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1. Notes for Installation and Maintenance

Safety Precautions: Important!

rety Precautions. Important:	
Please read the safety precautions carefully before installation and maintenance.	
The following contents are very important for installation and maintenance.	
Please follow the instructions below:	
The installation or maintenance must accord with the instructions.	
Comply with all national electrical codes and local electrical codes.	
Pay attention to the warnings and cautions in this manual.	
 All installation and maintenance shall be performed by distributor or qualifie person. 	d
All electric work must be performed by a licensed technician according to	to

- local regulations and the instructions given in this manual.
- Be caution during installation and maintenance. Prohibit incorrect operation to prevent electric shock, casualty and other accidents.

! WARNINGS

1. Electrical Safety Precautions

- (1) Cut off the power supply of air conditioner before checking and maintenance.
- (2) The air condition must apply specialized circuit and prohibit share the same circuit with other appliances.
- (3) The air conditioner should be installed in suitable location and ensure the power plug is touchable.
- (4) Make sure each wiring terminal is connected firmly during installation and maintenance.
- (5) Have the unit adequately grounded. The grounding wire can't be used for other purposes.
- (6) Must apply protective accessories such as protective boards, cable-cross loop and wire clip.
- (7) The live wire, neutral wire and grounding wire of power supply must be corresponding to the live wire, neutral wire and grounding wire of the air conditioner.
- (8) The power cord and power connection wires can't be pressed by hard objects.
- (9) If power cord or connection wire is broken, it must be replaced by a qualified person.
- (10) If the power cord or connection wire is not long enough, please get the specialized power cord or connection wire from the manufacture or distributor. Prohibit prolong the wire by yourself.
- (11) For the air conditioner without plug, an air switch must be installed in the circuit. The air switch should be all-pole parting and the contact parting distance should be more than 3mm.
- (12) Make sure all wires and pipes are connected properly and the valves are opened before energizing.
- (13) Check if there is electric leakage on the unit body. If yes, please eliminate the electric leakage.
- (14) Replace the fuse with a new one of the same specification if it is burnt down; Don't replace it with a cooper wire or conducting wire.

(15) If the unit is to be installed in a humid place, the circuit breaker must be installed.

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2. Installation Safety Precautions

- (1) Select the installation location according to the requirement of this manual. (See the requirements in installation part)
- (2) Handle unit transportation with care; the unit should not be carried by only one person if it is more than 20kg.
- (3) When installing the indoor unit and outdoor unit, a sufficient fixing bolt must be installed; make sure the installation support is firm.
- (4) Ware safety belt if the height of working is above 2m.
- (5) Use equipped components or appointed components during installation.
- (6) Make sure no foreign objects are left in the unit after finishing installation.

3. Refrigerant Safety Precautions

- (1) When refrigerant leaks or requires discharge during installation, maintenance, or disassembly, it should be handled by certified professionals or otherwise in compliance with local laws and regulations.
- (2) Avoid contact between refrigerant and fire as it generates poisonous gas; Prohibit prolong the connection pipe by welding.
- (3) Apply specified refrigerant only. Never have it mixed with any other refrigerant. Never have air remain in the refrigerant line as it may lead to rupture or other hazards.
- (4) Make sure no refrigerant gas is leaking out when installation is completed.
- (5) If there is refrigerant leakage, please take sufficient measure to minimize the density of refrigerant.
- (6) Never touch the refrigerant piping or compressor without wearing glove to avoid scald or frostbite.

NOTE:

Improper installation may lead to fire hazard, explosion, electric shock or injury.

Service Manual —————————————————————

Safety Precautions for Installing and Relocating the Unit

MARNINGS

- When installing or relocating the unit, be sure to keep the refrigerant circuit free from air or substances other than the specified refrigerant.
 - Any presence of air or other foreign substance in the refrigerant circuit will cause system pressure rise or compressor rupture, resulting in injury.
- When installing or moving this unit, do not charge the refrigerant which is not comply with that on the nameplate or unqualified refrigerant.
 - Otherwise, it may cause abnormal operation, wrong action, mechanical malfunction or even series safety accident.
- When refrigerant needs to be recovered during relocating or repairing the unit, be sure that the unit is running in cooling mode. Then, fully close the valve at high pressure side (liquid valve). About 30~40 seconds later, fully close the valve at low pressure side (gas valve), immediately stop the unit and disconnect power. Please note that the time for refrigerant recovery should not exceed 1 minute.
 - If refrigerant recovery takes too much time, air may be sucked in and cause pressure rise or compressor rupture, resulting in injury.
- During refrigerant recovery, make sure that liquid valve and gas valve are fully closed and power is disconnected before detaching the connection pipe.
 - If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.

• When installing the unit, make sure that connection pipe is securely connected before the compressor starts running.

 If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.

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- Prohibit installing the unit at the place where there may be leaked corrosive gas or flammable gas.
 - If there leaked gas around the unit, it may cause explosion and other accidents.
- Do not use extension cords for electrical connections. If the electric wire is not long enough, please contact a local service center authorized and ask for a proper electric wire.
 - Poor connections may lead to electric shock or fire.
- Use the specified types of wires for electrical connections between the indoor and outdoor units. Firmly clamp the wires so that their terminals receive no external stresses.
 - Electric wires with insufficient capacity, wrong wire connections and insecure wire terminals may cause electric shock or fire.



R32 refrigerant warning

- To realize the function of the air conditioner unit, a special refrigerant circulates in the system. The used refrigerant is the fluoride R32, which is specially cleaned. The refrigerant is flammable and inodorous. Furthermore, it can lead to explosion under certain conditions. But the flammability of the refrigerant is very low. It can be ignited only by fire.
- Compared to common refrigerants, R32 is a nonpolluting refrigerant with no harm to the ozonosphere. The influence upon the greenhouse effect is also lower. R32 has got very good thermodynamic features which lead to a really high energy efficiency. The units therefore need a less filling.
- This product uses R32 difluoromethane refrigerant, which is a mildly flammable gas class A2L according to ISO 817 or ANSI/ASHRAE 34.
- "ANSI/ASHRAE 15 (USA) and CSA 852 (Canada)" stipulate that it must be handled by a refrigeration mechanic with an appropriate refrigerant handling licence.
- The appliance shall be stored in a room without continuously operating ignition sources. (for example: open flames, an operating gas appliance or an operating electric heater.)
- The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
- The appliance shall be stored so as to prevent mechanical damage from occurring.
- Ducts connected to an appliance shall not contain an ignition source.
- Keep any required ventilation openings clear of obstruction.
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odour.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- Servicing shall be performed only as recommended by the manufacturer.

• Should repair be necessary, contact your nearest authorized Service Centre. Any repairs carried out by unqualified personnel may be dangerous.

 Compliance with national gas regulations shall be observed. Read specialist's manual.



• That pipe-work including piping material, pipe routing, and installation shall include protection from physical damage in operation and service, and be in compliance with national and local codes and standards, such as ASHRAE 15, ASHRAE15.2, IAPMO Uniform Mechanical Code, ICC International Mechanical Code, or CSA B52. All field joints shall be accessible for inspection prior to being covered or enclosed.

Notices for using refrigerant sensor

- Only applicable to refrigerant sensor models.
- The refrigerant sensor can monitor whether R32 refrigerant leaks in real time. When the leakage of R32 refrigerant is detected, the sensor will trigger the alarm and emit a buzzer, and the indoor unit will display "EA" code. Meanwhile, the outdoor unit will stop running.
- In case of refrigerant leakage, please open the window immediately for ventilation to reduce the concentration of refrigerant in the room. Meanwhile, check the room to ensure that there is no fire source. After completing the above operations, please leave the room and go to the safe place, and then contact the after-sales service team for maintenance.
- When the refrigerant sensor reaches its service life or is damaged, the indoor unit will display "FE" code. Please contact the after-sales service team to replace the refrigerant sensor.

 Avoid oil and water splashing into the refrigerant sensor, otherwise it may cause damage to the refrigerant sensor. Avoid using it in the environment with electromagnetic interference, chemical substances (such as chemical plants, etc.), flammable gas, combustible and explosive gas and smog, etc.

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 Avoid using items containing ethanol (such as perfume, etc.) and smogproducing items (such as cigarettes, etc.) near the refrigerant sensor, otherwise it will lead to abnormal conditions such as false alarms of the refrigerant sensor. If such phenomenon occurs, please contact the after-sales service team for maintenance.

Safety Operation of Flammable Refrigerant

Aptitude requirement for maintenance man (repairs should be done only be specialists).

- Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognized assessment specification.
- Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.

Safety preparation work

This product uses mildly flammable R32 refrigerant. Certain levels of refrigerant require minimum room sizes. Please ensure that these minimum room sizes are adhered to for standard installations. (Note: Please refer to the nameplate for the charging quantity of R32).

Appliance shall be installed, operated and stored in a room with a floor area larger than $X m^2$. (Please refer to table "a")

table a - Minimum room area (${\rm m}^{\rm 2}$)

Based on UL 60335-2-40 requirements

The following installation height and area for customer reference.

			Installation	height (m)	
Charge amount (kg)	0.6	1.8	2.2	2.5	3
			Minimum roo	om area (m²)
≤1.836	1	/	1	1	1
1.85	29.39	6.72	5.50	4.84	4.04
1.9	31.01	6.90	5.65	4.97	4.14
1.95	32.66	7.09	5.80	5.10	4.25
2	34.35	7.27	5.95	5.23	4.36
2.05	36.09	7.45	6.10	5.36	4.47
2.1	37.87	7.63	6.24	5.50	4.58
2.15	39.70	7.81	6.39	5.63	4.69
2.2	41.57	7.99	6.54	5.76	4.80
2.3	45.43	8.36	6.84	6.02	5.02
2.4	49.47	8.72	7.14	6.28	5.23
2.5	53.68	9.08	7.43	6.54	5.45
2.6	58.05	9.45	7.73	6.80	5.67
2.7	62.61	9.81	8.03	7.06	5.89
2.8	67.33	10.17	8.32	7.33	6.11
2.9	72.22	10.54	8.62	7.59	6.32
3	77.29	10.90	8.92	7.85	6.54
3.1	82.53	11.26	9.21	8.11	6.76
3.2	87.94	11.62	9.51	8.37	6.98
3.3	93.52	11.99	9.81	8.63	7.19
3.4	99.27	12.35	10.11	8.89	7.41
3.5	105.20	12.71	10.40	9.16	7.63

Maintenance notes

• Check whether the maintenance area or the room area meet the requirement of the nameplate.

- It's only allowed to be operated in the rooms that meet the requirement of the nameplate.
- Check whether the maintenance area is well-ventilated.
 - The continuous ventilation status should be kept during the operation process.
- Check whether there is fire source or potential fire source in the maintenance area.
 - The naked flame is prohibited in the maintenance area; and the "no smoking" warning board should be hanged.
- Check whether the appliance mark is in good condition.
 - Replace the vague or damaged warning mark.

Welding

- If you should cut or weld the refrigerant system pipes in the process of maintaining, please follow the steps as below:
 - a. Shut down the unit and cut power supply
 - b. Eliminate the refrigerant
 - c. Vacuuming
 - d. Clean it with N₂ gas
 - e. Cutting or welding
 - f. Carry back to the service spot for welding
- The refrigerant should be recycled into the specialized storage tank.
- Make sure that there isn't any naked flame near the outlet of the vacuum pump and it's well-ventilated.

Filling the refrigerant

 Use the refrigerant filling appliances specialized for R32. Make sure that different kinds of refrigerant won't contaminate with each other.

- The refrigerant tank should be kept upright at the time of filling refrigerant.
- Stick the label on the system after filling is finished (or haven't finished).
- Don't overfilling.
- After filling is finished, please do the leakage detection before test running; another time of leak detection should be done when it's removed.

Safety instructions for transportation and storage

- Please use the flammable gas detector to check before unload and open the container.
- No fire source and smoking.
- According to the local rules and laws.

Safety of Construction

- For appliances using FLAMMABLE REFRIGERANTS, all joints made in the installation between parts of the REFRIGERATING SYSTEM, with at least one part charged, shall be made in accordance with the following:
 - A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the REFRIGERATING SYSTEM parts. A vacuum valve shall be provided to evacuate the interconnecting pipe or any uncharged REFRIGERATING SYSTEM part.
 - Mechanical connectors used indoors shall comply with ISO 14903.
 When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be refabricated.
 - Refrigerant tubing shall be protected or enclosed to avoid damage.
 - Flexible refrigerant connectors (such as connecting lines between the indoor and outdoor unit) that may be displaced during NORMAL OPERATION shall be protected against mechanical damage.

Pressure test and leak detect

 After completion of field piping for split systems, the field pipework shall be pressure tested with an inert gas and then vacuum tested prior to refrigerant charging, according to the following requirements.

The minimum test pressure for the low side of the system shall be the low side design pressure and the minimum test pressure for the high side of the system shall be the high side design pressure, unless the high side of the system, cannot be isolated from the low side of the system in which case the entire system shall be pressure tested to the low side design pressure.

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Field-made refrigerant joints indoors shall be tightness tested. The test
method shall have a sensitivity of 5 grams per year of refrigerant or better
under a pressure of at least 0,25 times the maximum allowable pressure. No
leak shall be detected.

Information on servicing

Checks to the area

Prior to beginning work on systems containing FLAMMABLE REFRIGERANTS, Safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the REFRIGERATING SYSTEM, the following precautions shall be completed prior to conducting work on the system.

Work procedure

Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.

• Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

Presence of fire extinguisher

If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO₂ fire extinguisher adjacent to the charging area.

No ignition sources

No person carrying out work in relation to a REFRIGERATING SYSTEM which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

Checks to the refrigerating equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.

The following checks Shall be applied to installations using FLAMMABLE REFRIGERANTS:

- the actual REFRIGERANT CHARGE is in accordance with the room size within which the refrigerant containing parts are installed.
- the ventilation machinery and outlets are operating adequately and are not obstructed;
- if an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
- marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected.
- refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are

constructed of materials which are inherently resistant to being corroded or are Suitably protected against being so corroded.

Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:

- that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- that no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding.

Repairs to sealed components

Sealed electrical components shall be replaced.

Repair to intrinsically safe components

Intrinsically safe components must be replaced.

Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

• Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

The following leak detection methods are deemed acceptable for all refrigerant systems.

Electronic leak detectors may be used to detect refrigerant leaks but, in the

case of FLAMMABLE REFRIGERANTS, the sensitivity may not be adequate, or may need recalibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the *LFL* of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25% maximum) is confirmed.

Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

NOTE Examples of leak detection fluids are

- bubble method,
- fluorescent method agents.

If a leak is suspected, all naked flames shall be removed/extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Removal of refrigerant shall be according to Clause "Removal and evacuation".

Removal and evacuation

When breaking into the refrigerant circuit to make repairs - or for any other purpose - conventional procedures shall be used. However, for FLAMMABLE REFRIGERANTS it is important that best practice be followed, since flammability is a consideration. The following procedure shall be adhered to:

- Safely remove refrigerant following local and national regulations;
- evacuate;
- purge the circuit with inert gas (optional for A2L);
- evacuate (optional for A2L);
- continuously flush or purge with inert gas when using flame to open circuit; and
- open the circuit.

The refrigerant charge shall be recovered into the correct recovery cylinders if venting is not allowed by local and national codes. For appliances containing flammable refrigerants, the system shall be purged with oxygen-free nitrogen

to render the appliance safe for flammable refrigerants. This process might need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems.

For appliances containing flammable refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum (optional for A2L). This process shall be repeated until no refrigerant is within the system (optional for A2L). When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.

The outlet for the vacuum pump shall not be close to any potential ignition sources, and ventilation shall be available.

Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed.

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.
- Cylinders shall be kept in an appropriate position according to the instructions.
- Ensure that the REFRIGERATING SYSTEM is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the REFRIGERATING SYSTEM.

Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is

required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task is commenced.

- a) Become familiar with the equipment and its operation.
- b) Isolate system electrically
- c) Before attempting the procedure, ensure that:
 - mechanical handling equipment is available, if required, for handling refrigerant cylinders;
 - all personal protective equipment is available and being used correctly;
 - the recovery process is supervised at all times by a competent person;
 - recovery equipment and cylinders conform to the appropriate standards.
- d) Pump down refrigerant system, if possible.
- e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate in accordance with instructions
- h) Do not overfill cylinders (no more than 80% volume liquid charge.)
- Do not exceed the maximum working pressure of the cylinder even temporarily.
- j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- k) Recovered refrigerant shall not be charged into another REFRIGERATING SYSTEM unless it has been cleaned and checked.

Labelling

Equipment shall be labelled stating that it has been decommissioned and emptied of refrigerant. The label shall be dated and signed. For appliances

containing FLAMMABLE REFRIGERANTS, ensure that there are labels on the equipment stating the equipment contains FLAMMABLE REFRIGERANT.

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Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of the flammable refrigerant. If in doubt, the manufacturer should be consulted. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition.

The recovered refrigerant shall be processed according to local legislation in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The compressor body shall not be heated by an open flame or other ignition sources to accelerate this process. When oil is drained from a system, it Shall be carried out safely.

2. Summary

2.1 Indoor Unit

Cassette Type

GC4VHT12SLD GC4VHT18SLD







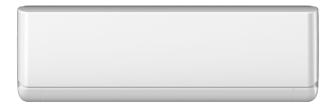
Ducted Type

GFCHT18SLD GFCHT24SLD



Wall Mounted Type

GMAHT09SLD GMAHT12SLD GMAHT18SLD GMAHT24SLD



Remote Controller



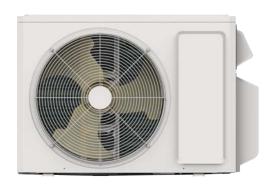
YAP1FF

Wired Controller



XE72-44/E

2.2 Outdoor Unit



GMRSHT18AS2



GMRSHT24AS3



GMRSHT36AS4 GMRSHT42AS5

2.3 Model List

Cassette Type

No.	Cassette Model	Cassette Product Code	Panel Model	Panel Product Code	Remote Controller	Wired Controller
1	GC4VHT12SLD	CN510N0490_Y47596	GC4Panel1C	TL10000230 Y47596		
2	GC4VHT18SLD	CN510N0480_Y47596	GC4Faneric	1210000230_147390	YAP1FF	XE72-44/E
3	GC4VHT24SLD	CN510N0500_Y47596	GC4Panel2C	TL10000220_Y47596		

Ducted Type

No.	Ducted Model	Ducted Product Code	Wired Controller
1	GFCHT18SLD	CN210N0400_Y47596	XF72-44/F
2	GFCHT24SLD	CN210N0420_Y47596	XE12-44/E

Wall Mounted Type

No.	Wall Mounted model	Wall Mounted product code	Remote Controller
1	GMAHT09SLD	CB635N00801_Y47596	
2	GMAHT12SLD	CB635N02701_Y47596	VARMEE
3	GMAHT18SLD	CB635N02101_Y47596	YAP1FF
4	GMAHT24SLD	CB635N02901_Y47596	

Outdoor Unit

No.	Outdoor model	Outdoor product code
1	GMRSHT18AS2	CB228W20700_Y47596
2	GMRSHT24AS3	CB228W20600_Y47596
3	GMRSHT36AS4	CB228W20900_Y47596
4	GMRSHT42AS5	CB228W21000_Y47596

3. Specifications

3.1 Specification Sheet

Cassette Type Parameters

Model		-	GC4VHT12SLD
Product Code		-	CN510N0490_Y47596
Rated	d Voltage	V~	208/230
Power Supply Rated	d Frequency	Hz	60
Phas	es	-	1
Cooling Capac	ity	Btu/h	12000
Heating Capac	ity	Btu/h	12000
Air Flow Volum	ne	CFM	330/318/288/265/247/224/206
Dehumidifying	Volume	Pint/h	2.96
Fan Type		-	Centrifugal
Fan Diameter-H	leight	mm	Ф315-162.5
Fan Motor Coo	ling Speed	rpm	700/660/600/580/520/480/440
Fan Motor Hea	ting Speed	rpm	700/660/600/580/520/480/440
Fan Motor Pow	er Output	W	30
Fan Motor Pow	er Input	W	35
Fan Motor Run	ning Current	А	1
Fan Motor Cap	acitor	μF	1
Evaporator Ma	terial	-	Inner Groove Copper Tube-Aluminum fin
Evaporator Pip	e Diameter	mm	Φ7
Evaporator Nu Pitch	mber of Rows-Fin	mm	2-1.6
Evaporator Length(L)×Heig	ght(H)×Width(W)	mm	1176×228.6×25.4
Fuse Current		А	3.15

Sound Pressure Level	dB (A)	40/39/36/34/33/31/29
Sound Power Level	dB (A)	50/49/46/44/43/41/39
Dimension of Outline (L×D×H)	inch	22 7/16 × 22 7/16 × 10 7/16
Dimension of Carton Box (L×W×H)	inch	27 23/64 × 25 19/32 × 11 1/32
Dimension of Package (L×W×H)	inch	27 31/64 × 25 45/64 × 11 39/64
Panel Outline Dimension (W×D×H)	inch	24 13/32 × 24 13/32 × 1 7/8
Panel Dimension of Carton Box (L×W×H)	inch	27 31/64 × 27 31/64 × 4 21/64
Panel Package Dimension (L×W×H)	inch	27 19/32 × 27 19/32 × 4 59/64
Net Weight	lb	37.5
Gross Weight	lb	48.5
Panel Net Weight	lb	6.615
Panel Gross Weight	lb	9.922
Liquid Pipe	inch	1/4
Gas Pipe (to indoor unit)	inch	3/8

The above data is subject to change without notice. Please refer to the nameplate of the unit.

Model		-	GC4VHT18SLD
Product	Code	-	CN510N0480_Y47596
	Rated Voltage	V~	208/230
Power Supply	Rated Frequency	Hz	60
	Phases	-	1
Cooling	Capacity	Btu/h	18000
Heating (Capacity	Btu/h	18000
Air Flow	Volume	CFM	383/318/288/265/247/224/206
Dehumid	lifying Volume	Pint/h	3.80
Fan Type	9	-	Centrifugal
Fan Dian	neter-Height	mm	Ф315-162.5
Fan Moto	or Cooling Speed	rpm	780/660/600/580/520/480/440
Fan Moto	or Heating Speed	rpm	780/660/600/580/520/480/440
Fan Moto	or Power Output	W	30
Fan Moto	or Power Input	W	35
Fan Moto	or Running Current	А	I
Fan Moto	or Capacitor	μF	1
Evaporat	tor Material	-	Inner Groove Copper Tube-Aluminum fin
Evaporat	tor Pipe Diameter	mm	Ф7
Evaporat Pitch	tor Number of Rows-Fin	mm	2-1.6
Evaporat Length(L	tor .)×Height(H)×Width(W)	mm	1176×228.6×25.4
Fuse Cui	rrent	А	3.15

Sound Pressure Level	dB (A)	44/40/37/35/34/32/30
Sound Power Level	dB (A)	54/50/47/45/44/42/40
Dimension of Outline (L×D×H)	inch	22 7/16 × 22 7/16 × 10 7/16
Dimension of Carton Box (L×W×H)	inch	27 23/64 × 25 19/32 × 11 1/32
Dimension of Package (L×W×H)	inch	27 31/64 × 25 45/64 × 11 39/64
Panel Outline Dimension (W×D×H)	inch	24 13/32 × 24 13/32 × 1 7/8
Panel Dimension of Carton Box (L×W×H)	inch	27 31/64 × 27 31/64 × 4 21/64
Panel Package Dimension (L×W×H)	inch	27 19/32 × 27 19/32 × 4 59/64
Net Weight	lb	37.5
Gross Weight	lb	48.5
Panel Net Weight	lb	6.615
Panel Gross Weight	lb	9.922
Liquid Pipe	inch	1/4
Gas Pipe (to indoor unit)	inch	1/2

The above data is subject to change without notice. Please refer to the nameplate of the unit.

Model		-	GC4VHT24SLD
Product Code		-	CN510N0500_Y47596
Power Supply	Rated Voltage	V~	208/230
	Rated Frequency	Hz	60
	Phases	-	1
Cooling Capacity		Btu/h	22000
Heating (Capacity	Btu/h	24000
Air Flow	Volume	CFM	647/618/559/536/512/488/471
Dehumid	lifying Volume	Pint/h	5.28
Fan Type	9	-	Centrifugal
Fan Diameter-Height		mm	Ф478.4-134
Fan Motor Cooling Speed		rpm	560/540/520/500/480/460/440
Fan Motor Heating Speed		rpm	560/540/520/500/480/460/440
Fan Motor Power Output		W	35
Fan Motor Power Input		W	50
Fan Moto	or Running Current	Α	I
Fan Moto	or Capacitor	μF	I
Evaporator Material		-	Inner Groove Copper Tube-Aluminum fin
Evaporator Pipe Diameter		mm	Ф7
Evaporator Number of Rows-Fin Pitch		mm	2-1.6
Evaporator Length(L)×Height(H)×Width(W)		mm	2021X190.5X25.4
Fuse Current		А	5

Sound Pressure Level	dB (A)	45/44/43/42/41/40/39
Sound Power Level	dB (A)	55/54/53/52/51/50/49
Dimension of Outline (L×D×H)	inch	33 5/64 × 33 5/64 × 9 29/64
Dimension of Carton Box (L×W×H)	inch	37 51/64 × 37 51/64 × 12 13/64
Dimension of Package (L×W×H)	inch	37 29/32 × 37 29/32 × 12 51/64
Panel Outline Dimension (W×D×H)	inch	37 13/32 × 37 13/32 × 2 3/64
Panel Dimension of Carton Box (L×W×H)	inch	40 35/64 × 40 3/64 × 3 47/64
Panel Package Dimension (L×W×H)	inch	40 43/64 × 40 55/64 × 4 13/32
Net Weight	lb	63.945
Gross Weight	lb	83.79
Panel Net Weight	lb	13.23
Panel Gross Weight	lb	20.948
Liquid Pipe	inch	1/4
Gas Pipe (to indoor unit)	inch	5/8

The above data is subject to change without notice. Please refer to the nameplate of the unit.

NOTE: Nominal capacities are based on the follow conditions.

Model	Indoor °C(°F)	Outdoor °C(°F)		
Cooling	DB: 27 (80.6)	DB: 35 (95)		
Cooling	WB: 19 (66.2)	WB: 24 (75.2)		
	DB: 20 (68)	DB: 7 (44.6)		
Heating	WB: ()	WB: 6 (42.8)		
Piping Length	13/64 (inch)			

The air volume is measured at the relevant standard external static pressure.

Noise is tested in the semianechoic room, so it should be slightly higher in the actual operation due to environmental change.

Ducted Type Parameters

Model		-	GFCHT18SLD
Product Code		-	CN210N0400_Y47596
Power Supply	Rated Voltage	V~	208/230
	Rated Frequency	Hz	60
	Phases	-	1
Cooling	Capacity	Btu/h	18000
Heating	Capacity	Btu/h	18000
Cooling	Power Input	kW	0.161
Heating	Power Input	kW	0.161
Cooling	Current Input	Α	0.7
Heating	Current Input	Α	0.7
Air flow volume		CFM	589/412/312/288
Dehumidifying Volume		Pint/h	3.8
Fan Type			Centrifugal
Fan Quantity			2
Fan Dian	neter-height	mm	Ф202-107
Cooling	Speed	r/min	990/700/700/530/530/490/490
Heating Speed		r/min	990/700/700/530/530/490/490
Fan Motor Power Output		W	200
Fan Motor Power Input		W	1
Motor Full Load Amp (FLA)		А	1.1
Fan Motor Capacitor		μF	I

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Evaporator Material	-	Copper tube-Aluminum fin
Evaporator Pipe Diameter	mm	Ф7.94
Evaporator Number of Rows-Fin Pitch	mm	3-1.8
Evaporator Length(L)×Height(H)×Width(W)	mm	753×308×57.2
Fuse Current	Α	5
Sound Pressure Level	dB (A)	40/32/26/25
Sound Power Level	dB (A)	50/42/36/35
Dimension of Outline (W×D×H)	inch	44 31/64 × 29 11/16 × 11 13/16
Dimension of Carton Box (L×W×H)	inch	47 21/64 × 37 57/64 × 13 37/64
Dimension of Package (L×W×H)	inch	47 7/16 × 32 1/64 × 14 11/64
Net Weight	lb	92.61
Gross Weight	lb	106.94
Liquid pipe	inch	1/4
Gas Pipe (to indoor unit)	inch	5/8
Drain Connection (outer diameter)	mm	Ф25

The above data is subject to change without notice. Please refer to the nameplate of the unit.

Model		-	GFCHT24SLD
Product Code		-	CN210N0420_Y47596
Power Supply	Rated Voltage	V~	208/230
	Rated Frequency	Hz	60
	Phases	-	1
Cooling	Capacity	Btu/h	22000
Heating	Capacity	Btu/h	24000
Cooling	Power Input	kW	0.207
Heating	Power Input	kW	0.207
Cooling	Current Input	Α	0.9
Heating	Current Input	Α	0.9
Air flow volume		CFM	736/559/453/406
Dehumidifying Volume		Pint/h	5.28
Fan Type)		Centrifugal
Fan Quantity			2
Fan Dian	neter-height	mm	Ф202-107
Cooling	Speed	r/min	1050/730/730/650/650/580/580
Heating	Speed	r/min	1050/730/730/650/650/580/580
Fan Motor Power Output		W	200
Fan Motor Power Input		W	1
Motor Full Load Amp (FLA)		А	1.3
Fan Motor Capacitor		μF	I

Evaporator Material	-	Copper tube-Aluminum fin
Evaporator Pipe Diameter	mm	Ф7.94
Evaporator Number of Rows-Fin Pitch	mm	3-1.8
Evaporator Length(L)×Height(H)×Width(W)	mm	753×308×57.2
Fuse Current	А	5
Sound Pressure Level	dB (A)	42/34/33/30
Sound Power Level	dB (A)	52/44/43/40
Dimension of Outline (W×D×H)	inch	44 31/64 × 29 11/16 × 11 13/16
Dimension of Carton Box (L×W×H)	inch	47 21/64 × 37 57/64 × 13 37/64
Dimension of Package (L×W×H)	inch	47 7/16 × 32 1/64 × 14 11/64
Net Weight	lb	92.61
Gross Weight	lb	106.94
Liquid pipe	inch	1/4
Gas Pipe (to indoor unit)	inch	5/8
Drain Connection (outer diameter)	mm	Ф25

The above data is subject to change without notice. Please refer to the nameplate of the unit.

Wall Mounted Type Parameters

Model		-	GMAHT09SLD
Product Code		-	CB635N00801_Y47596
Power Supply	Rated Voltage	V~	208/230
	Rated Frequency	Hz	60
	Phases	-	1
Cooling	Capacity	Btu/h	9100
Heating	Capacity	Btu/h	9800
Cooling	Power Input	kW	0.741
Heating	Power Input	kW	0.798
Cooling	Power Current	А	3.8
Heating Power Current		А	1
Air Flow Volume		CFM	353/282/265/230/212/194/159/124
Dehumidifying Volume		Pint/h	1.69
Fan Type		-	Cross-flow
Fan Dian	neter Length (D×L)	mm	Ф94×630
Fan Moto	or Speed (Cooling)	r/min	1250/1100/1050/950/800/700/650/500
Fan Moto	or Speed (Heating)	r/min	1250/1100/1040/950/900/880/850
Fan Motor Power Output		W	55
Fan Motor Capacitor		μF	I
Motor Model		-	FN10D-ZL(10P)
Evaporator Material		-	Aluminum Fin-copper Tube
Evaporator Pipe Diameter		mm	Ф5

Evaporator Row-fin Gap	mm	2-1.3
Evaporator Coil Size (L×D×W)	mm	634×22.8×266.7
Fuse Current	А	3.15
Sound Pressure Level	dB (A)	Cooling: 42/39/37/36/28/25/23/21 Heating: 40/35/34/32/31/30/29
Sound Power Level	dB (A)	Cooling: 52/49/47/46/38/35/33/31 Heating: 50/45/44/42/41/40/39
Dimension (W×H×D)	mm	35 3/64 × 10 55/64 × 8 7/64
Dimension of Carton Box (L×W×H)	mm	37 11/64 × 13 5/32 × 10 25/64
Dimension of Package (L×W×H)	mm	37 23/64 × 13 25/32 × 10 53/64
Net Weight	kg	19.8
Gross Weight	kg	24.3
Liquid Pipe Outer Diameter	inch	1/4
Gas pipe Outer Diameter	inch	3/8

The above data is subject to change without notice. Please refer to the nameplate of the unit.

	-	GMAHT12SLD
Code	-	CB635N02701_Y47596
Rated Voltage	V~	208/230
Rated Frequency	Hz	60
Phases	-	1
Capacity	Btu/h	12000
Capacity	Btu/h	12000
Power Input	kW	1.088
Power Input	kW	0.976
Power Current	А	5
Power Current	Α	4.71
Volume	CFM	424/353/324/277/247/224/182/165
difying Volume	Pint/h	I
9	-	Cross-flow
neter Length (D×L)	mm	Ф94×630
or Speed (Cooling)	r/min	1550/1200/1120/1050/980/920/750/500
or Speed (Heating)	r/min	1450/1200/1140/1080/1020/960/900
or Power Output	W	55
or Capacitor	μF	/
odel	-	FN10D-ZL(10P)
tor Material	-	Aluminum Fin-copper Tube
	Rated Frequency	Rated Voltage V~ Rated Frequency Hz Phases - Capacity Btu/h Capacity Btu/h Power Input kW Power Input kW Power Current A Power Current A Volume CFM difying Volume Pint/h e - meter Length (D*L) mm or Speed (Cooling) r/min or Speed (Heating) r/min or Power Output W or Capacitor µF odel -

Evaporator Row-fin Gap	mm	2-1.3
Evaporator Coil Size (L×D×W)	mm	634×22.8×266.7
Fuse Current	А	3.15
Sound Pressure Level	dB (A)	Cooling: 47/39/37/35/33/31/26/23 Heating: 46/39/38/36/34/33/31
Sound Power Level	dB (A)	Cooling: 57/49/47/45/43/41/36/33 Heating: 56/49/48/46/44/43/41
Dimension (W×H×D)	mm	35 3/64 × 10 55/64 × 8 7/64
Dimension of Carton Box (L×W×H)	mm	37 11/64 × 13 5/32 × 10 25/64
Dimension of Package (L×W×H)	mm	37 23/64 × 13 25/32 × 10 53/64
Net Weight	kg	19.8
Gross Weight	kg	24.3
Liquid Pipe Outer Diameter	inch	1/4
Gas pipe Outer Diameter	inch	3/8

The above data is subject to change without notice. Please refer to the nameplate of the unit.

Model		-	GMAHT18SLD
Product	Code	-	CB635N02101_Y47596
	Rated Voltage	V~	208/230
Power Supply	Rated Frequency	Hz	60
	Phases	-	1
Cooling	Capacity	Btu/h	18000
Heating	Capacity	Btu/h	18500
Cooling	Power Input	kW	1.525
Heating	Power Input	kW	1.390
Cooling	Power Current	А	7.2
Heating	Power Current	А	6.8
Air Flow	Volume	CFM	618/553/506/471/430/388/353/306
Dehumic	lifying Volume	Pint/h	3.80
Fan Type	9	-	Cross-flow
Fan Dian	neter Length (D×L)	mm	Ф108×691
Fan Moto	or Speed (Cooling)	r/min	1350/1200/1120/1050/980/860/750
Fan Moto	or Speed (Heating)	r/min	1350/1200/1120/1050/950/850/750
Fan Moto	or Power Output	W	50
Fan Motor Capacitor		μF	I
Motor Mo	odel	-	FN45B-ZL(10P)
Evapora	tor Material	-	Aluminum Fin-copper Tube
Evapora	tor Pipe Diameter	mm	Ф5

Evaporator Row-fin Gap	mm	2-1.2
Evaporator Coil Size (L×D×W)	mm	700×22.8×381
Fuse Current	Α	3.15
Sound Pressure Level	dB (A)	Cooling: 51/48/46/44/41/37/32 Heating: 50/46/44/42/39/35/31
Sound Power Level	dB (A)	Cooling: 61/58/56/54/51/47/42 Heating: 60/56/54/52/49/45/41
Dimension (W×H×D)	mm	39 3/8 × 13 7/64 × 9 51/64
Dimension of Carton Box (L×W×H)	mm	41 1/2 × 15 43/64 × 12 33/64
Dimension of Package (L×W×H)	mm	41 11/16 × 15 63/64 × 12 29/32
Net Weight	kg	29.8
Gross Weight	kg	35.3
Liquid Pipe Outer Diameter	inch	1/4
Gas pipe Outer Diameter	inch	1/2

The above data is subject to change without notice. Please refer to the nameplate of the unit.

Model		-	GMAHT24SLD
Product Co	de	-	CB635N02901_Y47596
R	ated Voltage	V~	208/230
Power Supply R	ated Frequency	Hz	60
Р	hases	-	1
Cooling Ca	pacity	Btu/h	22000
Heating Ca	pacity	Btu/h	24000
Cooling Po	wer Input	kW	1.610
Heating Po	wer Input	kW	1.880
Cooling Po	wer Current	А	7.5
Heating Po	wer Current	А	8.7
Air Flow Vo	olume	CFM	677/589/559/500/471/441/412
Dehumidify	ring Volume	Pint/h	5.28
Fan Type		-	Cross-flow
Fan Diamet	er Length (D×L)	mm	Ф111.5×830
Fan Motor	Speed (Cooling)	r/min	1350/1200/1100/1000/950/900/850
Fan Motor S	Speed (Heating)	r/min	1350/1200/1100/1000/950/900/850
Fan Motor I	Power Output	W	50
Fan Motor Capacitor		μF	I
Motor Model		-	FN45B-ZL(10P)
Evaporator	Material	-	Aluminum Fin-copper Tube
Evaporator	Pipe Diameter	mm	Φ7

Evaporator Row-fin Gap	mm	2-1.4
Evaporator Coil Size (L×D×W)	mm	840×25.4×381
Fuse Current	Α	3.15
Sound Pressure Level	dB (A)	Cooling: 50/47/44/41/39/37/36 Heating: 52/48/44/41/39/37/36
Sound Power Level	dB (A)	Cooling: 60/57/54/51/49/47/46 Heating: 62/58/54/51/49/47/46
Dimension (W×H×D)	mm	44 51/64 × 13 7/64 × 9 51/64
Dimension of Carton Box (L×W×H)	mm	46 57/64 × 16 1/32 × 12 7/8
Dimension of Package (L×W×H)	mm	47 3/32 × 16 11/32 × 13 17/64
Net Weight	kg	34.2
Gross Weight	kg	40.8
Liquid Pipe Outer Diameter	inch	1/4
Gas pipe Outer Diameter	inch	5/8

The above data is subject to change without notice. Please refer to the nameplate of the unit.

Outdoor Unit Parameters

Madal			CMDCLITAGACO
Model		-	GMRSHT18AS2
Product	Code	-	CB228W20700_Y47596
	Rated Voltage	V~	208/230
Power Supply	Rated Frequency	Hz	60
	Phases	-	1
Recomm	ended Power Cable	mm ²	3G2.1(AWG14)
Cooling	Capacity	Btu/h	18000
Heating (Capacity	Btu/h	18000
Cooling	Power Input	kW	1.5
Heating I	Power Input	kW	1.35
Cooling	Current Input	А	6.52
Heating (Current Input	Α	5.87
Rated In	put	kW	2.5
Rated Cu	urrent	Α	11
Air Flow	Volume	CFM	1354
EER		(Btu/h)/W	12
СОР		(Btu/h)/W	13.33
SEER		-	21
HSPF		-	10
Compres	ssor Manufacturer	-	ZHUHAI LANDA COMPRESSOR CO., LTD.
Compres	ssor Model	-	FTz-SM151AXBD
Compres	ssor Refrigerant Oil Type	-	FW68DA or equivalent
Compres	ssor Type	-	Twin Rotary
Compres (L.R.A)	ssor Locked Rotor Amp	А	1
Compres (RLA)	ssor Rated Load Amp	А	9.5

Compressor Power Input	W	1300
Compressor Thermal Protector	-	KSD115°C HPC115/95U1
Throttling Method	-	Electron expansion valve
Cooling Operation Ambient Temperature Range	°F	-22~118
Heating Operation Ambient Temperature Range	°F	-22~75.2
Condenser Material	-	Aluminum Fin-copper Tube
Condenser Pipe Diameter	mm	Ф7.94
Condenser Rows-fin Gap	mm	2-1.4
Condenser Coil Length (L×D×W)	mm	834×528×38.1
Fan Motor Speed	r/min	Cooling: 900 / Heating: 900
Fan Motor Power Output	W	30
Motor Full Load Amp (FLA)	Α	0.6
Fan Motor Capacitor	μF	1
Fan Type	-	Axial-flow
Fan Diameter	mm	Ф420-131.1
Defrosting Method	-	Automatic Defrosting
Climate Type	-	T1
Isolation	-	I
Moisture Protection	-	IPX4
Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
Sound Pressure Level	dB (A)	Mid: 43 / High: 51
Sound Power Level	dB (A)	Mid: 53 / High: 61
Dimension (W×H×D)	inch	32 23/64 × 13 55/64 × 21 21/32
Dimension of Carton Bo× (L×W×H)	inch	34 7/32 × 15 35/64 × 23 25/64
Dimension of Package (L×W×H)	inch	34 21/64 × 15 43/64 × 24 13/32

Net Weight	lb	78.3
Gross Weight	lb	84.9
Refrigerant	-	R32
Refrigerant Charge	OZ	31.752
Not Additional Gas Connection Pipe Length	ft	32.81
Connection Pipe Gas Additional Charge	oz/ft.	0.2
Outer Diameter of Liquid Pipe (British System Allocation)	inch	1/4, 1/4
Outer Diameter of Gas Pipe (British System Allocation)	inch	3/8, 3/8
Connection Pipe Max. Height Distance (indoor and indoor)	ft	49.21
Connection Pipe Max. Height Distance (indoor and outdoor and indoor up)	ft	49.21
Connection Pipe Max. Height Distance (indoor and outdoor and outdoor up)	ft	49.21
Max. equivalent connection pipe length (outdoor to last indoor)	ft	65.62
Connection Pipe Max. Length Distance (total lenght)	ft	131.23
Distance (indoor and indoor) Connection Pipe Max. Height Distance (indoor and outdoor and indoor up) Connection Pipe Max. Height Distance (indoor and outdoor and outdoor up) Max. equivalent connection pipe length (outdoor to last indoor) Connection Pipe Max. Length	ft ft	49.21 49.21 65.62

The above data is subject to change without notice. Please refer to the nameplate of the unit.

Model		-	GMRSHT24AS3
Product	Code	-	CB228W20600_Y47596
	Rated Voltage	V~	208/230
Power Supply	Rated Frequency	Hz	60
	Phases	-	1
Recomm	ended Power Cable	mm²	3G3.3(AWG12)
Cooling	Capacity	Btu/h	24000
Heating (Capacity	Btu/h	24000
Cooling I	Power Input	kW	1.85
Heating I	Power Input	kW	1.8
Cooling	Current Input	Α	8
Heating (Current Input	Α	7.8
Rated Inp	out	kW	3.4
Rated Cu	ırrent	А	14/14.8
Air Flow	Volume	CFM	2236
EER		(Btu/h)/W	13.3
СОР		(Btu/h)/W	13.33
SEER		-	21
HSPF		-	10
Compres	sor Manufacturer	-	ZHUHAI LANDA COMPRESSOR CO., LTD.
Compres	sor Model	-	QXFS-B212zX070
Compres	sor Refrigerant Oil Type	-	FW68DA or equivalent
Compres	ssor Type	-	Inverter Rotary
Compres (L.R.A)	sor Locked Rotor Amp	А	1
Compres (RLA)	sor Rated Load Amp	А	12

Compressor Power Input	W	1887
Compressor Thermal Protector	-	KSD115°C HPC115/95U1
Throttling Method	-	Electron expansion valve
Cooling Operation Ambient Temperature Range	°F	-22~118
Heating Operation Ambient Temperature Range	°F	-22~75.2
Condenser Material	-	Aluminum Fin-copper Tube
Condenser Pipe Diameter	mm	Ф7.94
Condenser Rows-fin Gap	mm	2-1.4
Condenser Coil Length (L×D×W)	mm	851×616×38.1
Fan Motor Speed	r/min	Cooling: 850 / Heating: 850
Fan Motor Power Output	W	60
Motor Full Load Amp (FLA)	Α	1.8
Fan Motor Capacitor	μF	1
Fan Type	-	Axial-flow
Fan Diameter	mm	Ф520-154
Defrosting Method	-	Automatic Defrosting
Climate Type	-	T1
Isolation	-	I
Moisture Protection	-	IPX4
Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
Sound Pressure Level	dB (A)	Mid: 49 / High: 55
Sound Power Level	dB (A)	Mid: 59 / High: 65
Dimension (W×H×D)	inch	37 61/64 × 15 53/64 × 25 63/64
Dimension of Conton Boy /I v/M/vLl	inch	40 33/64 × 17 53/64 × 28 5/32
Dimension of Carton Bo× (L×W×H)	inch	40 00/04 ** 17 00/04 ** 20 0/02

Net Weight	lb	112.5
Gross Weight	lb	122.4
Refrigerant	-	R32
Refrigerant Charge	oz	59.976
Not Additional Gas Connection Pipe Length	ft	98.42
Connection Pipe Gas Additional Charge	oz/ft.	0.2
Outer Diameter of Liquid Pipe (British System Allocation)	inch	1/4, 1/4, 1/4
Outer Diameter of Gas Pipe (British System Allocation)	inch	3/8, 3/8, 3/8
Connection Pipe Max. Height Distance (indoor and indoor)	ft	49.21
Connection Pipe Max. Height Distance (indoor and outdoor and indoor up)	ft	49.21
Connection Pipe Max. Height Distance (indoor and outdoor and outdoor up)	ft	49.21
Max. equivalent connection pipe length (outdoor to last indoor)	ft	65.62
Connection Pipe Max. Length Distance (total lenght)	ft	196.85

The above data is subject to change without notice. Please refer to the nameplate of the unit.

