

# Indoor Unit Operation & Installation Manual

AC092MDERA

AC122MDERA

AC162MDERA

AC182MDERA

AC242MDERA

AC282MDERA

AC302MDERA

AC382MDERA

AC482MDERA

No. 0150538640

- Please read this manual carefully before using.
- Keep this operation manual for future reference.

Original instructions

# User Manual

<b>Contents</b>	
Parts and Functions.....	1
Safety .....	2
Maintenance .....	5
Fault Checkup .....	6
Installation Procedures.....	7
Electrical Wiring.....	14
Test Run & Fault Code .....	18
Move and scrap the air conditioning.....	19

- The indoor unit, suspended to ceiling or standing on floor, renders considerable operating ease and flexibility.
- With its ultra-thin design, dazzling exterior and space economy, the indoor unit fits in well with indoor scenarios.
- Boasting superb power and fast temperature tuning, the indoor unit delivers undeniable comforts and pleasures whenever you feel like wanting the same.
- Highly efficient silencing technology greatly reduces operating noises and delivers natural comforts.
- In case of sudden blackout during operation, the indoor unit, with its Blackout Retrieval function preset, is capable of retrieving its operating status prior to the blackout when power supply is restored.
- Integrated Control is available with the indoor unit (through integrated controller).
- Multi-connected unit series features "uniform control mode", i.e., all indoor units are restricted to run on heating or cooling mode at the same time.
- For the protection of compressor, the air conditioning unit shall be powered for over 12 hours.

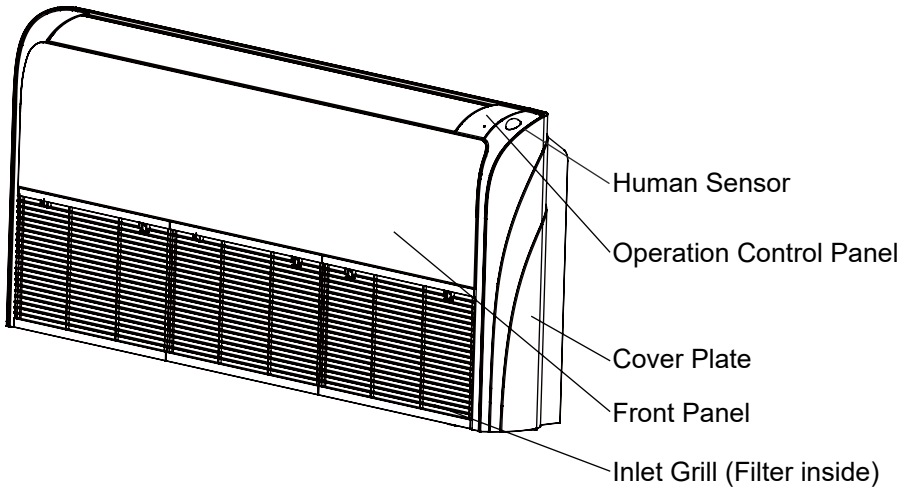
**Warning**

- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- 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.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
- The appliances are not intended to be operated by means of an external timer or separate remote-control system.
- Keep the appliance and its cord out of reach of children less than 8 years.

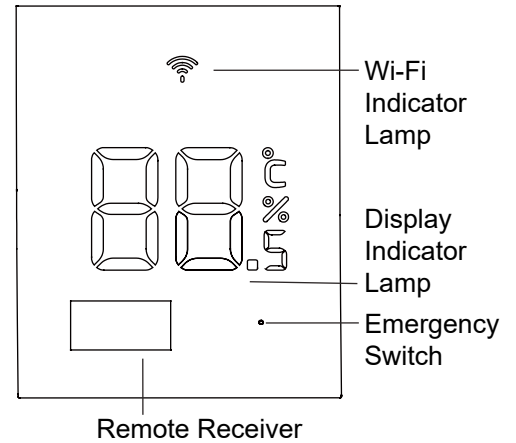
Mode	Location	Max.	DB:32°C	WB:23°C
		Min.	DB:18°C	WB:14°C
Cooling dry	Indoor	Max.	DB:43°C	WB:26°C
		Min.	DB:-5°C	
Heating	Indoor	Max.	DB:27°C	
		Min.	DB:15°C	
	Outdoor	Max.	DB:21°C	WB:15°C
		Min.	DB:-15°C	

# Parts and Functions

## Indoor unit



### Operating Control Panel



### Note:

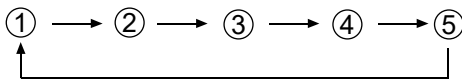
For the wired control type unit, the unit state should be checked by the wired controller, instead of the remote receiver. And if you set the TIMER function, the TIMER LED on the remote receiver will not be on.

## Wind Direction Regulation

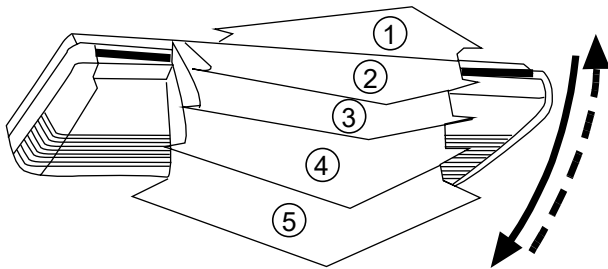
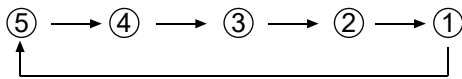
### Auto Airflow

Press Up/Down Airflow button, outlet guide plate changes posture as follows:

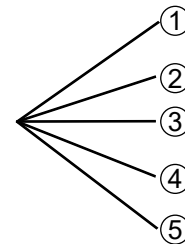
COOL/DRY/FAN:



HEAT:



Upper/Lower Guide Plates Swing Range:



Air Guide Plate Positioning	Swing Range
①	① → ③
②	① → ③
③	② → ④
④	③ → ⑤
⑤	① → ⑤ (All Covered)

## Fixing Outlet Direction

Decide upon a proper angle when guide plates move in auto airflow mode and press Wind Direction button to fix wind direction.

Upper/lower flaps commanding airflow directions shall be positioned as follow when fixing wind directions:

Upward in cooling and drying mode

Downward in heating mode

- Make sure that outlet plates or flaps are adjusted only and always through the Wind Direction button on remote control; manual adjusting may cause malfunction.
- Outlet guide plates constantly positioned downwards are prohibited when cooling and drying modes are activated as vapor close to outlet grille may condense and resultant water may drip down from the unit.
- Please pay close attention to temperature regulation values when operating the unit in places where infants, children, old people and patients are to be found.

# Safety

---

- If the air conditioner is transferred to a new user, this manual shall be transferred to the user, together with the conditioner.
- Before installation, be sure to read Safety Considerations in this manual for proper installation.
- The safety considerations stated below is divided into "⚠WARNING" and "⚠CAUTION". The matters on severe accidents caused from wrong installation, which is likely to lead to death or serious injury, are listed in "⚠WARNING". However, the matters listed in "⚠CAUTION" are also likely cause the severe accidents. In general, both of them are the important items related to the security, which should be strictly abided by.
- After the installation, perform test run to make sure everything is in normal conditions, and then operate and maintain the air conditioner in accordance with the User Manual. The User Manual should be delivered to the user for proper keeping.



## ⚠WARNING

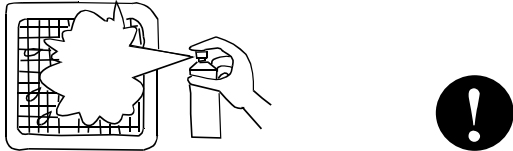
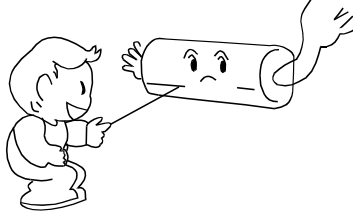
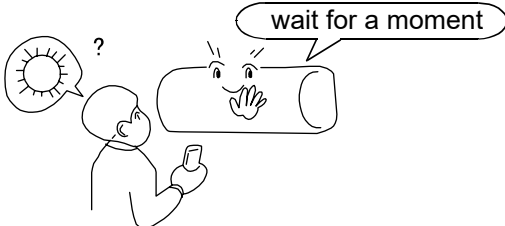

