

NORDIC SERIE

ASH-09AIN PT, ASH-12AIN PT



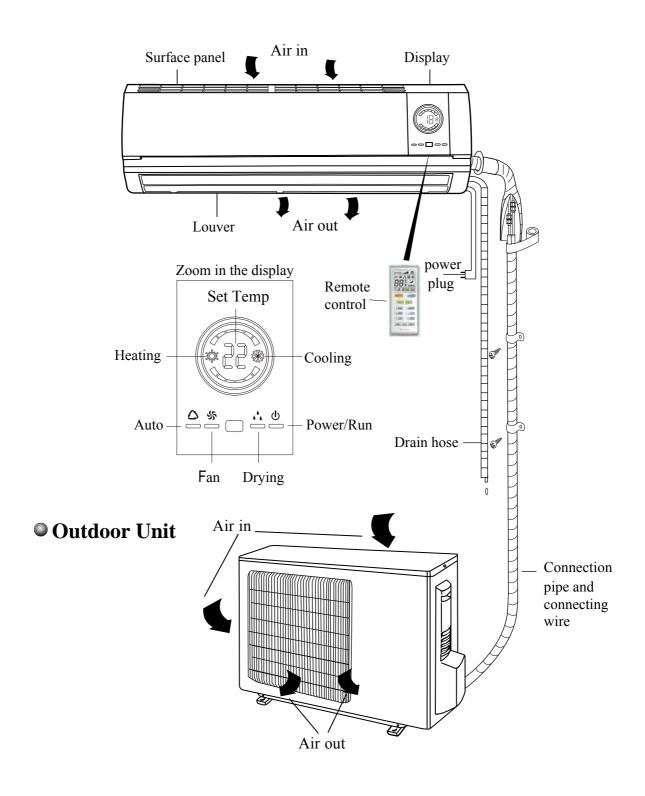
Thank you for choosing SINCLAIR air conditioner, please read this owner's manual carefully before operating the unit and keep it carefully for consultation.



Structure and operation	Name of each part	1
	The instructions before use	2
	Models & specifications	5
	Remote control operation procedure	6
	Operation guided	9
	Installation location	10
Installation	Electric wiring	11
	Earth requirement	11
	Installation dimension diagram	12
Ins	Install the indoor unit	13
	Install the outdoor unit	16
	Test operation and check after installation	18
Care and Maintenance	Care and maintenance	19
	Trouble shooting	20

Structure and operation

- ♦ Name of each part
- Indoor Unit



◆ The instructions before use

WARNING

★ The power plug must be inserted tightly.

Otherwise, it can cause an electric shock or fire.



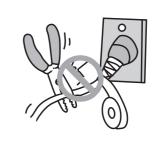
★ Don't pull out the power plug during operating.

It can cause an electric shock or fire.



★Never damage the power cord or use an extended cord.

It can cause an electric shock or fire.



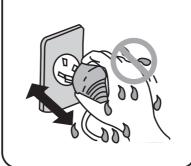
★ Don't use longer power lines and don't share a same socket with other electric appliances.

It can cause an electric



★ Don't operate the air conditioner with wet hands.

It can cause an electric shock.



★ Don't insert your hands or stick into the air intake or outlet vents.

It can cause danger.



★ Don't apply the cold wind to the body for a long time.

It can cause the health problems.



★ If you find the abnormal phenomenon (such as a burning smell or smoke), please turn off the power supply and contact the service center of GR-EE.

If it continues, it can cause a damage, electric shock or fire.



★ Don't attempt to repair the air conditioner by yourself.

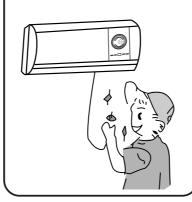
The wrong repair will lead to an electric shock or fire, so you should contact the service center of GREE to repair.



★ Earth: The ground must be connected!

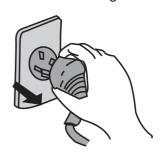
The earth wire should be connected to the special device.

If not, please ask the qualified personnel to install. Furthermore, don't connect earth wire to the gas pipe, water pipe, drainage pipe or any other improper places. ★ Be sure to pull out the power plug when not using the air conditioner for a long time.