Model		-	GMRSHT36AS4
Product	Code	-	CB228W20900_Y47596
	Rated Voltage	V~	208/230
Power Supply	Rated Frequency	Hz	60
	Phases	-	1
Recomm	ended Power Cable	mm ²	3G5.3(AWG10)
Cooling	Capacity	Btu/h	36000
Heating (Capacity	Btu/h	36000
Cooling I	Power Input	kW	3
Heating I	Power Input	kW	2.96
Cooling	Current Input	Α	13.04
Heating (Current Input	Α	12.87
Rated Inp	put	kW	5.2
Rated Cu	ırrent	Α	21.73/22.6
Air Flow	Volume	CFM	3413
EER		(Btu/h)/W	12
СОР		(Btu/h)/W	12.16
SEER		-	21
HSPF		-	10
Compres	ssor Manufacturer	-	ZHUHAI LANDA COMPRESSOR CO., LTD.
Compres	ssor Model	-	QXFS-D40zX070A
Compres	ssor Refrigerant Oil Type	-	FW68DA or equivalent
Compres	ssor Type	-	Twin Rotary
Compres (L.R.A)	ssor Locked Rotor Amp	А	1
Compres (RLA)	ssor Rated Load Amp	А	19.6

Compressor Power Input	W	3514
Compressor Thermal Protector	-	KSD115°C HPC115/95U1
Throttling Method	-	Electron expansion valve
Cooling Operation Ambient Temperature Range	°F	-22~118
Heating Operation Ambient Temperature Range	°F	-22~75.2
Condenser Material	-	Aluminum Fin-copper Tube
Condenser Pipe Diameter	mm	Ф7.94
Condenser Rows-fin Gap	mm	3-1.6
Condenser Coil Length (L×D×W)	mm	1066×792×57.1
Fan Motor Speed	r/min	Cooling: 860 / Heating: 860
Fan Motor Power Output	W	130
Motor Full Load Amp (FLA)	Α	2.5
Fan Motor Capacitor	μF	I
Fan Type	-	Axial-flow
Fan Diameter	mm	Ф550-205
Defrosting Method	-	Automatic Defrosting
Climate Type	-	T1
Isolation	-	I
Moisture Protection	-	IPX4
Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
Sound Pressure Level	dB (A)	Mid: 52 / High: 59
Sound Power Level	dB (A)	Mid: 62 / High: 69
Dimension (W×H×D)	inch	40 5/32 × 16 13/16 × 32 33/64
Dimension of Carton Bo× (L×W×H)	inch	42 29/32 × 19 29/64 × 34 1/4
Dimension of Package (L×W×H)	inch	43 1/32 × 19 9/16 × 34 27/32
	IIICH	40 1102 ^ 18 8/10 ^ 04 21/02

Net Weight	lb	173.1
Gross Weight	lb	188.5
Refrigerant	-	R32
Refrigerant Charge	OZ	95.256
Not Additional Gas Connection Pipe Length	ft	131.2
Connection Pipe Gas Additional Charge	oz/ft.	0.2
Outer Diameter of Liquid Pipe (British System Allocation)	inch	1/4, 1/4, 1/4
Outer Diameter of Gas Pipe (British System Allocation)	inch	3/8, 3/8, 3/8, 3/8
Connection Pipe Max. Height Distance (indoor and indoor)	ft	82.02
Connection Pipe Max. Height Distance (indoor and outdoor and indoor up)	ft	82.02
Connection Pipe Max. Height Distance (indoor and outdoor and outdoor up)	ft	82.02
Max. equivalent connection pipe length (outdoor to last indoor)	ft	82.02
Connection Pipe Max. Length Distance (total lenght)	ft	262.46

The above data is subject to change without notice. Please refer to the nameplate of the unit.

Model		-	GMRSHT42AS5
Product	Code	-	CB228W21000_Y47596
	Rated Voltage	V~	208/230
Power Supply	Rated Frequency	Hz	60
	Phases	-	1
Recomm	ended Power Cable	mm ²	3G5.3(AWG10)
Cooling	Capacity	Btu/h	42000
Heating (Capacity	Btu/h	42000
Cooling Power Input		kW	3.23
Heating I	Power Input	kW	3.15
Cooling	Current Input	Α	14.04
Heating (Current Input	Α	13.7
Rated Inp	out	kW	5.2
Rated Cu	ırrent	Α	21.73/22.6
Air Flow	Volume	CFM	3413
EER		(Btu/h)/W	13
СОР		(Btu/h)/W	13.33
SEER		-	21
HSPF		-	10
Compres	sor Manufacturer	-	ZHUHAI LANDA COMPRESSOR CO., LTD.
Compres	sor Model	-	QXFS-D40zX070A
Compres	sor Refrigerant Oil Type	-	FW68DA or equivalent
Compres	ssor Type	-	Twin Rotary
Compres (L.R.A)	sor Locked Rotor Amp	А	/
Compres (RLA)	sor Rated Load Amp	А	19.6

Compressor Power Input	W	3514
Compressor Thermal Protector	-	KSD115°C HPC115/95U1
Throttling Method	-	Electron expansion valve
Cooling Operation Ambient Temperature Range	°F	-22~118
Heating Operation Ambient Temperature Range	°F	-22~75.2
Condenser Material	-	Aluminum Fin-copper Tube
Condenser Pipe Diameter	mm	Ф7.94
Condenser Rows-fin Gap	mm	3-1.6
Condenser Coil Length (L×D×W)	mm	1066×792×57.1
Fan Motor Speed	r/min	Cooling: 860 / Heating: 860
Fan Motor Power Output	W	130
Motor Full Load Amp (FLA)	Α	2.5
Fan Motor Capacitor	μF	I
Fan Type	-	Axial-flow
Fan Diameter	mm	Ф550-205
Defrosting Method	-	Automatic Defrosting
Climate Type	-	T1
Isolation	-	I
Moisture Protection	-	IPX4
Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
Sound Pressure Level	dB (A)	Mid: 52 / High: 59
Sound Power Level	dB (A)	Mid: 62 / High: 69
Dimension (W×H×D)	inch	40 5/32 × 16 13/16 × 32 33/64
Dimension of Carton Bo× (L×W×H)	inch	42 29/32 × 19 29/64 × 34 1/4
Dimension of Package (L×W×H)	inch	43 1/32 × 19 9/16 × 34 27/32

Net Weight	lb	174.2
Gross Weight	lb	189.6
Refrigerant	-	R32
Refrigerant Charge	OZ	95.256
Not Additional Gas Connection Pipe Length	ft	164
Connection Pipe Gas Additional Charge	oz/ft.	0.2
Outer Diameter of Liquid Pipe (British System Allocation)	inch	1/4, 1/4, 1/4, 1/4
Outer Diameter of Gas Pipe (British System Allocation)	inch	3/8, 3/8, 3/8, 3/8
Connection Pipe Max. Height Distance (indoor and indoor)	ft	82.02
Connection Pipe Max. Height Distance (indoor and outdoor and indoor up)	ft	82.02
Connection Pipe Max. Height Distance (indoor and outdoor and outdoor up)	ft	82.02
Max. equivalent connection pipe length (outdoor to last indoor)	ft	82.02
Connection Pipe Max. Length Distance (total lenght)	ft	328.08

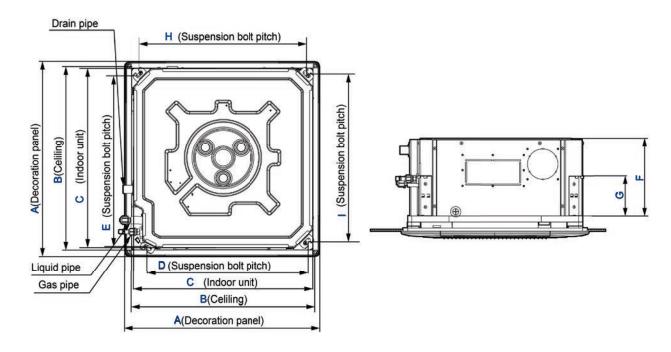
The above data is subject to change without notice. Please refer to the nameplate of the unit.

4. Outline Dimension Diagram

4.1 Indoor Unit

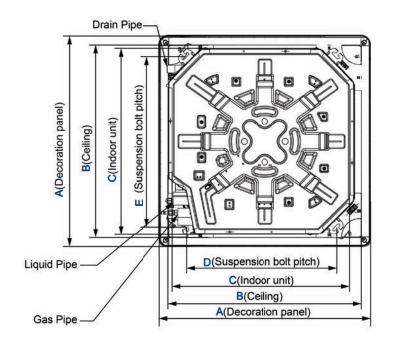
Cassette Type

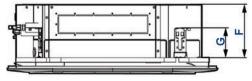
GC4VHT12SLD GC4VHT18SLD



									Unit: inch
Model	Α	В	С	D	E	F	G	Н	1
GC4VHT12SLD	04 12/22	22 52/64	22 7/16	10.7/9	21 21/32	10 7/16	E 22/64	20 EE/64	20 55/64
GC4VHT18SLD	24 13/32	22 33/04	22 //10	19 7/0	21 21/32	10 7/10	5 33/04	20 00/04	20 55/64

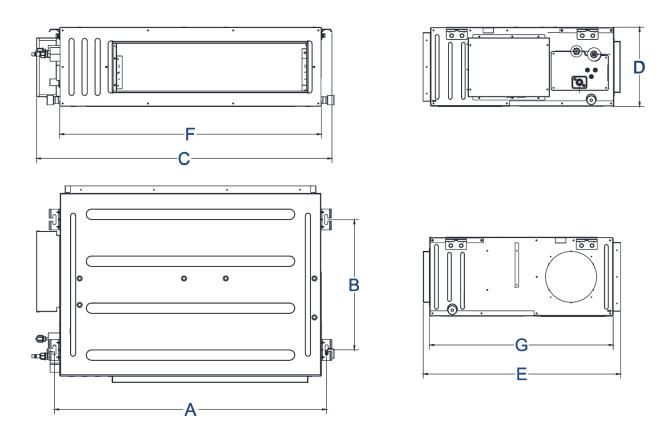
GC4VHT24SLD





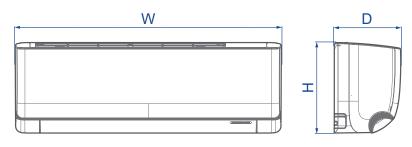
							Unit: inch
Model	A	В	С	D	E	F	G
GC4VHT24SLD	37 13/32	34 1/4	33 5/64	26 49/64	30 45/64	9 29/64	5 5/16

Ducted Type

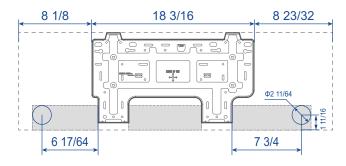


							Unit: inch
Model	A	В	С	D	E	F	G
GFCHT18SLD	40.45/40	10 11/16	44 31/64	11 12/16	20 11/16	30 3/8	27 9/16
GFCHT24SLD	— 40 IS/IO	19 11/10	44 3 1/04	11 13/10	29 11/10	39 3/6	27 9/10

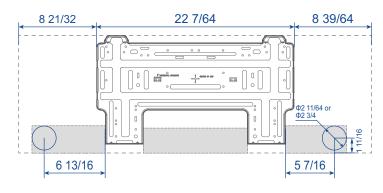
Wall Mounted Type



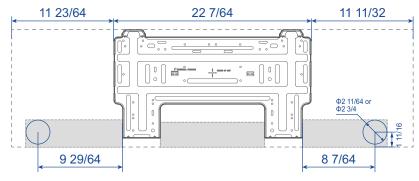
GMAHT09SLD GMAHT12SLD



GMAHT18SLD



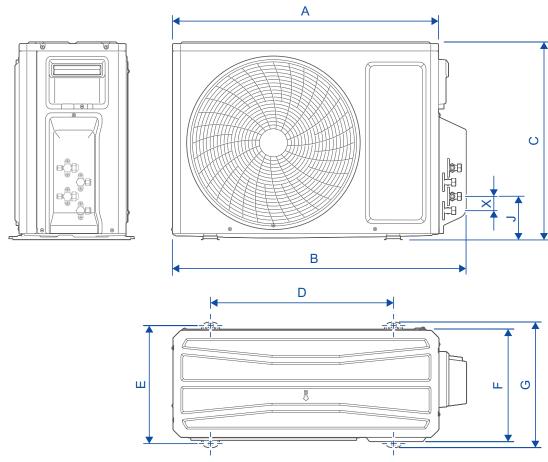
GMAHT24SLD



NOTE: Choose the diameter of piping hole according to the pipe-holesleeve.

			Unit: inch	
Indoor Unit Model	W	Н	D	
GMAHT09SLD	35 3/64	10 55/64	8 7/64	
GMAHT12SLD	33 3/04	10 55/04	0 7/04	
GMAHT18SLD	39 3/8	13 7/64	9 51/64	
GMAHT24SLD	44 51/64	13 7/64	9 51/64	

4.2 Outdoor Unit



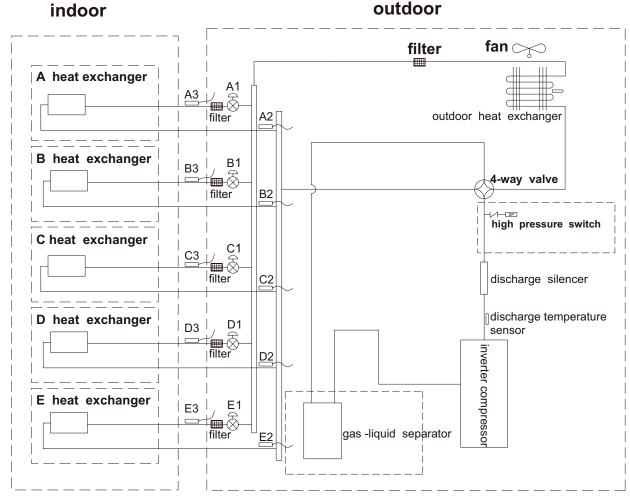
NOTE: The appearance of outdoor unit is for reference only.

							Unit: inch
Outdoor Unit Model	Α	В	С	D	E	F	G
GMRSHT18AS2	29 21/64	32 23/64	21 21/32	20 5/32	13 5/64	11 13/16	13 55/64
GMRSHT24AS3	35	37 61/64	25 63/64	22 7/16	14 39/64	13 25/64	15 53/64
GMRSHT36AS4	27.4/0	40 E/22	32 33/64	25	15 10/22	14 17/32	16 12/16
GMRSHT42AS5	37 1/8	40 5/32	32 33/64	25	15 19/32	14 17/32	16 13/16

Valve Group (from bottom to	Gro	up 1	Gro	up 2	Gro	up 3	Gro	u p 4	Gro	up 5
Outdoor Unit Model	J	Х	J	Х	J	Х	J	Х	J	Х
GMRSHT18AS2	4 25/32	1 37/64	7 15/16	1 37/64	-	-	-	-	-	-
GMRSHT24AS3	5 3/32	1 37/64	8 15/64	1 37/64	11 25/64	1 37/64	-	-	-	-
GMRSHT36AS4	5 3/32	1 37/64	8 15/64	1 37/64	11 25/64	1 37/64	14 35/64	1 37/64	-	-
GMRSHT42AS5	5 39/64	1 37/64	8 49/64	1 37/64	11 29/32	1 37/64	15 1/16	1 37/64	18 7/32	1 37/64

5. Refrigerant System Diagram

NOTE: Take "1 outdoor unit matching with 5 indoor units" for example.



A1: A-unit electronic expansion valve

B1: B-unit electronic expansion valve

C1: C-unit electronic expansion valve

D1: D-unit electronic expansion valve

E1: E-unit electronic expansion valve

A2: A-unit gas pipe temperature sensor

B2: B-unit gas pipe temperature sensor

C2: C-unit gas pipe temperature sensor

D2: D-unit gas pipe temperature sensor

E2: E-unit gas pipe temperature sensor

A3: A-unit liquid pipe temperature sensor

B3: B-unit liquid pipe temperature sensor

C3: C-unit liquid pipe temperature sensor

D3: D-unit liquid pipe temperature sensor

E3: E-unit liquid pipe temperature sensor

6. Electrical Part

6.1 Wiring Diagram

Instruction

Symbol	Symbol Color	Symbol	Symbol Color
WH	White	BU	Blue
YE	Yellow	ВК	Black
RD	Red	OG	Orange
YEGN	Yellow/Green	GY	Gray
VT	Violet	CAP	Jumper cap
GN	Green	COMP	Compressor
BN	Brown		Grounding wire

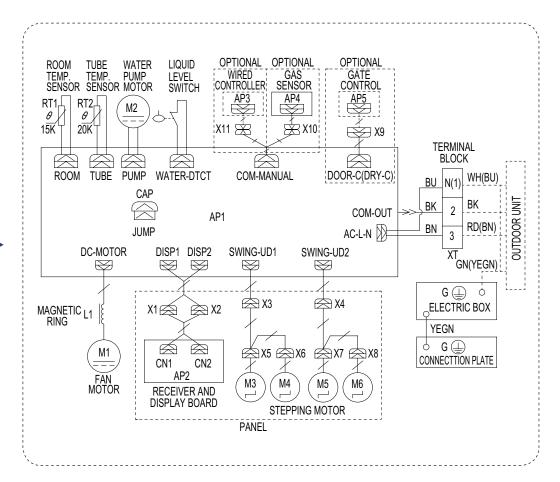
NOTE:

Jumper cap is used to determine fan speed and the swing angle of horizontal louver for this model.

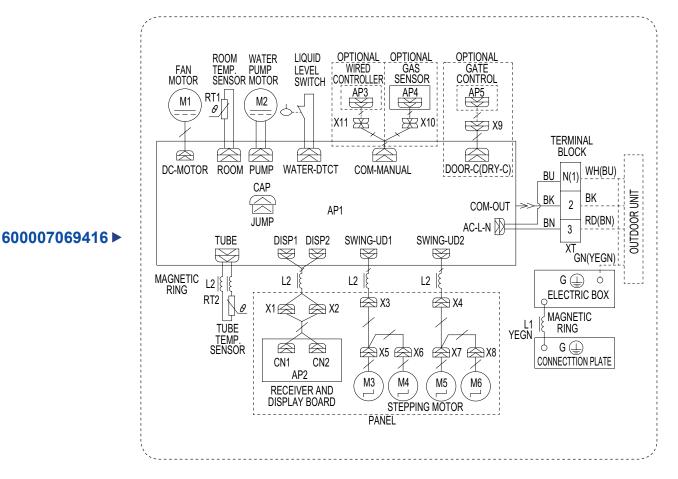
List of Electrical Wiring Diagrams for Indoor Unit

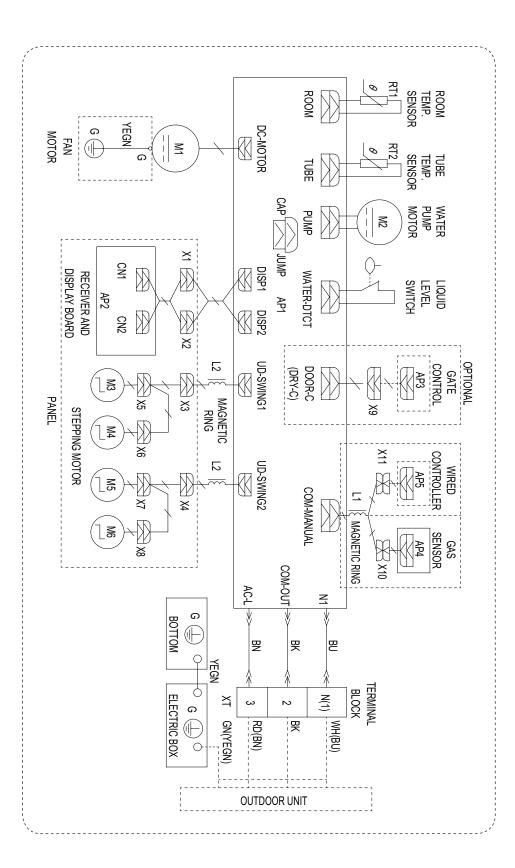
Type of Indoor Unit	Indoor Unit Model	Indoor Unit Product Code	Wiring Diagram Code for Indoor Unit
Cassette Type	GC4VHT12SLD	CN510N0490_Y47596	600007068875
	GC4VHT18SLD	CN510N0480_Y47596	600007069416
	GC4VHT24SLD	CN510N0500_Y47596	600007069417
Ducted Type	GFCHT18SLD	CN210N0400_Y47596	600007068874
	GFCHT24SLD	CN210N0420_Y47596	600007068874
Wall Mounted Type	GMAHT09SLD	CB635N00801_Y47596	60000706711601
	GMAHT12SLD	CB635N02701_Y47596	60000706711601
	GMAHT18SLD	CB635N02101_Y47596	60000706711601
	GMAHT24SLD	CB635N02901_Y47596	60000706711601

These wiring diagrams are subject to change without notice; please refer to the one supplied with the unit.

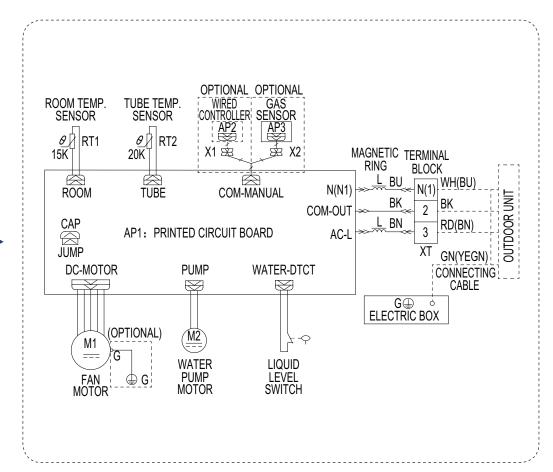


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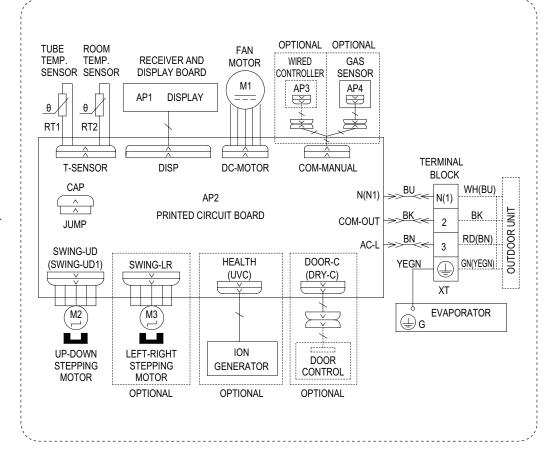




600007069417 ▶



600007068874 ▶

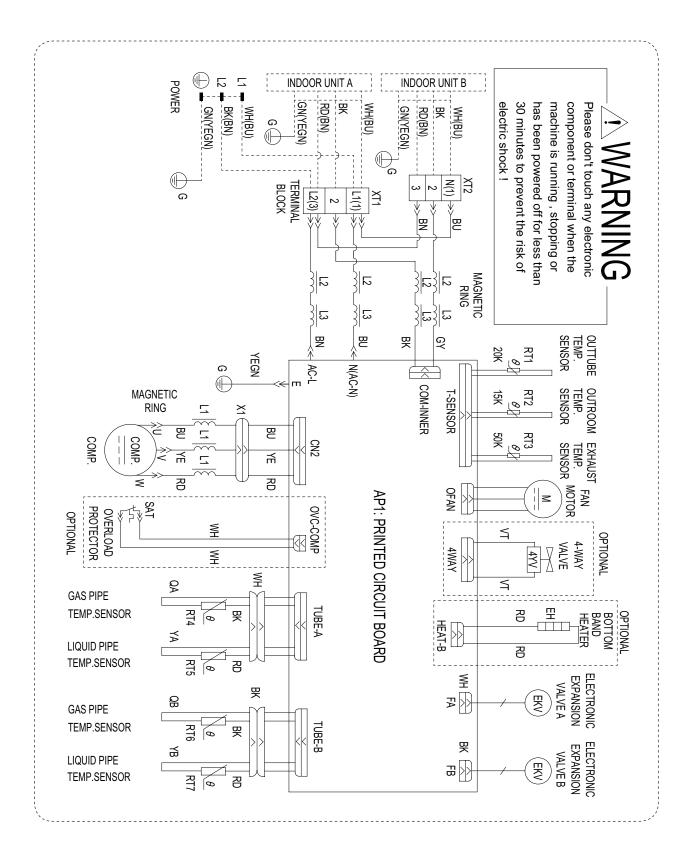


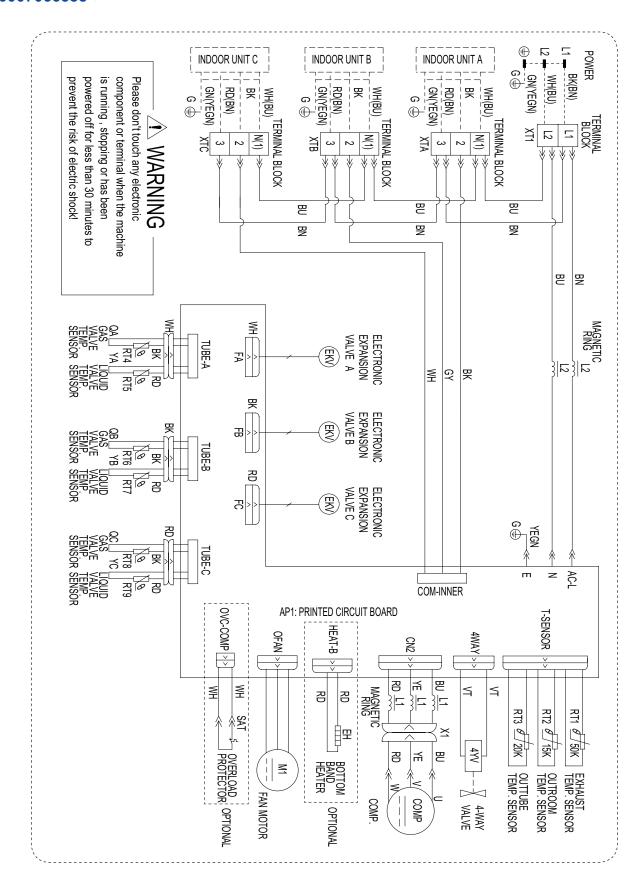
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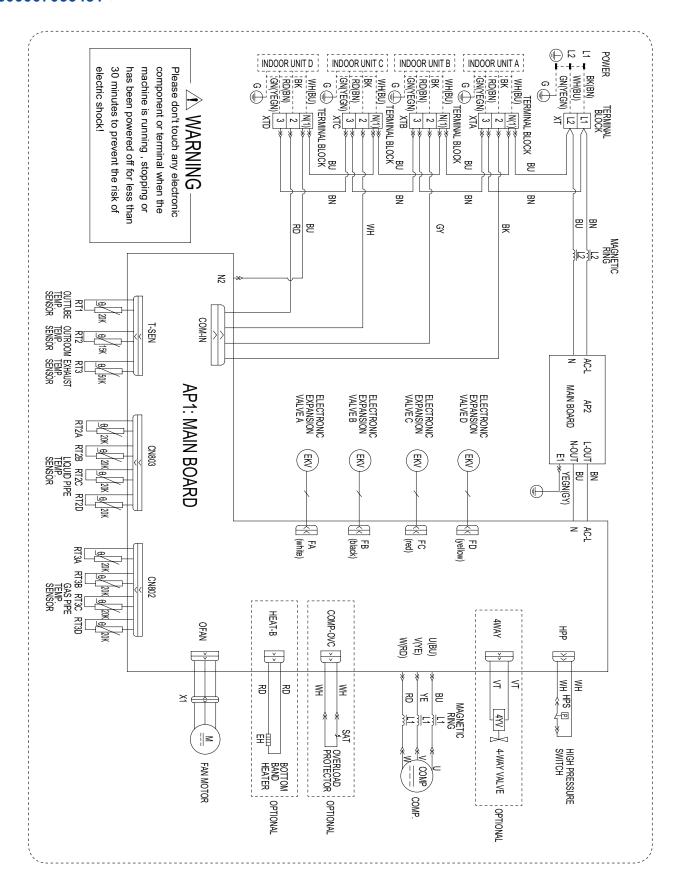
List of Electrical Wiring Diagrams for Outdoor Unit

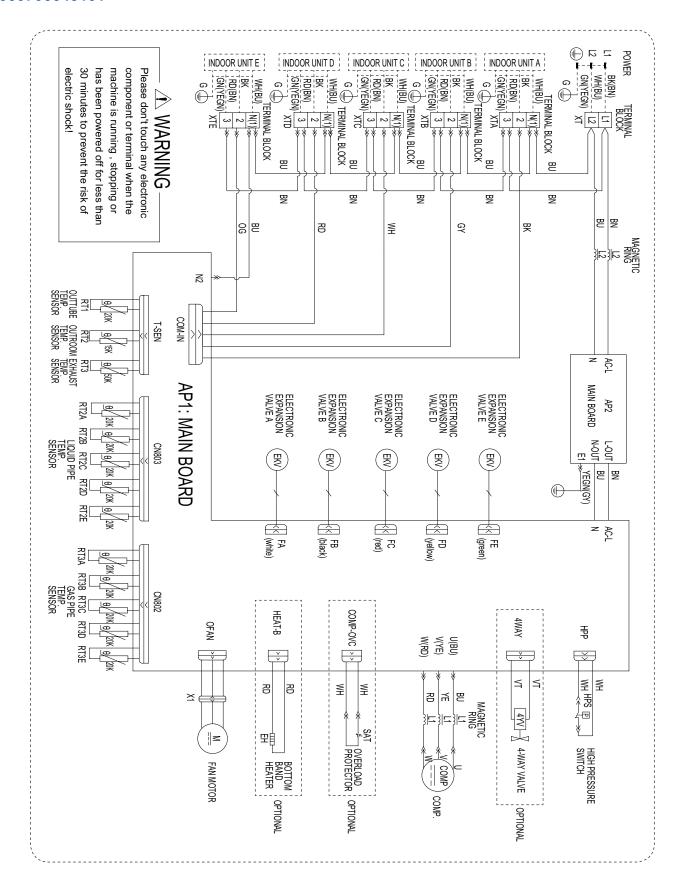
Outdoor Unit Model	Outdoor Unit Product Code	Wiring Diagram Code for Outdoor Unit
GMRSHT18AS2	CB228W20700_Y47596	600007066178
GMRSHT24AS3	CB228W20600_Y47596	600007066388
GMRSHT36AS4	CB228W20900_Y47596	600007066451
GMRSHT42AS5	CB228W21000_Y47596	60000706645101

These wiring diagrams are subject to change without notice; please refer to the one supplied with the unit.







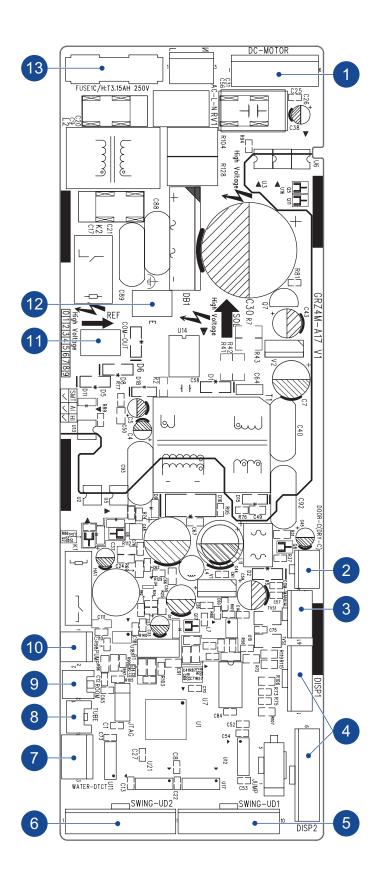


6.2 Printed Circuit Board Diagram

List of Printed Circuit Board Diagrams for Indoor Unit

Type of Indoor Unit	Indoor Unit Model	Indoor Unit Product Code	Printed Circuit Board Model for Indoor Unit
Cassette Type	GC4VHT12SLD	CN510N0490_Y47596	GRZ4M-A17
	GC4VHT18SLD	CN510N0480_Y47596	GRZ4M-A17
	GC4VHT24SLD	CN510N0500_Y47596	GRZ4M-A3
Ducted Type	GFCHT18SLD	CN210N0400_Y47596	GRZ4M-A3
	GFCHT24SLD	CN210N0420_Y47596	GRZ4M-A3
Wall Mounted Type	GMAHT09SLD	CB635N00801_Y47596	GRJ869-A
	GMAHT12SLD	CB635N02701_Y47596	GRJ869-A
	GMAHT18SLD	CB635N02101_Y47596	GRJ869-A
	GMAHT24SLD	CB635N02901_Y47596	GRJ869-A

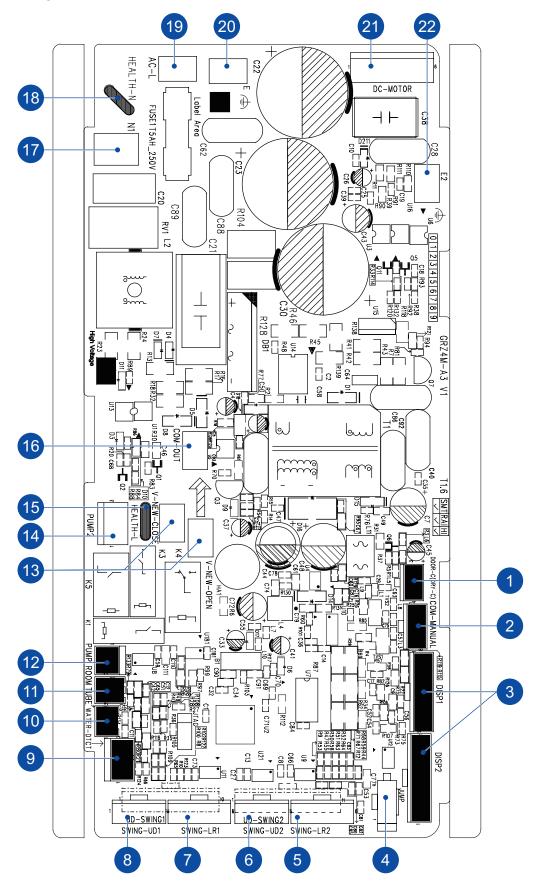
GRZ4M-A17



No.	Name	
1	Brushless DC Motor Needle Stand	
2	Door Control Needle Stand (Dry Contact)	
3	Wired Controller Needle Stand	
4	Display Board Needle Stand	
5	Up & Down Swing Needle Stand 1	
6	Up & Down Swing Needle Stand 2	
7	Liquid Level Switch Needle Stand	

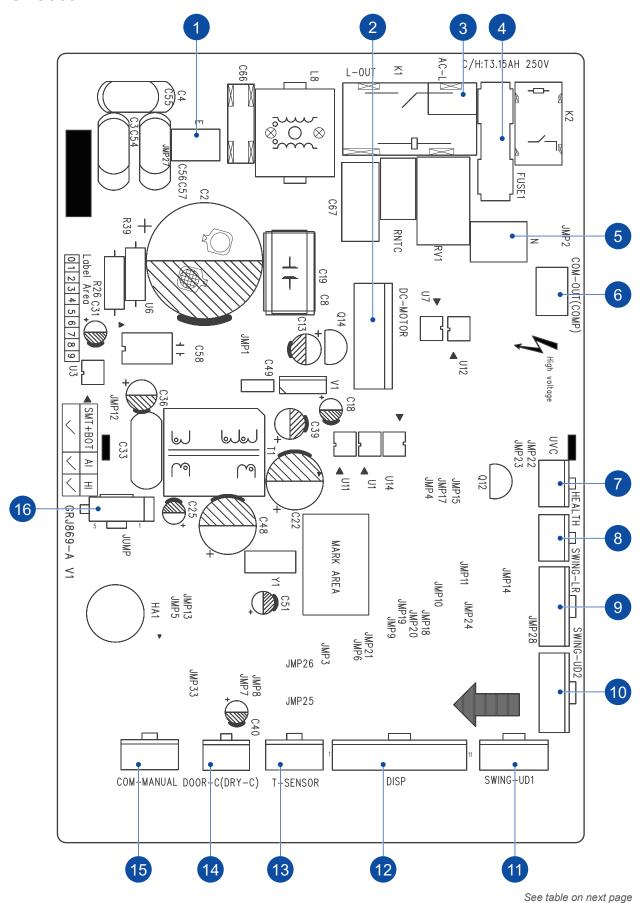
No.	Name
8	Tube Temperature Sensor Needle Stand
9	Room Temperature Sensor Needle Stand
10	Water Pump Motor Needle Stand
11	Communication Wire Insertion
12	Earthing Wire Insertion
13	Live Wire and Neutral Wire Insertion

GRZ4M-A3



No.	Name	No	o. Name
1	Interface of gate control	12	2 DC water pump
2	Wired controller	13	New wind valve
3	Display interface	14	4 AC pump
4	Jumper cap	15	5 Interface of cold plasma
5	Interface of left&right swing motor 2	16	6 Communication interface
6	Interface of up&down swing motor 2	17	7 Interface of netural wire
7	Interface of left&right swing motor 1	18	3 Interface of netural wire cold plasma
8	Interface of up&down swing motor 1	19	Delive wire
9	Interface of water overflow inspection	20	Grounding wire
10	terface of tube temperature sensor	21	1 DC fan interface
11	Interface of ambient temperature sensor	22	2 Grounding wire

GRJ869-A

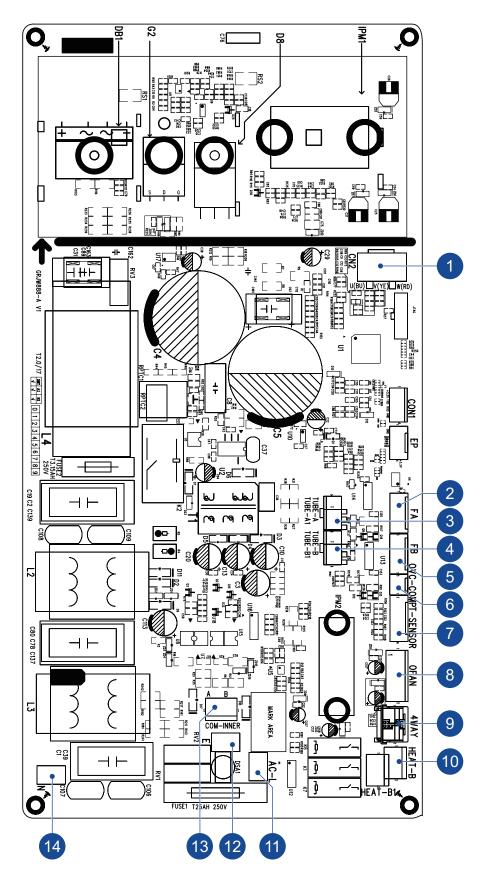


No.	Name	ı	No.	Name
1	Earthing Wire Insertion		9	Left & Right Swing Needle Stand
2	Brushless DC Motor Needle Stand		10	Up & Down Swing Needle Stand 2
3	Live Wire Insertion		11	Up & Down Swing Needle Stand 1
4	Fuse		12	Display Board Needle Stand
5	Neutral Wire Insertion		13	Temperature Sensor Needle Stand
6	Communication Wire Insertion		14	Door Control Needle Stand (Dry Contact)
7	Ultraviolet Cleaning Needle Stand		15	Wired Controller Needle Stand
8	Health Function Needle Stand		16	Jumper Needle Stand

List of Printed Circuit Board Diagrams for Outdoor Unit

Outdoor Unit Model	Outdoor Unit Product Code	Printed Circuit Board Model for Outdoor Unit
GMRSHT18AS2	CB228W20700_Y47596	GRJW888-A
GMRSHT24AS3	CB228W20600_Y47596	GRJW888-A2
GMRSHT36AS4	CB228W20900_Y47596	GRJW836-A13
GMRSHT42AS5	CB228W21000_Y47596	GRJW836-A13

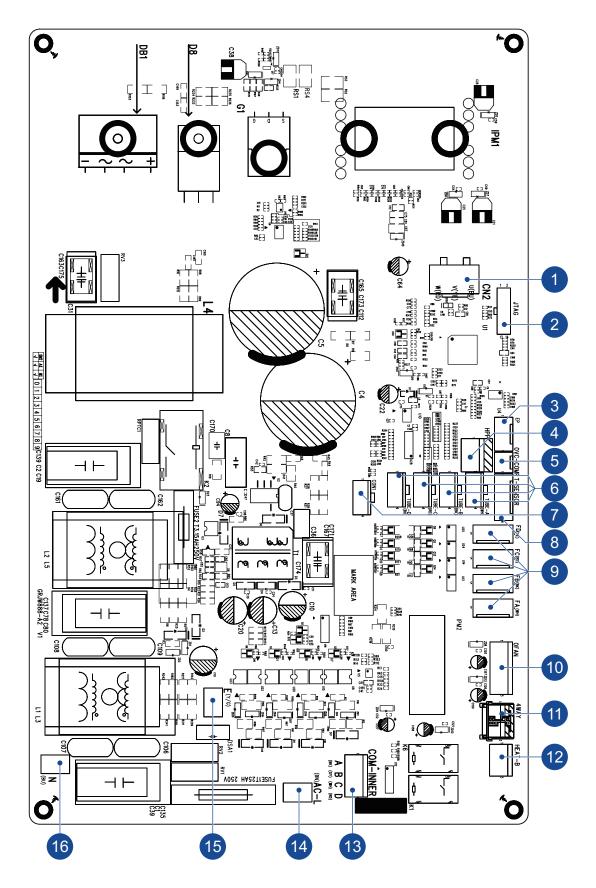
GRJW888-A



No.	Name		No.	
1	Compressor Wire Insertion		8	Outdoor
2	Electronic Expansion Valve Needle Stand A		9	Four-way
3	Gas-liquid Valve Temperature Sensor Needle Stand A		10	Chassis Needle S
4	Gas-liquid Valve Temperature Sensor Needle Stand B		11	Live Wire
5	Electronic Expansion Valve Needle Stand B		12	Earthing
6	Compressor Overload Needle Stand		13	Commur
7	Temperature Sensor Needle Stand		14	Neutral \

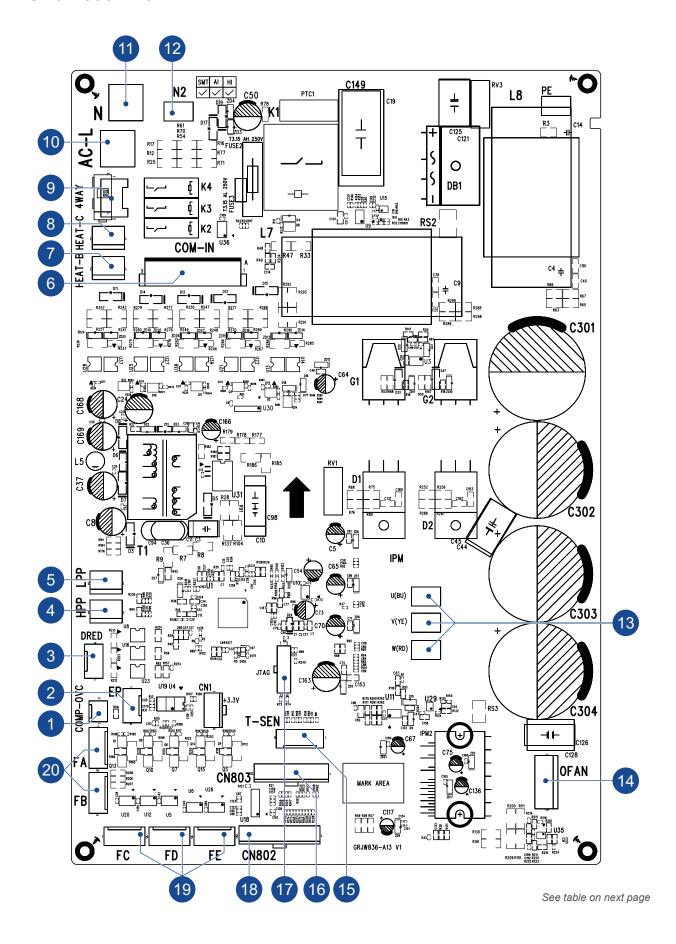
No.	Name
8	Outdoor Fan Needle Stand
9	Four-way Valve Needle Stand
10	Chassis Electric Heating Belt Needle Stand
11	Live Wire Insertion
12	Earthing Wire Insertion
13	Communication Needle Stand
14	Neutral Wire Insertion

GRJW888-A2



No.	Name	No.	Name
1	Compressor Wire Insertion	9	Electronic Expansion Valve Needle Stand
2	Program Debugging Needle Stand	10	Outdoor Fan Needle Stand
3	EEP Flash Drive Needle Stand	11	Four-way Valve Needle Stand
4	High Pressure Protection Needle Stand	12	Chassis Electric Heating Belt Needle Stand
5	Compressor Overload Needle Stand	13	Communication Needle Stand
6	Gas-liquid Valve Temperature Sensor Needle Stand	14	Live Wire Insertion
7	Computer Monitor Needle Stand	15	Earthing Wire Insertion
8	Temperature Sensor Needle Stand	16	Neutral Wire Insertion

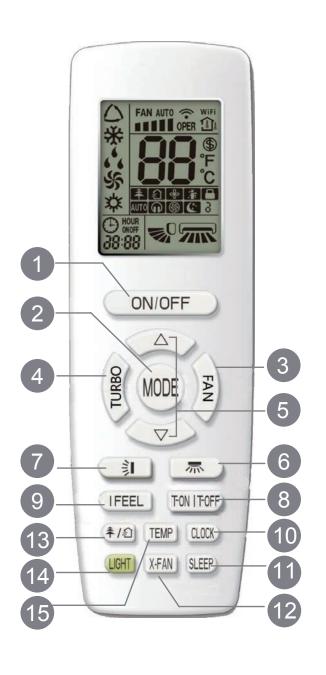
GRJW836-A13



No.	Name	No	. Name
1	Compressor Overload Needle Stand	11	Neutral Wire Insertion
2	EEP Flash Drive Needle Stand	12	Communication Neutral Wire Insertion
3	DRED Needle Stand	13	Compressor Wire Insertion
4	High Pressure Protection Needle Stand	14	Outdoor Fan Needle Stand
5	Low Pressure Protection Needle Stand	15	Temperature Sensor Needle Stand
6	Communication Needle Stand	16	Liquid valve Temperature Sensor Needle Stand
7	Chassis Electric Heating Belt Needle Stand	17	Program Debugging Needle Stand
8	Compressor Electric Heating Needle Stand	18	Gas valve Temperature Sensor Needle Stand
9	Four-way Valve Needle Stand	19	Electronic Expansion Valve Needle Stand C~E
10	Live Wire Insertion	20	Electronic Expansion Valve Needle Stand A~B

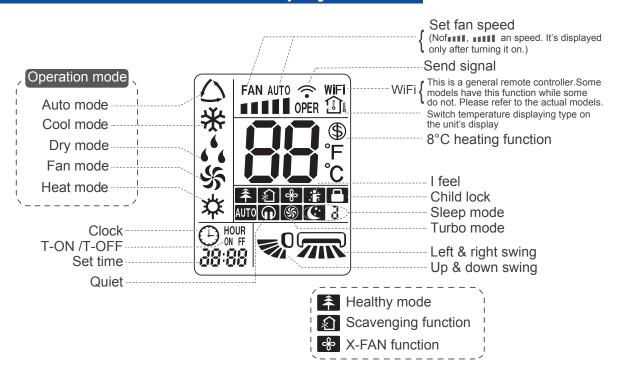
7. Function and Control

7.1 Remote Controller Introduction for YAP1FF



- ON/OFF button
- 2 MODE button
- 3 FAN button
- 4 TURBO button
- **5 △**/ **▼** button
- **7 ≱** button
- 8 T-ON / T-OFF button
- 9 I FEEL button
- 10 CLOCK button
- 11 SLEEP button
- 12 X-FAN button
 (Note: X-FAN is the same with BLOW.)
- 14 LIGHT button
- 15 TEMP button

Introduction for icons on display screen



Introduction for buttons on remote controller

NOTE:

- 1. This is a general use remote controller. It could be used for the air conditioner with multifunction. For the functions which the model doesn't have, if press the corresponding button on the remote controller, the unit will keep the original running status.
- 2. After putting through the power, the air conditioner will give out a sound. Operation indicator \oplus is ON (red indicator, the colour is different for different models). After that, you can operate the air conditioner by using remote controller.
- 3. Under on status, pressing the button on the remote controller, the signal icon \circ on the display of remote controller will blink once and the air conditioner will give out a "di" sound, which means the signal has been sent to the air conditioner.

