

USER'S MANUAL

QUEEN SERIES

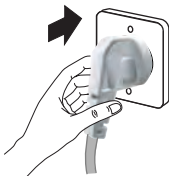
ASH-09AQ, ASH-13AQ, ASH-18AQ



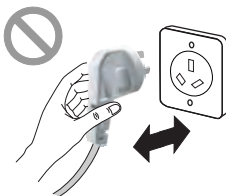
◆ Usage Notice (Please read the following notice carefully before usage)

WARNING

- ★ Ensure power plug had be inserted firmly. Otherwise electric shock or fire may occur.



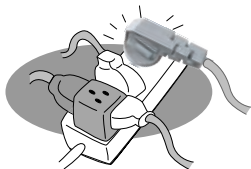
- ★ Don't plug out power plug when unit is operating. Otherwise electric shock or fire may occur.



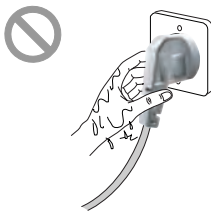
- ★ Don't damage wire or use the wire that is not appointed. Otherwise electric shock or fire may occur.



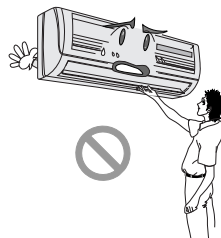
- ★ Don't share socket with other appliances or use prolonged hose. Otherwise electric shock or fire may occur.



- ★ Don't operate unit with wet hand for electric shock may occur.



- ★ Don't insert finger or stick-like thing into air outlet vent of indoor and outdoor unit. Or it would cause harm.



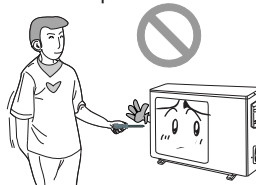
- ★ Don't let cooled air blows body directly for too long, and don't set indoor temp. too low for it is not good for health.



- ★ If abnormal phenomenon occurs (like burning odor etc), cut off power supply first, then contact our service center. If abnormal continues, the unit may be damaged and cause electric shock or fire.



- ★ Don't repair the unit yourself for incorrect repair may cause electric shock or fire. Contact our service center to have the unit repaired.

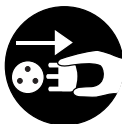




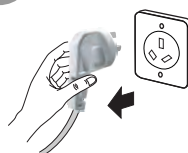
★ **Earthing:** Earth must be reliable! Earth wire should be connected on special earth settings in the building. If there is no such settings, have it connected by professional personnel. Don't connect earth wire onto gas pipe, water pipe, blowing pipe or places where professional personnel considers it unreliable.



★ **Plug out power plug** when the unit will not be used for a long time.



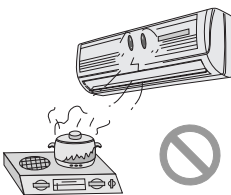
★ **Cut off power** when cleaning the unit. Otherwise, electric shock or damage may occur.



★ **Don't take out the plug** by pulling the power hose. Otherwise, fire may be caused for over heat of wire.



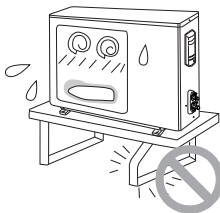
★ **Don't let the unit blows** to heater or cooker directly. Or CO toxicosis may occur for incomplete burning.



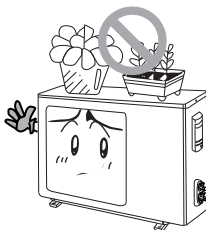
★ **Chemical sprayer** must be placed 1m or more away from both indoor and outdoor unit. Otherwise fire or explosion may occur.



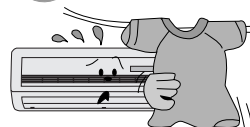
Note if install chassis is damaged. If the chassis is damaged without repair, unit may fall down and cause injury.



