Haier

Indoor Unit Operation & Installation Manual

ORIGINAL MANUAL

English

AB072MBERA
AB092MBERA
AB122MBERA
AB162MBERA
AB182MBERA

No. 0150514129

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

Original instructions

User Manual

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

MRV series multiple air conditioning systems adopt the consistent running mode, by which, all indoor units can only be heating or refrigerating operation at the same time.

To protect the compressor, the air conditioning unit should be powered on for over 12 hours before using it.
All indoor units of the same refrigerating system should use the unified power switch to ensure that all indoor units are in the state of being powered on at the same time during the operation of air conditioner.

Contents

Warning

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

Product Features:

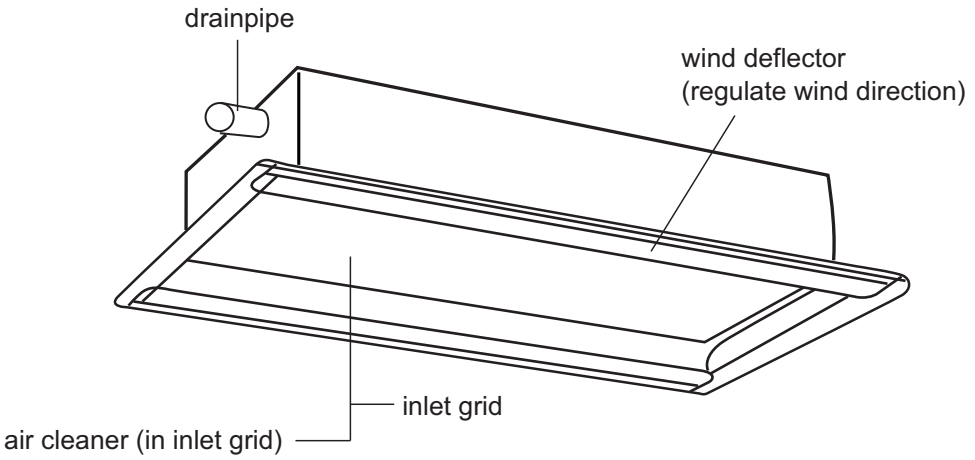
1. Hanging-style installation to save space;
2. Automatic display of faults;
3. Function of central control (optional from our company).
4. The air conditioner is provided with the function of compensation for power supply. During operation, when the power supply fails emergently and resumes again, the air conditioner returns to the working condition before power failure, if provided with compensation function.
5. The operating methods and functions are same although the shapes of indoor units are different.
6. Now this indoor unit only has wired controller function,the indoor unit that has remote controller function need to set in factory especially.

Operating Range of Air Conditioner

cooling dry	indoor	max.	DB: 32℃ WB: 23℃
		min.	DB: 18℃ WB: 14℃
	outdoor	max.	DB: 43℃ WB: 26℃
		min.	DB: -5℃
heating	indoor	max.	DB: 27℃
		min.	DB: 15℃
	outdoor	max.	DB: 21℃ WB: 15℃
		min.	DB: -15℃

Parts and Functions

Indoor Units



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.

Safety

- 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.
- If the ambient humidity bigger than 80%, when the water discharge hole be blocked or the filter becomes dirty, or airflow speed change, there maybe leads to condensing water drop down, and at the same time there maybe some drops of water spit out.

Safety

⚠ Attention

Notices during Operation

- It is not allowed to put any heating apparatus under the indoor units, for the heat may cause distortion of the units.
- Pay attention to the aeration condition to avoid anoxic symptom.

- 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.

- 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.
- 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.
- It cannot be used for the preservation of food, living creature, precise instrument and artworks, etc, otherwise damage may occur.
- Use the fuse with proper capacity. Metal wires and copper wires, etc., may cause fire or other faults.
- 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.
- 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.
- 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.
- 3-minute protection
  To protect the unit, compressor can be actuated with at least 3-minute delay after stopping.
- Close the window to avoid outdoor air getting in.
  Curtains or window shutters can be put down to avoid the sunshine.

- Do not touch the switch with the wet hand to avoid power shock.
- Stop running and switch off the manual power switch when cleaning the unit.
- 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
- Cleaning the unit with water may cause electric shock.

- Do not put flammable spray close to the air conditioner.
  Don't inject flammable spray towards the air conditioner, which may cause fire.
- 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.
- 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.