ON/OFF button

Press this button to turn on the unit. Press this button again to turn off the unit.



Press this button to select your required operation mode:



- When selecting auto mode, air conditioner will operate automatically according to the ex-factory setting. Press **FAN** button can adjust fan speed. Press *≅* / **3** button can adjust fan blowing angle.
- After selecting cool mode, air conditioner will operate under cool mode. Press
 △ or ▽ button to adjust set temperature. Press FAN button to adjust fan speed.
 Press ♣ / ୬ button to adjust fan blowing angle.
- When selecting dry mode, the air conditioner operates at low speed under dry mode. Under dry mode, fan speed can't be adjusted. Press ♣ / 剩 button to adjust fan blowing angle.
- When selecting fan mode, the air conditioner will only blow fan, no cooling and no heating. Press **FAN** button to adjust fan speed. Press **≅** / **३** button to adjust fan blowing angle.
- When selecting heat mode, the air conditioner operates under heat mode.
 Press △ or ▽ button to adjust set temperature. Press FAN button to adjust fan speed. Press ቚ / 剩 button to adjust fan blowing angle.
- When selecting heating mode, the air conditioner operates under heat mode. Press △ or ▽ button to adjust set temperature. Press FAN button to adjust fan speed. Press ➡ / ➡ button to adjust fan blowing angle. (Cooling only unit won't receive heating mode signal. If setting heat mode with remote controller, press ON/OFF button can't start up the unit.)

- For preventing cold air, after starting up heat mode, indoor unit will delay 1~5 minutes to blow air (Actual delay time depends on indoor ambient temperature).
- Set temperature range from remote controller: 16~30°C (61~86°F). Fan speed: auto, low speed, low-medium speed, medium speed, medium-high speed, high speed.

FAN button

Pressing this button can set fan speed circularly as: auto (AUTO), low(\blacksquare), medium (\blacksquare \blacksquare), high(\blacksquare \blacksquare \blacksquare).



NOTE:

- Under AUTO speed, air conditioner will select proper fan speed automatically according to factory default setting.
- It's low fan speed under dry mode.

TURBO button

Under COOL or HEAT mode, press this button to turn to quick COOL or quick HEAT mode. It icon is displayed on remote controller. Press this button again to exit turbo function and icon will disappear.

If start this function, the unit will run at super-high fan speed to cool or heat quickly so that the ambient temperature approaches the preset temperature as soon as possible.



- Press △ or ▽ button once increase or decrease set temperature 1°C (°F).
 Holding △ or ▽ button, 2s later, set temperature on remote controller will change quickly. On releasing button after setting is finished, temperature indicator on indoor unit will change accordingly.
- When setting T-ON, T-OFF or CLOCK, press △ or ▽ button to adjust time.
 (Refer to CLOCK, T-ON,T-OFF buttons)

button

Press this button can select left & right swing angle. Fan blow angle can be selected circularly as below:

NOTE:

- Press this button continuously more than 2s, the main unit will swing back and forth from left to right, and then loosen the button, the unit will stop swinging and present position of guide louver will be kept immediately.
- Under left and right swing mode, when the status is switched from off to
 m, if press this button again 2s later, status will switch to off status
 directly; if press this button again within 2s, the change of swing status
 will also depend on the circulation sequence stated above.

button

||

Press this button can select left & right swing angle. Fan blow angle can be selected circularly as below:

no display
$$\bigcirc$$
 \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc (horizontal louvers stops at current position)

- When selecting −0 , −0 , ,0 , ,9, air conditioner is blowing fan at fixed position. Horizontal louver will stop at the fixed position.
- When selecting ₹0, ₹0, ₹0, air conditioner is blowing fan at fixed angle. Horizontal louver will send air at the fixed angle.

- **▼**⁰ , **尽**⁰ , **尽**⁰ may not be available. When air conditioner receives this signal, the air conditioner will blow fan automatically.
- Press this button continuously for more than 2s, the main unit will swing

back and forth from up to down, and then loosen the button, the unit present position of guide louver will be kept immediately.

T-ON|T-OFF) button

T-ON button

T-ON button can set the time for timer on. After pressing this button, \oplus icon disappears and the word **ON** on remote controller blinks. Press \triangle or ∇ button to adjust **T-ON** setting. After each pressing \triangle or ∇ button, **T-ON** setting will increase or decrease 1min. Hold \triangle or ∇ button, 2s later, the time will change quickly until reaching your required time. Press **T-ON** to confirm it. The word **ON** will stop blinking. \oplus icon resumes displaying. Cancel **T-ON**: Under the condition that **T-ON** is started up, press **T-ON** button to cancel it.

T-OFF button

T-OFF button can set the time for timer off. After pressing this button, \oplus icon disappears and the word **OFF** on remote controller blinks. Press \triangle or ∇ button to adjust **T-OFF** setting. After each pressing \triangle or ∇ button, **T-OFF** setting will increase or decrease 1min. Hold \triangle or ∇ button, 2s later, the time will change quickly until reaching your required time. Press **T-OFF** word **OFF** will stop blinking. \oplus icon resumes displaying. Cancel **T-OFF**. Under the condition that **T-OFF** is started up, press **T-OFF** button to cancel it.

- Under on and off status, you can set **T-OFF** or **T-ON** simultaneously.
- Before setting T-ON or T-OFF, please adjust the clock time.
- After starting up **T-ON** or **T-OFF**, set the constant circulating valid.
- After that, air conditioner will be turned on or turned off according to setting time. ON/OFF button has no effect on setting. If you don't need this function, please use remote controller to cancel it.

I FEEL button

Press this button to start I FEEL function and if will be displayed on the remote controller. After this function is set, the remote controller will send the detected ambient temperature to the controller and the unit will automatically adjust the indoor temperature according to the detected temperature. Press this button again to cancel I FEEL function and if will disappear.

Please put the remote controller near user when this function is set. Do not put the remote controller near the object of high temperature or low temperature in order to avoid detecting inaccurate amb ient temperature. When I FEEL function is turned on, the remote controller should be put within the area where indoor unit can receive the signal sent by the remote controller.

CLOCK) button

Press this button to set clock time. \oplus icon on remote controller will blink. Press \triangle or ∇ button within 5s to set clock time. Each pressing of \triangle or ∇ button, clock time will increase or decrease 1 minute. If hold \triangle or ∇ button, 2s later, time will change quickly. Release this button when reaching your required time. Press **CLOCK** button to confirm the time. \oplus icon stops blinking.

NOTE:

- Clock time adopts 24-hour mode.
- The interval between two operations can't exceed 5s. Otherwise, remote controller will quit setting status. Operation for T-ON/T-OFF is the same.

SLEEP button

Under COOL, or HEAT mode, press this button to start up sleep function. ← icon is displayed on remote controller. Press this button again to cancel sleep function and ← icon will disappear. After powered on, Sleep Off is defaulted. After the unit is turned off, the Sleep function is canceled.

In this mode, the time of time can be adjusted. Under **Fan**, **DRY** and **Auto** modes, this function is not available.

ি ≱/ঐ button

Press this button to achieve the on and off of health and scavenging functions

in operation station. Press this button for the first time to start scavenging function; LCD displays $ext{ } ext{ } ext{$

NOTE:

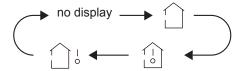
This function is applicable to partial of models.

LIGHT button

Press this button to turn off display light on indoor unit. ♣ icon on remote controller disappears. Press this button again to turn on display light. ♣ icon is displayed.

TEMP button

By pressing this button, you can see indoor set temperature, indoor ambient temperature or outdoor ambient temperature on indoor unit's display. The setting on remote controlleris selected circularly as below:



- When selecting
 or no display with remote controller, temperature indicator
 on indoor unit displays set temperature.
- When selecting with remote controller, temperature indicator on indoor unit displays indoor ambient temperature.
- When selecting \bigcirc ! with remote controller, temperature indicator on indoor unit displays outdoor ambient temperature.

- Outdoor temperature display is not available for some models. At that time, indoor unit receives ☐ signal, while it displays indoor set temperature.
- It's defaulted to display set temperature when turning on the unit. There
 is no display in the remote controller.
- Only for the models whose indoor unit has dual-8 display.

 When selecting displaying of indoor or outdoor ambient temperature, indoor temperature indicator displays corresponding temperature and automatically turn to display set temperature after three or five seconds.

Function introduction for combination buttons

Energy-saving function

Under cooling mode, press **TEMP** and **CLOCK** buttons simultaneously to start up or turn off energysaving function. When energy-saving function is started up, 5£ will be shown on remote controller, and air conditioner will adjust the set temperature automatically according to ex-factory setting to reach to the best energy-saving effect. Press **TEMP** and **CLOCK** buttons simultaneously again to exit energysaving function.

NOTE:

- Under energy-saving function, fan speed is defaulted at auto speed and it can't be adjusted.
- Under energy-saving function, set temperature can't be adjusted. Press
 TURBO button and the remote controller won't send signal.
- Sleep function and energy-saving function can't operate at the same time. If energy-saving function has been set under cool mode, press sleep button will cancel energy-saving function. If sleep function has been set under cool mode, start up the energy-saving function will cancel sleep function.

8°C heating function

Under heat mode, press **TEMP** and **CLOCK** buttons simultaneously to start up or turn off 8°C heating function. When this function is started up, \$\sigma\$ and 8°C will be shown on remote controller, and the air conditioner keep the heating status at 8°C. Press **TEMP** and **CLOCK** buttons simultaneously again to exit 8°C heating function.

NOTE:

 Under 8°C heating function, fan speed is defaulted at auto speed and it can't be adjusted.

- Under 8°C heating function, set temperature can't be adjusted.
- Press TURBO button and the remote controller won't send signal.
- Sleep function and 8°C heating function can't operate at the same time.
 If 8°C heating function has been set under heat mode, press sleep button will cancel 8°C heating function. If sleep function has been set under heat mode, start up the 8°C heating function will cancel sleep function.
- Under °F temperature display, the remote controller will display 46°F heating.

Child lock function

Press \triangle and ∇ simultaneously to turn on or turn off child lock function. When child lock function is on, \blacksquare icon is displayed on remote controller. If you operate the remote controller, the \blacksquare icon will blink three times without sending signal to the unit.

Temperature display switchover function

Under OFF status, press ∇ and **MODE** buttons simultaneously to switch temperature display between °C and °F.

WiFi function

Press **MODE** and **TURBO** buttons simultaneously to turn on or turn off WIFI function. When WIFI function is turned on, the **WIFI** icon will be displayed on remote controller; Long press **MODE** and **TURBO** buttons simultaneously for 10s, remote controller will send WIFI reset code and then the WIFI function will be turned on. WIFI function is defaulted **ON** after energization of the remote controller.

NOTE:

This function is only available for some models.

Operation guide

- 1. After putting through the power, press **ON/OFF** button on remote controller to turn on the air conditioner.
- Press MODE button to select your required mode: AUTO, COOL, DRY, FAN, HEAT.

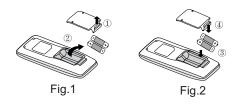
3. Press \triangle or ∇ button to set your required temperature. (Temperature can't be adjusted under auto mode).

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- 4. Press **FAN** button to set your required fan speed: auto, low speed, low-medium speed, medium-high speed, high speed.
- 5. Press **≱** button to select fan blowing angle.

Replacement of batteries in temote controller

- 1. Lift the cover along the direction of arrow (as shown in Fig. 1 ①).
- 2. Take out the original batteries (as shown in Fig. 1 ②).
- 3. Place two 7# (AAA 1.5V) dry batteries, and make sure the position of + polar and polar is correct (as shown in Fig. 2 ③).
- 4. Reinstall the cover (as shown in Fig. 2 4).



- During operation, point the remote control signal sender at the receiving window on indoor unit.
- The distance between signal sender and receiving window should be no more than 8m, and there should be no obstacles between them.
- Signal may be interfered easily in the room where there is fluorescent lamp or wireless telephone; remote controller should be close to indoor unit during operation.
- Replace new batteries of the same model when replacement is required.
- When you don't use remote controller for a long time, please take out the batteries.
- If the display on remote controller is fuzzy or there's no display, please replace batteries.

7.2 Wired Controller Introduction for XE72-44/E

Symbols on LCD

1. Outside View of the Wired Controller

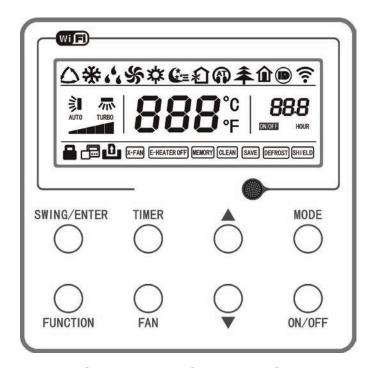


Fig. 1 Outside View of the Wired Controller

2. LCD of the Wired Controller

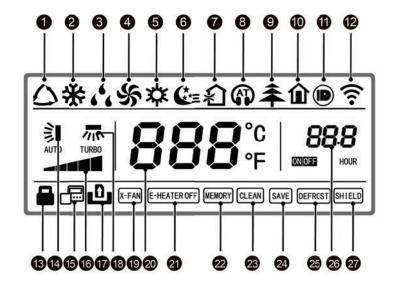


Fig. 2 LCD of the Wired Controller

Table 1

No.	Display	Instruction of Display
1	Auto	Automatic mode (under auto mode, the indoor unit will select its operating mode according to the variation of room temperature)
2	Cool	Cooling mode
3	Dry	Dry mode
4	Fan	Fan mode
5	Heat	Heating mode
6	Sleep	Display when sleep function is set
7	Fresh air	Display when fresh air function is set
8	Quiet	Display when quiet function is set
9	Health	Display when health function is set
10	Absent	Display when absent function is set
11	I-DEMAND	Display when I-DEMAND function is set
12	WiFi	Display when WiFi function is set
13	Child-lock	Child-lock status, display when child-lock function is set
14	Up & down swing	Display when up and down swing function is set
15	Slave wired controller	Icon of slave wired controller, it will display when slave wired controller is set (this function is unavailable for this unit)
16	Fan speed	The fan speed set currently (including auto, low, medium low, medium, medium high, high, and turbo)
17	No card	No card in gate control system
18	Left & right swing	Display when left and right swing function is set
19	X-fan	Display when X-fan function is set
20	Temperature	It will display the setting temperature
21	E-heater	On/off switch of auxiliary heating

No.	Display	Instruction of Display
22	Memory	Memory status (After power failure and reenergizing the unit, it will resume to ON/OFF status of unit before the power failure)
23	Clean	Filter washing reminder (this function is unavailable for this unit)
24	Save	Display when energy-saving function is set
25	Defrost	Defrosting status
26	Defrost	Display when timer status is set
27	Shield	Shielding status

Buttons

1. Buttons on the Wired Controller

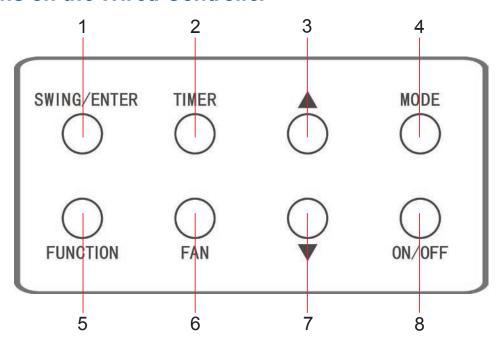


Fig. 3 Buttons on the Wired Controller

2. Function of the Buttons

No.	Name	Function
1	SWING/ENTER	Function selection and cancellation.
1	SWING/ENTER	2. Setting of the up and down swing function.
3	A	1. Running temperature setting of the indoor unit, range: 61~86°F (16~30°C).
7	▼	2. Timer setting, range: 0.5-24 hr.
6	FAN	Setting of the auto/low/medium low/medium/ medium high/high fan speed.
4	MODE	Setting of the Cooling/Heating/Fan/Dry/Auto mode of the indoor unit.
5	FUNCTION	Switchover among the functions of Turbo/WiFi/ E-heater/X-fan etc
2	TIMER	TIMER setting.
8	ON/OFF	Turn on/off the indoor unit.
3+4	▲+MODE	Press them for 5s under off state of the unit to Enter/Cancel the Memory function (If memory is set, indoor unit after power failure and then power recovery will resume the original setting state. If not, the indoor unit is defaulted to be off after power recovery. Memory off is default before delivery.).
6+7	FAN+▼	By pressing them at the same time under off state of the unit, ** will be displayed on the wired controller for the cooling only unit, while ** will be displayed on the wired controller for the cooling and heating unit.
3+7	▲ + ▼	Upon startup of the unit without malfunction or under off state of the unit, press them at the same time for 5s to enter the lock state, in which case, any other buttons won't respond the press. Repress them for 5 seconds to quit this state.

No.	Name	Function
4+7	MODE+▼	Under OFF state, the Celsius and Fahrenheit scales can be switched by pressing "MODE" and "▼" for 5s.
2+5	TIMER+FUNCTION	Under OFF state, it is available to go to the commissioning status by pressing "FUNCTION" and "TIMER" for five seconds, and let "00" displayed on the temperature display area by pressing "MODE", then adjust the options which is shown on the timer area by pressing "▲" and "▼". There are totally four options, as follows:
		 Indoor ambient temperature is sensed by the return air temperature sensor (01 displayed on the timer area).
		Indoor ambient temperature is sensed by the wired controller (02 displayed on the timer area).
		3. The return air temperature sensor is selected under the cooling, dry, or fan mode; while the wired controller temperature sensor is selected under the heating or auto mode. (03 is displayed on the timer area).
		4. The wired controller temperature sensor is selected under the cooling, dry, or fan mode; while the return air temperature sensor is selected under the heating mode. (04 is displayed on the timer display area).
2+5	TIMER+FUNCTION	Under OFF state, it is available to go to the commissioning status by pressing "FUNCTION" and "TIMER" for five seconds. Press "MODE" button to until "01" icon is shown at the temperature display area. The setting status will be shown at timer area. Press "▲" and "▼" button to adjust and two options are available: 1. Three low levels (01); 2. Three high levels (02).

No.	Name	Function
5+6	FUNCTION+FAN	Reset the WiFi function: Under off status, press "FUNCTION" + "FAN" combination buttons on its wired controller for 5s. Once "°C" is displayed, this indicates that reset was successful.

Operation Instructions

1. ON/OFF

Press ON/OFF to turn on the unit and turn it off by another press.

NOTE:

The state shown in Fig. 4 indicates the "OFF" state of the unit after power on. The state shown in Fig. 5 indicates the "ON" state of the unit after power on.



Fig. 4 "OFF" State



Fig. 5 "ON" State

2. Mode Setting

Under the "ON" state of the unit, press MODE to switch the operation modes as the following sequence: Auto-Cooling-Dry-Fan-Heating.



3. Temperature Setting

Press ▲ or ▼ to increase/decrease the preset temperature. If press either of them continuously, the temperature will be increased or decreased by 1°C(1°F) every 0.5s, as shown in Fig. 6.

In the Cooling, Dry, Fan or Heating mode, the temperature setting range is 16°C~30°C(61°F~86°F).

In the Auto mode, the setting temperature is unadjustable.

NOTE:

If the wired controller receives the signals of remote controller, the wired controller can analyze the set temperature adjustment function of automatic mode of the remote controller, but it needs to be used with an indoor unit with the set temperature adjustment function of automatic mode.

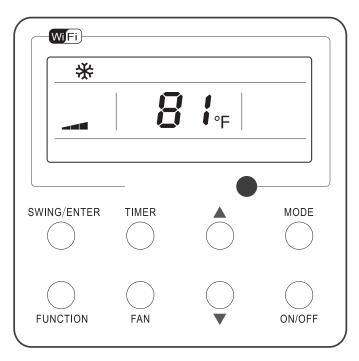


Fig. 6

4. Fan Setting

Under the "ON" State of the unit, press Fan and then fan speed of the indoor unit will change circularly as shown in Fig. 7.



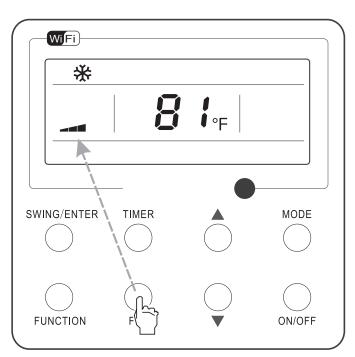


Fig. 7

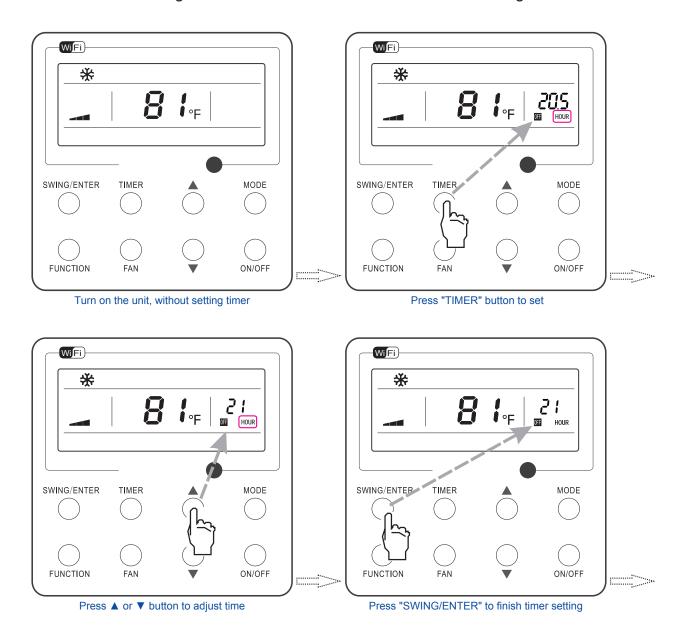
5. Timer Setting

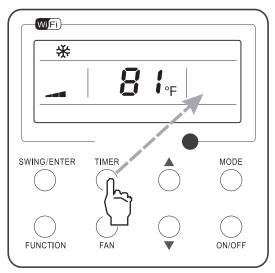
Under the "ON" / "OFF" state of the unit, press Timer to set timer off / on.

 Timer on setting: press Timer, and then LCD will display "xx.x hour", with "hour" blinking. In this case press ▲ or ▼ to adjust the timing value. Then press SWING/ENTER to confirm the setting.

• Timer off setting: press Timer, if LCD won't display xx.x hour, and then it means the timer setting is canceled.

Timer off setting under the "ON" state of the unit is shown as Fig. 8.





Press "TIMER" button to cancel timer setting

Fig. 8 Timer off Setting under the "ON" State of the Unit

6. Up & Down Swing Setting

There are two ways for up and down swing mode: simple swing and fixed swing. Under off status, press "SWING/ENTER" button and "▲" button simultaneously for 5 seconds, then switch for simple swing and fixed swing is done.

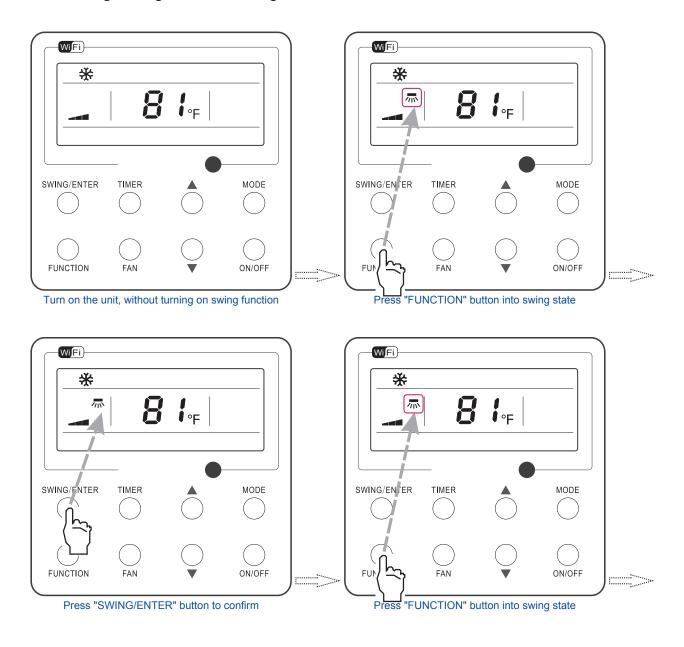
When it is set to be simple swing, under on status, press "SWING/ENTER" button, the mode is activated, press the button again the mode is turned off.

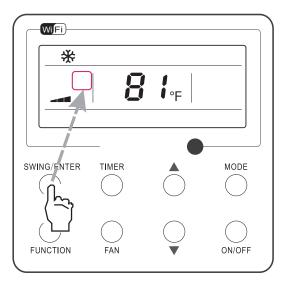
When it is set to be fixed swing, press "SWING/ENTER" button, the unit will circularly switch the swing mode according to the order shown below:

$$\longrightarrow (Off) \longrightarrow \mathring{\sharp} I \longrightarrow \mathring{I} \longrightarrow \mathring{I} \longrightarrow - I \longrightarrow - I \longrightarrow - I \longrightarrow \mathring{\sharp} I \longrightarrow \mathring{\sharp$$

7. Left & Right Swing Setting

Swing setting is shown as Fig. 9.





Press "SWING/ENTER" button to cancel swing

Fig. 9 Swing Setting

- 1. Sleep, Turbo or X-fan setting is the same as the Swing setting.
- 2. After the setting has been done, it has to press the key "SWING/ENTER" to back to the setting status or quit automatically five seconds later.

8. Fresh Air Valve Function Setting

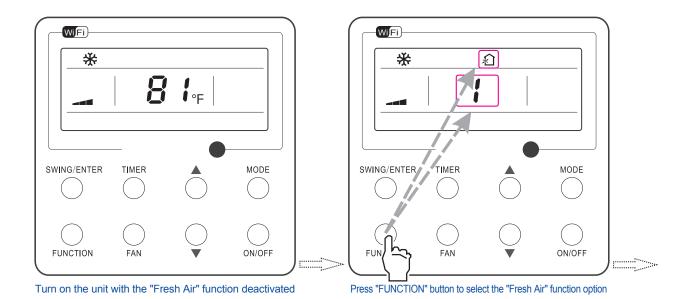
Turn on fresh air valve function:

Under unit on status, press FUNCTION button on the panel to select "Fresh air valve" function option. When ඬ icon flashes, it enters fresh air valve setting mode. Previous temperature display position will display the level of fresh air valve. Press ▲ or ▼ button to adjust the level of fresh air valve within the range from 1 to 10. Then press SWING/ENTER button to activate this function.

Turn off fresh air valve function:

If fresh air valve function has been set, press FUNCTION button on the panel to select "Fresh air valve" function option. When icon ♠ flashes, if you press SWING/ENTER button without pressing ▲ or ▼ button, fresh air valve function will be canceled; if you press SWING/ENTER button after pressing ▲ or ▼ button, fresh air valve function will be activated.

- 1. If you press panel button to set fresh air valve function on, ventilation (ventilation 1) function will be activated too; if you press panel button to set fresh air valve function off, ventilation function will be canceled too.
- 2. This function is invalid when working with the model with two-way ventilation system.



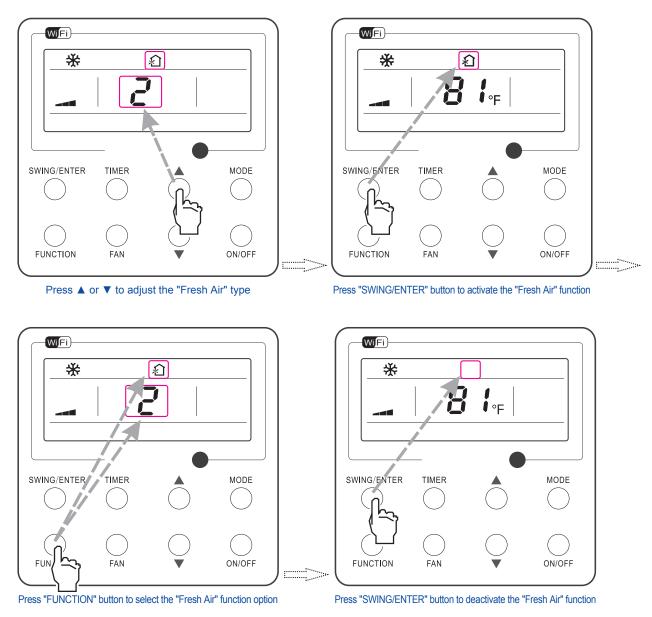


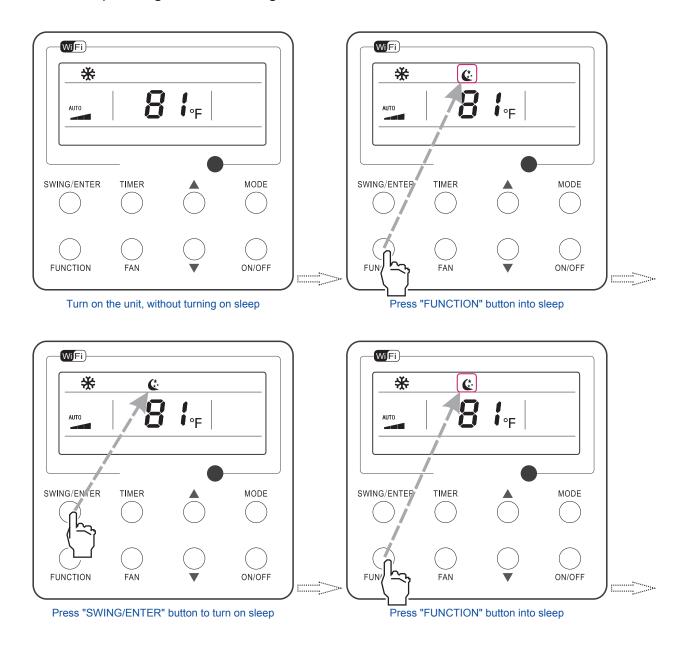
Fig. 10 Fresh Air Valve Function Setting

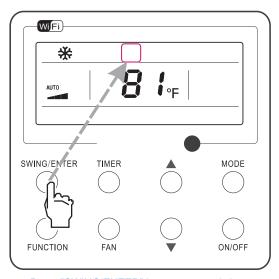
9. Sleep Setting

• Sleep on: Press FUNCTION under on state of the unit till the unit enters the Sleep setting interface. Press SWING/ENTER to confirm the setting.

 Sleep off: When the Sleep function is activated, press FUNCTION to enter the Sleep setting interface. After that, press SWING/ENTER to can this function.

Sleep setting is shown as Fig. 11.





Press "SWING/ENTER" button to cancel sleep

Fig. 11 Sleep Setting

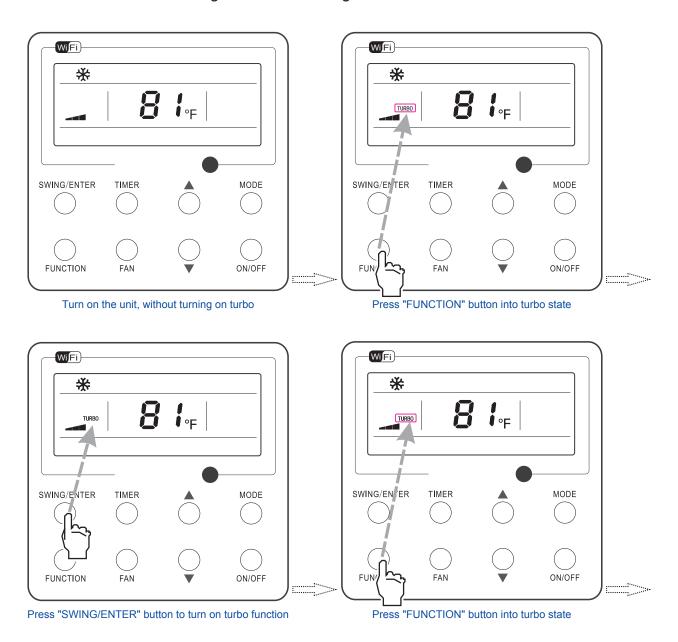
10. Turbo Setting

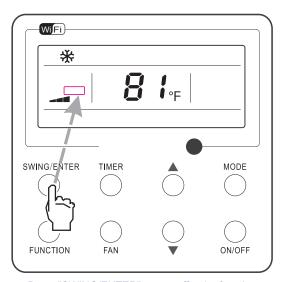
Turbo function: The unit at the high fan speed can realize quick cooling or heating so that the room temperature can quickly approach the setting value.

In the Cooling or Heating mode, press FUNCTION till the unit enters the Turbo setting interface and then press SWING/ENTER to confirm the setting.

When the Turbo function is activated, press FUNCTION to enter the Turbo setting interface and then press SWING/ENTER to cancel this function.

Turbo function setting is as shown in Fig. 12.





Press "SWING/ENTER" to turn off turbo function

Fig. 12 Turbo Setting

11. Energy Saving Function Setting

Turn on energy saving function:

1. Energy Saving Setting for Cooling

When the unit runs under the COOL or DRY mode, press FUNCTION button to select "SAVE" function option, with "SAVE" flashing, and then press ▲ or ▼ to adjust the lower limit, after that, press the SWING/ENTER button to activate this function.

2. Energy Saving Setting for Heating

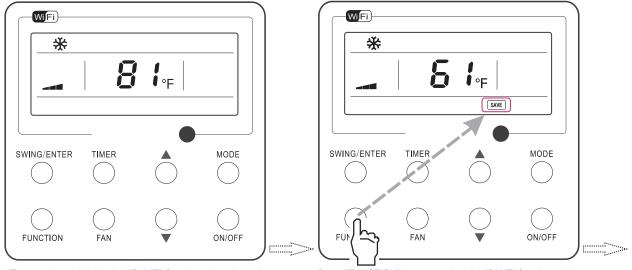
When the unit runs under the HEAT mode, press FUNCTION button to select "SAVE" function option, with "SAVE" flashing, and then press ▲ or ▼ to adjust the upper limit, after that, press SWING/ENTER button to activate this function.

NOTE:

Under energy saving setting mode, press "MODE" button to switch the energy saving setting for COOL or HEAT mode.

Cancel energy saving function:

If energy saving function has been set, press FUNCTION button on the panel to select "SAVE" function option. When without pressing ▲ or ▼ button, energy saving function will be canceled; if you press SWING/ENTER button after pressing ▲ or ▼ button, energy saving function will be activated.



Turn on the unit with the "SAVE" function deactivated

Press "FUNCTION" button to select the "SAVE" function option

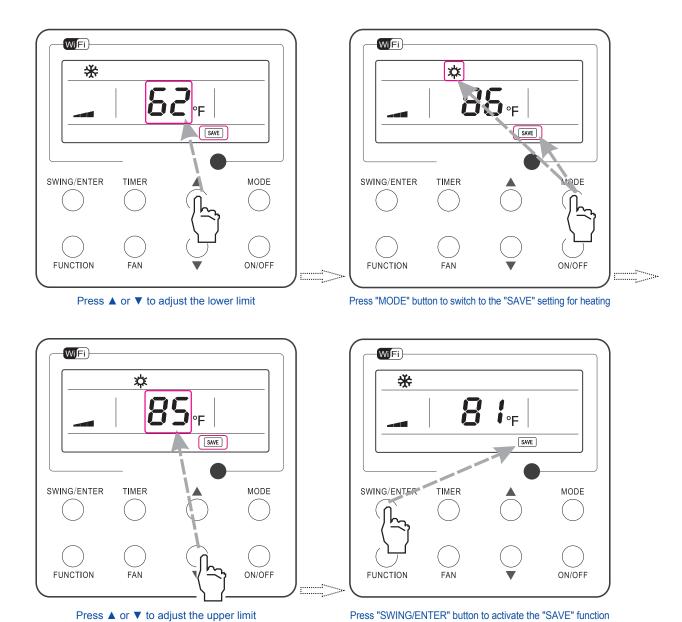


Fig. 13 Energy Saving Function Setting

12. E-heater Setting

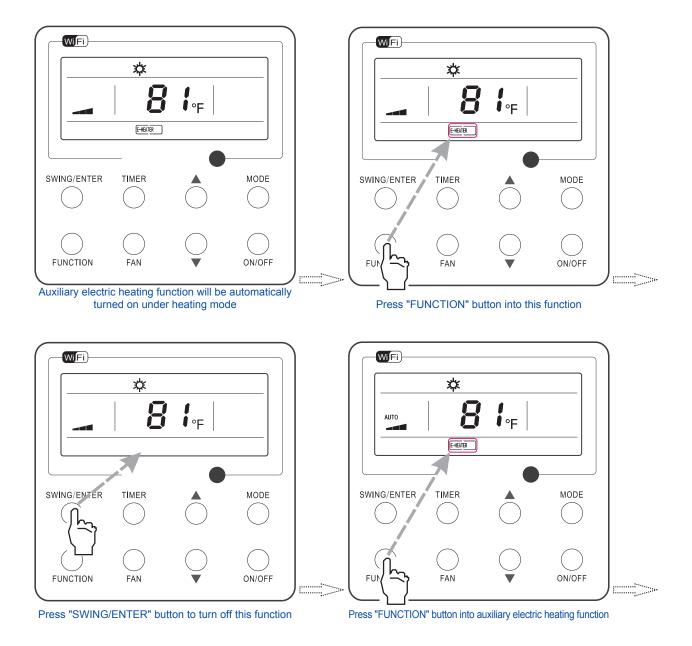
E-heater (auxiliary electric heating function): In the Heating mode, E-heater is allowed to be turned on for improvement of efficiency.

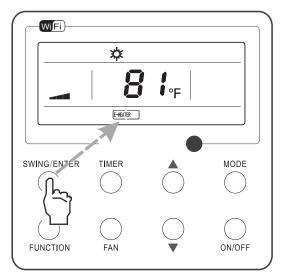
Once the wired controller or the remote controller enters the Heating mode, this function will be turned on automatically.

Press FUNCTION in the Heating mode to enter the E-heater setting interface and then press SWING/ENTER to cancel this function.

Press FUNCTION to enter the E-heater setting interface, if the E-heater function is not activated, and then press SWING/ENTER to turn it on.

The setting of this function is shown as Fig. 14 below:





Press "SWING/ENTER" button to turn on this function

Fig. 14 E-heater Setting

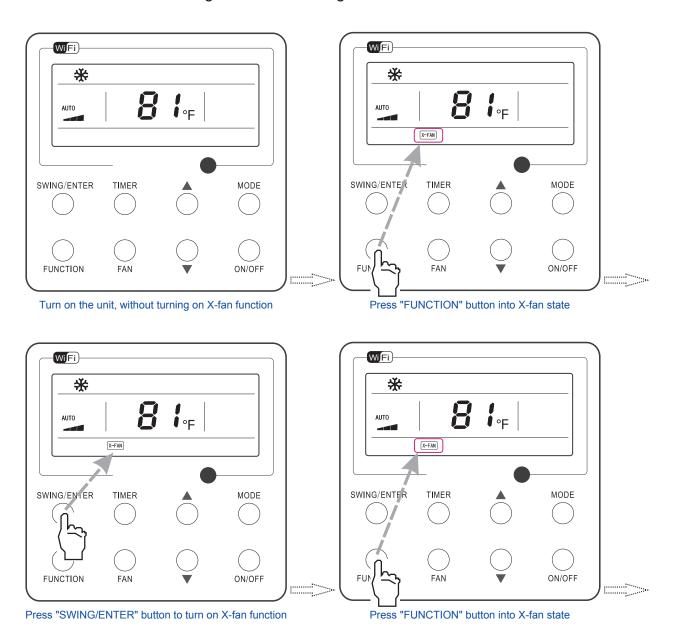
13. X-fan Setting

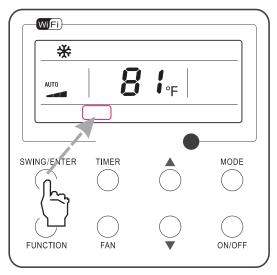
X-fan function: After the unit is turned off, the water in evaporator of indoor unit will be automatically evaporated to avoid mildew.

In the Cooling or Dry mode, press FUNCTION till the unit enters the X-fan setting interface and then press SWING/ENTER to active this function.

When the X-fan function is activated, press FUNCTION to the X-fan setting interface and then press SWING/ENTER to cancel this function.

X-fan function setting is as shown in Fig. 15.