★ When cleaning, it is necessary to stop driving and turn off the power supply.

If not, it can cause the electric shock or damage.



★ Don't pull the power cord to pull out the power plug.

It can cause a fire.



★ Don't place a space heater near the air conditioner.

Air flow from the air conditioner can cause incomplete combustion to the space heater



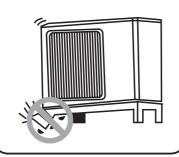
★ Keep combustible spray away from the units more than 1m.

It can cause a fire or explosion.



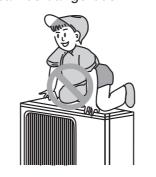
★ Please note whether the installed stand is firm enough or not.

If it is damaged, it may lead to the fall of the unit and cause the injury.



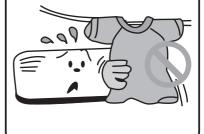
★ Don't step on the top of the outdoor unit or place something on it.

As falling off the outdoor unit can be dangerous.



★ Don't block the air intake or outlet vents of both the outdoor and indoor units.

It can decrease the air conditioning capacity or cause a malfunction.



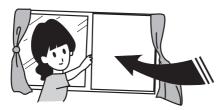
 Select the most appropriate temperature.

It can preclude the electricity wasted.



 Don't leave windows and doors open for a long time while operating the air conditioner.

It can decrease the air conditioning capacity.



 Splashing water on the air conditioner can cause an electric shock and malfunction.



■ Air conditioner should be operated with stable voltage in range of 195V-253V 1ph.Otherwise, compressor would vibrate terribly to damage refrigeration system.



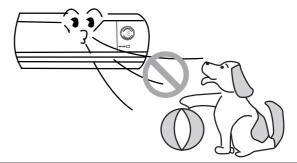
 The airflow direction can be adjusted appropriately.

At operating, adjust the vertical airflow direction by adjusting the louvers of upward/downward direction. And then, hold two ends of left and right louver to adjust the horizontal airflow.



Louver of left/right direction Louver of upward/ downward direction

 Don't blow the wind to animals and plants directly. It can cause a bad influence to them.



The power cords of this air conditioner adopt X-type connection, please don't cut off or damage the power cords and control cords. If they are damaged, please ask the qualified personnel to change them.

 Don't use the air conditioner for other purposes, such as drying clothes, preserving foods, etc.

Models & specifications

1	Model	ASH-09AIN PT	ASH-12AIN PT
Functions		Cool/Heat	Cool/Heat
Accessory		Air Cl	leaner
Cooling	capacity (W)	2500W (1120W~3000)	3600W (1220~4000)
Heating	capacity (W)	2750W (1200~3200)	4100 (1310~4300)
Power supply (V)		220-240~	
Frequency (Hz)		50	
Cooling/Heating rated current (A)		6.2/6.3	7.0/7.2
Maximum input current (A)		6.7	7.2
Cooling/Heating rated power (W)		1400/1450	1600/1650
Cooling/Heating power input (W)		780/760	1050/1130
Recycling air Volume (m³/h)		550	490
Refrigerant and weight (kg)		R410A/0.78	R410A/1.15
Water proof level		IP:	24
Noise (Indoor/Outdoor) dB (A)		42/39/36/53	42/39/38/55
Climate type		Т	1
Anti-electric shock protection		1	[
Weight (kg) Indoor unit/Outdoor unit		8.5/35	11/38
Dimension (mm)	Indoor unit	770 x 190 x 250	830 x 285 x 189
WxHxD	Outdoor unit	848 x 260 x 540	848 x 260 x 540

- 1. All above should be changed without notice; there are latest and accurate specifications on the nameplate of your air conditioner.
- 2. When the unit is restarted after it was stopped, it can automatically resume in its most latest running mode, and the outdoor unit starts a little bit later.

