



User Manual

Gold **SERIES**

Models

AGO-O-FC36 / AGO-O-FC60

Thank you for choosing our company products!

Air conditioning facilities are valuable products. In order to protect your legitimate rights and interests, please make sure that the installations are done by professional technicians. This manual is a general-purpose version for the conditioning systems manufactured by our CO., the one that you have chosen might be a little different in appearance from the ones described in the manual. But these differences will not have any impacts upon your operation and use of the system.

Please read the manual carefully before you operate the system and check to see if the model is identical to the one you have purchased, keep the manual properly in case you might refer to it in the future.

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NOTICES TO USERS

1.1 Safety Notices

"Important Safety Information" affords very important points about how to operate the unit safely. To prevent injury to the user or other people and property damage, the following instructions must be followed. Incorrect operation due to ignoring of instructions may cause harm or damage.

The safety precautions listed here are divided into two categories. In either case, important safety information is listed which must be read carefully.

 Notice

Failure to observe a warning may result in serious injury, grave accidents even death.

 Notice

Failure to observe a caution may lead to injury or damage to the equipment.

Please read the mark of the unit carefully. If you detect any abnormality, such as abnormal noise, smell, fog, temperature rise, creepage, fire and so on;

Please turn off the power supply immediately and call your dealer or local service center for instructions. Do not repair the unit by yourself. If necessary, call the local fire department or Emergency department for help.



WARNING

1. Never install the unit by yourself and call the professionals from distributor or maintenance center for installation, or it may lead to accidents and affect the performance of usage.
2. Never dismantle the units without the guidance of the professionals, or it may cause danger.
3. Do not place insecticides or paints and other flammable sprays near the unit or spray them directly at the unit. It might cause fire hazards.
4. Do not install the main power supply switch at the places where the children might touch it to avoid accidents.
5. Do not spray water or other liquid to the air conditioner, or else it may cause electric shock.
6. Do not touch the unit with wet hands, otherwise it might cause electric shocks.
7. Disconnect the power during lightning storm day, otherwise it might cause lightning shocks or damage the unit.

8. If the unit will be idle for a long time, disconnect the power to avoid of accidents.
9. The unit shall be equipped with special power supply switch and power line to avoid of sharing the same power line with other devices. Besides, it adopts the stated- cross-section wire to supply the power, matching with the corresponding breaker(with creepage protect function) .
- 10.The unit is connected with the stated-cross-section earth wire, which is grounded safely and is not allowed to be connected with the gas pipe, water pipe, lightning conductor or the telephone earth wire in order to avoid of electric shocks.
- 11.Never stop the operation of the unit by pulling out the power supply line in order to avoid of electric shocks or fire hazards.

CAUTION

1. Do not put your hands or sticks into the air vents . As the fan running with high speed will hurt you.
2. Keep the electric control system from damp to avoid of circuit-short or damage of unit .
3. After cleaning the filter screen, install the air filter screen quickly. It is not allowed to operate the unit without the air filter screen which may get the poor performances.
4. When there are old men, children and patient in the room, please adjust the room temperature properly.
5. If the unit is interrupted by the lightning or other electromagnetic radiation, cut off the power, restart the unit after eliminating that factors.
6. Do not clog the air inlet and outlet of the unit.
7. Never use the fuse with incorrect capacity or iron or copper wires for fuse.
8. Keep the unit off the places where might happen fire hazards. Pull out the power plug immediately and put down the fire with fire extinguisher result from circuit-short.
9. Cut off the power supply before servicing.
- 10.Do not touch the pipe on the exhaust side, because the temperature may be above than 100°C, so it may result in scald.
- 11.Do not touch the fin and sharp edge which will hurt you.
- 12.Do not move the unit randomly without professional guidance, otherwise it may cause the damage of the unit .