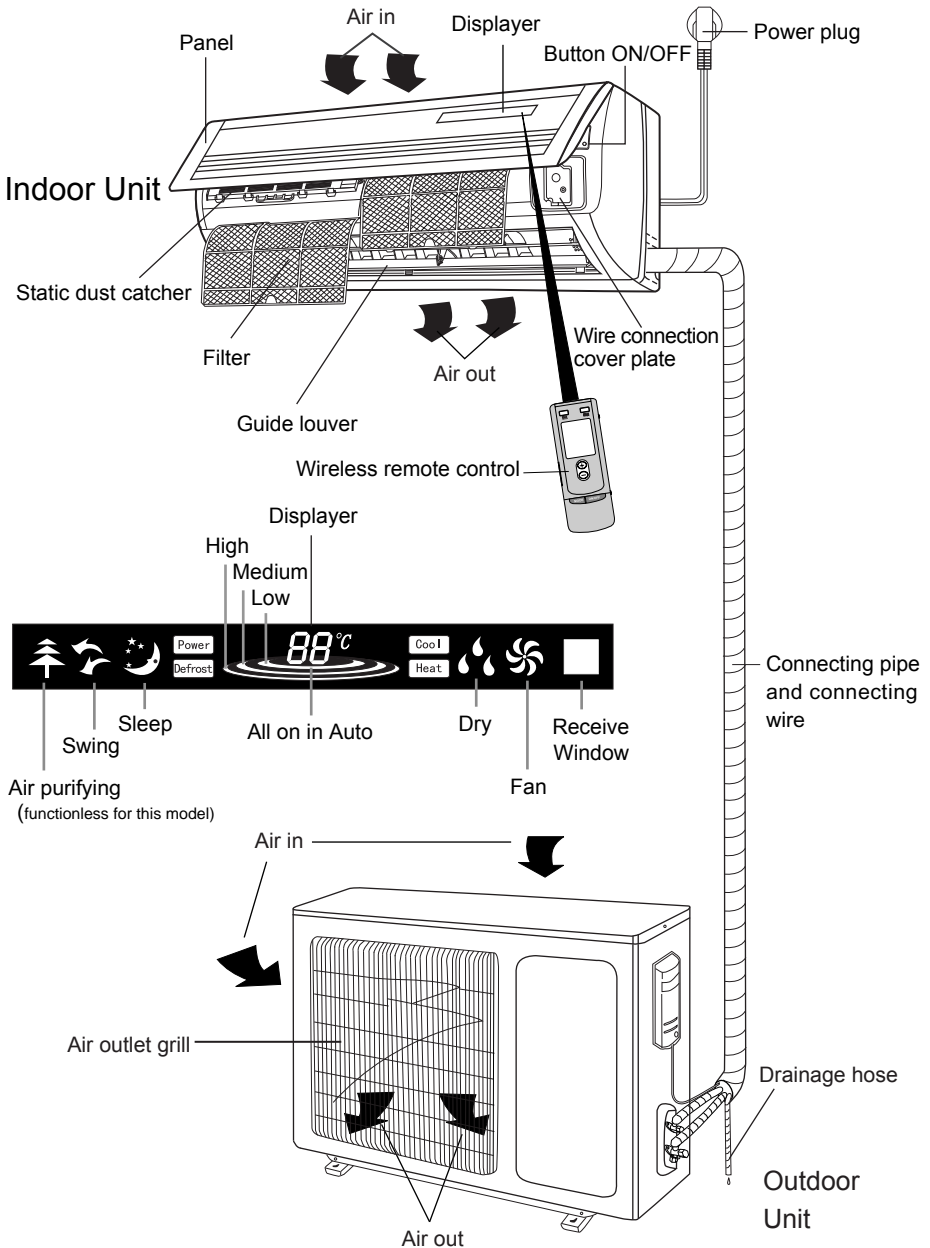
Don't stand or put things on the outdoor unit. For people or things may fall down and cause injury.



Don't block the air intake or outlet vent of both indoor and outdoor unit. It would cause low performance or stop of unit.



