Indoor Unit Operation & Installation Manual

MVAH009MV2AA
MVAH012MV2AA
MVAH018MV2AA
MVAH024MV2AA
MVAH030MV2AA
MVAH036MV2AA
MVAH042MV2AA
MVAH048MV2AA

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

Original instructions

User Manual

Contents

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.

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.

Product Features

1.Function of central control (optional from our company);
2.Automatic display of fault detection;
3.The air conditioner is provided with the function fo 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.
4.Now this indoor unit only has wired controller function,the indoor unit that has remote controller function need to set in factory especially.

Operation condition:

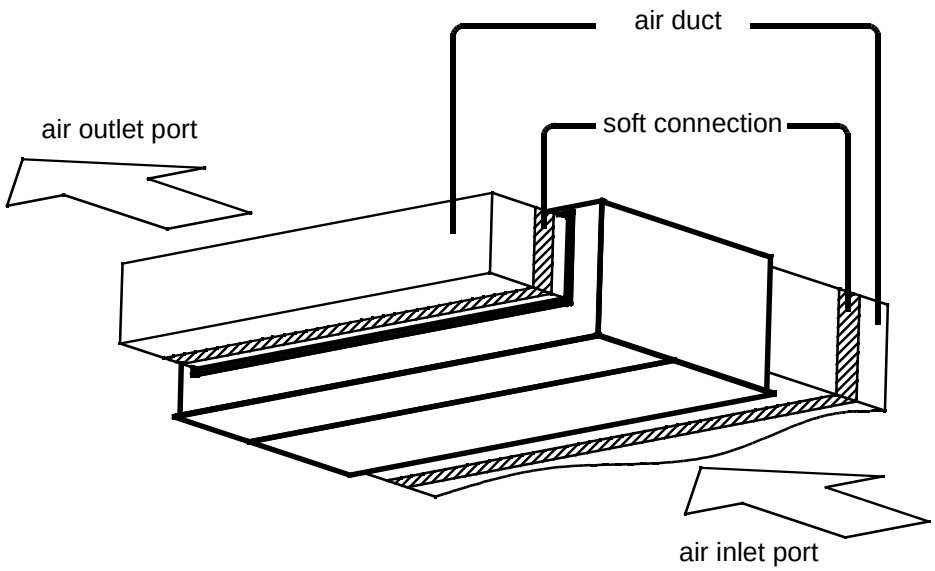
To use the air conditioner normally, please perform as to the below conditions.

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



Safety

- This manual should be saved and stored close to this air conditioning equipment.
- There are two types if 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

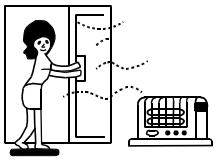
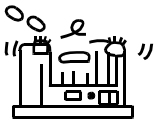
- Installation and maintenance should be performed by an authorized agency. The wrong operation of this air condition equipment may cause water damage, electric shock or fire.
- Please install the unit on the top of a solid foundation or structure which is strong enough to support the unit.
- The installation of this condition 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 if 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, lightening 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 condition equipment should be powered on and passed the electric leakage current lest.
- 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

Notices during Operation

⚠ Attention	
• Do not put any heating apparatus under the indoor units. The heat may cause distortion of the units.	• 3-minutes protection To protect the unit, there is a 3-minute time-out after the unit stops or after power is applied.
• Pay attention to the ventilation to avoid anoxic injury. 	• Close the window to avoid outdoor air getting in. Curtains or window shutters can be put down to avoid the sunshine. 
• Do not place an open flame in the path of blowing air. 	• Do not touch the power switch with the wet hand to avoid power shock.
• Do not install in a corrosive environment. If the base collapses, the unit may fall and cause damage, product failure, personal injury or death.	• Turn off the system and remove power when servicing the unit.
• 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.	• Don't remove power while system is running.
• Use the correctly rated breaker or fuse. Improper breaker or fuse may lead to fire, electric shock, explosion, personal injury or death.	• Do not clean the unit with water spray. There is risk of unit failure, fire, electric shock, personal injury or death. 
• 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.	• Keep flammable gas or combustibles away from the unit. There is risk of product failure, fire, personal injury or death.
• 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.	• Please keep children away from this air condition equipment.

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 122ºF(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.

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 during starting operation, during operation or immediately after stopping operation. When it starts for 2-3 minutes, the sound may become louder, which is the flowing sound of refrigerant or the draining sound of condensate water.
	Cracking sound	During operation, the air conditioner may make a crackling sound, which is caused from the temperature changes of the heat exchanger.
	Bad smell in outlet air	Clean filters and confirm the condensate drain pan and line are clean and clear.
	Flashing operating indicator	When switching it on again after power failure, turning on the manual power switch will show the operating indicator flashes.
	Awaiting indication	It displays the waiting indication as it fails to perform refrigerating operation while other indoor units are in heating operation. When the operator set it to the cooing or heating mode and the operation is opposite to the setting, it displays the waiting 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 expansion valve resetting.
Please make another check.	Start or stop working automatically	Check if it is set to Timer-ON and Timer-OFF.
	Failure to work 	Check if there is a power failure. Check if the supply fuse and breaker are disconnected. Check if the unit is displaying any faults. 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.
	• Poor 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 the air cleaner is blocked with debris or dust. Check if the fan setting is too low. Check if the mode set to Fan mode. Check if the temperature is set correctly.

