models without displayer, the position and shape of the displayer please refer to the real one.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.



Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

## ◆ Safety Precautions

Please read the following notices before operation

### WARNING

- ★ If there's abnormal phenomenon (like smell of burning), please cut off the power immediately and then contact with SINCLAIR authorized maintenance center.



If this abnormal status is kept on, air conditioner may be damaged or even cause electric shock or fire.

- ★ Do not operate the air conditioner with wet hands.

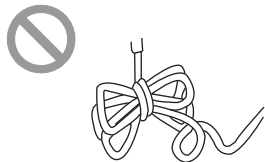


Otherwise, it may cause electric shock.

- ★ Do not cut off or damage the power cord or signal control wire. If the power cord or signal control wire of air conditioner is damaged, please replace it by the professional with specified power cord.

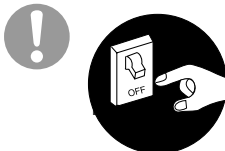


- ★ The special circuit must be adopted for power supply to avoid fire.



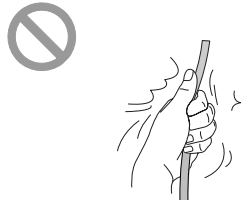
Do not use octopus multipurpose socket or mobile wiring board for wire connection.

- ★ Please cut off the power supply when the air conditioner won't be used for an extended period of time.



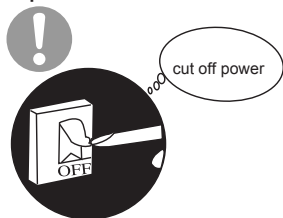
Otherwise, it will accumulate dust and it may cause overheating, fire and other accidents.

- ★ Do not damage the power cord or use unspecified power cord.



Otherwise, it may cause fire due to overheating of power cord.

- ★ Before cleaning the air conditioner, please cut off the power.








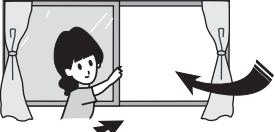

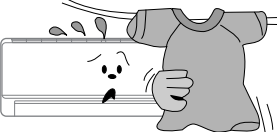
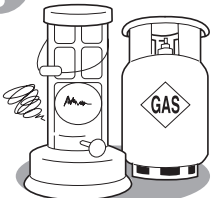

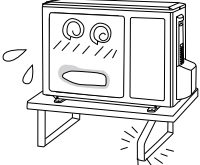

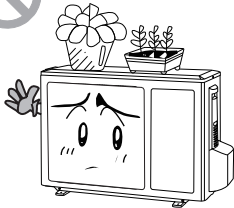

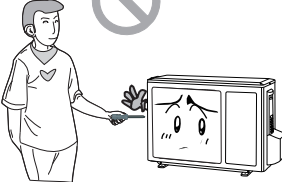
Otherwise, it will cause electric shock or injury.

- ★ Power supply should adopt the special circuit with the protection of air switch and the capacity must be sufficient. Please do not turn on or turn off the air conditioner frequently.

Y-type connection is adopted for the power supply of this air conditioner. If the power cord is damaged, it must be replaced by the manufacture, maintenance center or a similarly qualified person to avoid a hazard.

- ★ When the voltage is too high electric elements can be damaged easily; if the voltage too low, the compressor will vibrate fiercely, which may damage the cooling system or compressor and electric components can't operate.

## ◆ Safety Precautions

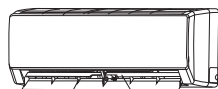
<p>⚠ ★ Earth: The ground be connected!</p>   <p>If not, please ask the qualified personnel to install. Furthermore, don't connect each wire to the gas pipe, water pipe, drainage pipe or any other improper places.</p>	<p>★ Be sure to pull out the power plug when not using the air conditioner for a long time.</p>   <p>Otherwise, the accumulated dust may cause fire or electric shock.</p>	<p>★ Select the most appropriate temperature.</p>  <p>It can preclude the electricity wasted.</p>
<p>★ Don't leave windows and doors open for a long time while operating the air conditioner.</p>  <p>It can decrease the air conditioning capacity.</p>	<p>★ Don't block the air intake or outlet vents of both the outdoor and indoor units.</p>   <p>It can decrease the air conditioning capacity or cause a malfunction.</p>	<p>★ Keep combustible spray away from the units more than 1m.</p>   <p>It can cause a fire or explosion.</p>
<p>★ Please note whether the installed stand is firm enough or not.</p>   <p>If it is damaged, it may lead to the fall of the unit and cause the injury.</p>	<p>★ Don't step on the top of the outdoor unit or place something on it.</p>   <p>As falling off the outdoor unit can be dangerous.</p>	<p>★ Don't attempt to repair the air conditioner by yourself.</p>   <p>The wrong repair will lead to an electric shock or fire, so you should contact the service center to repair.</p>

## ◆ Safety Precautions

- ★ Do not cut off or damage the power cords or control cords. If they are damaged, please contact the dealer or qualified service personnel

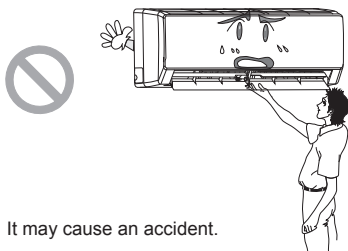


- ★ To change the airflow direction, adjust the vertical air flow direction by using the remote controller or adjust horizontal air flow direction manually.



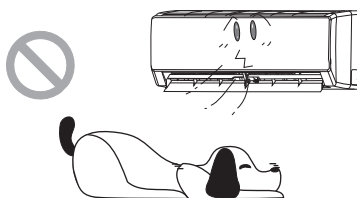
Vertical Louver      Horizontal Louver

- ★ Do not insert your hands or objects into the air inlet or outlet.



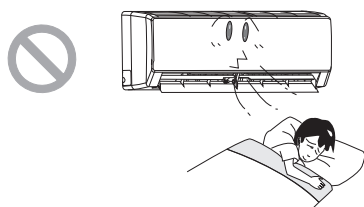
It may cause an accident.

- ★ Do not expose animals or plants directly to the air flow.