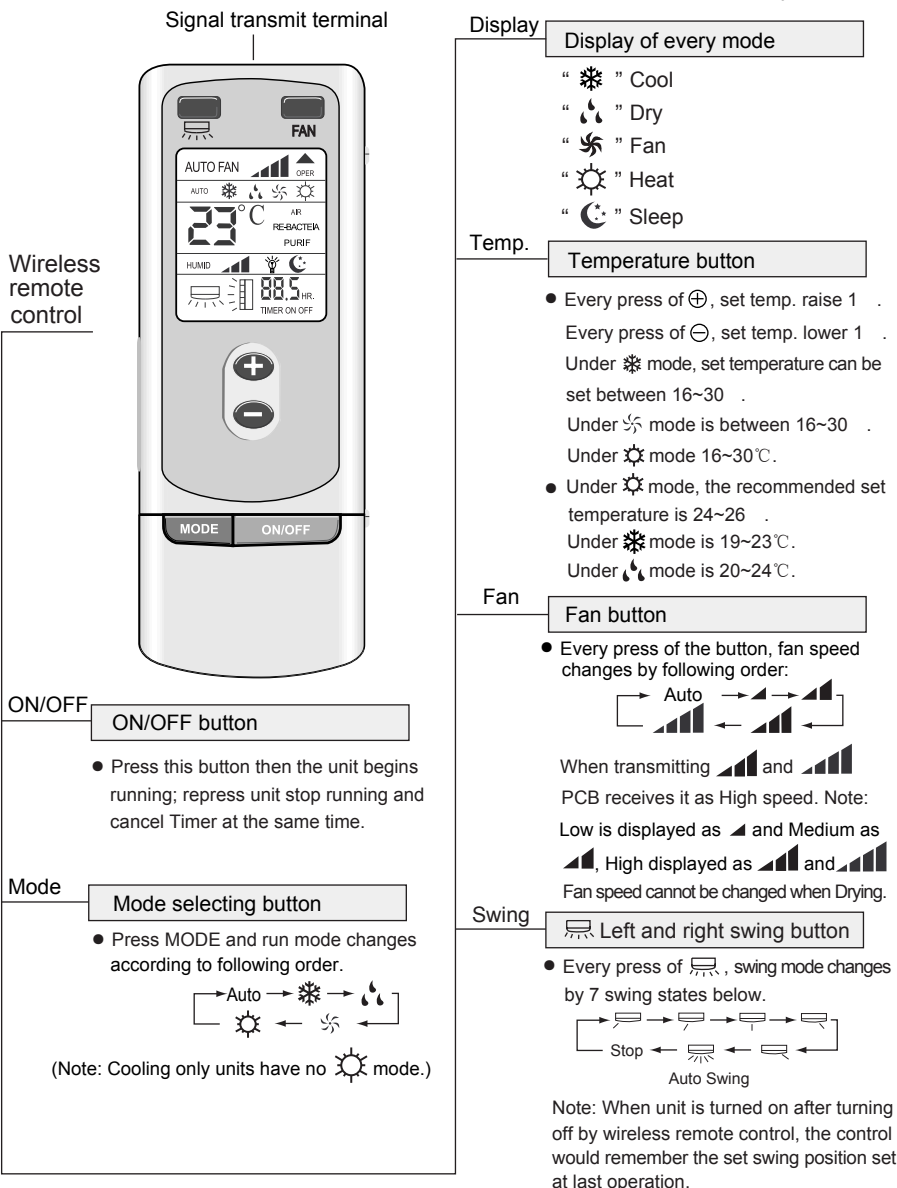
Name of Every Part of The Unit



Usage Method of Wireless Remote Control

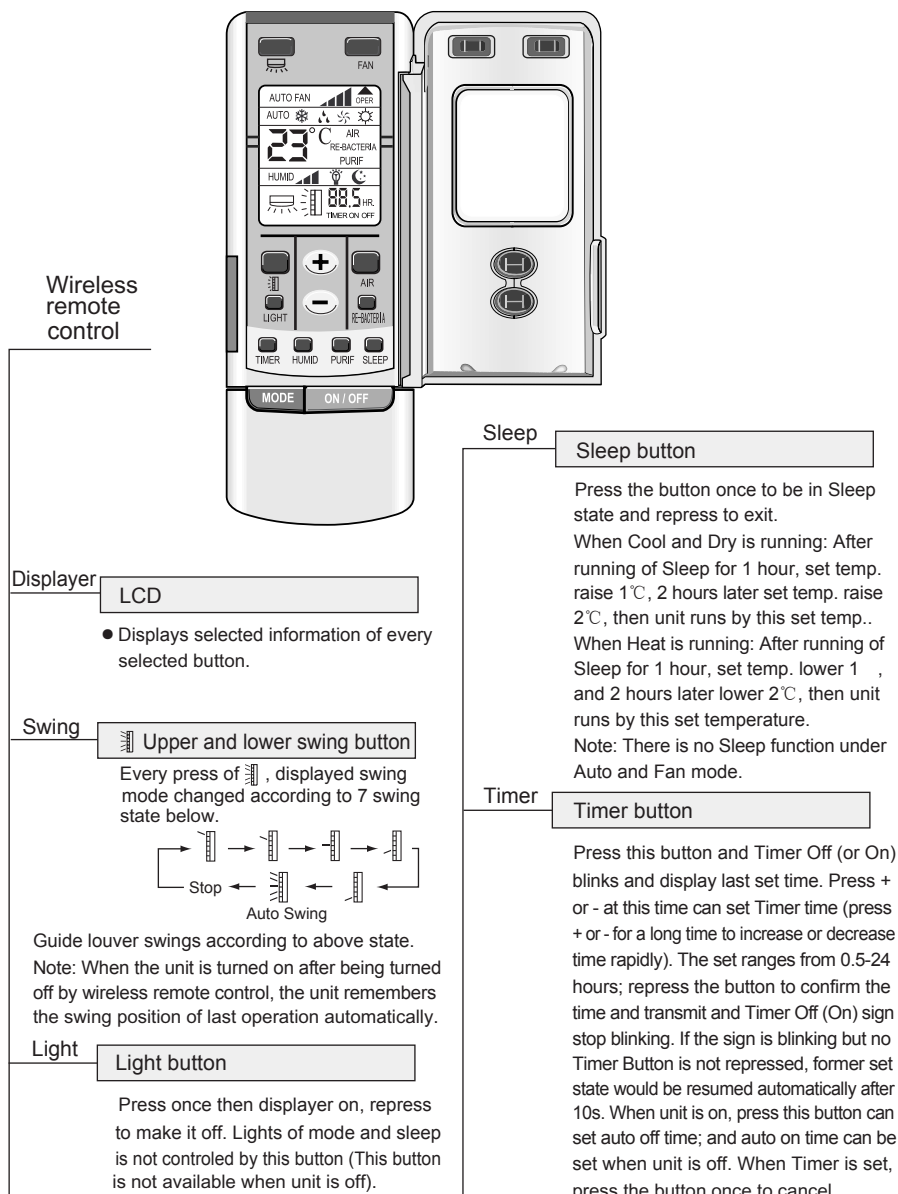
◆ Name and Function of Every Button on Wireless Remote Control

Note: Ensure the control is aligning receive window, and there is no obstruction between the two sides; don't drop or throw the control; don't flow any liquid into it or place it under direct sun burn or where there is extremely hot.



Name and Function of Every Button on Wireless Remote Control (Remove Cover)

Note: This kind of wireless remote control is the general one that is suitable for several models (functions). Please understand that we won't introduce the buttons that are not available to this unit.



◆ Operation Guideline

Common process:

1. After connecting with power, buzzer sounds and indoor unit display displays all signs. Several seconds later all indicator signs off automatically except power indicator sign, then only power indicator light on and displays in green. The unit is in waiting state (Note: When every electrified or received signal from wireless remote control, buzzer sounds; every electrify, both guide louver and swing louver reset automatically).
2. Press ON/OFF on wireless remote control, power indicator light off and present set running mode set temperature and fan speed etc are displayed at the same time, unit begins running (Note: After turning off light, all signs except running indicator sign off).
3. Press MODE to select proper running mode.
4. Press SWING to select swing mode or fix the air supply in a certain direction. When Swing is operating, Swing indicator light on, otherwise the light off.
5. Press FAN to set fan speed.
6. Press TEMP to set proper temperature.

Optional process:

7. Press SLEEP to set sleep state.
8. Press TIMER and then ⊕/⊖ to set Timer on or off time.

Note: When AUTO mode is selected, the unit would select proper operation mode according to indoor temperature to make ambient comfort.

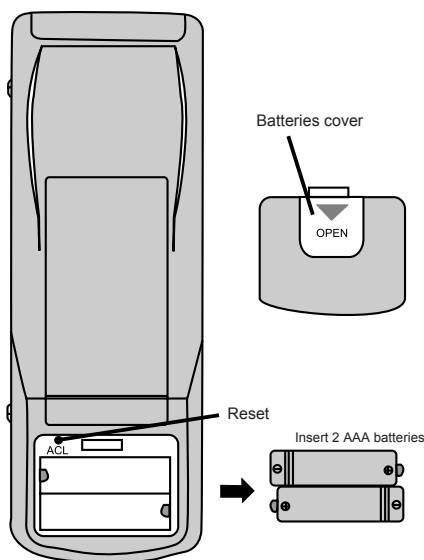
◆ Change of Batteries of Wireless Remote Control

Wireless remote control use 2 AAA dry alkaline cell

1. Slide the battery cover downward to take out worn batteries, then change 2 new ones (note the correct polarities).
2. Cover battery cover.