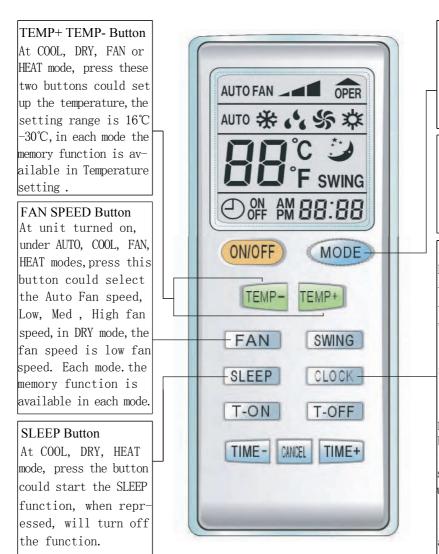
Working temperature range:

Working temperature range				
	Indoor side DB/WB (°C)	Outdoor side DB/WB (°C)		
Maximum cooling	32/23	43/26		
Maximum cooling	21/15	21/-		
Maximum heating	27/-	24/18		
Maximum heating	20/-	-14/-15		

- ◆ Romote control operation procedure
- Name and Function-Remote conteol

Note:

- Be sure that there is on obstruction.
- Don't drop or throw the remote control.
- Don't place the remote control in a location exposed to direct sunlight.
- Whe the unit is restarted after stopped, it can automatically resume its most latest running mode, and the outdoor unit starts a little bit later.



MODE Button

At unit turned on, press this button could select AUTO, COOL, DRY, FAN or HEAT mode.

₩ COOL mode

DRY mode

¥ FAN mode

HEAT mode

CLOCK Button

Press this button once, the clock icon flash, the time can be adjusted. When pressing TIME +, the one units of the minute will be increased 1, continuously press 1second above, the tens place of the minute will be increased 1 in every half second. When pressing the TIME -, the one units of the minute will be decreased 1, and continuously press 1 second above, the tens place of the minute will be decreased 1 in every half second. After setup completed, After setup completed, press CLOCK button for confirmation.

Name and Function-Remote control(continue)

Note:

This type of remote control is a kind of new current. Some buttons of the control
which have extra function will be described below.

ON/OFF Button

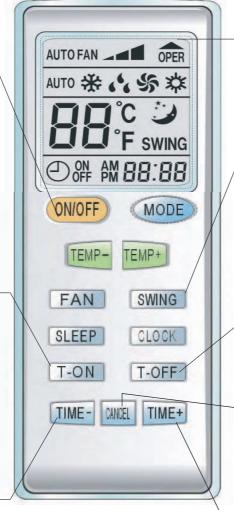
Press this button once to turn on the unit, when repressed to turn off the unit.

T-ON Button

Press this button once, enter into T-ON setting, the T-ON icon will flash. When pressing TIME +, the time of T-ON will be increased 1 minute, continuously press 1 1 second above, the tens place of the minute will be increased 1 in every half second, when pressing TIME -, will decrease 1minute, continuously press 1 second above, the tens place of minute will be decreased 1 in every half second, that will circulate in 12hours.

TIME- Button

The function instruction please refer to : T-ON button, T-OFF button, CLOCK button.



Liquid crystal displayer It shows all set contents.

SWING Button

At operating, When it is pressed, the louvers start to rotate automatically and stop when repressed again. When press it twice in one second, the light on the panel of indoor unit will be turned on. When press it twice in one second again, the light will be turned off.

T-OFF Button

Press this button once, enter into T-OFF setting, the T-OFF icon flashes. The function is vailable in turn ON or turn OFF state. The method of setup is the same with T-ON.

CANCEL Button

Press this button once, cancel all Timer setting.

TIME+ Button

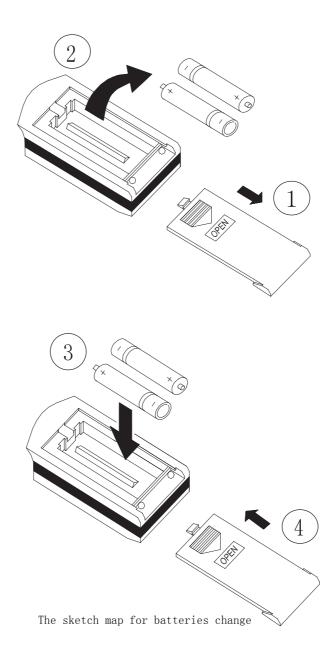
Function instruction please refer to: T-ON button, T-OFF button, CLOCK button.