- Please ask the special maintenance station for installation and repair. Water leakage, electric shocks or fire accidents might be caused from improper installation if you conduct the installation by your own.
- The installation should be conducted properly according to this manual. Water leakage, electric shocks or fire accidents might be caused from improper installation.
- Please make sure to install the air conditioner on the place where can bear the weight of the air conditioner. The air conditioner can't be installed on the grids such as the non-special metal burglar-proof net. The place with insufficient support strength might cause the dropdown of the machine, which may lead to personal injuries.
- The installation should be ensured against typhoons and earthquakes, etc. The installation unconformable to the requirements will lead to accidents due to the turnover of the machine.
- Specific cables should be used for reliable connections of the wirings. Please fix the terminal connections reliably to avoid the outside force applied on the cables from being impressed on the cables. Improper connections and fixings might lead to such accidents as heating or fire accidents.
- Correct shapes of wirings should be kept while the embossed shape is not allowed. The wirings should be reliably connected to avoid the cover and the plate of the electrical cabinet lipping the wiring. Improper installation might cause such accidents as heating or fire accidents.
- While placing or reinstalling the air conditioner, except the specific refrigerant (R410A), don't let the air go into the refrigeration cycle system. The air in the refrigeration cycle system might lead to the cracking or personal injuries due to abnormal high pressure of the refrigeration cycle system.
- During installation, please use the accompanied spare parts or specific parts. If not, water leakage, electric shocks, fire accidents or refrigerant leakage might be caused.
- Don't drain the water from the drainpipe to the waterspout where may exist harmful gases such as sulfureted gas to avoid the harmful gases entering into the room.
- During installation, if refrigerant leakage occurs, ventilation measures should be taken, for the refrigerant gas might generate harmful gases upon contacting the flame.
- After installation, check if any refrigerant leakage exists. If the refrigerant gas leaks in the room, such things as air blowing heaters and stoves, etc. may generate harmful gases.
- Don't install the air conditioner at the places where the flammable gases may leak. In case the gas leakage occurs around the machine, such accidents as fire disasters may be caused.
- The drainpipe should be properly mounted according to this manual as to ensure the smooth drainage. In addition, heat preservation should be taken to avoid condensation. Improper drainpipe mounting might cause water leakage, which will get the articles at home wet.
- The refrigerant gas pipe and liquid pipe should be heat insulated to preserve heat. For inappropriate heat insulation, the water caused from the condensation will drop to get the article at home wet.

## ⚠CAUTION

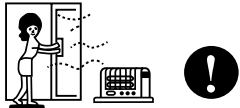



- The air conditioner should be effectively grounded. Electric shocks may occur if the air conditioner is ungrounded or inappropriately grounded. The wire for earthing shouldn't be connected to the connections on the gas pipe, water pipe, lightning rod or telephone.
- The breaker for electricity leakage should be mounted. If not, accidents such as electric shocks may happen.
- The installed air conditioner should be checked for electricity leakage by being powered.
- If the ambient humidity bigger than 80%, when the water discharge hole be blocked or the filter becomes dirty, or airflow speed change, there maybe leads to condensing water drop down, and at the same time there maybe some drops of water spit out.

# Safety

	<p>Items with this warning sign concerning the product's safety and the personal security must be performed strictly.</p>
	<p>Items with this forbidding sign refer to absolutely forbidden behaviors. If not, they may cause machine damage or endanger operator's personal safety.</p>




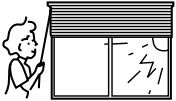






<p>Clean the filter regularly. Cooling or heating performance will be degraded if the filter is blocked, resulting in large power consumption, failure, and water dripping at freezing.</p> 	<p>Don't touch the outlet while the flap is moving. Don't put anything in the grid in case danger may occur.</p> 
<p>Avoid cold wind from blowing out. During heating running, the fan of indoor units will not rotate immediately as to prevent cold wind from blowing out.</p> 	<p><b>Changing Wind Speeds:</b> In the state of refrigerating, with automatic blowing mode, the wind speed automatically decreases when the room temperature approaches the setting. In the state of heating, when the room temperature reaches the setting temperature the compressor stops working and the fan turns to low wind or stops. Wind speed changes automatically in the dehumidifying mode.</p>
<p><b>Regulating Wind Direction:</b> It is recommended not to make the wind deflector downwards for a long time to avoid condensation at air outlet port during refrigerating or dehumidifying. Water dropping might appear at the air outlet port in refrigerating or dehumidifying mode.</p>	<p><b>Defrosting:</b> During heating running, the air conditioner would defrost automatically if there is frost on heat exchanger of outdoor units. Do not rotate fans of both indoor units and outdoor units during defrosting. After finishing defrosting, the air conditioner will resume running automatically.</p>
<p>The machine operation must be controlled by the control.</p> 	<p><b>Hints:</b> As air conditioners absorb heat from the environment and release it to the room, heating effects will be influenced by the temperature in and out of the room.</p>

## Notices during Operation

<ul style="list-style-type: none"> <li>It is not allowed to put any heating apparatus under the indoor units, for the heat may cause distortion of the units.</li> </ul>	<ul style="list-style-type: none"> <li>Pay attention to the aeration condition to avoid anoxic symptom.</li> </ul> 
<ul style="list-style-type: none"> <li>Flammable apparatus should not be placed in the place where the air conditioner wind could reach directly, or incomplete burning of the apparatus may be caused.</li> </ul>	
<ul style="list-style-type: none"> <li>Check the mount table of the air conditioner for damage for a long period of operation. If placed on the damaged table, the unit may drop down causing damage.</li> </ul>	
<ul style="list-style-type: none"> <li>Plants and animals should not be put to the place where wind of the air conditioner blows directly, otherwise damage to them may be caused.</li> </ul>	

# Safety

## Notices during Operation

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>It cannot be used for the preservation of food, living creature, precise instrument and artworks, etc, otherwise damage may occur.</li> </ul>  |   |
| <ul style="list-style-type: none"> <li>Use the fuse with proper capacity.<br/>Metal wires and copper wires, etc., may cause fire or other faults.</li> </ul>  |   |
| <ul style="list-style-type: none"> <li>Do not use water heater or like next to the indoor unit and the wired controller. Water/power leakage or short circuit may happen if the steam generating apparatus is working next to machine.</li> </ul>   |   |
| <ul style="list-style-type: none"> <li><b>Defrosting during heating</b><br/>To improve the heating effect, the outdoor unit will perform defrosting automatically when frost appears on the outdoor unit during heating (approximately 2-10 min).<br/>During defrosting, the fan of the indoor unit runs at a low speed or stops while that of the outdoor unit stops running.</li> </ul> |  |
| <ul style="list-style-type: none"> <li>Power should be cut off when the air conditioner is left unused for a long period.<br/>Power will be consumed if the air conditioner is not powered off. The power switch of the outdoor unit switch should be powered on 12 hours in advance before operation to protect the unit after a long period of storage.</li> </ul>                      |  |
| <ul style="list-style-type: none"> <li><b>3-minute protection</b><br/>To protect the unit, compressor can be actuated with at least 3-minute delay after stopping.</li> </ul>   |  |
| <ul style="list-style-type: none"> <li>Close the window to avoid outdoor air getting in.<br/>Curtains or window shutters can be put down to avoid the sunshine.</li> </ul>  |   |
| <ul style="list-style-type: none"> <li>Do not touch the switch with the wet hand to avoid power shock.</li> </ul>   |    |
| <ul style="list-style-type: none"> <li>Stop running and switch off the manual power switch when cleaning the unit.</li> </ul>   |   |
| <ul style="list-style-type: none"> <li>During the operation of the control unit, don't switch off the manual power switch and the controller can be used.<br/>Please do not press the liquid crystal zone of controller to prevent damage</li> </ul>  |   |
| <ul style="list-style-type: none"> <li>Cleaning the unit with water may cause electric shock.</li> </ul>  | <br> |
| <ul style="list-style-type: none"> <li>Do not put flammable spray close to the air conditioner.<br/>Don't inject flammable spray towards the air conditioner, which may cause fire.</li> </ul>  |   |
| <ul style="list-style-type: none"> <li><b>Stopping fan rotation</b><br/>The unit which stops operating will actuate the fan for a 2-8 min swing every 30-60 minutes for protecting the unit while other indoor unit are in the operating state.</li> </ul>  |  |
| <ul style="list-style-type: none"> <li>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.</li> </ul>                                     |  |

# Maintenance

- Only when the air cleaner is switched off and disconnected to the power supply can it be cleaned, or electric shock and injury may appear.

## Daily Maintenance:

### Cleaning the air outlet port and the shell:

#### ⚠ Attention

- Don't use gasoline, benzene, diluents, polishing powder or liquid insecticide to clean them.
- Do not clean them with hot water of above 50°C to avoid fading or distorting.
- Wipe them with soft dry cloth.
- Water or neutral dry cleanser is recommended if the dust cannot be removed.
- The Wind Deflector can be dismantled to clean (as below).

### Cleaning Wind Deflector:

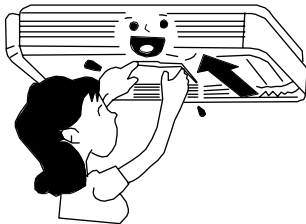
- Do not wipe the wind deflector with water forcibly to avoid falling off.

### Cleaning Air Cleaner:

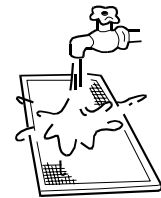
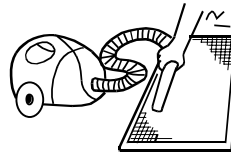
#### ⚠ Attention

- Don't rinse the air cleaner with hot water of above 50°C to avoid fading and distorting.
- Don't put the air cleaner on the fire to dry to avoid catching fire.

- Pull the air screen forward to the front side of the unit to remove it.
- Clean up air screens according to their different types. For more information, please make contact with after service staff.



- Wipe dust with water or dust collector.  
(A) Wipe dust with dust collector.



- (B) Clean it with soft brush in mild detergent if there is too much dust on it.
- (C) Throw off the water and airing it in the cool dry condition.

