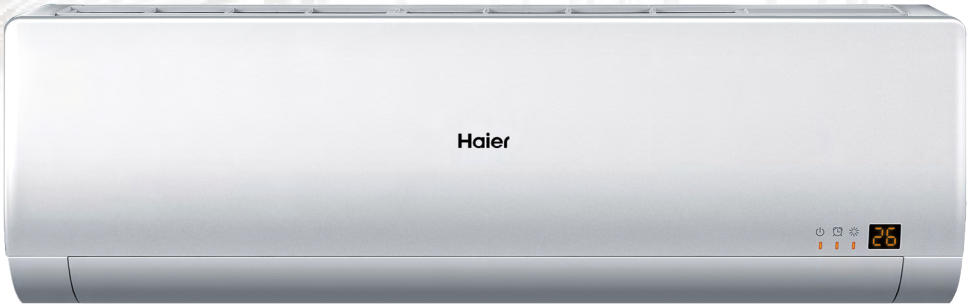
Haier



N High wall
Service Manual

SYJS-07-2017 REV.A Edition: 2017-07

Haier

CONTENTS

1. Feature

N HIGH WALL

•Stylish design & LED display
•Built in EEV, easy to installation
•Negative ion, vitamin C, and ESF filter optional

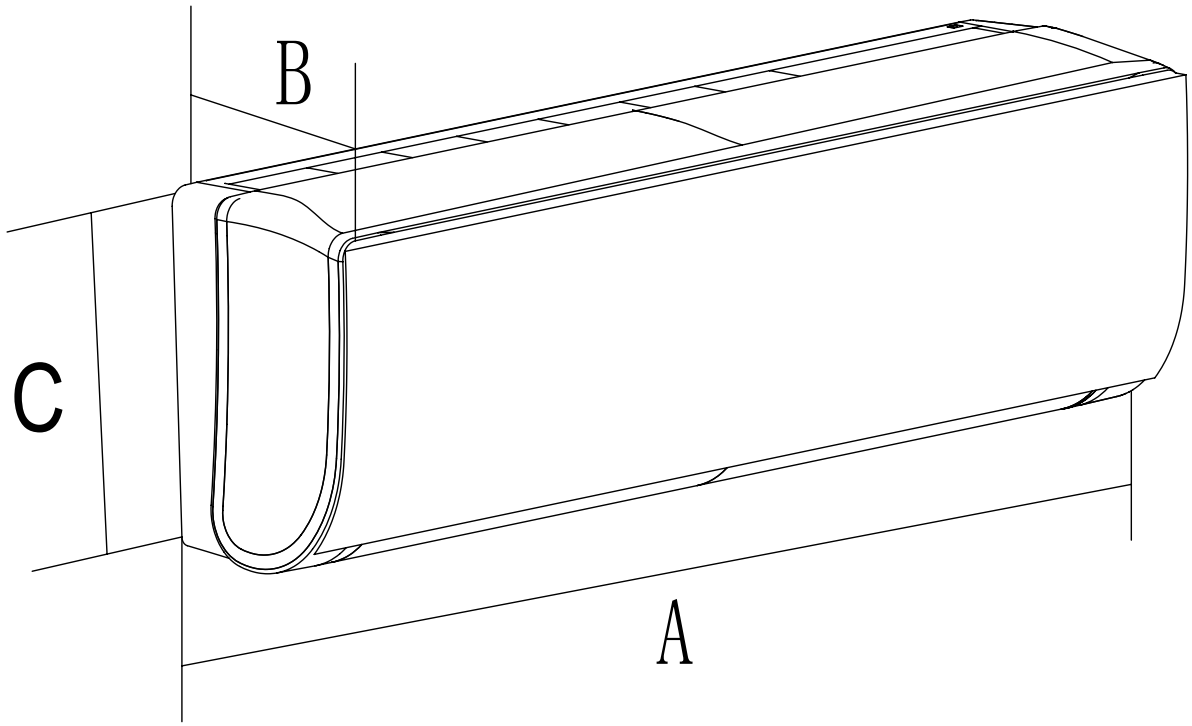
2. Specification

HIGHWALL	MVAW007MV2AA	MVAW009MV2AA
Rated Cooling Capacity Btu/hr	7,000	9,000
Rated Heating Capacity Btu/hr	8,600	10,600
Voltage, Cycle, Phase V/Hz/-	208/230-60-1	208/230-60-1
Fan Speed Stages	5+Auto	5+Auto
Airflow (High/Med/Low) CFM	324/282/247	353/312/276
Motor Speed (Turbo/High/Med/Low/ Quiet) RPM	1200/1000/850/700/600	1200/1000/850/700/600
Indoor Sound Level dB (High/Med/Low)	35/31/29	36/31/29
Dimension: Height in (mm)	11 (280)	11 (280)
Dimension: Width in (mm)	33 11/16(855)	33 11/16(855)
Dimension: Depth in (mm)	7 7/8(200)	7 7/8(200)
Weight (Ship/Net)- lbs (kg)	28/23.1（12.7/10.5）	28/23.1（12.7/10.5）
Connections	Flare	Flare
Liquid O.D. in	1/4	1/4
Suction O.D. in	1/2	1/2
Drainpipe Size O.D. in	5/8	5/8

HIGHWALL	MVAW012MV2AA	MVAW018MV2AA
Rated Cooling Capacity Btu/hr	12,000	18,000
Rated Heating Capacity Btu/hr	13,600	20,000
Voltage, Cycle, Phase V/Hz/-	208/230-60-1	208/230-60-1
Fan Speed Stages	5+Auto	5+Auto
Airflow (High/Med/Low) CFM	371/329/294	541/471/424
Motor Speed (Turbo/High/Med/Low/ Quiet) RPM	1300/1200/1000/700/600	1200/1000/800/700/600
Indoor Sound Level dB (High/Med/Low)	37/33/29	40/39/35
Dimension: Height in (mm)	11 (280)	13 1/4(336)
Dimension: Width in (mm)	33 11/16(855)	43 7/8(1115)
Dimension: Depth in (mm)	7 7/8(200)	9 9/16(243)
Weight (Ship/Net)- lbs (kg)	28/23.1（12.7/10.5）	44.3/36.4（20.1/16.5）
Connections	Flare	Flare
Liquid O.D. in	1/4	1/4
Suction O.D. in	1/2	1/2
Drainpipe Size O.D. in	5/8	5/8

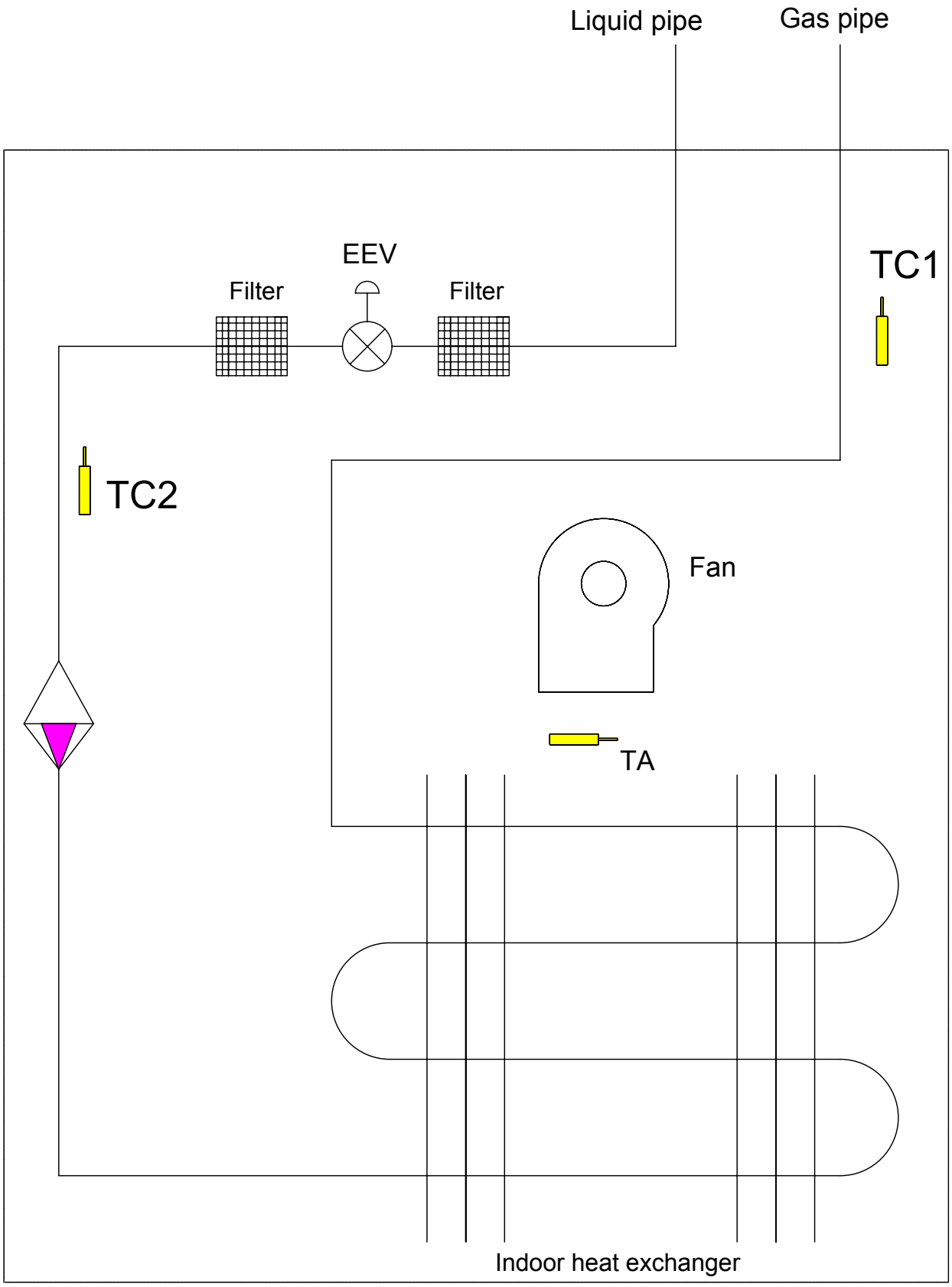
HIGHWALL	MVAW024MV2AA	MVAW030MV2AA
Rated Cooling Capacity Btu/hr	24,000	30,000
Rated Heating Capacity Btu/hr	27,000	34,000
Voltage, Cycle, Phase V/Hz/-	208/230-60-1	208/230-60-1
Fan Speed Stages	5+Auto	5+Auto
Airflow (High/Med/Low) CFM	594/541/471	941/882/824
Motor Speed (Turbo/High/Med/Low/ Quiet) RPM	1280/1200/1000/700/600	1400/1250/900/700/600
Indoor Sound Level dB (High/Med/Low)	44/40/36	49/44/41
Dimension: Height in (mm)	13 1/4(336)	14 1/4(365)
Dimension: Width in (mm)	43 7/8(1115)	51 13/16(1316)
Dimension: Depth in (mm)	9 9/16(243)	10 5/8(270)
Weight (Ship/Net)- lbs (kg)	44.3/36.4（20.1/16.5）	57.3/47.4（26.0/21.5）
Connections	Flare	Flare
Liquid O.D. in	3/8	3/8
Suction O.D. in	5/8	5/8
Drainpipe Size O.D. in	5/8	5/8

3. Dimension



Model	A	B	C
MVAW007/009/012MV2AA	33 11/16(855)	7 7/8(200)	11(280)
MVAW018/024MV2AA	43 7/8(1115)	9 9/16(243)	13 1/4(336)
MVAW030MV2AA	51 13/16(1316)	10 5/8(270)	14 1/4(365)

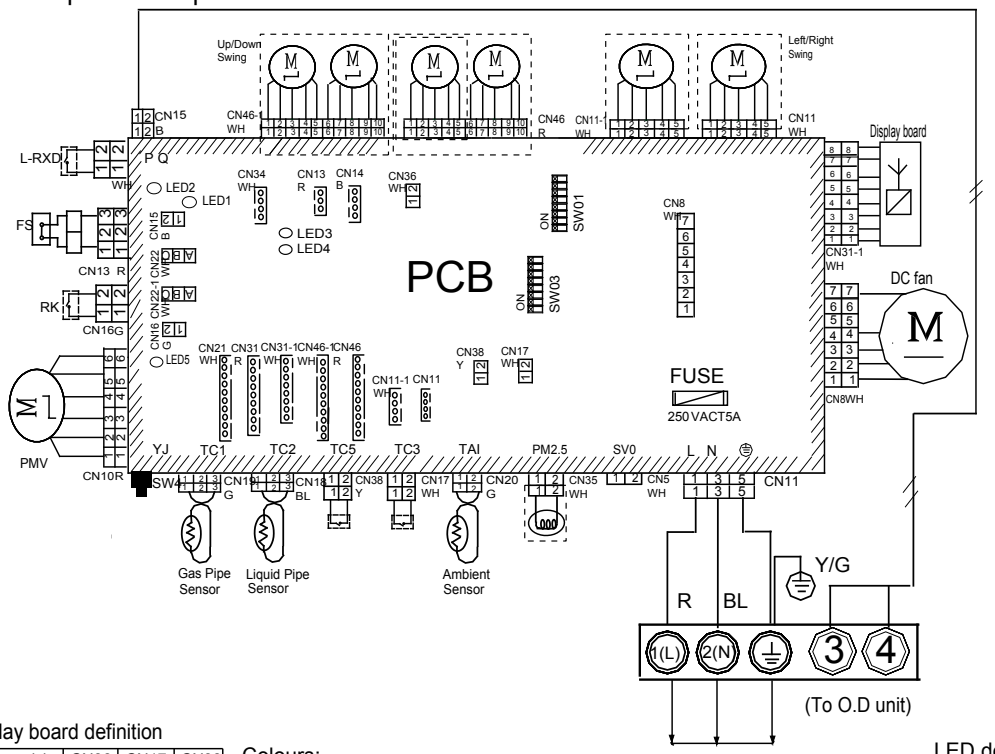
4. Piping diagram



5. Wiring diagram

PCB code: 0151800244B

*Dashed parts are optional



Display board definition

Indoor model	CN36	CN17	CN38
MRVAW*MV2AA	ON	OFF	OFF

Colours:

B :Black G :Green
BL:Blue R :Red
Y :Yellow WH:White

LED definition

LED1、2	Wired controller &Indoor unit
LED3、4	Indoor unit &Outdoor unit
LED5	Error indicate

6. Electric characteristics

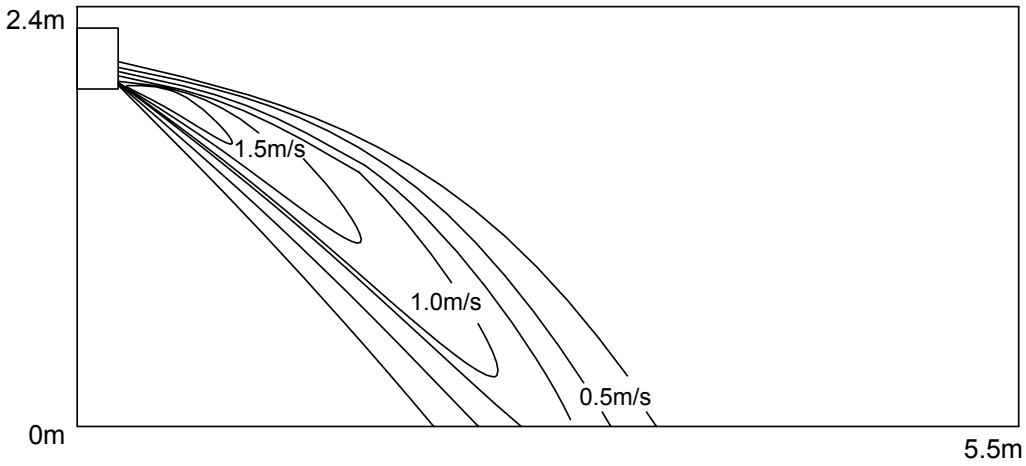
Units					Power supply		Indoor fan motor		Power input (W)	
Model	Phase	FQY	Voltage	Volt. range	MCA	MFA	Output (W)	FLA	Cooling	Heating
MVAW007MV2AA	1	50/60	220	198~242	0.18	0.56	30	0.14	43	43
MVAW009MV2AA	1	50/60	220	198~242	0.18	0.56	30	0.14	43	43
MVAW012MV2AA	1	50/60	220	198~242	0.18	0.56	30	0.14	43	43
MVAW018MV2AA	1	50/60	220	198~242	0.24	0.76	40	0.19	57	57
MVAW024MV2AA	1	50/60	220	198~242	0.24	0.76	40	0.19	57	57
MVAW030MV2AA	1	50/60	220	198~242	0.4	1.28	70	0.32	99	99

Symbols:
MCA: Min. circuit amps (A)
MFA: Max. fuse amps of circuit breaker Output: Fan motor rated output (w) FLA: Full load amps (A)

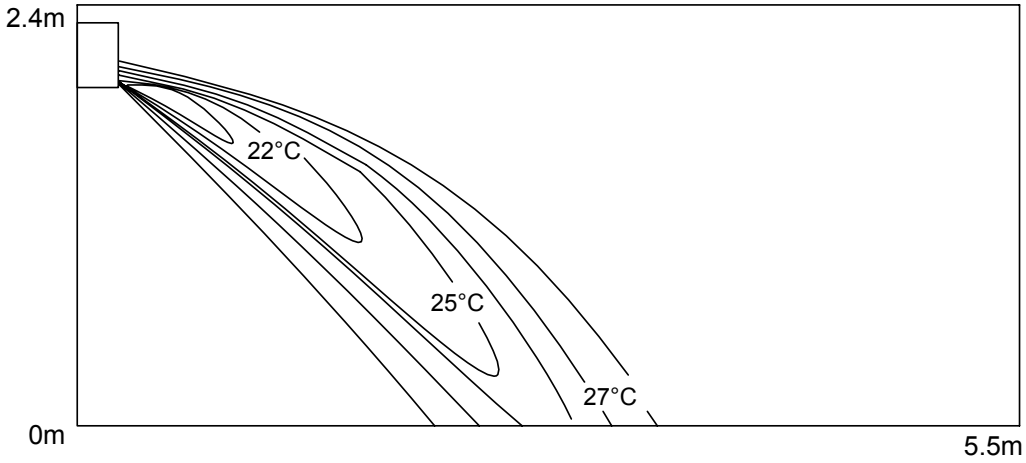
Notes:
1. Voltage range
The units are applicable for the electrical systems where voltage supplied to unit is in the range.
2. Maximum allowable voltage unbalance between phases is 2%.
3. MCA=1.25*FLA MFA≤4*FLA.
4. Power supply uses the circuit breaker.

7. Air velocity and temperature distribution

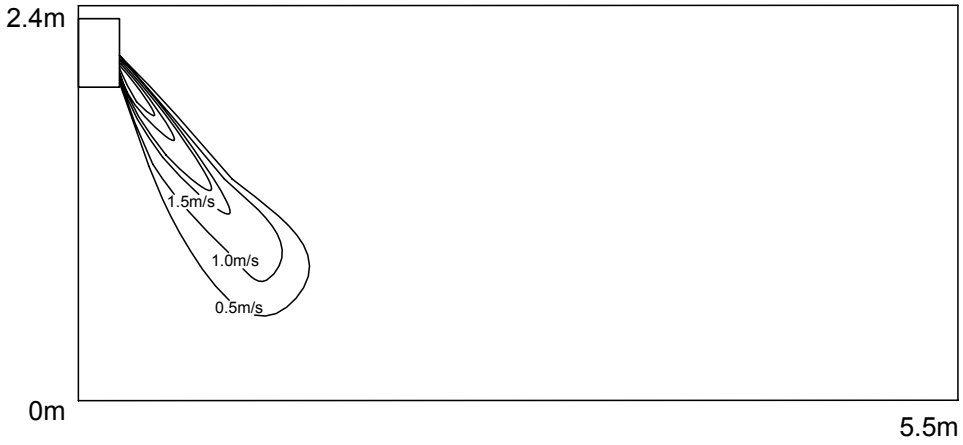
a. Cooling / Air velocity distribution
Blowy angle: 25



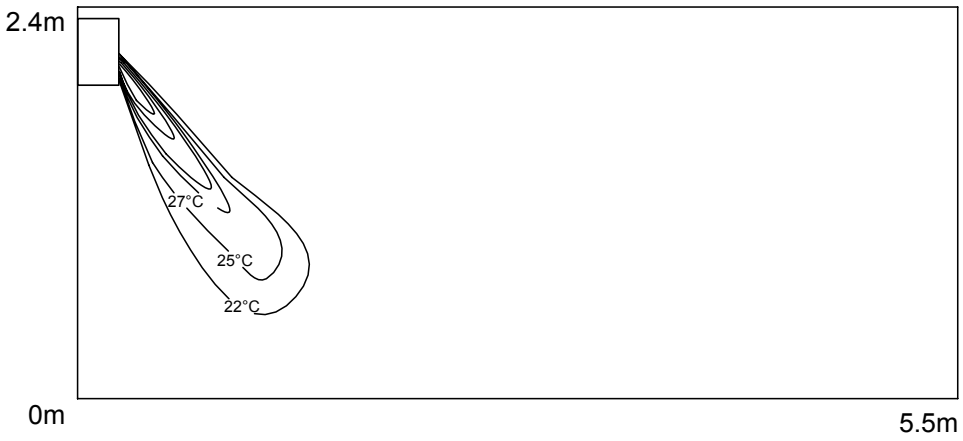
b. Cooling / Temperature distribution
Blowy angle: 25



c. Heating / Air velocity distribution
Blowy angle: 65

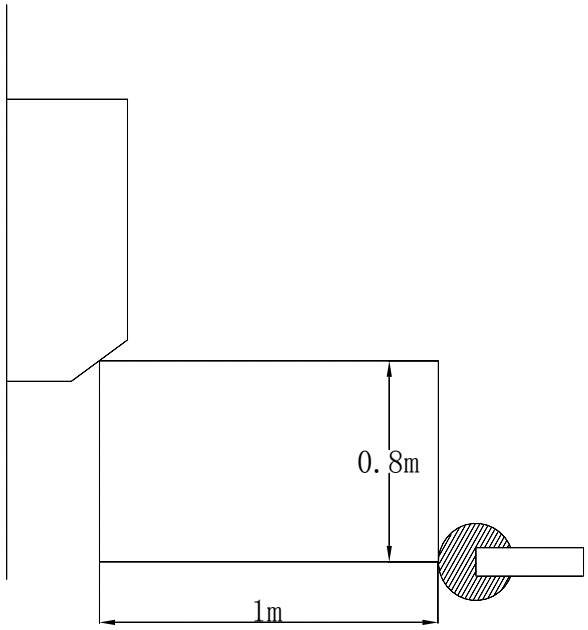


d. Cooling / Temperature distribution
Blowy angle: 65



8. Sound pressure level

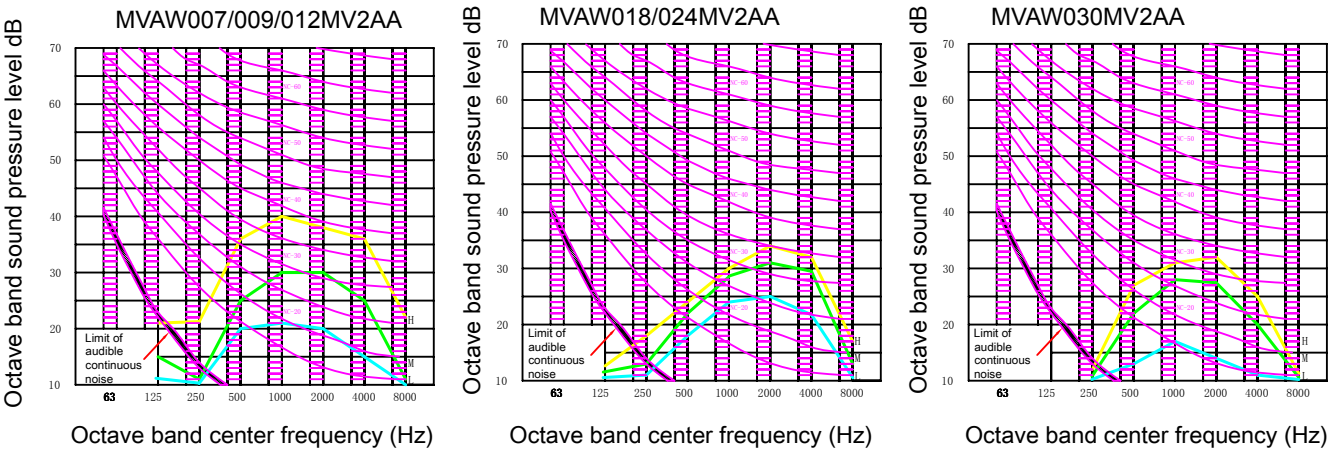
1) Testing illustrate:



2) Testing condition:

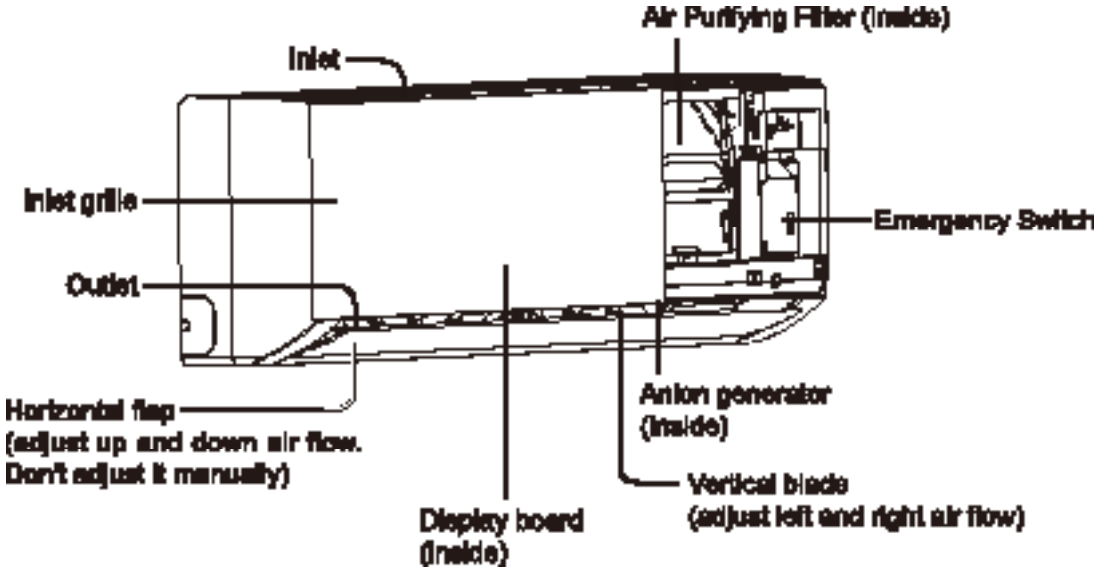
a: Unit running in the normal condition
b: Test in the semi-anechoic chamber
c: Noise level varies from the actual factors such as room structure, etc.

