



User Manual

Gold SERIES

Models

AGO-O-CSC36 / AGO-O-CSC60

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.

CONTENTS

PAGE

NOTICES TO USERS	1
PARTS NAME AND FUNCTION	4
INTRODUCTION OF CONTROLLERS	5
INSTALLATION OF THE UNIT	10
TEST OPERATION	19
MAINTENANCE AND UPKEEP	21
TROUBLE SHOOTING	24
ELECTRIC WIRING	26

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 of 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 lighting 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 supple 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 .

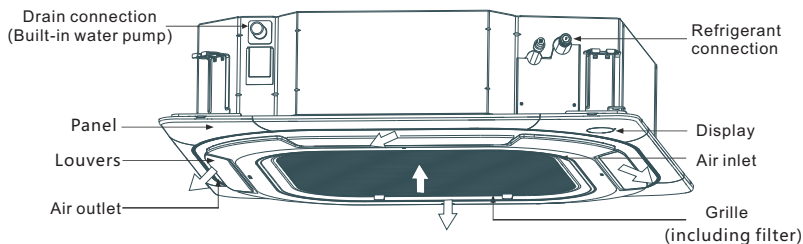
13. Do not touch the rotary air vents with your hands or other objects to avoid of accidents or damage.
14. It is forbidden placing goods above the machine set, so as not to result in the danger of the fall off when they are running.

1.2 Use notices

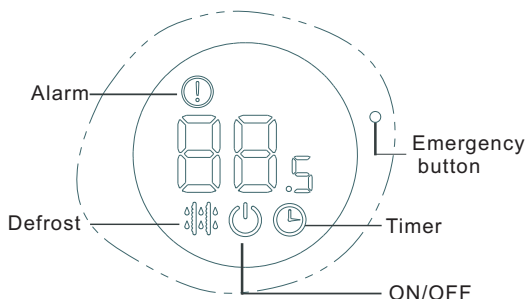
1. The unit must be installed in outdoor field where there is sunlitproof and rainproof establishments, or else our company is not responsible for the problems caused because of wrong installation.
2. All the operation parameters of the unit set, the set values of the protective device have been set 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. In order to prolong the service time of the air-condition, please do not start the compressor frequently. (It should not be more than five times in an hour).
7. 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.
8. 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.
9. 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

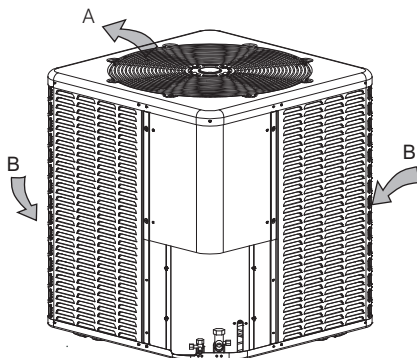
2.1 Indoor unit



2.2 The indicator light board of the indoor unit



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



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

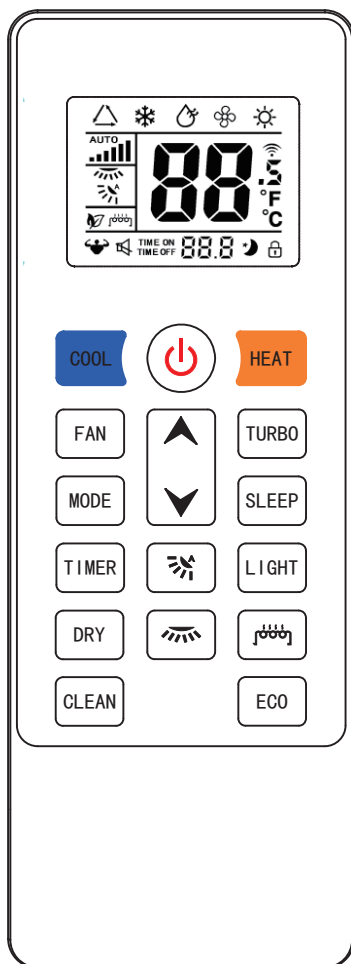
INTRODUCTION OF CONTROLLERS

3-1 Remote controller

3-1-1 Instructions of remote controller

Notes:

- Do not place remote controller near heat sources such as electric blankets or heating furnaces.
- Do not place remote controller in direct sunlight.
- Be careful not to drop, otherwise it may cause damage.
- No obstacle between the signal receiver and the remote controller, so as not to affect the transmission and reception of the signal.
- Point the remote controller to the air conditioner, press the button on the remote controller, and send the command signal to the air conditioner.
- If the signal is received correctly, the air conditioner will issue a "beep" prompt.
- If the remote controller is not available, please replace the new battery and try again. But if the problem persists, please contact the seller or our authorized service center.



3-2 Button function of remote controller

Power on:

The wireless controller is in OFF state by default, and after 3 seconds of full display, only display "  " icon, any other icons are not displayed.

The mode can be adjusted in OFF state, but no signal will be issued, the mode can be adjusted by pressing the mode button, and icons for related modes are displayed. For example, if the mode is adjusted to cooling mode, only the cooling icon is displayed .