## Maintenance before and after Operating Season

### Before Operating Season:

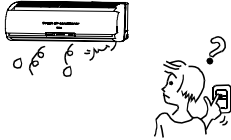
1. Please make the following checkup. If abnormal condition occurs, consult the after-service personnel.
  - There is no blockage in inlet port and outlet port of outdoor and indoor units.
  - The ground line and the wiring are in the proper state
2. After cleaning, the air cleaner must be mounted.
3. Switch on to the power.

### After Operating Season:

1. In sunny days, blowing operation can be performed for half a day to make the inside of machine dry.
2. Electrical power should be cut down to economize electricity, or the machine will still consume power. Air cleaner and shell must be mounted after cleaning.

# Fault Checkup

Please check the following when consigning repair service:

	Symptoms	Reasons
All these are not problems	Water flow sound	Water flow sound can be heard when starting operation, during operation or immediately after stopping operation. When it starts to work for 2-3 minutes, the sound may become louder, which is the flowing sound of refrigerant or the draining sound of condensed water.
	Cracking sound	During operation, the air conditioner may make the cracking sound, which is caused from the temperature changes or the slight dilation of heat exchanger.
	Terrible smell in outlet air	The terrible smell, caused from walls, carpet, furniture, clothing, cigarette and cosmetics, attaches on the conditioner.
	Flashing operating indicator	When switching it on again after power failure, turn on the manual power switch and the operating indicator flashes.
	Awaiting indication	It displays the awaiting indication as it fails to perform refrigerating operation while other indoor units are in heating operation. When the operator set it to the refrigerating or heating mode and the operation is opposite to the setting, it displays the awaiting indication.
	Sound in shutdown indoor unit or white steam or cold air	To prevent oil and refrigerant from blocking the shutdown indoor units, refrigerant flows in the short time and make the sounds of refrigerant flowing. Otherwise, when other indoor units performs heating operation, white steam may occur; during refrigerating operation, cold air may appear.
	Clicking sound when switching the air condition on	When the conditioner is powered on, the sound is made due to the resetting of the expansion valve.
	Please make another check.	Start or stop working automatically
Failure to work 		Check if there is a power failure. Check if the manual power switch is turned off. Check if the supply fuse and breaker are disconnected. Check if the protective unit is working. Check if refrigerating and heating functions are selected simultaneously with the awaiting indication on line control.
Bad cooling & heating effects		Check if air intake port and air outlet port of outdoor units are blocked. Check if the door and windows are open. Check if the filtering screen of air cleaner is blocked with sludge or dust. Check if the setting of wind quantity is at low wind. Check if the setting of operation is at the Fan Operation state. Check if the temperature setting is proper.

Under the following circumstances, immediately stop the operation, disconnect the manual supply switch and contact the after-service personnel.

- When buttons are inflexible actuated;
- When fuse and breaker have been burnt over and over;
- When there are foreign objects and water in the refrigerator;
- When it cannot still be operated after removing the operation of protective unit;
- When other abnormal conditions occur.



# Installation Procedures

This manual does not cover all user cases; please contact Haier marketing centers in local places to propose new requirements and clear new doubts and problems.

Standard installation tools are recommended according to installation requirements.

For information about standard model series accessories, see packing list; other necessary parts to be installed shall be prepared by users as required by installation service network stations.

## Decide upon places to install the indoor unit; places where even circulation of cool and warm air can be delivered shall be selected; and places below shall be avoided:

Places (in coastal areas) where salinity is high; where sulfurized gases are usual (areas where springs flourish and copper tube and braze easily get corroded); where oils (machinery oils) and steam are usual; where organic solvents are put to use; where machines radiating high frequency electromagnetic waves exist (which cause control system malfunctions); where contact with humid air near windows and doors is pervasive (making for easy condensation) and; where special sprayers are put to frequent use.

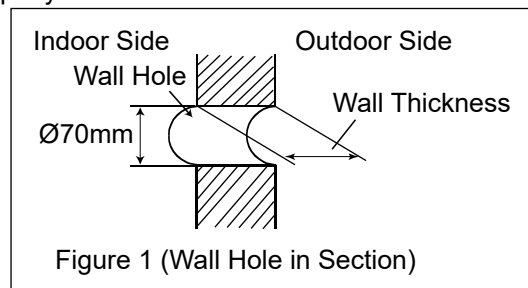
## Installing Indoor Unit

1. The distance from air outlet to floor surface shall not exceed 2.7m.
2. Make sure that outlet airflow covers the whole room area; and arrange connecting tubes, wires and drain pipes to proper outdoor positions.
3. Make sure that ceiling structures are capable of bearing unit weight.
4. Connecting tubes, drain pipes and connecting wires can be put across walls to connect indoor unit and outdoor unit.
5. Connecting tubes and drain pipes between indoor and outdoor units shall be shorter for better.
6. Please refer to outdoor installation manual when refrigerant charging volume adjusting is necessary.
7. Joint flanges shall be prepared by users.
8. Valuables (e.g., TV sets, instruments, equipments, artworks, pianos, wireless devices) shall not be placed below the indoor unit lest condensed water drips upon the same.

## Installing and Fixing

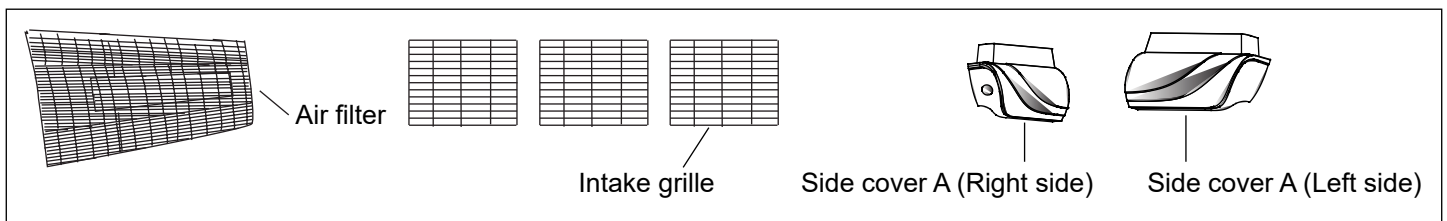
### 1. Drilling Wall Holes

Drill a wall hole (dia.70mm, see figure 1), slightly tilted downwards on the outside; fix guard ring to finalize before sealing the wall hole with gesso or putty.



### 2. Preparation prior to Installing Indoor Unit

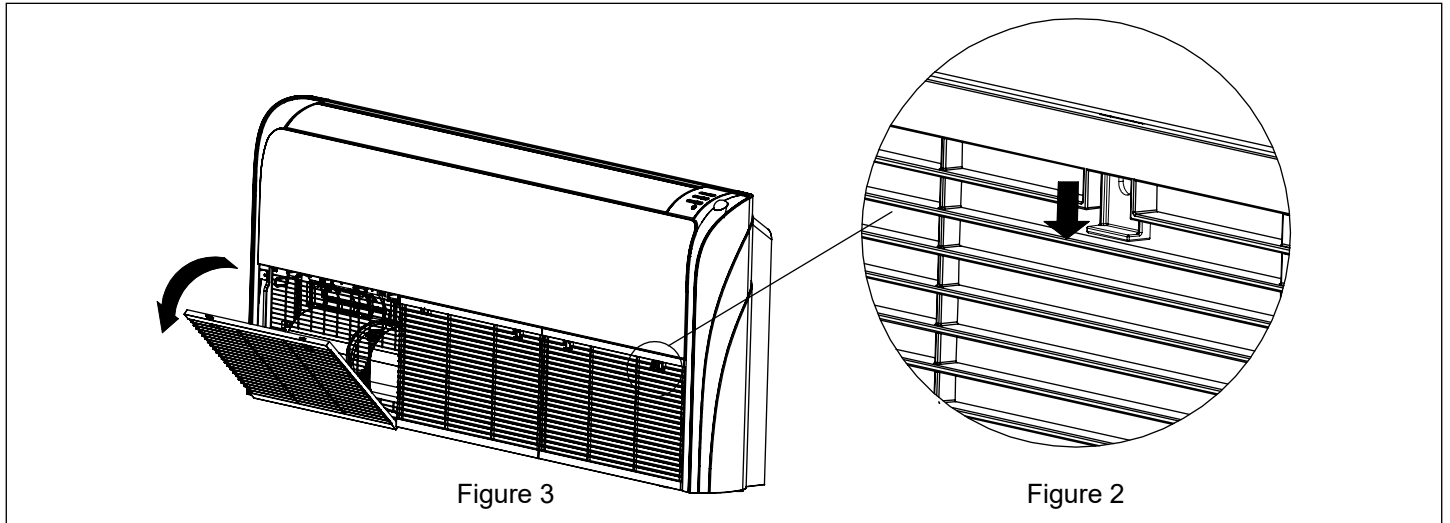
- (1) Open the intake grill
- (2) Remove the Side cover(Right and left side)
- (3) This air conditioner can be set up to intake fresh air. The information about how to install for fresh-air intake, refer to "Fresh air intake".