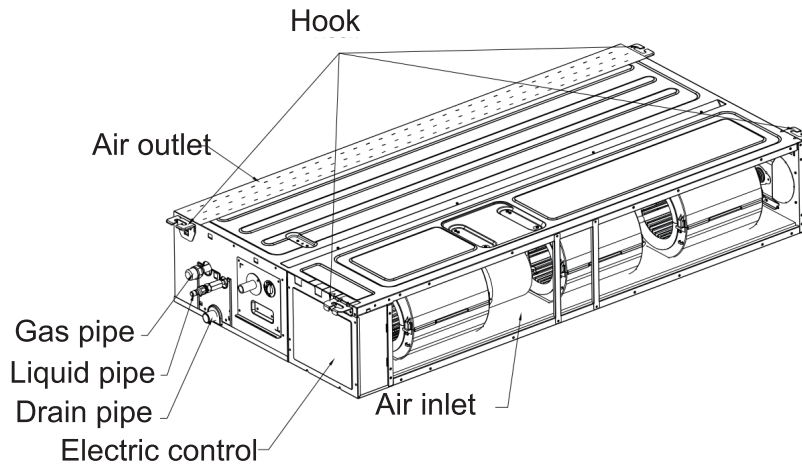
13. Do not touch the rotary air vents with your hands or other objects to avoid accidents or damage.
14. It is forbidden placing goods above the machine set, so as not to result in the danger of the fall off when they are running.

1.2 Use notices

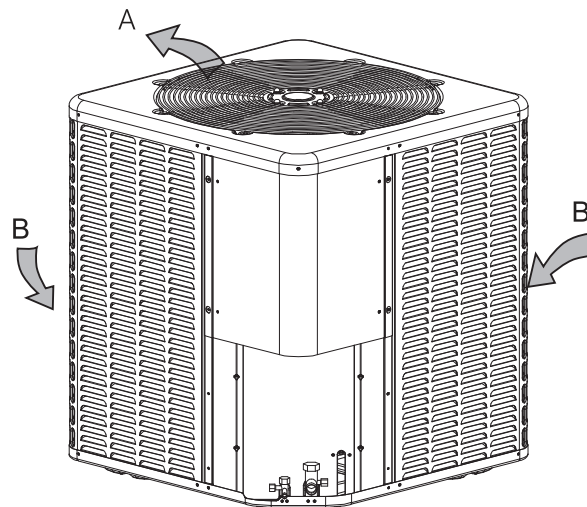
1. The unit must be installed in indoor field where there is sunlit proof and rainproof establishments, or else our company is not responsible for the problems caused because of wrong installation.
2. All the operation parameters of the unit set, the set values of the protective device have been set before the delivery, the consumers are not allowed to change the set values at random, and also are not allowed to make the line of the protective devices of the machine set, short-circuit or the unit may be damaged as result of improper protection.
3. When the unit is running, the unprofessional personnel do not touch any electrical element and buttons, or it will result in serious accident.
4. If the unit goes wrong, don't repair it by yourself, please consult the service center of the company (the consultation telephone number can refer to the back over). If the machine set is repaired by unprofessional personnel, it may result in the machine breakdown or the casualty of personnel.
5. During cleaning the unit, never clean the operational panel with benzene, diluent agent, or chemical cloth and so on, or it will result into fade or the fault function of the buttons; It is not allowed to directly sprinkle the unit with water or cleaning agent, when it is necessary, please clean them with a cloth that is stained with water or neutral cleaning agent.
6. The refrigerant used in the machine set is noncombustible and innoxious, as for the specific gravity of which is greater than air, so when it leaks, it will diffuse on the ground. As a consequence, if the unit is installed in a room, it must make sure that the ventilation condition is good, or it may result in serious asphyxia when the refrigerant leaks.
7. If the refrigerant leaks, stop the unit as soon as possible, and get in touch with the maintenance and repairmen in time, the flame on the field is forbidden, because if the refrigerant contacts with the flame, it will decompose into harmful gas.
8. Please service the machine set termly according to the requirements of the specification, in order to make sure that the operation condition of the machine set is good.

PARTS NAME AND FUNCTION

2.1 Indoor unit



2.2 Outdoor unit (A. Air outlet B. Air inlet)



NOTE: The drawings above only can be taken as illumination.

