

# Indoor Unit Operation & Installation Manual

MVAW007MV2AA

MVAW009MV2AA

MVAW012MV2AA

MVAW018MV2AA

MVAW024MV2AA

MVAW030MV2AA

No. 0150522200

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

Original instructions



# User Manual

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Your air conditioner may be subject to any change owing to the improvement of Haier products.

MRV series multi zone air conditioning systems can operate multiple indoor units in heating or cooling. When in cooling, only units set to cool will run. Same logic applies for heating.

Turn power on for 12 hours prior to start-up to allow the crankcase heater adequate time to protect the compressor. All indoor units on the same refrigeration system should use the unified power switch to ensure that all indoor units are all powered on during system operation.

### Product Features

1. Hanging-style installation to save space;
2. Automatic display of faults;
3. Function of central control, wired control, wireless control (optional from our company).
4. The air conditioner is provided with the function of compensation for power supply. During operation, when the power supply fails emergently and resumes again, the air conditioner returns to the working condition before power failure, if provided with compensation function.
5. The operating methods and functions are same although the shapes of indoor units are different. Therefore, the outline drawing of MVAW007MV2AA indoor unit is taken as an example for illustration.

### 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 equipment should not be used or serviced by personnel who have not been properly trained in its operation and maintenance.
- Children should be supervised to ensure that they do not play with the appliance.
- 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.

### Operation condition:

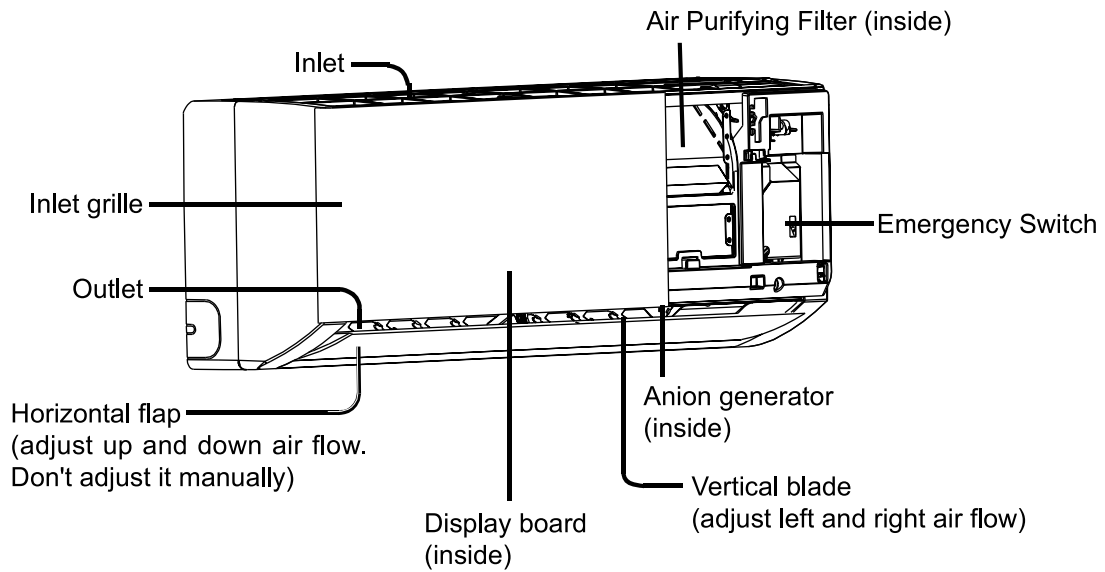
To use the air conditioner normally, please perform as to the below conditions.

#### Operating Range of Air Conditioner

Cooling dry	Indoor	Max.	DB: 90°F(32°C)	WB: 74°F(23°C)
		Min.	DB: 64°F(18°C)	WB: 57°F(14°C)
	Outdoor	Max.	DB: 115°F(46°C)	WB: 79°F(26°C)
		Min.	DB: 23°F(-5°C)	
Heating	Indoor	Max.	DB: 80°F(27°C)	
		Min.	DB: 59°F(15°C)	
	Outdoor	Max.	DB: 75°F(24°C)	WB: 59°F(15°C)
		Min.	DB: -4°F(-20°C)	

# Parts and Functions

## Indoor Unit



- ① Remote signal receiver  
(A beeping sound is generated when a signal from remote controller is received.)
- ② Power indicator (Lights up when unit starts.)
- ③ Timer mode indicator (Lights up when Timer operation is selected.)
- ④ Operation mode indicator (lights up when the compressor is on.)
- ⑤ Ambient temp display  
When receiving the remote control signal, display the set temperature.



# Safety

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- This manual should be saved and stored close to this air conditioning equipment.
- There are two types of indications. Both are related to safety and should be strictly followed. "⚠Warning" highlights issues that pose a risk of major injury or death. "⚠Caution" highlights issues that pose a risk of equipment or bodily injury.
- After installation and start-up commissioning, please give the manual to the user. The manual should be kept in safe place and close to the unit.

## ⚠WARNING

- Installation and maintenance should be performed by an authorized agency. The wrong operation of this air conditioning equipment may cause water damage, electric shock or fire.
- Please install the unit on the top of a solid foundation or structure which is strong enough to support the unit.
- The installation of this air conditioning equipment should follow local building codes.
- Use the right cable size, secure the terminal firmly, organize the cables well and make sure no tension is added on cables. Cable insulation should not be damaged. Improper wire installation may lead to fire.
- This unit is only compatible with R-410A refrigerant. If any other gas enters the system, it may lead to abnormal high pressure which may cause damage or injury.
- Only use branches supplied by Haier. Use of any other branches will void warranty.
- Keep the condensate drain pipe away from toxic gas vents to prevent possible pollution of indoor environment.
- Care should be taken to ensure that there are no refrigerant leaks. R-410A is a heavy gas and will displace oxygen. Ventilate the area if a leak is found.
- The unit is not explosion-proof. Please keep it away from flammable gases.
- The drain pipe should be installed per this manual to ensure proper drainage. The pipe should be well insulated to avoid condensation. Wrong installation may lead to water damage.
- Both liquid pipe and the vapor pipe should be also well insulated. Not enough insulation may lead to system performance deterioration or condensate formation.
- This equipment should not be used or serviced by personnel who have not been properly trained in its operation and maintenance.
- Children should be supervised to ensure that they do not play on or near the equipment.
- Keep the appliance and its cord out of reach of children.
- The appliances are not intended to be operated by means of an external timer or separate remote-control system.