3) Sound curves:



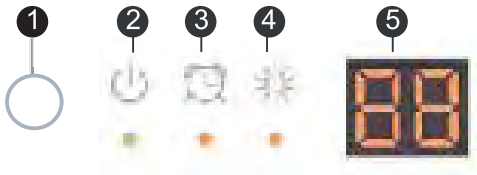
9. Installation

9.1 Parts and functions



Actual inlet grille and display board may vary from the one shown in the manual according to the product purchased.

Display board



❶ Remote signal receiver
(A beeping sound is generated when a signal from remote controller isreceived.)
❷ Power indicator (Lights up when unit starts.)
❸ Timer mode indicator (Lights up whenTimer operation is selected.)
❹ Operation mode indicator (lights up when the compressor is on.)
❺ Ambient temp display
When receiving the remote control signal, display the set temperature.

9.2 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 "⚠ Attention". 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 "⚠ Attention" 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.

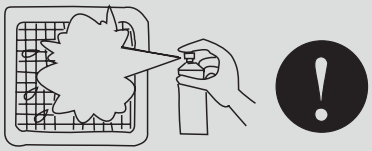
- Don't install the air conditioner at the places where the flammable gases may leak. In case the gas leakage occurs around the machine, such accidents as fire disasters may be caused.
- The drainpipe should be properly mounted according to this manual as to ensure the smooth drainage. In addition, heat 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.

⚠ Attention

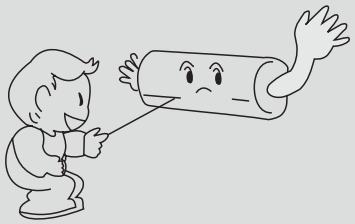
- The air conditioner should be effectively grounded. Electric shocks may occur if the air conditioner is ungrounded or inappropriately grounded. The wire for earthing shouldn't be connected to the connections on the gas pipe, water pipe, lightning rod or telephone.
- The breaker for electricity leakage 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.
- when the water discharge hole be blocked or the filter becomes dirty, there maybe leads to condensing water drop down, and at the same time there maybe some drops of water spit out.
- In case of ambient dew point temperature greater than 82.4*(28*) or humidity greater than 80%, there maybe cause condensation drops or blow out, electrical or moisture sensitive items shouldn*t be put below.

	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.

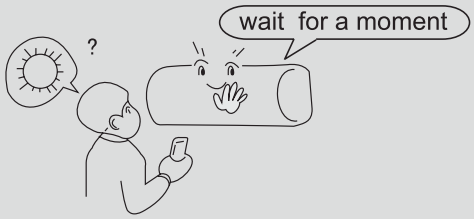
Clean the filter regularly.
Cooling or heating performance will be degraded if the filter is blocked, resulting in large power consumption, failure, and water dripping at freezing.



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.

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Notices during Operation	⚠ Attention	
	• It is not allowed to put any heating apparatus under the indoor units, for the heat may cause distortion of the units.	• 3-minute protection • To protect the unit, compressor can be actuated with at least 3-minute delay after stopping.
	• Pay attention to the aeration condition to avoid anoxic symptom. 	• Close the window to avoid outdoor air getting in. Curtains or window shutters can be put down to avoid the sunshine. 
	• 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. 	• Do not touch the switch with the wet hand to avoid power shock.
	• 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.	• Stop running and switch off the manual power switch when cleaning the unit.
	• 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.	• During the operation of the control unit, don't switch off the manual power switch and the controller can be used. Please do not press the liquid crystal zone of controller to prevent damage
	• It cannot be used for the preservation of food, living creature, precise instrument and artworks, etc, otherwise damage may occur.	• Cleaning the unit with water may cause electric shock. 
	• Use the fuse with proper capacity. Metal wires and copper wires, etc., may cause fire or other faults.	• Do not put flammable spray close to the air conditioner. Don't inject flammable spray towards the air conditioner, which may cause fire.
	• 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.	• Stopping fan rotation 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.
	• Defrosting during heating 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). During defrosting, the fan of the indoor unit runs at a low speed or stops while that of the outdoor unit stops running.	• This appliance is not intended for use by persons (including children) with reducedphysical, 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.
	• Power should be cut off when the air conditioner is left unused for a long period. 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.	

9.3 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.

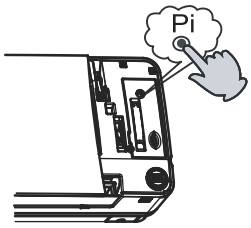
- Air conditioner operates automatically according to the working modes blow:

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.



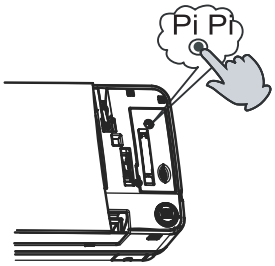
Test Operation

It is recommended when the room temperature is below 60.8*(16*) 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.



9.4 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.

Cleaning the air outlet port and the shell:

⚠ 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 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 122°F(50°C) to avoid fading and distorting.
- Don't put the air cleaner on the fire to dry to avoid catching fire.

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

- (B) Clean it with soft bush in mild detergent if there is too much dust on it

  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.

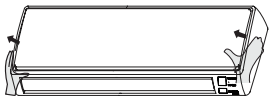
After Operating Season:

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.

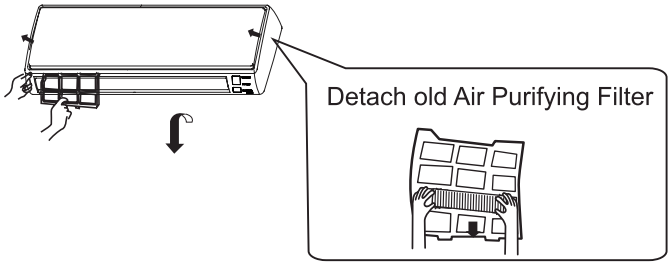
Clean the machine (Cleaning ways are approximately same, taking MVAW007MV2AA indoor machine as example).
Turn off the air conditioner before cleaning. Do not touch the machine if the hands are wet. Neither hot water nor solvent should be used in cleaning.

Replacement of Air Purifying Filter

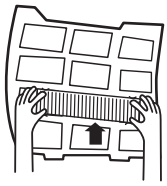
1.Open the Inlet Grille
Prop up the inlet grille by using a small device named grille-support which located in the right side of the indoor unit.



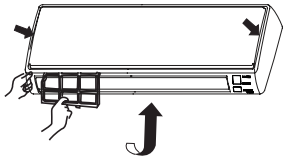
2.Detach the standard air filter
Slide the knob slightly upward to release the filter, then withdraw it.



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 flaping 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.

9.5 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.
	• Terrible smell in outlet air	The terrible smell may be caused from walls, carpet, furniture, clothing, cigarette and cosmetics, that attach to the air conditioner.
	• 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.
	• 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 air filter is blocked with sludge or dust. Check if the setting of fan speed is set to low speed. Check if the setting in in Fan Operation state. Check if the temperature setting is correct.

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 or ice in the unit.;
- When system won't run after resetting power and waiting for 3-minute time out;
- When other abnormal conditions occur.

9.6 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.

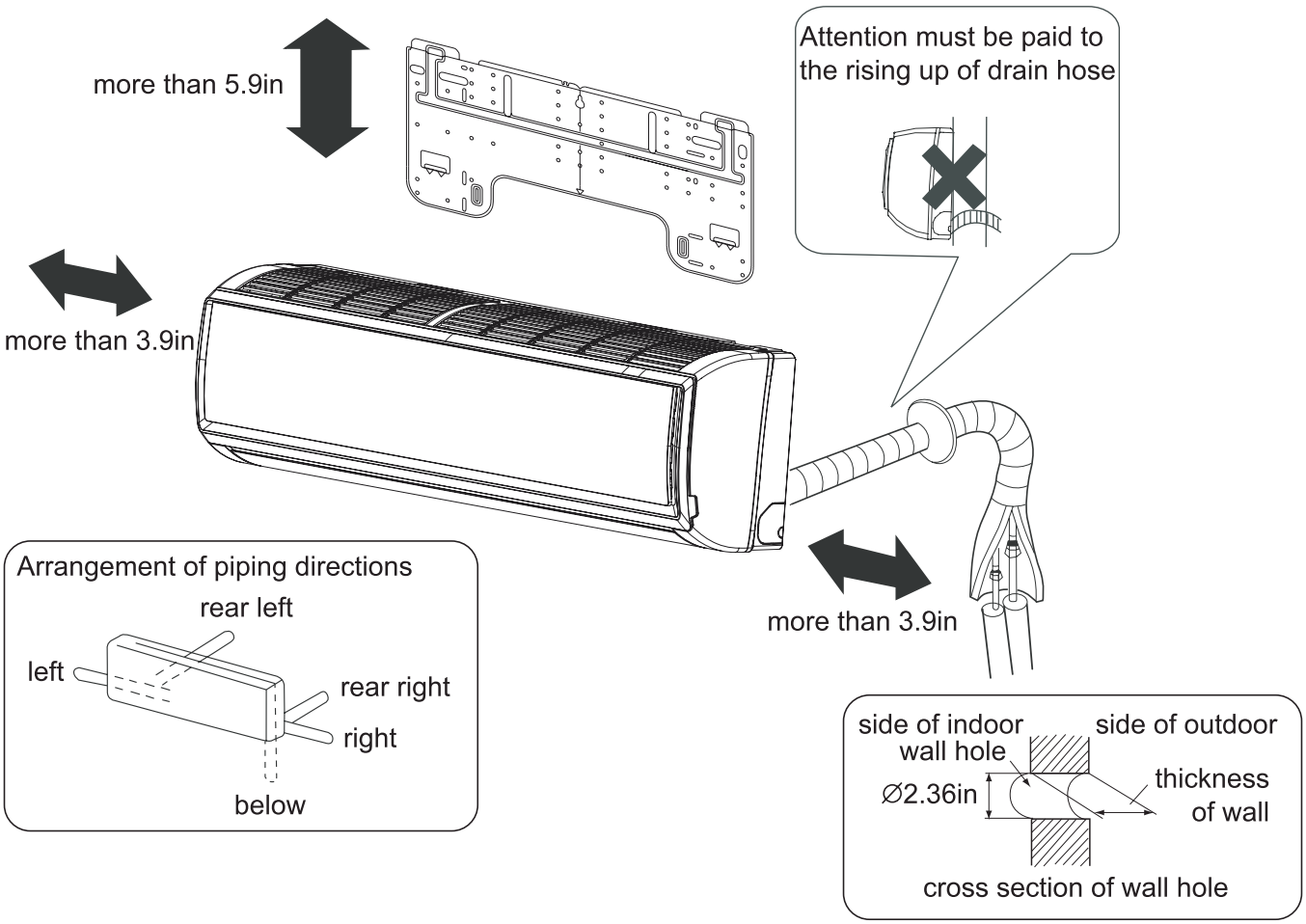
1. Choose the suitable installation location. Indoor units should be installed in places with the environment of even circulation of cool and warm blows. The following places should be avoided.
* Places with high salinity (beach), high sulfureted gas(such as the thermal spring regions where copper tubes 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 are 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.

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.

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.

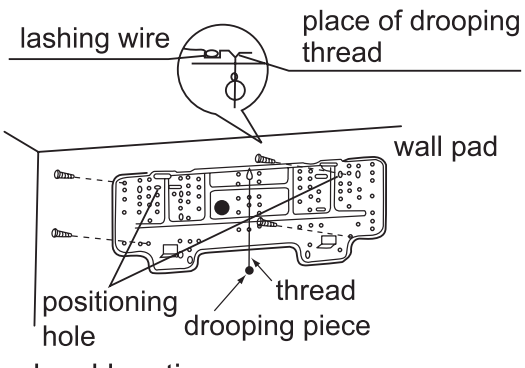
Then fix it with a concrete steel nail, and measure the position of the wall hole A.