INSTALLATION OF THE UNIT

3.1 Install Indoor unit

3.1.1 Outline view and dimensions of Indoor unit

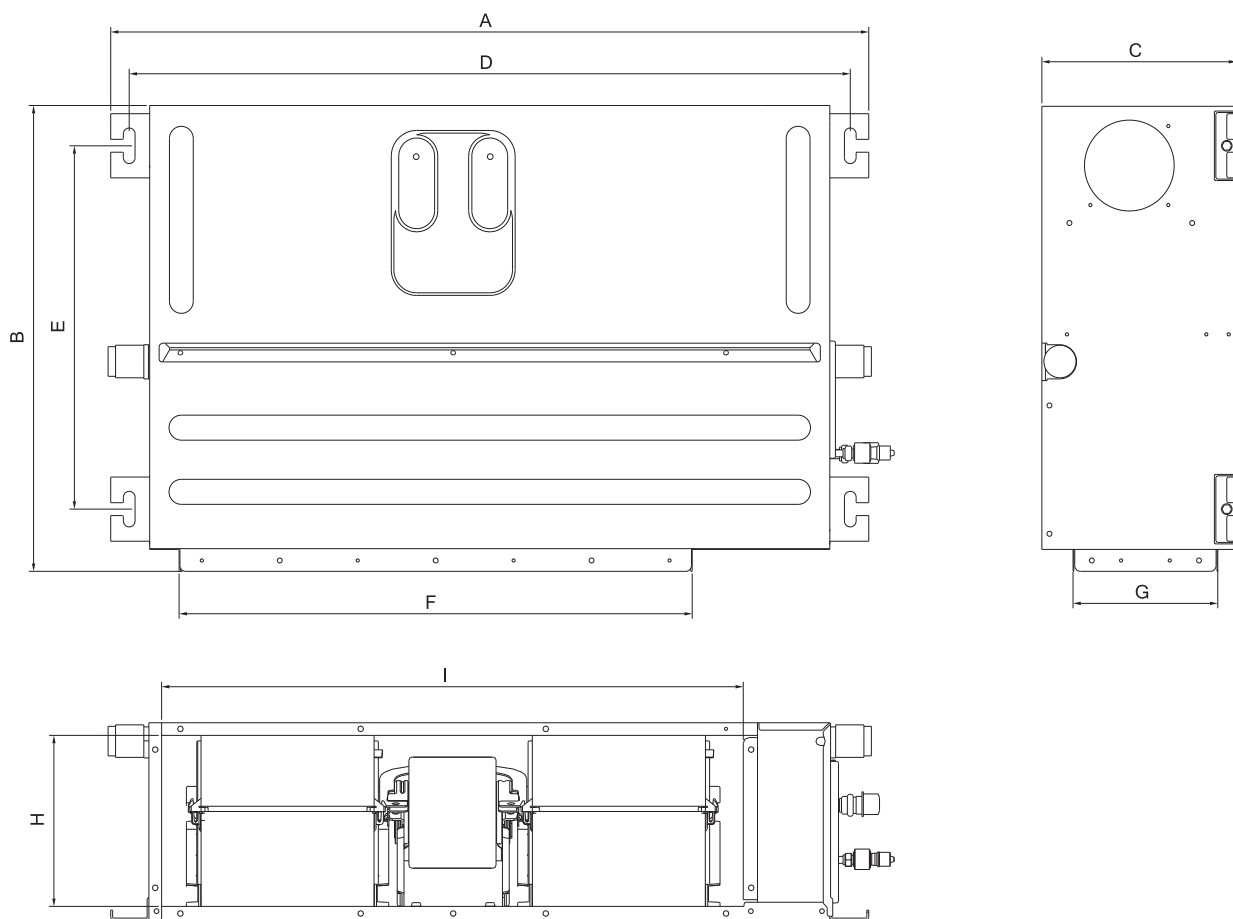


Fig 1

MODEL	Dimensions(mm)								
	A	B	C	D	E	F	G	H	I
Low-static pressure type(LS) series-24K	1390	475	200	1350	370	1140	150	175	1210
Low-static pressure type(LS) series-36K	1390	475	200	1350	370	1140	150	175	1210
Med- static pressure type(MS) series-24K	1080	725	245	1040	600	812	178	206	875
Med- static pressure type(MS) series-36K	1080	725	245	1040	600	812	178	206	875
Med- static pressure type(MS) series-48K	1480	725	245	1440	600	1212	178	206	1275
Med- static pressure type(MS) series-60K	1480	725	245	1440	600	1212	178	206	1275