Maintenance

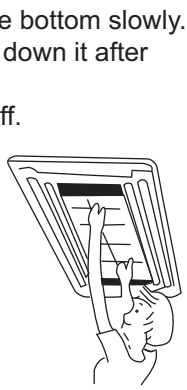
⚠ Attention

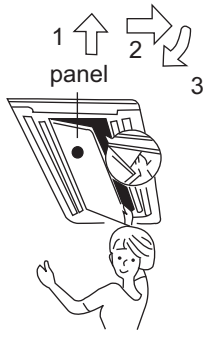
- Repair can only be performed by professional personnel.
- Before touching the connection line, all power supplies should be switched off. Only after switching off the power supply can the operator clean the air conditioner as to avoid electric shock or injury.
- When cleaning the air cleaner, make sure to use a stable platform; don't flush the air conditioner with water, or the electric shock might be caused.

Daily Maintenance:

Clean the air cleaner & air inlet grid

- Don't dismantle the air cleaner if not cleaning, or faults might be caused.
- When the air conditioner operates in the environment with too much dust, clean the air conditioner more times (generally once every two weeks).
- Take up the panel then pull forward, draw out from the bottom slowly. (The panel only can move to left or right, please take down it after conformation.)
- Unfasten the thread against the both of ends falling off.
- Pull the air filter downward and take it out.





Cleaning the air outlet port and the shell:

⚠ Attention

- Don't use gasoline, benzene, diluents, polishing powder or liquid insecticide to clean them.
- Do not clean them with hot water of above 50℃ 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.

Maintenance

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.
3. Air cleaner and shell must be mounted after cleaning.

Fault Checkup

Please check the following when consigning repair service:

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

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

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

Installation Procedures

Before installation

Make correct operation according to the manual when installation.
Please confirm the below information:

- If operation plan has been discussed
- Model, power supply specs
- Pipe, wire, and the other parts
- Accessories(inside the unit, take it out after opening the filter)

Heat insulation for nut on flared section

1	Pipe cover		1	For gas pipe
2	Pipe cover		1	For liquid pipe
3	Strap		4	For pipe cover

For unit suspension

1	Flat washer (M10)		4	For unit suspension
2	Paper pattern		1	
3	Bolt		4	For paper pattern of installation

For drainage pipe

1	Pipe cover		2	For drainage pipe
2	Drainage pipe		1	
3	Flexible hose clip		1	For drainage pipe

Selection of installation location for the indoor unit

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 used; where special spray 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).

Warning:
protect the machine from gales or earthquake, make the installation according to the regulations. Improper installation will cause accidents due to the overturn of the air conditioner.

Installation Procedures

Select the following places to install indoor unit

(1) The places where cool or warm air can ventilate smoothly. If the place is higher than 3m, the warm air will gather around the ceiling. A circulator is necessary for this case.

(2) The places where the wires and pipes are easy to outdoor.

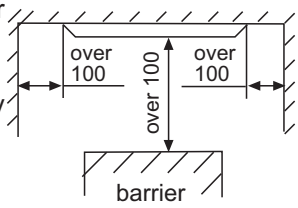
(3)The places where the condensate water can be drained out smoothly and the drainage pipe can lean appropriately.

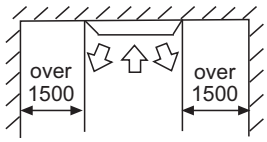
(4)The places where there is no obstacle at air inlet or outlet. And the places which will not alarm or not be in short circuit.

(5)The place where the sunshine will not shoot directly.

(6) The places around which the frosting temperature is below 28℃ and the relative humidity is below 80% (when the unit is installed at place with high temperature, pay main attention to frosting issues, for example the unit can be equipped with heat insulation)

Take it into account that if the place is strong enough to support the unit. If not, please strengthen it with reinforced plate and horizontal plate.





suspension installation

Suspend the bolt with 4 M10 or W3/8. Fasten the bolt to make every bolt bear the load of 50kg. The suspension bolt should be about 95mm extending outward of ceiling.

When the ceiling exists already

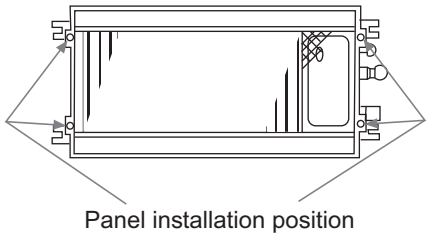
1.Open a hole on the ceiling, and set the dimension appropriate for the installation.

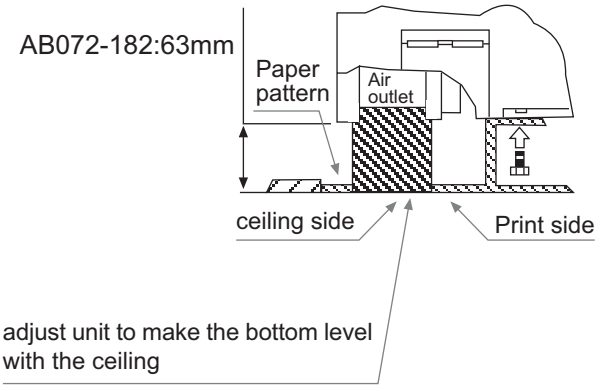
2.Fasten the bolt (purchased locally) on the correct position.