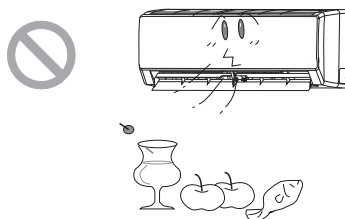
It may have a detrimental effect on them.

- ★ Do not expose yourself to cold air directly for a long time.

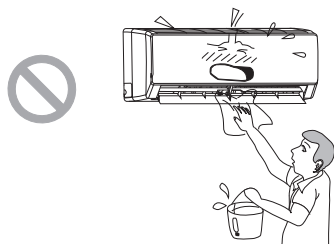


It's not good for your health.

- ★ Do not use the unit for any other purpose, such as preserving food or drying clothes.

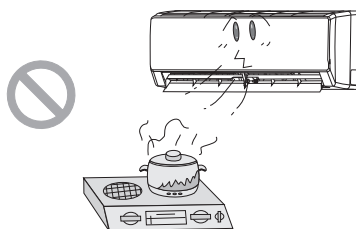


- ★ Do not splash water on the air conditioner.



It may cause electric shock or malfunction.

- ★ Do not place a burner near the air conditioner.



It will cause CO toxicosis due to incomplete burning.

## ◆ Notices for use

### Working principle and special functions for cooling

#### Principle:

Air conditioner absorbs heat in the room and transmit to outdoor and discharged, so that indoor ambient temperature decreased, its cooling capacity will increase or decrease by outdoor ambient temperature.

#### Anti-freezing function:

If the unit is running in COOL mode and in low temperature, there will be frost formed on the heat exchanger, when indoor heat exchanger temperature decreased below 0℃, the indoor unit microcomputer will stop compressor running and protect the unit.

### Working principle and special functions for heating

#### Principle:

- \* Air conditioner absorbs heat from outdoor and transmits to indoor, in this way to increase room temperature. This is the heat pump heating principle, its heating capacity will be reduced due to outdoor temperature decrease.
- \* If outdoor temperature becomes very low, please operate with other heating equipments.

#### Defrosting:

- \* When outdoor temperature is low but high humidity, after a long while running, frost will form on outdoor unit, that will effect the heating effect, at this time, the auto defrosting function will act, the heat running will stop for 8-10mins.
- \* During the auto defrosting, the fan motors of indoor unit and outdoor unit will stop.
- \* During the defrosting, the indoor indicator flashes, the outdoor unit may emit vapor. This is due to the defrosting, it isn't malfunction.
- \* After defrosting finished, the heating will recover automatically.

The climate type of this unit is according to the nameplate.

The external static pressures at which the appliance was tested should be zero Pa.

## ◆ Notices for use

### Anti-cool wind function:

In "Heat" mode, under the following three kinds of state, if indoor heat exchanger doesn't arrive at certain temp., indoor fan will not act, in order to prevent cool wind blowing(within 2 mins):

1. Heating starts. 2.After Auto Defrost finished. 3.Heating under the low temperature.

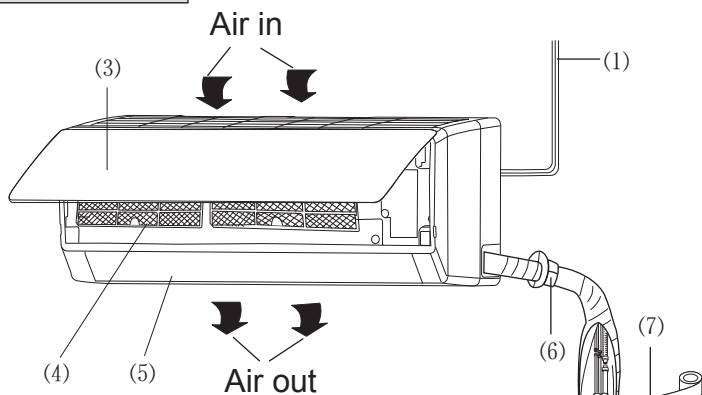
#### ※ Working temperature range

	Indoor sideDB/WB(°C)	Outdoor sideDB/WB(°C)
Maximum cooling	32/23	43/26
Minimum cooling	21/15	21/--
Maximum heating	27/--	24/18
Minimum heating	20/--	-5/-6

The operating temperature range (outdoor temperature) for cooling unit is -15℃~43℃ ; for cooling and heating unit is -20 ℃~43℃ .

## ◆ Name of Parts

### Indoor unit

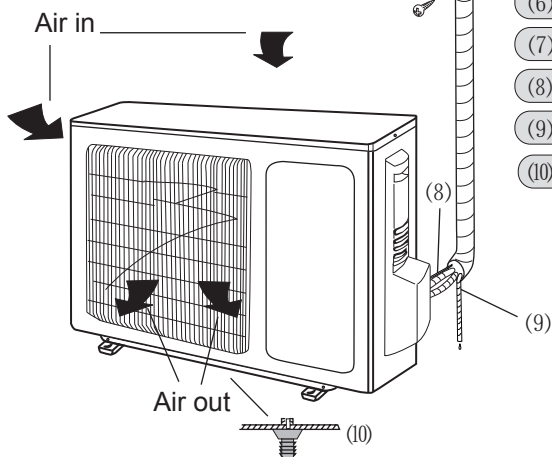


The icons displayed:

- ☀ : Cool
- 💧 : Dry
- ☀ : Heat
- ⏻ : Power
- BB : Set temp.



### Outdoor unit



- (1) Power cord
- (2) Remote controller
- (3) Front panel
- (4) Filter
- (5) Horizontal louver
- (6) Wall pipe
- (7) Binding tape
- (8) Connection wires
- (9) Drain hose
- (10) Drain connector

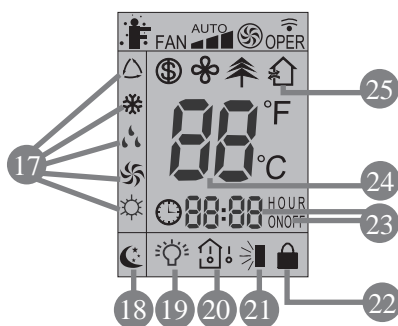
## ◆ Operation of Remote Controller



**Note:** This remote controller is universal and can be used for multi-functional air conditioning. If the button on the remote controller with the function which the air conditioner doesn't have is pressed, the unit remains in its original operating mode.