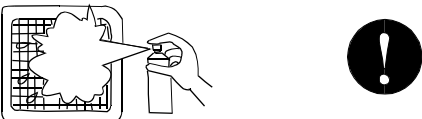
## ⚠CAUTION

- Grounding wire should be connected to the grounding bar. The grounding wire cannot be connected to the gas pipe, water pipe, lightning rod or the telephone grounding wire. Improper grounding may cause electric shock.
- A circuit breaker should be installed. If not, it may cause electric shocks or accidents.
- After installation, the air conditioning equipment should be powered on and passed the electric leakage current test.
- If the ambient humidity is more than 80%, if the water discharge hole is blocked or the filter becomes dirty or the airflow speed changes, this may lead to condensate water leaks. There may also be some drops of water spraying out.

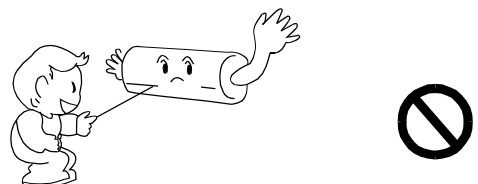
# Safety

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

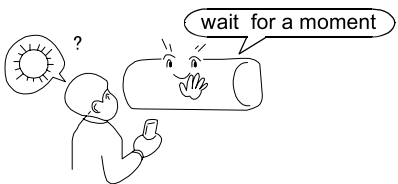
Clean the filter regularly.  
Cooling or heating performance will be degraded if the filter is blocked, resulting in large power consumption, failure, and water dripping at freezing.



Don't touch the outlet while the flap is moving. Don't put anything in the grid in case danger may occur.



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.




**Changing Wind Speeds:**  
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.

**Regulating Wind Direction:**  
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.

**Defrosting:**  
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.

The machine operation must be controlled by the control.

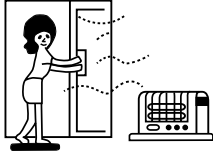
















**Hints:**  
As air conditioners absorb heat from the environment and release it to the room, heating effects will be influenced by the temperature in and out of the room.



# Safety

## ⚠ Attention

Notices during Operation	<ul style="list-style-type: none"> <li>Do not put any heating apparatus under the indoor units. The heat may cause distortion of the units.</li> </ul>	<ul style="list-style-type: none"> <li>3-minutes protection To protect the unit, there is a 3-minute time-out after the unit stops or after power is applied.</li> </ul>
	<ul style="list-style-type: none"> <li>Pay attention to the ventilation to avoid anoxic injury.</li> </ul>  	<ul style="list-style-type: none"> <li>Close the window to avoid outdoor air getting in. Curtains or window shutters can be put down to avoid the sunshine.</li> </ul> 
	<ul style="list-style-type: none"> <li>Do not place an open flame in the path of blowing air.</li> </ul>  	<ul style="list-style-type: none"> <li>Do not touch the power switch with the wet hand to avoid power shock.</li> </ul> 
	<ul style="list-style-type: none"> <li>Do not install in a corrosive environment. If the base collapses, the unit may fall and cause damage, product failure, personal injury or death.</li> </ul> 	<ul style="list-style-type: none"> <li>Turn off the system and remove power when servicing the unit.</li> </ul> 
	<ul style="list-style-type: none"> <li>Do not use the unit for special purposes such as preserving foods, works of art etc. It is an air conditioner for comfort cooling / heating, not a precision refrigeration system.</li> </ul> 	<ul style="list-style-type: none"> <li>Don't remove power while system is running.</li> </ul> 
	<ul style="list-style-type: none"> <li>Use the correctly rated breaker or fuse. Improper breaker or fuse may lead to fire, electric shock, explosion, personal injury or death.</li> </ul> 	<ul style="list-style-type: none"> <li>Do not clean the unit with water spray. There is risk of unit failure, fire, electric shock, personal injury or death.</li> </ul>  
	<ul style="list-style-type: none"> <li>Do not permit water or steam to enter the unit and the wired controller. There is risk of unit failure, fire, electric shock, personal injury or death.</li> </ul> 	<ul style="list-style-type: none"> <li>Keep flammable gas or combustibles away from the unit. There is risk of product failure, fire, personal injury or death.</li> </ul> 
	<ul style="list-style-type: none"> <li>Turn off the power to save energy if the unit will be not used for a long period. If the unit is not powered off, it will consume power.</li> </ul>	<ul style="list-style-type: none"> <li>Please keep children away from this air condition equipment.</li> </ul>

# Emergency Running & Test operation

## Emergency Running & Test operation:

- Emergency running will help air conditioner operate automatically if your remote control is missing or out of work.
- Test operation is recommended when room temperature is below 60.8\*(16\*) but not in normal condition.

### Emergency Running

It is recommended to use only when the remote control is missing or damaged.

#### Startup

A warning tone could be heard after turning on the Emergency Running switch, which means that the emergency running gets started.

- Air conditioner operates automatically according to the working modes blow:

Set Temp	Wind Speed	Working Mode
75.2°F(24°C)	auto	auto

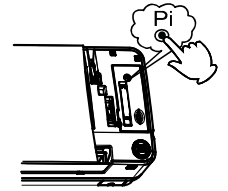
Temperature setting values and wind speed cannot be changed in the mode of emergency running. Meanwhile, dehumidification and timing operation cannot be operated simultaneously.

#### Shutdown (canceling the emergency running)

All the indicator lamps on the conditioner extinguish after pressing the emergency running switch and hearing the warning tone.

#### Canceling the emergency running with the remote controller

A warning tone is heard after pressing the ON/OFF button on remote controller. The air conditioner works according to the indication of operating state on the remote controller.



### Test Operation

It is recommended when the room temperature is below 60.8°F (16°C) but not in normal condition.

#### Startup

Press it for over 5 seconds till 2 warning tones are heard and then release your finger to start the test operation. The air conditioner is operating at high wind speed. The test operation lasts for 30 minutes before the air conditioner stops automatically.