3.After suspending indoor unit, install the template paper on the position of panel with 4 bolts, then adjust the height according to the below procedure.(the length from ceiling to unit bottom is AB072-182: 63mm)

4.Check if the unit is horizontal with a gradienter. If not, the unit will leak water or float switch works badly.

5.Fix the unit after levelness adjustment.

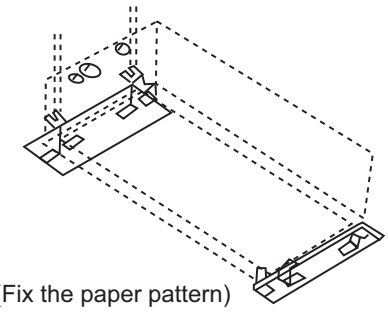




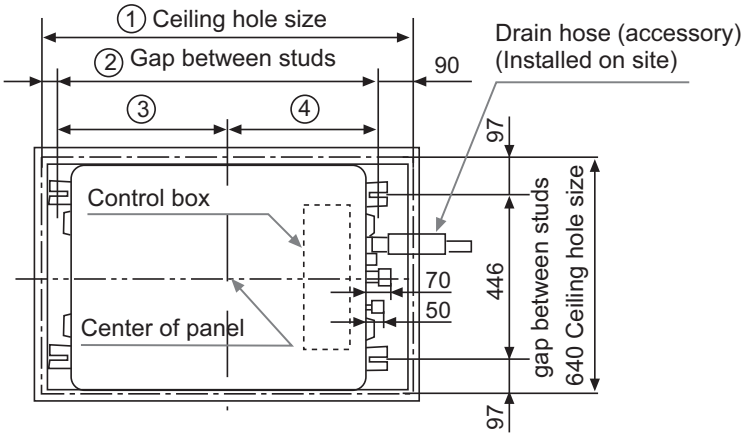
Installation Procedures

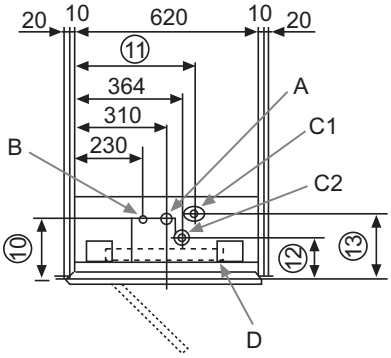
Install ceiling later

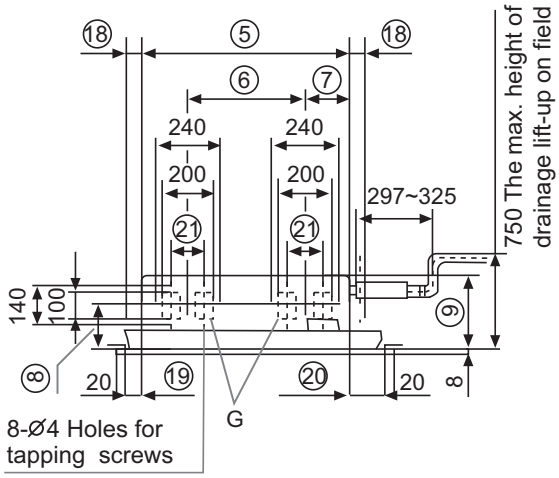
1.Install the Unit block and template paper according to step 2-4.
2.Cut along external boundary line in the ceiling.
3.Fasten the unit after inspecting installation height and level.

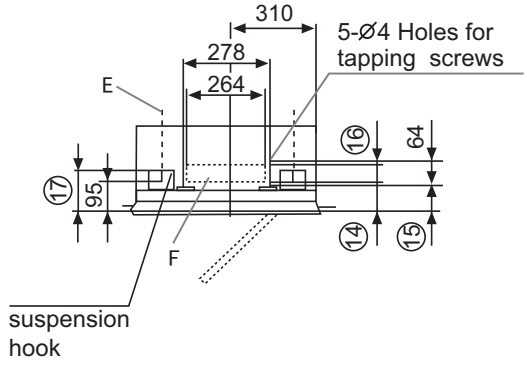


A	gas pipe connector	
B	liquid pipe connector	
C1	drainage pipe connector	VP25
C2	natural drainage outlet	VP20
D	power inlet	
E	suspension bolts	M10 or M3/8
F	fresh air inlet	
G	air supply branch pipe connector	