3.1.2 Installation dimensions of Indoor unit

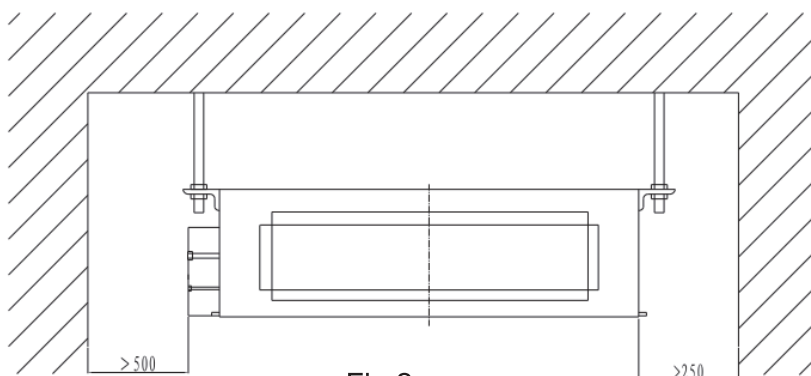


Fig 2

3.1.3 Selection of the installation site

- Make sure top hangers can bear the weight of the unit;
- Make sure that the drain pipe can drain the water conveniently;
- Make sure that the air inlet and the outlet of the indoor unit should not be blocked, with a good ventilation.
- There is enough space for maintenance and installation as listed in Fig 2;
- Keep the unit off heat source, inflammable gas or smog.
- The unit is ceiling type or concealed in-the -ceiling type;
- Make sure that indoor unit,outdoor unit, power wires and connecting wires are 1 meter at least away from TV or radio in case of noise or image inteference. Depending on the radio waves, a distance of 1 meter may not be sufficient enough to eliminate the noise.

3.1.4 Install the indoor unit

- Insert M10 Expansion bolts into mountingholes and then drive iron nails into bolts, see Fig 3.As for the hole intervals, please refer to Fig 1.

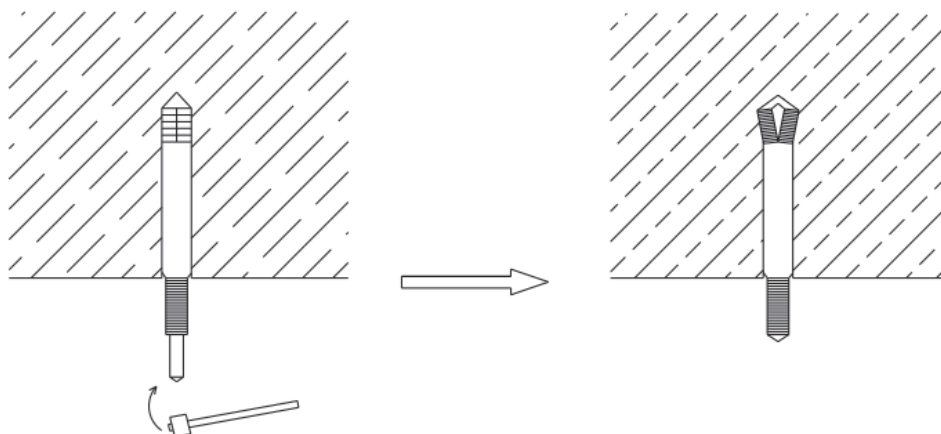


Fig 3

- Fix hooks in the indoor unit(refer to Fig 4)

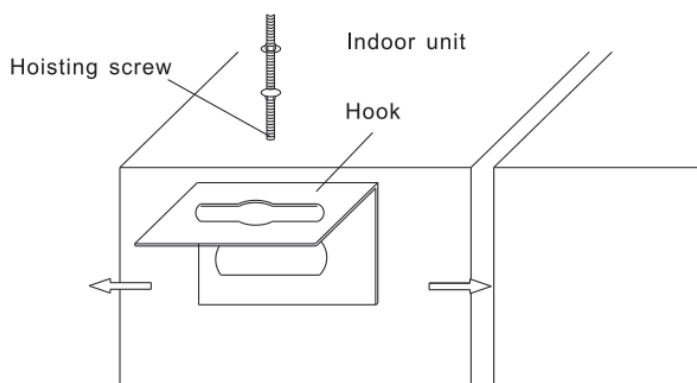


Fig 4

- Install the indoor unit on the ceiling(refer to Fig 5)