• How to insert batteries

- 1.Remove the cover from the back of the remote control.
- 2.Insert the two batteries(Two AAA dry-cell batteries).
- 3.Re-attach the cover.

NOTE:

- Don't confuse the new and worn or different batteries.
- Remove batteries when not in use for a longtime.
- The batteries can be used for about one year.
- The remote control should be Im or more away from television or audio device.



Operation Guided

• The general procedure:

1. Plug to power supply and the buzzer will send out the desirable sound, then the figures on the display of indoor unit will show. After several seconds, all the shows except Power/Run indication will be closed. In the meantime, Power/Run indication is red and the air conditioner is waiting to run.

(Note: Once the air conditioner plugs to power supply or receives the signal of remote control, the buzzer will send out the desirable sound.)

- 2. Press ON/OFF button, Power/Run indication is green and shows the running mode (Cooling, Heating, Drying) and Set Temp., then the air conditioner starts running. (Note: If you set the function of SLEEP or close LIGHT, all the shows will be closed except Power/Run indication.)
- 3. Press MODE button to select desired running mode.
- 4. Press SWING button to automatically swing and stop when repress it.
- 5. Press FAN button to set desired fan speed.
- 6. Press TEMP. button to set desired temperature.

• The selected Procedure:

- 7. Press SLEEP button to set the sleep.
- 8. Press TIMER button and H-UP/H-DN button to set the preset ON TIME or OFF TIME.

Note:

In AUTO mode, the unit will automatically adjust its running modes according to the room temperature changes.

PLASMASSTEC

Plasma Technology PLASMA TEC

Plasma Air Purification Technology PLASMA TEC produces a natural bio-climate rich in active oxygen molecules, known as ions. It creates optimal quantity of positive and negative oxygen ions. Such an ion-enriched environment is notably cleaner and fresher. Plasma Technology has the capacity of breaking down bacteria into harmless particles, air purification, odor neutralization and reduction of particles in the air. All these qualities make PLASMA TEC Technology invaluable also for allergic persons.

Installtion

◆ Installtion location

Indoor Unit

- 1. The inlet and outlet should not be covered so that the outflow air can reach all parts of the room.
- 2. Install in a location from which the condensation water can bed rained out conveniently and that is permitting easy connection with the outdoor unit.
- 3. Avoid a location where there is heat source, steam or inflammable gas.
- 4. Install in a location where is strong enough to withstand the full weight and vibration of the unit.
- 5. Be sure to leave enough space to allow access for routine maintenance. The height of the installed location should be 2.3 m or more away from the floor.
- 6. Install in a location where is 1m or more away from other electric appliances such as television, audio devices, etc.
- 7. Select a location where is easy to remove and clean the filter.
- 8. Be sure that the installation conforms to the installation dimension diagram.
- **9.** Do not use the unit in the immediate surroundings of a laundry ,a bath ,a shower or a swimming pool.
- **10**. The plug should be accessible after the appliance is positioned.

Outdoor unit

- 1. Select a location from which noise and outflow air emitted by unit will not inconvenience neighbors.
- 2. Select a location where there should be sufficient ventilation.
- 3. The inlet and outlet should not be covered.
- 4. The location should be able to withstand the full weight and vibration of the outdoor unit and permit safe installation.
- 5. There should be no danger of flammable gas or corrosive gas leaks.
- 6. Be sure that the installation conforms to the installation dimension diagram.

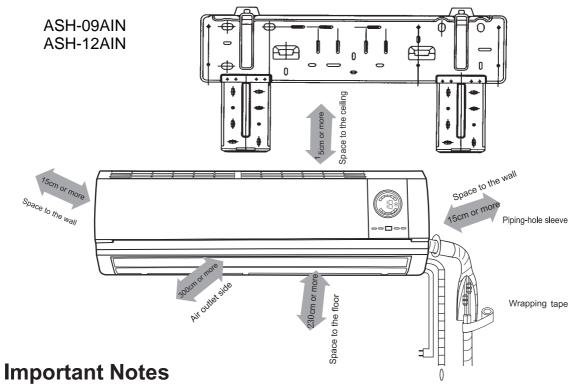
◆ Electric wiring

- 1. All the electric work must be done according to relative wiring regulation.
- 2. The rated voltage and exclusive circuit must be used. The radius of the power cord should be bigger enough.
- 3. Don't pull the power cord strongly.
- **4.** The air conditioner must be safely earthed! Earth wire must be connected to the special device of the building and done by the qualified personnel. In fixed circuit, there must be electricity leakage protection switch of enough power capacity and air switch with enough space. Air switch (thermal-magnetic breaker) can protect the short circuit and over load.