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

- When buttons are not flexible and actuated;
- When there are foreign objects or ice in the unit;
- When it cannot be operated after exiting the protection mode;
- 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.

1. Before installation [Don't throw away the attached parts required for the installation]

- Determine the route to move the unit to the installation site;
- Transport the unit in it's box to prevent damage.

2. Select the installation site

(1) The installation site should be selected according the following conditions, which should be approved by users.

- where an ideal air distribution can be ensured;
- where there is no blockage in the air passage;
- where the condensed water can be drained out properly;
- where the structure can bear the weight of the indoor unit;
- where enough space can be ensured for maintenance.
- where the lengths of the piping between indoor units and outdoor units are within the allowable range (refer to Installation of Outdoor Units)
- where the distance of at least 3.28ft (1m) between indoor units, outdoor units, mains supply, connecting wires and television or radio should be kept as to avoid the image disturbance and noises of the above electrical appliances. (Even if 3.28ft (1m) can be ensured, noise might occur if there is strong electric wave.) Additionally, equipments, television or other valuables can't be put under the unit as to avoid the condensed water of the unit from dropping into the above articles, causing damaging.

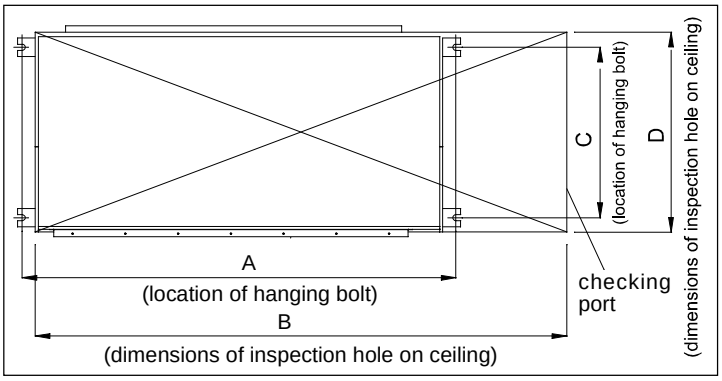
(2) Height of Ceiling:
The ceiling should be located at the place, where the central position of air outlet port is less than 9.84ft (3m) high above the ground.

(3) Hoisting studs should be used during installation.
Check if the location can bear the weight of the unit.
Reinforce it before installation if necessary.

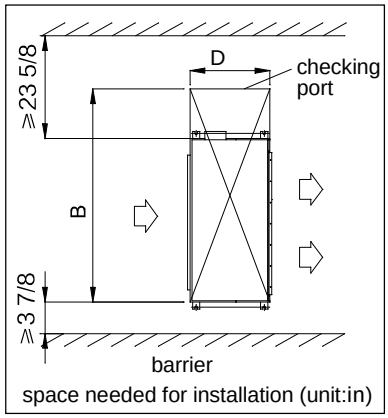
(4)The dimension of maintenance
Make sure that it is easy to demount the electrical control box, fan, montor, filter.

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



Model \ Size	A (in)	B (in)	C (in)	D (in)
MVAH009-018MV2AA	31	43 1/4	18 5/8	25
MVAH024-030MV2AA	38 7/8	51 1/8	18 5/8	25
MVAH036-048MV2AA	55 1/4	67 3/4	20 7/8	29

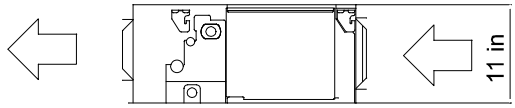


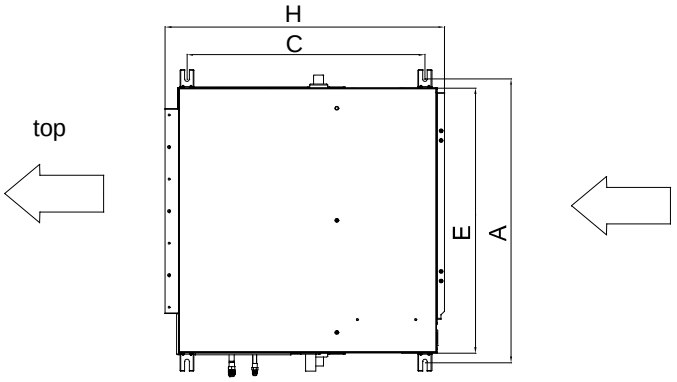
space needed for installation (unit:in)

Installation Procedures

3. Preparation before Installation

(1) Unit height is 11 inches





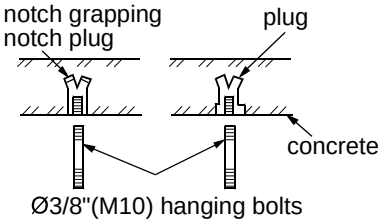
Model \ Size	A (in)	C (in)	E (in)	H (in)
MVAH009-018MV2AA	31	18 5/8	29 1/2	27 3/8
MVAH024-030MV2AA	38 7/8	18 5/8	29 1/2	27 3/8
MVAH036-048MV2AA	55 1/4	20 7/8	53 7/8	31 3/8

(2) If necessary, make a hole for installation and inspection on the ceiling. (used for the situation with a ceiling)

- For the size of the inspection hole on the ceiling, please refer to the above drawing.
- Before installation, finish all the preparations for all piping connected to indoor units (refrigerant, water drainage) and wiring (connection line of the line control, connection line between indoor units and outdoor unit) so that they can be connected with indoor units right after installation.
- For the inspection hole, the ceiling might be reinforced to keep the evenness of the ceiling and avoid the vibration of the ceiling. For details, please consult the construction contractor.