Button Function:

ON/OFF

Press this button to turn on the unit, the LCD will displays the icons before last time power off: Mode, Fan speed, Temperature, Swing etc . The first time you power on, it displays the Auto Mode icon selected at power up, then press to power off.

COOL

OFF:

In the OFF state without timer power on, press the cool button to power on directly in cooling mode.

In the OFF state with timer power on, press the cool button during the timer setting process is equivalent to press the mode button to enter the cooling mode. If press the cooling button after the timer power on has been set, the unit will be turned on directly in cooling mode, canceling the timer power on.

ON:

Press this button after the first power on is equivalent to press the mode button to enter the initial state of the cooling mode, the same as the initial state of the cooling of the mode conversion.

Other time operation is the same as the last cooling mode state (set temperature, fan speed, swing).

HEAT

OFF:

In the OFF state without timer power on, press the heat button will directly run in heating mode, and the heating will be effective by default every time the unit is turned on in heating or auto mode.

In the OFF state with timer power on, press the heating button during the timer setting process is equivalent to press the mode button to enter the heating mode. If press the heating button after the timer power on has been set, the unit will be turned on directly in heating mode, canceling the timer power on.

ON:

Press this button after the first power on is equivalent to press the mode button to enter the initial state of the heating mode, the same as the initial state of the heating of the mode conversion. Other time operation is the same as the last heating mode state (set temperature, fan speed, swing), auxiliary heat is on by default.

Fan Speed

Low, medium, high and auto fan speeds can be switched in non-fan mode.

Silent, low, medium and high fan speeds can be switched in fan mode.

/

 /  are ineffective in fan mode, the rest of the mode  /  are effective, the temperature change range: 16.0 °C ~ 32.0 °C. The unit of change is 1°C.

Press  button, which will send a signal, such as the original temperature is less than 32.0 °C, the temperature increase 1 °C every time you press it, if the original temperature is equal to 32.0 °C, the temperature is still 32.0 °C after you press it.

Press  button, which will send a signal, such as the original temperature is greater than 16.0°C, the temperature reduce 1°C every time you press it, if the

original temperature is equal to 16.0°C, the temperature is still 16.0 °C after you press it.

Long press the button, it will send signal once first, and the temperature will change continuously by 1 °C after 1 second, 1 °C change every 0.25 seconds, and no signal will be issued at this time, and the signal will be issued when it is lifted.

MODE

When pressing this button, the wireless controller will switch by auto, cooling, dehumidification, fan, heating mode circularly.

TURBO

The turbo button is only effective in cooling or heating mode.



Press the turbo button once, send the turbo signal, and display the " " icon at the same time. Press the turbo button again, send no turbo signal, fan speed return to the fan speed before the turbo button, display for the icon corresponding to the fan speed before the turbo button is pressed.

Press the turbo button once, and if you do not press the turbo button again, but press the fan speed button or the power saving button, the corresponding fan speed signal will be sent and the turbo icon display will be cancelled.

TIMER

After the timer setting is confirmed, press the timer button again, the timer function will be canceled.

During the timer setting, if you don't press timer button to confirm within 10 seconds after pressing Δ/∇ button, timer function is invalid. Timer is not set.

When the timer is set, the timer display time is decremented by 0.5h; when the timer is set again, the timer time is decremented according to the reset basis.

OFF:

Press timer button in OFF state, "TIME ON 0.5" flashes.

Timing time is displayed as 0.5h, press Δ / ∇ button to adjust, the minimum unit of adjustment is 0.5h, adjust to the required time and then press the timer button to confirm and send signal. The timer range is 0.5h~24.0h.

"TIME ON 0.5" lights during and after the setting.

After the timer is set, all the function buttons (Sleep and IFEEL function cannot be set) are effective, and all the functions can be adjusted.

When the timer on time is reached, the wireless controller is in the ON state, the "TIME ON *. *" icon disappears.

ON:

Press timer button in ON state without any timer setting, "TIME OFF 0.5" flashes, timing time is displayed as 0.5h, press Δ / ∇ button to adjust, the minimum unit of adjustment is 0.5h, adjust to the desired time and then press timer button to confirm and send signal. The timer range is 0.5h~24.0h.

The time unit icon "TIME OFF 0.5" lights during and after the setting.

After the timer is set, the timer off icon "TIME OFF 0.5" lights, and the corresponding mode, temperature and fan speed are displayed.

When the time off time is reached, the wireless controller is in the ON state, and the "TIME OFF *. *" icon disappears.

DRY (RESERVED)

It is effective when the wireless controller is under ON state, and this function is only effective in the cooling and dehumidification modes.

Press the dry button, the wireless controller sends out the dry signal. At the same time, "Dry" icon is displayed.

Once the anti-mold has been set and this function has not been canceled, the "anti-mold" icon will be displayed when the wireless controller is turned off.

Press the dry button again, the dry function is canceled. At the same time, the "dry" icon disappears.

CLEAN(RESERVED)

The clean button is only effective when the wireless controller is off.