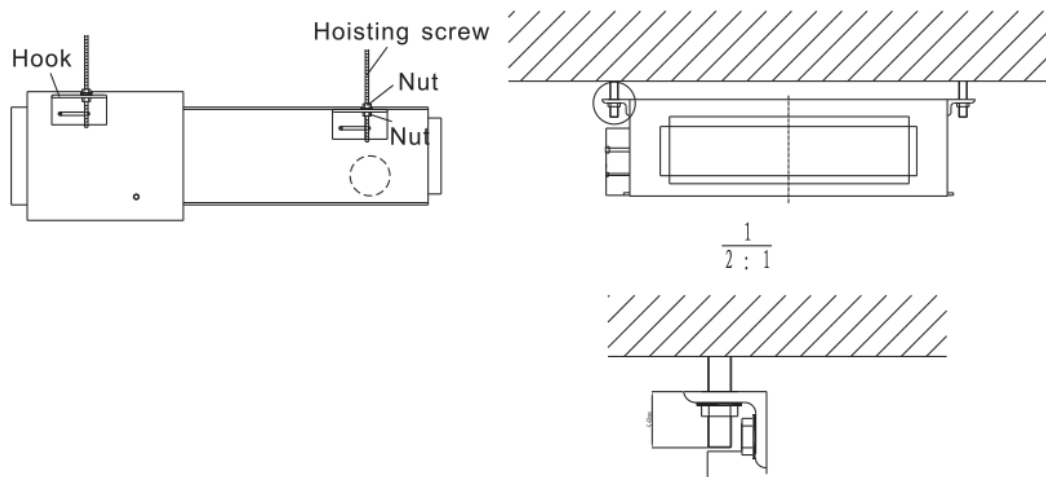


Fig 5



CAUTION

- Before installation, please finish the installation of all ducts(refrigerant duct, drainage duct)and the connection of the all power lines(the power lines of the outdoor unit), once the installation has finished, the ducts and the power lines can be connected with the indoor units immediately.
- In order to keep the ceiling level and from vibrating, please reinforce the ceiling before digging an opening in the ceiling.
- If the ceiling is not strong enough, please install a angle iron bracket and lay the unit on the bracket;

TEST OPERATION

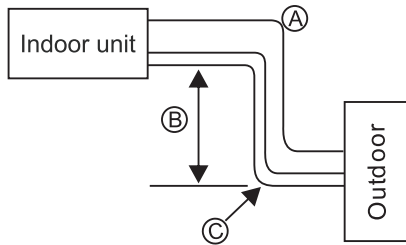
4.1 Please confirm the following points before the test operation:

- The indoor unit and outdoor unit are installed properly.
- Tubing and wiring are correctly completed.
- There is no leakage in refrigerant pipe system.
- The drainage is unimpeded.
- The heating insulation works well.
- The ground wiring is connected correctly.
- The power voltage fits the rated voltage of the air conditioner.
- There is no obstacle at the outlet and inlet of the outdoor and indoor units.
- The gas-side and liquid-side stop valves are both opened.
- The air conditioner is pre-heated by turning on the power.

4.2 Test operation

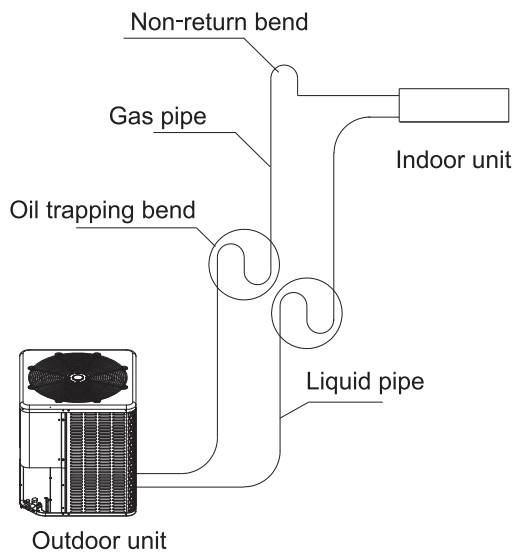
- Switch on the main power supply of this unit.
- Press the operation switch (cooling or heating) to start up the air conditioner, and the operation indication light flashes. Check whether the unit is running well and if you want to shut down the air conditioner, just press the switch again.
- Press "  " Key on the wired controller, if you can hear "beep" sound from the indoor unit, it means the wired controller is working and the emergency operation has been relieved, and then you can check whether the unit can run well in each mode by pressing the corresponding keys.
- Press "  " key and choose FAN mode, check whether there is airflow blowing out from the air conditioner.
- Press "  " key and choose COOL mode, check whether the air flow blowing out from the air conditioner is cool.
- Press "  " key and choose HEAT mode, check whether the air flow blowing out from the air conditioner is warm. (This function is not applicable for single-cooling type unit.)
- Press "  " key and choose the high speed mode, check whether there is a strong air flow blowing from the air conditioner.