Note:

- Don't confuse the new and worn or different types of batteries.
- If wireless remote control will not be used for several weeks, please do take out batteries to prevent leakage of liquid from damaging the control.
- Operation of the control should within its receivable area.
- The control should be 1m or above away from TV or hi-fi equipments.



◆ Users' Notice

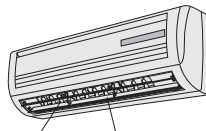
Indoor temperature should be set in proper. Align proper set temp. can avoid electric wasting.

Temp. dif. between indoor and outdoor should be 5℃



★ Align proper airflow and direction

When unit is running, press the Swing on wireless remote control for left and right swing can align airflow horizontal direction, press Swing for upper and lower swing can align airflow vertical direction.

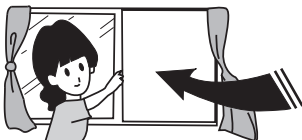


Left and right air direction aligning louver

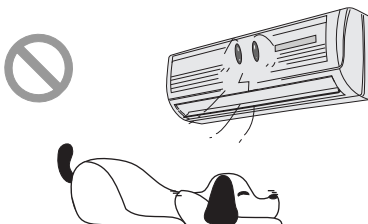
Upper and lower direction aligning louver

★ Don't open the doors and windows for a long time when unit is running.

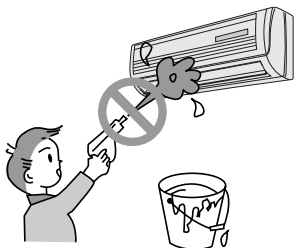
Or the capacity of unit would be decreased.



★ Don't let the unit blow against pat and plant directly, for it is not good for them.



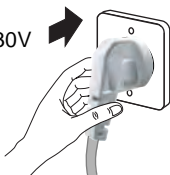
Don't water or wash the unit by water, it could cause malfunction or electric shock.



This unit adopts X-connection power cord, please don't cut or damage power cord and signal control wire. If the cord and wire are damaged, do have them replaced by professional personnel.

★ The allowed voltage flucture of this unit is $230 \pm 10\%V$. The strong shocking of compressor caused by too low voltage would damage cooling system.

50Hz~230V



This unit cannot be used for drying clothes and refrigerating foods etc.

Maintenance

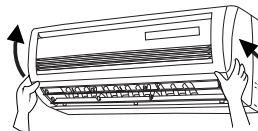
Turn off the unit and take out the power plug before cleaning the unit, or electric shock may occur.

Don't make the unit wet, or electric shock may occur, ensure that the unit would not be washed by water under any circumstance.

Volatile liquid like thinner or gasoline would damage the appearance of the unit (Only adopts soft dry cloth and wet cloth moisted with neutre cleaning fluid to clean appearance of the unit.)

Take off and clean the panel

1. Take off the panel by pulling the grooves of both ends to the shown position in figure at the same time by the arrow direction.



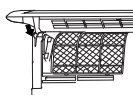
2. Clean

Clean it by soft brush, water and neutral cleaning fluid, then swing water or dry it (Note: Take off LCD box before cleaning panel to prevent damaging the box by water leakage. Don't water it by hot water whose temperature is higher than 45℃ to prevent fade or deformation).



3. Install panel

Insert the supports on 2 ends of panel into groove, and put the mid rotating shaft in groove, cover the panel cover according to arrow direction and cover it well.



(a)



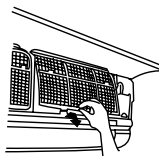
(b)

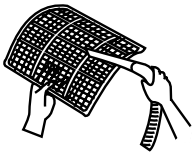
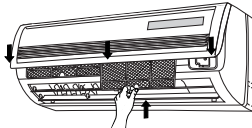
Clean air filter (Once about 3 months)

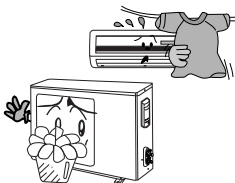
If the usage environment of the unit has lots of duct, the cleaning of air filter should be more frequently.

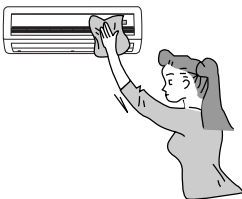
1. Take off air filter

Pull out the panel to an angle at both grooves on panel forcibly at the same time, then pull the air filter downward to take it off. As shown in right figure.



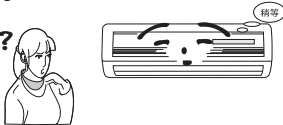



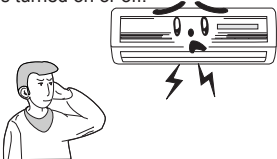
<p>2. Clean air filter</p> <p>Adopt ductcollector or water to clean filter. If the filter is too dirty (like oil spot), clean it by warm water (lower than 45°C) melted with neutral cleaning fluid then dry it in shade as shown in right figure.</p> <p>Note: Don't wash it by hot water whose temp. is higher than 45°C to prevent fade or deformation. Don't dry it on fire for filter would catch fire or deformation.</p>	
<p>3. Install air filter</p> <p>Insert the air filter, then cover panel cover well.</p>	

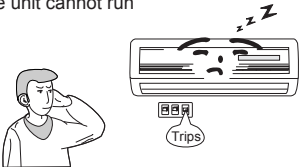
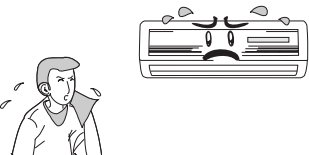
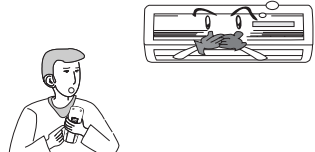
Check before usage season	
<ol style="list-style-type: none"> 1. Check if the air intake or outlet vent of indoor or outdoor unit is blocked. 2. Check if earth wire is connected firmly. 3. Check if batteries in wireless remote control is replaced. 4. Check if install support of outdoor unit is damaged, if so, contact our service center. 	