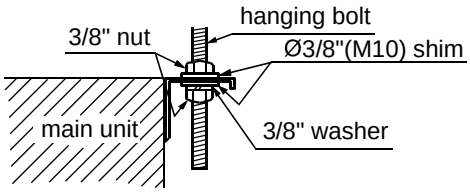
(3) Install the Ø3/8"(M10) hanging bolts

In order to support the weight of the unit, use barb bolts in the situation with a ceiling. In the situation with the new ceiling, use inlaid bolts, embedded bolts or other parts provided on site. Before proceeding the installation, adjust the gap between the bolt and the ceiling.



(4) Installation of Indoor Units

- Fix the indoor unit with the hoisting stud. If necessary, the machine can be hanged on the beam with bolts instead of the hoisting stud.



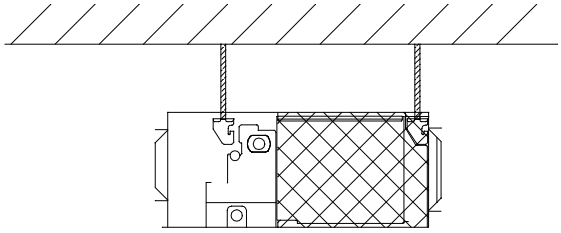
Note:

When the sizes of the main unit don't match the hole on the ceiling, regulate the slot on the hanging bracket.

Adjusting the level

Adjust the level with a level meter or according to the following ways:

- Make the adjustment as shown in the figure.



Static Pressure Range

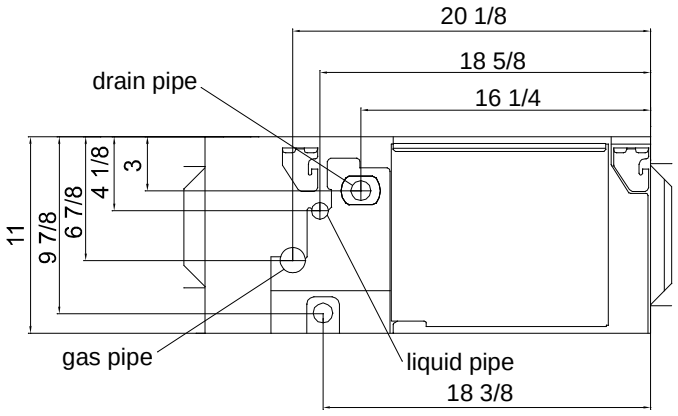
unit: IWC

Static Pressure Range
0~0.8

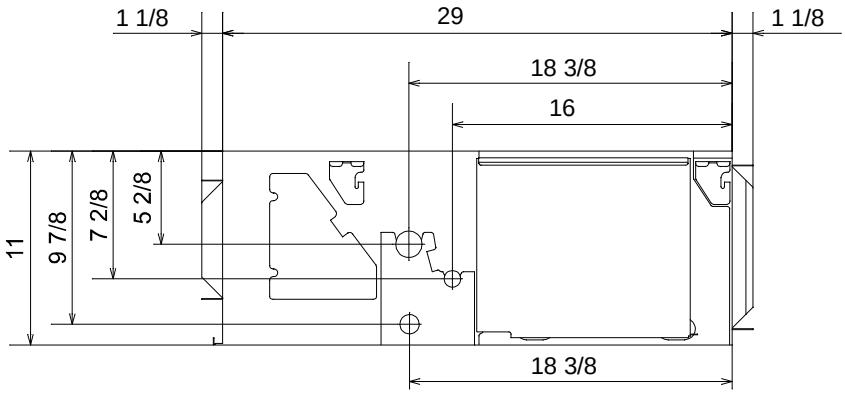
Installation Procedures

4. Drainpipes unit: in

MVAH009-030MV2AA

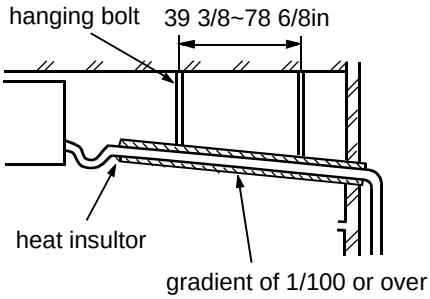


MVAH036-048MV2AA

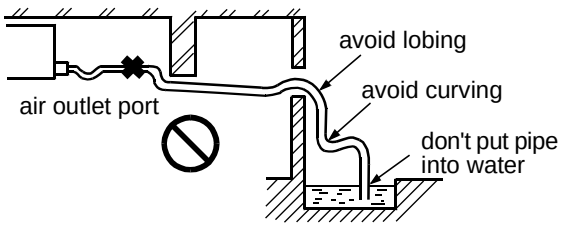


(a) To prevent water flowing back into air conditioner when the unit stops running, drain hose should decline to the drainage side with an inclination of above 1/100. Drain hose expansion or water accumulation should be prevented, or else it will cause abnormal noise.