4.2.2 Length and height difference of ultra-long piping of air conditioning unit.

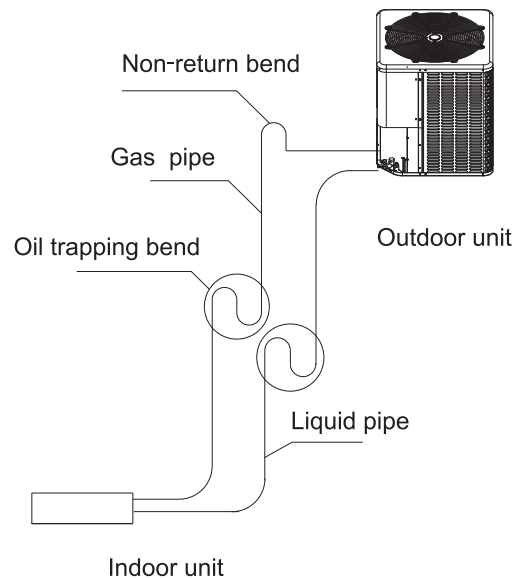


Rated refrigerating capacity	24 ~ 36K	≥ 48K
Value		
A Pipeline length (one-way)	Maximum length 15m	Maximum length 20m
B Height difference(one-way)	Maximum length 8m	Maximum length 10m
C Pipeline bends quantity	Up to 15	Up to 15

Note: When the height is more than 5m, set the oil trapping bend and non-return bend according to relative positions of outdoor unit and indoor unit.



When the installation position of indoor unit is higher than outdoor unit



When the installation position of indoor unit is lower than outdoor unit

4.3 Test drainage device

- After the installation of the unit, you must carry out a test of the drainage equipment.
- During test operation, make sure that the water in the equipment is drained freely and no leak at the joint.

After the installation and the commissioning of the unit, the installation personnel should introduce methods of operation and use of the unit and the relevant safety notes according to the operation manual.

4.4 .Additional refrigerant charge

After the vacuum drying process is carried out, the additional refrigerant charge process need to be performed.

The outdoor unit is factory charged with refrigerant. The additional refrigerant charge volume is decided by the diameter and length of the liquid pipe between indoor and outdoor unit. Refer the following formula to calculate the charge volume.

Diameter of liquid pipe (IN[mm])	1/4 [6.35]	3/8[9.52]	1/2[12.7]
Formula	$V=0.22\text{oz} \times (L-16)$	$V=0.43\text{oz} \times (L-16)$	$V=0.64\text{oz} \times (L-16)$

V: Additional refrigerant charge volume (oz).

L : The length of the liquid pipe (ft).

Note:

Refrigerant may only be charged after performed the vacuum drying process.

Always use gloves and glasses to protect your hands and eyes during the charge work.

Use electronic scale or fluid infusion apparatus to weight refrigerant to be recharged.

Be sure to avoid extra refrigerant charged, it may cause liquid hammer of the compressor or protections.

Use a supplementing flexible pipe to connect refrigerant cylinder, pressure gauge and outdoor unit.

The refrigerant should be charged in liquid state. Before recharging, The air in the flexible pipe and manifold gauge should be exhausted.

After finished refrigerant recharge process, check whether there is refrigerant leakage at the connection joint part.(Using gas leakage detector or soap water to detect).