Maintenance after usage season	
<ol style="list-style-type: none"> 1. Clean filter and body of indoor and outdoor unit. 2. Cut off power supply of the unit. 3. Clear dust and things on outdoor unit. 4. If outdoor unit rusts, paint oil paint on rust to prevent spreading. 	

Troubleshooting

Warning: Please don't repair the unit by yourself for incorrect repair would cause electric shock or fire; please contact our service center to have the unit repaired by professional personnel. Check the following items before requesting on service center would saves your time and cost.

Phenomenon	Troubleshooting
<p>The unit cannot be restarted immediately after being turned off.</p> 	<p>Once the unit be restarted immediately after turned off, overload protect switch would make it run after 3 minutes' delay.</p>
<p>Odor comes out from the unit when it is just turned on.</p> 	<p>This is the odor of furniture and cigarette that sucked in the unit when it was working and now be blown out.</p>
<p>Water flow sound is heard when the unit is operating.</p> 	<p>This is the sound of flow of refrigerant inside the unit.</p>
<p>When cooling, mist comes from air outlet vent.</p> 	<p>This is because the indoor air is cooled rapidly.</p>
<p>Slight creaking noise can be heard when the unit is turned on or off.</p> 	<p>This is the frictional sound caused by expansion of panel etc since the change of temperature.</p>

Phenomenon	Troubleshooting
<p>The unit cannot run</p> 	<ul style="list-style-type: none"> • Is power supply cut off? • Is power cord loosen? • Is circuit protect setting tripped? • Is voltage too high or too low? • Is Timer On set by wireless remote control?
<p>Bad cooling (heating) effect of the unit</p> 	<ul style="list-style-type: none"> • Is temperature set in proper? • Is air intake or outlet vent of outdoor unit blocked? • Is there too much dust on air filter? • Are windows and doors closed? • Is airflow set to Low? • Is there any heat source in room (when cooling is bad)?
<p>Wireless remote control cannot control</p> 	<ul style="list-style-type: none"> • When unit is interfered by abnormal interference or too frequent of change function, wireless remote control would not control occasionally. Plug out power plug and reinsert it well could resume normal operation. • Is the control in receive area? Or is there onstruction? • Check if voltage of batteries in the control enough? If not, change batteries. • Is wireless remote control damaged?

Stop the unit from operating immediately and plug out power plug then contact our service center when following circumstance occur.

Harsh noise is heard when the unit is running;
 Air switch or creepage protector always trip;
 Water or other things poured into unit or wireless remote control carelessly;
 Water leakage occurred in room;
 Power cord and plug are extremely hot;
 Abnormal odor is produced when unit is running.

- ☆ Please refer Warranty for relative items.
- ☆ If there is any question about quality or others of the unit, please contact the service center.



Please contact service center if there is problem.

◆ Select of Install Location

Indoor unit

1. Air intake and outlet vent should be far away from abstraction so that airflow could be blown to the whole room;
2. Select the place where is easy to drain condensate and connect with outdoor unit;
3. Far away from heat source, steam and flammable gas;
4. Select the place where is strong enough to stand the weight of indoor unit without increasing operation noise and shake.
5. Ensure enough space for maintenance and repair, ensure the height from floor to indoor unit over 2m;
6. Place where is 1m or more away from TV, hi-fi and other household appliances;
7. Place where air filter can be taken out easily;
8. Ensure the installation of indoor unit fits requirements in Install Dimension Diagram.

Outdoor unit

1. Place where noise and airflow from the unit would not disturb neighbors;
2. Place where there is well ventilation for outdoor unit;
3. Obstructions are not allowed to exist around intake or outlet vent of outdoor unit;
4. Place where can stand weight and shake of outdoor unit and ensure safe installation work;
5. Place where there is no leakage of flammable gas and corrosive gas;
6. Ensure the install of outdoor unit fits the requirements of Install Dimension Diagram.

◆ Wire Allocation

1. Install according to national wiring regulation.
2. Power must adopt rated voltage and special circuit for air conditioner, diameter of power cord should be big enough.
3. Please don't pull power cord forcibly.
4. Earth should be connected reliably. Connect it on special earth settings of the building and do have it done by professional personnel. There should be creepage protecting switch and air switch with enough capacity in rated circuit (refer to following list). Air switch should contain magnetic dropout and heat dropout functions to guarantee protection when circuit-short and overload occur.