The time limit for the "clean" function is 30 min. if the clean function is set and the "clean" button is not pressed again within 30 min, the "clean" character will disappear automatically after 30 min. If the clean function is set and the button is pressed again within 30 minutes, the clean function is canceled.

Clean and timer on can be set at the same time, but the time of the clean function is the priority, only when the clean time is reached will the timer on function be executed, if the timer on time is within the clean time, the timer on will be executed only when the clean time is up: once the clean time is reached, it will be displayed as the state after the timer on time is up.

After setting the "clean" function, the wireless controller will display "CL" (which means clean), and "clean" icon will be displayed at the same time, if you set the clean and then set the timer to on, it will display in the process of setting the timer, it is the content related to the timer on, and "CL" is displayed after the timer on is set.

If you press the On/Off button, Cooling button, or Heating button during the "clean" function, the power-on action will be performed immediately.

SWING

The setting status of up and down swing "  ", left and right swing "  " can be memorized, and the swing status of the wireless controller remains the same as it is turned off previously when the unit is turned off and then turned on again. The initial value is fixed.

Press the up and down or left and right swing buttons once to send the corresponding swing signal. Press it again to cancel the corresponding function, and so on.

Maintains the original swing state when mode switching.

This button is effective only in the ON state. The damper setting is effective after the timer is set to power on in the off state.

SLEEP

Not effective in fan mode.

Press the button once to enter the sleep function and send the signal of "Sleep" and display the icon of "Sleep" at the same time.

Pressing the button again to cancel the sleep function and send the signal of "no sleep". The "sleep" icon disappears.

Set the sleep function to automatically over after 10 hours, and the associated signal in reverts to a no sleep state without sending signal.

LIGHT

Press the button once to send the screen display/hidden signal; at the same time the light icon is displayed, press it again and send the screen display/hidden signal again to cancel the hidden screen function. Cancel the light icon.

ECO

It is effective when the wireless controller is in on state. And this function is only effective in cooling and heating mode.

Cooling mode, press this button, fan speed switches from high to medium speed, it will not change in low speed, and exit the turbo function.

Heating mode, press this button, fan speed switches from high to medium speed, it will not change in low speed, and exit the turbo function.

Press the TURBO , Fan , or ECO again to exit the ECO function.

Electric Heating

Each time the heating or auto mode is switched on by wireless controller, the default electric heating is effective.

Default electric heating is effective every time the mode is adjusted to heating or auto mode.

Heating or automatic electric heating is effective in the case of pressing the electric heating key again to cancel the electric heating function, after canceling and pressing the electric heating button again, the manual electric heating is effective.

Button Combination

Set parameter function, when in off mode long press "dry" and "turbo" 5 seconds to enter the set parameter function, the temperature zone displays address code, the timer zone displays parameters, press up and down buttons to adjust the address code, vertical swing and horizontal swing to adjust the parameter code, press the on/off button to send parameters. Long press "dry" and "turbo" 5 seconds to exit.

Address parameter setting: VRF can query and set the address, the temperature zone displays address code, up and down button to adjust the address code, you can set the address to 0~99; Timer zone displays parameters, vertical swing and horizontal swing adjust the parameter code, 000 for the address query, non-zero for the address setting; press the on/off button to send parameters.

Auto restart parameter setting: Timer zone is set parameter 007, enter the auto restart setting, at this time if it is set 01, then activate the auto restart function, set 00, then close the auto restart function.

3-3 Battery replacement

1) If the air conditioner is unable to receive the signal from the wired controller, or the LCD of remote controller is blurred, it means that the battery is depleted and needs to be replaced. 2) Take off the back cover and remove the old batteries. When replacing batteries, please pay attention to the "-" and "+" marking on the battery.

Notes:

Do not mix old and new batteries together. When the remote controller is idle for a long time, the battery should be removed. In general, the service life of a dry battery that meets the JIS or IEC standards can be up to 6-12 months, but if it exceeds the use time or not in conformity with above specifications, the dry battery may leak and may even cause the remote controller operation to be invalid. The recommended service life is marked on the battery, but the actual service life may be shorter.

INSTALLATION OF THE UNIT

4.1 Install Indoor unit

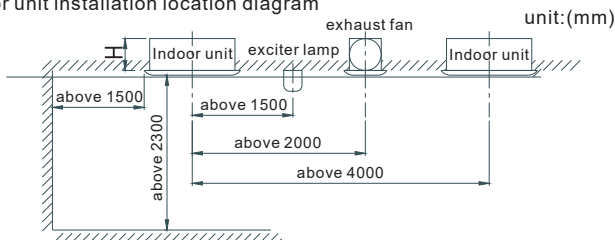
4.1.1 Installation place

When the temperature of the ceiling inside is higher than 30°C, and RH is higher than 80%, More than 10mm heat insulation materials, such as fiber glass cotton or froth polyethylene should be slicked on the casing of the unit. (if the thickness of the heat insulation materials is more than 10mm, the extra part should be folded up and placed in the opening of the ceiling).