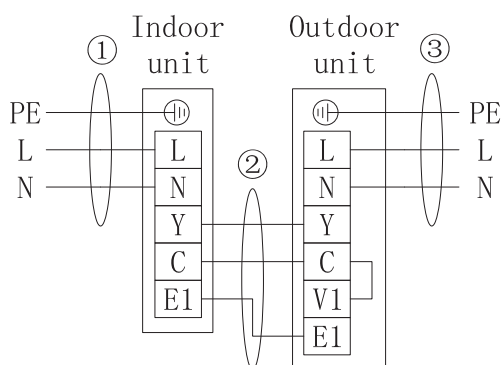
ELECTRIC WIRING

5.1 Electric wiring precaution

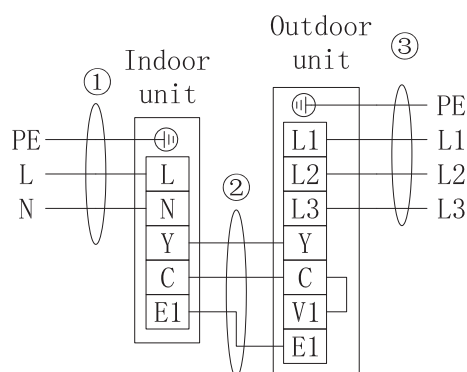
- **Wiring construction must conform to National Wiring Norm;**
- The air-conditioner should apply special power supply and set leakage protective switch. The rated operation current of the switch should be no less than 1.5-3 times of the rated operation current of the unit (The actual value of rated current of the unit is list on its nameplate and the one in this manual is just for a reference);
- Make sure unit voltage and select proper wires prior to wiring;
- Wiring construction and connections of other individual parts must be conducted by the professional technicians according to the circuit diagram attached on the unit.
- Please pay attention to marks at the terminal in case of wrong connection.
- In case of grave accidents, never mistake the signal terminal of indoor units with the one of outdoor units;
- Please tighten screws to avoid of wires drop according to the wiring diagram.
- Make sure there is enough space for electric devices installation and the minimum allowable distance between devices;

5.2 Power wiring diagram

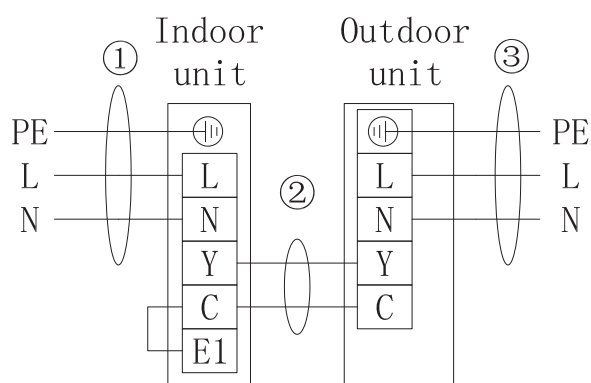
There are many kinds of power wiring diagram for different user powers and models, take double-temperature units for examples:



Single Phase for Cooling Only
(Matching with Fixed-Speed Outdoor Unit)



Three Phase for Cooling Only type 220V
(Matching with Fixed-Speed Outdoor Unit)



Wiring for Inverter-Driven Outdoor Unit

5.3 Cables wiring construction of indoor units

- Take down the cover of indoor electric control box;
- Connect power cables and signal wires to the corresponding terminals according to Power Wiring Diagram above;
- Open the cord cleat and then fix power cables and signal wires on the board of the cord cleat;
- Fix on the electric control box.

5.4 Power Wires Spec. Table

Capacity(Btu/h)			24000 Btu/h	36000 Btu/h	48000 Btu/h	60000 Btu/h	
Power	Indoor	Phase	Single				Single
		Frequency/Voltage	220V,60Hz 1PH				220V,60Hz 1PH
	Outdoor	Phase	Single				Three
		Frequency/Voltage	220V,60Hz 1PH				220V,60Hz 3PH
Lines Gauge	Input Current Fuse		Indoor unit(A)	5A	5A	5A	5A
	Indoor Unit Power Line	Line Quantity		3	3	3	3
		Line Diameter(AWG)		16/1.5mm ²	16/1.5mm ²	16/1.5mm ²	16/1.5mm ²
	Outdoor Unit Power Line	Line Quantity		3	3	3	4
		Line Diameter(AWG)		14/2.5mm ²	14/4.0mm ²	8/10.0mm ²	8/10.0mm ²
	Outdoor-Indoor Signal Line	Line Quantity		3	3	3	3
		Line Diameter(AWG)		18/1.0mm ²	18/1.0mm ²	18/1.0mm ²	18/1.0mm ²