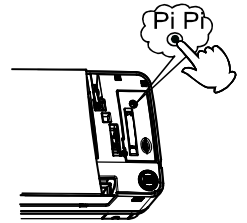
#### Shutdown (canceling the test operation)

The warning tones are followed after pressing the test operation switch.

#### Canceling the test operation with the remote controller

The warning tone could be heard after pressing the switch on remote controller.

The air conditioner works according to the indication of operating state on the remote controller.



# Maintenance

Cleaning the air filter & air inlet grid.

- Don't remove the air filter except for cleaning, or faults may occur.
- When the air conditioner operates in the environment with too much dust, clean the air filter on a more regular basis (generally once every two weeks).

## Cleaning the Air Inlet/Outlet Grilles:

### ⚠ Attention

- Do not use gasoline, benzene, diluents, polishing powder or liquid insecticide to clean them.
- Do not clean them with hot water of over 122°F(50°C) to avoid fading or distorting.
- Wipe them with a soft dry cloth.
- Water or neutral dry cleaner is recommended if the dust cannot be removed.

## Cleaning Air Filter:

### ⚠ Attention

- Don't rinse the air filter with hot water of above 122°F(50°C) to avoid fading and distorting.
- Don't put the air cleaner near fire to dry to avoid catching fire.

(A) Brush off dirt and vacuum.



(B) Wash with soft cloth and mild detergent.

(C) Shake water off and allow the filter to fully air dry before reinstalling.

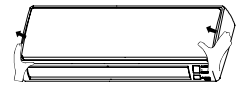


Clean the machine (Cleaning ways are approximately same, taking MVAW007MV2AA indoor machine as example). Turn off the air conditioner before cleaning. Do not touch the machine if the hands are wet. Neither hot water nor solvent should be used in cleaning.

## Replacement of Air Purifying Filter

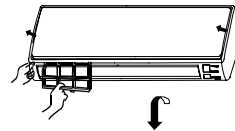
### 1. Open the Inlet Grille

Prop up the inlet grille by using a small device named grille-support which located in the right side of the indoor unit.



### 2. Detach the standard air filter

Slide the knob slightly upward to release the filter, then withdraw it.

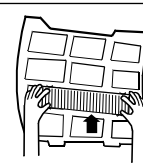


Detach old Air Purifying Filter



### 3. Attach Air Purifying Filter

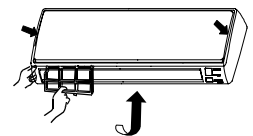
Put air purifying filter appliances into the right and left filter frames.



### 4. Attach the standard air filter (Necessary installation)

#### ATTENTION:

The white side of the photocatalyst air purifying filter face outside, and the black side face the unit. The green side of the bacteria-killing medium air purifying filter face outside, and the white side face the unit.



### 5. Close the Inlet Grille


Close the Grille surely

#### NOTE:

- The photocatalyst air purifying filter will be solarized in fixed time. In normal family, it will be solarized every 6 months.
- The bacteria-killing medium air purifying filter will be used for a long time, no need for replacement. But in the period of using them, you should remove the dust frequently by using vacuum cleaner or flapping them lightly, otherwise, its performance will be affected.
- Please keep the bacteria-killing medium air purifying filter in the cool and dry conditions avoid long time directly sunshine when you stop using it, or its ability of sterilization will be reduced.

# 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.
	Idle indoor unit still has sound of refrigerant flowing and radiating temperatures.	To prevent oil and refrigerant from blocking the valve of idle units (off or satisfied) while other indoor units are operating, some refrigerant flow is allowed to pass through. This may result in some radiating temperature and flow noise.
	Clicking sound when unit comes 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 		<p>Check if there is a power failure.</p> <p>Check if the supply fuse and breaker are disconnected.</p> <p>Check if the unit is displaying any faults.</p> <p>Check if wait symbol is displayed. This is due to other indoor units connected to the same outdoor unit are running in the opposite mode. System cannot heat and cool simultaneously.</p>
• Bad cooling & heating effects		<p>Check if air intake port and air outlet port of outdoor units are blocked.</p> <p>Check if the door and windows are open.</p> <p>Check if the filtering screen of air cleaner is blocked with sludge or dust.</p> <p>Check if the setting of wind quantity is at low wind.</p> <p>Check if the setting of operation is at the Fan Operation state.</p> <p>Check if the temperature setting is proper.</p>

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 cannot completely illustrate all the properties of the products you bought. Please contact the local Haier distribution center if you have any question or request.

Please use the standard tool according to the installation requirements.

The standard attached accessories of the units of this series refer to the packing; prepare other accessories according to the requirements of the local installation point of our company.

## 1. Choose the suitable installation location. Indoor units should be installed in places with the environment of even circulation of cool and warm blows. The following places should be avoided.

Places with high salinity (beach), high sulfured gas (such as the thermal spring regions where copper tubes and soft soldering are easy to be eroded), much oil (including mechanical oil) and steam; places where organic substance solvent is frequently used; places where machines generate the high frequency electromagnetic wave (abnormal condition will appear in the control system); places where there is high humidity exists near the door or windows (dew is easily formed); and places where the special sprayer is frequently used.

### Indoor Units

1. The distance between wind outlet port and the ground should not be more than 8.86ft. The distance to streets should not be less than 8.2ft.
2. Select appropriate places for installation where the outlet air can be spread to places all over the house and arrange proper locations for connecting pipes and lines as well as the drainpipe to the outdoor.
3. Ceiling construction must be hard enough to hold the weight of the unit.
4. Make sure that the connecting pipe, drainpipe and connecting guide line can be put into walls to connect the outdoor units.
5. It is recommended to make the connecting pipe between the outdoor and indoor units and the drainpipe as short as possible.
6. Please read the attached installation instruction of outdoor units for regulation of filling amount of refrigerant if necessary.
7. Select a place close to the supply socket of air conditioner and enough space should be kept near the machine.
8. Those electrical appliances such as television, instruments, devices, artwork, piano, wireless equipment and other valuables should not be placed under the indoor unit and over 1m away from the daylight lamp as to prevent condensate from dropping into them and causing damage.