Installation Procedures

model	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪
AB072~182MBERA	1015	885	468	417	817	460	178	161	280	207	405

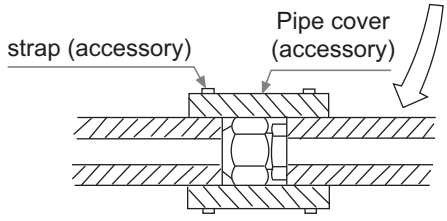
model	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑
AB072~182MBERA	148	227	98	91	47	120	56	74	124	130

Refrigerant pipe

Please refer to accompanied manual to know refrigerant pipe plumbing

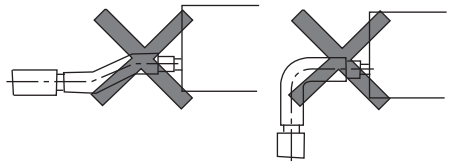
Gas side and liquid side should take measure of heat insulation.

Inspect if gas leaks, joints heat insulation materials have to be used to connect refrigerant piping extender mouth, then, use strap to tie two parts.

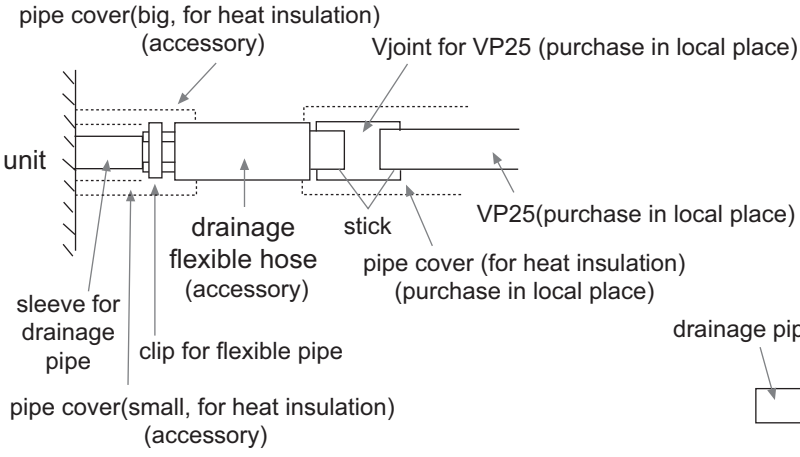


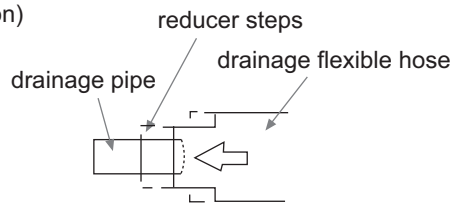
Drainage pipe

- Install attached flexible hose to adjust when installing panel. Bending or dragging intentionally will lead to leakage.
- Insert attached drainage flexible hose into fine mouth end of drainage, and then fix it with pipe clamp.



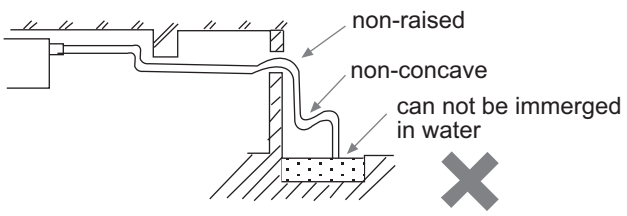
- Bind VP-25 joint(purchase in local place)to drainage flexible hose(Rigid PVC terminal) before suspending, then, bind VP-25 to this joint.
- Make sure binder does not flow into drainage pipe, otherwise, the pipe will be damaged after binder dries.

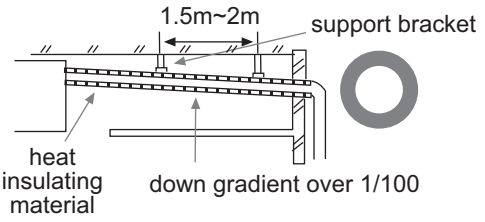




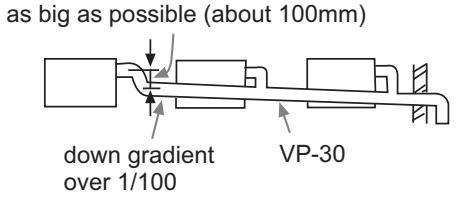
Installation Procedures

- Make drainage slope down(slope is 1/50-1/100), and any part of drainage upheaval or cave in.