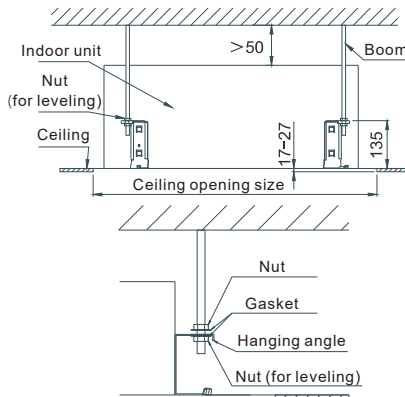
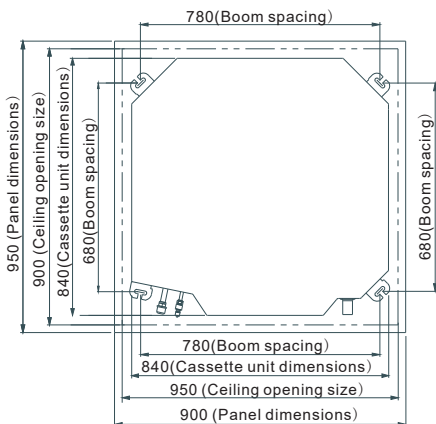
- The indoor unit can be installed on the ceiling with the height of 2.5~2.5mm.
- When installing the indoor unit, the lifting screw rod will be used and make sure installation foundation is firm enough to support the unit, otherwise, please take some measurings to reinforce it prior to installation. The hole pitch has been marked on in the installation paper matrix, please refer to those specification and find out the places where the reinforcing measures should be taken.
- Make sure there is no obstacles in the place where is 1meter away from the air outlet.

4.1.2 Space Needed for Installation

- ⚠ Note: The installation of the unit must be installed by professionals, improper installation may cause water leakage, electric shock or fire
- Indoor unit installation location diagram



Space required for indoor unit installation :



/	Model	Tape sizes(H)
360° air outlet	24K/36K	210
	48K/60K	295

Notes: Actual sizes are subject to real products.

NOTE :

- ① The dimensions of the opening of the ceiling marked by the star symbol can surpass 910mm, but the overlap sections of the ceiling and the decoration panel should be more than 20 mm.
- ② As for existing ceiling, a proper opening for installation should be dig
 - a. On the installation paper-matrix, you can get the detailed information about the dimensions of the opening of the ceiling.
 - b. 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.
 - c. The opening in the ceiling can reinforce the ceiling and prevent the ceiling from vibrating.
- The installation of the lifting screw(using the W3/8 M10 bolt)
 - ① In order to support the unit, the ground anchor bolts are needed for existing ceiling and as for new built house and ceiling, however,buried anchor bolts or other parts(supplied in the field site).

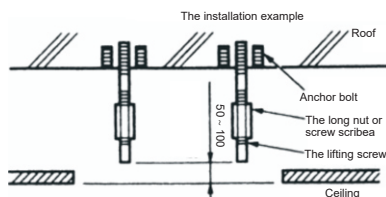
4.1.3 Installation for indoor units

unit: mm

- When there is no installation position in the ceiling board

- ① Attach the base of the hanger on the lifting screw, the nuts and washers are used in two ends of hanger base to firmly fix the base.Besides,the washer positioning board is used to prevent the washer from falling off.
- ② As for the dimensions of the opening of the ceiling, please refer to the installation paper-matrix or consult the constructor or the carpenter.

The installation paper-matrix is fixed on the unit with three screws and on the paper-matrix, the central position of the opening in the ceiling has been marked out . The corner of the water drainage groovy at the water outlet of the duct is also fixed by screws.



NOTE: all the parts above mentioned will be supplied at the installation site

- ③ Adjust the unit to the correct installation position.
- ④ Check whether the unit is in the horizontal level.

Because the indoor unit has inside water drainage switch and float switch. Check the four corners of the units separately to make sure that the four corners are in the horizontal level by using the level gauge or the polythene duct filled with water (if the unit inclines to the reverse direction to the flow of condensation water, it may lead to the float switch out of work and result in water dropping).

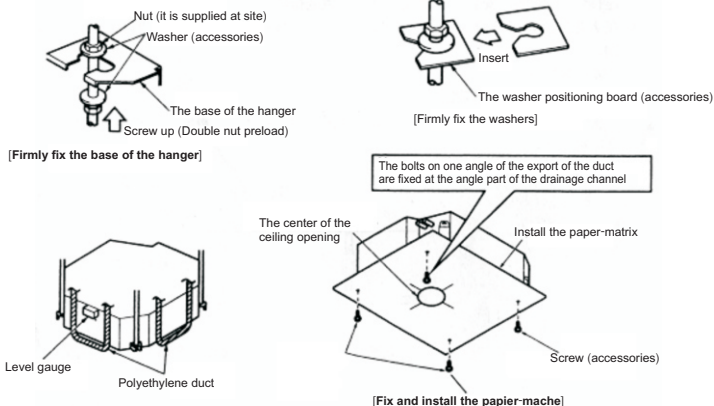
- ⑤ Remove the washer positioning board and fasten the nut .
- ⑥ Remove the installation paper-matrix.