### Required Tools for Installation

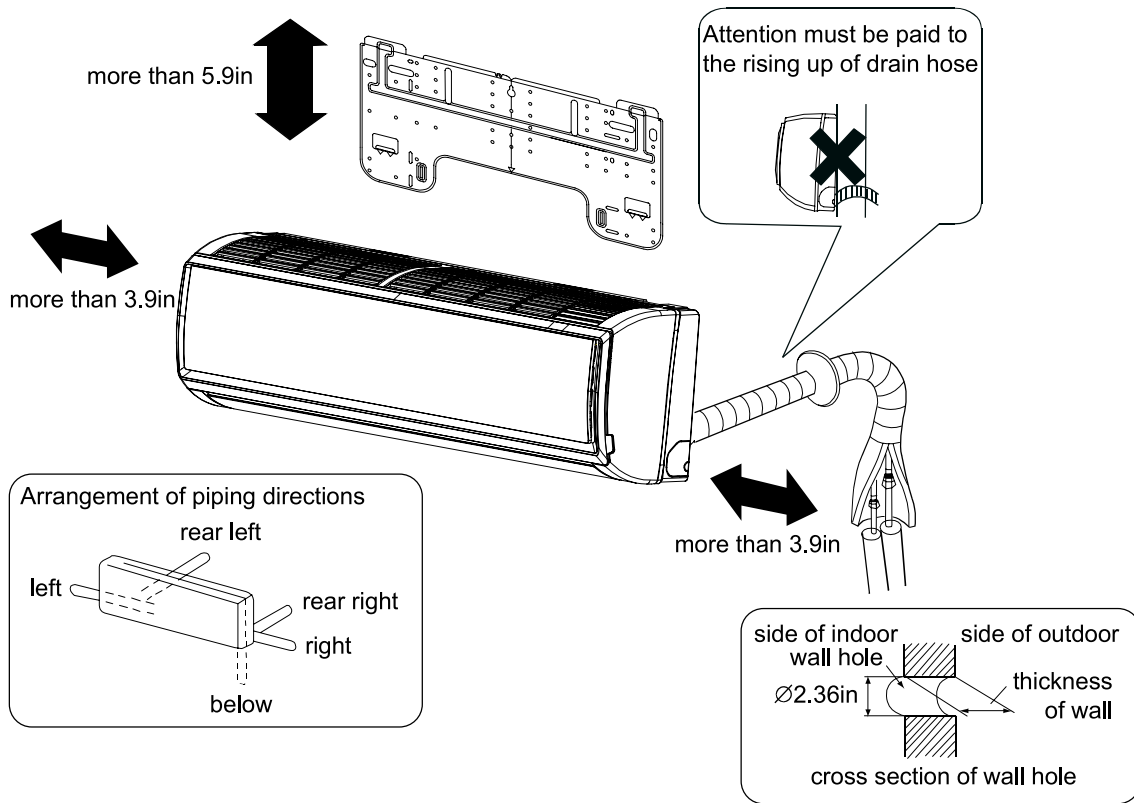
- Brazing torch
- 15% silver phosphorous copper brazing alloy
- Wire stripper
- Soap-and-water solution or gas leakage detector
- Torque wrench
- 17mm, 22mm, 26mm
- Tubing cutter
- Reaming tool
- Flaring tool
- Razor knife
- Measuring tape
- Level
- Vacuum pump
- Micron gauge
- Nitrogen
- Mini-Split AD-87 Adapter (1/4" to 5/16")
- Non-adhesive Tape
- Adhesive Tape
- Electrical wiring

## 2. The following steps can be taken after selecting the installation place:

Cut a hole on the wall and put the connecting pipe and connecting thread into the PVC, which is purchased at the local shop. With a slight downwards tilt towards the exterior, the gradient should be kept at least 1/100. before cutting the hole, check if there are pipes or reinforcing steel bars at the rear of the hole. Making the hole in the place with wires or pipes should be avoided.

# Installation Procedures

## 3. Installation Drawing of Indoor Units:



### (1) Positioning Wall Pad & Locating Wall Holes

Fix the pad according to the installation location and the pipe layout of indoor unit (please refer to the installation drawing). Installation should be done under the crossbeam or on the flat wall near the pillar. First fix the pad with a steel nail on the wall.

Drop a thread with a bolt through the pad center or use a level meter to find the level.

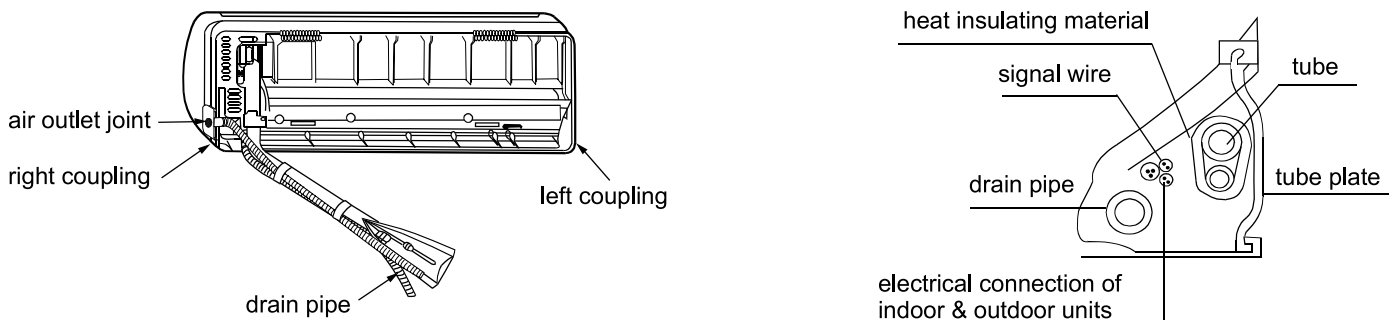
Then fix it with a concrete steel nail, and measure the position of the wall hole A.

### (2) Drilling Hole & Mounting Guard Ring

Drill a hole of 2.36in bore with a slight tilt downwards to the outside, mount the guard ring, and seal it with gesso or putty after finishing the installation.

### (3) Arranging Wiring of Indoor Unit

Arrange the layout of connection pipe, drain pipe, connecting line, signal line and air refreshing pipe according to the locations of your indoor unit, outdoor unit and wall holes, with drainage hose lower, connecting line upper. Intercrossing winding is not allowed between the mains line and the connecting line, and the drain pipe (especially in the indoor unit and the inside of machine) should be wound with heat insulating materials for heat preservation.