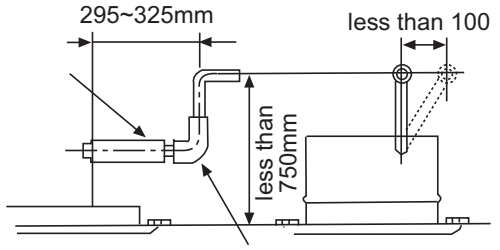


- Attention: make sure indoor unit side does not bear any pressure, and fix drainage near unit.
- Drainage can be normal rigid polyvinyl chloride pipe VP-25.
- When laying drainage pipe for multi units. As viewed in the picture, set main drainage 100mm under each indoor unit draining mouth, and the main pipe should be more than VP-30 thick plastic pipe.



- Take insulation measures to the following two parts of drainage pipe to avoid leakage.
  Drain pipe fitting location:
  After drainage test, install small tube shield onto drain pipe fitting and then use bigger tube shield to cover smaller one and part of drainage pipe. And then use bandage to tie them.
  Rigid polyvinyl chloride pipe of indoor unit.
- Do not set air vent in the drain pipe.
- Exit height of drain pipe should be 750mm higher than ceiling, so if facing any barrier while laying drain pipe, you can use bending pipe or other attachments to avoid, and on this condition, if the drain pipe from unit to pipe is too long, the water flow will increase when air conditioner is off.

The following picture refers to particular location of match-fixing head of drain pipe.



VP25 connecting joint (purchase in local place)

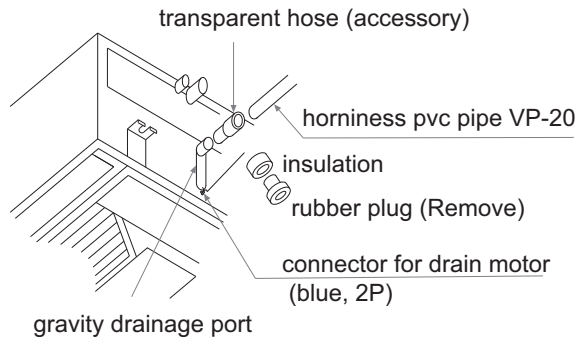
Other installation is the same as normal drain pipe working.

- Do not lay drain pipe at the place that can cause peculiar smell gas.
- Do not put drain pipe directly into sewer that can cause harmful gas.

Installation Procedures

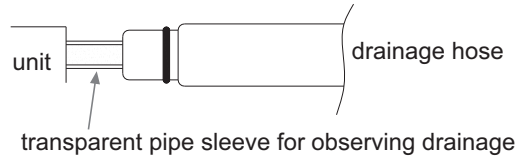
In case of gravity drainage

- Remove the rubber plug and insulation from the gravity drainage port.
- Connect the drain hose (VP-20) using the gravity drainage connecting tube (option) and secure firmly with a clamp.
  (If the drain tube is directly connected with the gravity drainage port, the drain pan could not be removed.)
- Cut off drainage motor(blue 2P)
  (If the unit is used with this connector being connected, the drainage will go out through the standard drain connecting port, causing leaks.)

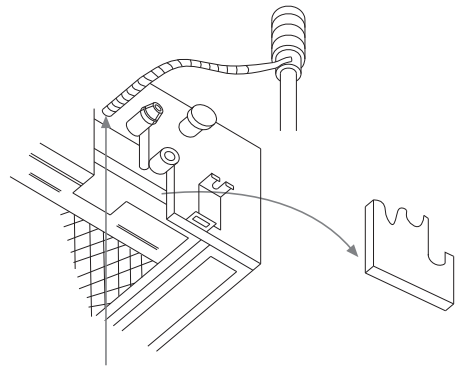


Drain test

- After installation of drain pipe, make sure that drain system work in good condition and no water leakage from joint and drain pan.
- Do drain test even if installation of heating season.
- For new building cases, make sure to complete the test before hanging the ceiling.



1.Pour water of about 1000cc into the drain pan in the indoor unit by pump so as not to get the electrical component wet.
2.At the drain socket (transparent), it is possible to check if the water is drained out properly. Confirm that the water is properly drained out while the drain motor is operating.
3. Unplug the drain plug on the indoor unit to remove remaining water after the test, and re-plug it.
Attention: do not make water splash.



Drain pump forceful running method

- Turn on indoor unit, drain pump will continuously run.
- Turn off after test is over.
  (If electrical work has not done, connect T style Y-shaped connector to form inlet, and then check if it leaks.)