- 1 ON/OFF**  
Press it to start or stop operation.
- 2 -** : Press it to decrease temperature setting.
- 3 +** : Press it to increase temperature setting.
- 4 MODE**  
Press it to select operation mode (AUTO/COOL/DRY/FAN/HEAT).
- 5 FAN**  
Press it to set fan speed.
- 6 SWING**  
Press it set swing angle.
- 7 I FEEL**(Page 8)
- 8**   
Press it to set HEALTH function.
- 9 SLEEP**( page 9)
- 10 TEMP**( page 9)
- 11 TIMER ON**  
Press it to set auto-on timer.
- 12 CLOCK**  
Press it set clock.
- 13 TIMER OFF**  
Press it to set auto-off timer.
- 14 TURBO**( page 9)
- 15 LIGHT**  
Press it to turn on/off the light.
- 16 X-FAN** ( page 9)

## ◆ Operation of Remote Controller



### 17 MODE icon:

If MODE button is pressed, current operation mode icon  $\triangle$  (AUTO),  $\ast$  (COOL),  $\text{flame}$  (DRY),  $\text{fan}$  (FAN) or  $\text{sun}$  (HEAT only for heat pump models) will show.

### 18 SLEEP icon :

$\text{moon}$  is displayed by pressing the SLEEP button. Press this button again to clear the display.

### 19 LIGHT icon:

$\text{light bulb}$  is displayed by pressing the LIGHT button. Press LIGHT button again to clear the display.

### 20 TEMP icon:

Pressing TEMP button,  $\text{house with up arrow}$  (set temperature),  $\text{house with up arrow and thermometer}$  (indoor ambient temperature)  $\text{house with down arrow and thermometer}$  (outdoor ambient temperature) and blank is displayed circularly. Not possible with ASH-09AIM PT and ASH-13AIM PT

### 21 Up & down swing icon:

$\text{fan with up and down arrows}$  is displayed when pressing the up & down swing down button. Press this button again to clear the display.

### 22 LOCK icon:

$\text{lock}$  is displayed by pressing "+" and "-" buttons simultaneously. Press them again to clear the display.

### 23 SET TIME display:

After pressing TIMER button, HOUR ON or OFF will blink. This area will show the set time.

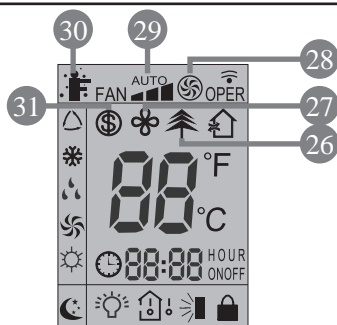
### 24 DIGITAL display:

This area will show the set temperature. In SAVE mode, "SE" will be displayed.

### 25 AIR icon:

$\text{house with air flow arrows}$  is displayed when pressing the AIR button. Not possible with ASH-09AIM PT and ASH-13AIM PT

## ◆ Operation of Remote Controller



### 26 HEALTH icon:

↑ is displayed when pressing the HEALTH button. Press this button again to quit this function.

### 29 FAN SPEED display:

Press FAN button to select the desired fan speed setting(AUTO-Low-Med-High). Your selection will be displayed in the LCD windows, except the AUTO fan speed.

### 27 X-FAN icon:

✻ is displayed when pressing the X-FAN button. Press this button again to clear the display.

### 30 I FEEL icon:

👤 is displayed when pressing the I FEEL button. Press this button again to clear the display.

### 28 TURBO icon:

🌀 is displayed when pressing the TURBO button. Press this button again to clear the display.

### 31 8°C Heating icon:

💵 is displayed when Pressing "TEMP" and "CLOCK" simultaneously in Heat mode

## ◆ Operation of Remote Controller

### Remote Controller Description

#### 1 ON/OFF :

Press this button to turn on the unit .Press this button again to turn off the unit.

#### 2 — :

Press this button to decrease set temperature. Holding it down above 2 seconds rapidly decreases set temperature. In AUTO mode, set temperature is not adjustable.

#### 3 + :

Press this button to increase set temperature.Holding it down above 2 seconds rapidly increases set temperature. In AUTO mode, set temperature is not adjustable.

#### 4 MODE :

Each time you press this button,a mode is selected in a sequence that goes from AUTO, COOL, DRY, FAN, and HEAT \*, as the following:

AUTO ► COOL ► DRY ► FAN ► HEAT \*

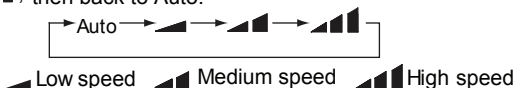


\*Note:Only for models with heating function.

After energization, AUTO mode is defaulted. In AUTO mode, the set temperature will not be displayed on the LCD, and the unit will automatically select the suitable operation mode in accordance with the room temperature to make indoor room comfortable.

#### 5 FAN :





This button is used for setting Fan Speed in the sequence that goes from AUTO, Low speed, Medium speed, High speed, then back to Auto.



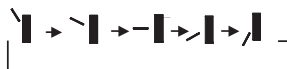
#### 6 SWING:

Press this button to set up &down swing angle, which circularly changes as below:



This remote controller is universal . If any command  ,  or  is sent out, the unit will carry out the command as 


 indicates the guide louver swings as:



#### 7 I FEEL:

Press this button to turn on I FEEL function. The unit automatically adjust temperature according to the sensed temperature. Press this button again to cancel I FEEL function.

#### 8 :




Press this button to achieve the on and off of healthy function in operation status. Press this button to start the function. LCD displays "". Press the button for the second time to stop healthy function.

## ◆ Operation of Remote Controller

### 9 SLEEP:


Press this button to go into the SLEEP operation mode. Press it again to cancel this function. This function is available in COOL , HEAT (Only for models with heating function) or DRY mode to maintain the most comfortable temperature for you.