(2) Drilling Hole & Mounting Guard Ring

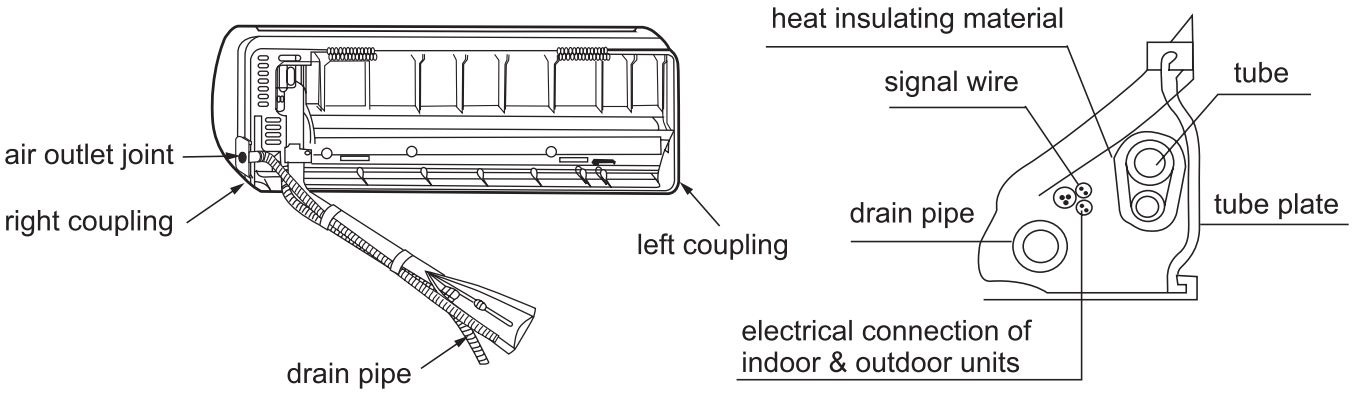
Drill a hole of 2.36in bore with a slight tilt downwards to the outside, mount the guard ring, and seal it with gesso or putty after finishing the installation.

(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 winded with heat insulating materials for heat preservation.



level location

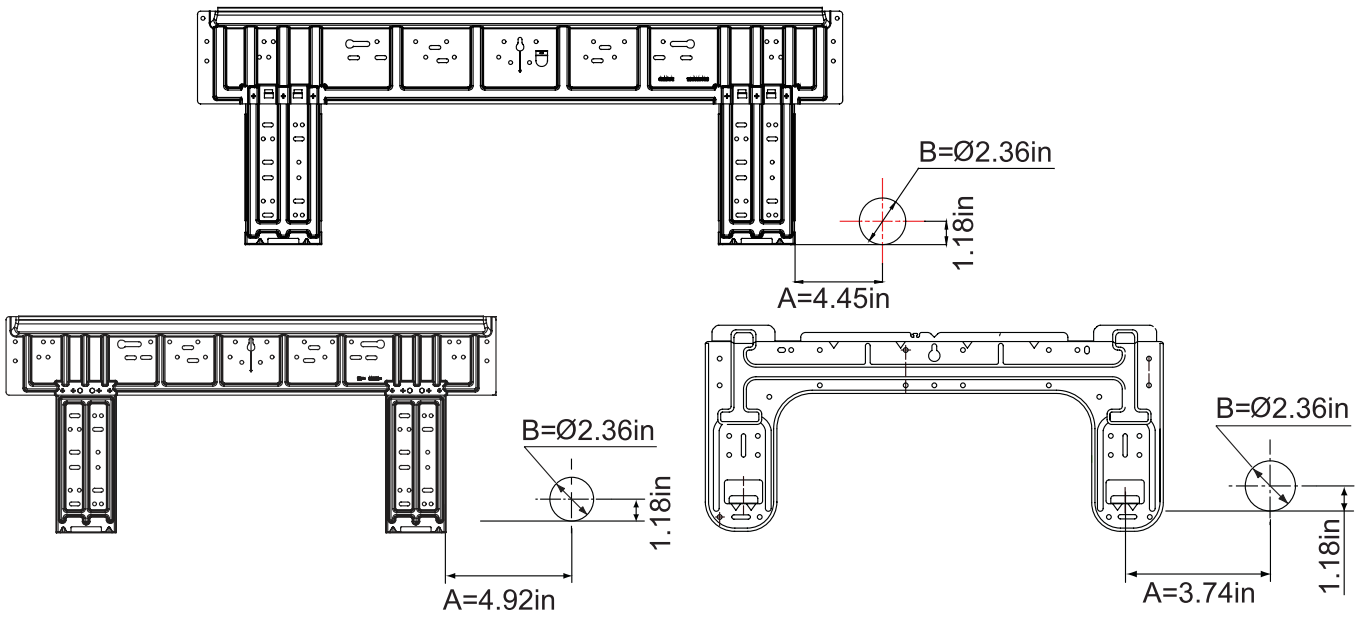


(4) Lead the connection tubing(liquid pipe and gas pipe) through the hole into the wall, or connect piping and wiring of indoor unit(check the number of wiring terminals of indoor and outdoor units and connect terminals with the same number and color), and then put the connection tubing and the connecting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

Fitting of the Mounting Plate and Positioning of the wall Hole

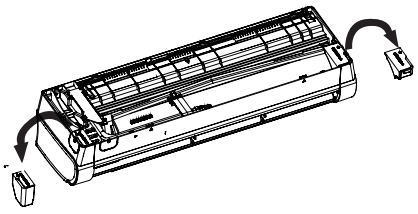
When the mounting plate is first fixed

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.

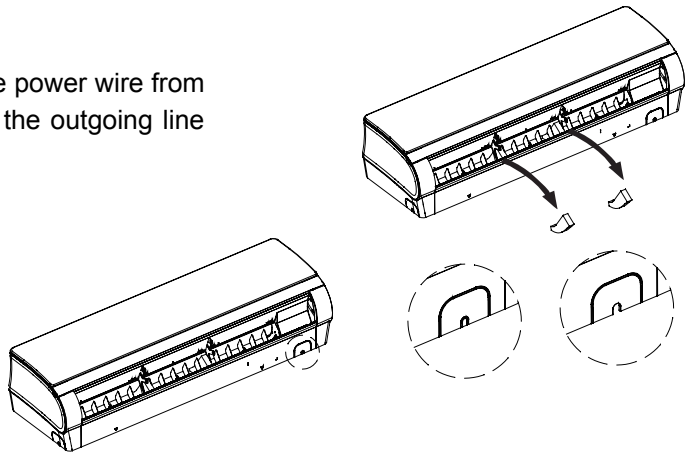


Pay attention to the following points before installation of machine:

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.
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.

Tubing Permissible Length & Height Difference

Please refer to the attached manual of outdoor units.

Tubing Materials & Specifications

Model		MVAW007~009	MVAW012~018	MVAW024~030
Tubing Size (mm)	Gas pipe	Ø3/8"	Ø1/2"	Ø5/8"
	Liquid pipe	Ø1/4"	Ø1/4"	Ø3/8"
Tubing Material	Phosphor deoxybronze seamless pipe (TP2) for air conditioner			

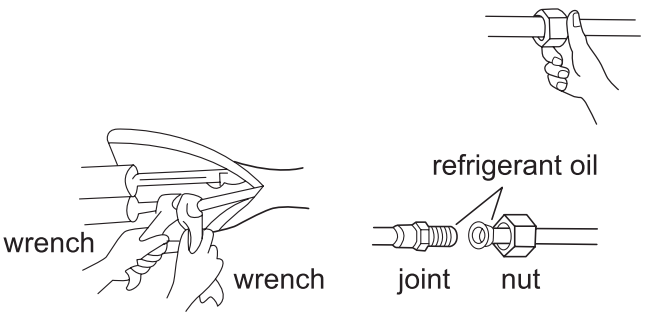
Refrigerant Filling Amount

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 or 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)
Ø1/4"	11.8(1.2kgf-m)	13.7(1.4kgf-m)
Ø3/8"	24.5(2.5kgf-m)	29.4(3.0kgf-m)
Ø1/2"	49.0(5.0kgf-m)	53.9(5.5kgf-m)
Ø5/8"	78.4(8.0kgf-m)	98.0(10.0kgf-m)
Ø3/4"	98.0(10.0kgf-m)	117.7(12.0kgf-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

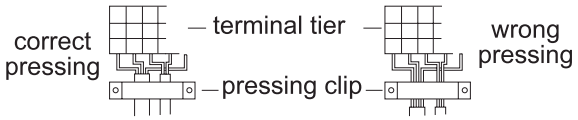
Open all the valves of outdoor units. [NB: oil balancing stop valve must be shut up completely when connected one main unit.]

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.



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.

2. Dismantling

During dismantling this series machines, push agraffes at the bottom of indoor unit upwards to release them, as shown in Fig.3, 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.3.

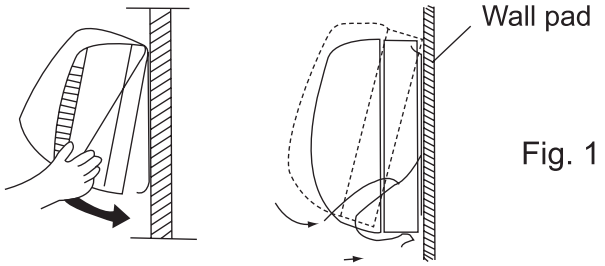


Fig. 1

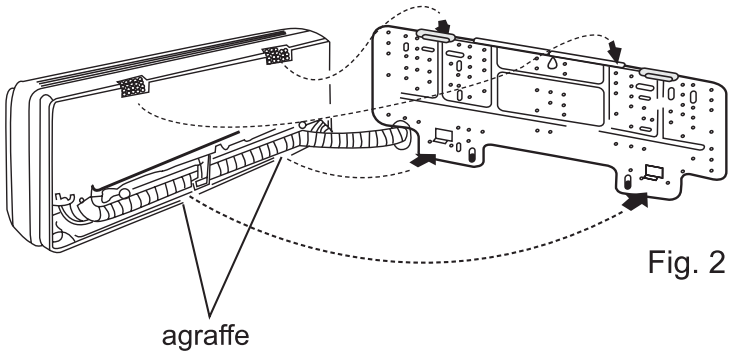


Fig. 2

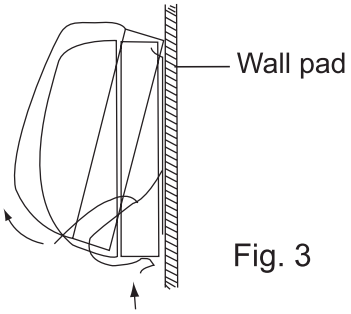


Fig. 3

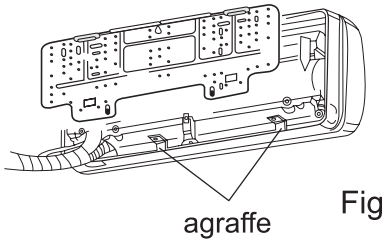


Fig. 4

9.7 Electrical Wiring

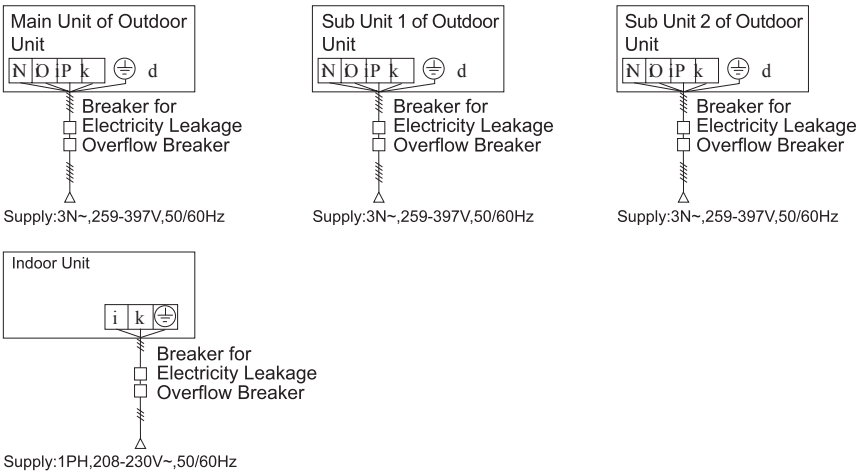
⚠WARNING

- 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, lightening rod and telephone line.