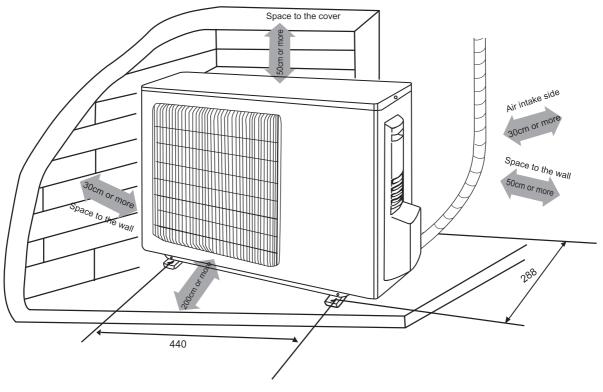
◆ Earth requirement

- 1. The air conditioner is class 1 appliance, so it must connect with ground reliably.
- 2. The yellow-green wires in the air conditioner are earth wires and can't be used for other purposes. They cannot be cut off and fixed by the tapping screw otherwise it can cause an electric shock.
- 3. The earth-resistance should conform to the requirement of IEC Standard.
- 4. The user's power supply must have the earth end. Additionally, the earth wire can't be connected to the following places

◆ Installation dimension diagram



- ★ The installation must be done by trained and qualified service personnel with reliability according to this manual.
- ★ Contact service center before installation to avoid the malfunction due to unprofessional installation.
- ★ When picking up and moving the units, you must be guided by trained and qualified personnel.



◆ Install the indoor unit

Install the rear panel

- 1. Always mount the rear panel horizontally. Because the mouth of drainage pipe is at the left side and the left side of the rear panel is better to adjust slightly lower.
- 2. Fix the rear panel on the selected location with screws supplied with the unit.
- 3. Be sure that the rear panel has been fixed firmly enough to withstand the weight of an adult of 60kg, furthermore, the weight should be evenly shared by each screw.

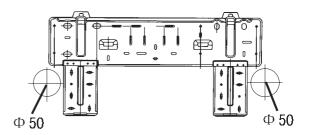


Fig. 1

Install the piping hole

- 1. Make the piping hole (Ø50) in the wall at a slight downward slant to the out door side. (Shown in Fig. 1)
- 2. 2.Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the hole.

Install the drainage hose

- 1. For well draining, the drain hose should be placed at a downward slant.
- 2. Do not wrench or bend the drain hose or flood its end by water.
- 3. The extended drainage pipe in the room should be wrapped with the insulating materials.

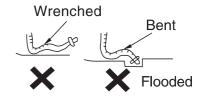


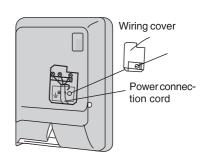
Fig. 2

Install the connection pipes

Connect the connection pipes with the relevant union pipes of the indoor unit and tighten the flare nut of the connection pipes (Shown in P_{12} "Install the connection pipes").

NOTE:

- Connect the connection pipes with the indoor unit firstly and the outdoor unit secondly.
- ➤ Be careful in bending the connection pipes, or you will damage the pipes.
- If the tightening torque is too great in tightening the flare nuts, leakage will happen.



Electric wiring

- 1. Open the surface panel.
- 2. Remove the fixed screw from the wiring cover as shown at the right side.
- 3. Route the power connection cord from the back of the indoor unit and pull it toward the front through the wiring hole for connection.

- 4. For model ASH-09AIN and ASH-12AIN, connect the blue wire of the power connection cord to the terminal "N(1)", the black one to "2", the brown one to "3" and the yellow -green one (earth wire) to "⊕" as shown in Fig.3. Then tighten the power connection cord by the wiring clamp.
- 5. Reassemble the wiring cover and tighten the screw.
- 6. Recover the surface panel.