Press "SWING/ENTER" button to turn off X-fan function

Fig. 15 X-fan Setting

NOTE:

- 1. When the X-fan function is activated, if turning off the unit by pressing ON/OFF or by the remote controller, the indoor fan will run at the low fan speed for 2 minutes, with "X-FAN" displayed on the LCD. While, if the X-fan function is deactivated, the indoor fan will be turned off directly.
- 2. X-fan function is unavailable in the Fan or Heating mode.

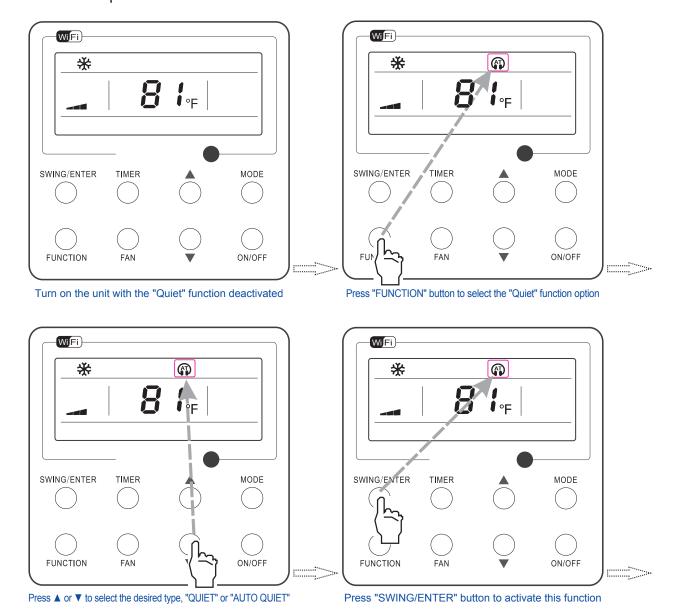
14. Quiet Function Setting

• Turn on quiet function:

Under unit on status, press FUNCTION button on the panel to select "Quiet" function option. When "Quiet" or "Auto quiet" flashes, it enters quiet function setting mode. Press ▲ or ▼ button to switch between "Quiet" and "Auto quiet" function. Then press SWING/ENTER button to activate this function.

Cancel quiet function:

If quiet function has been set, press FUNCTION button on the panel to select "Quiet" function option. When "Quiet" or "Auto quiet" flashes, if you press SWING/ENTER button without pressing ▲ or ▼ button, quiet function will be canceled; if you press SWING/ENTER button after pressing ▲ or ▼ button, quiet function will be activated.



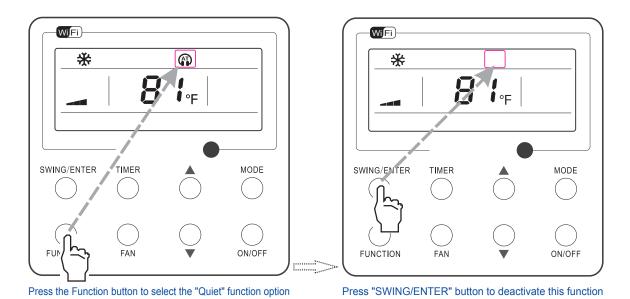
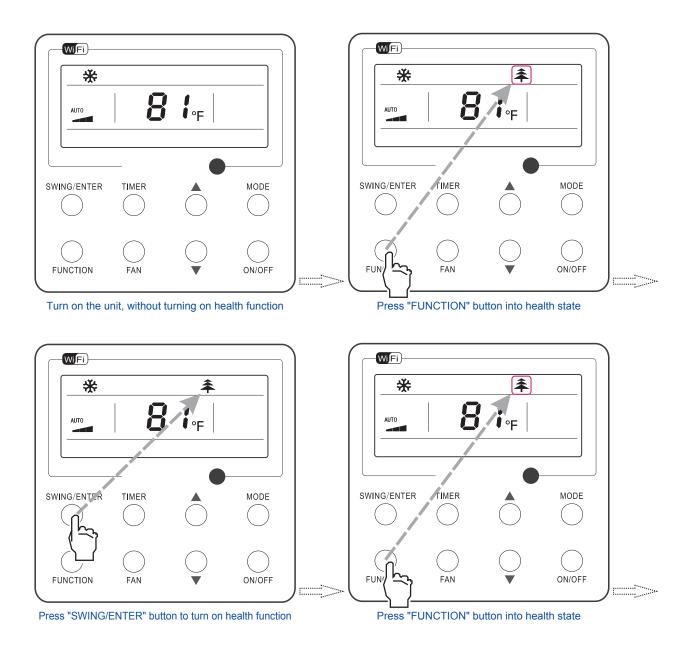


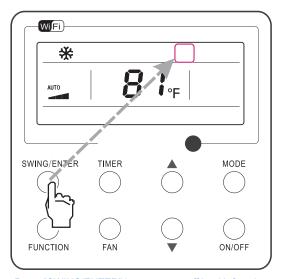
Fig. 16 Setting of Quiet Function

15. Health Setting

 Health on: Press FUNCTION under on state of the unit till the unit enters the Health setting interface. Press SWING/ENTER to confirm the setting.

 Health off: When the Health function is activated, press FUNCTION to enter the Health setting interface. After that, press SWING/ENTER to cancel this function.





Press "SWING/ENTER" button to turn off health function

Fig. 17 Health Setting

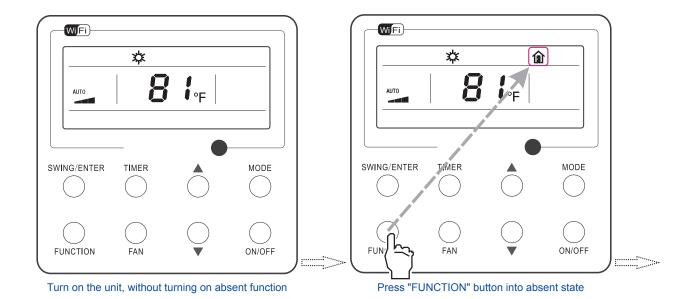
16. Absent Setting

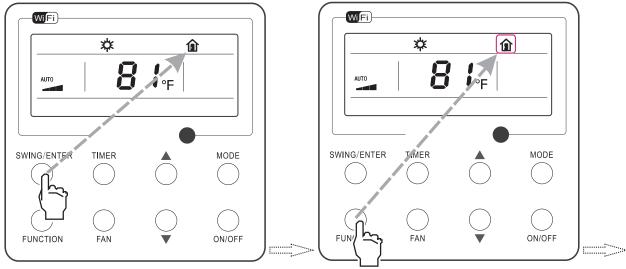
 Absent on: Press FUNCTION under on state of the unit till the unit enters the Absent setting interface. Press SWING/ENTER to confirm the setting.

 Absent off: When the Absent function is activated, press FUNCTION to enter the Absent setting interface. After that, press SWING/ENTER to cancel this function.

NOTE:

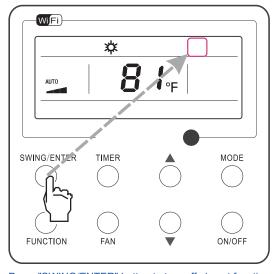
- 1. This function is only available in heating mode.
- 2. When this function has been set, set temperature is displayed in 8°C(46°F). In this case, temperature setting and fan speed setting are shielded.
- 3. This function will be cancelled when switching modes.
- 4. This function and sleep function cannot be on simultaneously. If Absent function is set firstly and then sleep/quiet function is set, Absent function will be cancelled while sleep function will be valid, and vice versa.





Press "SWING/ENTER" button to turn on absent function





Press "SWING/ENTER" button to turn off absent function

Fig. 18 Absent Setting

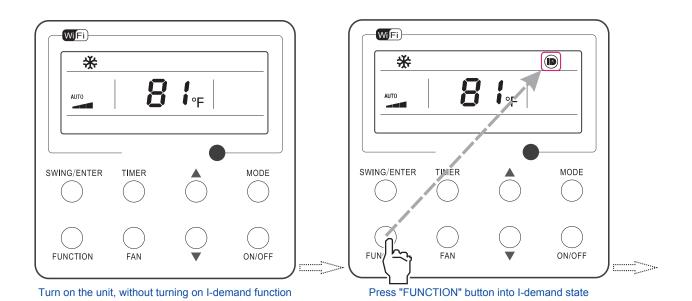
17. I-Demand Setting

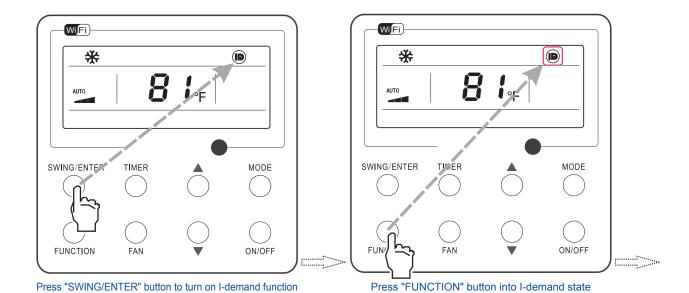
• I-Demand on: Press FUNCTION under on state of the unit till the unit enters the I-Demand setting interface. Press SWING/ENTER to confirm the setting.

• I-Demand off: When the I-Demand function is activated, press FUNCTION to enter the I-Demand setting interface. After that, press SWING/ENTER to cancel this function.

NOTE:

- 1. This function is only available in cooling mode.
- 2. When this function has been set, set temperature is displayed in SE. In this case, temperature setting and fan speed setting are shielded.
- 3. This function will be cancelled when switching modes.
- 4. This function and sleep function cannot be on simultaneously. If I-demand function is set firstly and then sleep/quiet function is set, I-demand function will be cancelled while sleep function will be valid, and vice versa.





SWING/ENTER TIMER MODE

FUNCTION FAN ON/OFF

Press "SWING/ENTER" button to turn off I-demand function

Fig. 19 I-Demand Setting

18. WiFi Function Setting

"TGM+" APP can be used to control it. Please scan the QR code to download it.

APP can only set some common functions of WiFi wired controller: ON/OFF, mode, set temperature, FAN speed, etc.

When using the APP for the first time, please reset the WiFi function of wired controller (reset WiFi to exfactory setting): Under off status, press "FUNCTION" + "FAN" combination buttons on its wired controller for 5 seconds. Once "°C" is displayed, this indicates that reset was successful.

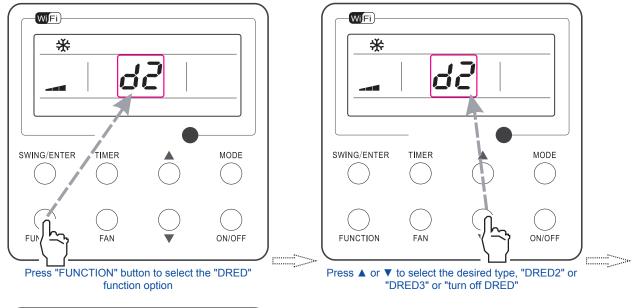
If there is a communication failure for WiFi, after resetting WiFi, the temperature display area of wired controller displays "JF" for 5 seconds, which indicates that the current reset is invalid.

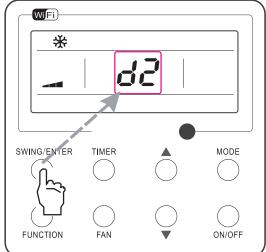
Press FUNCTION under on state of the unit till the unit enters the WiFi setting interface, the temperature area will display the WiFi status. Press "▲" or "▼" button to turn on WiFi ("ON" is displayed) or turn off WiFi ("OFF" is displayed), and then press "SWING/ENTER" button to confirm it.

19. Dred Function Setting

When outdoor unit enters DRED mode: when it detects DRED signal, the whole unit executes DRED mode. When it enters DRED mode, the outdoor unit does timekeeping and feeds back the signal to indoor unit. Under power-on state, the set temperature area displays corresponding code, DRED1, DRED2, DRED3 correspond to "d1", "d2", "d3". The panel cannot be used to set the DRED mode.

When indoor unit enters DRED mode: under power-on state, use "Function" button on the panel to switch to "DRED" function. The set temperature area will display DRED state and flicker. Through "▲" and "▼" buttons can select DRED2 (set temperature area displays d2), DRED3 (set temperature area displays d3), or turn off DRED (set temperature area displays "--"); press "SWING/ENTER" button to confirm the selection, it will display the set state for 3 seconds. After entering the setting, if there is no button operation for 5 seconds, it will quit the interface without saving the setting.





Press "SWING/ENTER" button to activate this function

Dred Function Setting

NOTE:

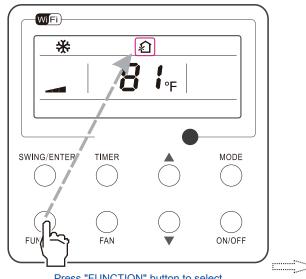
- DRED mode startup method is set by indoor units.
- When outdoor unit enters DRED mode: it does not receive the DRED control of remote control, the whole unit will run the DRED mode, and the wired controller displays the state only.
- When indoor unit enters DRED mode:
 - 1. When the wired controller receives the DRED command sent from remote control, the set temperature area displays d2 or d3, and it will display for 3 seconds.
 - 2. Under power-off or air supply mode, the DRED mode is turned off.

20. Two-way Ventilation Function Setting

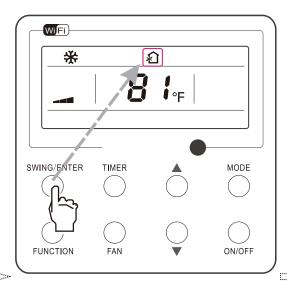
Under the "On/Off" state of the unit, press Function button on the panel to select "Two-way Ventilation" function option. Then press SWING/ENTER button to start up or turn off two-way ventilation function. When two-way ventilation function is started up, $\{ \}$ will be shown on wired controller.

NOTE:

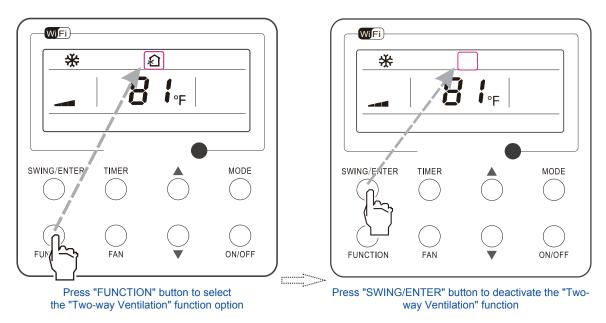
- Switch to power-off status, two-way ventilation function is turned off.
- In power-off status, if the two-way ventilation function is activated, fan speed can be adjusted by fan speed button, and quiet or turbo function can be set.
- This function is invalid when working with the model without two-way ventilation system.







Press "SWING/ENTER" button to activate the "Twoway Ventilation" function



Two-way Ventilation Function Setting

21. Other Functions

1. Lock

Upon startup of the unit without malfunction or under the "OFF" state of the unit, press and at the same time for 5 seconds till the wired controller enters the Lock function. In this case, LCD displays . After that, repress these two buttons at the same time for 5 seconds to quit this function.

Under the Lock state, any other button press won't get any response.

2. Memory

Memory switchover: Under the "OFF" state of the unit, press Mode and at the same time for 5 seconds to switch memory states between memory on and memory off. When this function is activated, Memory will be displayed. If this function is not set, the unit will be under the "OFF" state after power failure and then power recovery.

Memory recovery: If this function has been set for the wired controller, the wired controller after power failure will resume its original running state upon power recovery. Memory contents: ON/OFF, Mode, set temperature, set fan speed and Lock function.

3. Selection of the Temperature Sensor

Under OFF state of the unit, press both "FUNCTION" and "TIMER" for five seconds to go the commissioning status. Under this status, adjust the display in the temperature display area to "00" through the button "MODE", and then adjust the option of the temperature sensor in the timer display area through the button \blacktriangle or \blacktriangledown .

- (1) Indoor ambient temperature is sensed at the return air inlet (01 in the timer display area).
- (2) Indoor ambient temperature is the sensed at the wired controller (02 in the timer display area).
- (3) Select the temperature sensor at the return air inlet under the cooling, dry and fan modes, while select the temperature sensor at the wired controller under the heating and auto modes. (03 in the timer display area).
- (4) Select the temperature sensor at the wired controller under the cooling, dry and fan modes, and select the temperature sensor at the return air inlet under the heating mode and auto modes (04 displayed in the timer display area).

After the setting, press "SWING/ENTER" to make a confirmation and quit this setting status.

Pressing the button "ON/OFF" also can quit this commissioning status but the set data won't be memorized.

Under the commissioning status, if there is no any operation in 20 seconds after the last button press, it will back to the previous state without memorizing the current data.

NOTE:

After connected with indoor unit, if the type of ambient temperature sensor has not been manually set, the wired controller will select the ambient temperature sensor according to the model of connected IDU; if it connects to cassette type IDU, duct type IDU, floor ceiling type IDU, ceiling type IDU, it will adopt (3), otherwise it will adopt (1). If the type of ambient temperature sensor is set manually, the wired controller will subject to the manual setting, and will not set according to automatic IDU model selection.

4. Selection of the Fan Speed

Under OFF state of the unit, press both the buttons "FUNCTION" and "TIMER" for five seconds to go to the commissioning status, and then adjust the display in the temperature display area to 01 through the button "MODE" and adjust the setting of the fan speed, which comes to two options.

01: Three low fan speeds; 02: Three high fan speeds

After the setting, press "SWING/ENTER" to make a confirmation and quit this setting status.

Pressing the button "ON/OFF" also can quit this commissioning status but the set data won't be memorized.

Under the commissioning status, if there is no any operation in 20 seconds after the last button press, it will back to the previous state without memorizing the current data.

5. Inquiry of Ambient Temperature

Under off or on status, press and hold "SWING/ENTER" button for 5 seconds to enter into ambient temperature inquiry interface, then timer area displays the ambient temperature type 01 or 02, and ambient temperature area

displays the corresponding ambient temperature of corresponding type. In which, 01 refers to outdoor ambient temperature, 02 refers to indoor ambient temperature. Press "MODE" button can switch between type 01 and 02. Press buttons other than "MODE" or when the unit receives remote control signal, it will quit the inquiry status. If there is no any operation for 5 seconds, it will quit automatically.

7.3 Brief Description of Models and Functions

Indoor Unit:

1. Basic function of system

1.1 Cooling mode

- (1) Under this mode, fan and swing operates at setting status. Temperature setting range is 16~30°C.
- (2) During malfunction of outdoor unit or the unit is stopped because of protection, indoor unit keeps original operation status.

1.2 Drying mode

- (1) Under this mode, fan operates at low speed and swing operates at setting status. Temperature setting range is 16~30°C.
- (2) During malfunction of outdoor unit or the unit is stopped because of protection, indoor unit keeps original operation status.
- (3) Protection status is same as that under cooling mode.
- (4) Sleep function is not available for drying mode.

1.3 Heating mode

- (1) Under this mode, Temperature setting range is 16~30°C.
- (2) Working condition and process for heating mode:

When turn on the unit under heating mode, indoor unit enters into cold air prevention status. When the unit is stopped or at OFF status, and indoor unit has been started up just now, the unit enters into residual heat-blowing status.

- (3) Working method for AUTO mode:
 - 1. Working condition and process for AUTO mode:
 - a. Under AUTO mode, standard heating T_{preset} =20°C and standard cooling T_{preset} =25°C. The unit will switch mode automatically according to ambient temperature.

2. Protection function

- a. During cooling operation, protection function is same as that under cooling mode.
- b. During heating operation, protection function is same as that under heating mode.
- 3. Display: Set temperature is the set value under each condition. Ambient temperature is $(T_{amb.}-T_{compensation})$ for heat pump unit and Tamb. for cooling only unit.
- 4. If there's I feel function, Tcompensation is 0. Others are same as above.

1.4 Fan mode

Under this mode, indoor fan operates at set fan speed. Compressor, outdoor fan, 4-way valve and electric heating tube stop operation. Indoor fan can select to operate at high, medium, low or auto fan speed. Temperature setting range is 16~30°C.

2. Other control

2.1 Buzzer

Upon energization or availably operating the unit or remote controller, the buzzer will give out a beep.

2.2 Auto button

If press this auto button when turning off the unit, the complete unit will operate at auto mode. Indoor fan operates at auto fan speed and swing function is turned on. Press this auto button at ON status to turn off the unit.

2.3 Auto fan

Heating mode: During auto heating mode or normal heating ode, auto fan speed will adjust the fan speed automatically according to ambient temperature and set temperature.

2.4 Sleep

After setting sleep function for a period of time, system will adjust set temperature automatically.

2.5 Timer function:

General timer and clock timer functions are compatible by equipping remote controller with different functions.

2.6 Memory function

Memorize compensation temperature, off-peak energization value.

Memory content: mode, up&down swing, light, set temperature, set fan speed, general timer (clock timer can't be memorized).

After power recovery, the unit will be turned on automatically according to memory content.

2.7 Health function(only for the model with this function)

During operation of indoor fan, set health function by remote controller. Turn off the unit will also turn off health function.

Turn on the unit by pressing auto button, and the health is defaulted ON.

2.8 Off-peak energization function:

Adjust compressors minimum stop time. The original minimum stop time is 180s and then we change to:

The time interval between two start-ups of compressor can't be less than 180+T s($0 \le T \le 15$). T is the variable of controller. Thats to say the minimum stop time of compressor is $180s\sim195s$. Read-in T into memory chip when refurbish the memory chip each time. After power recovery, compressor can only be started up after 180+T s at least.

2.9 SE control mode

The unit operates at SE status.

2.10 X-fan mode

When X-fan function is turned on, after turn off the unit, indoor fan will still operate at low speed for 2min and then the complete unit will be turned off. When x-fan function is turned off, after turn off the unit, the complete unit will be turned off directly.

2.11 8°C heating function

Under heating mode, you can set 8°C heating function by remote controller. The system will operate at 8°C set temperature.

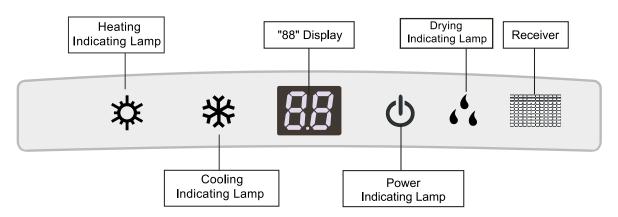
2.12 Turbo fan control function

Set turbo function under cooling or heating mode to enter into turbo fan speed. Press fan speed button to cancel turbo wind.

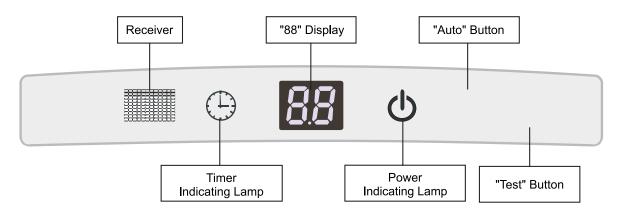
No turbo function under auto, dry or fan mode.

3. Instructions to the Error Indicating Lamps on the Panel of the Cassette Type Unit.

12K, 18K



24K



Heating Indicating Lamp:

When this indicator is on, it indicates the heating mode is turned on.

Cooling Indicating Lamp:

When this indicator is on, it indicates the cooling mode is turned on.

Drying Indicating Lamp

When this indicator is on, it indicates the dry mode is turned on.

Power and ON/OFF Indicating Lamp:

It goes red when the unit is powered on while it goes white when the unit is

started.

Timer Indicating Lamp:

Timer indicator on indoor unit will be on when timer ON is set under off status and timer OFF is set under on status.

• "88" Display:

When there is no error, the dual-8 nixie tube display the set temperature. After receiving the command of displaying indoor ambient temperature from the remote controller, the dual-8 nixie tube displays indoor temperature for 3s and then resume to display the set temperature. If there is error, error code will be displayed. If there's multiple error, error codes will be displayed in turn.

"Auto" button

It's used for turning on or turning off the unit. When use this button to turn in the unit, the unit is under auto mode.

"Test" button

It's only used for the test units. This button is only valid within 3mins after the unit is energized.

NOTE:

- 1. If the light of indoor unit is turned off, when operating the remote controller to send command, the display will be on for 3s and then off.
- 2. When the wired controller is connected, the indoor unit display is invalid and the unit won't receive the remote control command.

Outdoor Unit

1 Basic functions of the system

1.1 Cooling Mode

1.1.1 Cooling conditions and process:

If the compressor is in stop status and start the unit for cooling operation, when one of the indoor units reaches the cooling operation condition, the unit start cooling operation; in this case, the electronic expansion valve, the outdoor fan and the compressor start operation.

1.1.2 Stop in cooling operation

1.1.2.1 Compressor stops

The compressor stops immediately, the outdoor fan stops after 1min.

1.1.2.2 Some of the indoor units reach the stop condition (the compressor does not stop)

The compressor operates immediately according to the required frequency. For the indoor unit with no requirement, the corresponding electronic expansion valve is closed to OP.

1.1.3 Cooling mode transfers to heating mode

When the unit transfers to heating mode, the 4-way valve is energized after the compressor stops for 2min. The other disposals are the same as stopping in cooling mode.

1.1.4 4-way valve: in this mode, the 4-way valve is closed.

1.1.5 Outdoor fan control in cooling mode

The outdoor fan starts before 5s of the starting of compressor. The outdoor fan will run in high speed for 3min after starting and then it will run in set speed. The fan shall run at every speed for at least 80s. (When the quantity of running indoor unit is changed, the unit will enter the control described in 1.3.5.1 and 1.3.5.2);

When the compressor stops, the outdoor fan runs at present speed and stops after 1min.

1.2 Dry Mode

1.2.1 The dry conditions and process are the same as those in cooling mode;

- 1.2.2 The status of 4-way valve: closed;
- 1.2.3 The temperature setting range: $16 \sim 30^{\circ}$ C;
- 1.2.4 Protection function: the same as those in cooling mode;
- 1.2.5 In dry mode, the maximum value A of the capacity requirement percentage of single unit is 90% of that in cooling mode.

The open condition of the electronic expansion valve, outdoor fan and compressor is the same as those in cooling mode.

1.3 Heating Mode

1.3.1 Heating conditions and process:

When one of the indoor units reaches the heating operation condition, the unit starts heating operation.

- 1.3.2 Stop in heating operation:
 - 1.3.2.1 When all the indoor units reach the stop condition, the compressor stops and the outdoor fan stops after 1min;
 - 1.3.2.2 Some of the indoor units reach the stop condition

The compressor reduces the frequency immediately and operates according to the required frequency;

- 1.3.2.3 Heating mode transfers to cooling mode(dry mode), fan mode
 - a. The compressor stops;
 - b. the power of 4-way valve is cut off after 2min;
 - c. the outdoor fan stops after 1min;
 - d. the status of 4-way valve: energized;
- 1.3.3 Outdoor fan control in heating mode

The outdoor fan starts before 5s of the starting of compressor and then it will run in high speed for 40s;

The fan shall run at every speed for at least 80s;

When the compressor stops, the outdoor fan stops after 1min.

1.3.4 Defrosting function

When the defrosting condition is met, the compressor stops; the electronic expansion valve of all indoor units open in big angle; the outdoor fan stops after 40s of the stop of compressor, meanwhile, the 4-way valve reverses the direction; after the 4-way valve reverses the direction, the compressor starts; then begin to calculate the time of defrosting, the frequency of the compressor rises to reach the defrosting frequency.

1.3.5 Oil-returned control in heating mode

1.3.5.1 Oil-returned condition

The whole unit is operating in low frequency for a long time.

1.3.5.2 Oil-returned process in heating mode

The indoor unit displays "H1".

1.3.5.3 Oil-returned finished condition in heating mode

The duration reaches 5min.

1.4 Fan Mode

The compressor, the outdoor fan and the 4-way valve are closed; temperature setting range is $16 \sim 30^{\circ}$ C.

2 Protection Function

2.1 Mode Conflict Protection of indoor unit

When the setting mode is different of different indoor unit, the unit runs in below status:

- a. The mode of the first operating indoor unit is the basic mode, then compare the mode of the other indoor units to see if there is a conflict. Cooling mode (dry mode) is in conflict with heating mode.
- b. Fan mode is in conflict with heating mode and the heating mode is the basic mode. No matter which indoor unit operates first, the unit will run in heating mode.

2.2 Overload protection function

When the tube temperature is a little low, the compressor raises the operation frequency; when the tube temperature is a little high, the compressor frequency is restricted or lows down the operation frequency; when the tube temperature is too high, the compressor protection stops running.

If the discharge temperature protection continuously appears for 6 times, the compressor can't resume running. The compressor can resume running after cutting off the power and then putting through the power. (if the running time of the compressor is longer than 7min, the protection times record will be cleared)

2.3 Discharge Protection Function

When the discharge temperature is a little low, the compressor raises the operation frequency; when the discharge temperature is a little high, the compressor frequency is restricted or lows down the operation frequency; when the discharge temperature is too high, the compressor protection stops running.

If the discharge temperature protection continuously appears for 6 times, the compressor can't resume running. The compressor can resume running after cutting off the power and then putting through the power. (if the running time of the compressor is longer than 7min, the protection times record will be cleared.)

2.4 Communication malfunction

Detection of the quantity of installed indoor units:

After 3min of energizing, if the outdoor unit does not receive the communication data of certain indoor unit, the outdoor unit will judge that indoor unit is not installed and will treat it as it is not installed. If the outdoor unit receives the communication data of that indoor unit later, the outdoor unit will treat that unit as it is installed.

2.5 Overcurrent Protection

- a. Overcurrent protection of complete unit;
- b. phase wire current protection;
- c. compressor phase current protection

2.6 Compressor high-pressure protection

- 2.6.1 When the high-pressure switch is detected cut off for 3s continuously, the compressor will enter high-pressure protection as it stops when reaching set temperature. Meanwhile, the outdoor unit will send the signal of "high-pressure protection" to the indoor units;
- 2.6.2 After the appearance of high-pressure protection, when the high-pressure switch is detected closed for 6s continuously, the compressor can resume running only after cutting off the power and then putting through the power.

2.7 Compressor overload protection

If the compressor overload switch is detected having movement, the indoor unit will display the corresponding malfunction as it stops when the indoor temperature reaching set temperature. When the compressor stops for more than 3min and the compressor overload switch is reset, the unit will resume operation status automatically. If the protection appears for more than 6 times (if the running time of the compressor is longer than 30min, the protection times record will be cleared), the unit can not resume operation status automatically, but can resume running only after cutting off the power and then putting through the power.

2.8 Compressor Phase-lacking Protection

When the compressor starts, if one of the three phases is detected open, the compressor will enter phase-lacking protection. The malfunction will be cleared after 1min, the unit will restart and then detect if there is still has phase-lacking protection. If the phase-lacking protection is detected for 6 times continuously, the compressor will not restart but can resume running

only after cutting off the power and then putting through the power. If the running time of the compressor is longer than 7min, the protection times record will be cleared.

2.9 IPM Protection

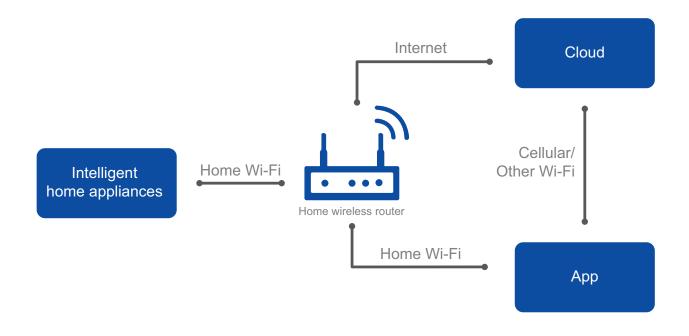
2.9.1 When the IPM module protection is detected, the unit will stop as the indoor temperature reaching set temperature, PFC is closed, display IPM protection malfunction. After the compressor stops for 3min, the unit will resume operation status automatically; if the IPM protection is detected for more than 6 times continuously (If the running time of the compressor is longer than 7min, the protection times record will be cleared), the system will stop and send the signal of module protection to indoor unit. The unit can not resume operation status automatically, but can resume running only after cutting off the power and then putting through the power.

2.9.2 IPM module overheating protection

- 2.9.2.1 When $T_{IPM} > 85$ °C, prohibit to raise frequency;
- 2.9.2.2 When $T_{IPM}>=90^{\circ}C$, the operation frequency of compressor lows down by 15% every 90s according to the present capacity requirement of the complete unit. It will keep 90s after lowing down the frequency. After lowing down the frequency, if $T_{IPM}>=90^{\circ}C$, the unit will circulate the above movement until reaching the minimum frequency; if $85^{\circ}C < T_{IPM} < 90^{\circ}C$, the unit will run at this frequency; when $T_{IPM}=85^{\circ}C$, the unit will run at the frequency according to the capacity requirement;
- 2.9.2.3 When T_{IPM} >=95°C, the compressor stops. After the compressor stops for 3min, if T_{IPM} <85°C, the compressor and the outdoor fan will resume operation.

7.4 Ewpe Smart App Operation Manual

Control Flow Chart



Operating Systems

Requirement for User's smart phone:



iOS system
Support iOS 7.0
and above version



Android system Support Android 4.4 and above version

Download and installation

Scan the QR code or search "Ewpe Smart" in the application market to download and install it. When "Ewpe Smart" App is installed, register the account and add the device to achieve long-distance control and LAN control of smart home appliances.

For more information, please refer to "Help" in App.

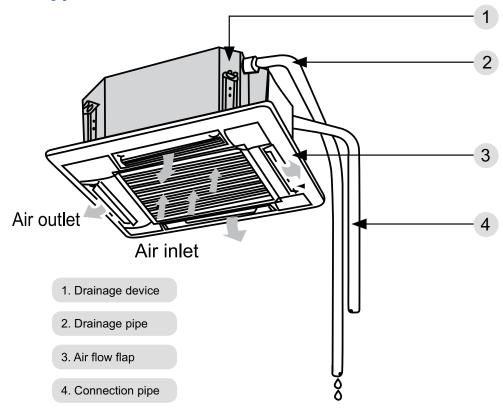


App Download Linkage

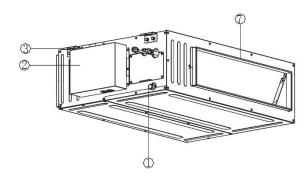
8. Installation

8.1 Installation Diagram/Names of Key Components

Cassette Type



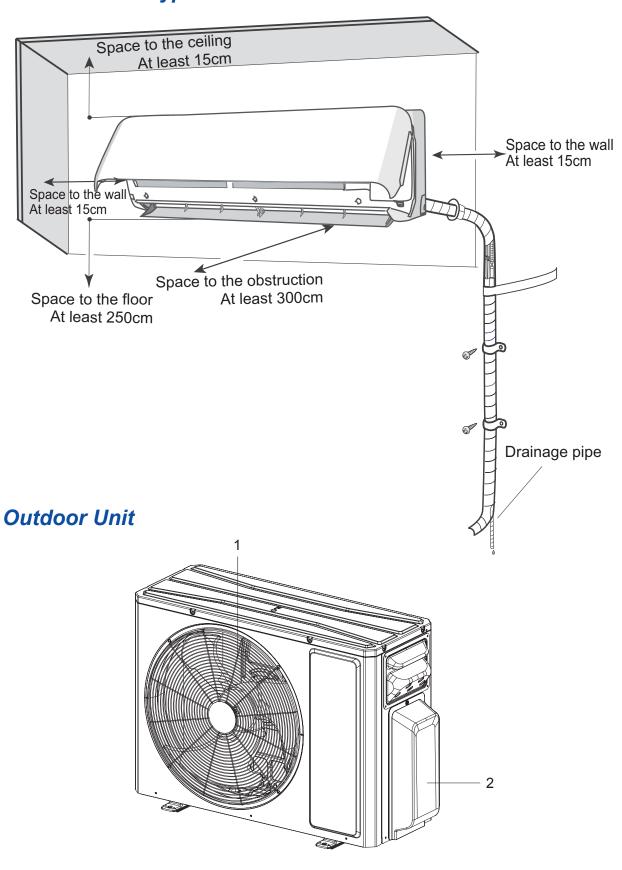
Ducted Type



- Drain Pipe
 Liquid pipe
- 2. Control box
- 6. Air-return Opening
- 3. Pothook
- 7. Air Outlet
- 8. Filter

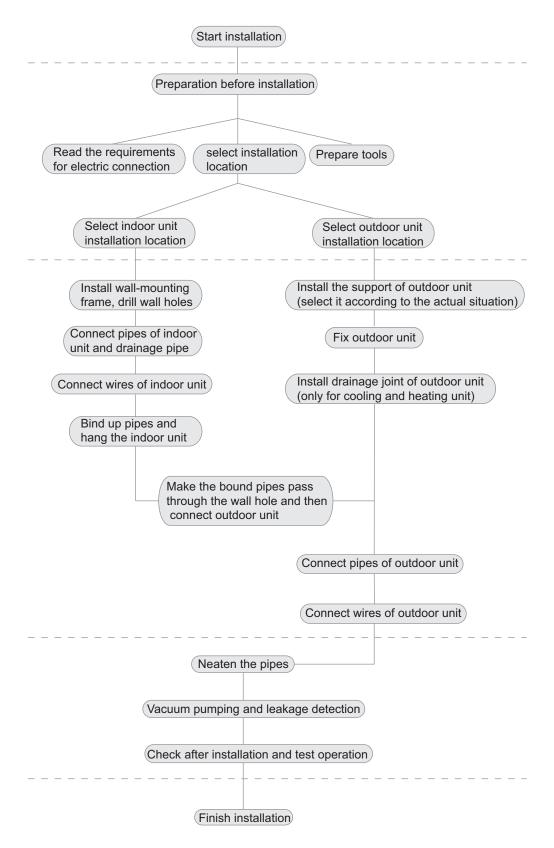
4. Gas pipe

Wall Mounted Type



1. Air outlet grille 2. Valve

Installation Procedures



Note: this flow is only for reference; please find the more detailed installation steps in this section.

Main tools for installation and maintenance



Level meter



147

Measuring tape



Screw driver



Impact drill



Drill head



Electric drill



Electroprobe



Universal meter



Torque wrench



Open-end wrench



Inner hexagon spanner



Electronic leakage detector



Vacuum pump



Pressure meter



Pipe pliers



Pipe pliers



Pipe cutter



Pipe expander



Pipe bender



Soldering appliance



Refrigerant container



Electronic scale

8.2 Installation Parts-checking

No.	Name	No.	Name
1	Indoor unit	8	Sealing gum
2	Outdoor unit	9	Wrapping tape
3	Connection pipe	10	Support of outdoor unit
4	Drainage pipe	11	Fixing screw
5	Wall-mounting frame	12	Drainage plug (Heat pump model)
6	Connecting cable (Power Cord)	13	Owners manual
7	Wall pipe	14	Remote controller

⚠ NOTE:

- 1. Please contact the local agent for installation.
- 2. Don't use unqualified power cord.

8.3 Installation of Indoor Unit

Cassette Type

1. Preparative for Installation

1.1 Selection of the Installation Location

△ WARNING!

The unit must be installed where strong enough to withstand the weight of the unit and fixed securely, otherwise the unit would topple or fall off.

- 1. Do not install where there is the danger of combustible gas leakage.
- 2. Do not install the unit near heat source of heat, steam, or flammable gas.
- 3. Children under 10 years old must be supervised not to operate the unit.

Decide the installation location with the customer as follows:

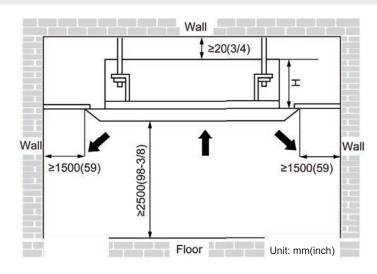
(1) Indoor Unit

Select an installation site where the following conditions are fulfilled and that meets your customer's approval.

- (1) Obstruct should be put away from the intake or outlet vent of the indoor unit so that the airflow can be blown through all the room.
- (2) Make sure that the installation meets the requirement of the schematic diagram of installation spaces.
- (3) Select the place where can stand 4 times of the weight of the indoor unit and would not increase the operating noise and vibration.
- (4) The horizontality of the installation place should be guaranteed.
- (5) Select the place where is easy to drain out the condensate water, and connect with outdoor unit.
- (6) Make sure that there are enough space for care and maintenance, and the height fall between the indoor unit and ground is above 2500mm.
- (7) When installing the suspension bolt, check if the installation place can stand 4 times of the weight of the unit. If not, reinforce it before installation.

NOTE:

There will be large amount of greasy dirt accumulated on the fan, heat exchanger and water pump located in the dinning room and kitchen, which would reduce the capacity of the heater exchanger, lead to leakage and abnormal operation of the water pump.



Model	H (mm)	
GC4VHT12SLD	205	
GC4VHT18SLD	295	
GC4VHT24SLD	270	

1.2 Connection Pipe Requirement

△ WARNING!

The maximum length of the connection pipe is listed in the table below. Do not place the units between which the distance exceeds the maximum length of the connection pipe.

Madal	Size of Fitting Pipe (inch)		Drainage pipe	
Model	Liquid	Gas	(Outer Diameter × wa thickness) (mm)	
GC4VHT12SLD		3/8		
GC4VHT18SLD	1/4	1/2	Ф25×1.5	
GC4VHT24SLD	_	5/8		

The connection pipe should be insulated with proper water-proof insulating material.

The pipe wall thickness shall be 0.5-1.0mm and the pipe wall shall be able to withstand the pressure of 6.0 MPa. The longer the connecting pipe, the lower the cooling and heating effect performs.

1.3 Electrical Requirement

Electric Wire Size

Indoor Units	Power Supply (V/Ph/Hz)	Min. Power Supply Cord (mm²)
GC4VHT12SLD		
GC4VHT18SLD	208/230V~ 60Hz	4×AWG18
GC4VHT24SLD	-	

NOTE:

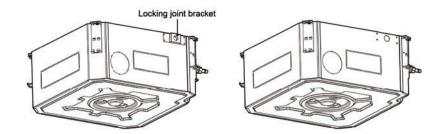
- 1. The fuse is located on the main board.
- 2. Install the disconnect device with a contact gap of at least 3mm in all poles nearby the units (Both indoor unit and outdoor unit). The appliance must be positioned so that the plug is accessible.
- 3. The specifications of the power cable listed in the table above are determined based on the maximum power (maximum amps) of the unit.
- 4. The specifications of the power cable listed in the table above are applied to the conduitguarded multi-wire copper cable (like, YJV copper cable, consisting of PE insulated wires and a PVC cable jacket) used at 40°C and resistible to 90°C (see IEC 60364-5-52). If the working condition changes, they should be modified according to the related national standard.

1.4 Locking Joint Installation

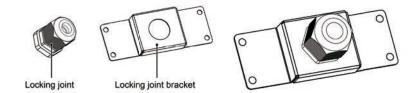
GC4VHT12SLD, GC4VHT18SLD:

When the power cord and communication cable of the unit are connected, the power cable and communication cable need to be fixed through the side panel locking connector. The fixing process is as follows.

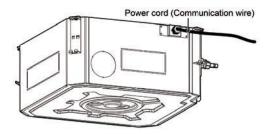
1. Remove the locking joint bracket from the side panel.



2. Attach the locking joint to the locking joint bracket.



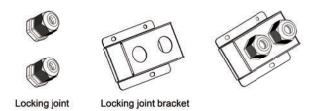
- 3. Power cable (communication line) passes through the locking joint and the side plate engineering line over the wire crossing hole.
- 4. Finally, reattach the locking joint bracket to the side panel.



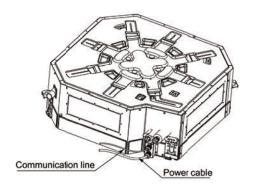
GC4VHT24SLD:

When the power cable and communication line of the unit are connected, the power cable and communication line need to be fixed through the side panel locking connector. The fixing process is as follows.

1. Attach the locking joint to the locking joint bracket.

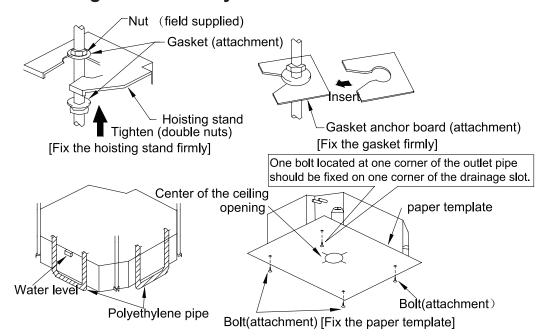


- 2. Power cable (communication line) passes through the locking joint and the side plate engineering line over the wire crossing hole.
- 3. Finally, reattach the locking joint bracket to the side panel.



2. Installation of the Unit

2.1 Installing the Main Body Unit



- 1. Install the hoisting stand on the hoisting screw by using nuts and gaskets at both the upper and lower sides of the hoisting stand. To prevent the gasket from breaking off, a gasket anchor board can be helpful.
- 2. Install the paper template on the unit, and fix the drain pipe at the outlet vent.
- 3. Adjust the unit to the best position.
- Check if the unit is installed horizontally at four directions. If not, the water pump and the float switch would function improperly and even lead to water leakage.
- 5. Remove the gasket anchor board and tighten the nut remained.
- 6. Remove the paper template.