⚠ Attention

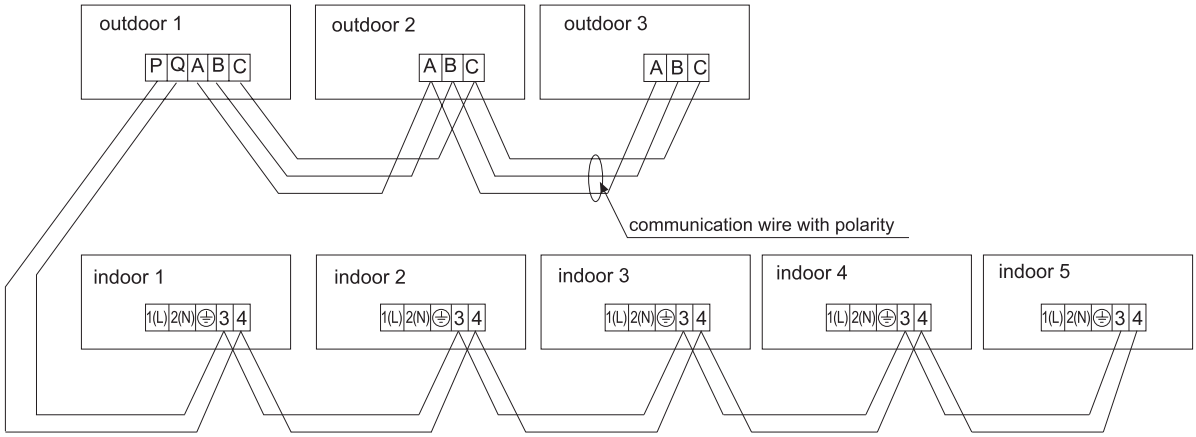
- Only copper wire can be used. Breaker for electric leakage should be provided, or electric shock may occur.
- The wiring of the mains line is of Y type. The power plug L should be connected to the live wire and plug N connected to null wire while should be connected to the ground wire. For the type 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*(14-18)AWG; parameters for signal line: 2*(14-18)AWG (shielded line)]
- 5 butt lines 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.

Signal Wiring Drawing



The combination of multiple indoor units can be controlled by remote controller.
Note: MVAW*MV2AA models are set to remote- controlled type.

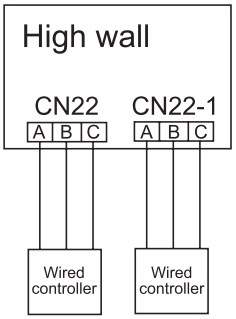
The wiring for the power line of indoor unit, the wiring between indoor and outdoor units as well as the wiring between indoor units:

Items / Total Current of Indoor Units(A)	Cross Section (AWG)	Length (ft/m)	Rated Current of Overflow Breaker(A)	Rated Current of Power Leakage Breaker (A) Leaking Current(mA) Operating Period (S)	Cross Sectional Area of Signal Line	
					Outdoor -indoor (AWG)	Indoor -indoor (AWG)
<7	12	66/20	10	10 A,30 mA,0.1S or below	2 cores×(14-18)AWG shielded line	
≥7 and <11	10	82/25	16	16 A,30 mA,0.1S or below		
≥11and <16	8	98/30	20	20 A,30 mA,0.1S or below		
≥16 and <22	8	131/40	32	32 A,30 mA,0.1S or below		
≥22 and <27	6	164/50	32	32 A,30 mA,0.1S or below		

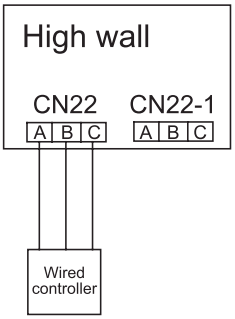
* The electrical power line and signal lines must be fastened tightly.
* Every indoor unit must have the ground connection.
* The power line should be enlarged if it exceeds the permissible length.
* Shielded lays of all the indoor and outdoor units should be connected together, with the shielded lay 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 1094yd(1000m).

High wall wired controller wiring and instruction

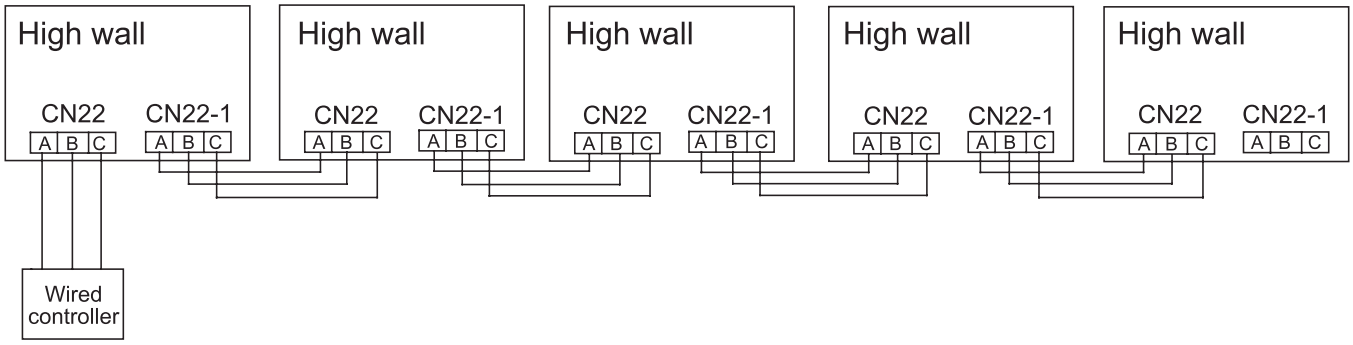
Two wired controllers control one high wall unit



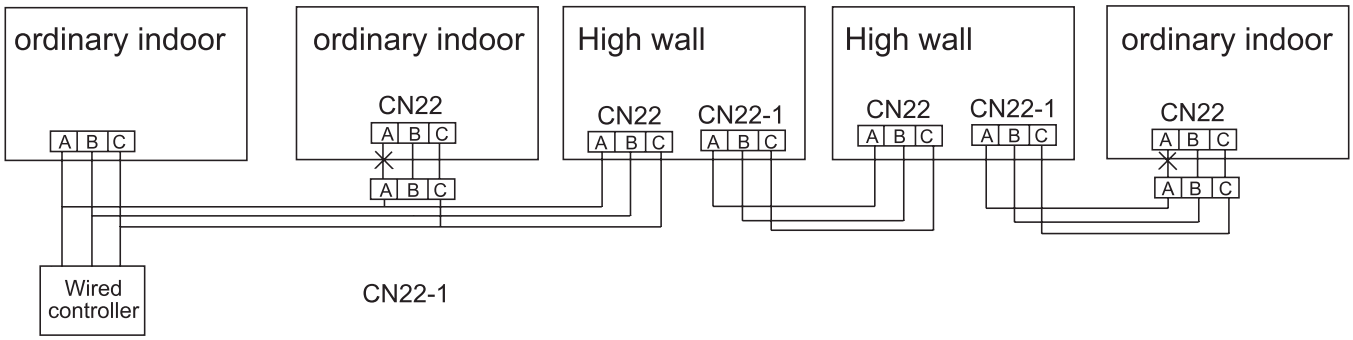
One wired controller controls one high wall unit



Recommended: One wired controller controls more than one indoor unit (limited in high walls)



Not recommended: One wired controller controls more than one indoor unit (ordinary indoors)



High wall wired controller wiring instruction:

1. One wired controller controls one high wall unit (one to one), connect the wires of wired controller to CN22 terminal on PCB directly.

2. Two wired controllers control one high wall unit (two to one), connect the wires of wired controller 1 and 2 respectively to CN22 and CN22-1 on PCB.

3. One wired controller controls more than one unit (one to more), limited in high wall units is recommended and mixed different type indoor units is not recommended . It's easy to do wrong wiring when there're many different type indoors.

If you choose one to more (mixed different type indoor units), please follow the principles below:

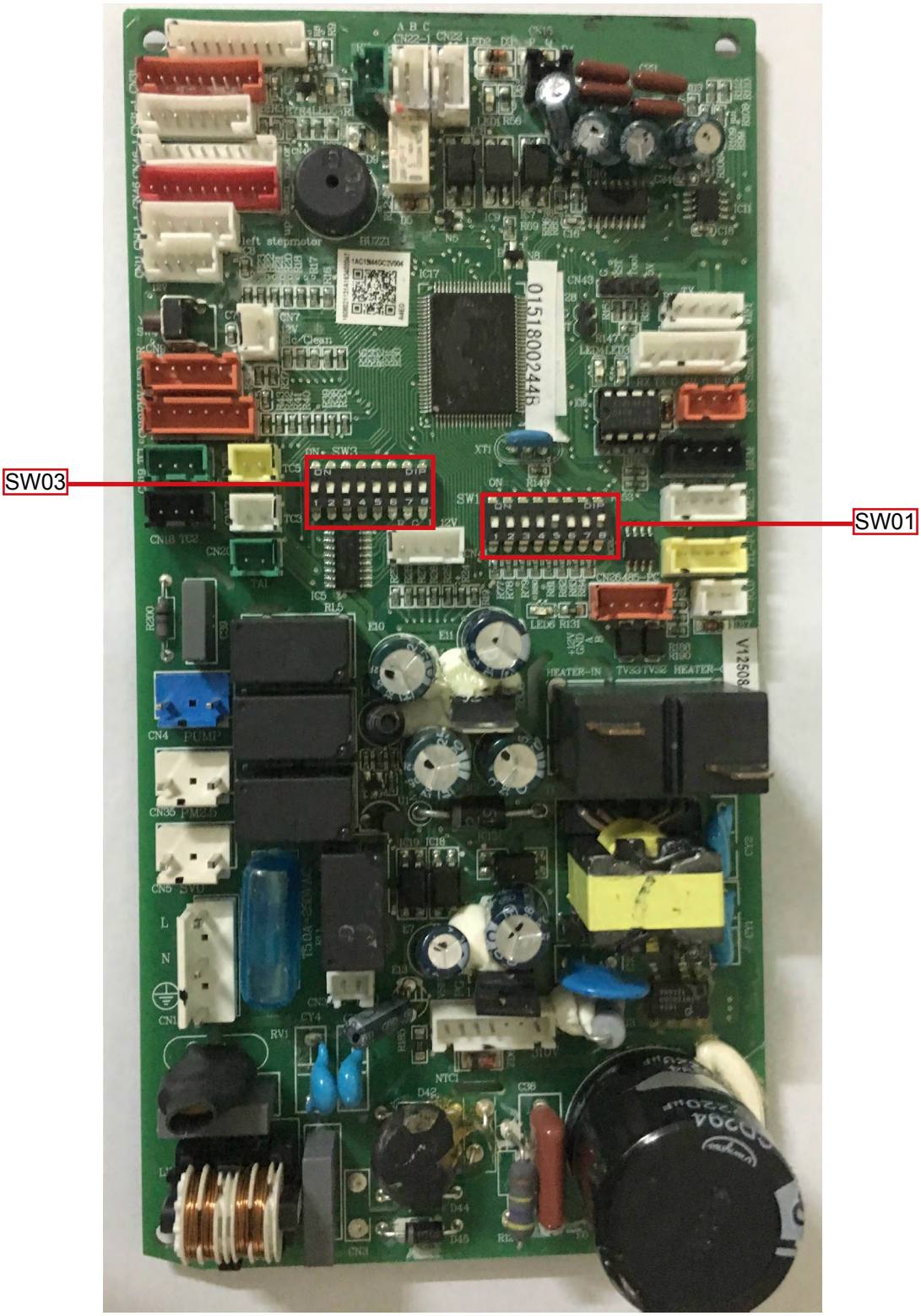
a. The communication wires of wired controller inlet or outlet high wall units are 3 cores. It means to connect all the wires "ABC".

b. When one wire controller connect to more indoors, all the wires between terminals are 3 cores. When other indoor units are slave ones of wired controller, please move off the "A" wire between indoor and PCB CN22 terminals. It means that when other indoors are slave ones of wired controller, no need to connect "A" wire.

c. When the "A" wire is not connect to other ordinary indoors which are the slave ones of wired controller, please do some insulation on it and avoid touching other electric circuit.

10. PCB Photo

0151800244B



11. Dip switch setting

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 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	0.8HP(MVAW007MV2AA)
		0	0	1	0	1.0HP(MVAW009MV2AA)
		0	0	1	1	1.2HP(MVAW012MV2AA)
		0	1	1	0	2.0HP(MVAW018MV2AA)
		0	1	1	1	2.5HP(MVAW024MV2AA)
		1	0	0	1	3.2HP(MVAW030MV2AA)

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

(B)Definition and description of SW03

SW03_1	Address setting mode	0	Automatic address setting or wired controller address 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:

- 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)

- When connecting central controller, gateway or counting system, set address by dip switch.

12. Indoor unit control

12.1 Cooling operation

Set temp. in cooling: Ts=set temp. wired controller;
After startup, indoor unit will send the request to outdoor according to the temp. difference between the set temp. and the room temp.

12.2 Heating operation

Set temp. in heating: Ts=set temp. wired controller + TA correcting value.
After startup, indoor unit will send the request to outdoor according to the temp. difference between the set temp. and the room temp.

12.3 Dry operation

Room temp. - set temp. > 2°C indoor operation is identical with the cooling operation, and send the cooling mode to outdoor;
Room temp. - set temp. ≤ 2°C indoor will send the dry signal to outdoor, and indoor fan motor will run at low speed compulsorily when compressor is running; when room temp. <16°C indoor stops and sends stop signal to outdoor.
In dry operation, the auto mode of indoor fan motor is identical with the cooling mode; EEV control mode is identical with the cooling operation.