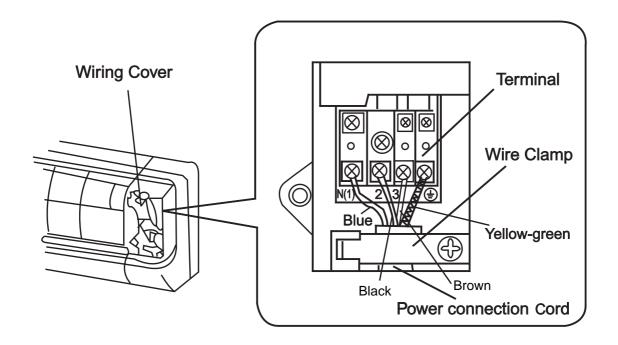
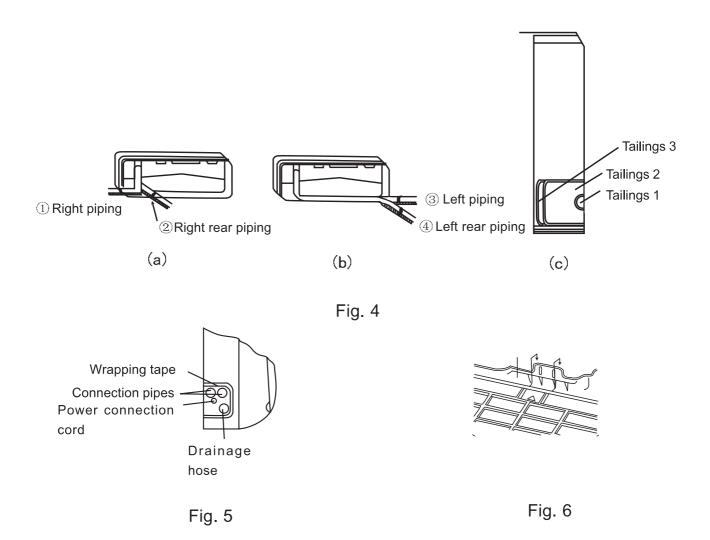


Fig.3

Install the indoor unit

- 1. When routing the piping and wiring from the left or right side of the indoor unit, cut off the tailings from the chassis in necessary (shown in Fig.4, (a), (b) and (c)).
 - (1) Cut off the tailings 1 when routing the wiring only.
 - (2) Cut off the tailings 1 and tailings 2 (or tailings 1, tailings 2 and tailings 3) when routing both the wiring and piping. ①,② and ③ in Fig. 4 are the recommended piping.
- 2. Wrap the piping and wiring and pull them through the cut-off-tailings hole (Shown in Fig.5).
- 3. Hang the mounting slots of the indoor unit on the upper tabs of the rear panel and check if it is firm enough.
- 4. The height of the installed location should be 2m or more from the floor.



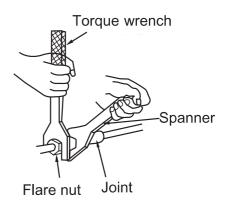
◆ Install the outdoor unit

Install the connection pipe

- 1. Align the center of the piping flare with the relevant valve.
- 2. Screw in the flare nut by hand and then tighten the nut with spanner and torque wrench refer to right figure

Tightening torque table

Hex nut diameter (mm)	Tightening torque (N·m)	
Ø 6	15~20	
Ø 9.5	31~35	
Ø 12	50~55	



Note: Exceeding tightening torque will damage the flare nut.

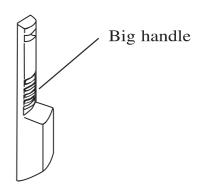
• Electric wiring connection

- 1. Disassemble the big handle.
- 2. Remove the wire clamp and connect the end of the power connection cord with screws to the wiring terminal board. Be sure that the wiring connection is in accordance with the indoor unit's.
- 3. Fix the wiring with wire clamp. For the heat pump type, joint the relevant interfaces of two control cords.
- 4. Make sure that the wiring has been connected securely.
- 5. Reassemble the big handle.