# Installation Procedures

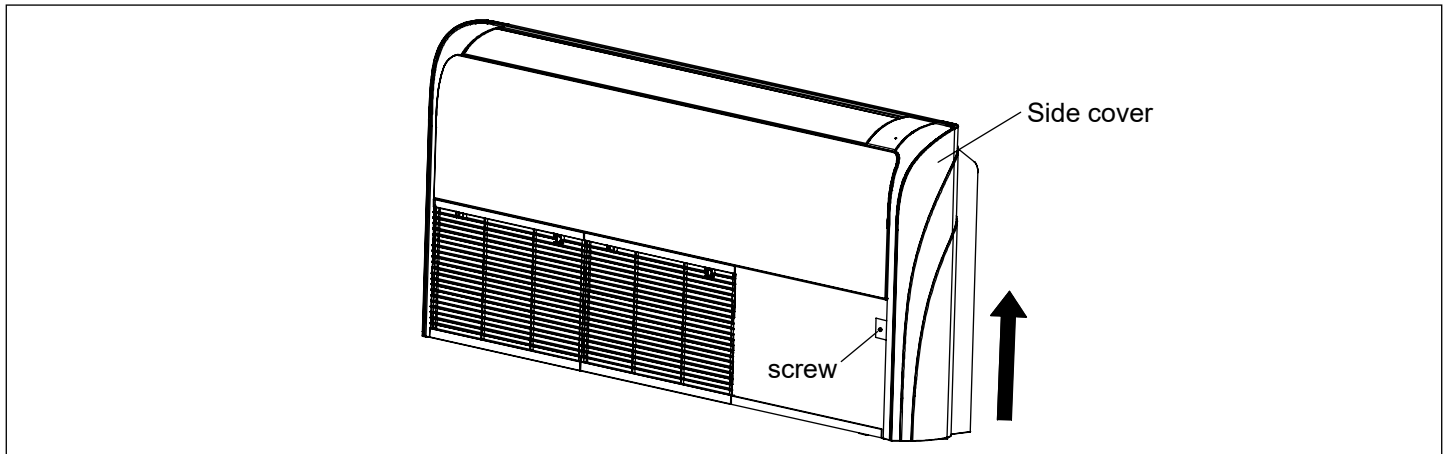
## Open the intake grill

- (1) Push the embedding switch according to the direction of the arrowhead.(Refer to Figure 2)
- (2)Turn into the intake grill according to the direction of the arrowhead.(Refer to Figure 3)



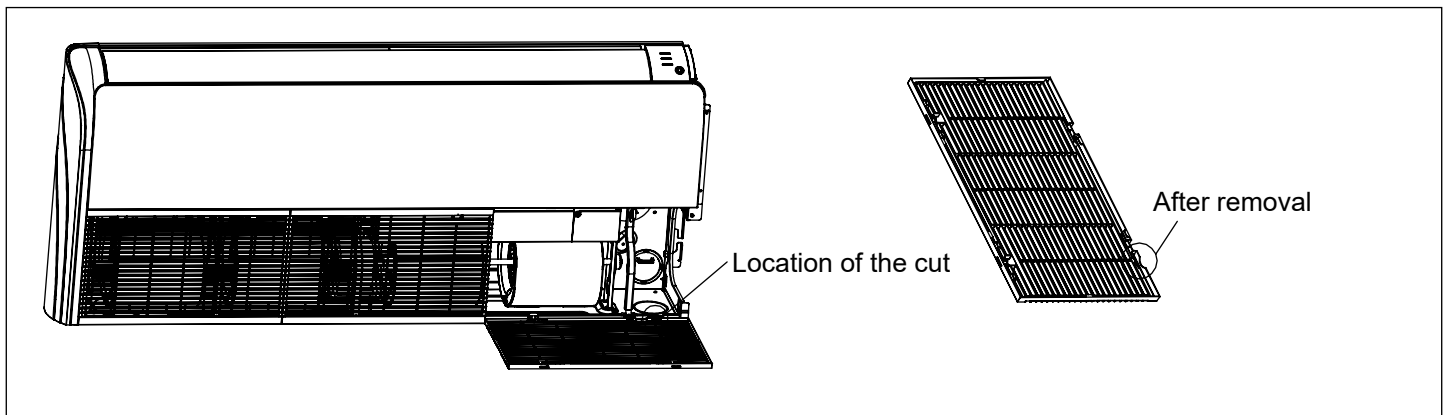
## Remove the Side cover

- (1) Remove the screw.
- (2) Push the Side cover according to the direction of the arrowhead.
- (3) Then remove the Side cover.



## Cut intake grill for drain pipe

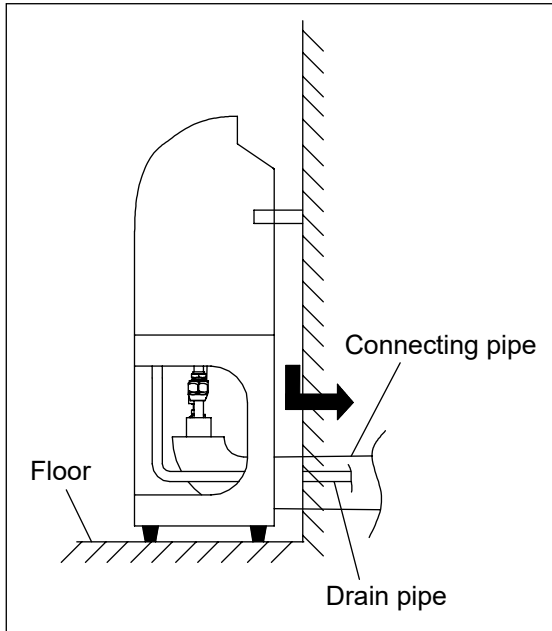
- (1) Tools:Knife or Pliers.
- (2) Cut the intake grill before installing the drain pipe,Then,pass the drain pipe through the hole.As the following schematic.



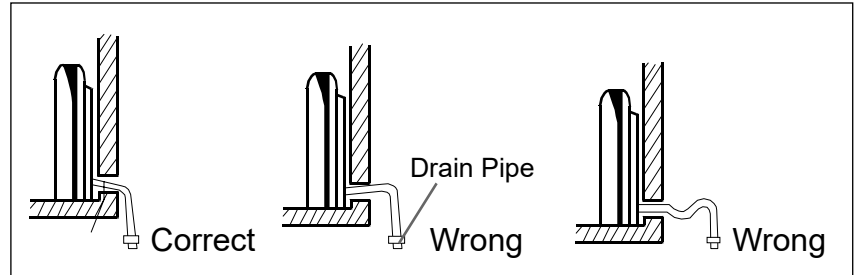
# Installation Procedures

## 3. Floor Type Installation

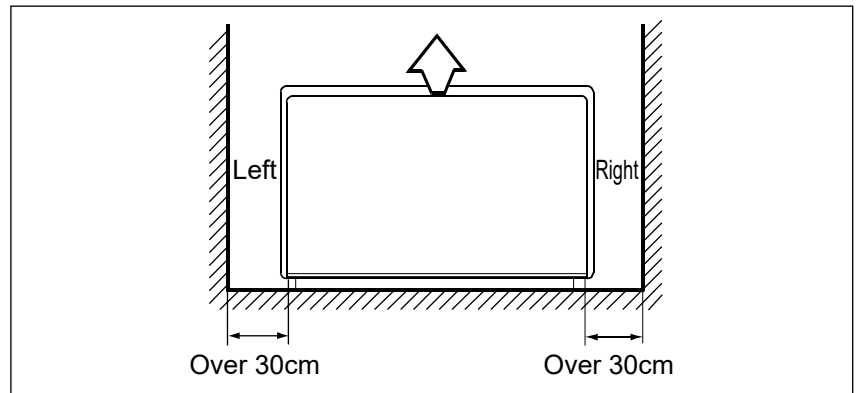
When the unit is installed on the floor, installing them as below:



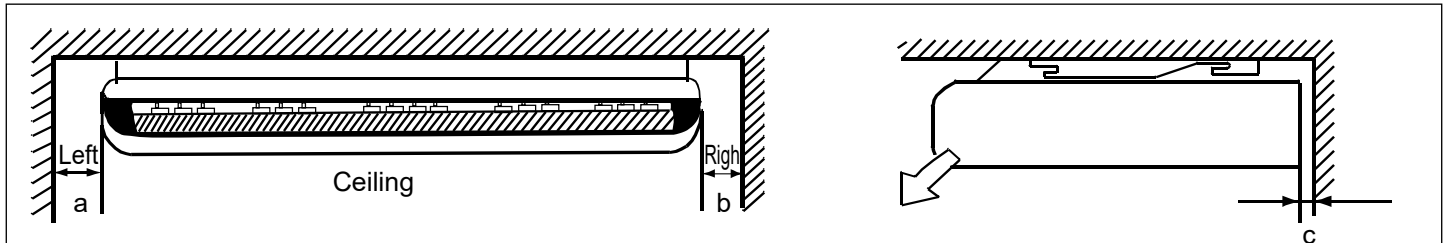
CAUTION: drain pipe leading-out direction shown with figure below.



Attention to distance from the unit to household usables or obstacles (as shown with figure).