### 10 TEMP:



Pressing TEMP button,  (set temperature),  (indoor ambient temperature) and  (outdoor ambient temperature) and blank is displayed circularly .The unit defaults not to display the icon. During operation of TEMP button, the set temperature is always displayed.  
Note: Outdoor ambient temperature is only displayed for some models.

### 11 TIMER ON :

Press this button to initiate the auto-ON timer. To cancel the auto-timer program, simply press this button again.

After press of this button,  disappears and "ON "blinks .00:00 is displayed for ON time setting. Within 5 seconds, press + or - button to adjust the time value. Every press of either button changes the time setting by 1 minute. Holding down either button rapidly changes the time setting by 1 minute and then 10 minutes. Within 5 Seconds after setting, press TIMER ON button to confirm.

### 12 CLOCK :

Press CLOCK button,  blinking. Within 5 seconds, pressing + or - button adjusts the present time. Holding down either button above 2 seconds increases or decreases the time by 1 minute every 0.5 second and then by 10 minutes every 0.5 second. During blinking after setting, press CLOCK button again to confirm the setting, and then  will be constantly displayed.



### 13 TIMER OFF :

Press this button to initiate the auto-off timer. To cancel the auto-timer program, simply press the button again. TIMER OFF setting is the same as TIMER ON.


### 14 TURBO:

Press this button to activate / deactivate the Turbo function which enables the unit to reach the preset temperature in the shortest time. In COOL mode, the unit will blow strong cooling air at super high fan speed. In HEAT mode, the unit will blow strong heating air at super high fan speed.

### 15 LIGHT:

Press LIGHT button to turn on the display's light and press this button again to turn off the display's light. If the light is turned on ,  is displayed. If the light is turned off,  disappears.



### 16 X-FAN:

Pressing X-FAN button in COOL or DRY mode, the icon  is displayed and the indoor fan will continue operation for 2 minutes in order to dry the indoor unit even though you have turned off the unit.

After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO, FAN or HEAT mode.

## ◆ Operation of Remote Controller

### 17 Combination of "+" and "-" buttons: About lock

Press "+" and "-" buttons simultaneously to lock or unlock the keypad. If the remote controller is locked,  is displayed. In this case, pressing any button,  blinks three times.

### 18 Combination of "MODE" and "-" buttons : About switch between Fahrenheit and centigrade

At unit OFF, press "MODE" and "-" buttons simultaneously to switch between °C and °F .

### 19 Combination of "TEMP" and "CLOCK" buttons : About Energy-saving Function

Press "TEMP" and "CLOCK" simultaneously in COOL mode to start energy-saving function. Nixie tube on the remote controller displays "SE". Repeat the operation to quit the function.

### 20 Combination of "TEMP" and "CLOCK" buttons : About 8 °C Heating Function

Press "TEMP" and "CLOCK" simultaneously in HEAT mode to start 8 °C Heating Function. Nixie tube on the remote controller displays "8" and a selected temperature of "8 °C". (46°F if Fahrenheit is adopted). Repeat the operation to quit the function.

### 21 About Back-lighting Function

The unit lights for 4s when energizing for the first time, and 3s for later press.

## Replacement of Batteries

1.Remove the battery cover plate from the rear of the remote controller.

(As shown in the figure)

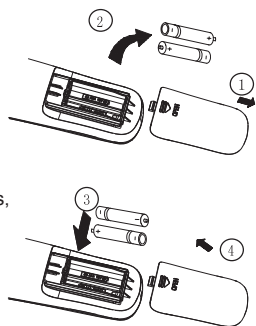
2.Take out the old batteries.

3.Insert two new AAA1.5V dry batteries, and pay attention to the polarity.

4. Reinstall the battery cover plate.

#### ★ Notes:

- When replacing the batteries, do not use old or different types of batteries, otherwise, it may cause malfunction.
- If the remote controller will not be used for a long time, please remove batteries to prevent batteries from leaking.
- The operation should be performed in its receiving range.
- It should be kept 1m away from the TV set or stereo sound sets.
- If the remote controller does not operate normally, please take the batteries out and reinsert them after 30 seconds.If it still can't operate properly, replace the batteries.



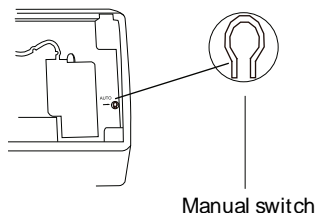
Sketch map for replacing batteries

## ◆ Emergency Operation

### Emergency Operation

When the remote controller is lost or damaged, please use the manual switch on the main unit. In that case, the unit will operate in AUTO mode and the temperature setting or fan speed can not be changed.

The manual switch can be operated as below:



- **Turn on the unit:** Press AUTO/STOP button to enter AUTO mode.

The microcomputer will select the mode (COOL, HEAT, FAN) automatically according to the room temperature for reaching comfortable effect.

- **Turn off the unit:** Press the AUTO/STOP button to switch off the unit.

- The operation mode is seen in the following table.

Mode	Model	Temperature setting	Airflow rate
AUTO	COOLING	25°C ( COOL,FAN)	AUTO
AUTO	HEAT PUMP	25°C ( COOL,FAN)	AUTO
AUTO	HEAT PUMP	20°C ( HEAT)	AUTO

- This switch is to be applied when the remote controller is missing.

## Clean and Care



### Caution

- Disconnect the power supply before cleaning and maintenance.
- Do not splash water on the units for cleaning, as electric shocks may occur.
- Wipe the units with a dry soft cloth, or a cloth slightly moistened with water or cleaner (not with volatile liquid such as thinner or gasoline).

### Cleaning the Front Panel

Remove the front panel. Dip a piece of cloth into the water colder than 45 °C and dry it. Then wipe the dirty part of front panel.

Note: Do not immerse the front panel into water so as to protect microcomputer components and circuit diagram on the front panel.

### Cleaning the Air Filter (every 3 months)

Note: Do not touch the fin of indoor unit during cleaning to avoid personal injury.

#### ① Take down the air filter

Lift up the front panel.

Pull the air filter downwards to take it off, as shown in Fig.(a, b).