■ When there is installation position in the ceiling board

- ① Temporary installation of the indoor unit

Attach the base of the hanger on the lifting screw, the nuts and washers are used in two ends of hanger base to firmly fix the base. Besides, the washer positioning board is used to prevent the washer from falling off.

- ② Adjust the position and the height of the unit
- ③ Carry on the operation procedure of ④ and ⑤ steps above;



4.1.4 Install the panel



CAUTION

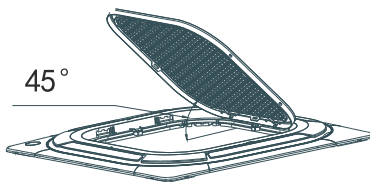
- Never keep the panel facing the ground nor again the wall or on protuberant objects.
- Never crash or strike the swing plate in case of breakdown.

■ Take down the return air grill from decoration panel:

- ① Press the button of the return air grill, and then lift one end of the button (Refer to the right figure)

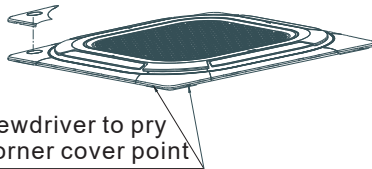


- ② Draw the grill up to an angle of about 45° , and remove it (Refer to the right figure)



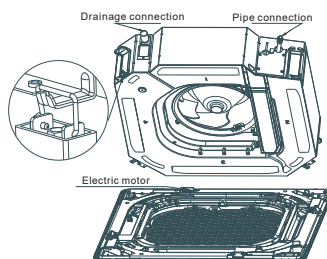
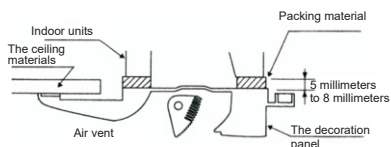
■ **Remove the seal cover at the four corners**

(Draw the seal cover out , Refer to the right figure)



■ **Install the panel**

- ① Align the swing motor on the panel to the tubing joints of the body properly.
(Refer to the following figure)
- ② Hang the draw hooks opposite to swing motor of the decoration panel on the hooks of the indoor unit. (Refer to the following figure)
- ③ Then hang the other two panel hooks onto corresponding hangers of the body.
(Refer to the following figure)
- ④ Screw the four hexagonal screws under the draw hook into approximately 5mm.
(the panel will raise along with it)
- ⑤ Screw up the screws so that the thickness of the air-proof materials between the panel and the indoor unit reduces to 5 ~ 8mm.



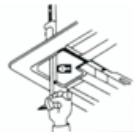
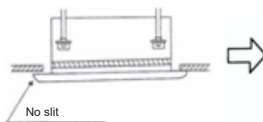
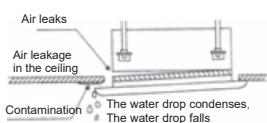
CAUTION

Do not coil the wiring of the swing motor into the seal sponge.

If the screwing is too loose, it will cause following faults. Therefore, screw up the screw again to the stated requirement.

After finishing twisting the screw, if there is still slit between the ceiling and the decoration panel, please readjust the height of indoor unit.

When indoor unit is located in the horizontal position but the drain water can not be drained out, please adjust the height of the indoor unit through the angle hole on the decoration panel.



■ Lifting height of the indoor unit

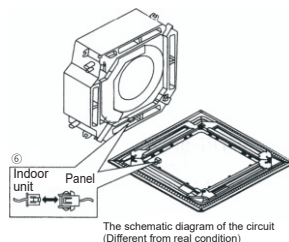
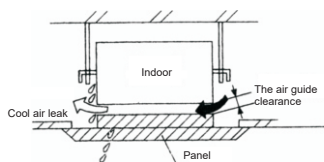
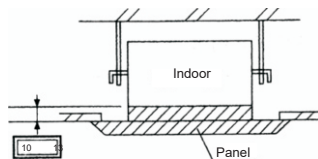
Please adjust the lifting height of the indoor unit as the right figure:

① If there is slit between indoor unit and panel, it will be harmful as the following:

- a. Condensation will be generated outside (ceiling inside) and inside the product because of the air in the ceiling or the gas leakage from the ceiling.
- b. The horizontal leaf blade will condensate, the water will splash and condensation will be generated in the machine because of air current blowing out disorderly.

② The circuitry of the decoration panel (please see the right figure)

- a. The connector of the wire of the swing electrical motor should be properly attached (located on decoration panel)
- b. If unconnected, then the swing plate will not act
- c. Insure that the wire of the swing electrical motor is not trapped between indoor unit and the decoration panel.



4.1.5 Install return air grill and close cover

■ Install the return air grill

Following the opposite installing steps with "4.1.4 Install the panel" to carry on the installment. Rotating the return air grill, it may be installed in 4 directions.

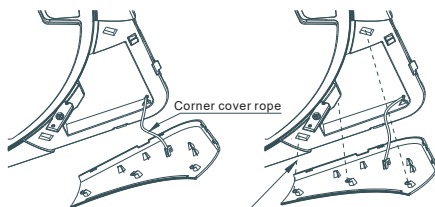
If needing to adjust the installment direction of the return air grill, or users put forward new requirement, installment direction can be changed.