## 4. Ceiling Installation



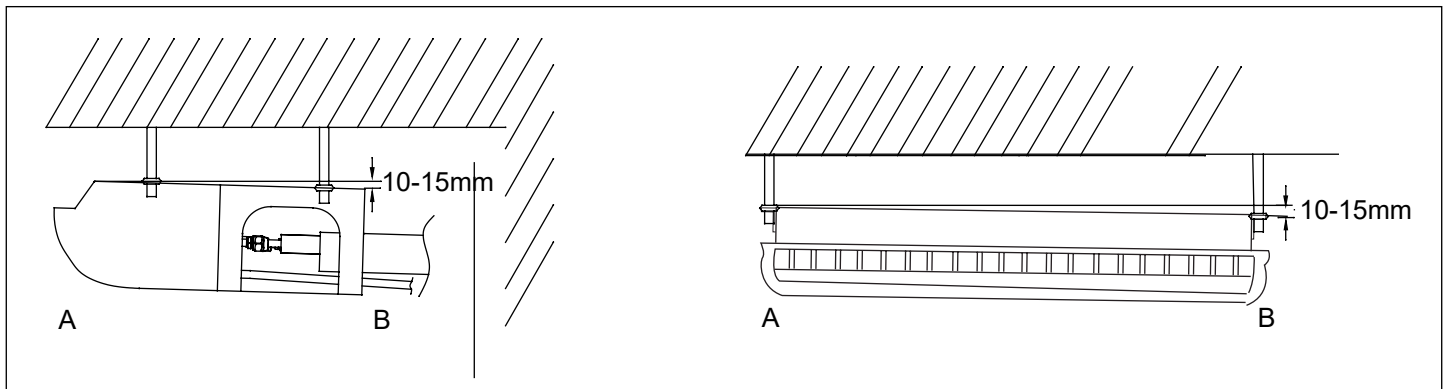
Model	a	b	c
AC092~182MDERA	Over 30cm	Over 30cm	Over 2cm
AC242~482MDERA	Over 80cm	Over 150cm	Over 10cm

### Ceiling Installation

(1) Use  $\varnothing 10$  hanger bolts, prepared on the site.

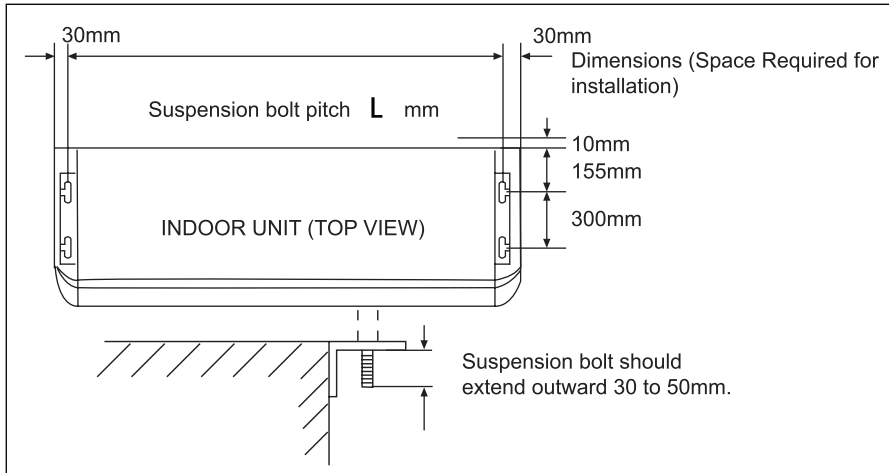
Please refer to figure on the right when installing.

When the unit is installed in the ceiling, side B is lower than side A for condensate discharge. As below.



# Installation Procedures

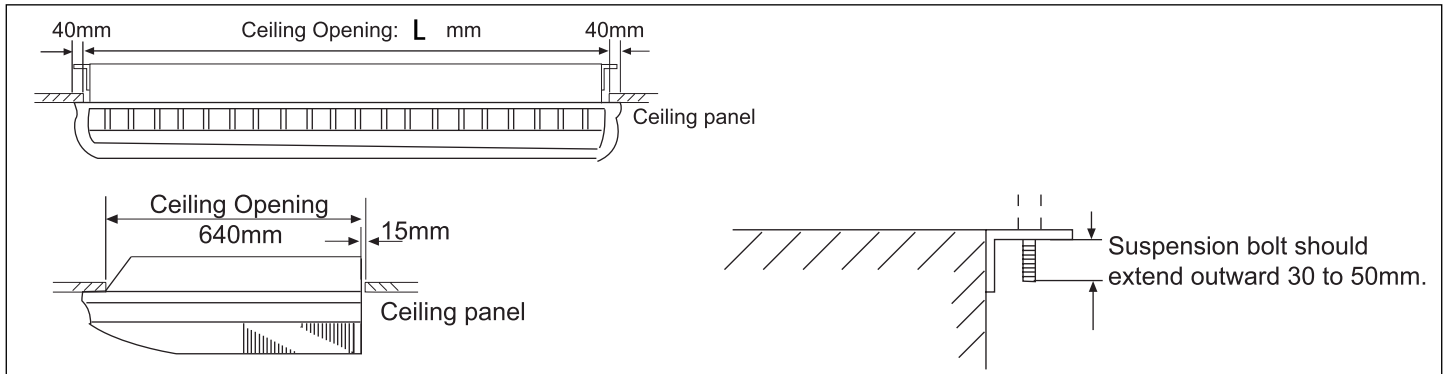
## (2) Location of ceiling suspension bolts



Model	L
AC092MDERA AC122MDERA AC162MDERA AC182MDERA	880
AC242MDERA AC282MDERA AC302MDERA	1204
AC382MDERA AC482MDERA	1530

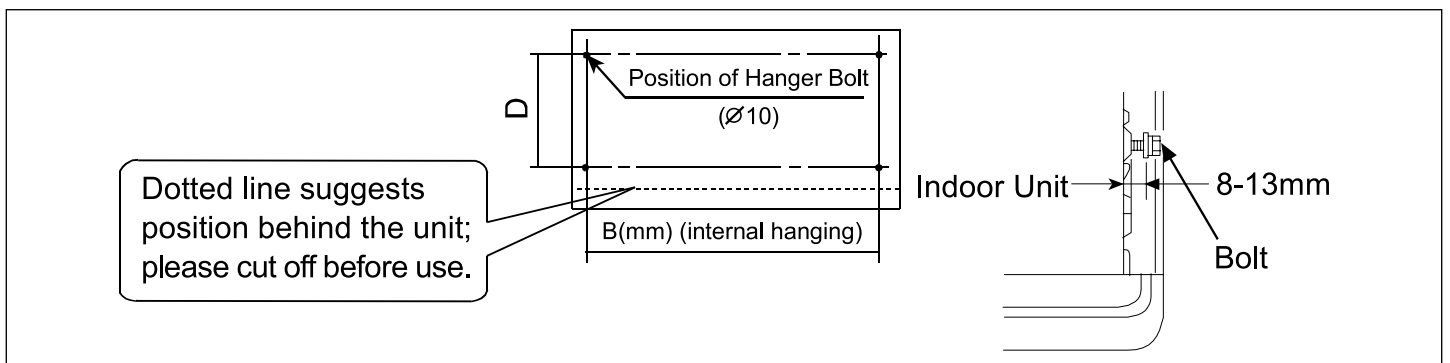
### For half-concealed installation

Suspension-bolt pitch should be as shown below



## (3) Installing Hanger Bolt

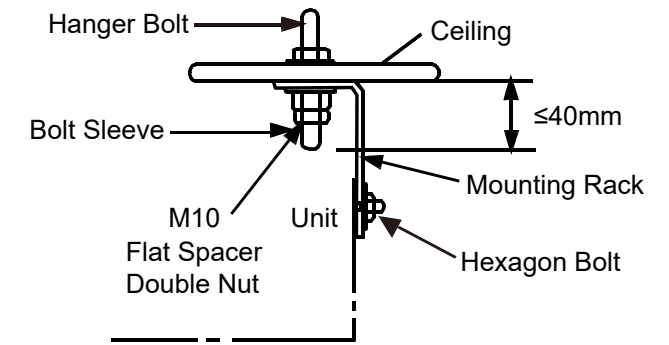
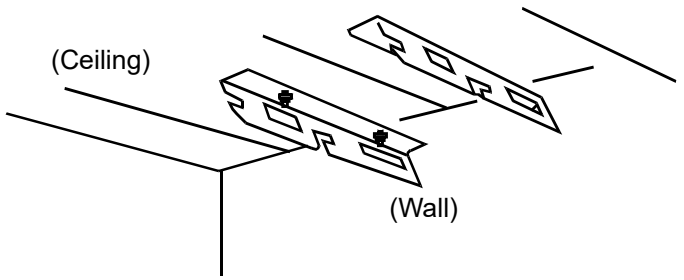
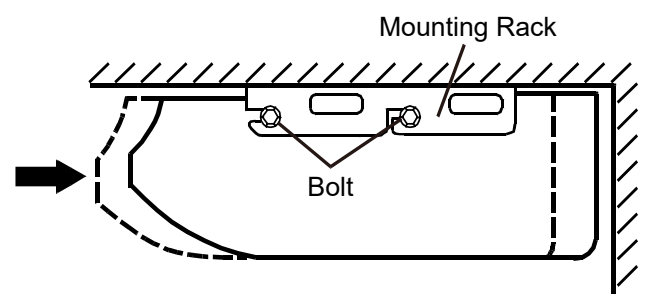
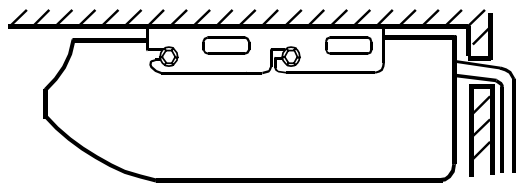
Use M10 hanger bolt (prepared on the site) featuring 60mm hole depth, clearance fixed according to size proposed in the air conditioner external view; install according to different building structure specifications to guard against safety faults; and leveling instruments shall be available to ensure balanced installation.