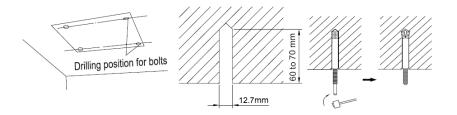
NOTE:

1. Drilling of ceiling opening and installation of air conditioner must be performed by professionals!

2. Please refer to the installation cardboard for the dimension of drilling hole of lifting screw of cassette unit.

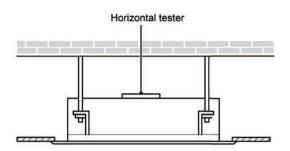
2.2 Installing the Suspension Bolts

- 1. Using the installation template, drill holes for bolts (four holes).
- 2. Install the bolts to the ceiling at a place strong enough to hang the unit. Mark the bolt positions from the installation template. With a concrete drill, drill for 12.7 mm (1/2") diameter holes.
- 3. Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer.



2.3 Leveling

The water level test must be done after installing the indoor unit to make the unit is horizontal, as shown below.



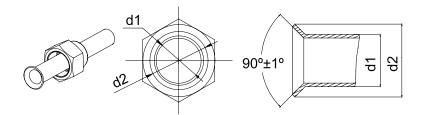
3. Installation of the Connection Pipe

3.1 Flare Processing

- 1. Cut the connection pipe with the pipe cutter and remove the burrs.
- 2. Hold the pipe downward to prevent cuttings from entering the pipe.
- 3. Remove the flare nuts at the stop vave of the outdoor unit and inside the

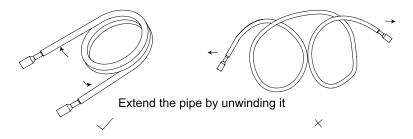
accessory bag of the indoor uint, then insert them to the connection pipe, after that, flare the connection pipe with a flaring tool.

4. Check with the flare part is spread evenly and there are no cracks.

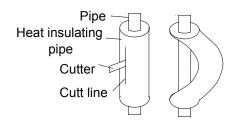


3.2 Bending Pipes

1. The pipes are shaped by your hands. Be careful not to collapse them.



- 2. Do not bend the pipes in an angle more than 90°.
- 3. When pipes are repeatedly bent or stretched, the material will more. Do not bend or stretch the pipes more than three times.
- 4. When bending the pipe, do not bend it as is. The pipe will be collapsed. In this case, cut the heat insulating pipe with a sharp cutter as shown in below figure, and bend it after exposing the pipe. After bending the pipe as you want, be sure to put the heat insulating pipe back on the pipe, and secure it with tape.



△ CAUTION!

- 1. To prevent breaking of the pipe, avoid sharp bends. Bend the pipe with a radius of curvature of 150mm or over.
- 2. If the pipe is bent repeatedly at the same place, it will break.

3.3 Connecting the Pipe at the Indoor Unit Side

Detach the caps and plugs from the pipes.

△ CAUTION!

- 1. Be sure to apply the pipe against the port on the indoor unit correctly. If the centering is improper, the flare nut cannot be tightened smoothly. If the flare nut is forced to turn, the threads will be damaged.
- 2. Do not remove the flare nut until the connection pipe is to be connected so as to prevent dust and impurities from coming into the pipe system.

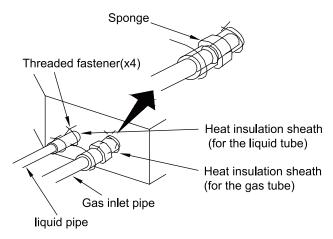
When connecting the pipe to the unit or removing it from the unit, please do use both the spanner and the torque wrench.

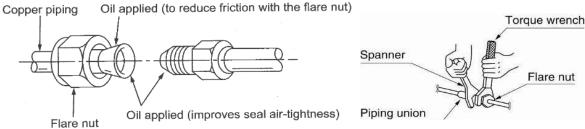
When connecting, smear both inside and outside of the flare nut with refrigerantion oil, screw it hand tight and then tighten it with the spanner.

Refer to Table to check if the wrench has been tightened properly (too tight would mangle the nut and lead to leakage).

Examine the connection pipe to see if it leaks, then take the treatment of heat insulation, as shown in below figure.

Use the medium-sized sponge to insulate the coupler of the gas pipe.





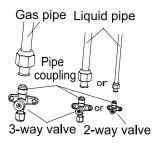
Piping size (inch)	Tightening torque (N·m)
1/4	15~20
3/8	30~40
1/2	45~55
5/8	60~65
3/4	70~75

△ CAUTION!

Be sure to connect the gas pipe after connecting the liquid pipe completely.

3.4 Connecting the Pipe at the Outdoor Side Unit

Tighten the flare nut of the connection pipe at the outdoor until valve connector. The tightening method is the same as that as at the indoor side.

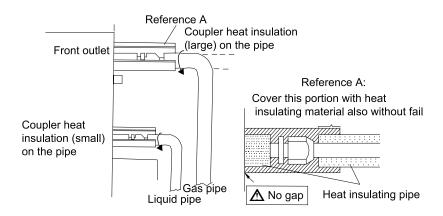


3.5 Checking the Pipe Connections for Gas Leaking

For both indoor and outdoor unit side, check the joints for gas leaking by the use of a gas leakage detector without fail when the pipes are connected.

3.6 Heat Insulation on the Pipe Joints (Indoor Side Only)

Stick coupler heat insulation (large and small) to the place where connecting pipes.

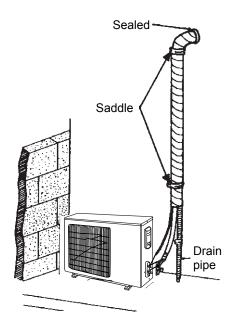


3.7 Liquid Pipe and Drain Pipe

If the outdoor unit is installed lower than the indoor unit

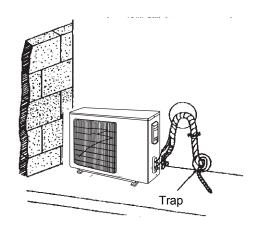
1. A drain pipe should be above ground and the end of the pipe does not dip into water. All pipes must be restrained to the wall by saddles.

- 2. Taping pipes must be done from bottom to top.
- 3. All pipes are bound together by tape and restrained to wall by saddles.



If the outdoor unit is installed higher than the indoor unit.

- 1. Taping should be done from lower to the upper part.
- 2. All pipes are bound and taped together and also should be trapped to prevent water from returning to the room.
- 3. Restraint all pipes to the wall with saddles.



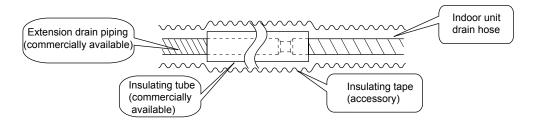
4. Installation of the Drain Hose

1. It is not allowed to connect the condensate drain pipe into waste pipe or other pipelines which are likely to produce corrosive or peculiar smell to prevent the smell from entering indoors or corrupt the unit.

- 2. It is not allowed to connect the condensate drain pipe into rain pipe to prevent rain water from pouring in and cause property loss or personal injury.
- Condensate drain pipe should be connected into special drain system for air conditioner.

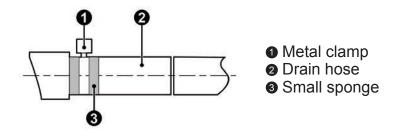
4.1 Installation of Drain Pipe

- 1. Keep piping as short as possible and slope it downwards at a gradient of at least 1/100 so that air may not remain trapped inside the pipe.
- 2. Keep pipe size equal to or greater than that of the connecting pipe.
- Install the drain piping as shown and take measures against condensation.
 Improperly rigged piping could lead to leaks and eventually wet furniture and belongings.

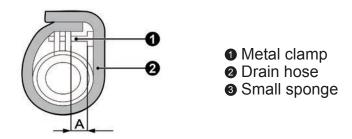


4.2 Installing the Drain Pipe

- 1. Insert the drain pipe to the drain outlet of the unit and then tighten the clamp securely with tape.
- 2. Connect the extension drain pipe to the drain pipe and then tighten the clamp with tape.



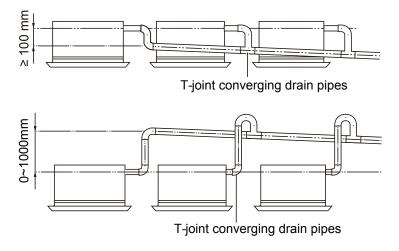
Insulate the pipe clamp and the drain hose using heat insulation sponge.



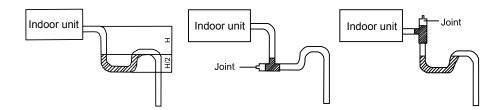
During the installation, distance from soft drain pipe to the gasket is 15±3mm when the bolt is tightened. It is not allowed to apply PVC or other related glue in the joints of two ends of drain pipe.

Indoor Unit	Α	
GC4VHT12SLD	– ≤12 mm	
GC4VHT18SLD		
GC4VHT24SLD	≤15 mm	

3. When unifying multiple drain pipes, install the pipes as below figure. Select converging drain pipes whose gauge is suitable for the operating capacity of the unit.(take the cassette type unit for example)



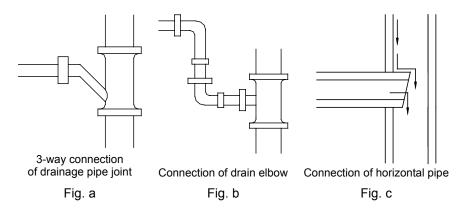
- 4. When the drain hose cannot keep a sufficient gradient, it is necessary to fit a riser pipe (field supplied) to it.
- 5. If the air flow if indoor uint is high, the might cause negative pressure and result in return suction of outdoor air. Therefore, U-type water trap shall be designed on the drainage side of each indoor unit.
- 6. Install one water trap for each unit.
- 7. Installation of water trap shall consider easy cleaning in the future.



8. Connection of drainage branch pipe to the standpipe or horizontal pipe of drainage main pipe.

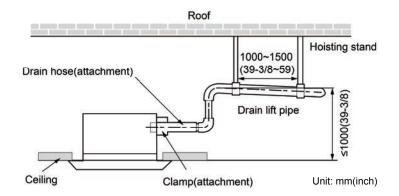
The horizontal pipe cannot be connected to the vertical pipe at a same height. It can be connected in a manner as shown below:

- No.1: Attach the 3-way connection of the drainage pipe joint as shown in Fig. a.
- No.2: Attach the drain elbow as shown in Fig. b.
- No.3: Attach the horizontal pipe as shown in Fig. c.

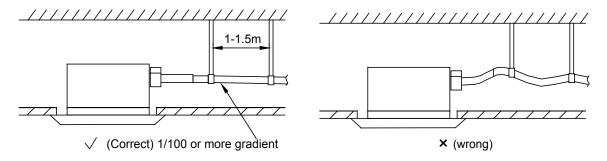


4.3 Precautions When Doing Riser Piping Work

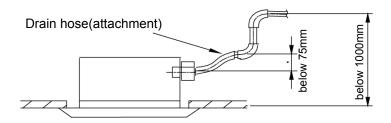
- 1. Make sure that heat insulation work is executed on the following 2 spots to prevent any possible water leakage due to dew condensation.
 - (1) Connect the drain hose to the drain lift pipe, and insulate them.
 - (2) Connect the drain hose to the drain outlet on the indoor unit, and tighten it with the clamp.



2. Secure a downward gradient of 1/100 or more for the drain pipe. To accomplish this, mount supporting brackets at an interval of 1-1.5 m.



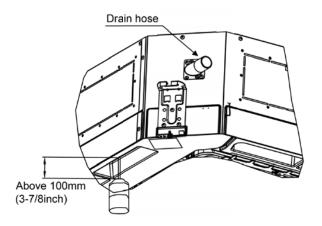
3. The incline of attached drain hose should be 75mm or less so that the drain outlet does not have to withstand additional force.



4.4 Check Drainage

After the pipeline work is finished, check whether the drainage can go smoothly.

- 1. Add slowly about 1L of water into the water tray. After the electric circuit is completed, check the drainage condition during refrigerating operation.
- 2. See the following diagram for the method of water filling.



5. Electrical Wiring

5.1 Wiring Precautions

△ WARNING!

- 1. Before obtaining access to terminals, all supply circuits must be disconnected.
- 2. The rated voltage of the unit is as shown as table in chapter "Electrical Requirement".
- 3. Before turning on, verify that the voltage is within the 198~264V range (for single phrase unit) or 342~457V range (for three-phrase unit).
- 4. Always use a special branch circuit and install a special receptacle to supply power to the air conditioner.
- 5. The special branch circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3mm between the contacts of each pole.
- 6. Perform wiring work in accordance with standards so that the air conditioner can be operated safely and positively.
- 7. Install a leakage special branch circuit breaker in accordance with the related laws and regulations and electric company standards.

△ CAUTION!

- 1. The power source capacity must be the sum of the air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.
- 2. When the valtage is low and the air conditioner is difficult to start, contact the power company to raise the voltage.

5.2 Electrical Wiring

1. For solid core wiring

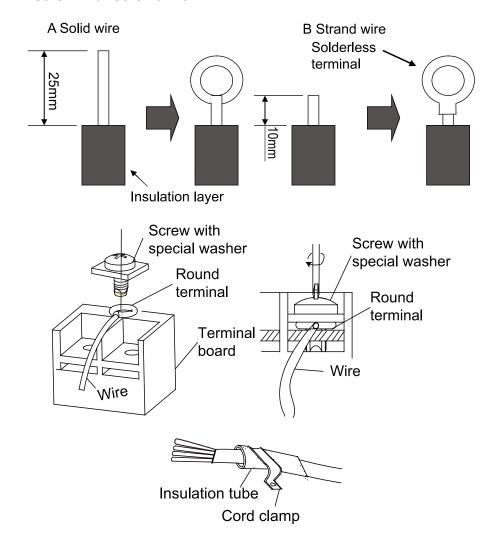
- (1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation about 25mm (15/16").
- (2) Using a screwdriver, remove the terminal screw(s) on the terminal board.

(3) Using pliers, bend the solid wire to form a loop suitable for the terminal screw.

(4) Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screwdriver.

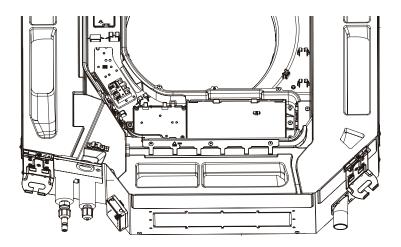
2. For strand wiring

- (1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation about 10mm (3/8").
- (2) Using a screwdriver, remove the terminal screw(s) on the terminal board.
- (3) Using a round terminal fastener or pliers, securely clamp a round terminal to each strippe wire end.
- (4) Position the round terminal wire, and replace and tighten the terminal screw with screwdriver.

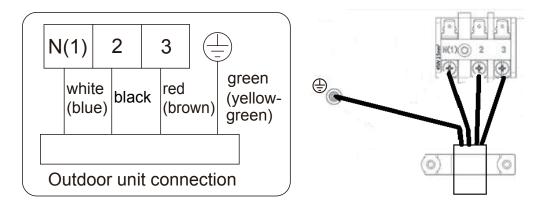


3. Electric wiring of indoor unit side

Take off the electric box cover from the sub-assembly of electric box. Then connect the wires. Connect the connection wires of indoor unit according to the corresponding marks.



Single-phase units (18K~24K)



△ CAUTION!

- 1. Tighten the power cord respectively on the terminal boards with screws. Faulty connection may cause a fire.
- 2. If the power supply are wired incorrectly, the air conditioner may be damaged.
- 3. Connect the indoor unit connection cord properly based on the corresponding marks as shown figure above.
- 4. Ground both the indoor and outdoor units by attaching a ground wire.
- 5. Unit shall be grounded in compliance with the applicable local and national codes.

4. How to fix connection cord and power cord by cord clamp.

After passing the connection cord fasten it with the cord clamp.

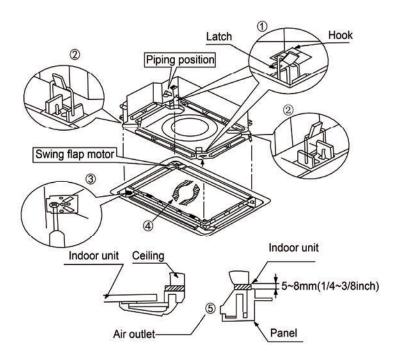
△ WARNING!

- 1. Before starting work, check that power is not being supplied to the indoor unit and outdoor unit.
- 2. Match the terminal block numbers and connection cord colors with those of the indoor unit side.
- 3. Erroneous wiring may cause burning of the electric parts.
- 4. Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
- 5. Always fasten the outside covering of the connection cord with cord clamps. (If the insulator is not clamped, electric leakage may occur.)
- 6. Always connect the ground wire.

6. Installing the Front Panel

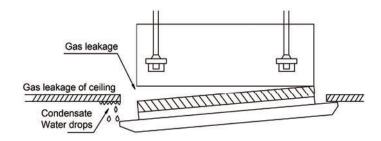
As shown below, take off the 4 corner covers from the front panel and loose the hexagon screw bolts on the 4 fasteners to the maximum. The position marked with "PIPING SIDE" on the front panel will direct right at the pipe mouth of the indoor unit.

- 1. Temporarily hang the 4 fasteners on the corresponding hooks of the main body of the indoor unit (Do not let the conducting wires get involved into the sealing material).
- 2. Screw in the hexagon screws beneath the 4 fasteners by about 15mm (Front panel will rise).
- 3. As shown below, turn the front panel according to the arrow direction so that the front panel can be well connected with the ceiling.
- 4. Screw up the screws until the thickness of the sealing material between the front panel and the ceiling is 5-8mm.

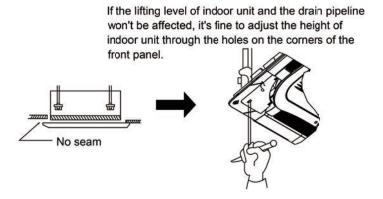


△ NOTES:

1. Improper screw looseness will lead to the following problem.

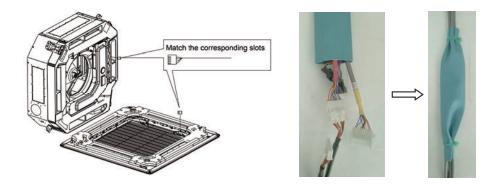


2. After the screws are tightened, if there is still a gap between the ceiling and the decorative front panel, adjust the height of the unit again (as shown below).



3. After installing the front panel, make sure there's no gap between the unit and the front panel.

- 4. Circuit of the decorative front panel.
- 5. Connect the front panel to the main body through the corresponding slots. Match the slots according to their different size.



△ WARNING!

After installing the panel, the insulated protective cover with the thickness of 1mm shall be used to wrap the wiring terminal, Tighten the insulated glue cover on both sides with bonding tie to fix it.

Ducted Type

1. Preparations for Installation

NOTICE!

Product graphics are only for reference. Please refer to actual products. Unspecified measure unit is mm(in.)

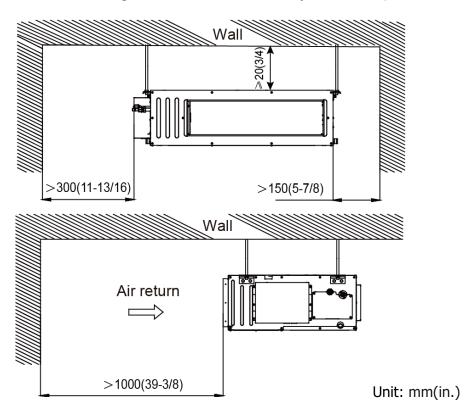
Please use the supplied standard fittings listed below as instructed.

No.	Name	Appearance	Quantity	Usage
1	Wired Controller		1	To control the indoor uni t
2	Drain Hose Assembly		1	To connect with the hard PVC drain pipe
3	Special Nut		1	To be used for connecting the refrigerant pipe
4	M10X8 Nut with Washer		4	To be used together with the hanger bolt for installing the unit
5	M10 Nut (M10X8.4 Nut)	9	4	To be used t ogether with the hanger bolt for installing the unit
6	M10 Washer (Spring Washer M10X2.6)		4	To be used together with the hanger bolt for installing the unit
7	Insulation		1	To insulate the gas pipe
8	Insulation		1	To insulate the liquid pipe
9	Sponge	$\langle \rangle$	2	To insulate the drain pipe
10	Fastener	6	8	To fasten the sponge

2. Location for Installation

- (1) The appliance shall not be installed in the laundry.
- (2) The top holder must be strong enough to support unit's weight.

- (3) Drain pipe can drain water out easily.
- (4) There is no obstacle at inlet or outlet. Please ensure good air circulation.
- (5) In order to make sure the space for maintenance, please install the indoor unit according to the dimension described below.
- (6) Keep the unit away from heating source, inflammable gas or smoke.
- (7) This is a concealed ceiling type unit.
- (8) Indoor unit, outdoor unit, power cord and electric wire should stay at least 1m (39-3/8in.) from the TV set and radio. Otherwise, these electrical appliances may have image interference and noise. (Even if the distance is 1m (39-3/8in.), when there is strong electric wave, noise may still occur.)



NOTICE:

- Installation of the unit must be in accordance with National Electric Codes and local regulations.
- 2. Improper installation will affect unit's performance, so do not install the unit by yourself. Please contact local dealer to arrange professional technicians for the installation.
- 3. Do not connect power until all installation work is finished.

3. Wiring Requirements

Power Cord Size and Air Switch Capacity

Indoor Units	Power Supply	Fuse Capacity (A)	Min. Power Supply Cord (mm²)
GFCHT18SLD	209/220\/ 15h 60H=	E	4×AWG18
GFCHT24SLD	- 208/230V-1ph-60Hz	5	4*AVVG10

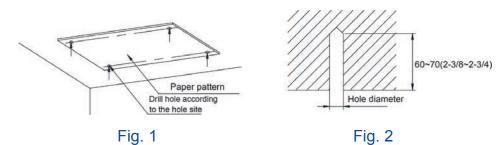
NOTICE:

- 1. Use copper wire only as unit's power cord. Operating temperature should be within it value.
- 2. If the power cord is more than 15m (49-1/4 ft.) long, please increase properly the sectional area of power cord to avoid overload, which may cause accident.
- 3. Above selection requirements: Power cord size is based on BV single-core wire (2~4pc) at 40°C(104°F) Cambient temperature when laying across plastic pipe. Air switch is D type and used at 40°C(104°F). If actual installation condition varies, please lower the capacity appropriately according to the specifications of power cord and air switch provided by manufacturer.
- 4. Install cut-off device near the unit. The minimum distance between each stage of cut-off device should be 3mm(1/8 in.) (The same for both indoor unit and outdoor unit).

4. Suspend the indoor unit

4.1 Drill bolt holes and install bolts

1. Stick the reference cardboard on the installation position; drill 4 holes according to the hole site on the cardboard as shown in Fig. 1; diameter of drilling hole is according to the diameter of expansion bolt and the depth is 60-70mm (2-3/8~2-3/4 in.), as shown in Fig. 2.



2. Insert the M10 expansion bolt into the hole and then knock the nail into the bolt, as shown in Fig. 3, and then remove the paper pattern.

NOTICE!

The length of bolt depends on the installation height of the unit, bolts are field supplied.

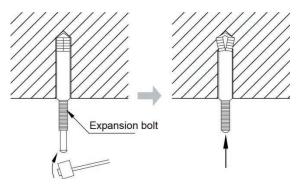


Fig. 3

4.2 Install the indoor unit temporarily

Assemble suspension bolt on the expansion bolt, attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from upper and lower sides of the hanger bracket. The washer fixing plate will prevent the washer from falling.

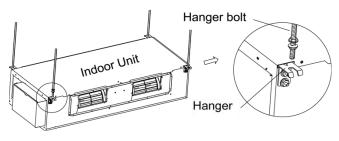


Fig. 4

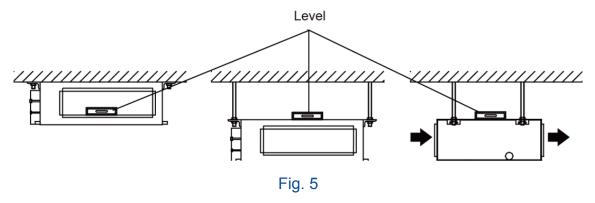
NOTICE!

- 1. Before operation, please prepare all pipelines (connection pipe, drainage hose) and wires (connection wire for wired controller, connection wire for indoor unit).
- 2. When drilling holes on ceiling (air return outlet or air outlet), you can need to reinforce the ceiling to prevent vibration. For details, please consult user or builder.
- 3. If the strength of the ceiling is not good, please install a beam bracket, and then put the unit on the beam bracket.

4.3 Adjust the unit to the right position.

4.4 Check the level of the unit

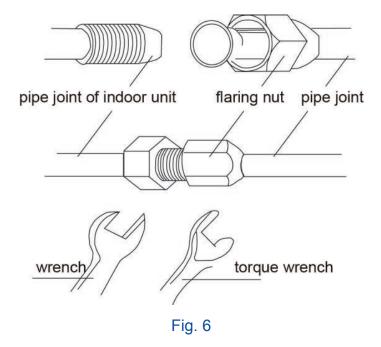
After the indoor unit is installed, remember to check the horizontal status of the whole unit. It should be horizontal from front to back and slant 1% from left to right, following the drainage direction.



4.5 Remove the washer locating plate and then tighten the nut on it.

5. Refrigerant Pipe Connection

- 1. Aim the flaring port of copper pipe at the center of screwed joint and then tighten the flaring nut with hand as shown in Fig. 6.
- 2. Tighten the flaring nut with torque wrench.



Refer to the following table for wrench moment of force:

Piping size (inch)	Tightening torque (N·m)
1/4	15~20
3/8	30~40
1/2	45~55
5/8	60~65
3/4	70~75

- Use pipe bend when bending the pipe and the bending angle should not be too small.
- 4. Wrap the connection pipe and joint with sponge and then tie them firmly with tape.

6. Drainage Pipe Installation and Drainage System Testing

6.1 Notice for Installation of Drain Pipe

- 1. The drainage pipe should be short and the gradient downwards should be at least 1%~2% in order to drain condensation water smoothly.
- 2. The diameter of drainage hose should be bigger or equal to the diameter of drainage pipe joint.
- 3. Install drainage pipe according to the following fig and arrange insulation to the drainage pipe (Fig. 7). Improper installation may lead to water leakage and damp the furniture and other things in the room.
- 4. You can buy normal hard PVC pipe used as the drainage pipe. During connection, insert the end of PVC pipe into the drainage hole and then tighten it with drainage hole and wire binder. Can't connect the drainage hole and drainage hole with glue.
- 5. When the drainage pipelines are used for several units, the position of pipeline should be about 100mm(4in.) lower than the drainage port of each unit. In this case, thicker pipes should be applied.

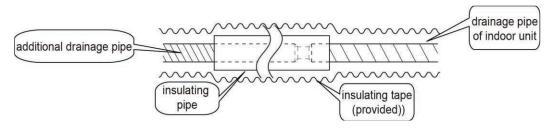
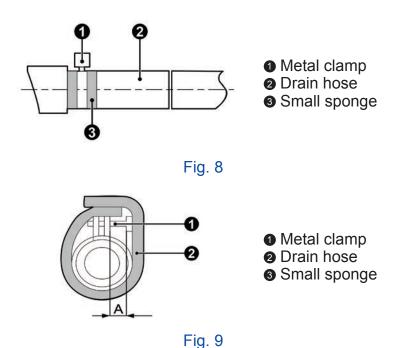


Fig. 7

6.2 Drainage pipe installation

- 1. Insert the drain hose into the drain hole and tighten it with tapes, as shown in Fig. 8.
- 2. Tighten the pipe clamp, with the distance between screw nut and hose smaller than 4mm(1/8in.).
- 3. Use sealing plate to make the pipe clamp and hose insulated, as shown in Fig. 9.



4. Wrap the connection pipe and joint with sponge and then tie them firmly with tape.

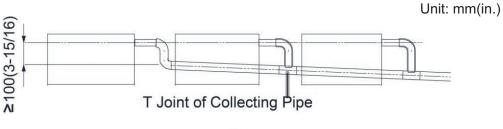


Fig. 10

- 5. Install the trap as shown in following Fig. 11.
- 6. Install one trap for each unit.
- 7. Convenience for cleaning trap in the future should be considered when installing it.

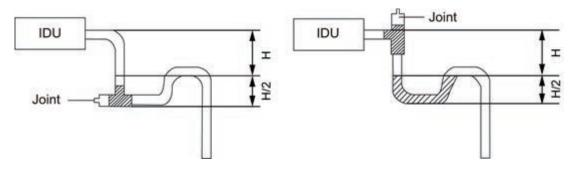


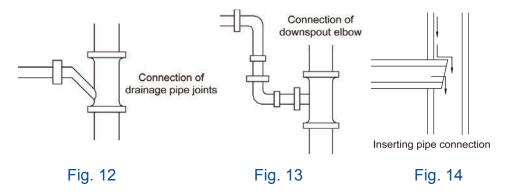
Fig. 11

8. The horizontal pipe can be connected to vertical pipe in the same level; please select the connection way as shown in following fig.

NO1: Connection of drainage pipe joints (Fig. 12)

NO2: Connection of downspout elbow (Fig. 13)

NO3: Inserting pipe connection (Fig. 14)



9. The installation height of raising pipe for drainage should be lower than B. The gradient from raising pipe towards drainage direction should be at least 1%~2%. If the raising pipe is vertical with the unit, the raising height should be less than C.

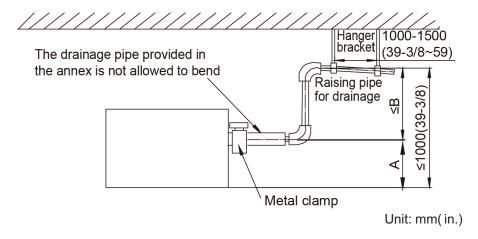


Fig. 15

Indoor Units	Α	В	С
GFCHT18SLD	150/5 7/9)	950/22 1/2\	900/24 1/2\
GFCHT24SLD	150(5-7/8)	850(33-1/2)	800(31-1/2)

10. Drain pipes should have a downward slope of at least 1%~2%, in order to prevent pipes from sagging, install hanger bracket at intervals of 1000~1500mm(39-3/8~59 in.).

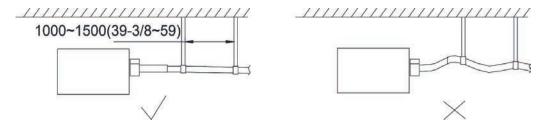


Fig. 16

6.3 Test of Drainage System

- Models with water pump
 - 1. Please test drainage system after electric work is finished.

Inject approximately 1L purified water to drain pan from air vent, ensure that not to splash the water over the electrical components (e.g. water pump. etc.).

- (1) Spray 1L water on evaporator with sprayer.
- (2) In case of commissioning finished, please energize the IDUs and switch to cooling or dry mode, meanwhile, the water pump operates, you can check the draining through the transparent part of drain socket.

(3) If communication wire is not connected, communication malfunction "E6" will occur after 3min of energizing. In this case, the water pump operates automatically. Check if the water pump drains normally drains normally through drainage port. The water pump will stop automatically after running for 1min.

- 2. During the test, please carefully check the drainage joint, make sure no any leakage occur.
- 3. It is strongly recommend to do the drain test before ceiling decoration.
- Models without water pump
 - 1. Inject some water to the water tray of indoor unit as following:
 - (1) Connect the drain hose to the other drain connection pipe of water tray and inject approximately 1L water. (Remove the drain hose after finishing testing and then put on the plug of water tray.)
 - (2) Spray 1L water on evaporator with sprayer.

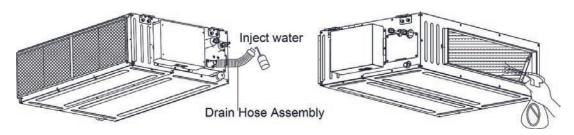


Fig. 17

- 2. Check if the water drains smoothly from the drain pipe and check if there is water leakage on the connection pipe.
- 3. Arrange insulation of drain hose and pipe clamp after checking the drain system.

7 Installation of Air Duct

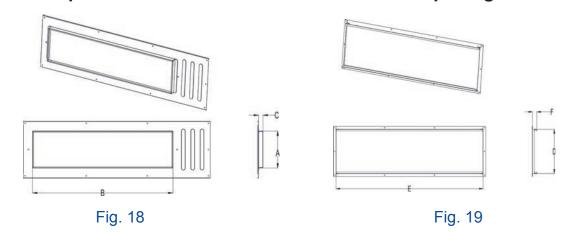
NOTICE!

- There should be insulating layer on air-out duct, air-return duct and fresh
 air duct to avoid heat loss and moisture. Adhere a nail on the air duct
 and then add thermal sponge with a layer of tin. Fasten it with a nail
 cover and then seal the junction with tin tapes. You can also use other
 materials that have good insulation quality.
- Each air-out duct and air-return duct should be fixed on a pre-made

board with iron frame. The junction of air duct should be well-sealed in order to prevent air leakage.

- The design and construction of air duct should comply with national requirements.
- The edge of air-return duct is suggested to be more than 150mm (5-7/8 in.) away from the wall. Add a filter to the air-return opening.
- Please consider noise-damping and vibration damping for the design and construction of air duct. Besides, noise source must be away from people. For instance, do not have the air-return opening installed on top of the user (Offices, rest area, etc.).

7.1 Shape and Size of Air Outlet and Air-return Opening



Model	Si	ize of Air Outle mm (inch)	et	Size of Air-return Opening mm (inch)		
	A	В	C	D	E	F
GFCHT18SLD	195	751	25	264	960	29
GFCHT24SLD	(7-5/8)	(29-9/16)	(1)	(10-3/8)	(37-3/4)	(1-1/8)

7.2 Installation of Air-out Duct

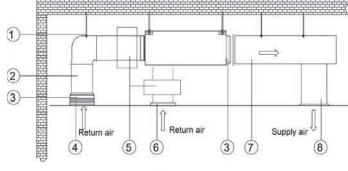


Fig. 20

No.	Name	No.	Name
1	Hanger Rod	5	Static Pressure Box
2	Return Air Duct	6	Filter
3	Canvas Duct	7	Main Supply Air Duct
4	Return Air Inlet	8	Supply Air Outlet

7.3 Installation of the Return Air Duct

1. The default installation location of the rectangular flange is at the back and the return air cover plate is at the bottom, as shown in Fig. 21.

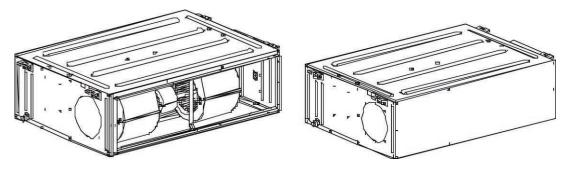


Fig. 21

- 2. If the bottom return air is desired, just change the place of the rectangular flange and the return air cover plate.
- 3. Connect one end of the return air duct to the return air outlet of the unit by rivets and the other to the return air louver. For the sake of the convenience to freely adjust the height, a cutting of canvas duct will be helpful, which can be reinforced and folded by 8# iron wire.
- 4. More noise is likely to be produced in the bottom return air mode than the rear return air mode, so it is suggestive to install a silencer and a static pressure box to minimize the noise.
- 5. The installation method can be choosed with considering the conditions of the building and maintenance etc., as shown in Fig. 22.

Installation of the return air duct

No.	Name	No.	Name
1	Return Air Inlet (with filter)	4	Indoor unit
2	Canvas Duct	5	Supply Air Duct
3	Return Air Duct	6	Grille

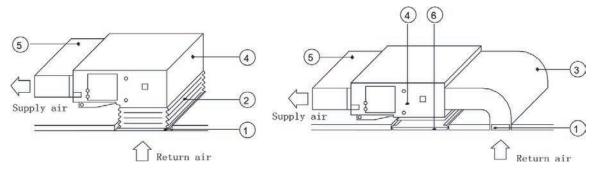


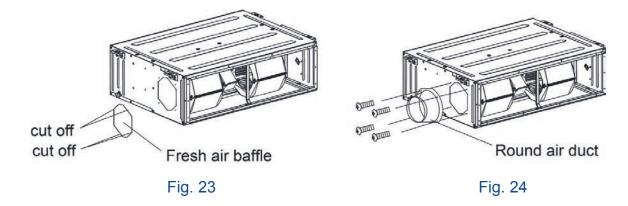
Fig. 22

7.4 Installation of the Fresh Air Pipe

1. When the fresh air pipe is needed to be connected, cut the fresh air baffle as Fig. 23.

Plug up the gap of the fresh air baffle by sponge if the fresh air duct is not be used.

- 2. Install the round flange so that the fresh air duct can be connected as Fig. 24.
- 3. Sealing and heat preservation should be done for both the air pipe and round flange pipe.
- 4. Fresh air should be treated via the air filter.



8. Installation of Wired Controller

Please refer to User Manual of Wired Controller for the installation details.

NOTICE!

When installation is finished, the unit must be tested and debugged before operation. Please refer to Instruction Manual of ODU for auto addressing and debugging details.

Wiring Work 9.



/ WARNING

Before obtaining access to terminals, all supply circuits must be disconnected.

NOTICE!

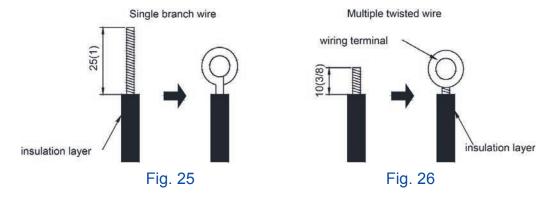
- 1. Units must be earthed securely, or it may cause electric shock.
- 2. Please carefully read the wiring diagram before carry out the wiring work, incorrect wiring could cause malfunction or even damage the unit.
- 3. The unit should be powered by independent circuit and specific socket.
- 4. The wiring should be in accordance with related regulations in order to ensure the units reliable running.
- 5. Install circuit breaker for branch circuit according to related regulations and electrical standards
- 6. Keep cable away from refrigerant pipings, compressor and fan motor.
- 7. The communication wires should be separated from power cord and connection wire between indoor unit
- 8. Adjust the static pressure via wired controller according to site circumstance.

9.1 Connection of Wire and Patch Board Terminal

- 1. The connection of wire (as shown in Fig. 25)
 - (1) Strip about 25mm(1 in.) insulation of the wire end by stripping and cutting tool.
 - (2) Remove the wiring screws on the terminal board.
 - (3) Shape the tail of wire into ring by needle nose plier, and keep the gauge of ring in accordance with screw.
 - Use the screwdriver for tightening the terminal.
- 2. The connection of stranded wire (as shown in Fig. 26)
 - (1) Strip about 10mm (3/8 in.) insulation of the end of stranded wire by

stripping and cutting tool.

- (2) Loosen the wiring screws on terminal board.
- (3) Insert the wire into the ring tongue terminal and tighten by crimping tool.
- (4) Use the screwdriver for tightening the terminal.



9.2 Power Cord Connection

- 1. Detach the electric box lid.
- 2. Let the power cord pass through the wiring through-holes.
- 3. Fix the power card with wiring clamp.
- 4. The wire diameter of power cord can't be less than 18AWG.

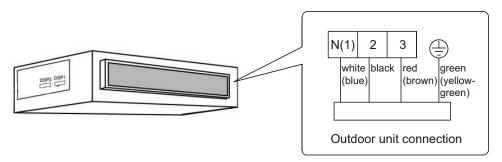


Fig. 27

NOTICE!

- Every unit should be equipped with a circuit breaker for short-circuit and overload protection.
- During operation, all indoor units connected to the same outdoor unit system must be kept energized status. Otherwise, the unit can't operate normally.
- Indoor unit quantity n is according to the outdoor unit capacity.
- For units with single-phase power supply.

9.3 Wiring of the Signal Line of the Wired Controller

- 1. Open the cover of the electric box of the indoor unit.
- 2. Let the signal line go through the rubber ring.
- 3. Insert the signal line to the four-pin socket on the printed circuit board of the indoor unit.
- 4. Fix the signal line with the binding wire.

10. Adjust after installation

Working range for external static pressure of this series of duct type unit is 0 Pa~275 Pa. For corresponding external static pressure to the respective static pressure notch please see as below. The setting of static pressure for indoor fan can be done via wired controller.

	A	pplicab	e to: 18	3K, 24K				
Static pressure notch for indoor fan	2	3	4	5	6	7	8	9
External static pressure (Pa)	0	30	60	90	120	150	180	200

Wired Controller

1. Installation of Wired Controller

1.1 Connection of the Signal Line of the Wired Controller

- Open the cover of the electric control box of the indoor unit.
- Let the single line of the wired controller through the soleplate of wired controller.
- Connect the signal line of the wired controller to the 4-pin socket of the indoor unit.
- The communication distance between the main board and the wired controller can be up to 20 meters (the standard distance is 8 meters)

1.2 Installation of the Wired Controller

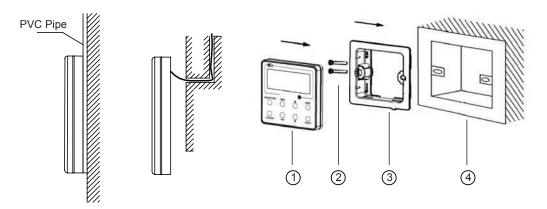
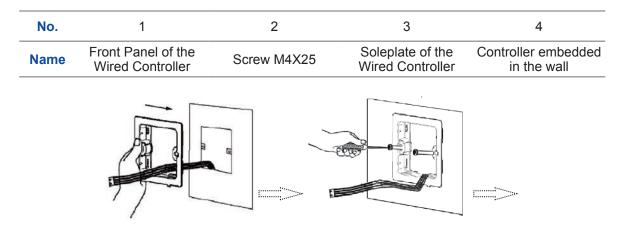
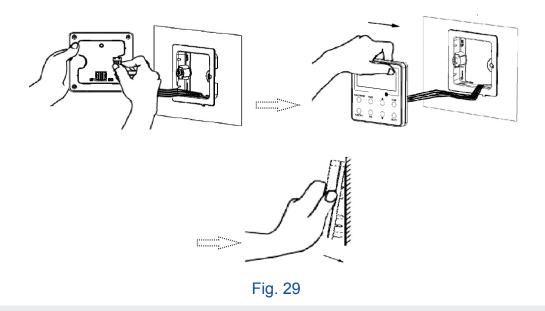


Fig. 28 Accessories for the Installation of the Wired Controller

Table 3





NOTE:

CN1 is 485 communication interface and it used Wired Controller XE72-44/ E for connecting the 4-core communication wire. These two needle stands (CN2, CN3) are used for connecting the smart zone controller. There is no sequence for these two needle stands. You can connect one or two needle stand(s) basing on the requirement.

Fig. 29 shows the installation steps of the wired controller, but there are some issues that need your attention.

- (1) Prior to the installation, please firstly cut off the power supply of the wire buried in the installation hole, that is, no operation is allowed with electricity during the whole installation.
- (2) Pull out the four-core twisted pair line from the installation holes and then let it go through the rectangular hole behind the soleplate of the wired controller.
- (3) Stick the soleplate of wired controller on the wall and then use screw M4×25 to fix soleplate and installation hole on wall together.
- (4) Insert the four-core twisted pair line into the slot of the wired controller and then buckle the front panel and the soleplate of the wired controller together.

For matching with different models, the patch cord and the connection wire are provided in the packaging box of wired controller. As shown in Fig. 30.



Fig. 30: Schematic diagram of patch cord and connection wire

• If the air conditioner has been installed with the patch cord (Fig. 30) used for connecting the wired controller.

Only use the connection wire (Fig. 31) in the packing box of wired controller. Connect the terminal ② to the terminal ④ of patch cord which has been installed on the air conditioner; insert terminal ① to needle stand CN1 of wired controller. If there's protection terminal ③, pull out the protection terminal at first and then install it.



Fig. 31: Schematic diagram of connection wire: Connect terminal ① with wired controller CN1; connect terminal ② with the terminal ③ of patch cord



Fig. 32: Schematic diagram of patch cord: Terminal ③ is the protection terminal; connect terminal ④ to the terminal ② of connection wire; connect terminal ⑤ to the terminal of wired controller of air conditioner

 If the air conditioner hasn't been installed with the patch cord used for connecting the wired controller.

Use the connection wire and patch cord in the packing box of wired controller. Pull out the protection terminal of patch cord at first, connect the connection wire with the patch cord according to Fig. 33, and then insert the terminal ① of connection wire into the needle stand CN1 of wired controller and insert the terminal ⑤ of patch cord into the terminal of wired controller of air conditioner as well.