MAINTENANCE AND UPKEEP

6.1 Set indoor temperature

In the cooling mode, It is comfortable when the temperature difference varies in 5°C between the indoor temperature and the outdoor temperature varies in 5°C . If the indoor temperature is too low, it will not only do harm to your health but also consume more electric energy: For example, it will reduce 10% energy consuming by increasing 1°C of setting temperature in cooling mode.

6.2 Away from the heat source

When the air conditioner is operating in cooling mode, you should close the curtain to ward off the sunlight; Besides close the windows and doors and don't open the door in too short time if not necessary.

6.3 Ventilate and exchange air of the room

You will feel more comfortable if you open the windows at a regular interval to let the fresh air into the room.

6.4 Maintenance after a long stop period

(eg. at the beginning of the season)

- Check whether the installation of the outdoor unit and the connection of the grounding lines and power cables are all in good condition.
- Check and remove everything that might be blocking inlet and outlet vents of indoor units and outdoor units.
- Check whether the air strainer is installed in the right place.

6.5 Maintenance before a long stop period

(eg. at the end of the season)

- Turn on the air conditioner and let it run in FAN operation for about 3 or 4 hours in order to dry the interior of the units.
- Turn off the air conditioner and cut off its special power supply .
- Clean air filters and casings of indoor units.
- Cover the units with a protective cover to prevent the duct from coming into the unit.

TROUBLE SHOOTING

7.1 Malfunction analysis

When air conditioner goes wrong before you contact the servicing department, please read the following contents, it will help you save much more time and energy.

Problems	Phenomena	Causes	Solution
Air conditioner fails to run	Press "🏠" key on the wired controller, no "beep" sound comes from the indoor unit	Power failure	Press "🏠" key after comeback of power
		Power switch is off.	Turn on power supply
		Fuse of power switch may have burned.	Replace the fuse
		The creepage switch is off	Turn on the creepage switch
		The wired controller is working out of the function range	Operate the wired controller in the function range of the wired controller
Air conditioner fails to start	Wired controller indicates that the air conditioner is working	Be in 3 minutes protection of compressor.	Wait or call your dealer for service
After starting up, the air conditioner will stop working in a short time		Air inlet or outlet of the indoor or outdoor unit are blocked	Eliminate all dirties and make air smooth.
		The air filter is dirt	Clean the filter
Air flow is normal but the air blew out is not cool or warm	Wired controller indicates that the air conditioner is working	Temperature is not set correctly, too high in COOL mode or too low in HEAT mode	Set the temperature properly.
		The air filter net has been blocked with dust or dirt	Clean the ail filter net
		Air inlet or outlet of the indoor or outdoor unit are blocked	Eliminate all dirties and make air smooth.
		Doors and windows are open	Close doors and windows

Once the air conditioner break down for power failure, it can start only by pressing "🔌" key on the wired controller even if the power restores.

7.2 Self-fault diagnostic function

Our company will provide convenient service to our customers, and install all kinds of judgment systems, which can display the unnormal function of the unit .

Fault codes table(1)

Digital display	Failure description
A1	Ambient temperature sensor (T1) failure
A3	Evaporator pipe temperature sensor (T2) failure
A5	Water fullfilled protection
AA	Indoor unit and wire controller communication failure
H0	Indoor unit and outdoor unit communication failure

Following cases are not air conditioner troubles

1. Sometimes, air conditioner may give off odours,for the unit can absorb the smell of rooms, furniture, cigarettes, makeup,etc., and then emit it again.
2. A continuous low hissing sound is heard when the system is in operation. This is the sound of refrigerant gas flowing through both indoor and outdoor units.
3. When starting up or stopping the air conditioner, you can hear “cracking” sound from the air conditioner, this sound is produced by the contraction or the expansion of the structural part of the air conditioner , which is caused by temperature change .