(Fig. a)

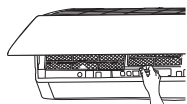
#### ② Clean the air filter

Use a vacuum cleaner to remove dust.

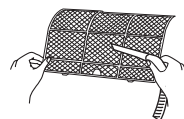
If the filter are dirty, wash them with warm water and a mild detergent.

Dry the filters in the shade.

Note: Never use water above 45 °C to clean the air filter or it can cause deformation or discoloration.



(Fig. b)



#### ③ Reinstall the air filter

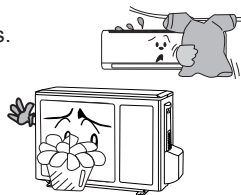
Reinstall the filters along the direction of arrowhead. Close the panel.



## ◆ Clean and care

### Check before use

- ① Be sure that nothing obstructs the air outlet and intake vents.
- ② Check that whether ground wire is properly connected or not.
- ③ Check that whether the batteries of air conditioner are changed or not.
- ④ Check that whether the installation stand of the outdoor unit is damaged or not. If damaged, please contact the dealer.



### Maintain after use

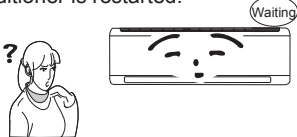
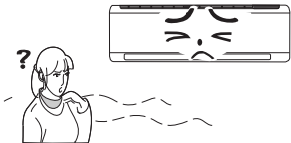
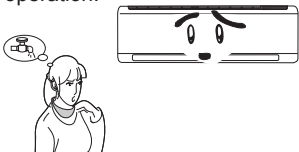

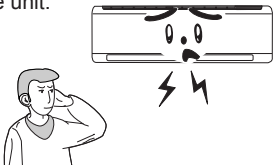
- ① Turn main power off.
- ② Clean the filter and indoor and outdoor units' bodies.
- ③ Clear dust and obstructions from the outdoor unit.
- ④ Repaint the rubiginous place on the outdoor unit to prevent it from spreading.
- ⑤ Adopt the special shield to cover the outdoor unit, avoid the rain water, dust enter into the unit and get rust.

## ◆ Troubleshooting

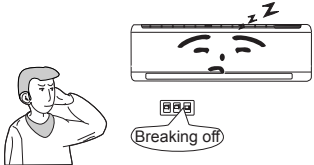
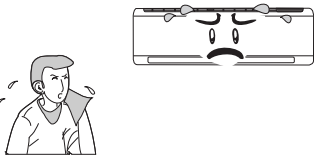
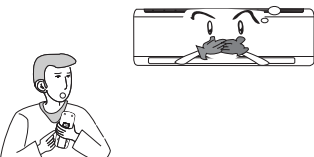


### CAUTION

Don't attempt to repair the air conditioner by yourself, it can cause an electric shock or fire. Please check the following items before asking for repair, it can save your time and money.

Phenomenon	Troubleshooting
<p>Not operate immediately when the air conditioner is restarted.</p> 	<ul style="list-style-type: none"> <li>Once the air conditioner is stopped, it will not operate in approximately 3 minutes to protect itself.</li> </ul>
<p>There's unusual smell blowing from the outlet after operation is started.</p> 	<ul style="list-style-type: none"> <li>The unit has no peculiar smell by itself. If has, that is due to the smell accumulated in the ambient.</li> <li>Solution method: Cleaning the filter. If problem still has, so need to clean air conditioner. (Please contact with the authorized maintenance center.)</li> </ul>
<p>Sound of water flow can be heard during the operation.</p> 	<ul style="list-style-type: none"> <li>The air conditioner is started, when it is running the compressor started or stopped running, or the unit is stopped, sometimes there is swoosh or gurgle, the sound is due to refrigerant flowing they are not malfunctions.</li> </ul>
<p>In COOL mode, sometimes the mist emitted from the air outlet vent.</p> 	<ul style="list-style-type: none"> <li>When the indoor temperature and humidity are very high, this phenomenon would happen. This is caused by the room air is swiftly cooled down. After running for a while, indoor temperature and humidity will fall down, the mist will die away.</li> </ul>
<p>Creaking noise can be heard when start or stop the unit.</p> 	<ul style="list-style-type: none"> <li>This is caused by the deformation of plastic due to the changes of temperature.</li> </ul>

## ◆ Troubleshooting

Phenomenon	Troubleshooting
<p>The unit can not run.</p> 	<ul style="list-style-type: none"> <li>● Has the power been shut down?</li> <li>● Is power plug loosed?</li> <li>● Is the circuit protection device tripped off or not?</li> <li>● Is voltage higher or lower? (Tested by professionals)</li> <li>● Is the TIMER correctly used?</li> </ul>
<p>Cooling(Heating) efficiency is not good.</p> 	<ul style="list-style-type: none"> <li>● Is Temp. setting suitable?</li> <li>● Were inlet and outlet vents obstructed?</li> <li>● Is filter dirty?</li> <li>● Are the windows and doors clothed?</li> <li>● Did Fan speed set at low speed?</li> <li>● Is there any heat sources in the room?</li> </ul>
<p>Wireless remote control is not available.</p> 	<ul style="list-style-type: none"> <li>● The unit is interfered by abnormal or frequent functions switchover occasionally the controller cannot operate. At this time, you need to pull out of the plug, and reinsert it.</li> <li>● Is it in its receiving range? Or obstructed? To check the voltage in wireless remote control inside is charged, otherwise to replace the batteries.</li> <li>● Whether the wireless remote control is damaged.</li> </ul>
<p>If water leakage in the room.</p>	<ul style="list-style-type: none"> <li>● The air humidity is on the high side.</li> <li>● Condensing water over flowed.</li> <li>● The connection position of indoor unit drainage pipe is loosed.</li> </ul>
<p>If water leakage in outdoor unit.</p>	<ul style="list-style-type: none"> <li>● When the unit is running in COOL mode, the pipe and connection of pipe would be condensed due to the water cooled down.</li> <li>● When the unit is running in Auto Defrosting mode the ice thawed and flowed out.</li> <li>● When the unit is running in HEAT mode, the water adhered on heat exchanger dripped off.</li> </ul>
<p>Noise from indoor unit emitted.</p>	<ul style="list-style-type: none"> <li>● The sound of fan or compressor relay is switching on or off.</li> <li>● When the defrosting is started or stop running, it will sound. That is due to the refrigerant flowed to the reverse direction.</li> </ul>