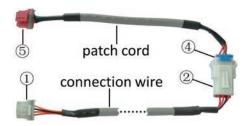


Fig. 33: Schematic diagram after the connection wire and the patch cord have been connected: connect the terminal ② of connection wire and the terminal ④ of patch cord

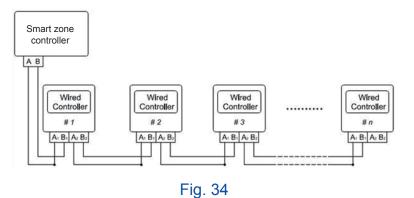


Fig. 34 shows the schematic diagram of control system connection. XE72-44/E can connect the smart zone controller (integrated control system). "n" indicates the number of communication node address (programmable wired controller XE72-44/E). The complete system is composed of the smart zone controller, wired controller XE72-44/E and communication cable. The wired controller XE72-44/E can support 16 communication node addresses at the most (n≤16).

Terminal A and terminal B of the smart zone controller are respectively connected to the corresponding communication needle stand terminal of the #1 wired controller by the communication cable; the other needle stand of #1 wired controller is connected to the #2 wired controller through the telecommunication cable and so forth until connect to the #n wired controller. Except the last wired controller in the control system (only use CN2 or CN3, and the other one will not be connected), there's no the sequence and the importance for the wired controller. The series number in the figure is only for the sake of clarity.

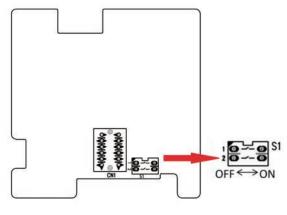


Fig. 35

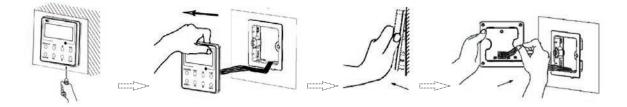
Fig. 35 shows schematic diagram of DIP switch. There is a 2-bit DIP switch on the main board of wired controller XE72-44/E. As for the last #n wired controller in the control system, the 1-bit and the 2-bit of the DIP switch should be manually pulled to position "on" and position "off" respectively. The DIP switches of other wired controllers should be kept at the initial ex-factory status (1-bit and 2-bit are set at position "off").

△CAUTION!

Please pay special attention to the followings during the connection to avoid the malfunction of the air conditioning unit due to electromagnetic interference.

- 1. Separate the signal and communication lines of the wired controller from the power cord and connection lines between the indoor and outdoor unit, with a minimum interval of 20cm, otherwise the communication of the unit will probably work abnormally.
- 2. If the air conditioning unit is installed where is vulnerable to electromagnetic interference, then the signal and communication lines of the wired controller must be the shielding twisted pair lines.

7.3 Dismantlement of the Wired Controller



Wall Mounted Type

1. Choosing Installation Location

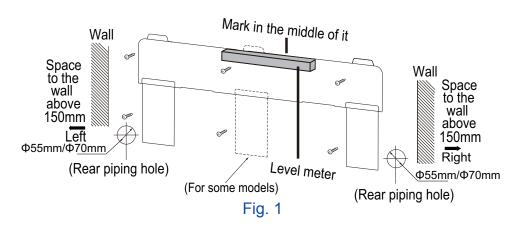
Recommend the installation location to the client and then confirm it with the client.

2. Install wall-mounting frame

- (1) Hang the wall-mounting frame on the wall; adjust it to a horizontal position using a level meter, and then mark the screw fixing holes on the wall.
- (2) Drill the screw fixing holes on the wall using an impact drill (the drill bit size should match the plastic expansion anchor), and then insert the plastic expansion anchors into the holes.
- (3) Secure the wall-mounting frame to the wall using tapping screws, and then check if the frame is firmly installed by pulling on it. If the plastic expansion anchor is loose, drill another fixing hole nearby.

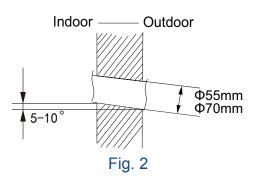
3. Drill Piping Hole

(1) Choose the position of the piping hole according to the direction of the outlet pipe. The position of the piping hole should be slightly lower than the wallmounted frame. (As shown in Fig. 1)



(2) When installation is finished, pull the mounting plate by hand to confirm whether it is fixed tightly. The force distribution among all screws should be uniform.

(3) Drill a piping hole with a diameter of Φ55mm or Φ70mm at the selected outlet pipe position. To ensure smooth drainage, slant the piping hole on the wall slightly downward toward the outdoor side with a gradient of 5-10°. (As shown in Fig. 2)

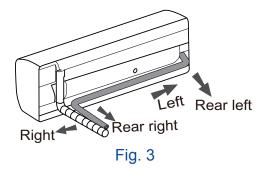


NOTE:

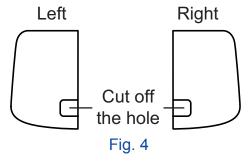
Pay attention to dust prevention and take relevant safety measures when drilling the hole.

4. Outlet Pipe

(1) The pipe can be led out in the direction of right, rear right, left, or rear left. (As shown in Fig. 3)

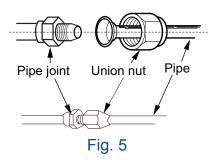


(2) When selecting to lead out the pipe from the left or right, please cut the corresponding hole in the bottom case. (As shown in Fig. 4)



5. Connect the Pipe of Indoor Unit

(1) Aim the pipe joint at the corresponding bellmouth.(As shown in Fig. 5)



- (2) Pretighten the union nut by hand.
- (3) Adjust the torque force by referring to the following sheet. Place the open-end wrench on the pipe joint and the torque wrench on the union nut. Tighten the union nut with the torque wrench. (As shown in Fig. 6)

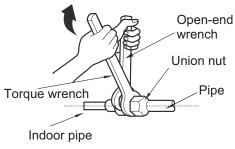
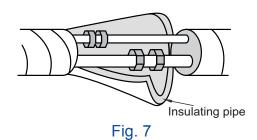


Fig. 6

(4) Wrap the indoor pipe and the joint of the connection pipe with insulating pipe, and then wrap it with tape. (As shown in Fig. 7)

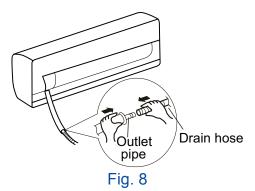


Refer to the following table for wrench moment of force:

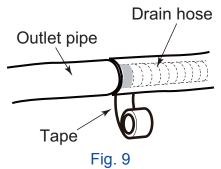
Piping size (inch)	Tightening torque (N·m)
1/4	15~20
3/8	30~40
1/2	45~55
5/8	60~65
3/4	70~75

6. Install Drain Hose

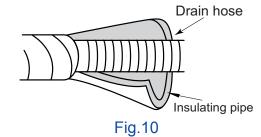
(1) Connect the drain hose to the outlet pipe of the indoor unit.(As shown in Fig. 8)



(2) Bind the joint with tape. (As shown in Fig. 9)



(3) Add insulating pipe to the indoor drain hose to prevent condensation.(As shown in Fig. 10)



NOTE:

• The plastic expansion bolts are not provided.

7. Connect Wire of Indoor Unit

NOTICE:

- All wires of the indoor unit and the outdoor unit should be connected by a professional.
- If the length of the power connection wire is insufficient, please contact the supplier for a new one. Avoid extending the wire yourself.
- For the air conditioner with a plug, the plug should be reachable after installation.
- For the air conditioner without a plug, an air switch must be installed in the line. The air switch should be all-pole parting, and the contact parting distance should be more than 3mm.
- (1) Open the panel, remove the screw on the wiring cover, and then take down the cover.(As shown in Fig. 11)

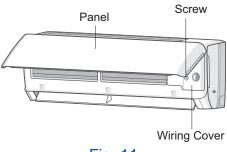


Fig. 11

(2) Make the power connection wire go through the cable-cross hole at the back of the indoor unit and then pull it out from the front side. (As shown in Fig. 12)

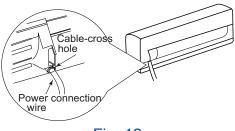


Fig. 12

(3) Remove the wire clip; connect the power connection wire and the signal control wire (only for cooling and heating units) to the wiring terminal according to the color; tighten the screw, and then fix the power connection wire with the wire clip. (As shown in Fig. 13)

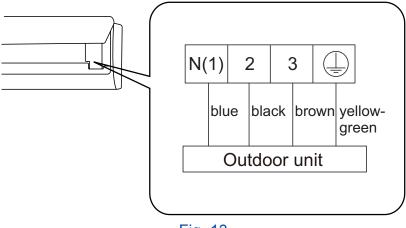


Fig. 13

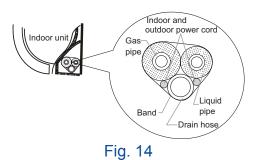
- (4) Put the wiring cover back and then tighten the screw.
- (5) Close the panel.

NOTICE:

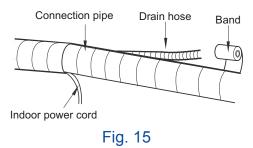
The wiring board is for reference only. Please refer to the actual one.

8. Bind up Pipe

(1) Bind up the connection pipe, power cord, and drain hose with the band.(As shown in Fig. 14)



(2) Reserve a certain length of drain hose and power cord for installation when binding them. When binding to a certain degree, separate the indoor power and then separate the drain hose. (As shown in Fig. 15)



- (3) Bind them evenly.
- (4) The liquid pipe and gas pipe should be bound separately at the end.

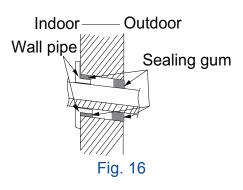
NOTE:

- The power cord and control wire cannot be crossed or wound.
- The drain hose should be bound at the bottom.

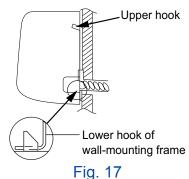
9. Hang the Indoor Unit

(1) Put the bound pipes in the wall pipe and then pass them through the wall hole.

- (2) Hang the indoor unit on the wall-mounting frame.
- (3) Stuff the gap between the pipes and the wall hole with sealing gum.
- (4) Fix the wall pipe.(As shown in Fig. 16)



(5) Check if the indoor unit is installed firmly and close to the wall. (As shown in Fig. 17)



NOTE:

Do not bend the drain hose excessively to prevent blocking.

8.3 Installation of Outdoor Unit

1. Electrical Connections

- 1. Remove the handle at the right side plate of the outdoor unit (one screw).
- Remove the cable clamp, connect the power connection cable with the terminal at the row of connection and fix the connection. The fitting line distributing must be consistent with the indoor unit. terminal of line bank. Wiring should meet that of indoor unit.
- 3. Fix power connection wire by wire clamp.
- Ensure wire has been fixed well.
- 5. Install the handle.
- ⚠ Including an air switch with suitable capacity, please note the following table. Air switch should be included magnet buckle and heating buckle function, it can protect the circuit-short and overload. (Caution: please do not use the fuse only for protect the circuit)
- ⚠ An all-pole disconnection switch having a contact separation of at least 3mm in all pole should be connected in fixed wiring.
- ⚠ Wrong wire connection may cause malfunction of some electric components. After fixing cable, ensure that leads between connection to fixed point have some space.

For 18K:

The connection pipes and the connection wirings of the unit A, and unit B must be corresponding to each other respective.

For 24K:

The connection pipes and the connection wirings of the unit A, unit B and unit C must be corresponding to each other respective.

For 36K:

The connection pipes and the connection wirings of the unit A, unit B, unit C and unit D must be corresponding to each other respective.

For 42K:

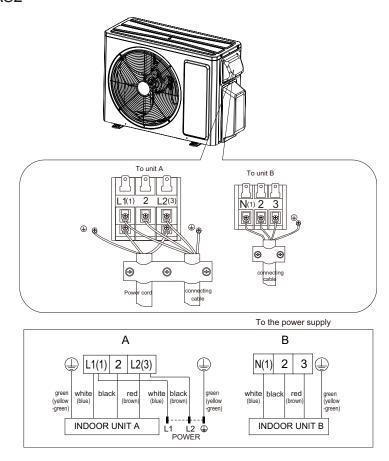
The connection pipes and the connection wirings of the unit A, unit B, unit C, unit D and unit E must be corresponding to each other respective.

↑ The appliance shall be installed in accordance with national wiring regulations.

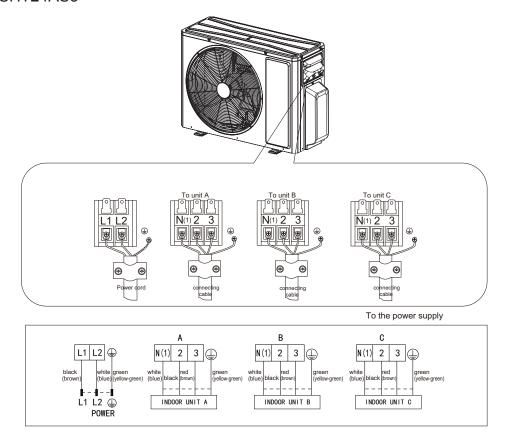
NOTE:

the above figures are only intended to be a simple diagram of the appliance and may not correspond to the appearance of the units that have been purchased.

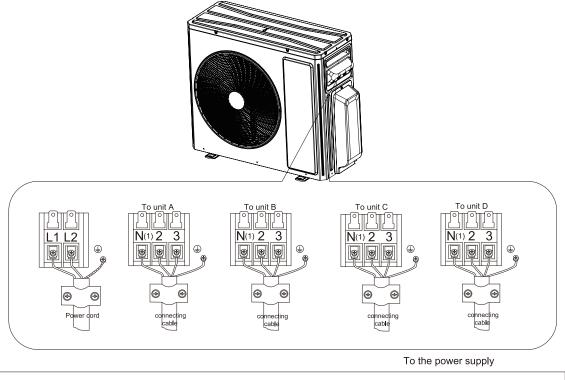
GMRSHT18AS2



GMRSHT24AS3

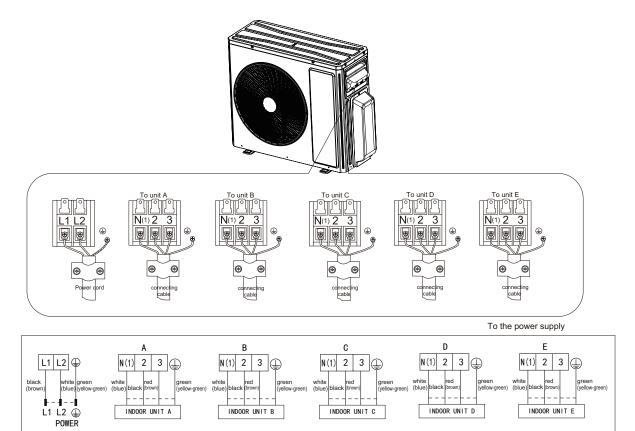


GMRSHT36AS4



В С D N(1) 2 3 N(1) 2 3 L1 L2 🚇 2 3 2 3 N(1) N(1) green white (yellow-green) (blue) black green white (yellow-green) (blue) black (brown white green white (blue) (yellow-green) (blue) black (brow white (blue) black (brown L1 L2 POWER INDOOR UNIT D INDOOR UNIT A INDOOR UNIT B INDOOR UNIT C

GMRSHT42AS5



2. Installing the Outdoor Unit

▲ Do not install the outdoor unit in pits or air vents.

Installing the pipes

Models (m)	18K	24K	36K	42K
Max. connection pipe length	40	60	80	100
Max. connection pipe length (Simpleone indoor unit)	20	20	25	25

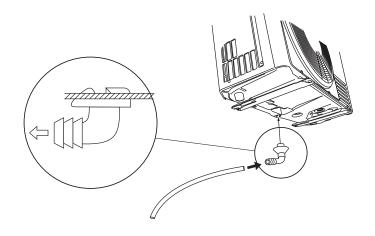
Mrap all the refrigerant pipes and joints.

Caution: Installation Must be Performed in Accordance with the NEC/CEC by Authorized Personnel Only.

Install the drain fitting and the drain hose (for model with heat pump only)

Condensation is produced and flows from the outdoor unit when the appliance is operating in the heating mode. In order not to disturb neighbours and to respect the environment, install a drain fitting and a drain hose to channel the condensate water.

Install the drain fitting and rubber washer on the outdoor unit chassis and connect a drain hose to itn as shown in the figure.



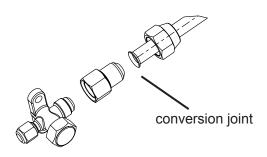
3. Bleeding

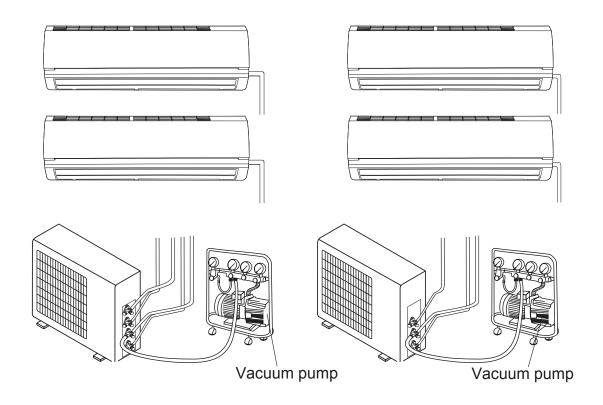
Humid air left inside the refrigerant circuit can cause compressor malfunction. After having connected the indoor and outdoor units, bleed the air and humidity from the refrigerant circuit using a vacuum pump.

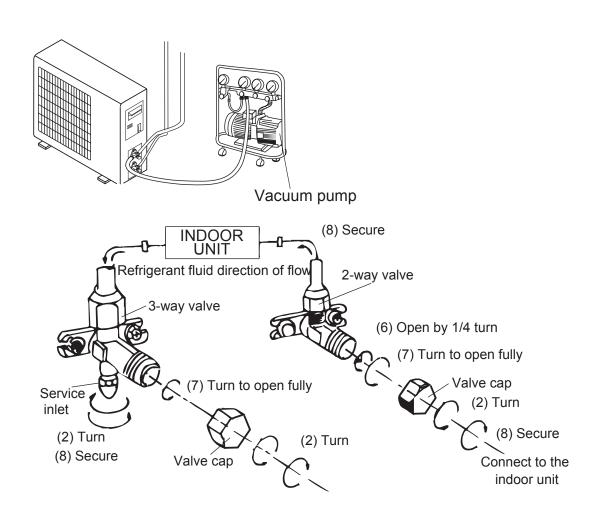
- 1. Unscrew and remove the caps from the 2-way and 3-way valves.
- 2. Unscrew and remove the cap from the service valve.
- 3. Connect the vacuum pump hose to the service valve.
- Operate the vacuum pump for 10-15 minutes until an absolute vacuum of 10 mm Hg has been reached.
- 5. With the vacuum pump still in operation, close the low-pressure knob on the vacuum pump coupling. Stop the vacuum pump.
- 6. Open the 2-way valve by 1/4 turn and then close it after 10 seconds. Check all the joints for leaks using liquid soap or an electronic leak device.
- 7. Turn the body of the 2-way and 3-way valves. Disconnect the vacuum pump hose.
- 8. Replace and tighten all the caps on the valves.

Piping size (inch)	Tightening torque (N·m)
1/4	15~20
3/8	30~40
1/2	45~55
5/8	60~65
3/4	70~75

When the adaptor is required for the connection of indoor unit and outdoor unit, the method of pipe connection as follows:

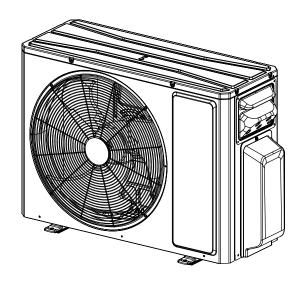






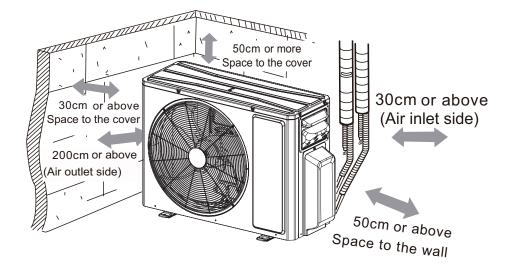
4. Maintenance

- ▲ Do not use any other refrigerant than R32.
- ⚠ Do not use mineral oils to clean the unit.



5. Installation Dimension Diagram

- ↑ The installation must be done by trained and qualified service personnel with reliability according to this manual.
- Mhen picking up and moving the units, you must be guidedby trained and qualified person.
- ▲ Ensure that the recommende dspace is left around the appliance.

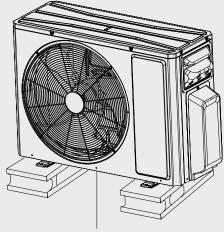


Fix the support of outdoor unit (select it according to the actual installation situation)

- 1. Select installation location according to the house structure.
- 2. Fix the support of outdoor unit on the selected location with expansion screws.

NOTICE:

- Take sufficient protective measures when installing the outdoor unit.
- Make sure the support can withstand at least four times of the unit weight.
- The outdoor unit should be installed at least 3cm above the floor in order to install drain joint. (for the model with heating tube, the installation height should be no less than 20cm.)
- For the unit with cooling capacity of 2300W ~ 5000W, 6 expansion screws are needed; for the unit with cooling capacity of 6000W~ 8000W, 8 expansion screws are needed; for the unit with cooling capacity of 10000W~16000W, 10 expansion screws are needed.
- As for the shape of drainage joint, please refer to the current product. Do not install the drainage joint in the severe cold area. Otherwise, it will be frosted and then cause malfunction.



at least 3cm above the floor

6. Check after Installation

Check items	Problems owing to improper installation
Is the installation reliable?	The unit may drop, vibrate or make noises
Has the gas leakage been checked?	May cause unsatisfactory cooling (heating) effect
Is the thermal insulation of the unit sufficient?	May cause condensation and water dropping
Is the drainage smooth?	May cause condensation and water dropping
Does the power supply voltage accord with the rated voltage specified on the nameplate?	The unit may bread down or the components may be burned out
Are the lines and pipelines correctly installed?	The unit may bread down or the components may be burned out
Has the unit been safely grounded?	Risk of electrical leakage
Are the models of lines in conformity with requirements?	The unit may bread down or the components may be burned out
Are there any obstacles near the air inlet and outlet of the indoor and outdoor units?	The unit may bread down or the components may be burned out
Have the length of refrigerating pipe and refrigerant charge amount been recorded?	It is not easy to decide the charge amount of refrigerant.

9. Maintenance

9.1 Error Code List

Error code	Malfunction name	Possible causes
88	Communication error between IDU with ODU	Please refer to "Communication Error".
H5	IPM protection	Please refer to "IPM Protection".
LA LA	Outdoor fan error	 Motor or motor wire is damaged; Main board of ODU is damaged; The fan blade is clogged or loose.
Н5	Operating error of IDU motor	 Motor terminal is not well connected; The motor is damaged; Main board of IDU is damaged.
HE	PFC protection	 Main board of ODU is damaged; Poor power grid quality, with oscillation or significant fluctuations in AC input voltage; Unreliable connections of the air conditioner's power plug, terminal board, or reactor, leading to arcing; Excessive dirt on indoor and outdoor heat exchangers or blockage of air outlets.

Error code	Malfunction name	Possible causes
H7	Compressor out of step	 Abnormal power supply voltage; Condenser or evaporator is dirty or clogged; Inlet and outlet air of indoor unit or outdoor unit is not smooth; System piping blockage, valves are not open; Excessive refrigerant causing excessive system pressure; Poor wiring contact; Main board is damaged; Compressor is damaged; Please refer to "Compressor out of step".
FO	Refrigerant lack protection, refrigerant circulation stop protection	 The connection pipe between the IDU and ODU is damaged or the connection point is aged and loose, leading to refrigerant leakage; The liquid valve / air valve is aged and damaged, causing abnormal opening and closing control, which leads to pipeline blockage; The temperature sensor is damaged or aged, resulting in inaccurate temperature sampling and false error reporting.
РН	High DC bus voltage	 The AC supply voltage is too high, for example, the AC supply voltage exceeds 300V; Poor power quality, with abnormal oscillation in the AC supply voltage; The main board is damaged.
PL	Low DC bus voltage	 AC power supply voltage is too low, for example, the AC power supply voltage is less than 90V; Abnormal unit wiring, such as loose connection wires; Main board of outdoor unit is damaged;

Error code	Malfunction name	Possible causes
88	High-temperature protection	 Cooling: The condenser of the outdoor unit is dirty or clogged, leading to poor heat exchange; Insufficient space or obstacles at the air inlet and outlet of the outdoor unit cause poor air circulation; The fan blade of the outdoor unit is broken, falling off or the motor is damaged; The temperature sensor of the outdoor unit condenser is damaged, or the main board is damaged, leading to inaccurate temperature sampling. Heating: The indoor unit evaporator is dirty or clogged, leading to poor heat exchange; Insufficient space or obstructions at the air outlets of the indoor unit cause poor air intake and exhaust; The fan blade of the outdoor unit is broken, falling off; The temperature sensor of the indoor unit evaporator is damaged, or the main board is damaged, leading to inaccurate temperature sampling.
65	Jumper cap error	 The jumper cap of indoor unit is not installed, or the jumper cap is not properly installed; The jumper cap has poor contact and is not properly installed.
[4	Jumper cap of ODU	The jumper cap of outdoor unit is not installed, or the jumper cap is not properly installed.
FI	Open/short circuit of indoor temperature sensor	 Temperature sensor is damaged (refer to attachment "Table 1"); Temperature sensor is not connected or in poor contact.

Error code	Malfunction name	Possible causes
F2	Open/short circuit of temperature sensor of indoor evaporator	 Temperature sensor is damaged (refer to attachment "Table 2"); Temperature sensor is not connected or in poor contact.
F3	Open/short circuit of outdoor temperature sensor	 Temperature sensor is not connected or is damaged; (refer to attachment "Table 1"); Temperature sensor wire is damaged, or is short-circuited to the copper tube or outer case; The main board of ODU is damaged.
FY	Open/short circuit of temperature sensor of outdoor condenser	 Temperature sensor is not connected or is damaged; (refer to attachment "Table 2"); Temperature sensor wire is damaged, or is short-circuited to the copper tube or outer case; The main board of ODU is damaged.
F5	Open/short circuit of temperature sensor	 Temperature sensor is not connected or is damaged; (refer to attachment "Table 3"); Temperature sensor wire is damaged, or is short-circuited to the copper tube or outer case; The main board of ODU is damaged.
U8	Indoor unit zero- crossing signal error	 The power supply is abnormal; Main board of IDU is damaged.

Error code	Malfunction name	Possible causes
85	Overcurrent protection	 Unstable power supply voltage; Power supply voltage is too low; Condenser or evaporator is dirty or clogged; Inlet and outlet air of IDU or ODU is not smooth; System pipeline is blocked, valves are not open; Excessive refrigerant leads to excessive system pressure; Main board is damaged; Compressor is damaged; Please refer to "Overcurrent protection".
н3	Compressor overload protection	 The connection between the overload connection wire and the main board or the overload protector is unreliable, and the terminal is loose; The overload protector is damaged, under normal circumstances, the impedance at both ends of the test overload protector should be less than 1Ω; The overload connection wire is damaged, resulting in the short circuit of wire; Refrigerant leakage or system blockage; The main board is damaged.
ER	Refrigerant leak alarm	There may be refrigerant leakage in the unit.
FE	Refrigerant sensor error	Service life of refrigerant expires or is damaged.
67	Open/short circuit of temperature sensor of air valve	 Temperature sensor is not connected or is damaged; (refer to attachment "Table 2"); Temperature sensor wire is damaged, or is short-circuited to the copper tube or outer case; The main board of ODU is damaged.

Error code	Malfunction name	Possible causes
6 5	Open/short circuit of temperature sensor of liquid valve	 Temperature sensor is not connected or is damaged; (refer to attachment "Table 2"); Temperature sensor wire is damaged, or is short-circuited to the copper tube or outer case; The main board of ODU is damaged.
E !	System high pressure protection	 The connection between the wiring and the main board or high-pressure protection switch is unreliable, with loose terminals; The high-pressure protection switch is damaged; under normal circumstances, the impedance between the two ends of the high-pressure protection switch should be less than 1Ω; Abnormalities such as dirt blockage in the condenser or evaporator, poor air circulation, excessive refrigerant, or blockages in the system piping can lead to excessively high system pressure; The main board is damaged.
83	Low pressure protection/system low pressure protection/ compressor low pressure protection	 Low pressure switch is damaged; System refrigerant leakage.
ЕЧ	High exhaust temperature protection of compressor	Please refer to "Compressor overload protection, high exhaust temperature protection of compressor".
٤٦	Mode conflict	When the free match system is faulted, some indoor units will conduct heating mode, while others will conduct cooling, dry mode or air supply mode, causing a mode conflict.
<i>EE</i>	Read EEPROM error	Main board of ODU is damaged.

Error code	Malfunction name	Possible causes
Fo	Refrigerant recovery mode	Recovery of refrigerant. The mode is conducted during maintenance.
HY	System error	Please refer to "High temperature, overload, high power, system error".
HE	Compressor demagnetization protection	 Main board of ODU is damaged; Compressor is damaged.
٤9	High power protection	Please refer to "High temperature, overload, high power, system error".
Lc	Startup failure	Please refer to "Startup failure".
Ld	Compressor phase- loss protection	 Poor wiring contact of compressor; Main board of ODU is damaged; Compressor is damaged.
PS	There is an error causing stop of ODU	 Compressor startup failure; Compressor overload protection; IDU requires to stop.
οξ	Undefined ODU error	Please refer to "Undefined ODU error".
P6	Communication error between drive board and main control	 Poor connection between drive board and main board; Drive board is damaged; Main board of ODU is damaged.
P7	Circuit error of module temperature sensor	Main board of ODU is damaged.

Error code	Malfunction name	Possible causes
Р8	High-temperature protection of module	 Air inlet/outlet of ODU is dirty and clogged; IPM screw of main board is not well installed or the radiator is not well installed, or the main board is damaged.
PF	Error of ambient temperature sensor on drive board	 Poor contact of ambient temperature sensor of driver board; Error of ambient temperature sensor on drive board.
PU	Capacitor charging error	 Main board of ODU is damaged; Wiring error of ODU or low power supply voltage.
rF	RF module error	 Poor contact of the RF module connection wire; RF module error; Abnormality in the RF module interface circuit of main board.
UI	Compressor phase current detection circuit error	Main board of ODU is damaged.
u2	Compressor phase- loss Protection	 Poor wiring contact of compressor; Main board of ODU is damaged; Compressor is damaged.
U3	DC bus voltage drop error	Unstable power voltage with large fluctuation.
US	Current detection error of whole unit	 The whole unit lacks refrigerant; The circuit on the control board of ODU has failed, the control board shall be replaced.

Error code	Malfunction name	Possible causes
רט	4-way valve switchover error	 Power voltage is below AC175V; Loose or broken wires at the four-way valve terminal; Four-way valve is damaged, please replace the four-way valve.
U9	ODU zero-crossing error	Main board of ODU is damaged.
53	Evaporator anti- freeze protection	It's not an error code, it belongs to the status code during the cooling process.
89	Anti-cold wind protection	It's not an error code, it belongs to the status code during the heating process.
LP	IDU and ODU do not match	Capacity of IDU and ODU do not match.
FE	Micro-switch error	 The control motor of sliding door is abnormally connected to the main board; The sliding door is jammed; The photoelectric detection plate of sliding door is faulted.
JF	Communication error between IDU and detective board"	 Poor connection between the indoor unit and the detection plate; Main board of IDU is damaged; Detection plate is damaged.
LI	Humidity sensor error	 Check if the WIFI communication is normal, please refer to JF troubleshooting; The sensor is damaged; The display board is damaged.
	Defrosting	It's not an error code, it belongs to the status code during the heating process.

9.2 Procedure of Troubleshooting

£6: Communication Error Between IDU with ODU

1. Communication Error between IDU with ODU

- (1) Cooling/dehumidification: Compressor and outdoor fan stop running;
- (2) Heating: All loads stop running;
- (3) Principle: The indoor and outdoor units cannot establish communication or the established communication data is abnormal.

2. Possible causes

- (1) Electric circuit of main board is damaged;
- (2) Wire connection between IDU and ODU is abnormal, or wire connection between terminal board and main board is abnormal;
- (3) The neutral and live wires are connected in reverse;
- (4) The powr grid is abnormal.

3. Troubleshooting

- Check whether the connection wire of the indoor and outdoor units is damaged;
- (2) Check whether the power cord and communication wire of main board of the indoor and outdoor unit are damaged;
- (3) Check whether the wiring sequence is correct, whether the neutral and live wires are connected in reverse, and whether the power cord and communication wire are not connected properly;
- (4) Check whether the LED indicator on the main board of ODU flashes according to the normal rules;
- (5) Check whether the coil of ODU is corroded and short-circuited, causing damage to the main board.

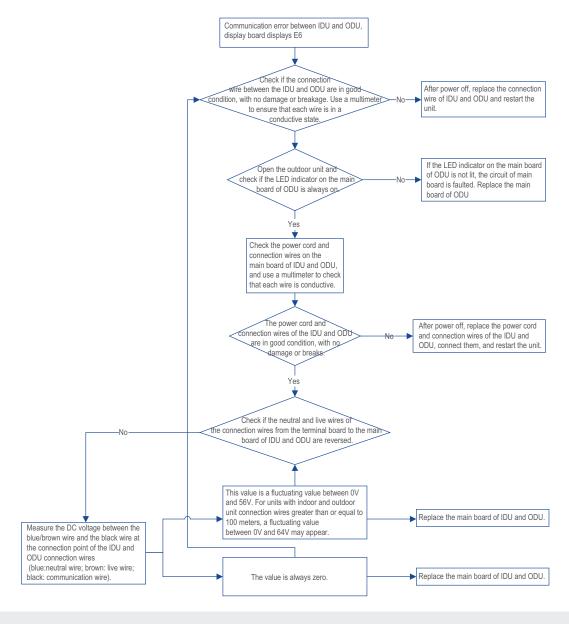
4. Specific troubleshooting steps:

- Using the after-sales tester GT2A3Ad can identify faults more conveniently and quickly;
 - (1) If it replaces the IDU to communicate with the ODU, and the E6 error occurs, it means the main board of ODU is abnormal;

(2) If it replaces the ODU to communicate with the IDU, and the E6 error occurs, it means the main board of IDU is abnormal;

(3) If no E6 error occurs, it means that the connection line between the indoor unit and the outdoor unit is abnormal.

Manual Detection



NOTE:

The method for detecting the communication circuit of ODU of the inverter split type unit and the floor standing type unit: disconnect the indoor and outdoor communication wire, and measure the voltage between COM and N on the control board of the ODU (DC gear, about 56V is normal).

H5: IPM Protection

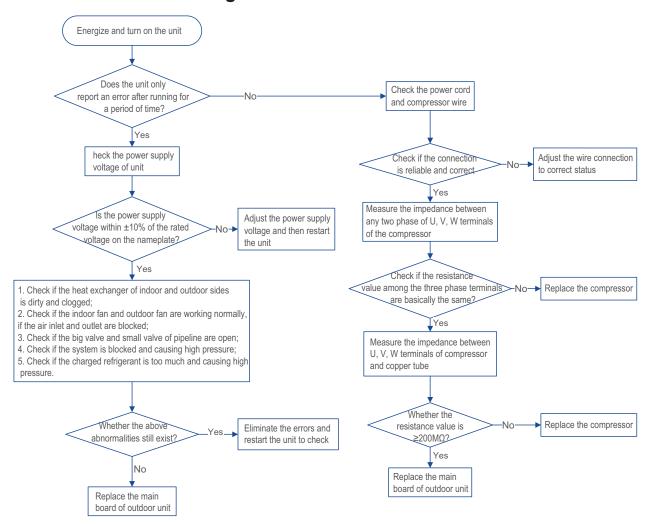
1. Error description

When the compressor is running, detect the current flowing through the compressor control module (IPM). If the current exceeds the set value (the set value varies for different models), an H5 IPM current protection error is reported.

2. Possible causes

- (1) Abnormal power supply voltage;
- (2) Condenser or evaporator is dirty or clogged;
- (3) Inlet and outlet air of IDU or ODU is not smooth;
- (4) System pipe is blocked, valves are not open;
- (5) Excessive refrigerant causing excessive system pressure;
- (6) Poor wire contact;
- (7) Main board is damaged;
- (8) Compressor is damaged.

3. Troubleshooting



L∃: Outdoor Fan Error

1. Outdoor Fan Error

(1) Cooling/dehumidification: All loads stop running except the indoor fan;

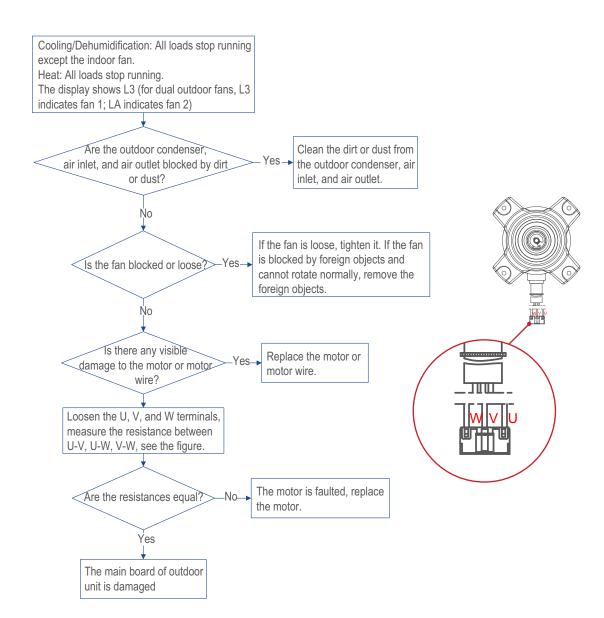
- (2) Heating: All loads stop running;
- (3) Principle: The fan reports a major error every 6 minor errors (such as fan out of step, fan blockage, fan overload, etc.). The unit stops operation and then it will resume operation after 3min. After reporting 6 major errors, L3 will be displayed and the unit can't resume operation;

2. Possible causes

- (1) The wire connection between the fan and the main board is unreliable, with loose terminals;
- (2) The fan wiring is damaged, causing an open circuit;
- (3) The main board is damaged;
- (4) The fan is damaged;
- (5) The fan is blocked or the blades are loose due to external factors.

3. Solutions

Check if the wiring is damaged and if the connection is reliable; check if the fan is damaged; check if the fan is blocked or the blades are loose.

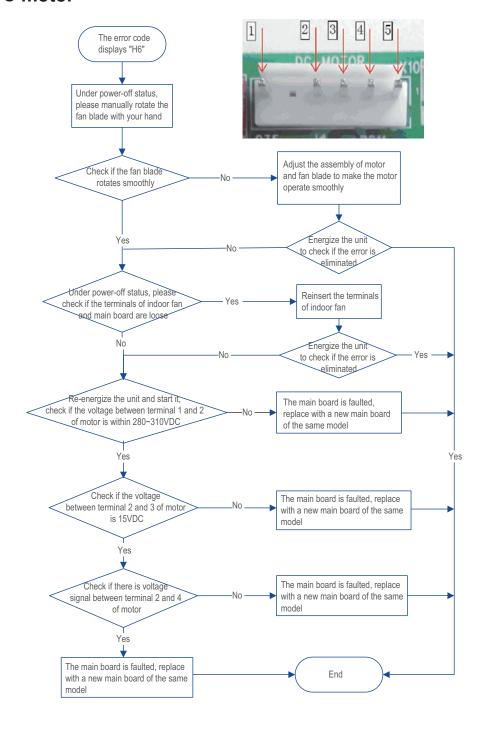


H5: Operating Error of Indoor Unit Motor

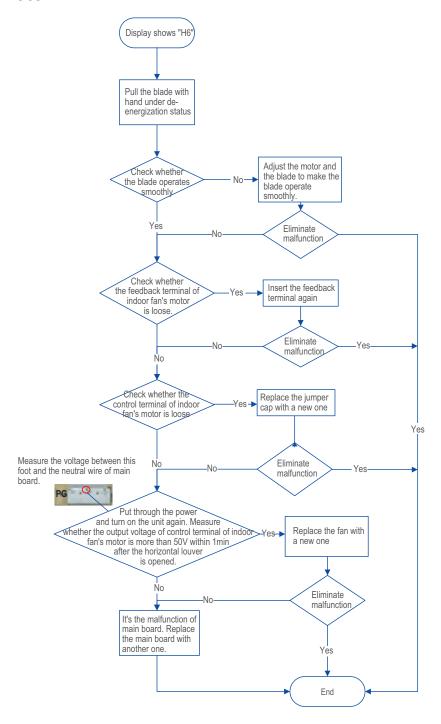
Possible causes:

- (1) Motor terminal or feedback terminal is not properly connected;
- (2) Motor is damaged;
- (3) Main board of IDU is damaged.

1. DC motor



2. PG motor



HE: PFC Protection

1. Error description

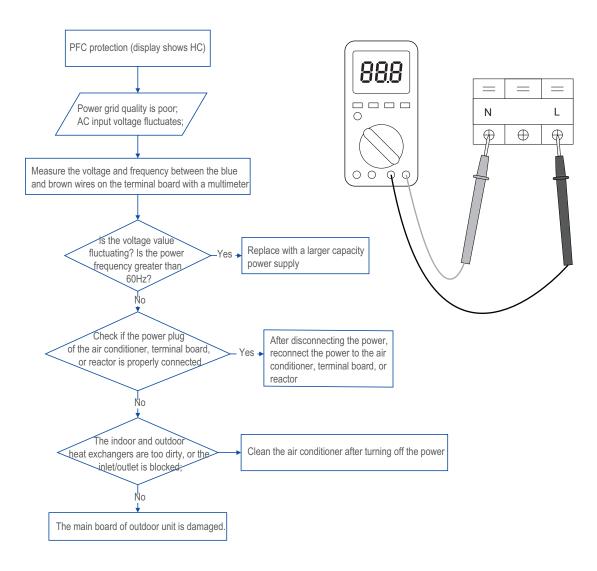
- (1) Cooling/dehumidification: Compressor and outdoor fan stop running;
- (2) Heating: All loads stop running;
- (3) Principle: The main program detects that the instantaneous input current of the PFC circuit is too high.

2. Possible causes

- (1) The main board of the outdoor unit is damaged;
- (2) The power supply used is an inferior power supply, and the input voltage fluctuates and the current is too large;
- (3) The power cord is not well connected;
- (4) The air inlet of the unit is blocked.

3. Troubleshooting

- (1) Use a multimeter to measure the voltage of the power supply;
- (2) Check whether the connection wire is well connected;
- (3) Check whether the air inlet of the unit is blocked.



H기: Compressor Out of Step

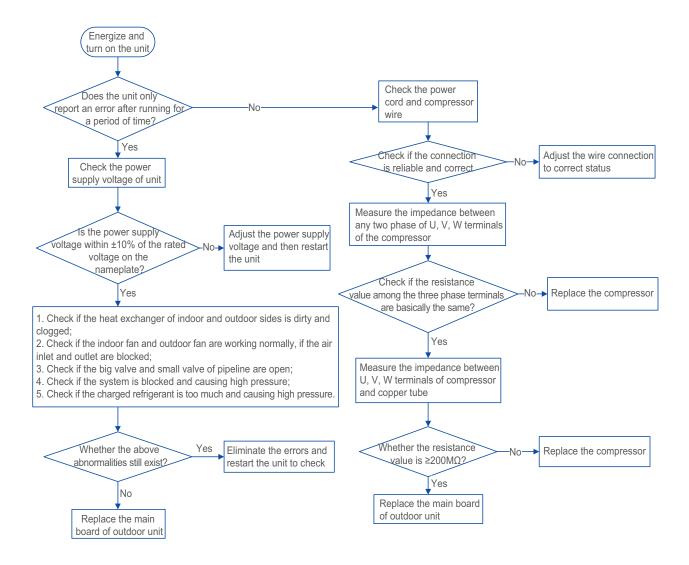
1. Error description

When the compressor is running, the difference between the actual operating speed and the set speed is detected to exceed the set value (the set value is different for different models), and the H7 compressor out-of-step protection is reported.

2. Possible causes

- The power supply voltage is abnormal;
- (2) The condenser or evaporator is dirty and blocked;
- (3) The air inlet and outlet of the indoor unit or outdoor unit are not smooth;
- (4) The system pipeline is blocked and the valve is not opened;
- (5) Too much refrigerant leads to excessive system pressure;
- (6) Poor wire contact;
- (7) The main board is damaged;
- (8) The compressor is damaged.