CAUTION

Do not coil the wiring of the swing motor into the return air grill when installing.

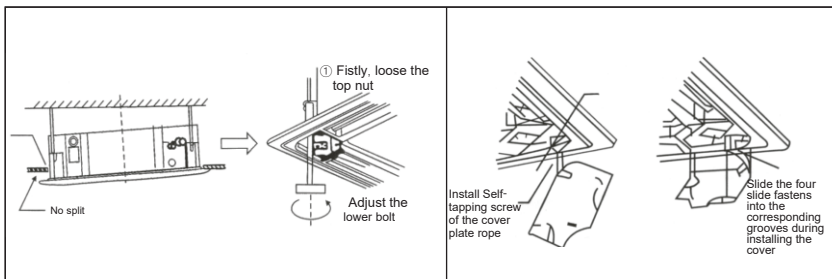
- Fix the close cover on the panel (refer to the following figure)



Insert the four pins on the close cover into the corresponding hole on the decoration panel before installation .

When installing the corner cover, slide the 3 slide buckles into the corresponding holes on the panel

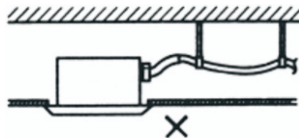
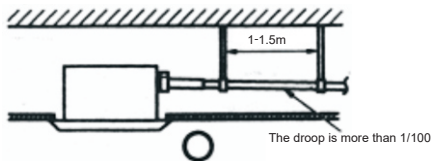
- Put the return air grill on the panel and then connect the swing motor on panel and lead connectors of control box to the corresponding joints of the main body;
- Install return air grill according to the opposite steps for removing the grill.
- Reinstall the installation cover plate
- Fix the rope of the installation cover plate with screws on the bolts of the installation cover plate (please refer to the lower right figure)
- Push gently the installation cover plate into the panel.



4.2 Install Outdoor unit

4.2.1 Installation precaution

- It is advisable to transfer the parts of the unit with complete packing to the installation field site.
- Pay attention to the lifting of the unit , for its center of gravity not at the central position.
- Keep the outdoor unit not incline too much, the angle not more than 45° during transportation(it is not allowed to store the unit in level in the storehouse)

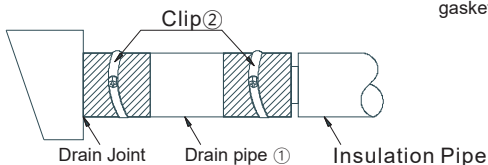


■ Use Drain hose ① and Clip ② (Attachment).

Insert the drain hose into the drain faucet to the white adhesive tape and then screw down the clip so that the distance between the bolt head and hose is less than 4 mm.

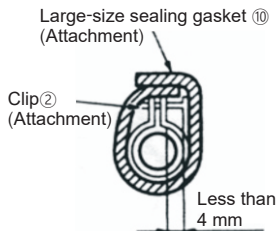
■ In case of water leakage for dewing ,please take some heat-insulated measures for the indoor drain hose and the drain faucet.

● Drain pipe in the room;



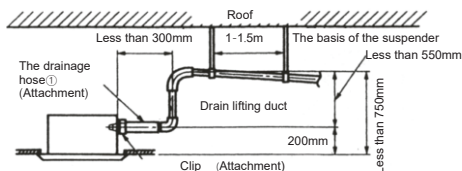
● Drain faucet

Carry on heat insulation operation for the clip and drain pipe with Large-size sealing gasket ⑩



■ Notes of the drain lifting duct

1. The installation height of the drain lifting duct is less than 550mm;
2. Keep the lifting duct with the unit in vertical and the distance less than 300 mm.



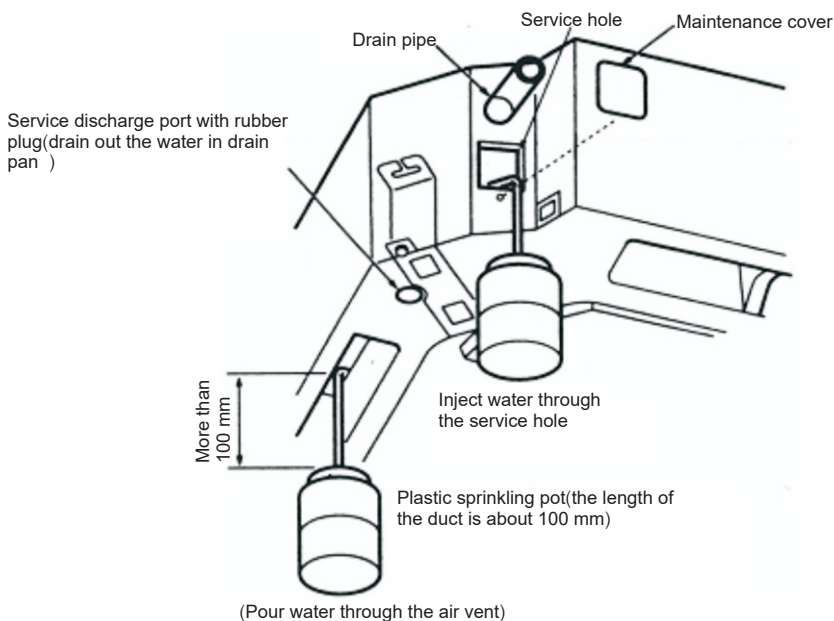
CAUTION

- In case of water leakage, please don't drag the drain pipe violently;
- Please install the drainpipes according to the following steps if several drain pipes are converged in one drain pipe.