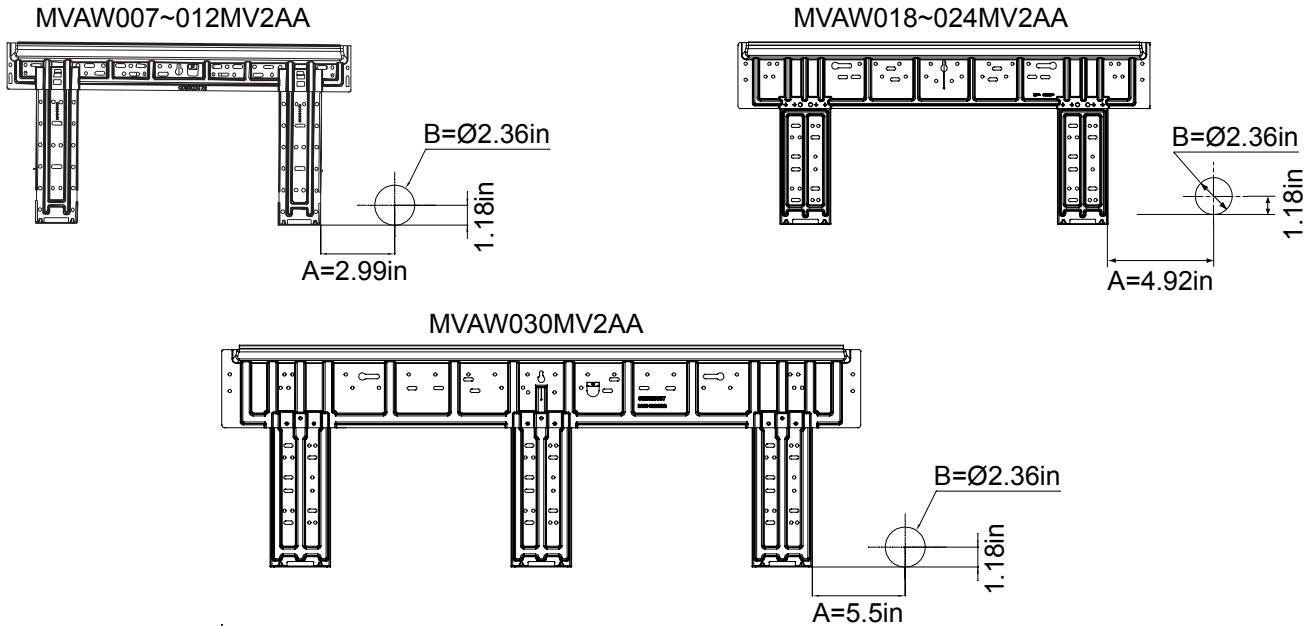
(4) Lead the connection tubing (liquid pipe and gas pipe) through the hole into the wall, or connect piping and wiring of indoor unit (check the number of wiring terminals of indoor and outdoor units and connect terminals with the same number and color), and then put the connection tubing and the connecting line through from the inside wall for the connection with outdoor unit.

# Installation Procedures

## Fitting of the Mounting Plate and Positioning of the wall Hole

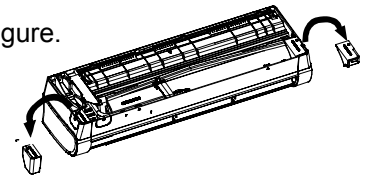
### When the mounting plate is first fixed

1. Carry out, based on the neighboring pillars or lintels, a proper leveling for the plate to be fixed against the wall, then temporarily fasten the plate with one steel nail.
2. Make sure once more the proper level of the plate, by hanging a thread with a weight from the central top of the plate, then fasten securely the plate with the attachment steel nail.
3. Find the wall hole location A using a measuring tape.

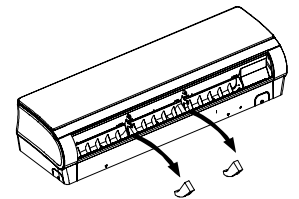


### Pay attention to the following points before installation of machine:

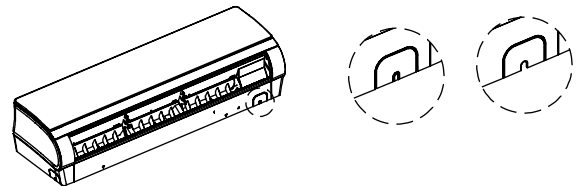
1. Take out cushion blocks on the left and right angle beads as shown in the following Figure.



2. Remove 2 gaskets under the cross-flow fan (MVAW018/24MV2AA).



3. Clean the burr on the surface of fracture to avoid the power wire from being scratched after removing the virtual opening of the outgoing line slot on the case by hands in indoor power-on process.



### When the mounting plate is fixed side bar and lintel

- Fix to side bar and lintel a mounting bar, Which is separately sold, and then fasten the plate to the fixed mounting bar.
- Refer to the previous article, "When the mounting plate is first fixed" for the position of wall hole.

# Installation Procedures

## Pipe Length & Height Difference

Please refer to the attached manual of outdoor units.

## Tubing Materials & Specifications

Model		MVAW007~018	MVAW024~030
Tubing Size in(mm)	Gas pipe	Ø1/2"(Ø12.7)	Ø5/8"(Ø15.88)
	Liquid pipe	Ø1/4"(Ø6.35)	Ø3/8"(Ø9.52)
Tubing Material		Seamless copper pipe rated for R410A refrigerant	

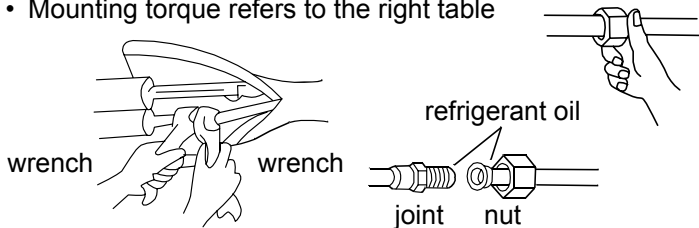
## Refrigerant Recharge Amount

Add the refrigerant according to the installation instruction of outdoor unit. The addition of R410A refrigerant must be performed with a digital scale to ensure the proper charge. Compressor failure can be caused by over or under charging the system.