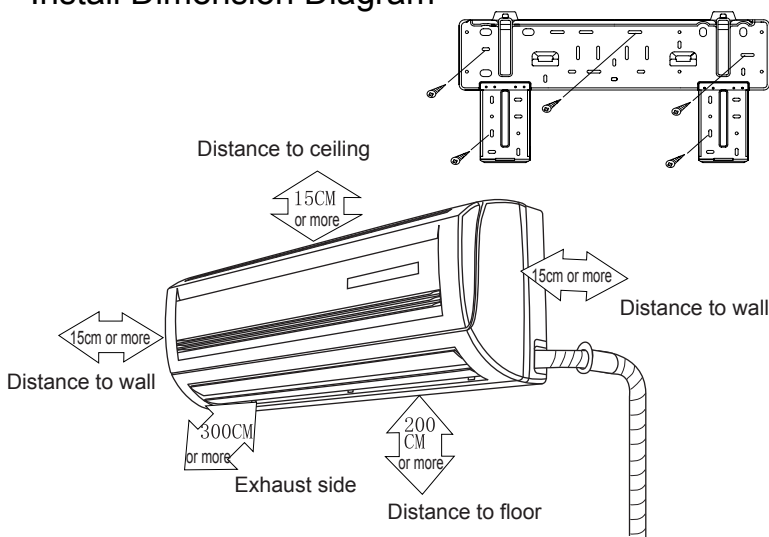
Usage Models	Capacity of air switch	Min. section of earth wire	Min. section of power cord
ASH-09AQ	10A	1. 0mm ²	1. 0mm ²
ASH-12AQ	16A	1. 5mm ²	1. 5mm ²
ASH-18AQ	16A	1. 5mm ²	1. 5mm ²

◆ Earth Requirements

1. Air conditioner is type I electric appliances, please do conduct reliable earth connection.
2. The yellow-green wire in the unit is earth wire, don't use it for other purpose and don't cut it. Don't fix it by self tapping screw or electric shock may occur.
3. Earth resistance should fits requirements of National Criteria GB17790.
4. User's power must offer reliable earth terminal. Please don't connect earth wire onto following places:

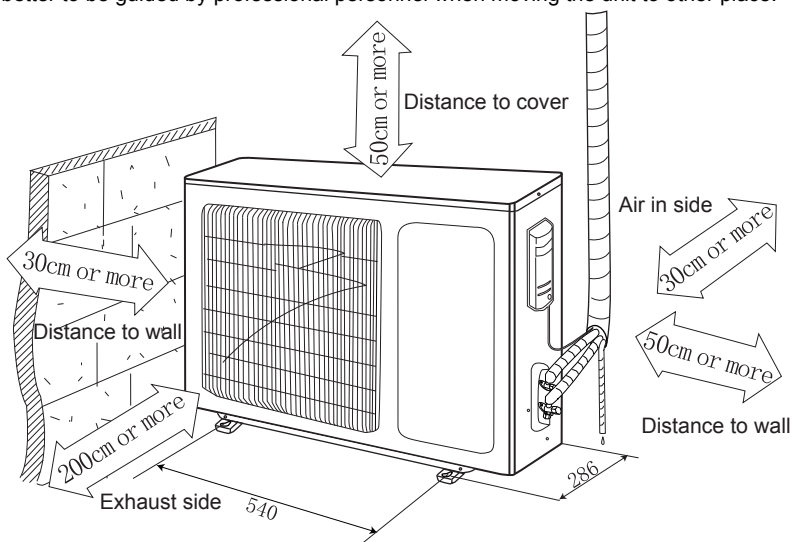
Water pipe Gas pipe Drainage pipe Places where professional personnel considers unreliable

◆ Install Dimension Diagram



Important Notes

- ★ To ensure good usage, install the unit by professional personnel according to this instruction.
- ★ Please contact our local service center before installation, malfunction caused by the unit that was not installed by our service center would be hard to deal with in time for inconvenient business contact.
- ★ It is better to be guided by professional personnel when moving the unit to other place.



◆ Install of Indoor Unit

Install Rear Plate

1. Measure horizon by hanging line or horizontal measurement. Since drainage pipe hole is on left, it is better to make left side lower.
2. Fix rear plate on wall by bolts.
3. Pull the rear panel by hand after installation to see if it is firm enough. The panel should be able to stand the weight of an adult (60kg) and the weight should be evenly shared by each screw.

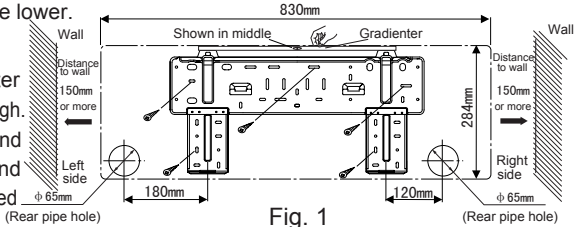
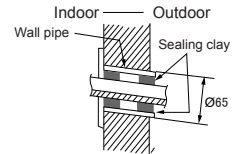


Fig. 1

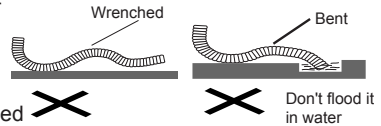
Open Pipe Hole

1. Drill a hole outward at a slant after pipe hole is determined as shown in fig.1 ($\Phi 65$).
2. In order to protect pipe and cable from being damaged and avoid rats in the space, put on wall pipe.



Install Drainage Hose

1. Drainage hose must be placed at a downward slant for smooth drainage.
2. Don't wrench, bend or heave the hose or flood its end by water.
3. The indoor part of prolonged hose should be wrapped by heat insulating material.



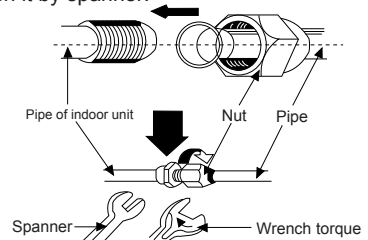
Install Connect Pipe

1. Connect the connect pipe with 2 leading pipes of indoor unit, then tighten joint nuts on connect pipe.
2. Tighten nuts on connect pipe forcibly, and then tighten it by spanner.

Note: Too great of torque would damage nuts.