3. Troubleshooting



FO: Refrigerant Lack Protection, Refrigerant Circulation Stop Protection

1. Error description

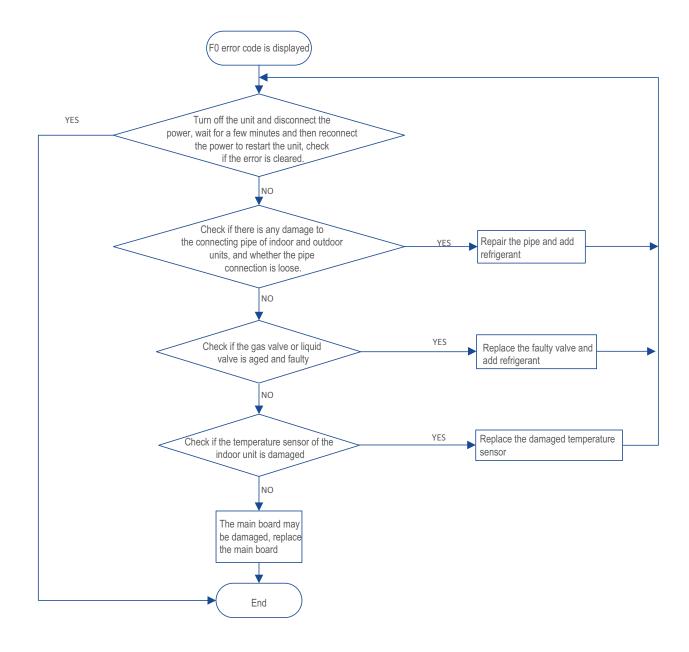
This error code will be displayed when the main board of the indoor unit detects that the temperature difference between the inner tube and the inner ring is too small for a period of time.

2. Possible causes

- (1) The connecting pipe of the IDU and ODU is damaged or the connection is aging and loose, resulting in the leakage of refrigerant;
- (2) The liquid valve/air valve is aging and damaged, resulting in abnormal opening and closing control and pipeline blockage;
- (3) The temperature sensor is inaccurate and false alarm due to the damage and aging of the temperature sensor.

3. Troubleshooting

Check whether the temperature sensor and pipeline are damaged, and add refrigerant.



PH: High DC Bus Voltage

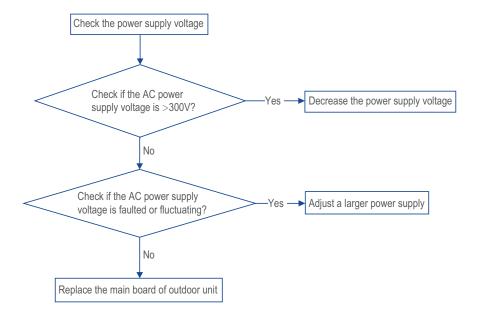
1. Error description

When the compressor is running, the DC bus voltage of the main board is detected, if the voltage value is higher than a certain value (such as 425-445V, the value is different due to different models), and it will report the high DC bus voltage protection.

2. Possible causes

- (1) The AC power supply voltage is too high, such as the AC power supply voltage is greater than 300V;
- (2) The power supply quality is poor, and the AC power supply voltage has abnormal fluctuation;
- (3) The main board is damaged.

3. Troubleshooting



PL: Low DC Bus Voltage

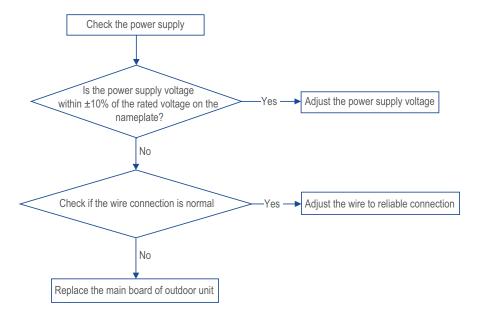
1. Error description

When the compressor is running, the DC bus voltage is detected, if the voltage value is lower than a certain value (such as 120V~170V, different models), it will report low DC bus voltage protection.

2. Possible causes

- (1) The AC power supply voltage is too low, such as the AC power supply voltage is less than 90V;
- (2) The wiring of the unit is abnormal and the connecting wire is loose;
- (3) The main board of outdoor unit is damaged.

3. Troubleshooting



E8: High-Temperature Protection

1. Error description

If the main board detects that the temperature of the evaporator of indoor unit or the condenser of outdoor unit is too high, it will report an E8 high-temperature protection.

2. Possible causes

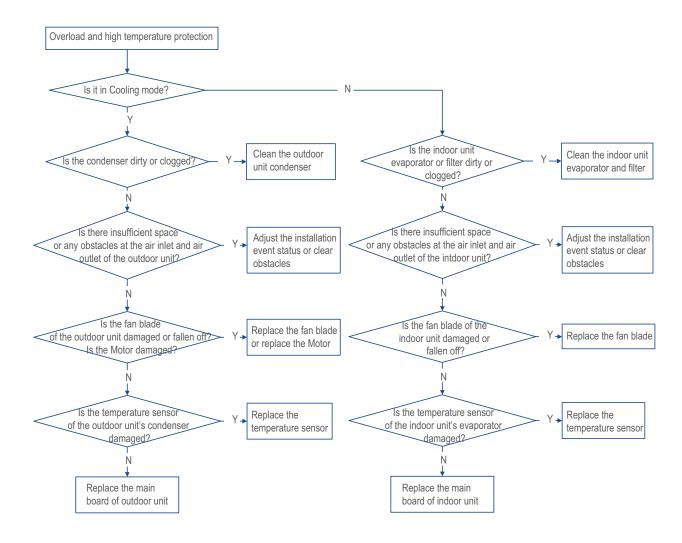
Cooling:

- (1) The condenser of the outdoor unit is dirty or clogged, leading to poor heat exchange;
- (2) Insufficient space or obstacles at the air inlet and outlet of the outdoor unit cause poor air circulation;
- (3) The fan blade of the outdoor unit is broken or falling off, or the motor is damaged;
- (4) The temperature sensor of condenser of the outdoor unit is damaged, or the main board is damaged, leading to inaccurate temperature sampling.

Heating:

- (1) The evaporator of the indoor unit is dirty or clogged, leading to poor heat exchange;
- (2) Insufficient space or obstacles at the air inlet and outlet of the indoor unit cause poor air circulation;
- (3) The fan blade of the indoor unit is broken or falling off;
- (4) The temperature sensor of evaporator of the indoor unit is damaged, or the main board is damaged, leading to inaccurate temperature sampling.

3. Troubleshooting



[식, [5: Jumper Cap Error

1. Error description

If the jumper cap cannot be detected when the main board is powered on, the jumper cap error will be reported.

Principle: The jumper cap determines some of the operating parameters of the model, and if the jumper cap is not detected, the air conditioner cannot run.

2. Possible causes

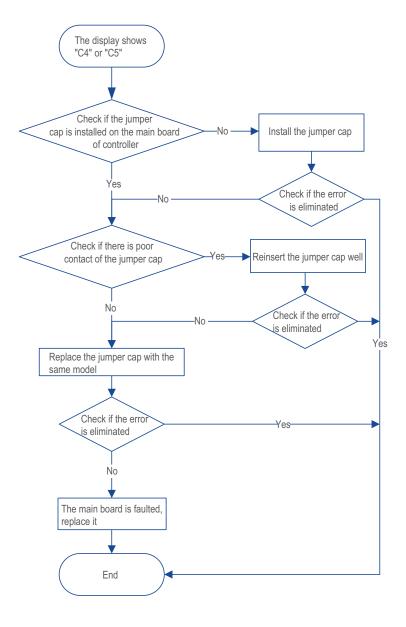
- (1) The main board is not equipped with a jumper cap;
- (2) The jumper cap is not inserted properly.

3. Troubleshooting

- (1) Check whether the main board has installed the jumper cap;
- (2) Check whether the jumper cap of the main board is well inserted.

NOTE:

C4 refers to outdoor unit; C5 refers to indoor unit.



F I, F2: Temperature Sensor Error

1. Error description

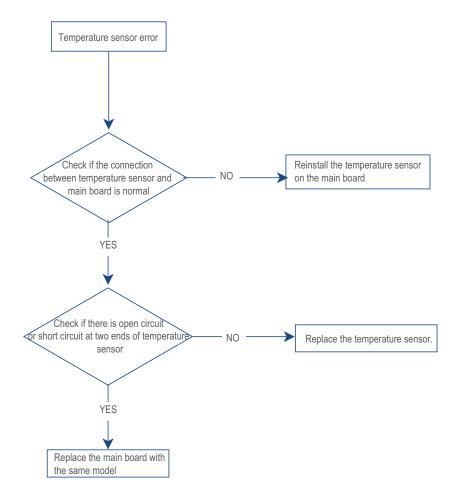
- (1) Cooling/dehumidification: All loads stop operation;
- (2) Heating: All loads stop running.

2. Possible causes

- The temperature sensor is damaged;
- (2) The temperature sensor is not connected or has poor contact.

3. Troubleshooting

- (1) Check whether the connection between the temperature sensor and the main board is normal;
- (2) Check whether there is an open circuit or a short circuit at both ends of the temperature sensor;
- (3) If there is an abnormality in the circuit of the main board, replace the main board of the same model.



법명: Indoor Unit Zero-crossing Signal Error

1. Error description

After the unit is turned on, if the main board of the indoor unit fails to detect the normal zero-crossing signal continuously within a certain period of time, the zero-crossing error will be reported.

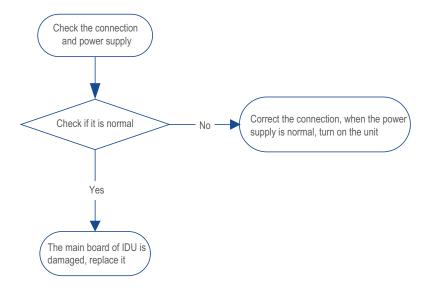
Principle: The main board fails to detect the zero-crossing signal normally, and cannot meet the normal operation requirements of the AC motor.

2. Possible causes

- (1) The power grid is abnormal;
- (2) The main board is damaged.

3. Troubleshooting

- (1) Check whether the connection of the power cord is reliable;
- (2) Check whether the main board is damaged.



E5: Overcurrent Protection

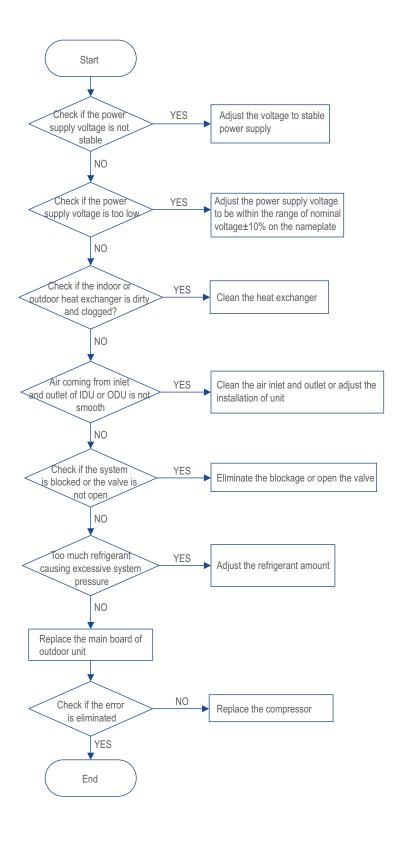
1. Error description

During the operation of the air conditioner, the AC input current of the whole unit is detected, and when the detected current exceeds the set value (the set value is different for different models), the E5 overcurrent protection of the whole unit will be reported.

2. Possible causes

- The power supply voltage is unstable;
- (2) The power supply voltage is too low;
- (3) The condenser or evaporator is dirty and clogged;
- (4) The air inlet and outlet of the indoor unit or outdoor unit are not smooth;
- (5) The system pipeline is blocked and the valve is not opened;
- (6) Too much refrigerant leads to excessive system pressure;
- (7) The main board is damaged;
- (8) The compressor is damaged.

3. Troubleshooting



H∃: Overload Protection of Compressor

1. Error description

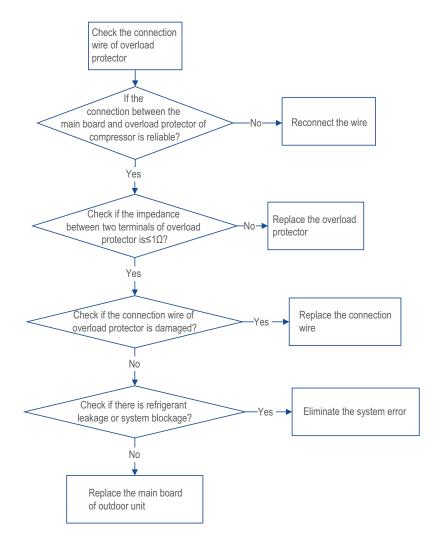
When the main board detects that the compressor overload protection switch is disconnected, it will report the compressor overload protection.

Principle: The overload protection switch is in a short-circuit state at both ends under normal circumstances, and it will be disconnected when the temperature at the top of the compressor is too high.

2. Possible causes

- (1) The connection between the overload connection wire and the main board or the overload protector is unreliable, and the terminal is loose;
- (2) The overload protector is damaged, under normal circumstances, the impedance at both ends of the test overload protector should be less than 1Ω ;
- (3) The overload connection wire is damaged, resulting in the short circuit of wire;
- (4) Refrigerant leakage or system blockage;
- (5) The main board is damaged.

3. Troubleshooting



EA: Refrigerant Leak Alarm

1. Error description

If the refrigerant sensor detects that the refrigerant concentration exceeds 10%LFL, the refrigerant leak alarm will be triggered, and the indoor unit will display the EA code, the buzzer will beep, the fan will run, and the outdoor unit will stop.

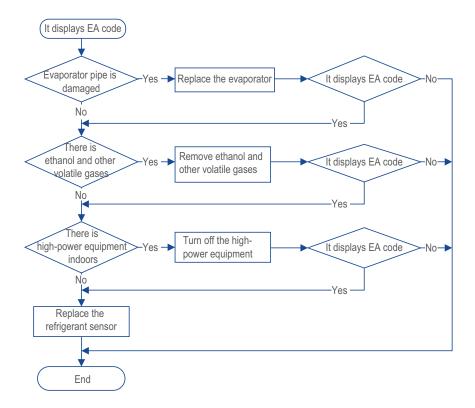
If the refrigerant concentration is lower than 10%LFL for 5min30s, the refrigerant leak alarm will be withdrawn and the unit will resume normal operation.

2. Possible causes

- (1) Evaporator pipeline is damaged or the refrigerant leaks;
- (2) There is a possibility that flammable gases, explosive gases, smoke, ethanol gases (such as perfumes, etc.), and smoke-producing items (such as cigarettes, etc.) may trigger refrigerant leak alarms;
- (3) Electromagnetic interference, such as high-power electrical equipment may trigger sensor alarms.

3. Troubleshooting

- (1) Open the window for ventilation to reduce the indoor refrigerant concentration below the alarm threshold;
- (2) Detect whether there is refrigerant leakage in the unit, detect the pressure of the refrigerant in the unit, and see whether the amount of refrigerant is within the normal range;
- (3) Check the indoor air quality, if there is a gas that is easy to trigger the refrigerant leak alarm, please remove the gas;
- (4) Check the electromagnetic interference situation on the indoor side, if there is high-power equipment interfering with the refrigerant sensor, keep the high-power equipment far away from the air conditioner or turn off the high-power equipment;
- (5) Replace the refrigerant sensor.



FE: Refrigerant Sensor Error

1. Error description

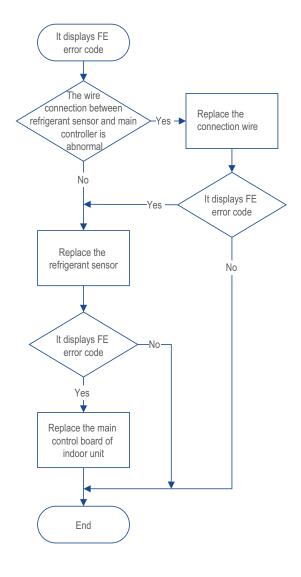
If there is internal error of the refrigerant sensor module or the communication between the refrigerant sensor and the main board is abnormal, the refrigerant sensor alarm will be triggered, and the indoor unit will display the FE code, buzzer will beep, the fan will operate, and the outdoor unit will stop (only applicable to some models).

2. Possible causes

- (1) The connection wire between refrigerant sensor and the main control is loose or in poor contact, and it can not communicate normally;
- (2) The service life of the refrigerant sensor has expired or failed, and it cannot communicate with the main control normally;
- (3) The communication circuit of the main control and refrigerant sensor is abnormal and it cannot communicate with the sensor normally.

3. Troubleshooting

- Replace the connection wire between the refrigerant sensor and main control;
- (2) Replace the refrigerant sensor;
- (3) Replace the main board of the indoor unit.



E 1: High Pressure Protection of System

1. Error description

When the main board detects that the system high pressure protection switch is disconnected, it will report system high pressure protection.

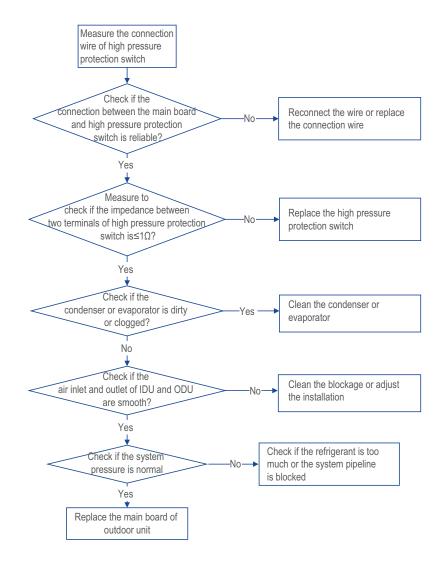
Principle: The system high pressure protection switch is in a short-circuit state at both ends under normal circumstances, and it will be disconnected when the system pressure exceeds the limit value.

2. Possible causes

- (1) The connection between the connecting wire and the main board or the high pressure protection switch is unreliable, or the terminal is loose;
- (2) The high pressure protection switch is damaged, under normal circumstances, the impedance of both ends of the high pressure protection switch should be less than 1Ω ;
- (3) The system pressure is too high due to abnormalities such as dirt blockage of the condenser or evaporator, unsmooth air inlet and outlet, excessive refrigerant, and blockage of system pipelines;
- (4) The main board is damaged.

3. Troubleshooting

Troubleshoot according to the flow chart.



E3: Low Pressure Protection/System Low Pressure Protection/Compressor Low Pressure Protection

1. Error description

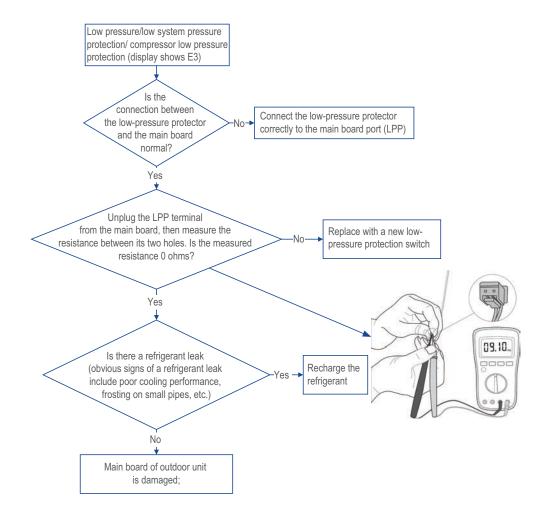
- (1) Cooling/dehumidification: Compressor and outdoor fan stop running;
- (2) Heating: All loads stop running;
- (3) Principle: The low pressure protection switch is normal closed. When the compessor pressure is too low, the switch will open. The mainboard detects the open signal and reports low-pressure protection.

2. Possible causes

- (1) Refrigerant leakage;
- (2) The low pressure protector is damaged or poorly connected;
- (3) The main board is damaged.

3. Troubleshooting

Check whether the connecting wire is damaged and whether it is reliably connected; check whether the low pressure protector is damaged; check whether there is a possibility of refrigerant leakage.



En: Mode Conflict

1. Error description

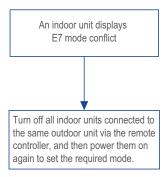
If an outdoor unit is connected to multiple indoor units, and the operation modes of each indoor unit do not match, an E7 mode conflict error will be reported.

2. Possible causes

In multiple indoor units, some indoor units have the heating mode on, and some of the indoor units have the cooling mode, dry mode or air supply mode on, resulting in a conflict between the modes.

3. Troubleshooting

Troubleshoot according to the flow chart.



EE: Read EEPROM Error

1. Error description

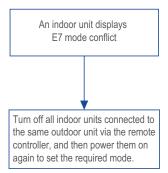
- (1) Cooling/dehumidification: Compressor and outdoor fan stop running;
- (2) Heating: All loads stop running;
- (3) Principle: The memory chip or memory chip circuit fails, and it's unable to read the data from the memory chip.

2. Possible causes

- (1) The main board is damaged;
- (2) It is caused by misuse.

3. Troubleshooting

Disconnect the power supply and restart and wait for $5 \sim 8$ minutes before turning on the unit to view, if it is still not recovered, replace the main board of the outdoor unit.



Lc: Startup Failure

1. Error description

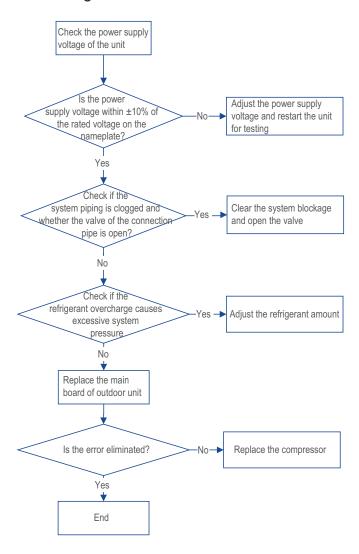
If the compressor cannot be started successfully within a certain period of time, it will report the Lc compressor startup failure.

2. Possible causes

- (1) The power supply voltage is abnormal;
- (2) The system pipeline is blocked and the valve is not opened;
- (3) Too much refrigerant leads to excessive system pressure;
- (4) The main board is damaged;
- (5) The compressor is damaged.

3. Troubleshooting

Troubleshoot according to the flow chart.



Ld: Phase-loss Protection of Compressor

1. Error description

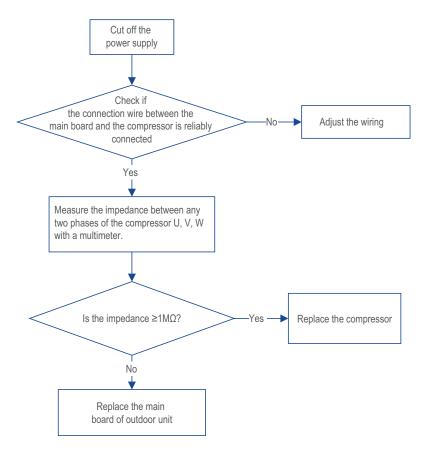
During the operation of the air conditioner, the three-phase current of the compressor U, V and W is detected, and when a certain phase current loss is detected, the Ld compressor phase-loss protection will be reported.

2. Possible causes

- (1) The connection between the connecting wire and the main board or compressor is unreliable, and the terminal is loose;
- (2) The main board is damaged;
- (3) The compressor is damaged.

3. Troubleshooting

Troubleshoot according to the flow chart.



oE: Undefined Outdoor Unit Error

1. Error description

When the main board detects an error that causes the outdoor unit to shut down, this error code is displayed, usually accompanied by other error codes that cause the shutdown.

2. Possible causes

- (1) Compressor startup failure;
- (2) Compressor overload protection;
- (3) The indoor unit requires to shut down.

3. Troubleshooting

This error indicator is a general indicator, usually accompanied by other specific shutdown error codes, and needs to be analyzed and processed in combination with other shutdown error codes.

P7: Circuit Error of Module Temperature Sensor

1. Error description

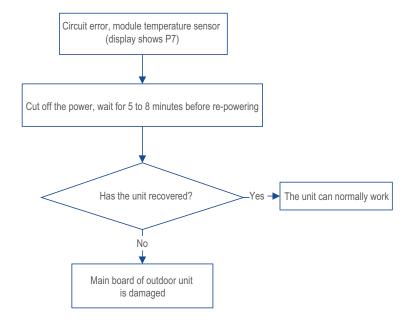
- (1) Cooling/dehumidification: Compressor and outdoor fan stop running;
- (2) Heating: All loads stop running;
- (3) Principle: The main program detects that the temperature of the compressor IPM Module is abnormal, usually the compressor IPM Module or the detection circuit is damaged.

2. Possible causes

- (1) Compressor IPM Module is damaged;
- (2) The circuit of the main board of outdoor unit is damaged.

3. Troubleshooting

Disconnect the power supply and wait for 5 to 8 minutes before restarting the unit.



P8: High-temperature Protection of Module

1. Error description

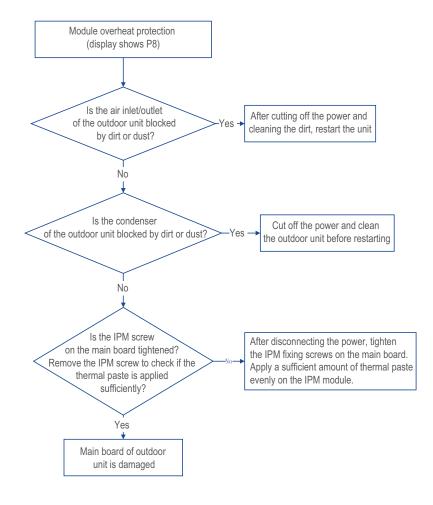
- (1) Cooling/dehumidification: Compressor and outdoor fan stop running;
- (2) Heating: All loads stop running;
- (3) Principle: The main program detects that the module temperature is too high and exceeds the protection value.

2. Possible causes

- (1) The outdoor fan is blocked by foreign objects, resulting in poor heat dissipation;
- (2) The outdoor condenser is blocked by foreign objects, resulting in poor heat dissipation;
- (3) The screws between the IPM module and the radiator on the main board are not tightened, resulting in poor heat dissipation;
- (4) There is not enough thermal paste on the IPM;
- (5) The main board of outdoor unit is damaged.

3. Troubleshooting

- (1) Check whether the outdoor fan is blocked by foreign objects;
- (2) Check whether the outdoor condenser is blocked by foreign objects;
- (3) Check whether the screws between the IPM module and the radiator are tightened;
- (4) Check whether there is enough thermal paste on the IPM module.



PU: Capacitor Charging Error

1. Error description

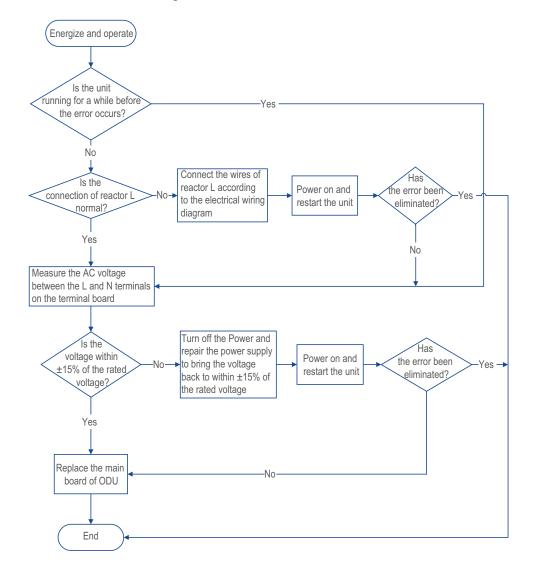
After energizing the unit, the voltage of the DC bus of the main board of outdoor unit has not reached 100V.

2. Possible causes

- (1) The AC power supply voltage is too low;
- (2) The reactor wiring is incorrect;
- (3) The main board of outdoor unit is damaged.

3. Troubleshooting

Troubleshoot according to the flow chart.



rF: RF Module Error

1. Error description

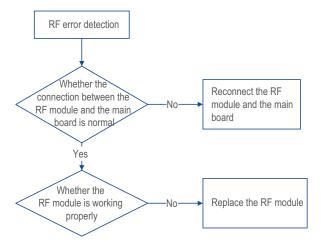
- (1) Cooling: The compressor and the outdoor fan stop running;
- (2) Heating: The compressor and the outdoor fan stop running immediately, and the indoor fan stops running after 1 minute.

2. Possible causes

- (1) The connection between the RF module and the main board is abnormal;
- (2) The RF module is faulted.

3. Troubleshooting

- (1) Adjust the connection between the RF module and the main board;
- (2) Replace the RF module.



FE: Micro-switch Error

1. Error description

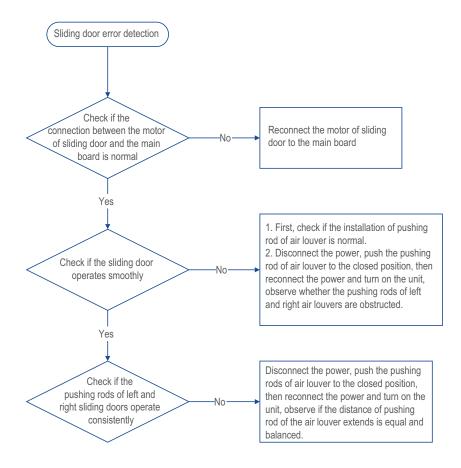
- Cooling/dehumidification: All loads stop running;
- (2) Heating: All loads stop running.

2. Possible causes

- (1) The connection between the sliding door motor and the main board is abnormal;
- The sliding door does not run smoothly;
- (3) The pushing rods of left and right sliding door do not run consistently.

3. Troubleshooting

- (1) Check the connection between the sliding door motor and the main board;
- (2) Check whether the air louver and pushing rod are installed properly;
- (3) Disconnect the power supply of the unit, push the air louver and pushing rod to the closed state, connect the power supply and restart the unit, and observe whether the operation of the left and right air louvers and pushing rods are blocked;
- (4) Disconnect the power supply of the unit, push the air louver and pushing rod to the closed state, restart the power supply, and observe whether the push distance of the air louver and pushing rods are equal and balanced.



ป : Communication Error Between Indoor Unit and Detective Board

1. Error description

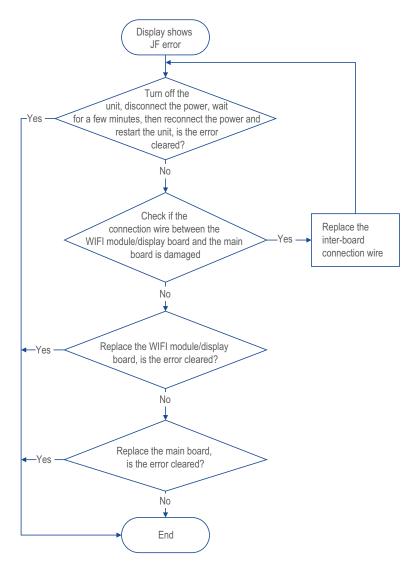
When the main board of indoor unit detects abnormal communication with the WIFI module, this error code will appear, but the error will not be displayed actively.

2. Possible causes

- (1) The communication circuit of the main board of indoor unit or WIFI module is damaged;
- (2) The inter-board wire connection may be damaged.

3. Troubleshooting

Replace the WIFI module/inter-board wire connection/main board.



Networking Error

1. Error description

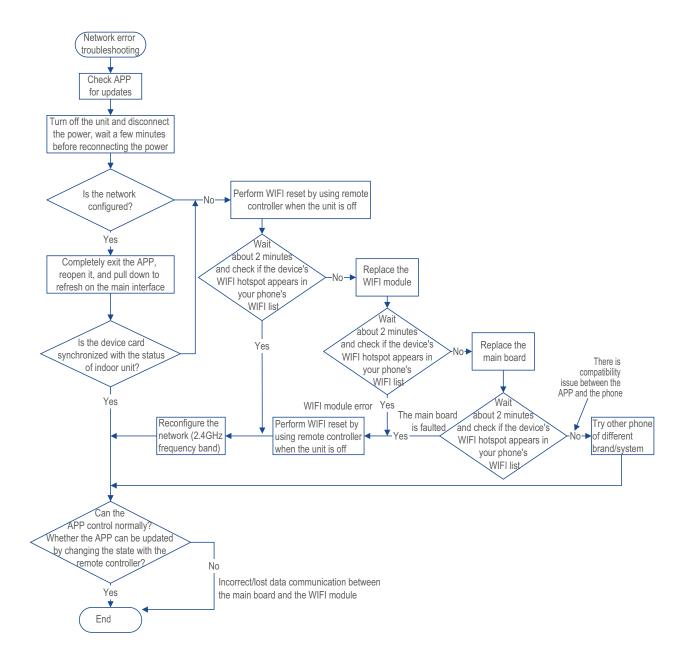
The APP cannot control the indoor unit normally/cannot connect to the network.

2. Possible causes

- (1) The APP version is not the latest;
- (2) The APP is not compatible with the mobile phone system;
- (3) The home network frequency band is not supported (not 2.4GHz);
- (4) The communication circuit between the main board and the WIFI module is abnormal.

3. Troubleshooting

- (1) Update the APP version;
- (2) Use other mobile phone brands or systems to connect to the network;
- (3) Check whether the home network meets the requirements;
- (4) Replace the main board or WIFI module.



9.3 Checkup

1. Check the thermal resistor resistance

(1) Tool preparation

Multimeter.

(2) Find the model of thermal resistor

Check the label on the outer case of the thermal resistor to find the model number. Refer to the resistance table of thermal resistor in the appendix to find the resistance range corresponding to the model.

(3) Disconnection

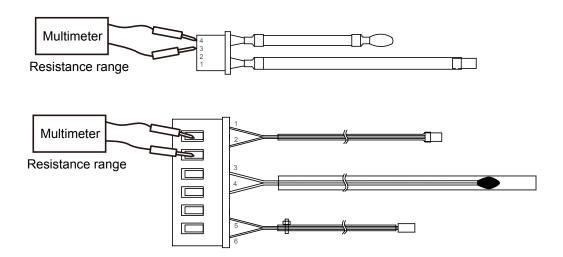
Disconnect the thermal resistor from the connector on the PCB board. This ensures that you are measuring the resistance of the thermal resistor itself, not the entire circuit.

(4) Measure resistance

Use the resistance mode on the multimeter (usually marked as Ω). Place the two probes of the multimeter on the two pins of the thermal resistor to measure its resistance.

(5) Compare resistance

Compare the measured resistance with the resistance mode for the corresponding model in Appendix 4. If the measured resistance is outside the specified range, it indicates that the thermal resistor may be damaged and needs to be replaced.



2. Check the electronic expansion valve

1. Check the connection

Check whether the connector of the electronic expansion valve (EV) is properly connected to the PCB board.

 Make sure that the connector is firmly plugged in and there is no looseness or poor contact.

2. Check the action sound

Turn off the power, then turn it back on, and check whether the electronic expansion valve makes a latching sound.

 This sound indicates that the electronic expansion valve is responding to the control signal.

3. Check the coil

If the electronic expansion valve does not make a latching sound in step 2, disconnect the connector and use a multimeter to check the conductivity of the connector.

— Use the resistance mode of the multimeter (usually marked as Ω), use the probe to touch the corresponding pins of the connector to check whether there is continuity. Check the conductivity between the connector pins. The specific pin combinations are as follows:

Pin 5 - 2

Pin 5 - 3

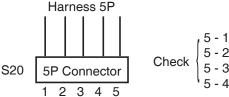
Pin 5 - 4

If there is no conduction between these pins (i.e. the measured resistance value is infinite), the coil of the electronic expansion valve may be damaged and the electronic expansion valve coil needs to be replaced.

4. Check the PCB board

If the conductivity between the pins is confirmed in step 3, but the electronic expansion valve still does not make a latching sound, it means that the PCB board of outdoor unit (main PCB board) may be faulty.

Further inspection or replacement of the PCB board of outdoor unit is required.



3. Check the compressor

1. Disconnect the power supply

Disconnect the compressor power cord from the PCB board of outdoor unit.

 Make sure the power supply is completely disconnected to avoid the risk of electric shock.

2. Measure the winding resistance

Use the resistance mode (usually marked as Ω) of the multimeter to measure the resistance between the compressor windings.

 The compressor usually has three terminals, namely U, V, W (or similar identification). The following combinations of resistance values need to be measured:

> U - V U- W V- W

3. Check the resistance consistency

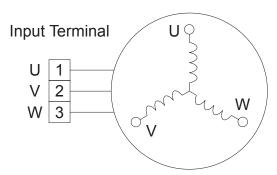
Make sure the resistance between any two terminals is roughly equal.

 Under normal circumstances, these three resistance values should be very close. If one resistance value is significantly different, it may indicate a problem with the winding.

4. Check the insulation to ground

Measure the resistance between each terminal and the outer case of compressor.

- Use one probe of the multimeter to touch the outer case of compressor and the other probe to the U, V, and W terminals respectively.
- If the measured resistance value is very low (close to 0Ω), there is a short circuit between the winding and the outer case and the compressor needs to be replaced.



4. Check the 4-way valve coil

Measure the resistance between the two leads of the coil. If the resistance is between $500\sim2500\Omega$, the coil is normal. If the resistance is infinite, the coil is abnormal.

- The resistance of DC24V coil is about 550Ω;
- The resistance of AC110-120V coil is about 550Ω;
- The resistance of AC220-240V coil is about 2000~2500Ω.

9.4 Troubleshooting for Normal Malfunction

1. Air Conditioner Can't be Started Up

Possible Causes	Troubleshooting
No power supply, or poor connection for power plug	 Confirm whether it's due to power failure. If yes, wait for power recovery. If not, check power supply circuit and make sure the power plug is connected well.
Wrong wire connection between indoor unit and outdoor unit, or poor connection for wiring terminals	 Check the circuit according to circuit diagram and connect wires correctly. Make sure all wiring terminals are connected firmly
Electric leakage for air conditioner	 Make sure the air conditioner is grounded reliably. Make sure wires of air conditioner is connected correctly. Check the wiring inside air conditioner. Check whether the insulation layer of power cord is damaged; if yes, place the power cord.
Model selection for air switch is improper	Select proper air switch
Malfunction of remote controller	 Replace batteries for remote controller Repair or replace remote controller

2. Poor Cooling (Heating) for Air Conditioner

Possible Causes	Troubleshooting
Set temperature is improper	Adjust the set temperature
Rotation speed of the IDU fan motor is set too low	Set the fan speed at high or medium
Filter of indoor unit is blocked	Clean the filter
Installation position for indoor unit and outdoor unit is improper	Adjust the installation position, and install the rainproof and sunproof for outdoor unit
Refrigerant is leaking	 Find out the leakage causes and deal with it. Add refrigerant.
Malfunction of 4-way valve	Replace the 4-way valve
Malfunction of capillary	Replace the capillary
Flow volume of valve is insufficient	Open the valve completely
Malfunction of horizontal louver	Refer to point 3 of maintenance method for details
Malfunction of the IDU fan motor	Refer to troubleshooting for H6 for maintenance method in details
Malfunction of the ODU fan motor	Refer to point 4 of maintenance method for details
Malfunction of compressor	Refer to point 5 of maintenance method for details

3. Horizontal Louver Can't Swing

Possible Causes	Troubleshooting
Wrong wire connection, or poor connection	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Stepping motor is damaged	Repair or replace stepping motor
Main board is damaged	Replace the main board with the same model

4. ODU Fan Motor Can't Operate

Possible Causes	Troubleshooting
Wrong wire connection, or poor connection	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Capacity of the ODU fan motor is damaged	Replace the capacity of fan
Power voltage is a little low or high	Suggest to equip with voltage regulator
Motor of outdoor unit is damaged	Change compressor oil and refrigerant. If no better, replace the compressor with a new one

5. Air Conditioner is Leaking

Possible Causes	Troubleshooting
Drain pipe is blocked	Eliminate the foreign objects inside the drain pipe
Drain pipe is broken	Replace drain pipe
Wrapping is not tight	Wrap it again and bundle it tightly

6. Compressor Can't Operate

Possible Causes	Troubleshooting
Wrong wire connection, or poor connection	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Capacity of compressor is damaged	Replace the compressor capacitor
Power voltage is a little low or high	Suggest to equip with voltage regulator
Coil of compressor is burnt out	Repair or replace compressor
Cylinder of compressor is blocked	Repair or replace compressor

7. Abnormal Sound and Vibration

Possible Causes	Troubleshooting
When turn on or turn off the unit, the panel and other parts will expand and there's abnormal sound	Normal phenomenon. Abnormal sound will disappear after a few minutes.
When turn on or turn off the unit, there's abnormal sound due to flow of refrigerant inside air conditioner	Normal phenomenon. Abnormal sound will disappear after a few minutes.
Foreign objects inside the indoor unit or there are parts touching together inside the indoor unit	 Remove foreign objects. Adjust all parts position of indoor unit, tighten screws and stick damping plaster between connected parts
Foreign objects inside the outdoor unit or there are parts touching together inside the outdoor unit	 Remove foreign objects. Adjust all parts position of outdoor unit, tighten screws and stick damping plaster between connected parts
Short circuit inside the magnetic coil	Replace magnetic coil
Abnormal shake of compressor	 Adjust the support foot mat of compressor, tighten the bolts
Abnormal sound inside the compressor	If add too much refrigerant during maintenance, please reduce refrigerant properly. Replace compressor for other circumstances.

10. Removal Procedure

10.1 Removal Procedure of Cassette Type

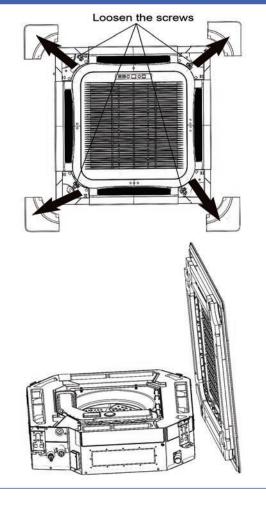
Removal and installation of fan and motor

Step Procedure

01

Remove the front panel

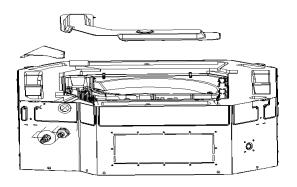
- 1. Turn off the power supply of indoor unit.
- 2. Push the 4 corner plates in the directions shown by the arrows.
- 3. Loosen the screws and remove the front panel.



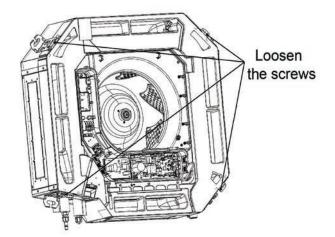
02

Remove the cover of electric box and the clamp of power cord

Remove the motor wire and water pump of the electric box.



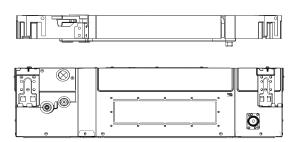
Step Procedure



03

Remove the water tray

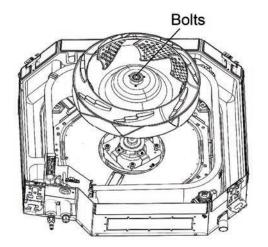
Loosen the screws in the 4 corners and then remove the water tray.



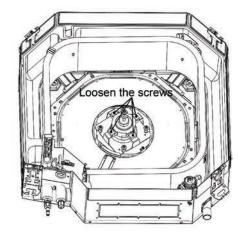
04

Remove the fan

Use a screwdriver to remove the clamping band of motor. Then remove the fan.



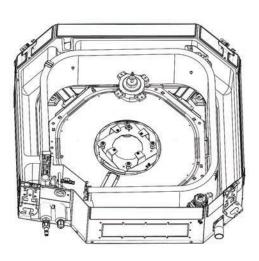
Step Procedure



05

Remove the motor

Use a screwdriver to unscrew the 4 screws of motor. Then remove the motor.

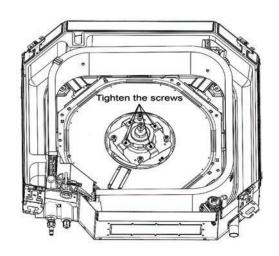


06

Replace and install the motor

Remove the motor from motor support and then replace with a new motor.

Tighten the 4 screws of motor with a screwdriver.



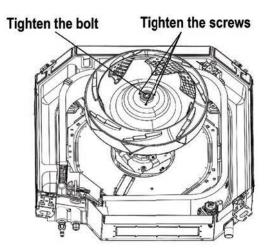
Step Procedure

07

Install the fan

Direct the hole of fan to the motor shaft and then mount on the fan.

Tighten the clamping band of motor with a wrench.



80

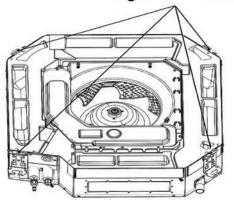
Install the water tray

Direct the 4 corners of water tray to the 4 corners of the unit and then press them. Use a screwdriver to tighten the screws in the 4 corners.

Connect the power cord and water pump wire.

Place back the cover of electric box and the clamp of power cord. Then tighten the screws with a screwdriver.

Tighten the screws



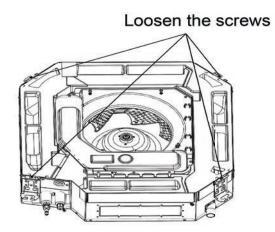
Removal and installation of drain pump

Step Procedure

01

Loosen the screws of the water tray

Use a screwdriver to loosen the screws of water tray.