## 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 in (mm)	Mounting Torque lb-in (N-m)	Flare Torque Spec ft-lb (N-m)
Ø1/4"(Ø6.35)	104.4 (11.8)	13 (18)
Ø3/8"(Ø9.52)	216.8 (24.5)	30 (40)
Ø1/2"(Ø12.7)	443.7 (49.0)	43 (59)
Ø5/8"(Ø15.88)	693.9 (78.4)	76 (103)

## 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

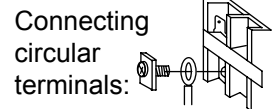
Open all the valves of outdoor units. [NB: oil balancing stop valve must be shut up completely when connected one main unit.]

## Checkup for Air Leakage

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

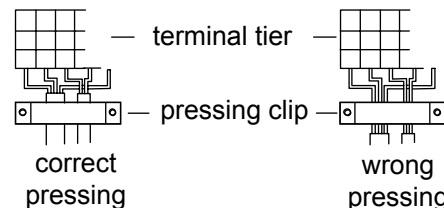
## Connecting

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.



# Installation Procedures

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## Installing and Dismantling Indoor Unit

### 1. Installation

During the installation of this series machines, fasten the wall pad on the wall first, hang the machine on the pothook, push it towards the wall pad until the sound of "pa" "pa" is heard. At this time, the agraffes of the indoor unit have hitched on the pad, as shown in the Fig.1 with dotted line.

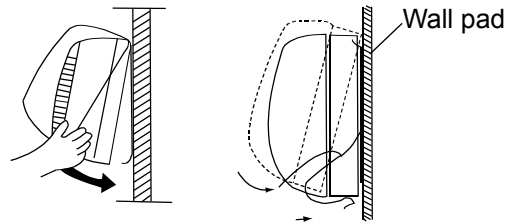


Fig. 1

### 2. Dismantling

During dismantling this series machines, push agraffes at the bottom of indoor unit upwards to release them, as shown in Fig.2, and pull up the bottom of indoor unit outwards gently and then raise the unit upwards in the bevel direction to release the pothook at the upper part of the wall pad, as shown in Fig.2.

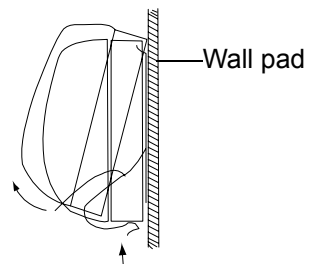


Fig. 2

# Electrical Wiring

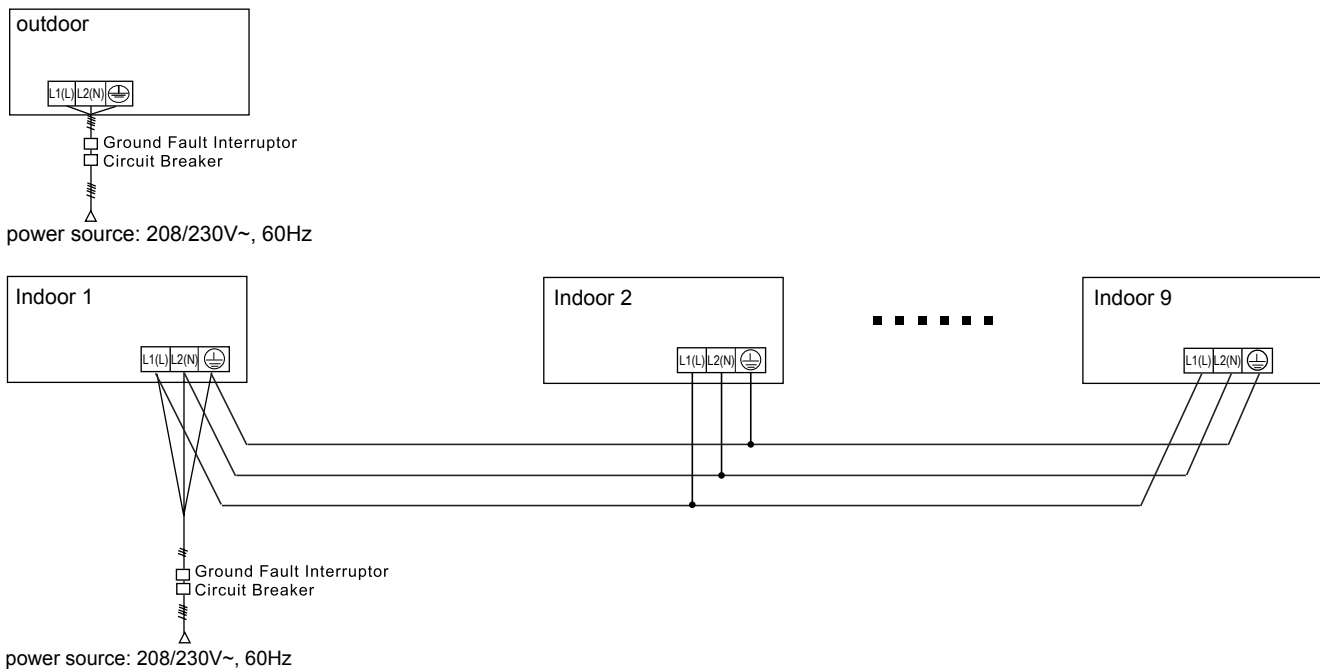
## ⚠ WARNING

- Follow local codes when selecting wire gauge and connecting to house power.
- Use the cable strain relief clips and locking conduit clamps to prevent wires from being pulled off terminal posts.
- Unit must be properly grounded. Do not use water or gas piping, phone ground or lightning rod.

## ⚠ Attention

- Only copper wire can be used. A properly sized breaker should be provided, or electric shock may occur.
- Unit requires 208/230VAC - 2 voltage wires and a ground. No neutral.
- All indoor units should be wired to the same breaker to prevent some of the units from being powered off while others are energized.
- Controller wiring and refrigerant tubing can be arranged and ran together.
- Disconnect power from both outdoor and indoor units prior to servicing any component in the system.