12.4 Fan operation

Indoor fan motor will run at the speed set on the wired controller and sends stop signal to outdoor.

12.5 Abnormal operation

When the requested mode collides with the outdoor mode, the entering earlier will be in prior. After indoor receives the startup command from wired controller (remote controller), firstly judge the outdoor current mode. If it is normal mode, the indoor will run as the request of wired controller; if it is abnormal mode, the command can not be executed, and indoor keeps stop; wired controller displays standby mode (if in remote control type, the buzzer will sound twice and the remote controller can not receive the signal). Until the outdoor stops or the outdoor mode is accordant with the requested mode of wired controller (remote controller), the outdoor will work. COOL (including AUTO COOL), DRY, RECOVERY are regarded as the same mode;
HEAT, RECOVERY are as abnormal mode.

12.6 Fan speed control of indoor fan motor

a. Adjustment by hand
Set high/ mid/ low fan speed as the request.
b. Auto fan speed
Confirm the fan speed as the temp. difference between room temp. TA and the set temp.
c. Anti-cool air control
In heating mode, after compressor startup, the unit will control indoor fan motor state due to the indoor coil temp.
In anti-cool air period, indoor sends pre-heat signal to wired controller; in outdoor defrosting period, indoor fan motor will stop, and sends defrost signal to wired controller;
After being switched off in heating mode, indoor fan motor will run at low speed and 30 seconds later will stop.

12.7 Set EEV open angle by hand

When being switched off, short connect CN27 to open the valve fully compulsorily for 2 minutes; When being switched off, short connect CN29 to close the valve fully compulsorily for 2 minutes.

12.8 Anti-freeze protection

In cooling mode, execute the anti-freeze protection due to the measured indoor coil temp. to avoid the indoor heat exchanger causing frost or ice.

12.9 Swing motor control

Indoor will control swing motor ON/OFF due to the swing signal from wired controller.

12.10 Auxiliary electric heater control

In heating mode, if the below conditions can be met, the electric heater will work:
(1) Indoor fan motor and compressor are running;
(2) Air inlet temp. is no more than 22°C;
(3) Room temp. is lower over 2°C than the set temp.;
(4) Compressor has run for 5 seconds;
Either below condition is met, the electric heater will stop:
(1) Indoor fan motor or compressor not runs;
(2) Indoor air inlet temp. is over 23°C;
(3) Indoor air inlet temp. is higher over -1°C than the set temp.;
(4) Unit stops or quit the heating mode.

12.11 Filter cleaning

Check and memorize the running time of indoor fan motor, once arriving the requested time (set by SW07-6), indoor will send filter cleaning signal to wired controller; when indoor receives the filter reset signal from wired controller, if the time exceeds the requested time, the filter will reset.

12.12 Compulsory defrosting

After indoor receives the compulsory defrosting signal from wired controller, it will send compulsory defrosting signal to outdoor continuously for 10 times. In the sending period, indoor will execute the normal defrost.

12.13 Trial operation

Set the mode as cooling (heating), press ON/OFF for 5 seconds to enter compulsory cooling (heating).
In compulsory cooling, display "LL" and COOL will flash;
In compulsory heating, display "HH" and HEAT will flash, fan speed is AUTO. At this time, only ON/OFF, TEMP +/- are valid.

13. Failure code

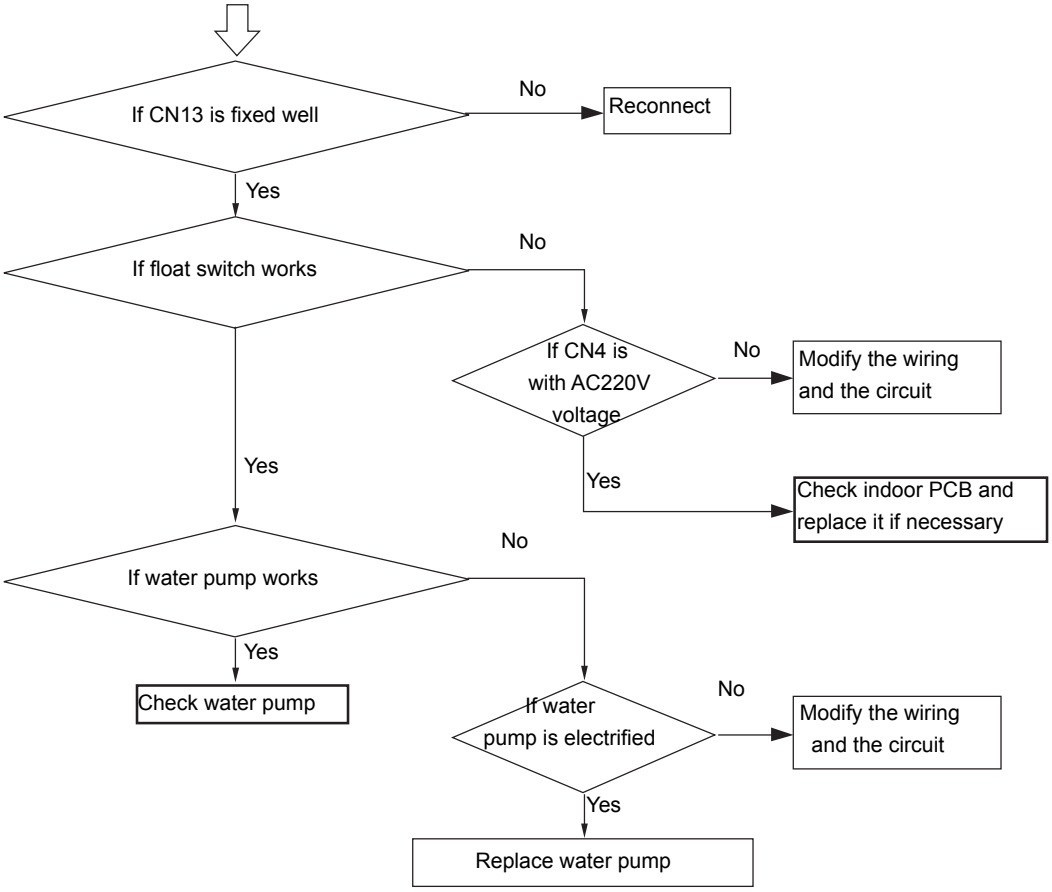
Indoor unit failure code

Failure code on wired controller	Indoor panel display failure code	Indoor PCB LED5 flashes times	Fault Descriptions
01	E01	1	Indoor ambient temp. sensor TA failure
02	E02	2	Indoor gas pipe temp. sensor TC1 failure
03	E03	3	Indoor liquid pipe temp. sensor TC2 failure
05	E05	5	Indoor EEPROM failure
06	E06	6	Communication between indoor and outdoor failure
07	E07	7	Communication between indoor and wired controller failure
08	E08	8	Indoor float switch failure
09	E09	9	Indoor address repeated failure
0C	E12	12	Indoor unit 50Hz Zero-crossing failure
0E	E14	14	DC motor failure
12	E18	18	The 4-way valve of 3-pipe valve box reversing failure
14	E20	20	Outdoor failure code

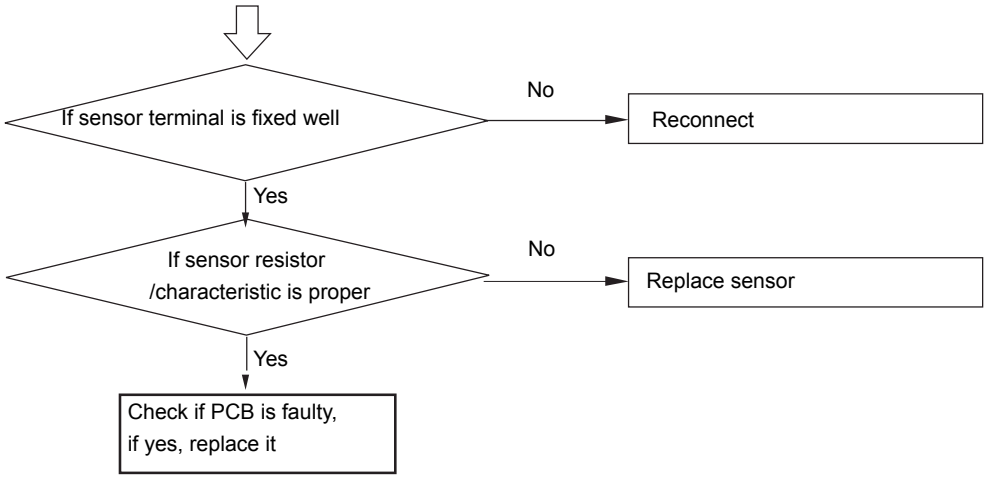
14. Troubleshooting

Indoor failure diagnose

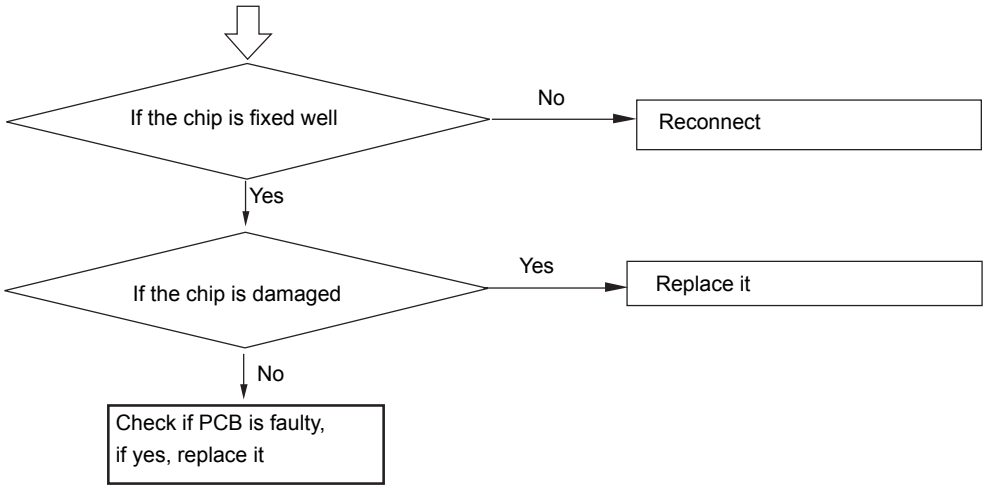
[08] Indoor drainage system failure/float switch circuit on indoor PCB failure