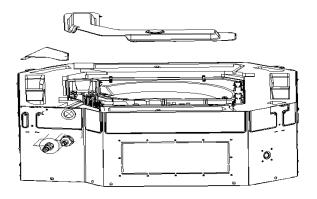


282

02

Remove the cover of electric box and the clamp of power cord

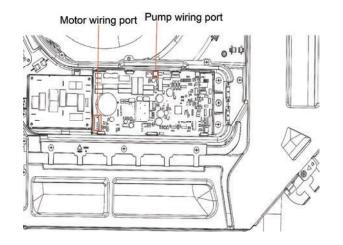
Twist off the screws and open the cover of electric box and the clamp of power cord.



03

Remove the motor wire and water pump wire

Remove the motor wire and water pump wire in the electric box.

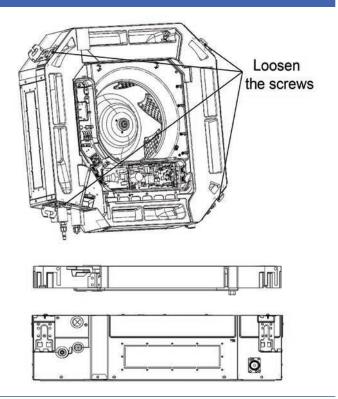


Step Procedure

04

Remove the water tray

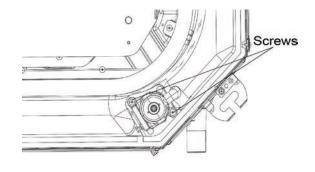
Loosen the screws in the 4 corners and then remove the water tray.



05

Remove the drain pipe and loosen the screws of water pump

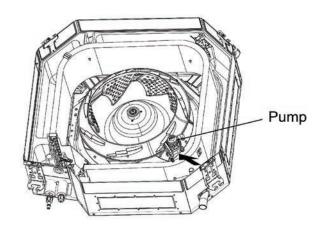
Take out the drain pipe and use a screwdriver to loosen the screws of water pump.



06

Remove and replace the pump

Remove the pump and replace with a new one.

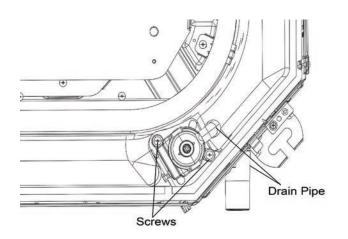


Step Procedure

07

Connect the drain pipe and tighten the screws of water pump

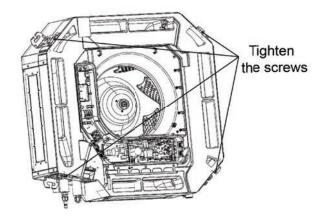
Connect the drain pipe and tighten the screws of water pump



08

Remove the motor wire and water pump wire

Direct the 4 corners of the water tray to the 4 corners of the unit and press them. Then use a screwdriver to tighten the screws.

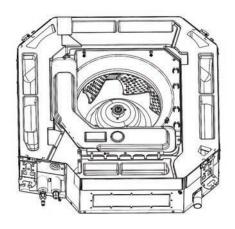


09

Connect the water pump wire and power cord

Connect the water pump wire and motor wire according to the wiring diagram.

Put back the cover of electric box and the clamp of power cord. Then tighten the screws.



10.2 Removal Procedure of Ducted Type

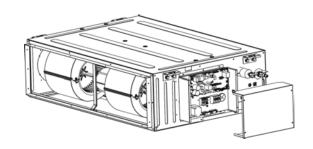
Step Procedure

01

Remove the line connecting to the motor

Use a screwdriver to unscrew the electric box cover.

Remove from the master board the line connecting to the motor and remove the tie.

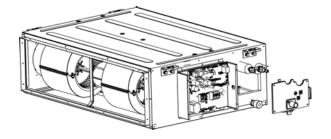


285

02

Disassemble the seal plate and cover plate

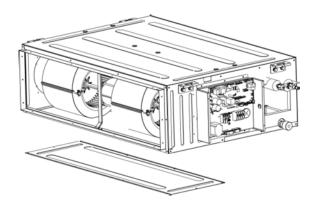
Use a screwdriver to unscrew the seal plate and cover plate and then remove them.



03

Remove the grille

Use a screwdriver to unscrew the cover plate component.

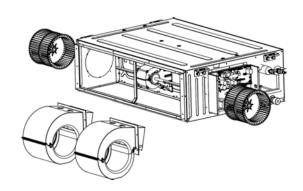


Step Procedure

04

Remove the centrifugal fan

Use a screwdriver to unscrew the front volute casing and then remove the volute casing.

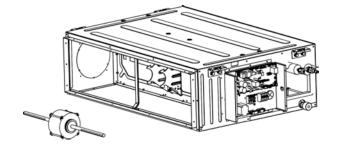


05

Remove the motor

Remove the motor from the support and remove the centrifugal fan from the motor axle. Then, remove the motor.

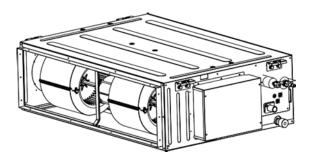
For motors that are accompanied with supports, the supports need removing as well.



06

Install a new motor

Assemble units based on the reverse order of this procedure and power on the units for test.



10.3 Removal Procedure of Wall Mounted Type

Step Procedure

01

Before disassemble

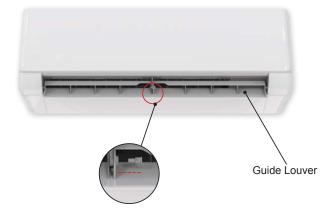
Turn off the air conditioner and disconnect the power before disassemble the air conditioner.



02

Remove guide louver

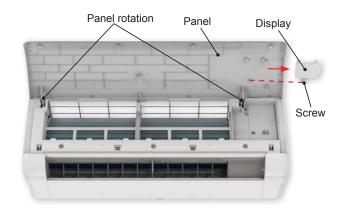
Push out the plug pin on guide louver, bend the guide louver with hand and then separate the guide louver from the crank shaft of step motor to remove it.



03

Remove panel

Open the front panel; separate the panel rotation shaft from the groove fixing the front panel and then removes the front panel.

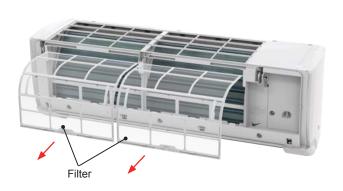


Step Procedure

04

Remove filter

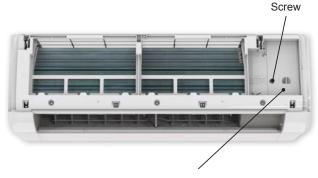
Hold the handle on the filter, pull it forwards and then the filter can be pulled out.



05

Remove electric box cover 2

Remove the screws on the electric box cover 2 to remove the electric box cover 2.

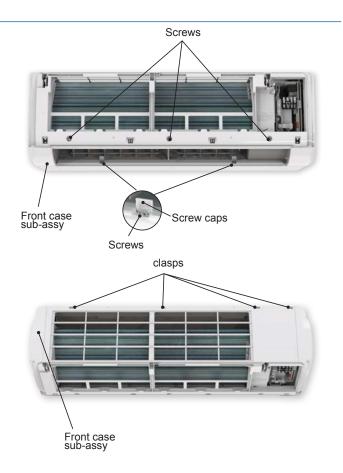


Electric box cover 2

06

Remove front case sub-assy

- 1. Remove the screws fixing front case.
 - NOTE:
 - (1) Open the screw caps before removing the screws around the air outlet.
 - (2) The quantity of screws fixing the front case sub-assy is different for different models.
- 2. Loosen the clasps at left, middle and right sides of front case. Life the front case sub-assy upwards to remove it.



Step Procedure

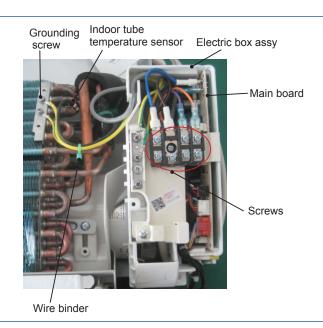
07

Remove electric box assy

Remove the screw fixing electric box assy.



- 1. Cut off the wire binder and pull out the indoor tube temperature sensor.
- 2. Screw off one grounding screw.
- 3. Remove the wiring terminals of motor, cold plasma generator and stepping motor.
- 4. Remove the electric box assy.
- Screw off the screws that are locking each. (NOTE: Take AC unit for example).



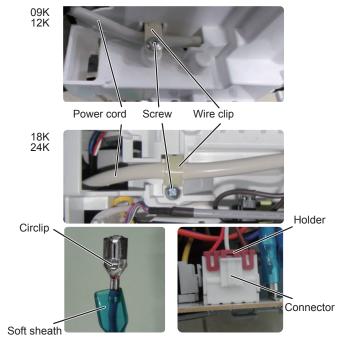
Rotate the electric box assy. Twist off the screws that are locking the wire clip and loosen the power cord.

Remove the wiring terminal of power cord. Lift up the main board and take it off.

(NOTE: This step is only available to the unit which is indoor power supply.)

Instruction:Some wiring terminal of this products is with lock catch and other devices. The pulling method is as below:

- 1. Remove the soft sheath for some terminals at first, hold the circlip and then pull out the terminals.
- 2. Pull out the holder for some terminals at first (holder is not available for some wiring terminal). hold the connector and then pull the terminal.

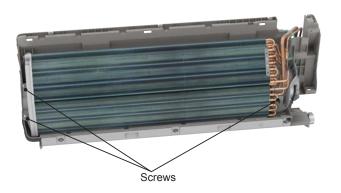


Step

80

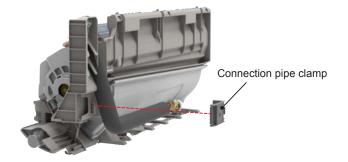
Remove evaporator assy

Remove 2 screws fixing evaporator assy.

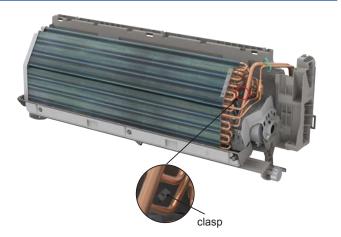


Procedure

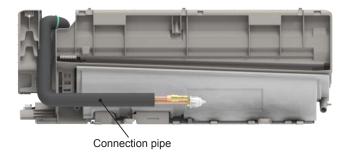
At the back of the unit, Loosen the clasp of the connection pipe clamp and then remove the connection pipe clamp.



First remove the left side of evaporator from the groove of bottom shell and then remove the right side from the clasp on the bottom shell.



Adjust the position of connection pipe on evaporator slightly and then lift the evaporator upwards to remove it.



Step Procedure

09

Remove motor and cross flow fan

Remove 3 screws fixing motor clamp and then remove the motor clamp.



Loose the screws (2-3 circles) used for fixing the cross flow fan, pull right to pull out the motor.



Screw

10

Remove swing motor

Screw off the screws that are locking the swing motor and take the motor off.



10.4 Removal Procedure of Outdoor Unit

GMRSHT18AS2



Warning: Be sure to wait for a minimum of 20 minutes after turning off all power supplies and discharge the refrigerant completely before removal.

Step

Procedure

01Before disassembly



02

Remove valve cover

Remove the connection screw fixing the valve cover and then remove the valve cover.



03

Remove handle

Remove the connection screws fixing the handle and the right side plate, and then remove the handle.



> Step **Procedure**

04

Remove top panel

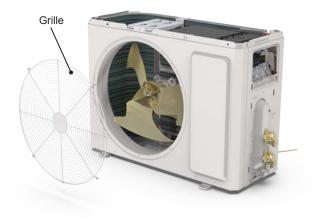
Remove the connection screws connecting the top panel and the front panel, and then remove the top panel.



05

Remove front grille

Remove the connection screws connecting the front grille and the front panel, and then loosen the clasp to remove the front grille.



06

Remove front panel

Remove the screws connecting the front panel and then remove the front panel.

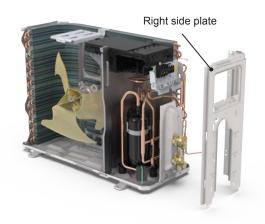


Step Procedure

07

Remove motor right side plate

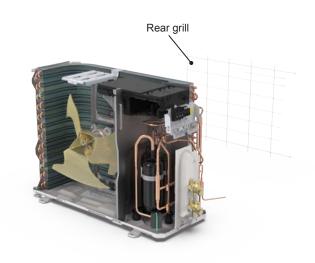
Remove the screws connecting the right side plate with the chassis and the valve support. Then remove the right side plate.



08

Remove rear grill

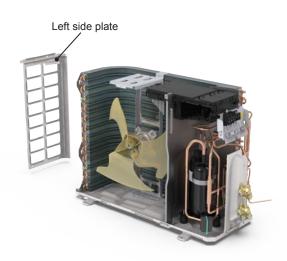
Remove the screws connecting the rear grill and left side plate, and then remove the rear grill.



09

Remove left side plate

Remove the screws fixing the left side plate with the chassis and the condenser support, and then remove the left side plate.

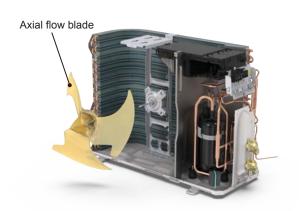


Step Procedure

10

Remove axial flow blade

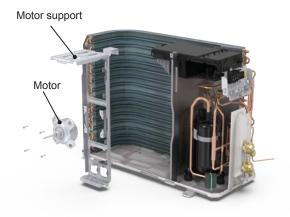
Remove the nut on the blade and then remove the axial flow blade.



11

Remove motor and motor support

Remove the 4 tapping screws fixing the motor and disconnect the leading wire insert of the motor. Then remove the motor. Remove the 2 tapping screws fixing the motor support and chassis, and then lift the motor support to remove it.



12

Remove electric box assy

Remove the screws fixing the electric box assy and the middle isolation sheet, loosen the wire bundle, unplug the wiring terminals, and then lift the electric box assy to remove it.



Step Procedure

13

Remove 4-way valve assy

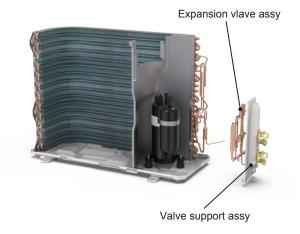
Unsolder the welding joint connecting the 4-way valve assy with the cut-off valve and the condenser connection pipe, and then remove the 4-way valve assy.



14

Remove valve support sub-assy and expansion valve assy

Remove the screw connecting the valve support and the chassis, and then remove the valve support assy. Unsolder the welding joint connecting the electronic expansion valve assy with the cut-off valve and the condenser connection pipe, and then remove the expansion valve assy.



15

Remove middle isolation sheet

Remove the screws connecting the middle isolation sheet with the chassis assy and the condenser assy, and then remove the middle isolation sheet.

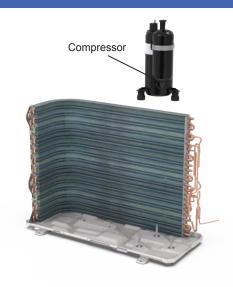


Step Procedure

16

Remove compressor

Remove the 3 foot nuts fixing the compressor and then remove the compressor.

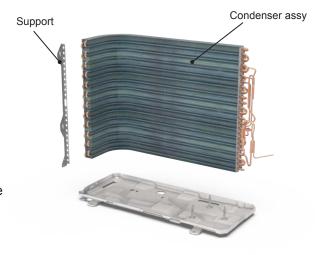


17

Remove condenser assy

Remove the screws fixing the condenser support and then remove the condenser support.

Remove the screws connecting the condenser support and the chassis assy, and then remove the condenser assy.



GMRSHT24AS3



Warning: Be sure to wait for a minimum of 20 minutes after turning off all power supplies and discharge the refrigerant completely before removal.

Step Procedure

01Before disassembly



02

Remove valve cover

Remove the connection screw fixing the valve cover and then remove the valve cover.



03

Remove handle

Remove the connection screws fixing the handle and the right side plate, and then remove the handle.

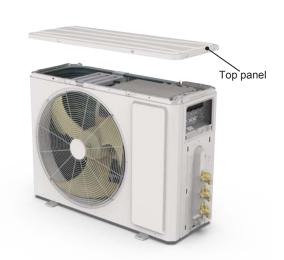


Step Procedure

04

Remove top panel

Remove the connection screws connecting the top panel and the front panel, and then remove the top panel.



05

Remove front grille

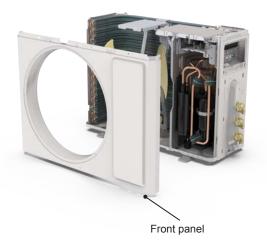
Remove the connection screws connecting the front grille and the front panel, and then loosen the clasp to remove the front grille.



06

Remove front panel

Remove the screws connecting the front panel and then remove the front panel.

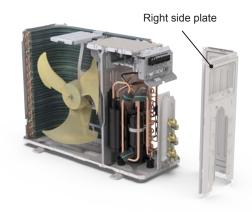


Step Procedure

07

Remove motor right side plate

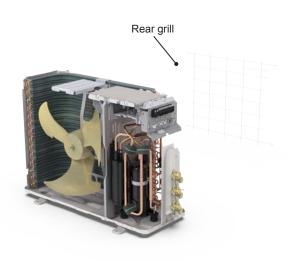
Remove the screws connecting the right side plate with the chassis and the valve support. Then remove the right side plate.



08

Remove rear grill

Remove the screws connecting the rear grill and left side plate, and then remove the rear grill.



09

Remove left side plate

Remove the screws fixing the left side plate with the chassis and the condenser support, and then remove the left side plate.

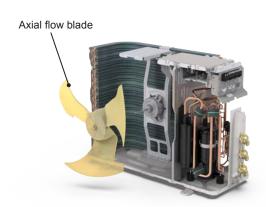


Step Procedure

10

Remove axial flow blade

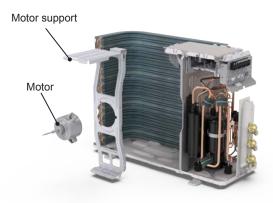
Remove the nut on the blade and then remove the axial flow blade.



11

Remove motor and motor support

Remove the 4 tapping screws fixing the motor and disconnect the leading wire insert of the motor. Then remove the motor. Remove the 2 tapping screws fixing the motor support and chassis, and then lift the motor support to remove it.



12

Remove electric box assy

Remove the screws fixing the electric box assy and the middle isolation sheet, loosen the wire bundle, unplug the wiring terminals, and then lift the electric box assy to remove it.

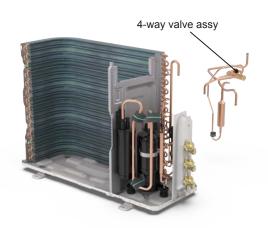


Step Procedure

13

Remove 4-way valve assy

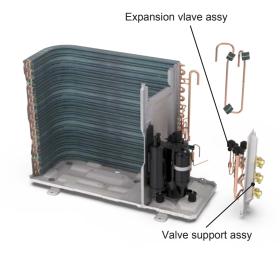
Unsolder the welding joint connecting the 4-way valve assy with the cut-off valve and the condenser connection pipe, and then remove the 4-way valve assy.



14

Remove valve support sub-assy and expansion valve assy

Remove the screw connecting the valve support and the chassis, and then remove the valve support assy. Unsolder the welding joint connecting the electronic expansion valve assy with the cut-off valve and the condenser connection pipe, and then remove the expansion valve assy.



15

Remove middle isolation sheet

Remove the screws connecting the middle isolation sheet with the chassis assy and the condenser assy, and then remove the middle isolation sheet.



Step Procedure

16

Remove compressor

Remove the 3 foot nuts fixing the compressor and then remove the compressor.

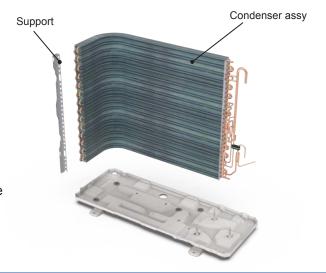


17

Remove condenser assy

Remove the screws fixing the condenser support and then remove the condenser support.

Remove the screws connecting the condenser support and the chassis assy, and then remove the condenser assy.



GMRSHT36AS4



Warning: Be sure to wait for a minimum of 20 minutes after turning off all power supplies and discharge the refrigerant completely before removal.

Step Procedure

01 Before disassembly



02

Remove valve cover

Remove the connection screw fixing the valve cover and then remove the valve cover.



03

Remove handle

Remove the connection screws fixing the handle and the right side plate, and then remove the handle.





> Step **Procedure**

04

Remove top panel

Remove the connection screws connecting the top panel and the front panel, and then remove the top panel.



05

Remove front grille

Remove the connection screws connecting the front grille and the front panel, and then loosen the clasp to remove the front grille.



06

Remove front panel

Remove the screws connecting the front panel and then remove the front panel.



Front panel

Step Procedure

07

Remove rear grill

Remove the screws connecting the rear grill and left side plate, and then remove the rear grill.



80

Remove motor right side plate

Remove the screws connecting the right side plate with the chassis and the valve support. Then remove the right side plate.



09

Remove left side plate

Remove the screws fixing the left side plate with the chassis and the condenser support, and then remove the left side plate.



Step Procedure

10

Remove axial flow blade

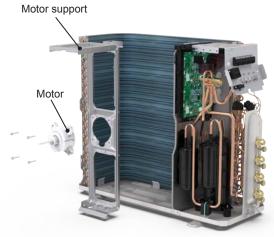
Remove the nut on the blade and then remove the axial flow blade.



11

Remove motor and motor support

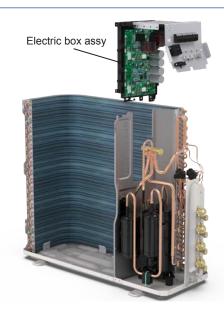
Remove the 4 tapping screws fixing the motor and disconnect the leading wire insert of the motor. Then remove the motor. Remove the 2 tapping screws fixing the motor support and chassis, and then lift the motor support to remove it.



12

Remove electric box assy

Remove the screws fixing the electric box assy and the middle isolation sheet, loosen the wire bundle, unplug the wiring terminals, and then lift the electric box assy to remove it.



Step Procedure

13

Remove 4-way valve assy

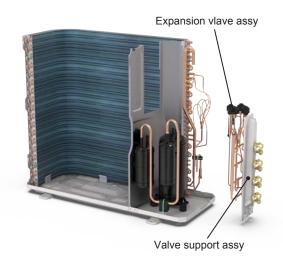
Unsolder the welding joint connecting the 4-way valve assy with the cut-off valve and the condenser connection pipe, and then remove the 4-way valve assy.



14

Remove valve support sub-assy and expansion valve assy

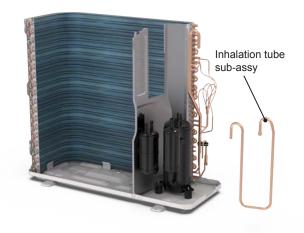
Remove the screw connecting the valve support and the chassis, and then remove the valve support assy. Unsolder the welding joint connecting the electronic expansion valve assy with the cut-off valve and the condenser connection pipe, and then remove the expansion valve assy.



15

Remove inhalation tube sub-assy

Remove all spot welds connected with inhalation tube, and then remove the inhalation tube sub-assy.

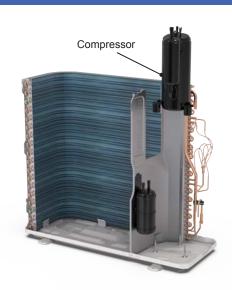


Step Procedure

16

Remove compressor

Remove the 3 foot nuts fixing the compressor and then remove the compressor.



17

Remove vapour liquid separator

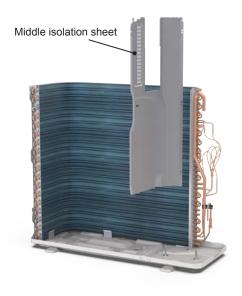
Remove the screw connecting the vapour liquid separator, then remove the vapour liquid separator.



18

Remove middle isolation sheet

Remove the screws connecting the middle isolation sheet with the chassis assy and the condenser assy, and then remove the middle isolation sheet.



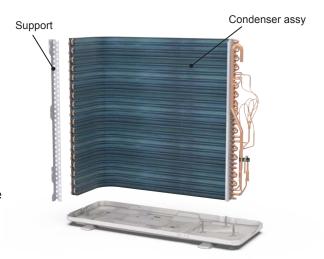
Step Procedure

19

Remove condenser assy

Remove the screws fixing the condenser support and then remove the condenser support.

Remove the screws connecting the condenser support and the chassis assy, and then remove the condenser assy.



GMRSHT42AS5



Warning: Be sure to wait for a minimum of 20 minutes after turning off all power supplies and discharge the refrigerant completely before removal.

Step Procedure

01Before disassembly



02 Remove handle

Remove the connection screws fixing the handle and the right side plate, and then remove the handle.



03

Remove valve cover

Remove the connection screw fixing the valve cover and then remove the valve cover.



Step Procedure

04

Remove top panel

Remove the connection screws connecting the top panel and the front panel, and then remove the top panel.



05

Remove front grille

Remove the connection screws connecting the front grille and the front panel, and then loosen the clasp to remove the front grille.



06

Remove front panel

Remove the screws connecting the front panel and then remove the front panel.

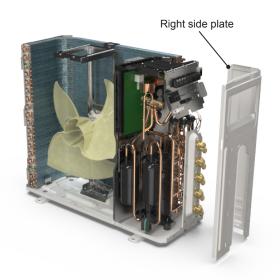


Step Procedure

07

Remove motor right side plate

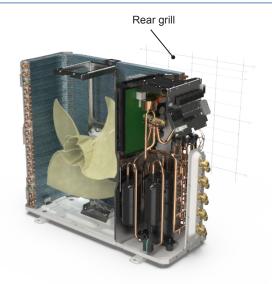
Remove the screws connecting the right side plate with the chassis and the valve support. Then remove the right side plate.



08

Remove rear grill

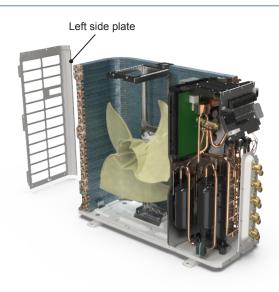
Remove the screws connecting the rear grill and left side plate, and then remove the rear grill.



09

Remove left side plate

Remove the screws fixing the left side plate with the chassis and the condenser support, and then remove the left side plate.

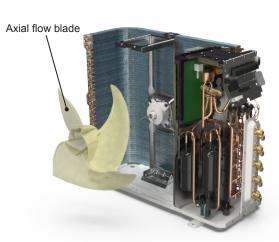


Step Procedure

10

Remove axial flow blade

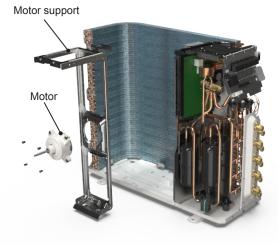
Remove the nut on the blade and then remove the axial flow blade.



11

Remove motor and motor support

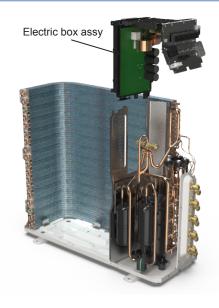
Remove the 4 tapping screws fixing the motor and disconnect the leading wire insert of the motor. Then remove the motor. Remove the 2 tapping screws fixing the motor support and chassis, and then lift the motor support to remove it.



12

Remove electric box assy

Remove the screws fixing the electric box assy and the middle isolation sheet, loosen the wire bundle, unplug the wiring terminals, and then lift the electric box assy to remove it.

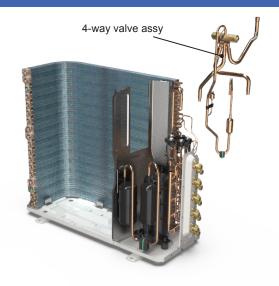


Step Procedure

13

Remove 4-way valve assy

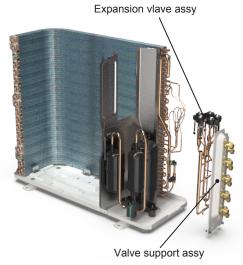
Unsolder the welding joint connecting the 4-way valve assy with the cut-off valve and the condenser connection pipe, and then remove the 4-way valve assy.



14

Remove valve support sub-assy and expansion valve assy

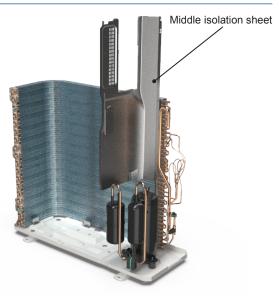
Remove the screw connecting the valve support and the chassis, and then remove the valve support assy. Unsolder the welding joint connecting the electronic expansion valve assy with the cut-off valve and the condenser connection pipe, and then remove the expansion valve assy.



15

Remove middle isolation sheet

Remove the screws connecting the middle isolation sheet with the chassis assy and the condenser assy, and then remove the middle isolation sheet.

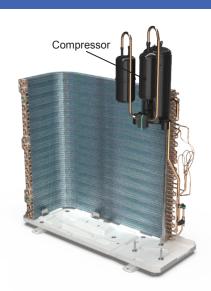


Step Procedure

16

Remove compressor

Remove the 3 foot nuts fixing the compressor and then remove the compressor.

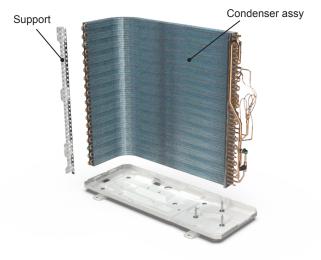


17

Remove condenser assy

Remove the screws fixing the condenser support and then remove the condenser support.

Remove the screws connecting the condenser support and the chassis assy, and then remove the condenser assy.



Appendix

Appendix 1 Reference Sheet of Celsius and Fahrenheit

Set temperature

Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius (°C)
61	60.8	16
62/63	62.6	17
64/65	64.4	18
66/67	66.2	19
68	68	20
69/70	69.8	21
71/72	71.6	22
73/74	73.4	23
75/76	75.2	24
77	77	25
78/79	78.8	26
80/81	80.6	27
82/83	82.4	28
84/85	84.2	29
86	86	30

Ambient temperature

Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius (°C)
32/33	32	0
34/35	33.8	1
36	35.6	2
37/38	37.4	3
39/40	39.2	4
41/42	41	5
43/44	42.8	6
45	44.6	7
46/47	46.4	8
48/49	48.2	9
50/51	50	10
52/53	51.8	11
54	53.6	12
55/56	55.4	13
57/58	57.2	14
59/60	59	15
61/62	60.8	16
63	62.6	17
64/65	64.4	18
66/67	66.2	19

Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius (°C)
68/69	68	20
70/71	69.8	21
72	71.6	22
73/74	73.4	23
75/76	75.2	24
77/78	77	25
79/80	78.8	26
81	80.6	27
82/83	82.4	28
84/85	84.2	29
86/87	86	30
88/89	87.8	31
90	89.6	32
91/92	91.4	33
93/94	93.2	34
95/96	95	35
97/98	96.8	36
99	98.6	37

Appendix 2 Configuration of Connection Pipe

1. Standard length of connection pipe (More details please refer to the specifications.)

- 2. Min length of connection pipe for the unit with standard connection pipe of 5m, there is no limitation for themin length of connection pipe. For the unit with standard connection pipe of 7.5m and 8m, the min length of connection pipe is 3m.
- 3. Max. length of connection pipe and max. high difference.(More details please refer to the specifications.)
- 4. The additional refrigerant oil and refrigerant charging required after prolonging connection pipe
 - After the length of connection pipe is prolonged for 10m at the basis of standard length, you should add 5ml of refrigerant oil for each additional 5m of connection pipe.
 - The calculation method of additional refrigerant charging amount (on the basis of liquid pipe):
 - Basing on the length of standard pipe, add refrigerant according to the requirement as shown in the table. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe.
 See the following sheet.
 - Additional refrigerant charging amount = prolonged length of liquid pipe
 X additional refrigerant charging amount per meter.

Additional refrigerant charging amount for R32

Piping size		Outdoor unit throttle		
Liquid pipe	Gas pipe	Cooling only	Cooling and heating	
1/4"	3/8" or 1/2"	12	16	
1/4" or 3/8"	5/8" or 3/4"	12	40	
1/2"	3/4" or 7/8"	24	96	
5/8"	1" or 1 1/4"	48	96	
3/4"	1	200	200	
7/8"	1	280	280	

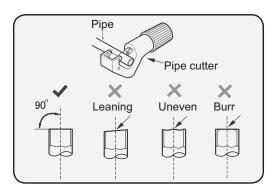
Appendix 3 Pipe expanding method

NOTE:

Improper pipe expanding is the main cause of refrigerant leakage. Please expand the pipe according to the following steps:

A: Cut the pip

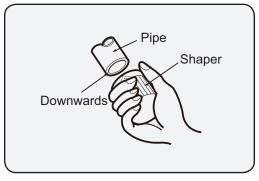
- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.



B: Remove the burrs

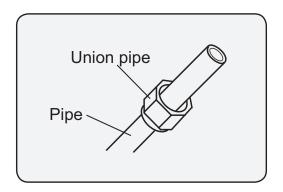
 Remove the burrs with shaper and prevent the burrs from getting into the pipe.





D: Put on the union nut

 Remove the union nut on the indoor connection pipe and outdoor valve; install the union nut on the pipe.

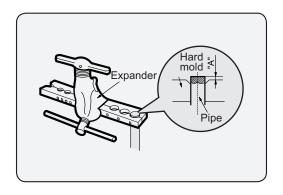


E: Expand the port

• Expand the port with expander.

NOTE:

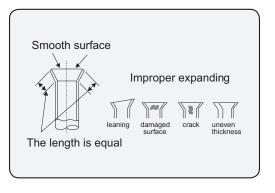
"A" is different according to the diameter, please refer to the sheet below:



Outou diamatau/mm	A (mm)	
Outer diameter(mm)	Max	Min
Ф6 - 6.35 (1/4")	1.3	0.7
Ф9 - Ф9.52 (3/8")	1.6	1.0
Ф12 - 12.70 (1/2")	1.8	1.0
Ф16 - 15.88 (5/8")	2.4	2.2

F: Inspection

 Check the quality of expanding port. If there is any blemish, expand the port again according to the steps above.



Appendix 4 List of Resistance for Temperature Sensor

Resistance Table of Ambient Temperature Sensor for Indoor and Outdoor Units (15K)

Temp (°C)	Resistance (kΩ)
-19	138.10
-18	128.60
-16	115.00
-14	102.90
-12	92.22
-10	82.75
-8	74.35
-6	66.88
-4	60.23
-2	54.31
0	49.02
2	44.31
4	40.09
6	36.32
8	32.94
10	29.90
12	27.18
14	24.73
16	22.53
18	20.54

Temp (°C)	Resistance (kΩ)
20	18.75
22	17.14
24	15.68
26	14.36
28	13.16
30	12.07
32	11.09
34	10.20
36	9.38
38	8.64
40	7.97
42	7.35
44	6.79
46	6.28
48	5.81
50	5.38
52	4.99
54	4.63
56	4.29
58	3.99

Resistance Table of Tube Temperature Sensors for Indoor and Outdoor (20K)

Temp (°C)	Resistance (kΩ)
-19	181.40
-15	145.00
-10	110.30
-5	84.61
0	65.37
5	50.87
10	39.87
15	31.47
20	25.01
25	20.00
30	16.10
35	13.04
40	10.62
45	8.71
50	7.17
55	5.94

Temp (°C)	Resistance (kΩ)
60	4.95
65	4.14
70	3.48
75	2.94
80	2.50
85	2.13
90	1.82
95	1.56
100	1.35
105	1.16
110	1.01
115	0.88
120	0.77
125	0.67
130	0.59
135	0.52

Resistance Table of Discharge Temperature Sensor for Outdoor (50K)

Temp (°C)	Resistance (kΩ)
-30	911.40
-25	660.80
-20	486.50
-15	362.90
-10	274
-5	209
0	161
5	125.10
10	98
15	77.35
20	61.48
25	49.19
30	39.61
35	32.09
40	26.15
45	21.43

17.65
14.62
12.17
10.18
8.56
7.22
6.13
5.22
4.44
3.84
3.32
2.87
2.50
2.18
1.91
1.68

Appendix 5 After-sales debugger operation Instruction

1. Applicable models

Model	Specific types	GT2A3Ac/d Debugger Applicable Models
Solit unit	Inverter split unit (IDU power supply)	Applicable
Split unit	Inverter split unit (ODU power supply)	Applicable
Floor standing unit	Inverter	Applicable to T-fresh model and new models
Free match	Inverter	Applicable
Fixed frequency communication model	Split unit, T-fresh model and new models	Data monitor function only
NOTE: GT2A3Ac/d debugger is only suitable for 220V models, not for 110V models.		

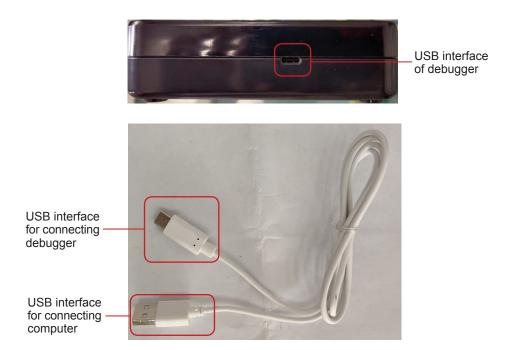
2. Appearance Introduction

Appearance of GT2A3Ac/d debugger



Button function description

- (1) OK button: Enter the selected function
- (2) Next button: Select a function or turn to another page
- (3) Home button: Return or back to the home page



3. Precautions

Be sure to read before use

(1) All wiring connection should be completed under power off status. Do not connect the debugger when the air conditioner is energized to avoid electric shock

- (2) Before connecting the debugger to the air conditioner, make sure that the residual voltage of the air conditioner is discharged. Use multimeter to test the voltage between live wire and neutral wire, and the voltage between communication wire and neutral wire, the voltage should be 0V. After confirming the safety, connect the debugger and the wire, then power on.
- (3) Before removing the debugger from the terminal board, please power off the air conditioner first. Use the multimeter to test whether the voltage between the live line and the neutral line, and the voltage between the communication line and the neutral line are 0V. After the air conditioner is completely powered off, remove the connecting wire of the debugger.
- (4) It is necessary to ensure that the wire connection of the debugger is firm, live wire and the neutral wire cannot be reversed, otherwise the data will not be detected and "E6" will be displayed.
- (5) Do not use the debugger under severe weather such as thunderstorms, pay attention to moisture proof and water proof, and do not use the debugger under condensed water.

4. Function Introduction

Data monitor function

This function is mainly used to detect the operating parameters of the whole unit. The display interface is as follows:

• Run mode:	Cool
• Compressor frequency:	0Hz
Expansion valve:	150Step
Module temp.:	45°C
• Outdoor ambient temp.:	25°C
• Discharge temp.:	89°C
• External tube temp.:	25°C
• DC bus voltage:	308V
	End

Replae the IDU to detect the ODU

This function is used to detect the operating status of the ODU, and display the operating parameters of the ODU. If there is a fault, it will display the error code of the ODU.

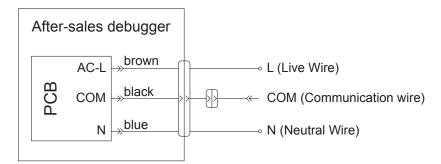
• Replace the ODU to detect the IDU

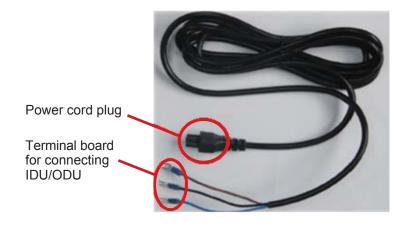
This function is used to detect the operating status of the IDU, and display the operating parameters of the IDU. If there is a fault, it will display the error code of the IDU.

• Run mode:	Cool
Indoor fan speed:	High
• Set temp.:	19°C
Indoor ambient temp.:	26°C
• Indoor tube temp.:	24°C
	Next

5. Wiring Instruction

Power cord connection instruction of debugger



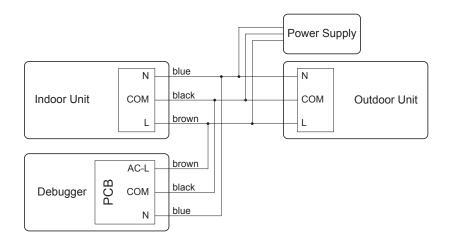


NOTE:

- The communication line (COM) should be connected to the communication terminal of the indoor unit or the outdoor unit. Some models do not have terminal board on IDU, and the communication wire COM can be connected to the terminal board of ODU.
- Please connect power only after the wires are properly connected. The neutral wire and live wire must not be reversed. Wires of the debugger must be securely connected to the AC; otherwise, data cannot be detected and E6 will be displayed.

Wiring instruction of Data monitor function

Cut off the power of the air conditioner and make sure that the residual voltage of the air conditioner is discharged. Connect the connection wires of the debugger to the IDU or ODU terminal board in parallel. The connection wires must correspond to each other and cannot be reversed. Power on the whole unit again and enter the Data Detection Function from the debugging interface. The wiring diagram is as follows:

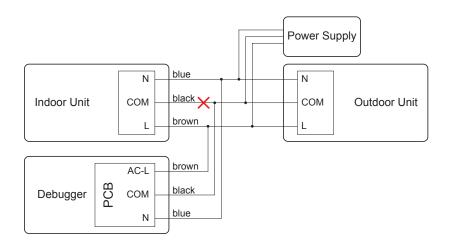


NOTE:

- 1. Before connecting or disconnecting the wires to the air conditioner, pls cut off the power of the air conditioner and make sure that the residual voltage of the air conditioner is discharged.
- 2. AC-L connect brown wire, COM connect black wire, N connect blue wire, the wires can not be connected reversely.

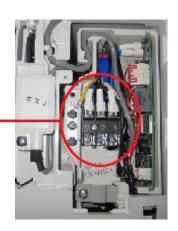
Wiring instruction of Replacing the IDU to detect the ODU

If selecting the function of Replace the IDU to detect ODU, the debugger is equivalent to an IDU and will detect whether the ODU is abnormal. when using this function, disconnect the communication wire of the IDU and connect the communication wire of the debugger with the communication wire of ODU.



The power cord of the debugger can be connected to the terminal board of the IDU or the ODU. Note that the communication wire(black wire) of the IDU main board must be disconnected from the terminal board. As shown below:

When the debugger is connected to the IDU terminal board, the COM communication wire (black) of IDU must be disconnected.





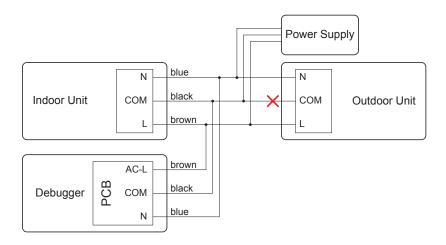
If the debugger is connected to the ODU terminal board, the communication wire of the IDU must also be disconnected.

NOTE:

- 1. Before connecting or disconnecting the wires to the air conditioner, please cut off the power of the air conditioner and make sure that the residual voltage of the air conditioner is discharged.
- 2. AC-L connect brown wire, COM connect black wire, N connect blue wire, the wires can not be connected reversely.
- 3. It is only used to let the ODU run for a short time for troubleshooting, and it should not run for more than 10 minutes.

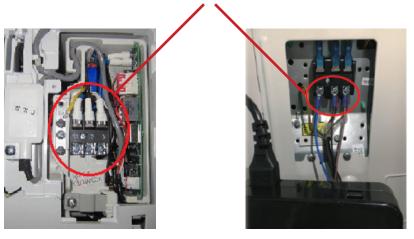
Wiring instruction of Replacing the ODU to detect the IDU

If selecting the function of **Replace the ODU to detect IDU**, the debugger is equivalent to an ODU and will detect whether the IDU is abnormal. when using this function, disconnect the communication wire of the ODU and connect the communication wire of the debugger with the communication wire of IDU.



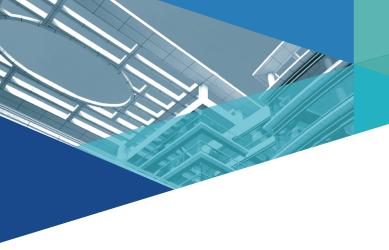
The power cord of the debugger can be connected to the terminal board of the IDU or the ODU. Note that the communication wire (black wire) of the ODU must be disconnected from the terminal board. As shown below:

The COM communication wire of ODU needs to be disconnected.



NOTE:

- 1. Before connecting or disconnecting the wires to the air conditioner, please cut off the power of the air conditioner and make sure that the residual voltage of the air conditioner is discharged.
- 2. AC-L connect brown wire, COM connect black wire, N connect blue wire, the wires can not be connected reversely.
- 3. For free match models, it need to replace and connect the IDU one by one for troubleshooting.





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For product improvement, specifications and appearance in this manual are subject to change without prior notice.

JF00305871