Refer the following list for tighten torque.

Hex nuts	Tighten Torque (N · m)
6	15~20
9.5	31~35
12	50~55



Note: Connect the connect pipe with indoor unit first and then outdoor unit; bend and place of pipe should be careful to prevent damaging the pipe; joint nut should not tighten too much or it would cause leakage.

Electric Wiring

1. Open panel upwardly (as shown in fig. 2):
2. Take off fixing bolts of wire cover plate to take off the plate (as shown in fig.3).
3. Make power connect wire goes through the single wire hole at rear side of indoor unit and pull it in front side.
4. Connect the blue wire among power connect wires onto terminal N(1) on line bank, black wire onto terminal 2 and yellow-green one (earth wire) onto terminal \oplus (as shown in fig.4).
5. Put the section of power connect wire with sleeve into clamp groove, cover wire cover plate, screw on fixing bolts to tighten the wires.
6. To cooling and heating unit, signal control wire connect with indoor unit via connector, and has the wire tightened by clamp at bottom of the unit's body (as shown in fig. 5).
7. Cover panel.

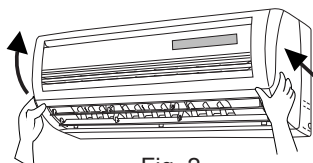


Fig. 2

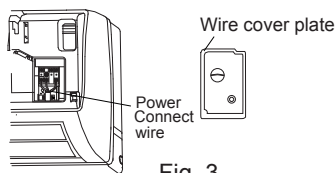


Fig. 3

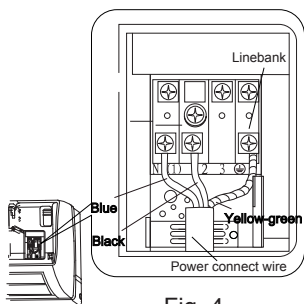


Fig. 4

Signal control wire (only for cooling and heating unit)

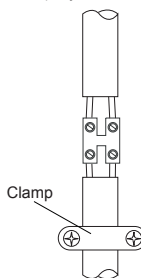


Fig. 5

Note:

If the connecting wire was not long enough, please contact the appointed service shop to match another special wire that was long enough. Don't prolong wires.

- Don't connect wire in wrong for it would cause malfunction on some components.
- Tighten bolts to prevent loosen of them.
- After tighten bolts, pull wires slightly to see if they can be moved.
- Electric shock may occur when earth wire is connected wrongly.
- Wire cover plate should be fixed well and tighten connecting wires. If the plate is not installed well, dust and moisture may get in or cause fire or electric shock for terminals were affected by outside force directly.

☆ Install Indoor Unit

- Pipe can be led from 4 directions of right, rear right, left and rear left.

- When routing pipe (wire) at right side or left side, cut off tailings of pipe left on chassis of main unit in necessary (as shown in fig. 6).
 - Cut off tailing 1 when only power cord is routed;
 - Cut off tailings 1 and 2 (or 1,2 and 3) when connect pipe and power cord are routed;
- Pull out pipe from bottom of case, wrap pipes, wires and drainage hose by strap then make them though wire hole (as shown in fig. 7).
- Hang the slots behind indoor unit onto the upper tabs of rear panel, then move the unit left and right to check if it is firm enough (as shown in fig. 8).
- Ensure the install height of indoor unit is 2m or more.

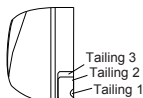


Fig. 6

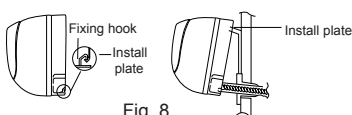


Fig. 8

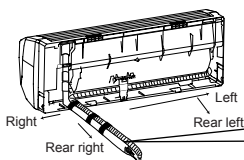
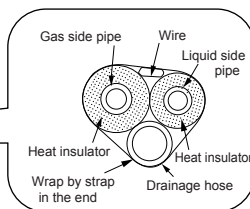


Fig. 7



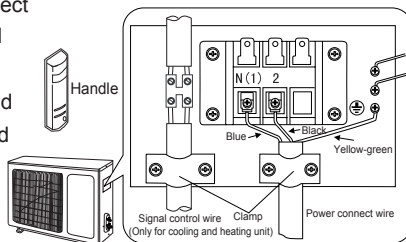
◆ Install Outdoor Unit

Install Connect Pipe

- Align the flare of connect pipe to the joint flare of corresponding valve.
- Tighten nuts on connect pipe and then tighten it by spanner.

☆ Wire connection

- Take off handle at right side of outdoor unit.
- Take off clamp, connect and fix the power connect wire onto line bank. The wire connection should match that of indoor unit.
- Fix power connect wire by clamp. To cooling and heating unit, fix signal control wire by clamp, and then connect to corresponding connector.
- Ensure wire had been fixed well.
- Put on handle.



☆ Vacuumize and Leakage Detect

1. Take off nut cover on cut-off valve of outdoor unit.
2. Align the center of wire, tighten it the flare nut enough by hand.
3. Tighten flare nut by spanner.
4. Take off valve cover on liquid valve and gas valve and nut on freon charging nozzle.
5. Screw out valve core of liquid valve by hex wrench and prize the gas core on gas valve by screwdriver.
- At this time, some gas may be exhausted.
6. When exhausted for about 15s and refrigerant gas appear, close gas core, tighten nut on freon charge nozzle.
7. Open valve core of liquid valve and gas valve completely (fig. 9)
8. Tighten the valve caps and test leakage at all joints of the pipe (both indoor and outdoor unit) with liquid soap or leakage detector.
9. If it is possible, exhaust air in unit by vacuum pump on gas core (fig. 10).