## ◆ Troubleshooting

Phenomenon	Troubleshooting
Indoor unit cannot deliver air.	<ul style="list-style-type: none"> <li>● In HEAT mode, when the temperature of indoor heat exchanger is very low, that will stop deliver air in order to prevent cool air. (Within 2min)</li> <li>● In HEAT mode, when the outdoor temperature is low or high humidity, there are much frost be formed on the outdoor heat exchanger, that the unit will automatically defrost, indoor unit stop blowing air for 3-12min. During the defrosting, there is water flowing out or vapor be produced.</li> <li>● In dehumidifying mode, sometimes indoor fan will stop, in order to avoid condensing water be vaporized again, restrain temperature rising.</li> </ul>
Moisture on air outlet vent.	<ul style="list-style-type: none"> <li>● If unit is running under the high humidity for a long time, the moisture will be condensed on the air outlet grill and drip off.</li> </ul>



**Immediately stop all operations and plug out, contact the dealer in following situations.**

There is harsh sound during operation.  
 The terrible odors emitted during operation.  
 Water is leaking in the room.  
 Air switch or protection switch often breaks.  
 Carelessly splash water or something into unit.  
 There is an abnormal heat in power supply cord and power plug.



Stop running and pull out of the plug.

## ◆ Notices for installation



### Important Notices

1. The unit installation work must be done by qualified personnel according to the local rules and this manual.
2. Before installation, please contact with local authorized maintenance center, if unit is not installed by the authorized maintenance center, the malfunction may not solved, due to discommodious contacts.
3. When removing the unit to the other place, please firstly contact with the authorized Maintenance Center in the local area.

### Basic Requirements For Installation Position

Install in the following place may cause malfunction. If it is unavoidable contact with service center please:

- Place where strong heat sources, vapors, flammable gas or volatile object are emitted.
- Place where high-frequency waves are generated by radio equipment, welders and medical equipment.
- Place where a lot of salinities such as coast exists.
- Place where the oil (machine oil) is contained in the air.
- Place where a sulfured gas such as the hot spring zones is generated.
- Other place with special circumstance.

### Indoor Unit Installation Position Selection

1. The air inlet and outlet vent should be far from the obstruction, make sure that the air can be blown through the whole room.
2. Select a position where the condensing water can be easily drained out, and the place is easily connected for outdoor unit.
3. Select a location where the children can not reach.
4. Can select the place where is strong enough to withstand the full weight and vibration of the unit. And will not increase the noise.
5. Be sure to leave enough space to allow access for routine maintenance. The height of the installed location should be 250cm or more from the floor.
6. Select a place about 1m or more away from TVset or any other electric appliances.
7. Select a place where the filter can be easily taken out.
8. Make sure that the indoor unit installation should accord with installation dimension diagram requirements.
9. Do not use the unit in the immediate surroundings of a laundry a bath a shower or a swimming pool.

### Outdoor Unit Installation Position Selection

1. Select a location from which noise and outflow air emitted by unit will not inconvenience neighbors, animals, plants.
2. Select a location where there should be sufficient ventilation.
3. Select a location where there should be no obstructions cover the inlet and outlet vent.
4. The location should be able to withstand the full weight and vibration of the outdoor unit and permit safe installation.
5. Select a dry place, but do not expose under the direct sunlight or strong wind.
6. Make sure that the outdoor unit installation dimension should accord with installation dimension diagram, convenient for maintenance, repair.
7. The height difference of connecting the tubing within 5m, the length of connecting the tubing within 10m.
8. Select a place where it is out of reach for the children.
9. Select a place where will not block the passage and do not influence the city appearance.

## ◆ Notices for installation

### Safety Requirements For Electric Appliances

1. The power supply should be used the rated voltage and AC exclusive circuit, the power cable diameter should be satisfied.
2. Don't drag the power cable emphatically.
3. It should be reliably earthed, and it should be connected to the special earth device, the installation work should be operated by the professional.  
The air switch must have the functions of magnetic tripping and heat tripping, in order to protect the short circuit and overloading.
4. The min. distance from the unit and combustive surface is 1.5m.
5. The appliance shall be installed in accordance with national wiring regulations.
6. An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.

#### Note:

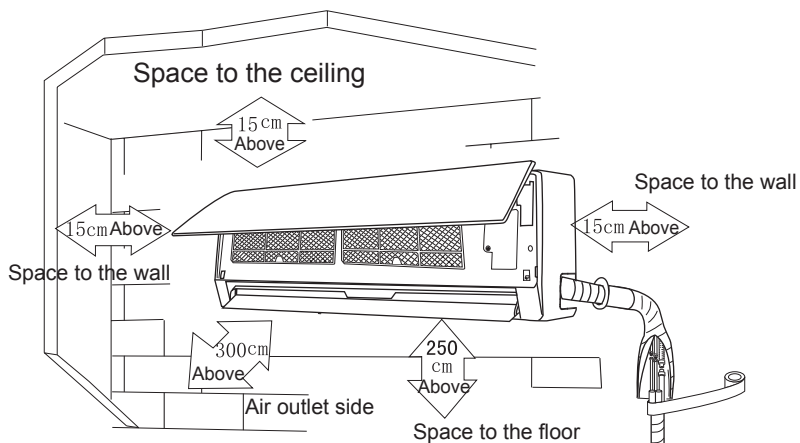
- Make sure that the Live wire or Zero line as well as the earth wire in the family power socket can not be wrong connected, there should be reliable and no short circuit in the diagram.
- wrong connection may cause fire.