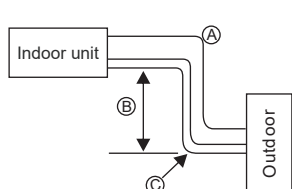


- **Step one** Choose the proper join drain pipe according to the running capacity of the unit.
- **Step two** After the installation of the drain duct, inject 2000ml water into the air vent or the service port, and then check whether the drainage is free ;
- **Step three** After the installation of the circuit , check the drainage condition during cooling operation, as for the details, please refer to "TEST OPERATION".

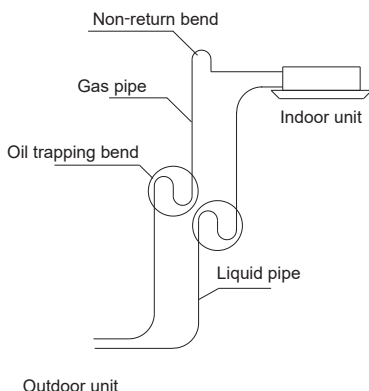
Water injection sketch figure



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

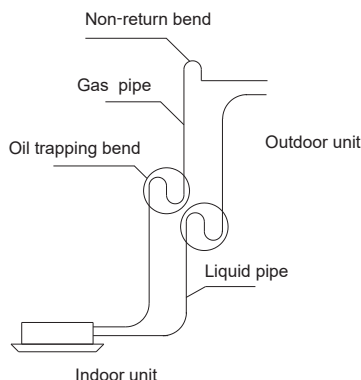
Indoor unit		Rated refrigerating capacity	
		Value	
		24 ~ 36K	≥ 48K
A Pipeline length (one-way)		Maximum length 15m	Maximum length 20m
B Height difference(one-way)		Maximum length 8m	Maximum length 10m
C Pipeline bends quantity		Up to 5	Up to 5

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.



Outdoor unit

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



Indoor unit

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

4.2.3 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 supplementing flexible pipe to connect refrigerant cylinder, pressure gauge and outdoor unit. And 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).

TEST OPERATION

5.1 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.
-

5.2 Test operation

- Switch on the main power supply of this unit.
- Press the emergence 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 emergence switch again.
- Press "ON/OFF" key on the remote controller, if you can hear " beep " sound from the indoor unit, it means the remote 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 " MODE" key and choose FAN mode, check whether there is air flow blowing out from the air conditioner.
 - Press " MODE" key and choose COOL mode, check whether the air flow blowing out from the air conditioner is cool.
 - Press " MODE" 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 " FAN SPEED " key and choose the high speed mode, check whether there is a strong air flow blowing from the air conditioner.
 - Press the "SWING" key and observe Whether the air flow louver moves normally.

5.3 Test drainage device

- After the installation of the unit, you must carry out a test of the drainage equipments
- 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.

MAINTENANCE AND UPKEEP

6.1 Clean the air filter

If the air filter is blocked, it will reduce the air circulation amount and affect the effect of the cooling air and the warm air ; What's worse, it will lead to the air conditioner break down. Therefore, please clean the air filter at least once every two weeks during long time usage.

If the unit will be idle for a long time, the air filter should be cleaned before starting the unit.

6.1.1 The cleaning procedures of the air filter

- Dismantle the air filter
- Clean the filter with the dust collector or water
- If the filter is cleaned with water, place it in a shady and cool place to dry.



CAUTION

- In case of fading or deformation of the filter, never clean it with the hot water of which the temperature is higher than 50°C;
 - Never dry the strainer by a fire, otherwise, it may catch fire.
-

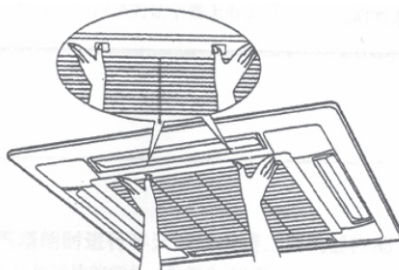
When you clean or upkeep the unit , firstly , you must turn off the power supply of the unit and pull out the power plug . And the cleaning or maintenance should be operated by professional personnel .