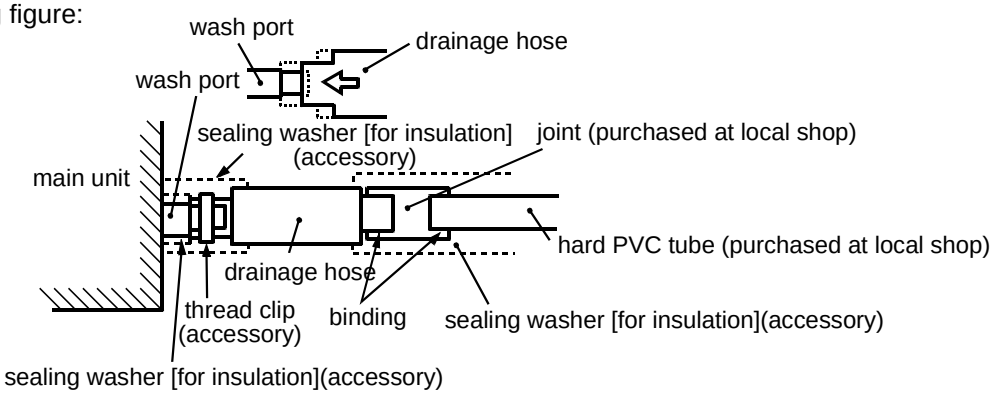
- Proper Piping



- Improper Piping

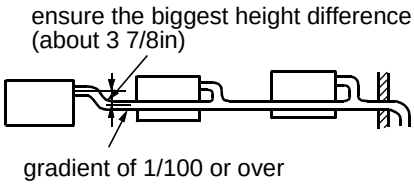


(b) Please use the accessory drain hose to connect indoor unit's water outlet and PVC pipe. Use snap rings to tighten them as shown in the following figure:



Installation Procedures

(c) Please use rigid PVC adhesive for connection of other pipes and ensure there is no leakage.
(d) Drain hose must be wrapped with insulation sleeve and tightened with a strap to prevent air leakage from producing condensate.
(e) When connecting the drain hose, do not pull on it to avoid the pipe connections from getting loose or disconnected. Drain hose should not be pulled out laterally for more than 8in(200mm) and should be supported every 31-39in(0.8- 1.0m) to avoid bending.



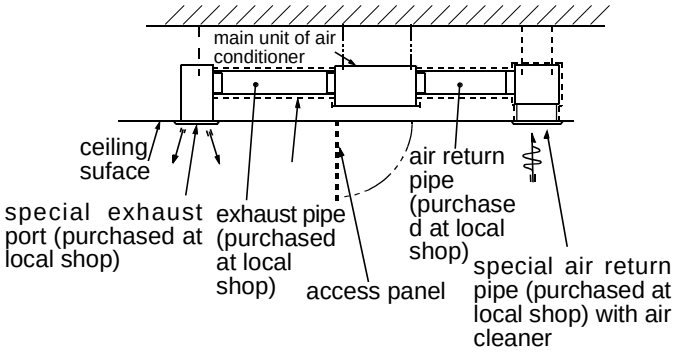
(f) The end of drain hose should be more than 2in(50mm) away from the ground or the bottom of drainage tank. It should not be put in water. To directly drain condensate into drainage ditch, the drain hose must be U-shaped to avoid smell from entering through the hose into room.

Testing Drainage System

Before the test, ensure the drain hose is clear and all connections are tightly sealed.
Then perform the drainage test as follows:
1. Add about 0.132gal (500ml) of water into the water pan through water injection hole.
2. Switch on the power and operate the unit in cooling mode. Check that the water outlet drains water normally and that there are no leakages at the connections. After the drainage test is complete, replace the water injection hole plug.
3. In the condition of new house, test the drainage system before fitting up the ceiling.
4. Even if it is installed in the season needed to heating, the testing should also be performed.

5. Installation of Air Return & Air Exhaust Pipes

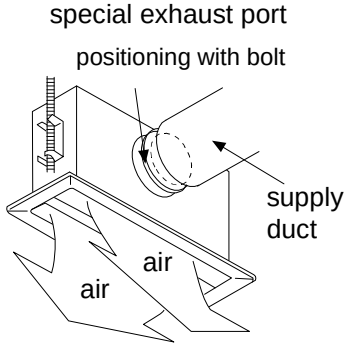
For the choice and installation of air return port, air return pipe, air exhaust port and exhaust pipe, please consult service personnel of Haier company. Calculate the design chart and exterior static pressure, and select the exhaust pipe with appropriate length and shapes.



- The length difference between pipes should be limited to be less than 2:1;
- Make the piping as short as possible;
- Keep the min. elbow quantity;
- Wind the heat insulating material around the flange between the main unit and the exhaust pipe for heat insulation and sealing. Install the piping before fitting up the ceiling.
- At least 6.6 feet air duct is needed at air inlet and air outlet.
- Flexible connection is needed between indoor units and air duct.
- ESP should be lower than 0.8 IWC.

6. Cautions in Installation of Air Return Duct & Exhaust Duct

- It is recommended to use ducting, which can be anti-condensation and absorb sound. (purchased at local shops)
- Heat insulation should be made for the ducting.
- The special exhaust port should be arranged at the place where the air is distributed evenly.
- An access panel should be added to the ceiling below the indoor unit for serviceability.