## (4) Please use hexagon bolts when installing

# Installation Procedures

## (5) Air Conditioner Installation Diagram

<p>① Hanger Chain Hook</p>  <p>Hanger Bolt</p> <p>Ceiling</p> <p>Bolt Sleeve</p> <p>≤40mm</p> <p>Mounting Rack</p> <p>Unit</p> <p>Hexagon Bolt</p> <p>M10 Flat Spacer Double Nut</p> <p>Hanger bolt is 40mm below ceiling.</p>	<p>② Installing Status of Mounting Rack</p>  <p>(Ceiling)</p> <p>(Wall)</p> <p>Leveling is forbidden after air conditioner is installed; please make adjustment according to diagram indication.</p>
<p>③ Installing Air Conditioner</p>  <p>Mounting Rack</p> <p>Bolt</p> <p>Insert hexagon bolt into slot</p> <p>Screw tight hexagon bolt to fix air conditioner</p>	<p>④ Drain Pipe Leading-out Direction</p>  <p>CAUTION: drain pipe shall be positioned high inside and low outside.</p> <p>According to requirements on the site, drain pipes shall be prepared by users on their own resources and make sure that these are connected to drain pipes previously available with the unit (make sure that measures are taken to guard against water leakage in junction areas); heat preservation shall be available with certain indoor drain pipes through using heat insulant to prevent condensation.</p>

## (6) Installing Deco Plate and Inlet Grille (after pipeline laying and electric wiring are done).

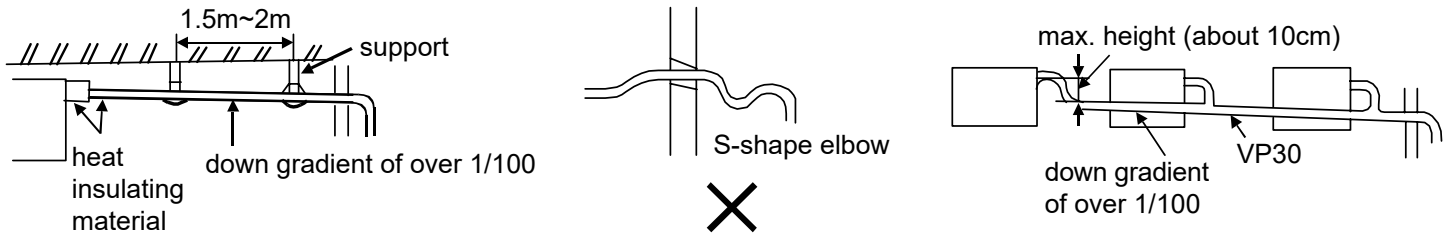
# Installation Procedures

## ⚠ Attention

- For normal drainage, the water drainage piping should be connected according to the installation manual. Heat insulation should be performed to avoid condensation. Improper pipe connection may cause water going into the machine.

### Requirements:

- Heat insulating treatment should be made for the water drainpipes of the indoor units.
- Heat preservation should be made for the connection with the indoor units. Improper heat preservation may cause condensing.
- The drainpipe should be designed with a down gradient of 1/100. The midway of the elbow shouldn't be made in S shape. Or abnormal noise may be caused.
- The lateral length of the drainpipe should be kept within 20m. Under the condition of long pipe, a support should be provided every 1.52~2m to avoid unevenness.
- The central piping can be connected according the following figure.
- Don't apply external force to the connection of drainpipes.



### Piping Materials & Heat Insulating Materials

As to prevent condensation, heat insulating treatment should be performed. The heat insulating treatment for piping should be done respectively.

Piping Material	Hard PVC tube VP31.5mm(inner bore)
Heat Insulating Material	Vesicant polythene thickness: over 7mm

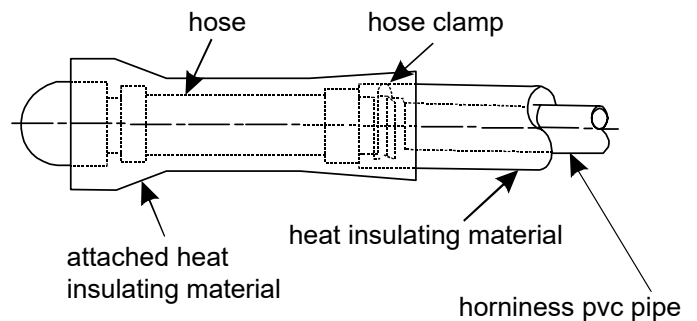
### Hose

The drainage hose is made of Ø19.05mm (3/4") PVC tube, which can adjust the eccentricity and the angle of the hard PVC tube.

- Stretch the hose directly to make connections as to avoid distortion. The soft end of the hose should be positioned with a clamp.
- The hose should be used in the horizon direction.

### Heat Insulating Treatment:

- Wrap the connection between the clamp and the root segment of the indoor unit without any gap with heat insulating materials as shown in the drawing



### Confirming water drainage

During the test run, check the condition of water drainage and make sure that there is no leakage on the connection of piping, which should also be performed during the winter.

# Installation Procedures

## Tubing Permissible Length & Height Difference

Please refer to the attached manual of outdoor units.

## Tubing Permissible Length & Height Difference

Model		AC092MDERA	AC122~182MDERA	AC242~482MDER
Tubing Size (mm)	Gas pipe	Ø9.52	Ø12.7	Ø15.88
	Liquid pipe	Ø6.35	Ø6.35	Ø9.52
Tubing Material		Phosphor deoxybronze seamless pipe (TP2) for air conditioner		

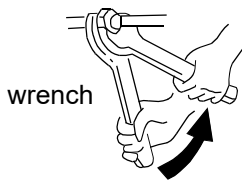
## Refrigerant Filling Amount

Add the refrigerant according to the installation instruction of outdoor unit. The addition of R410A refrigerant must be performed with a measure gage to ensure the specified amount while compressor failure can be caused by filling too much or little refrigerant.

## Connecting Procedures of Refrigerant Tubing

Proceed the flare tube connecting operation to connect all the refrigerant tubes.

- Dual wrenches must be used in the connection of indoor unit tubing.
- Mounting torque refers to the right table



Outer Diameter of Tubing (mm)	Mounting Torque (N-m)	Increase mounting Torque (N-m)
Ø6.35	11.8(1.2kgf-m)	13.7(1.4kgf-m)
Ø9.52	24.5(2.5kgf-m)	29.4(3.0kgf-m)
Ø12.7	49.0(5.0kgf-m)	53.9(5.5kgf-m)
Ø15.88	78.4(8.0kgf-m)	98.0(10.0kgf-m)

## Cutting and Enlarging

Cutting or enlarging pipes should be proceeded by installation personnel according to the operating criterion if the tube is too long or flare opening is broken.

## Vacuumizing

Vacuumize from the stop valve of outdoor units with vacuum pump. Refrigerant sealed in indoor machine is not allowed to use for vacuumization.

## Open All Valves

Open all the valves of outdoor units. [NB: oil balancing stop valve must be shut up completely when connected one main unit.]

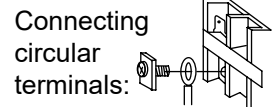
## Checkup for Air Leakage

Check if there is any leakage at the connecting part and bonnet with hydrophone or soapsuds.

## Connecting

### 1. Connecting circular terminals:

The connecting method of circular terminal is shown in the Fig. Take off the screw, connect it to the terminal tier after heading it through the ring at the end of the lead and then tighten it.

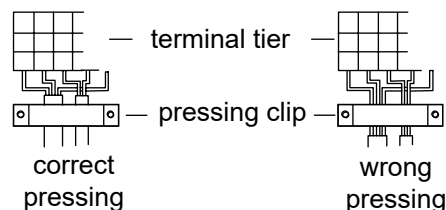


### 2. Connecting straight terminals:

The connection methods for the circular terminals are shown as follows: loosen the screw before putting the line terminal into the terminal tier, tighten the screw and confirm it has been clamped by pulling the line gently.

### 3. Pressing connecting line

After connecting line is completed, press the connecting line with clips which should press on the protective sleeve of the connecting line.