Installation Procedures

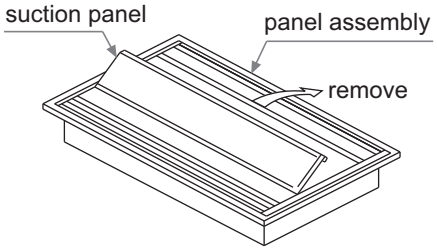
Installation of panel

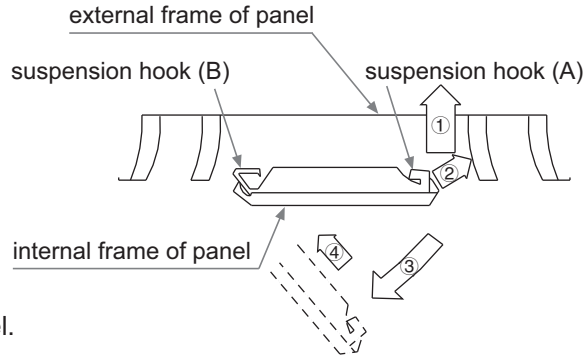
Bolt used should be close to panel

Air supply outlet is easy to be damaged, please pay attention to it when working.

1.Use drawing block to confirm the height of unit and size of ceiling. Remove it before installing panel, as well as air return panel.

Method to dismantle the air return panel



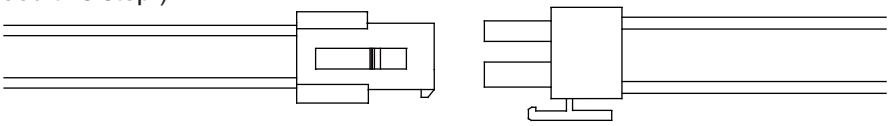


2.Screw 4 installation panels 5mm in unit panel.

3.Fix the panel

4.Tighten the screws.

5.Link the joint of louver motor(white, 2P) (unit without louver automatically running function does not need this step.)



Control box terminal　　panel louver motor terminal

6.If you want to use the remote controller, you need to prepare an additional remote control receiver (RE-02), the ten pin white connector is for remote controller connect the port CN21 on PCB.

CN21

7.Use remote control to make sure the connection is OK, and then cut off the power for 10 seconds, restart.

Installation Procedures

Tubing Permissible Length & Height Difference

Please refer to the attached manual of outdoor units.

Tubing Materials & Specifications

Model		AB072~092MBERA	AB122~182MBERA
Tubing Size (mm)	Gas pipe	Ø9.52	Ø12.7
	Liquid pipe	Ø6.35	Ø6.35
Tubing Material	Phosphor deoxybronze seamless pipe (TP_2) for air conditioner		

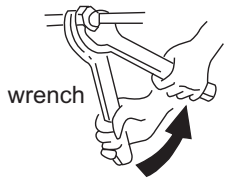
Refrigerant Filling Amount

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

Connecting Procedures of Refrigerant Tubing

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

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



Outer Diameter of Tubing (mm)	Mounting Torque (N-m)	Increase mounting Torque (N-m)
Ø6.35	11.8(1.2kgf-m)	13.7(1.4kgf-m)
Ø9.52	24.5(2.5kgf-m)	29.4(3.0kgf-m)
Ø12.70	49.0(5.0kgf-m)	53.9(5.5kgf-m)
Ø15.88	78.4(8.0kgf-m)	98.0(10.0kgf-m)

Cutting and Enlarging

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

Vacuumizing

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

Open All Valves

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

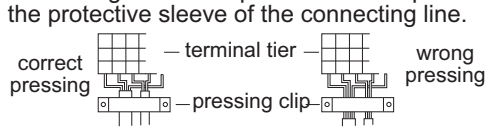
Checkup for Air Leakage

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

Connecting

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

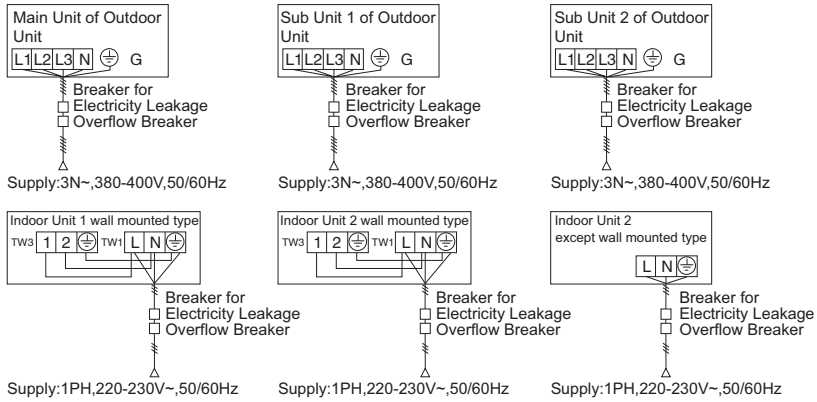
⚠ Warning

- 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×(1.0-1.5) mm^2; parameters for signal line: 2×(0.75-1.25)mm^2(shielded line)]
- 5 butt lines (1.5mm) are equipped in the machine before delivery, which are used in connection between the valve box and the electrical system of the machine. The detailed connection is displayed in the circuit diagram.