### Earthing requirements

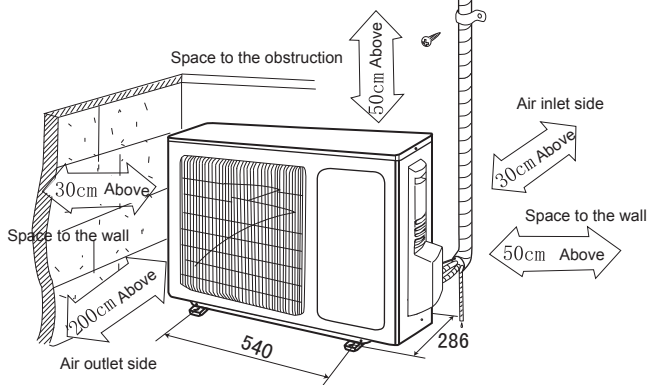
1. Air conditioner is type I electric appliance, thus please do conduct reliable earthing measure.
2. The yellow-green two-color wire in air conditioner is earthing wire and cannot be used for other propose. It cannot be cut off and be fix it by screw, otherwise it would cause electric shock.
3. The earth resistance should accord to the National Criterion.
4. The user power must offer the reliable earthing terminal. Please don't connect the earthing wire with the following place:
  - ① Tap water pipe.
  - ② Gas pipe.
  - ③ Contamination pipe.
  - ④ Other places that professional personnel consider them unreliable.
5. The model and rating values for fuses according the silk print on fuse cover or related PCB board.

## ◆ Installation dimension diagram

Installation dimension diagram



- The dimensions of the space necessary for correct installation of the appliance including the minimum permissible distances to adjacent structures



## Installation of Indoor Unit

### Installation of Mounting Plate

1. Mounting plate should be installed horizontally. As the water tray's outlet for the indoor unit is two-way type, during installation, the indoor unit should slightly slant to water tray's outlet for smooth drainage of condenser water.
2. Fix the mounting plate on the wall with screws.
3. Be sure that the mounting plate has been fixed firmly enough to withstand about 60 kg. Meanwhile, the weight should be evenly shared by every screw.

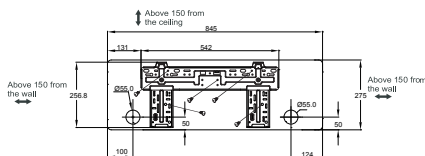
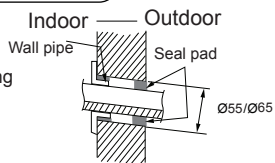


Fig.5

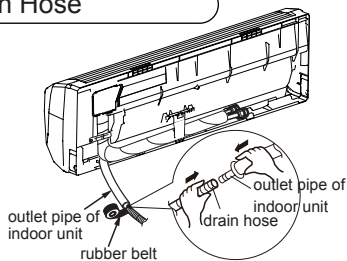
### Drill Piping Hole

1. Slant the piping hole ( $\Phi 55/\Phi 65$ ) on the wall slightly downward to the outdoor side.
2. Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the hole.

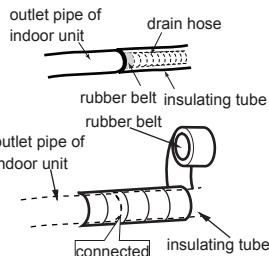


### Installation of Drain Hose

1. Connect the drain hose to the outlet pipe of the indoor unit. Bind the joint with rubber belt.

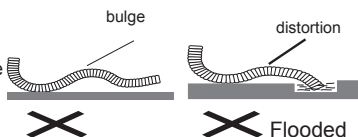


2. Put the drain hose into insulating tube.



3. Wrap the insulating tube with wide rubber belt to prevent the shift of insulating tube. Slant the drain hose downward slightly for smooth drainage of condensing water.

Note: The insulating tube should be connected reliably with the sleeve outside the outlet pipe. The drain hose should be slanted downward slightly, without distortion, bulge or fluctuation. Do not put the outlet in the water.



## ◆ Installation of Indoor Unit

### Connecting Indoor and Outdoor Electric Wires

1. Open the front panel.
2. Remove the wiring cover and wire clamp. Make the power connection cord pass through the hole at the back of indoor unit.
3. Connect and fix the power connection cord to the terminal board. (As shown in Fig.6)
4. Fix the power connection cord with wire clamp and reinstall wiring cover.
5. Reinstall the front panel.

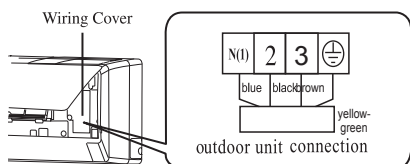


Fig.6

### NOTE:

All wires between indoor and outdoor units must be connected by the qualified electric contractor.

- Electric wires must be connected correctly. Improper connection may cause malfunction.
- Tighten the terminal screws tightly.
- After tightening the screws, pull the wire slightly to confirm whether it's firm or not.
- Make sure that the electric connections are earthed properly to prevent electric shock.
- Make sure that all wiring connections are secure and the cover plates are reinstalled properly. Poor installation may cause fire or electric shock.

## ◆ Installation of Indoor Unit

### Installation of Indoor Unit

- The piping can be output from right, right rear, left or left rear.

1. When routing the piping and wiring from the left or right side of indoor unit, cut off the tailings from the chassis when necessary (As shown in Fig.7)
  - (1) Cut off the tailings 1 when routing the wiring only;
  - (2) Cut off the tailings 1 and tailings 2 when routing both the wiring and piping.
2. Take out the piping from body case, wrap the piping, power cords, drain hose with the tape and then make them pass through the piping hole. (As shown in Fig.8)
3. Hang the mounting slots of the indoor unit on the upper hooks of the mounting plate and check if it is firm enough. (As shown in Fig.9)
4. The installation site should be 250cm or more above the floor.