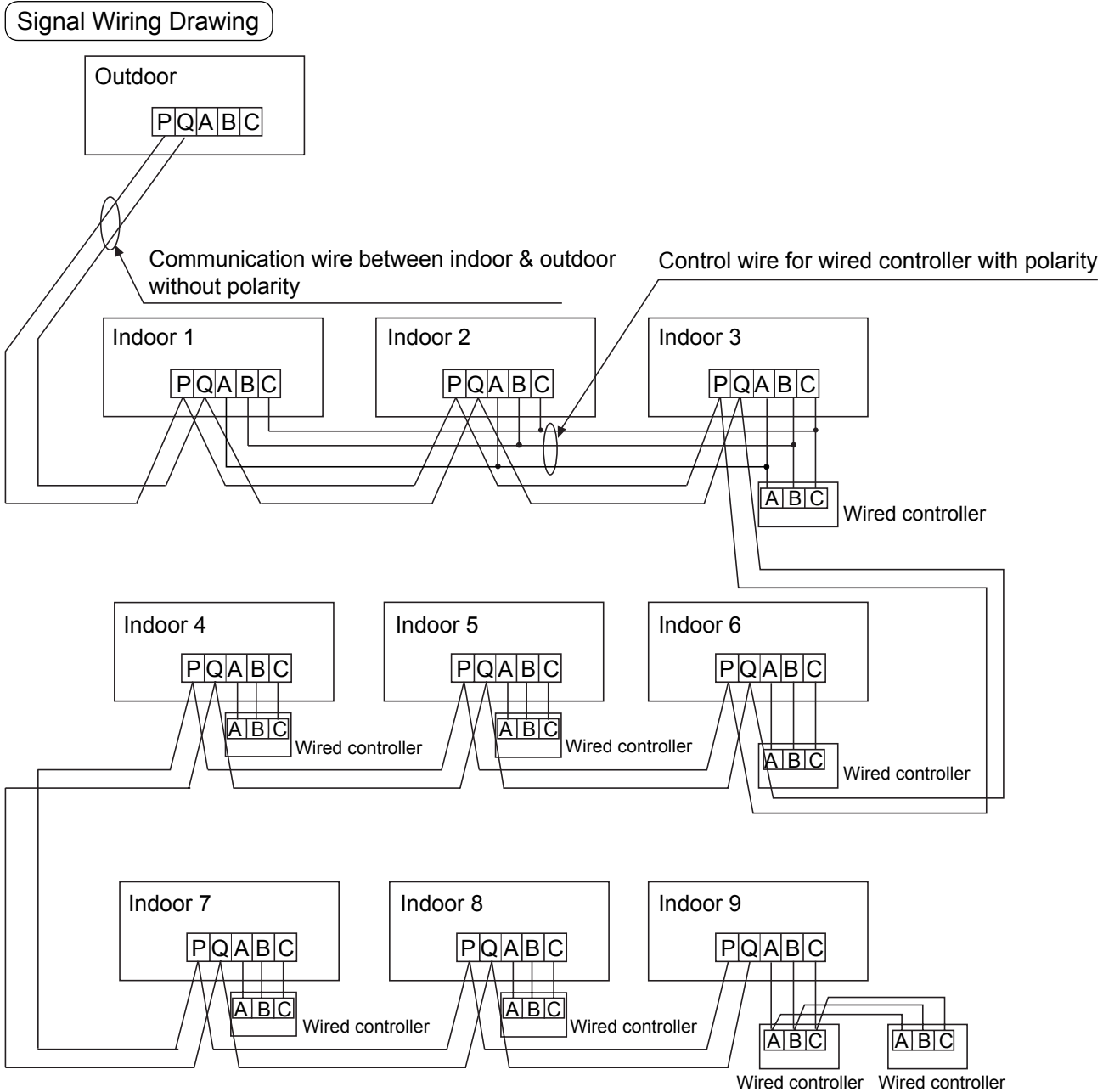
### Supply Wiring Drawing



- Indoor units and outdoor units should be connected to separate power breakers.
- Indoor units must share one single electrical breaker. Circuit breaker specifications should be calculated. It is recommended to have both indoor & outdoor units connected to GFCI and surge devices.



# Electrical Wiring



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 ways of connecting the line control and indoor units:

- One wired control to control multiple units, i.e. 2-9 indoor units, as shown in the above figure, (1-3 indoor units). The indoor unit 3 is the wire controlled main unit and others are the wired controlled sub units. The remote control and the main unit (directly connected to the indoor unit of wired control) are connected via three wires with polarity. Other indoor units and the main unit are connected via three lines with polarity. SW01 on the main unit of wired control is set to 0 while SW01 on other sub units of wired control are set to 1, 2 and so on in turn. (Please refer to the code setting A at page 15)
- One wired control controls one indoor unit, as shown in the above figure (indoor unit 4-8). The indoor units and the wired control are connected via three lines with polarity.
- Two wired controls control one indoor unit, as shown in the figure (indoor unit 9). Either of the wired controls can be set to be the master wired control while the other is set to be the auxiliary wired control. The master wired control and indoor units, and the master and auxiliary line controls are connected via three lines with polarity.

Note: For DC motor/low ESP duct type, the PCB comes with the terminal blocks. Please be sure to pay attention to do the wiring according to the labels. The power lines and signal lines go through the metal wire hole separately with the protective sleeve of the connecting line.

# Electrical Wiring

Wire gauge size and breaker size for total indoor amp draw. Current NEC guidelines and local codes will trump this chart.

Items Total Current of Indoor Units(A)	Cross Section AWG (mm <sup>2</sup> )	Length in.(m)	Rated Current of Overflow Breaker(A)	Rated current of residual Circuit Breaker(A) Ground Fault Interrupter(mA) Response time(S)	Cross Sectional Area of Signal Line
<7	14(2.5)	65.6(20)	10	10 A,30 mA,0.1S or below	16 AWG (1.25mm <sup>2</sup> )
≥7 and <11	12(4)	65.6(20)	15	15 A,30 mA,0.1S or below	
≥11and <16	10(6)	82(25)	20	20 A,30 mA,0.1S or below	
≥16 and <22	8(8)	98.4(30)	30	30 A,30 mA,0.1S or below	
≥22 and <27	6(10)	131(40)	30	30 A,30 mA,0.1S or below	

- The electrical power line and signal lines must be tightened.
- Every indoor unit must have a ground connection.
- The power wire should be size up if it exceeds the permissible length.
- Shielding of the wire of all the indoor and outdoor units should be connected together and grounded at one point.
- Signal lines should not exceed 3280ft(1000m).