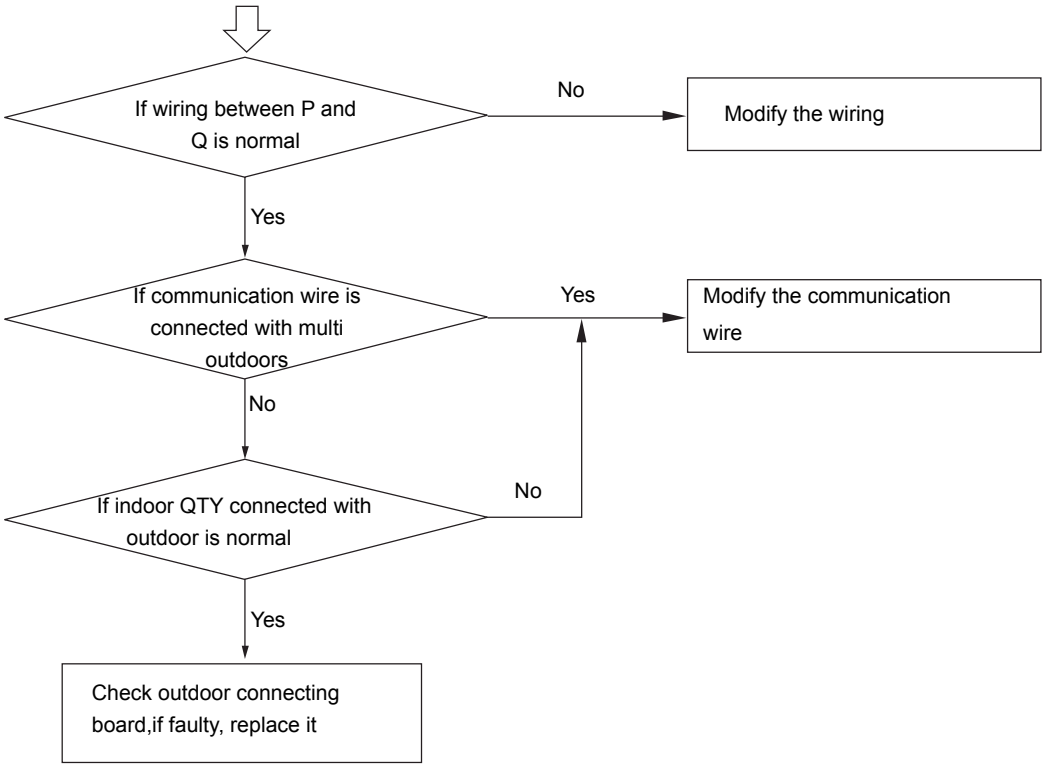
[1/2/3/4/15] Indoor sensor failure



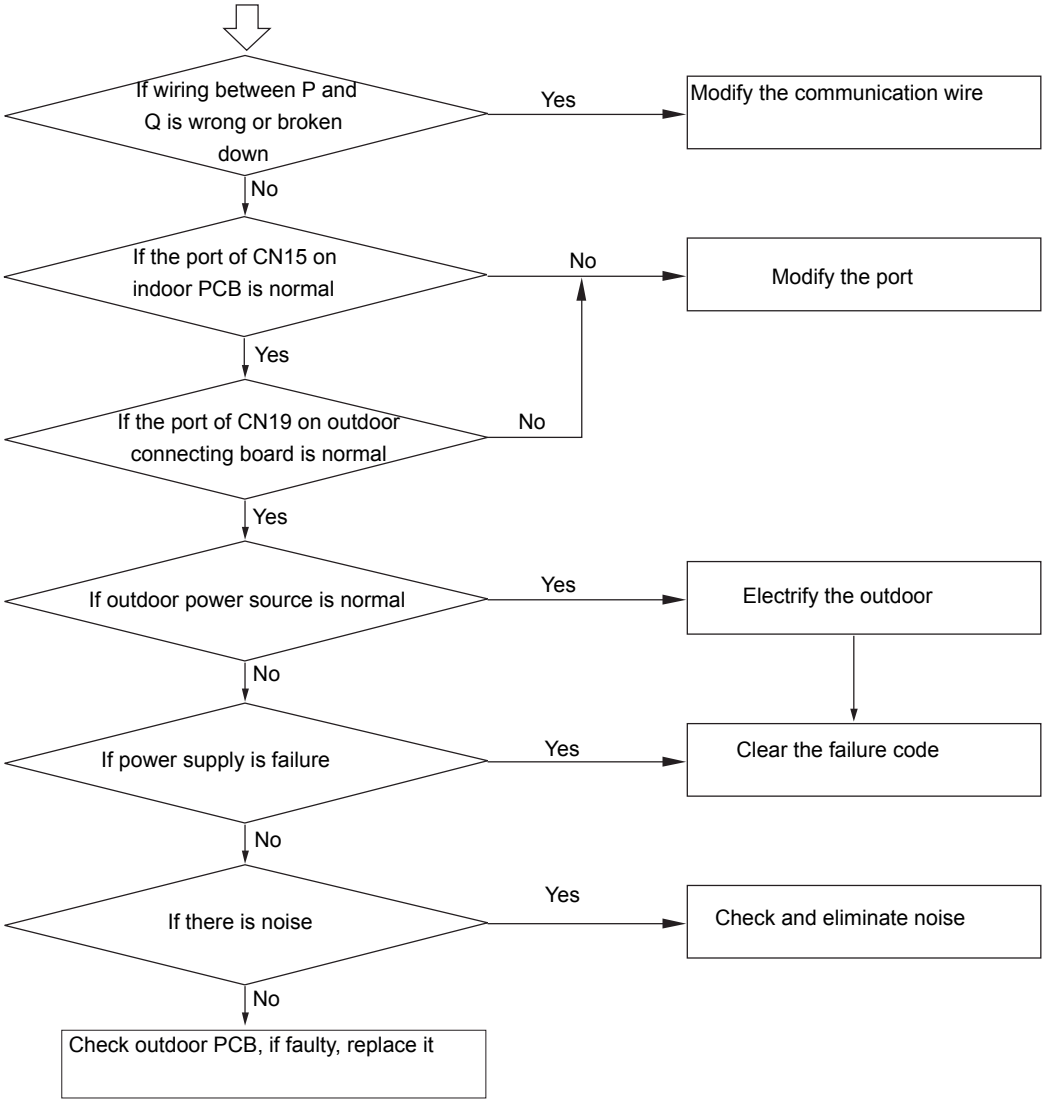
[05] EEPROM failure



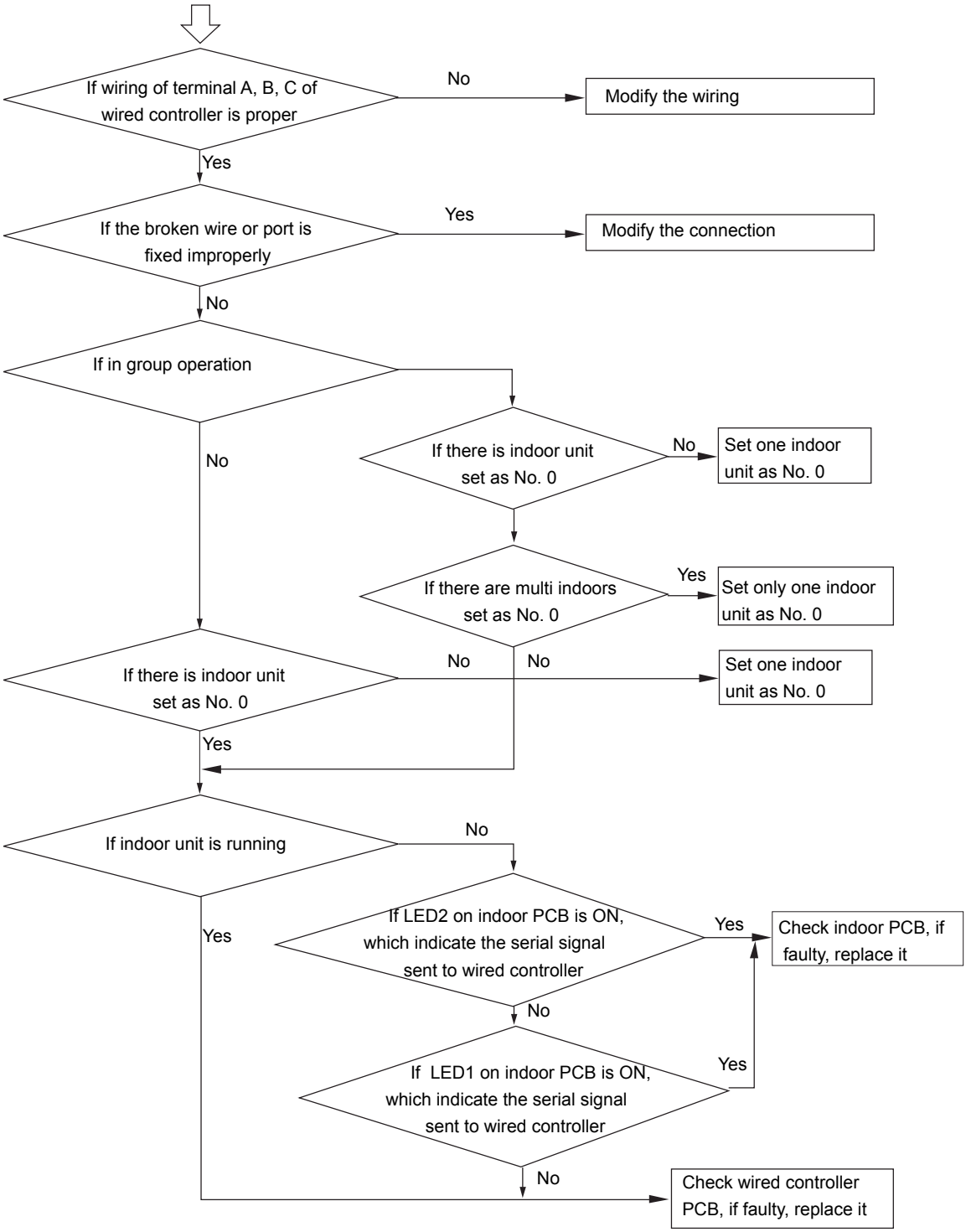
[09] Indoor address repeated



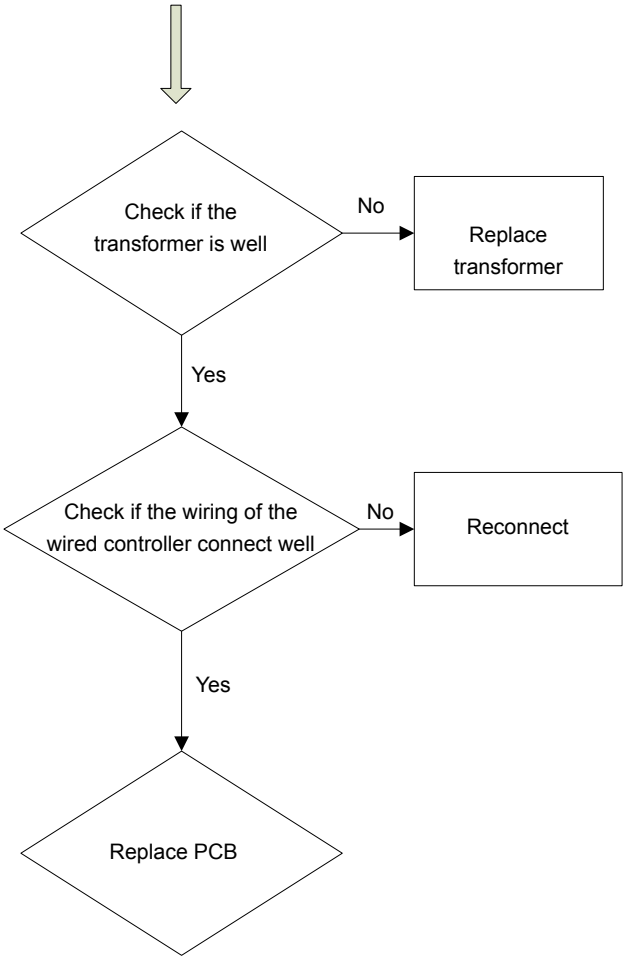
[06] Communication circuit between indoor and outdoor



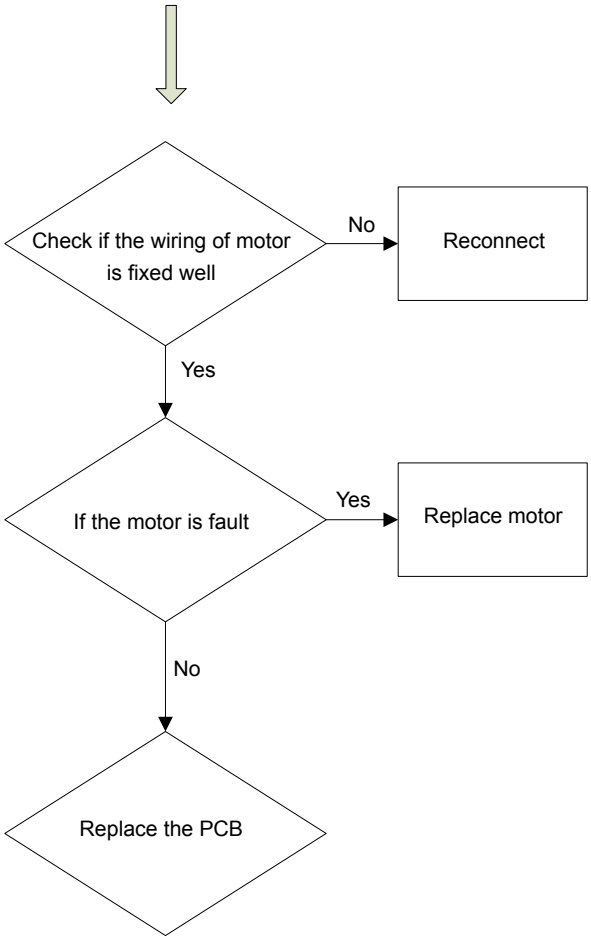
[07] Communication abnormal between indoor and wired controller