# Electrical Wiring

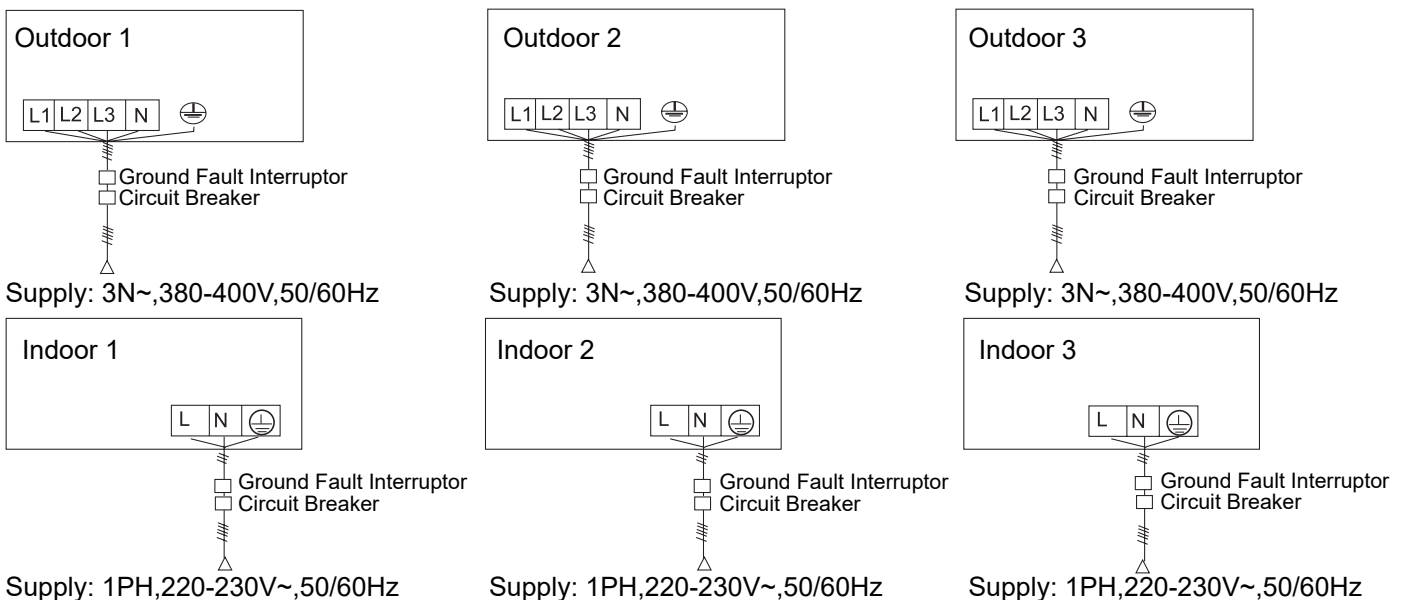
## ⚠ WARNING

- Electrical construction should be made with specific mains circuit by the qualified personnel according to the installation instruction. Electric shock and fire may be caused if the capacity of power supply is not sufficient.
- During arranging the wiring layout, specified cables should be used as the mains line, which accords with the local regulations on wiring. Connecting and fastening should be performed reliably to avoid the external force of cables from transmitting to the terminals. Improper connection or fastness may lead to burning or fire accidents.
- There must be the ground connection according to the criterion. Unreliable grounding may cause electrical shocks. Do not connect the grounding line to the gas pipe, water pipe, lightning rod and telephone line.

## ⚠ Attention

- Only copper wire can be used. Breaker for electric leakage should be provided, or electric shock may occur.
- The wiring of the mains line is of Y type. The power plug L should be connected to the live wire and plug N connected to null wire while  $\oplus$  should be connected to the ground wire. For the type with auxiliary electrically heating function, the live wire and the null wire should not be misconnected, or the surface of electrical heating body will be electrified. If the power line is damaged, replace it by the professional personnel of the manufacturer or service center.
- The power line of indoor units should be arranged according to the installation instruction of indoor units.
- The electrical wiring should be out of contact with the high-temperature sections of tubing as to avoid melting the insulating layer of cables, which may cause accidents.
- After connected to the terminal tier, the tubing should be curved into be a U-type elbow and fastened with the pressing clip.
- Controller wiring and refrigerant tubing can be arranged and fixed together.
- The machine can't be powered on before electrical operation. Maintenance should be done while the power is shut down.
- Seal the thread hole with heat insulating materials to avoid condensation.
- Signal line and power line are separately independent, which can't share one line. [Note: the power line, signal line are provided by users. Parameters for power lines are shown as below:  $3 \times (1.0-1.5) \text{ mm}^2$ ; parameters for signal line:  $2 \times (0.75-1.25) \text{ mm}^2$  (shielded line)]
- 5 butt lines (1.5mm) are equipped in the machine before delivery, which are used in connection between the valve box and the electrical system of the machine. The detailed connection is displayed in the circuit diagram.

### Supply Wiring Drawing

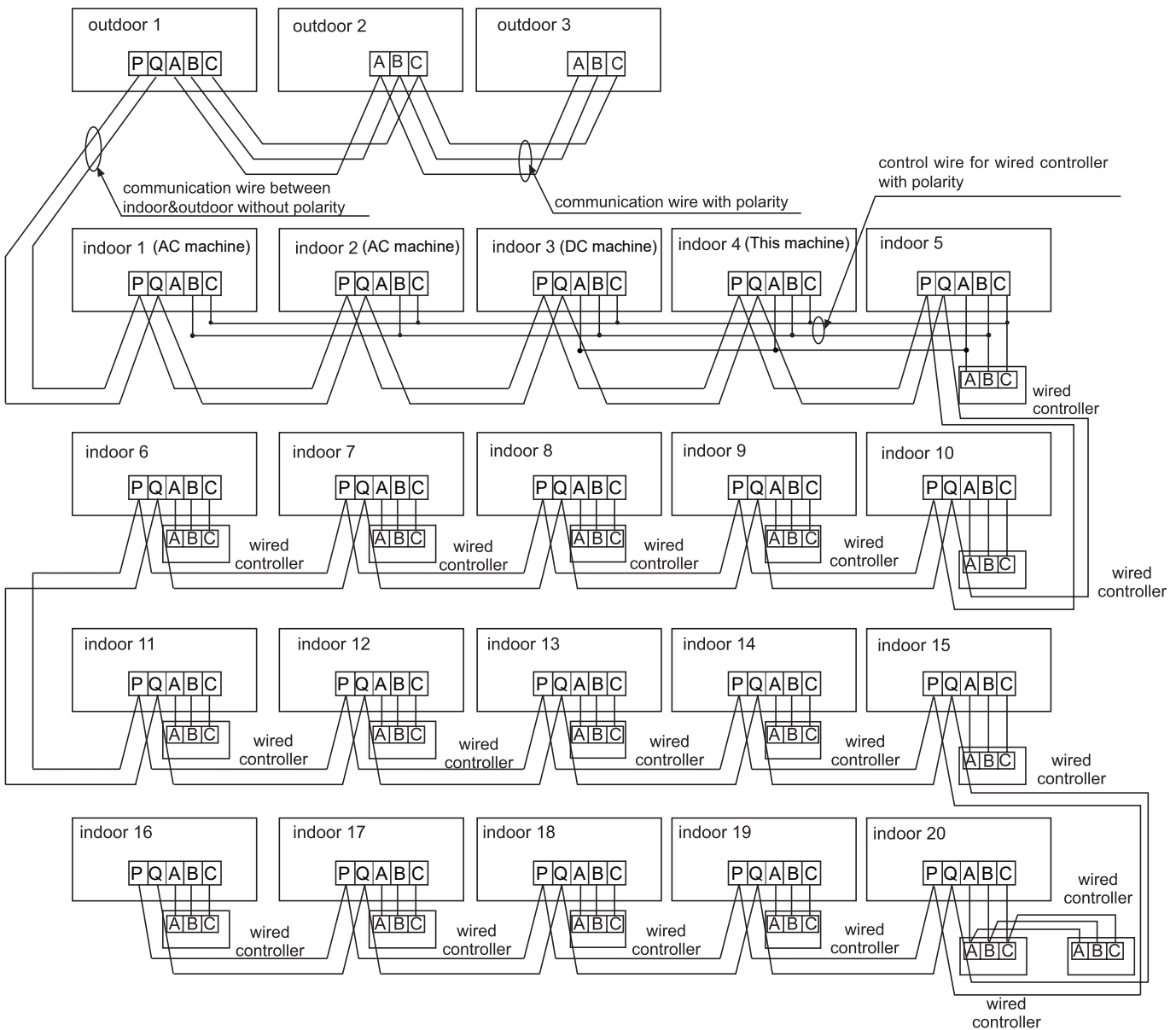


- Indoor units and outdoor units should be connected to the power source separately. Indoor units must share one single electrical source, but its capacity and specifications should be calculated. Indoor & outdoor units should be equipped with the power leakage breaker and the overflow breaker.
- Indoor and outdoor connection cable: H05RN-F 4G 2.5mm<sup>2</sup> (Note: If the indoor and outdoor unit connection cable length L satisfied condition  $40\text{m} < L < 55\text{m}$ , please change the connection cables specification to H07RN-F 4G 4.0mm<sup>2</sup>. If the indoor and outdoor unit connection cable length L satisfied condition  $55\text{m} \leq L \leq 75\text{m}$ , please change the connection cables specification to H07RN-F 4G 6.0mm<sup>2</sup> )



# Electrical Wiring

## Signal Wiring Drawing



Outdoor units are of parallel connection via three lines with polarity. The main unit, central control and all indoor units are of parallel connection via two lines without polarity.