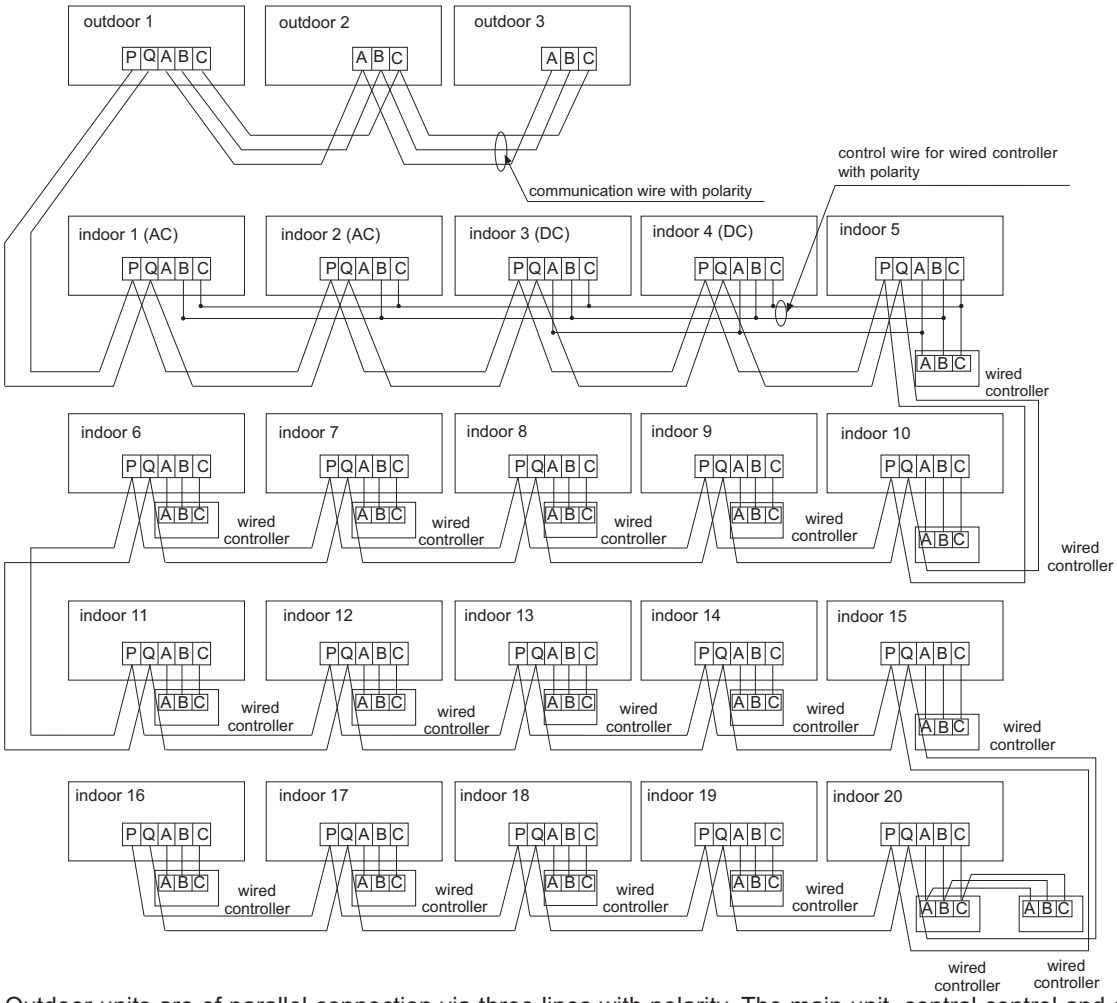
Supply Wiring Drawing



- Indoor units and outdoor units should be connected to the power source separately. Indoor units must share one single electrical source, but its capacity and specifications should be calculated. Indoor & outdoor units should be equipped with the power leakage breaker and the overflow breaker.

Electrical Wiring

Signal Wiring Drawing



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

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

A. One wired controller controls multiple units, i.e. 2-8 indoor units, as shown in the above figure, (1-5 indoor units). The indoor unit 5 is the line-controlled main unit and others are the ine-controlled sub units. The remoter control and the main unit (directly connected to the indoor unit of wired controller) are connected via three lines with polarity. Other indoor units and the main unit are connected via two lines or three lines with polarity (If the PCB of indoor is DC, the wired controller needs to be connected to ABC, while the PCB of indoor is AC, the wired controller only connects to BC.). SW01 on the main unit of line control is set to 0 while SW01 on other sub units of line control are set to 1, 2, 3 and so on in turn.