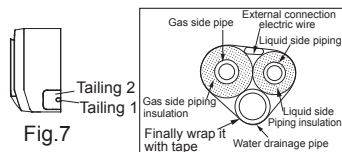


Fig.7

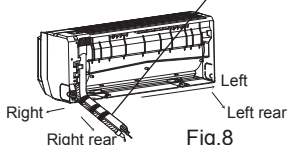


Fig.8

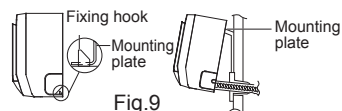
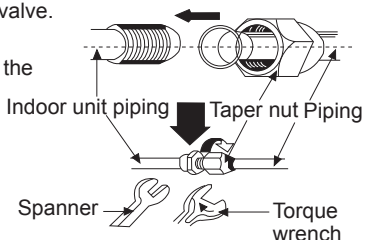


Fig.9

### Installation of Connection Pipe

1. Align the center of the piping flare with the related valve.
2. Screw in the flare nut by hand and then tighten the nut with spanner and torque wrench by referring to the following:

Hex nut diameter	Tightening torque (N • m)
Φ6	15~20
Φ 9. 52	30~40
Φ 12	45~55
Φ 16	60~65
Φ 19	70~75

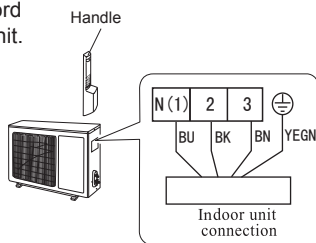


NOTE: Connect the connection pipe to indoor unit at first and then to outdoor unit. Handle piping bending with care. Do not damage the connection pipe. Ensure that the joint nut is tightened firmly, otherwise, it may cause leakage.

## ◆ Installation of Outdoor Unit

### Electric wiring

1. Remove the handle on the right side plate of outdoor unit.
2. Take off wire clamp. Connect and fix power connect cord to the terminal board. Wiring should fit that of indoor unit.
3. Fix the power connection cable with wire clamp.
4. Confirm if the wire has been fixed properly.
5. Reinstall the handle.



#### NOTE:

- Wrong wiring may cause spare parts malfunction.
- After the cable fixed, make sure there should be a free space between the connection and connection and fixing place on the lead wire.

### Air purging and leakage test

1. Connect charging hose of manifold valve to charge end of low pressure valve (both high/low pressure valves must be tightly shut).
2. Connect joint of charging hose to vacuum pump.
3. Fully open handle handle of Lo manifold valve.
4. Open the vacuum pump to evacuate. At the beginning, slightly loosen joint nut of low pressure valve to check if there is air coming inside. (If noise of vacuum pump has been changed, the reading of multimeter is 0) Then tighten the nut.
5. Keep evacuating for more than 15mins and make sure the reading of multi-meter is  $-1.0 \times 10^5 \text{ pa}$  ( $-76 \text{ cmHg}$ ).
6. Fully open high/low pressure valves.
7. Remove charging hose from charging end of low pressure valve.
8. Tighten bonnet of low-pressure valve. (As shown in Fig.10)

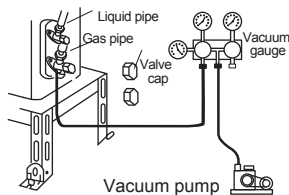
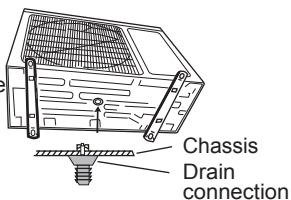


Fig. 10

### Condensate drainage of outdoor unit (no for cooling only)

The condensate and defrosting water formed during heating in the outdoor unit can be properly discharged by drainage pipe.

Installation method: set the drain connection in  $\varnothing 25$  hole of the chassis has been installed and then connect drainage pipe with drain nozzle, so that condensate and defrosting water can be properly discharged



## ◆ Check after installation and test operation

### Check after installation

Items to be checked	Possible malfunction
Has it been fixed firmly?	The unit may drop, shake or emit noise.
Have you done the refrigerant leakage test?	It may cause insufficient cooling(heating) capacity
Is heat insulation sufficient?	It may cause condensation and dripping.
Is water drainage well?	It may cause condensation and dripping.
Is the voltage in accordance with the rated voltage marked on the nameplate?	It may cause electric malfunction or damage the part.
Is the electric wiring and piping connection installed correctly and securely?	It may cause electric malfunction or damage the part.
Has the unit been connected to a secure earth connection?	It may cause electrical leakage.
Is the power cord specified?	It may cause electric malfunction or damage the part.
Is the inlet and outlet been covered?	It may cause insufficient cooling(heating) capacity.
Has the length of connection pipes and refrigerant capacity been recorded?	The refrigerant capacity is not accurate.

### Test Operation

#### 1. Before test operation

- (1) Do not switch on power before installation is finished completely.
- (2) Electric wiring must be connected correctly and securely.
- (3) Cut-off valves of the connection pipes should be opened.
- (4) All the impurities such as scraps and thrums must be cleared from the unit.

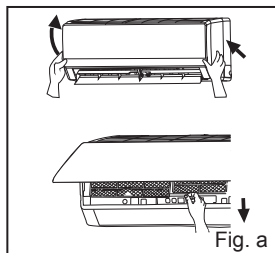
#### 2. Test operation method

- (1) Switch on power, press "ON/OFF" button on the wireless remote control to start the operation.
- (2) Press MODE button, to select the COOL, HEAT (Cooling only unit is not available), FAN to check whether the operation is normal or not.

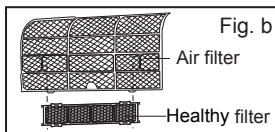
## ◆ Installation and Maintenance of Healthy Filter

### Installation of Healthy Filter

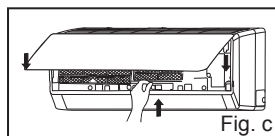
1. Lift up the front panel from the two ends of it, as shown by the arrow direction, and then remove the air filter.(as shown in Fig.a)



2. Attach the healthy filter onto the air filter, (as shown in Fig.b).



3. Install the air filter properly along the arrow direction in Fig.c, and then close the panel .



### Cleaning and Maintenance

Remove the healthy filter and reinstall it after cleaning according to the installation instruction. Don't use brush or hard things to clean the filter. After cleaning, be sure to dry it in the shade.

### Service Life

The general service life for the healthy filter is about one year under normal condition. As for silver ion filter, it is invalid when its surface becomes black (green).

- This supplementary instruction is provided for reference to the unit with healthy filter. If the graphics provided herein is different from the actual product, please refer to the actual product. The quantity of healthy filters is based on the actual delivery.





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