Installation Procedures

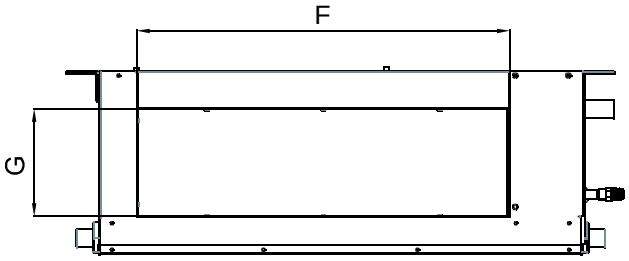
7.Connection of return air duct (setting back air return opening when leaving factory)

Remarks:

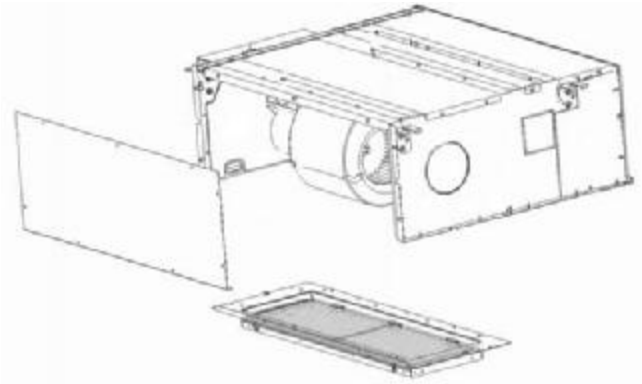
This series of air conditioners can be arranged in two air return modes: 1. Air return from the back (Factory default); 2. Air return from the bottom (can be adjusted on site. See the following figures.)

Note:

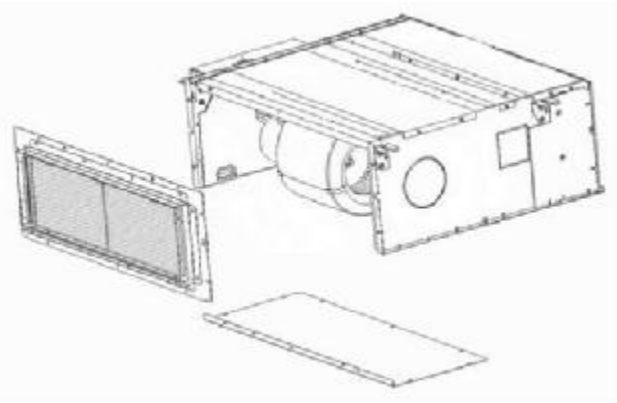
The downward air return mode will increase noise 3-5dB(A). It is recommended to install the air conditioner in downward return air mode 2 if enough space is available.



Size / Model	F (in)	G (in)
MVAH009~018MV2AA	26	7 7/8
MVAH024-030MV2AA	29 1/8	7 7/8
MVAH036-048MV2AA	50 3/8	9 2/8



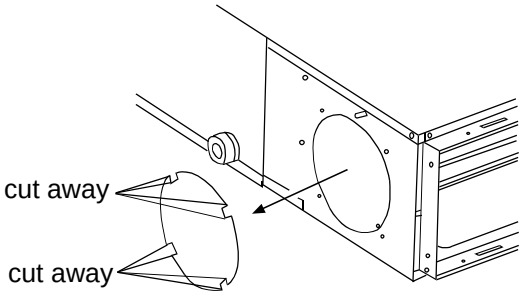
back air return opening



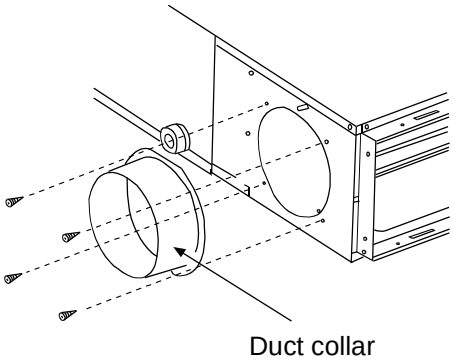
below air return opening

8. Adding fresh air intake duct

(1) Cut away the circular opening on the side of the return end

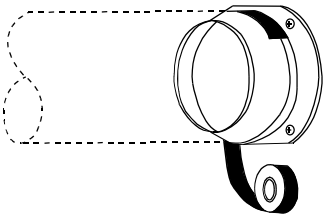


(2) Install round duct collar (obtained locally)



Duct collar

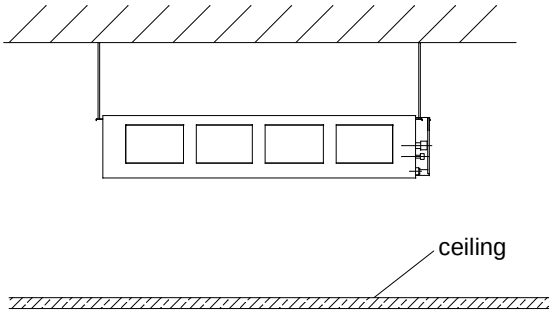
(3) Use foil tape to prevent air leaks



Installation Procedures

9.Install outlet flange

Install outlet flange basising the needs, the outlet flange is standard component, bolts are laied in accessories box.