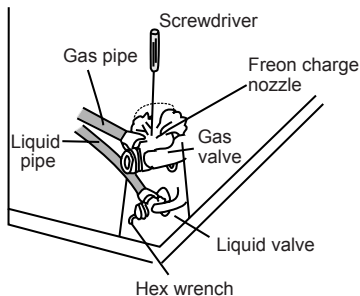


Fig. 9

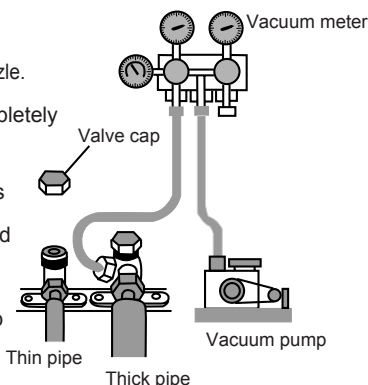


Fig. 10

☆ Drainage of Condensate of Outdoor Unit (Not for cooling only unit)

When heating, condensate produced by outdoor unit and defrost water when defrosting could be drained to proper place by drainage hose.

Install method: Insert the outdoor drainage joint into the hole $\varnothing 25$ on the chassis as shown in figure. Then connect the drainage hose to drainage mouth so that condensate and defrost water could be drained to proper place.

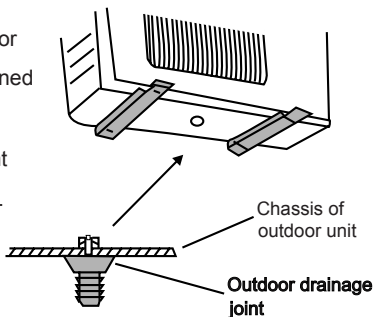


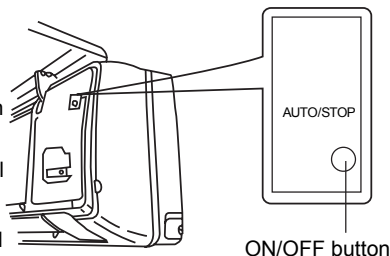
Fig. 11

Trial Run and Check Items after Installation

Trial Run

1. Preparation for trial run

- (1) Don't turn on power before entire installation are completed.
- (2) Ensure the correct connect of control wire, all wire should be connected firmly.
- (3) Both cut-off valve of thin and thick pipe should be opened.



- (4) Take off all scattered objects, especially metal scrap, wire waste etc from the unit.

2. Trial run method

- (1) Connect power, press ON/OFF on wireless remote control, then unit begins to run.
- (2) Press MODE to select running mode of COOL, HEAT and SWING to see if the running is normal.
- (3) Conduct the following operation when emergency run under the circumstance of wireless remote control is missing.
 - (a) Press ON/OFF button when unit is off, then unit be in auto run operation. Micro-computer would select COOL, HEAT and FAN automatically according to indoor temperature to offer comfort effect. Repress ON/OFF button to stop the operation.
 - (b) Press ON/OFF button when unit is on to stop the unit from operating.

Check after Installation

Items to be checked	Possible malfunction
Is installation firm?	Unit may drop, shake or emit noise
Is leakage detect done?	It may lead insufficient of refrigerate capacity
Is heat insulation sufficient?	Condensation or drop may occur
Is drainage smooth?	Condensation or drop may occur
Is power voltage the same with that in product nameplate?	Malfunction or burnout of parts may occur
Is connection of circuit and pipeline correct?	Malfunction or burnout of parts may occur
Is the unit earthed safely?	Creepage may occur
Is model of wire fits that of regulation?	Malfunction or burnout of parts may occur
Are air intake or outlet vent of indoor and outdoor unit blocked?	Insufficient of refrigerant capacity may occur
Are length of refrigerant pipe and charge volume of refrigerant recorded?	Charge mount of refrigerant may be hard to handle.

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★ Thank you for choosing SINCLAIR Air conditioner, For correct use, please keep this owner's manual carefully for consultation.

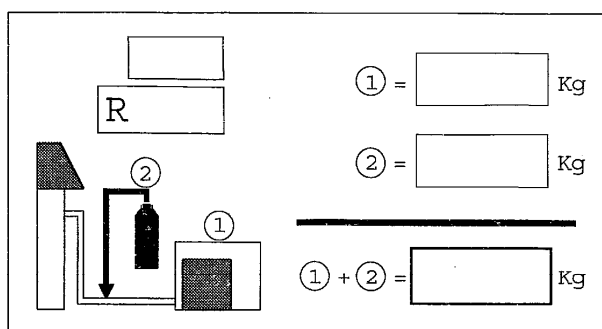
ENVIRONMENTAL INFORMATION

This unit contains fluorinated gases with greenhouse effect covered by the Kyoto Protocol.
Maintenance and disposal must be carried out by qualified persons only.
Refrigerant gas R410A, GWP = 1730

EXTRA REFRIGERANT CHARGE

Pursuant to Regulation EC 842/2006 on certain fluorinated greenhouse gases, in case of extra refrigerant charge, it is compulsory to:

- Fill in the label accompanying the unit inserting the factory quantity of refrigerant charge (see the technical label), the extra refrigerant charge and the total charge.
- Apply the label next to the technical label applied on the unit. For the split-type air conditioner apply on the outdoor unit.



The diagram shows a rectangular label with a technical drawing of a refrigerant cylinder on the left. The cylinder has a label 'R' and a '2' next to it. A '1' is next to a smaller box. To the right of the drawing are three rows of input fields:

① =	<input type="text"/>	Kg
② =	<input type="text"/>	Kg
<hr/>		
① + ② =	<input type="text"/>	Kg

- 1 Factory charge
2 Extra charge
1+2 Total charge