There are three connecting ways between line control and indoor units:

- A. One line control controls multiple units, i.e. 2-16 indoor units, as shown in the above figure, (1-5 indoor units). The indoor unit 5 is the line-controlled main unit (directly connected to the indoor unit of line control) and others are the in-controlled sub units. Among them, the 4 indoor unit is this unit, the 3 indoor unit is the other DC models, 1 indoor unit and 2 indoor unit are the AC models. The line control device is connected with the line-controlled main unit and DC models through three lines with polarity. Other indoor units and the main unit are connected via two lines with polarity. SW01 on the main unit of line control is set to 0 while SW01 on other sub units of line control are set to 1, 2, 3 and so on in turn. (Please refer to the code setting)
- B. One line control controls one indoor unit, as shown in the above figure (indoor unit 6-19). The indoor unit and the line control are connected via three lines with polarity.
- C. Two line controls control one indoor unit, as shown in the figure (indoor unit 20). Either of the line controls can be set to be the master line control while the other is set to be the auxiliary line control. The master line control and indoor units, and the master and auxiliary line controls are connected via three lines with polarity.

When the indoor units are controlled by the remote control, switch over the modes by Switching Mode of Line-Controlled Main Unit/ Line-Controlled Sub Units/ Remote-Controlled Types. The signal terminals needn't to be equipped with wires and connected to the line control.

# Electrical Wiring

The wiring for the power line of indoor unit, the wiring between indoor and outdoor units as well as the wiring between indoor units:

Items Total Current of Indoor Units(A)	Cross Section (mm <sup>2</sup> )	Length (m)	Rated Current of Overflow Breaker(A)	Rated current of residual Circuit Breaker(A) Ground Fault Interruptor(mA) Response time(S)	Cross Sectional Area of Signal Line	
					Outdoor -indoor (mm <sup>2</sup> )	Indoor -indoor (mm <sup>2</sup> )
<7	2.5	20	10	10 A,30 mA,0.1S or below	2 cores×0.75-2.0 mm <sup>2</sup> shielded line	
≥7 and <11	4	20	16	16 A,30 mA,0.1S or below		
≥11and <16	6	25	20	20 A,30 mA,0.1S or below		
≥16 and <22	8	30	32	32 A,30 mA,0.1S or below		
≥22 and <27	10	40	32	32 A,30 mA,0.1S or below		

- The electrical power line and signal lines must be fastened tightly.
- Every indoor unit must have the ground connection.
- The power line should be enlarged if it exceeds the permissible length.
- Shielded lays of all the indoor and outdoor units should be connected together, with the shielded lay at the side of signal lines of outdoor units grounded at one point.
- It is not permissible if the whole length of signal line exceeds 1000m.

## Signal Wiring of Wired controller

Length of Signal Line (m)	Wiring Dimensions
≤250	0.75mm <sup>2</sup> x core shielding line

- The shielding lay of the signal line must be grounded at one end.
- The total length of the signal line shall not be more than 250m.

## Dipswitch Setting

### (A) Definition and description of SW01

SW01_1 SW01_2 SW01_3 SW01_4	Wired control address	[1]	[2]	[3]	[4]	Wired control address
		0	0	0	0	0
0	0	0	0	1	Slave unit 1 in group control	
0	0	1	0	0	Slave unit 2 in group control	
0	0	1	1	0	Slave unit 3 in group control	
...	...	...	...	...	...	
1	1	1	1	1	Slave unit 15 in group control	
SW01_5 SW01_6 SW01_7 SW01_8	Indoor unit capacity	[5]	[6]	[7]	[8]	Indoor unit capacity
		0	0	0	0	0.6HP
		0	0	0	1	0.8HP
		0	0	1	0	1.0HP
		0	0	1	1	1.2HP
		0	1	0	0	1.5HP
		0	1	0	1	1.7HP
		0	1	1	0	2.0HP
		0	1	1	1	2.5HP
		1	0	0	0	3.0HP
		1	0	0	1	3.2HP
		1	0	1	0	4.0HP
		1	0	1	1	5.0HP
		1	1	0	0	6.0HP
		1	1	0	1	8.0HP
1	1	1	0	10.0HP		
1	1	1	1	15.0HP		

# Electrical Wiring

## (B) Definition and description of SW03

SW03_1	Manner of set address	Set the address with wired controller or automatism (default)									
		Set the address with dip switch									
SW03_2 ~ SW03_8	Set the Communication and Central control address with dip switch (*Note)	[2]	[3]	[4]	[5]	[6]	[7]	[8]	Address of indoor unit	Address of centralized controller	
		0	0	0	0	0	0	0	0	0# (Default)	0# (Default)
		0	0	0	0	0	0	0	1	1#	1#
		0	0	0	0	0	0	1	0	2#	2#
		...	...	...	...	...	...	...	...	...	...
		0	1	1	1	1	1	1	1	63#	63#
		1	0	0	0	0	0	0	0	0#	64#
		1	0	0	0	0	0	0	1	1#	65#
		1	0	0	0	0	0	1	0	2#	66#
		...	...	...	...	...	...	...	...	...	...
		1	1	1	1	1	1	1	1	63#	127#

### Note \*:

- Set the address by code when connecting the centralized controller or gateway or charge system.
- Address of centralized controller=communication address+0 or+64.  
 SW03\_2=OFF, address of centralized controller=communication address+0=communication address  
 SW03\_2=ON, address of centralized controller=communication address+64 (applies when centralized controller is used and there are more than 64 indoor units)
- To use with 0010451181A in use, it is required to use code for address setting. Set SW03\_1=0N and SW03\_2=OFF; SW03\_3, SW03\_4, SW03\_5, SW03\_6, SW03\_7 and SW03\_8 are address codes which are set according to actual address.
- Address setting function of wired controller for ultrathin card machine is disabled.

# Test Run & Fault Code

## Before Test Run

- Before switching it on, test the supply terminal tier (L, N terminals) and grounding points with 500V megaohm meter and check if the resistance is above 1MΩ. It can't be operated if it is below 1MΩ.
- Connect it to the power supply of outdoor units to energize the heating belt of the compressor. To protect the compressor at startup, power it on 12 hours prior to the operation.

### Check if the arrangements of the drainpipe and connection line are correct.

The drainpipe shall be placed at the lower part while the connection line placed at the upper part. Heat preservation measures should be taken such as winding the drainpipe esp. in the indoor units with heating insulating materials. The drain pipe should be made a slope type to avoid protruding at the upper part and concaving at the lower part on the way.

### Checkup of Installation

- |   |  |
|---|--|
| <input type="checkbox"/> check if the mains voltage is matching   | <input type="checkbox"/> check if the installation place meets the requirement |
| <input type="checkbox"/> check if there is air leakage at the piping joints                             | <input type="checkbox"/> check if there is too much noise                      |
| <input type="checkbox"/> check if the connections of mains power and indoor & outdoor units are correct | <input type="checkbox"/> check if the connecting line is fastened              |
| <input type="checkbox"/> check if the serial numbers of terminals are matching                          | <input type="checkbox"/> check if the connectors for tubing are heat insulated |
|   | <input type="checkbox"/> check if the water is drained to the outside          |
|   | <input type="checkbox"/> check if the indoor units are positioned              |

## Ways of Test Run

Do ask the installation personnel to make a test run. Take the testing procedures according to the manual and check if the temperature regulator works properly.

When the machine fails to start due to the room temperature, the following procedures can be taken to do the compulsive running. The function is not provided for the type with remote control.

- Set the wired controller (E17) to cooling/heating mode, press "ON/OFF" button for 10 seconds to enter into the compulsive cooling/heating mode. Repress "ON/OFF" button to quit the compulsive running and stop the operation of the air conditioner.

## Fault Remedies

When any fault appears, consult the fault code of line control or the flashing times for LED5 of computer panel of indoor units/health lamp of receiving window of remote control and find out the faults as shown in the following table to remove all faults.

### Indoor Unit Faults

Failure code at wired controller	PCB LED5 (Indoor Units) / Receiver Timer Lamp (RemoteController)	Fault Descriptions
1	1	Fault of indoor unit ambient temp. transducer TA
2	2	Fault of indoor unit pipe temp. transducer TC1
3	3	Fault of indoor unit pipe temp. transducer TC2
5	5	Fault of indoor unit EEPROM
6	6	Fault of communication between indoor & outdoor units
7	7	Fault of communication between indoor unit and wired control
8	8	Fault of indoor unit water drainage
9	9	Fault of duplicate indoor unit address
14	14	Fault of DC MOTOR
18	18	Fault of BS valve box or 4MV Reverse
20	20	Corresponding faults of outdoor units

# Move and scrap the air conditioning

---

- When moving, to disassemble and re-install the air conditioning, please contact your dealer for technical support.
- In the composition material of air conditioning, the content of lead, mercury, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers are not more than 0.1% (mass fraction) and cadmium is not more than 0.01% (mass fraction).
- Please recycle the refrigerant before scrapping, moving, setting and repairing the air conditioning; for the air conditioning scrapping, should be dealt with by the qualified enterprises.





Qingdao Haier Air Conditioner Electric Co.,Ltd.

Haier Industrial Park,Qianwangang Road,Eco-Tech Development Zone,Qingdao 266555,  
Shandong,P.R.C.