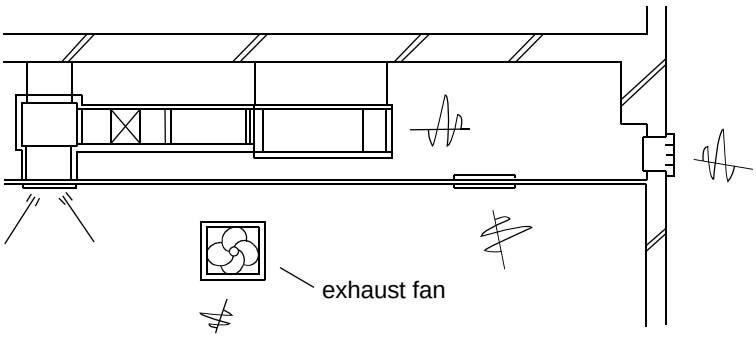


Note:

You can select not to connect with the flange. Instead of it, you can use the round plastic air outlet (purchased by user)

10. Examples for Bad Installation

- The unit is not equipped with the air return pipe and the inner side of the suspending ceiling is used as the blast pipe, causing the humidity increasing due to irregular air mass, strong wind or sunlight from the outside world.
- There might be condensate dropping down at the outer side of the blast pipe. The humidity is high, even if the inner side of the suspended ceiling isn't used as a blast pipe in new concrete buildings. At this time, the whole body should use the thermo wool for heat preservation (the thermo wool can be packed with a steel wire).
- It is operated under the conditions beyond the limits, leading to the overload of the compressor.
- Affected by the capacity of the exhaust fan, and the strong wind and wind direction in the outer flue, when the blowing quantity of the air conditioner exceeds the limits, the drained water of the heat exchanger will overflow, causing water leakage.



example of bad installation

11. Static Pressure GradeSetting

For MVAH036~048MV2AA units, after installation need to preliminary estimates external static pressure, according to the external static pressuresetting the unit's static pressure grade by controller.

Note: The detail operation methods for setting the unit's static pressure grade refer to the controller manual.

The static pressure range of each gradeas follows:

Grade	Grade/Static Pressure Range (IWC)
1	0~0.1
2	0.1~0.3
3	0.3~0.5
4	0.5~0.7
5	0.7~0.8

Installation Procedures

12. Refrigerant Tube

Pipe Length & Height Difference

Please refer to the attached manual of outdoor units.

Piping Materials & Heat Insulating Materials

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

Piping Material	Hard PVC tube VP 1in (inner bore)
Heat Insulating Material	Vesicant polythene thickness: over 1/4in

Tubing Materials & Specifications

Model		MVAH009~018MV2AA	MVAH024~048MV2AA
Tubing Size	Gas pipe	Ø1/2	Ø5/8
	Liquid pipe	Ø1/4	Ø3/8
Tubing Material	Seamless copper pipe rated for R410A refrigerant		

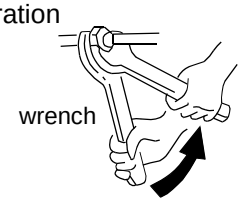
Refrigerant Recharge Amount

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.

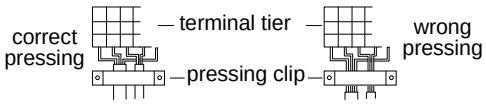
Connecting

Connecting circular terminals:

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

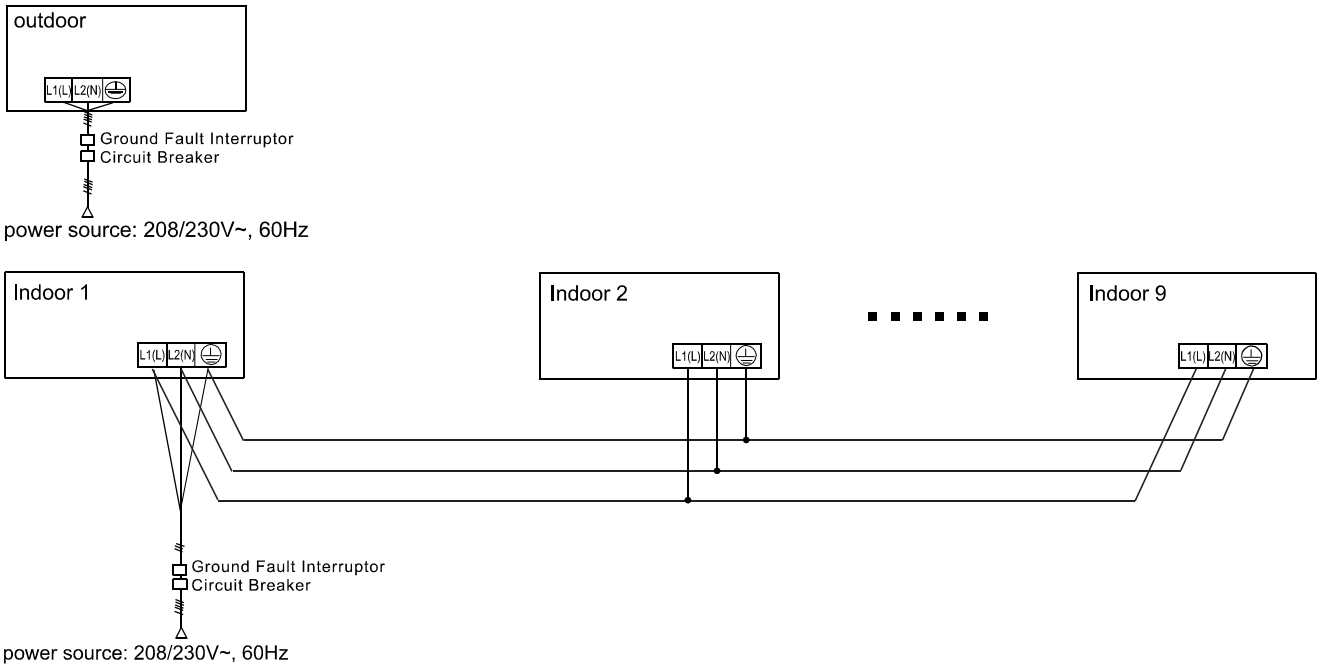
⚠WARNING

- 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.

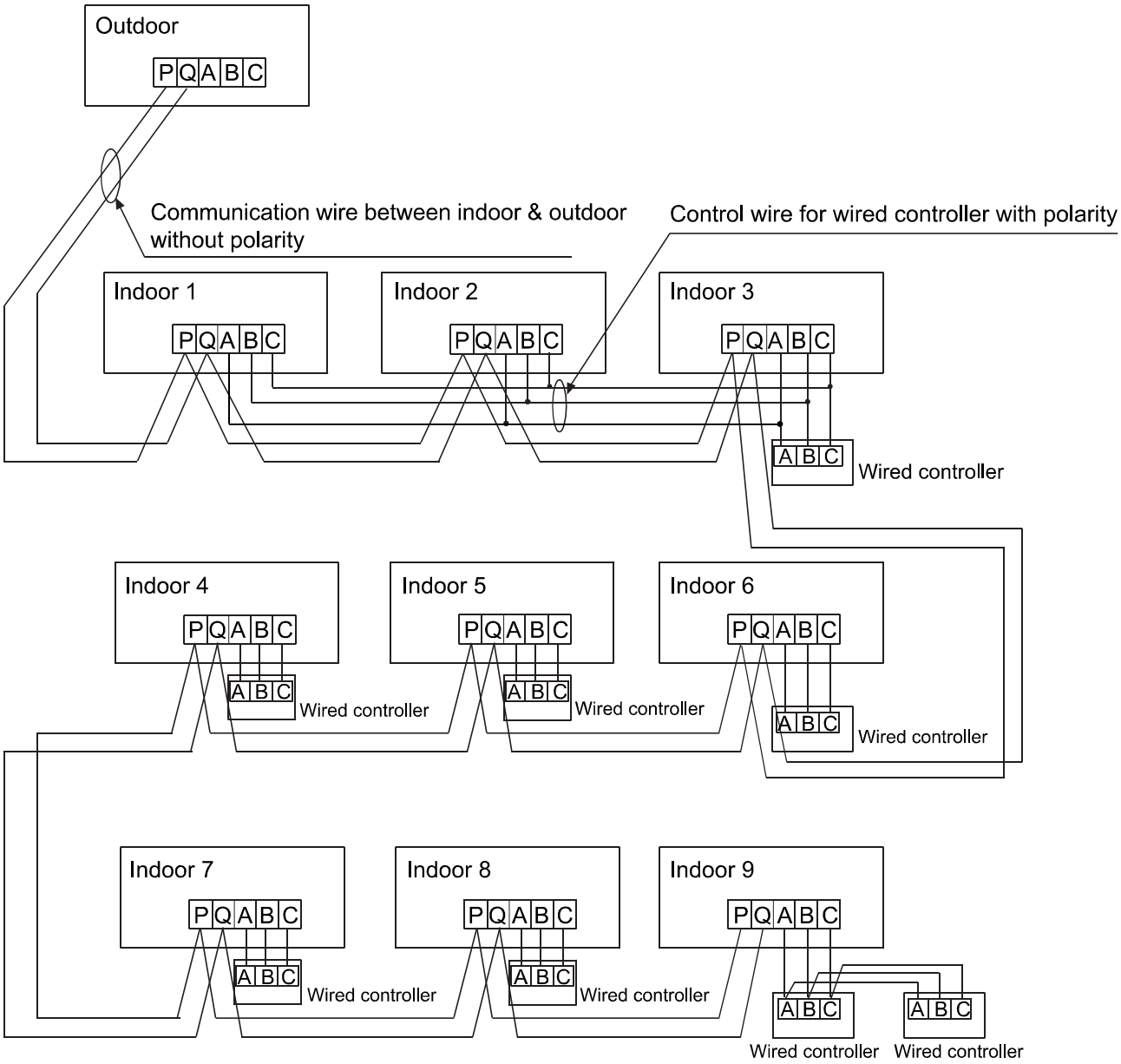
Supply Wiring Drawing



- 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

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 ways of connecting the line control and indoor units:

A. 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 two wires (B&C) 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 16)

B. 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.

C. 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^2)	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^2)
≥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^2)
≤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).

Electrical Wiring

Dip switch Setting

•The dip switch is set to the "On" position if “1” is indicated in the table. The dip switch is set to the "Off" position if "0" is indicated in the table.
•In the table below, the choice in the box "□" refers to the default setting from the factory.