B. One wired controller controls one indoor unit, as shown in the above figure (indoor unit 6-19). The indoor unit and the wired controller are connected via three lines with polarity.

C. Two wired controllers control one indoor unit, as shown in the figure (indoor unit 20). Either of the wired controllers can be set to be the master wired controller while the other is set to be the auxiliary wired controller. The master wired controller and indoor units, and the master and auxiliary wired controllers are connected via three lines with polarity.

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

Electrical Wiring

Indoor power supply wiring & signal wiring between indoor and outdoor & signal wiring between indoors.

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

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

Signal Wiring of Wired controller

Length of Signal Line (m)	Wiring Dimensions
⩽250	$0.75mm^2 \times 3$ core shielding line

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

Electrical Wiring

Dipswitch Setting

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

Indoor Units PCB
In the following table, 1 represents ON and 0 represents OFF.
Definition principles of code switches:
SWO1 is used to set capabilities of master and slave indoor units as well as indoor unit; 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	Operatlon mode displayed on wired controller	1	[air supply] [refrigerating] [dehumidification]			
		0	[automatic] [air supply] [refrigerating] [dehumidification] [heating]			
SW01_2 SW01_3 SW01_4	Address of wire controlled indoor unit (Note 1)	[2]	[3]	[4]	Address of wire controlled indoor unit (group address)	
		0	0	0	0# (wire controlled master unit) (default)	
		0	0	1	1# (wire controlled slave unit)	
		0	1	0	2# (wire controlled slave unit)	
		0	1	1	3# (wire controlled slave unit)	
		1	0	0	4# (wire controlled slave unit)	
		1	0	1	5# (wire controlled slave unit)	
		1	1	0	6# (wire controlled slave unit)	
		1	1	1	7# (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	0	0.6HP
		0	0	0	1	0.8HP
		0	0	1	0	1.0HP
		0	0	1	1	1.2HP
		0	1	0	0	1.5HP
		0	1	0	1	1.7HP
		0	1	1	0	2.0HP
		0	1	1	1	2.5HP
		1	0	0	0	3.0HP
		1	0	0	1	3.2HP
		1	0	1	0	4.0HP
		1	0	1	1	5.0HP
		1	1	0	0	6.0HP
		1	1	0	1	8.0HP
		1	1	1	0	10.0HP
		1	1	1	1	15.0HP

Note 1: A wired controller can connected to at most eight ultrathin air-duct indoor units.

Electrical Wiring

(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 is disnabled.

(C) Definition and description of SW08

SW08_1	WiFi Control Mode Option	1	Single Control
		0	Group Control
SW08_2	Passive contact	0	Available
		1	Not Available (Default)
SW08_3	Priority	0	High Priority
		1	Normal (Default)
SW08_4	Dehumidification select	0	Dehumidification
		1	Normal (Default)

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.

Difference between Main Wired Controller and Auxiliary Wired Controller

Comparison Items	Main wired controller	Auxiliary wired controller
Functions	All functions	It can only set shutdown, mode, air quantity, temperature and swinging.

Test Run & Fault Code

Before Test Run

- Before switching it on, test the supply terminal tier (L, N terminals) and grounding points with 500V megaohm meter and check if the resistance is above 1MΩ. It can't be operated if it is below 1MΩ.
- Connect it to the power supply of outdoor units to energize the heating belt of the compressor. To protect the compressor at startup, power it on 12 hours prior to the operation.
  Check if the arrangements of the drainpipe and connection line are correct.
  The drainpipe shall be placed at the lower part while the connection line placed at the upper part.
  Heat preservation measures should be taken such as winding the drainpipe esp. in the indoor units with heating insulating materials.
  The drain pipe should be made a slope type to avoid protruding at the upper part and concaving at the lower part on the way.

Checkup of Installation

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

Ways of Test Run

Do ask the installation personnel to make a test run. Take the testing procedures according to the manual and check if the temperature regulator works properly.
When the machine fails to start due to the room temperature, the following procedures can be taken to do the compulsive running. The function is not provided for the type with remote control.

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

Fault Remedies

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

Failure code at wired controller	PCB LED5(Indoor Units)/ Receiver Timer Lamp(Remote Controller)	Fault Descriptions
01	1	Fault of indoor unit ambient temp. transducer TA
02	2	Fault of indoor unit pipe temp. transducer TC1
03	3	Fault of indoor unit pipe temp. transducer TC2
04	4	Fault of indoor unit dual heat source temp. transducer
05	5	Fault of indoor unit EEPROM
06	6	Fault of communication between indoor & outdoor units
07	7	Fault of communication between indoor unit and wired control
08	8	Fault of indoor unit 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

Move and scrap the air conditioning

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

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