6.1.2 The cleaning methods of the indoor unit

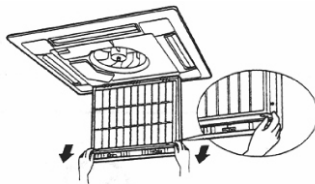
- Wipe the outside of the unit with a clean and soft dry cloth
- Use the neutral domestics cleanser agent(such as clean agent) to clean any oil contamination or the fingerprint

6.2 Dismantle the return air grill and the air filter

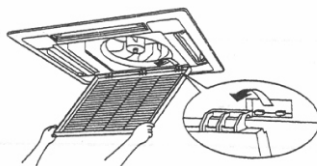
■ Open the return air grill: Press the two buttons, and pull them downwards slowly as indicated in the right figure (when closing the return air grill, follow the same operation steps):



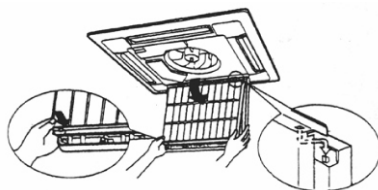
■ Dismantle the air filter net: hold on the draw hook of the air filter and pull it along the lower inclined side to take out the strainer as indicated in the right figure:



■ Take out the return air grill: Open the return air grill at the angle 45° and then lift it up and take it out, just like the right figure.



■ Install the air filter and the return air grill after cleaning them according to the opposed operation steps above, as indicated in the right figure.



6.2 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.

6.3 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.

6.4 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.

6.5 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.

6.6 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.
- Take out the batteries of the remote controller and put away the remote controller.
- 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 "ON/OFF" key on the remote controller, no "beep "sound comes from the indoor unit and the RUN light is off	Power failure	Press"ON/OFF"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 remote controller is working out of the function range	Operate the remote controller in the function range of the remote controller
		Batteries of remote controller exhausted(Information on the screen darken)	Replace them with new batteries
Air conditioner fails to start	Remote 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	Remote 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 "ON/OFF" key on the remote 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

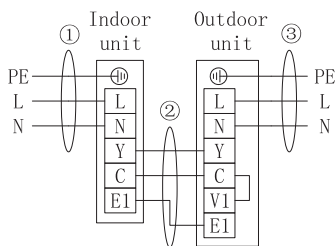
ELECTRIC WIRING

8.1 Electric wiring precaution

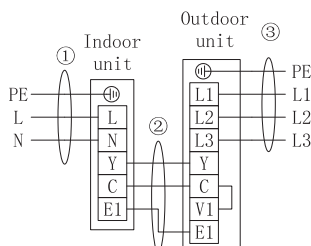
- Wiring construction must conform to National Wiring Norm;
- The air-conditioner should apply special power supply and set leakage protective switch. The rated operation current of the switch should be no less than 1.5-3 times of the rated operation current of the unit(The actual value of rated current 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.
- Install equipments with the auxiliary electric heater outside the evaporator and keep them 5cm away from the flammable;
- Make sure there is enough space for electric devices installation and the minimum allowable distance between devices;

8.2 Power wiring diagram

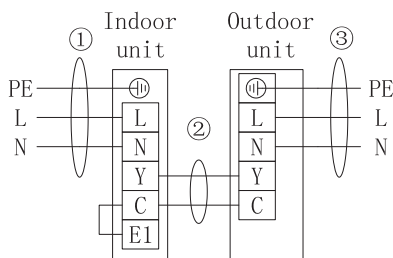
There are many kinds of power wiring diagram for different user powers and models, take double-temperature units for examples:



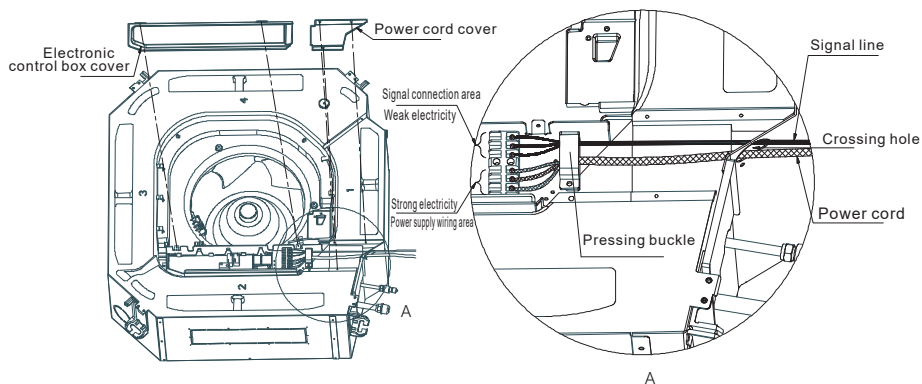
Single Phase for Cooling Only
(Matching with Fixed-Speed Outdoor Unit)



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



Wiring for Inverter-Driven Outdoor Unit



Note: The arrangement diagram is only for signal wire and power line. For wiring, please refer to power wiring diagram.

8.3 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

8.4 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	5A
	Indoor Unit Power Line	Line Quantity	3	3	3	3	3
		Line Diameter(AWG)	16/1.5mm ²	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	3	4
		Line Diameter(AWG)	14/2.5mm ²	12/4.0mm ²	8/10.0mm ²	8/10.0mm ²	12/4.0mm ²
	Outdoor-Indoor Signal Line	Line Quantity	3	3	3	3	3
		Line Diameter(AWG)	18/1.0mm ²	18/1.0mm ²	18/1.0mm ²	18/1.0mm ²	18/1.0mm ²