Indoor Units PCB

In the following table, 1 represents On and 0 represents Off.
Definition principles of code switches:
SW01 is used to set wired controller address and set capabilities of the master; SW03 is used to set indoor unit address (combine the original communication address and the address of the centralized controller)
(A) Definition and description of SW01

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	1	0	9000BTU
		0	1	0	0	12000BTU
		0	1	1	0	18000BTU
		0	1	1	1	22000BTU
		1	0	0	0	27000BTU
		1	0	0	1	28000BTU
		1	0	1	0	36000BTU
		1	0	1	1	45000BTU
		1	1	0	0	54000BTU
		1	1	0	1	72000BTU
		1	1	1	0	90000BTU
		1	1	1	1	135000BTU

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

(B) Definition and description of SW03

SW03_1	Address setting mode	[1]	Address setting mode							
		0	Automatic setting (default)							
		1	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# (Default)	0# (Default)
		0	0	0	0	0	0	1	1#	1#
		0	0	0	0	0	1	0	2#	2#
		…	…	…	…	…	…	…	…	…
		0	1	1	1	1	1	1	63#	63#
		1	0	0	0	0	0	0	0#	64#
		1	0	0	0	0	0	1	1#	65#
		1	0	0	0	0	1	0	2#	66#
		…	…	…	…	…	…	…	…	…
		1	1	1	1	1	1	1	63#	127#

Note 2:

- 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 disnabled.

(C) Jumper definition description

Electronic expansion valve PMV manual control settings(CN27、CN29)

Manually fully open CN27: short circuit CN27 for 2 seconds after power, the PMV fully opened.

Manually fully close CN29: short circuit CN29 for 2 seconds after power, the PMV fully closed.

26°C Lock function Activation:

Default: Deactivated

Activation: Press "Health" button on remote controller 8 times in 5 seconds, and you hear 4 times beep, then activate the function.

Deactivation: Press "Health" button on remote controller 8 times in 5 seconds, and you hear 2 times beep, then deactivate the function.

Electrical Wiring

Code setting of wired controller

Function switches

Code	Switch status	Function description	Default setting	Remarks
SW1	ON	Auxiliary wired controller	OFF	
	OFF	Master wired controller		
SW2	ON	Common wired controller	ON	
	OFF	New fan-only has refrigerating, heating, and air supplying modes		
SW3	ON	Display ambient temperature	OFF	
	OFF	Do not display ambient temperature		
SW4	ON	26℃ lock disabled	ON	
	OFF	26℃ lock enabled		
SW5	ON	Collect ambient temperature of wired controler	ON	
	OFF	Collect ambient temperature of PCB		
SW6	ON	Power failure memory disabled	OFF	
	OFF	Power failure memor enabled		
SW7	ON	Temperature sensor 4k7 enabled	ON	Betewwn SW7 and SW8, one and only one must be ON for any given period
	OFF	Temperature sensor 4k7 disabled		
SW8	ON	Temperature sensor 5k1 enabled	OFF	
	OFF	Temperature sensor 5k1 disabled		

Note: ON indicates short circuit; OFF indicates disconnection.

The difference between master and slave wired controller

Topic	Master controller	Slave controller
Function	All function	ON/OFF, Mode, Fan speed, Temp, Swing function only.

Test Run & Fault Code

Before Test Run

- Connect it to the power supply of the outdoor units to energize the heater of the compressor. To protect the compressor at startup, power it on 12 hours prior to the operation.

Check if the connections of the drainpipe and wire connection lines are correct.
The drainpipe shall be placed at the lower part while the connection line placed at the upper part. Insulating measures should be taken such as winding the drainpipe especially on the indoor units with insulating materials.
The drain pipe should be installed as a slope to avoid protruding from the upper part and concaving at the lower part.

Checkup of Installation
□ Check if the mains voltage is matching
□ Check for any leaks at the piping joints
□ Check if the connection of the main power for the indoor & outdoor units are correct
□ Check if the serial numbers of the terminals are matched properly
□ 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 refrigerant and condensation lines are insulated
□ Check if the water is drained to the outside
□ Check if the indoor units are positioned

Test Run

Ask the installation technician to perform a test run. Compare the testing procedures according to the manual and check if the temperature control works properly.
When the machine fails to start because of the room temperature, the following procedure can be used to force compulsive running mode. The function is not available for the type with remote control.
- Set the YR-E17 wired controller to cooling/heating mode, press "ON/OFF" button for 10 seconds to enter into the compulsive cooling/heating mode. Press "ON/OFF" button again to quit the compulsive running and stop the operation of the system.

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 number of LED flashes on the control panel of the indoor units/health lamp of receiving window of remote control. Refer to the below table lookup fault descriptions.

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. sensor TA
02	2	Fault of indoor unit pipe temp. sensor TC1
03	3	Fault of indoor unit pipe temp. sensor TC2
04	4	Fault of indoor unit dual heat source temp. sensor
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 float switch
09	9	Fault of duplicate indoor unit address
12	12	Fault of indoor unit 50Hz Zero-crossing
14	14	Fault of indoor unit DC motor
18	18	BS valve box or 4WV switch failure
20	20	Corresponding faults of outdoor units

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