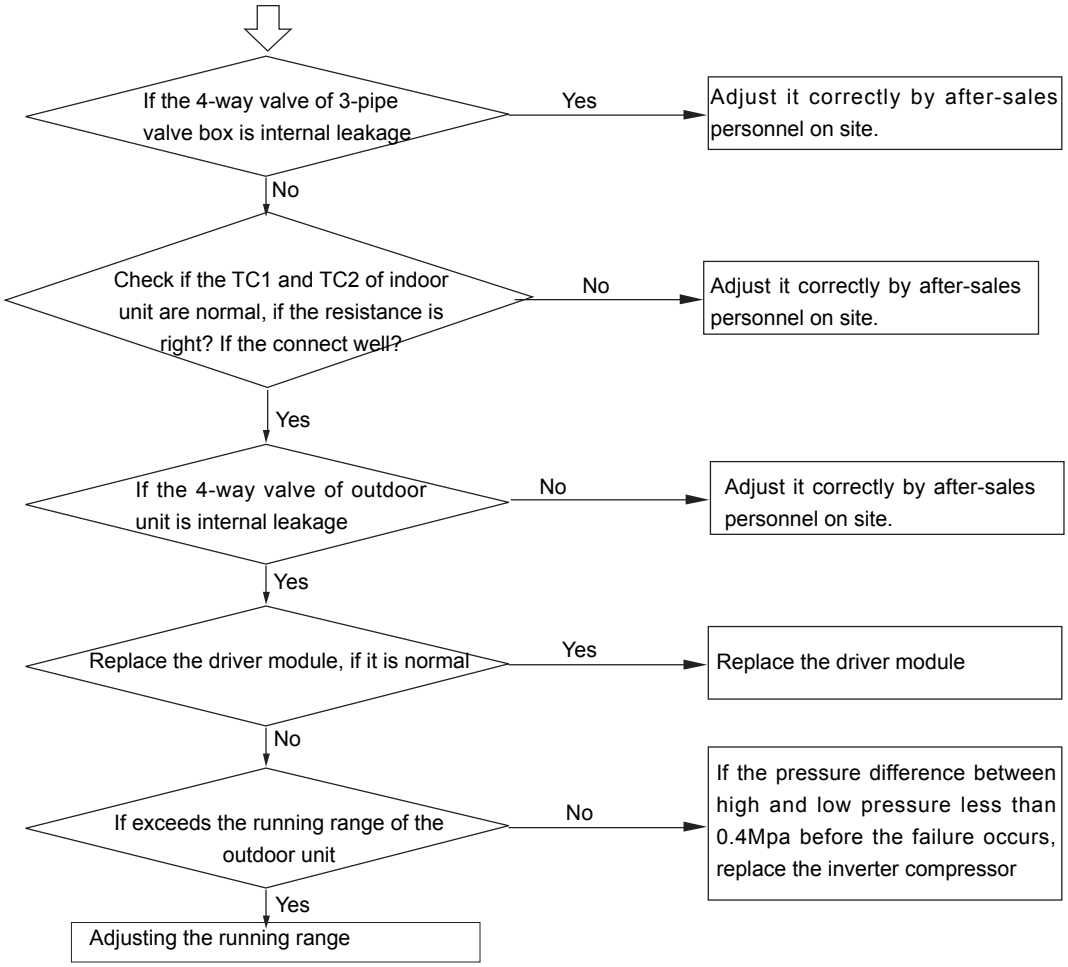
[12] No 50Hz zero passage signal



[14] DC motor failure



[18] The 4-way valve of 3-pipe valve box reversing failure



Note: abnormity confirmation conditions
For MRVIII-RC system, the outdoor unit is running normally, when the 4-way valve of valve box is power on and its connected heating indoor unit's parameter satisfy following conditions

- & • When 4-way valve of valve box is ON
  - • TC2 ≤ CT-20°C lasts for 5min
  - • or • TC1 ≤ 0°C lasts for 5min
    - • TC1 ≤ master unit Ps_temp+10°C lasts for 5min

15. Capacity

Cooling

CA: total capacity (Btu/h)
SHC: sensible heat capacity (Btu/h)

Model	Outdoor Temp.	Indoor Temp.													
		70.7°FDB		73.4°F DB		77°F DB		80.6°F DB		82.4°F DB		86°F DB		89.6°F DB	
		59°F WB		60.8°F WB		64.4°F WB		66.2°F WB		68°F WB		71.6°F WB		75.2°F WB	
	°F DB	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
MVAW007MV2AA	68	7600	5182	7600	5182	7945	5182	7945	5182	8291	5527	8636	5182	8982	5182
	72.5	7255	5182	7600	5182	7945	5182	7945	5182	8291	5182	8291	5182	8636	5182
	77	7255	5182	7600	5182	7600	5182	7945	5182	7945	5182	8291	5182	8636	5182
	81.5	7255	5182	7255	5182	7600	5182	7945	5182	7945	5182	8291	5182	8636	4836
	86	7255	5182	7255	5182	7600	5182	7600	5182	7945	5182	8291	5182	8636	4836
	90.5	6909	5182	7255	5182	7600	5182	7600	5182	7945	5182	8291	5182	8291	4836
	95	6909	5182	6909	5182	7600	5182	7600	5182	7600	5182	7945	5182	8291	4836
	99.5	6909	4836	6909	5182	7255	4836	7600	4836	7600	5182	7945	5182	8291	4836
	104	6909	4836	6909	5182	7255	4836	7600	4836	7600	5182	7945	4836	8291	4836
	109.4	6909	4836	9673	4836	7255	4836	7255	4836	7600	5182	7945	4836	7945	4836
MVAW009MV2AA	68	9257	6514	9600	6514	9943	6514	10286	6514	10286	6514	10629	6514	10971	6171
	72.5	9257	6514	9257	6514	9943	6514	9943	6514	10286	6514	10629	6514	10971	6171
	77	9257	6514	9257	6514	9943	6514	9943	6514	10286	6514	10629	6514	10971	6171
	81.5	9257	6514	9257	6514	9600	6171	9943	6514	9943	6514	10629	6514	10971	6171
	86	8914	6171	9257	6514	9600	6171	9943	6171	9943	6514	10286	6171	10629	6171
	90.5	8914	6171	8914	6514	9600	6171	9600	6171	9943	6514	10286	6171	10629	6171
	95	8914	6171	8914	6514	9257	6171	9600	6171	9943	6514	10286	6171	10629	6171
	99.5	8571	6171	8914	6171	9257	6171	9600	6171	9600	6514	9943	6171	10629	6171
	104	8571	6171	8571	6171	9257	6171	9257	6171	9600	6171	9943	6171	10286	5829
	109.4	8571	6171	12343	6171	9257	6171	9257	6171	9600	6171	9943	6171	10286	5829
MVAW012MV2AA	68	11764	9411	12100	9747	12436	9411	12772	9747	13108	10083	13444	9747	14117	9411
	72.5	11764	9411	11764	9747	12436	9411	12772	9747	13108	10083	13444	9747	13781	9411
	77	11764	9411	11764	9747	12436	9411	12436	9747	12772	10083	13444	9747	13781	9411
	81.5	11428	9411	11764	9747	12100	9411	12436	9411	12772	9747	13108	9747	13781	9411
	86	11428	9411	11428	9411	12100	9411	12436	9411	12436	9747	13108	9747	13444	9411
	90.5	11092	9075	11428	9411	12100	9411	12100	9411	12436	9747	13108	9747	13444	9411
	95	11092	9075	11092	9411	11764	9075	12100	9411	12436	9747	12772	9411	13444	9411
	99.5	11092	9075	11092	9411	11764	9075	12100	9411	12100	9747	12772	9411	13108	9411
	104	10756	9075	11092	9411	11764	9075	11764	9411	12100	9747	12436	9411	13108	9075
	109.4	10756	9075	13444	9411	11428	9747	11764	9411	12100	9747	12436	9411	12772	9075

Model	Outdoor Temp.	Indoor Temp.													
		70.7°FDB		73.4°F DB		77°F DB		80.6°F DB		82.4°F DB		86°F DB		89.6°F DB	
		59°F WB		60.8°F WB		64.4°F WB		66.2°F WB		68°F WB		71.6°F WB		75.2°F WB	
	°F DB	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
MVAW018MV2AA	68	17875	12350	17875	12675	18850	12025	19175	12350	19500	12675	20475	12025	21125	11700
	72.5	17550	12350	17875	12350	18850	12025	19175	12025	19500	12350	20150	12025	20800	11700
	77	17550	12025	17550	12350	18525	12025	18850	12025	19175	12350	20150	12025	20800	11700
	81.5	17225	12025	17550	12350	18525	12025	18850	12025	18850	12350	19825	12025	20475	11700
	86	17225	12025	17225	12025	18200	11700	18525	12025	18850	12350	19500	12025	20475	11375
	90.5	16900	11700	17225	12025	17875	11700	18525	11700	18525	12025	19500	11700	20150	11375
	95	16900	11700	16900	12025	17875	11700	18200	11700	18525	12025	19175	11700	20150	11375
	99.5	16575	11700	16900	12025	17550	11375	17875	11700	18200	12025	19175	11700	19825	11375
	104	16250	11700	16575	11700	17550	11375	17875	11700	17875	12025	18850	11700	19500	11375
	109.4	16250	11375	6825	11700	17225	9100	17550	11375	19175	11700	18850	11375	19500	11050
MVAW024MV2AA	68	23662	16563	24000	16901	25014	16563	25352	16563	26028	16901	27042	16563	27718	15887
	72.5	23324	16563	23662	16563	24676	16225	25352	16225	25690	16901	26704	16225	27718	15887
	77	22986	16225	23662	16563	24338	16225	25014	16225	25352	16563	26366	16225	27380	15887
	81.5	22648	16225	23324	16563	24338	16225	24676	16225	25352	16563	26028	16225	27042	15549
	86	22648	15887	22986	16225	24000	15887	24338	15887	25014	16563	26028	15887	27042	15549
	90.5	22310	15887	22648	16225	23662	15887	24338	15887	24676	16225	25690	15887	26704	15549
	95	21972	15887	22648	16225	23662	15887	24000	15887	24338	16225	25352	15887	26366	15549
	99.5	21972	15549	22310	15887	23324	15549	23662	15549	24338	16225	25352	15887	26028	15211
	104	21634	15549	21972	15887	22986	15549	23662	15549	24000	16225	25014	15549	26028	15211
	109.4	21296	15549	21634	15549	22648	15549	23324	15549	23662	15887	24676	15549	25690	15211
MVAW030MV2AA	68	29333	21000	30000	21333	31333	21000	31667	21000	32333	21667	33667	21000	34667	20333
	72.5	29000	21000	29667	21333	31000	20667	31667	21000	32000	21667	33333	21000	34667	20333
	77	28667	20667	29333	21000	30667	20667	31333	20667	31667	21333	33000	21000	34333	20333
	81.5	28667	20667	29000	21000	30333	20667	31000	20667	31667	21333	32667	20667	34000	20000
	86	28333	20333	28667	21000	30000	20333	30667	20667	31333	21333	32333	20667	33667	20000
	90.5	28000	20333	28667	20667	29667	20333	30333	20333	31000	21000	32000	20667	33333	20000
	95	27667	20000	28333	20667	29333	20000	30000	20333	30667	21000	32000	20333	33000	19667
	99.5	27333	20000	28000	20333	29000	20000	29667	20000	30333	20667	31667	20333	32667	19667
	104	27000	19667	27667	20333	28667	20000	29333	20000	30000	20667	31333	20000	32333	19667
	109.4	26667	19667	27333	20000	28333	19667	29000	20000	29667	20667	31000	20000	32000	19333

Heating

SHC: sensible heat capacity

Model	Outdoor Temp.	Indoor Temp. (°F DB)			
		59	68.0	77.0	80.6
	°F WB	SHC (Btu/h)	SHC (Btu/h)	SHC (Btu/h)	SHC (Btu/h)
MVAW007MV2AA	5	5848	5504	5504	5504
	14	6536	6536	6536	5848
	23	7224	7224	6536	5848
	32	8256	8256	6536	5848
	36.5	8600	8600	6536	5848
	42.8	8600	8600	6536	5848
	43.7	8944	8600	6536	5848
	50	9632	8600	6536	5848
	54.5	10320	8600	6536	5848
	59.9	10320	8600	6536	5848
MVAW009MV2AA	5	6956	6956	6956	6956
	14	7950	7950	7950	7288
	23	8944	8944	8281	7288
	32	10269	9938	8281	7288
	36.5	10600	10600	8281	7288
	42.8	10600	10600	8281	7288
	43.7	11263	10600	8281	7288
	50	11925	10600	8281	7288
	54.5	12588	10600	8281	7288
	59.9	12919	10600	8281	7288
MVAW012MV2AA	5	9180	8840	8840	8840
	14	10540	10200	10200	9520
	23	11560	11560	10540	9520
	32	12920	12920	10540	9520
	36.5	13600	13600	10540	9520
	42.8	13600	13600	10540	9520
	43.7	14280	13600	10540	9520
	50	15300	13600	10540	9520
	54.5	16320	13600	10540	9520
	59.9	16320	13600	10540	9520
MVAW018MV2AA	5	13333	13333	13016	13016
	14	15238	15238	14921	13651
	23	17143	16825	15556	13651
	32	19048	18730	15556	13651
	36.5	20000	19683	15556	13651
	42.8	20317	20000	15556	13651
	43.7	20952	20000	15556	13651
	50	22540	20000	15556	13651
	54.5	23810	20000	15556	13651
	59.9	24127	20000	15556	13651

Model	Outdoor Temp.	Indoor Temp. (°F DB)			
		59	68.0	77.0	80.6
	°F WB	SHC (Btu/h)	SHC (Btu/h)	SHC (Btu/h)	SHC (Btu/h)
MVAW024MV2AA	5	18225	17888	17550	17550
	14	20588	20250	20250	18563
	23	23288	22950	20925	18563
	32	25650	25313	20925	18563
	36.5	27000	26663	20925	18563
	42.8	27338	27000	20925	18563
	43.7	28350	27000	20925	18563
	50	30375	27000	20925	18563
	54.5	32400	27000	20925	18563
	59.9	32738	27000	20925	18563
MVAW030MV2AA	5	22780	22440	22100	22100
	14	25840	25500	25160	23460
	23	29240	28900	26520	23460
	32	32300	31960	26520	23460
	36.5	34000	33660	26520	23460
	42.8	34340	34000	26520	23460
	43.7	35700	34000	26520	23460
	50	38080	34000	26520	23460
	54.5	40800	34000	26520	23460
	59.9	41140	34000	26520	23460

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