## Wired Controller ABC Chart

Length of Controller Wire ft (m)	Wiring Dimensions AWG (mm <sup>2</sup> )
≤820(250)	18(0.75) x 3 core shielding line

- The shielding lay of the controller wire must be grounded at one end.
- The total length of the controller wire shall not be more than 820ft(250m).

## Dipswitch Setting

- The dipswitch is dialed to "On" position with the overline at the state of strapping if the code or overline status is "1" The dipswitch is dialed to "Off"position with the overline at the state of disconnection if the code or overline status is "0"
- In the table below, the choice in the box "□" refers to the setting of the socket/overline before delivery.

## Indoor Units PCB

In the following table, 1 represents On and 0 represents Off.

Definition principles of code switches:

SW01 is used to set wire controlled address of and set capabilities of master;SW03 is used to set indoor unit address (combine original communication address and address of centralized controller)

(A) Definition and description of SW01

SW01\_1-4 is used to set indoor address when grouping multiple indoor units connected to single wired controller YR-E16B or YR-E17.

SW01\_5-8 set capacity of the indoor unit (factory set). Must only set when replacing board.

SW01_1 SW01_2 SW01_3 SW01_4	Address of wire controlled indoor unit (group address)	[1]	[2]	[3]	[4]	Address of wire controlled indoor unit (group address)
		0	0	0	0	0# (wire controlled master unit) (default)
		0	0	0	1	1# (wire controlled slave unit)
		0	0	1	1	2# (wire controlled slave unit)
		0	0	1	1	3# (wire controlled slave unit)
		...	...	...	...	.....
1	1	1	1	15# (wire controlled slave unit)		
SW01_5 SW01_6 SW01_7 SW01_8	Capability of indoor unit	[5]	[6]	[7]	[8]	Capability of indoor unit
		0	0	0	1	7000
		0	0	1	0	9000
		0	0	1	1	12000
		0	1	1	0	18000
		0	1	1	1	24000
		1	0	0	1	30000

Note : A wired controller can connected to at most sixteen ultrathin air-duct indoor units.

# Electrical Wiring

## (B) Definition and description of SW03

SW03_1	Address setting mode	Automatic address setting or wired controller address setting (default)									
		Code-set address									
SW03_2 ~ SW03_8	Code-set indoor unit address and centralized controller address (Note 2)	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.
  - When connecting central controller, gateway or counting system, set address by dip switch.

### Special function

#### 1. Emergency switch:

Press the emergency switch in stop condition, indoor unit operate with AUTO, AUTO SPEED, 24 Setting modes, pressure the emergency switch in start condition, indoor unit will stop operation.

#### 2. Temp. consumption:

The heating mode, the temp. compensation range is 6.8°F(-14°C)~32°F(0°C).

Set the temp. consumption in Heating mode with remote controller, heating mode ,set 86°F(30°C) as the reference point, press the sleep button 7 times, the buzzer ring 2 times, the unit enter temp. consumption condition. Temp. consumption data=current temp.-22°F(-30°C)

In the cooling mode, the temp.compensation range is 19.4°F(-7°C)~44.6°F(+7°C).

Set the temp. consumption in Cooling mode with remote controller, cooling mode ,set 73.4°F(23°C) as the reference point, press the sleep button 7 times in 5 seconds, the buzzer ring 2 times, the unit enter temp. consumption condition. Temp. consumption data=current temp.-9.4°F(-23°C).

#### 3. Energy saving setting:

In on condition, press the health button 8 times within 5 seconds, buzzer short ring 4 times that the energy saving setting is valid, if the buzzer rings 2 times that the energy saving setting is invalid.

#### 4. Compulsive Defrost:

In heating mode, setting high speed ,set temp. is 86°F(30°C), press sleep button for 6 times, buzzer short ring 3 times, unit enter manual defrost mode.

#### 5. Auto start function:


In on condition, press the sleep button 10 times within 5 seconds, buzzer short ring 4 times stands for enter auto restart function; press the sleep button 10 times within 5 seconds, buzzer short ring 2 times stands for exit auto restart function .

The memory information: on/off condition, mode, fan speed, setting temp., swing position.

#### 6. Room card Function:

Room card function can realize by remote controller. Press the light button 12 times with remote controller,if the buzzer rings 4 times that the room card is valid, if the buzzer rings 2 times that the room card is invalid.

#### 7. Health anion function:

In on condition, press the "HEALTH" button, when displaying icon  on LCD display, Air conditioner starts health anion function operation, press the "HEALTH" button again n to cancel anion function.

# Test Run & Failure 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

- Check if the mains voltage is matching
- Check if there is air leakage at the piping joints
- Check if the connections of mains power and indoor & outdoor units are correct
- Check if the serial numbers of terminals are matching
- Check if the installation place meets the requirement
- Check if there is too much noise
- Check if the connecting line is fastened
- Check if the connectors for tubing are heat insulated
- Check if the water is drained to the outside
- 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 to refrigerating/heating mode, press "ON/OFF" button for 5 seconds to enter into the compulsive refrigerating/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, refer to "Inquiry of fault records of indoor units" at the previous page, 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(Remote Controller)	Fault Descriptions
01	1	Fault of indoor unit ambient temp. transducer TA
02	2	Fault of indoor unit pipe temp. transducer TC1
03	3	Fault of indoor unit pipe temp. transducer TC2
04	4	Fault of indoor unit dual heat source temp. transducer
05	5	Fault of indoor unit EEPROM
06	6	Fault of communication between indoor & outdoor units
07	7	Fault of communication between indoor unit and wired control
08	8	Fault of indoor unit water drainage
09	9	Fault of duplicate indoor unit address
0A	10	Fault of duplicate central control address
0C	12	Fault of zero crossing
0E	14	Fault of DC fan
Outdoor Unit Code	20	Corresponding faults of outdoor units

Qingdao Haier Air Conditioner Electric Co.,Ltd.

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