Black Brown Power connection cord

NOTE:

- 1. Wrong wiring connection will cause electrical malfunction.
- 2. Do not pull the wire when fixing it with wire clamp.



Air purging and leakage test

- 1. Remove the flare nuts of charging end from gas valve.
- 2. Connect the charging hose in the middle to the vacuum pump, then Low-pressure (Lo) end should be connected to charging end of gas valve. (Shown in Fig. 9)
- 3. Open the vacuum pump to evacuate. When multi-meter indicates 1 bar, fully tighten Lo handle of manifold valve and stop evacuation. Keep it for over 15 minutes to ensure the pressure is constant.
- 4. Remove bonnets of gas and liquid valve.
- 5. Slightly loosen core of liquid valve with hexagon wrench until the pressure exceeds 0 bar.
- Remove charging hose from charging end of gas valve and screw the flare nuts of charging end.
- 7. Open cores of gas and liquid valve entirely by hexagon wrench.
- 8. Tighten the bonnets of gas and liquid valve, and then test whether there is any leakage or not.

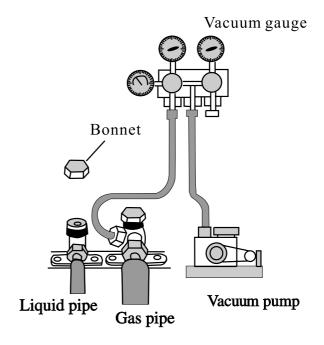
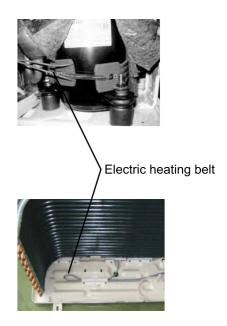


Fig.9

• Electric heating belt

When outdoor ambient sensor malfunction happened, both of the electric heating belts stop working, otherwise, it will run at the following control: ①When $T_{outdoor\ ambient} \ll -5\,^{\circ}\text{C}$ and the compressor doesn't started, that the compressor electric heating belt starts to work; Otherwise if compressor started or compressor doesn't start but $T_{outdoor\ ambient} > -2\,^{\circ}\text{C}$, the electric heating belt will not work. Compressor doesn't start and $-5\,^{\circ}\text{C} < T_{outdoor\ ambient} \ll -2\,^{\circ}\text{C}$, compressor electric heating belt keeps the original state. ② When $T_{outdoor\ ambient} \ll 3\,^{\circ}\text{C}$, the condenser electric heating belt work; Otherwise, if $T_{outdoor\ ambient} > 6\,^{\circ}\text{C}$, the condenser electric heating belt will not work . $3\,^{\circ}\text{C} < T_{outdoor\ ambient} \ll 6\,^{\circ}\text{C}$, the condenser electric heating belt will keep the original state.

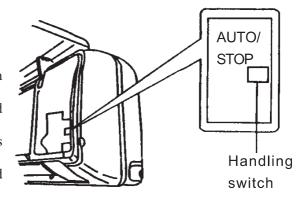


◆ Test operation and check after installation

Test operation

1. Before test operation

- (1) Do not switch on power before installation is finished completely.
- (2) Electric wiring must be connected correctly and securely.
- (3) Cut-off valves of the connection pipes should be opened.
- (4) All the impurities such as scraps and thrums must be cleared from the unit.



2. Test operation method

- (1) Switch on power and press "ON/OFF" button on the remote control to run the air conditioner.
- (2) Press "MODE" button and check the operation condition of COOL, HEAT, SWING mode and so on.
- (3) When the remote control is lost, emergency run operation can be done as following by the ball pen or similar things:
 - (a) At stopping, set the handling switch to "AUTO" mode, then the unit will automatically run in the mode selected by the microcomputer system according to the surrounded temperature. If you want to stop running, you should repress the handling switch.
 - (b) At operation, set the handling switch to "STOP" mode to turn off the unit.

Check after installation

Items to be checked	Possible malfunction
Has it been fixed firmly?	The unit may drop, shake or emit noise.
Have you done the refrigerant leakage test?	It may cause insufficient cooling (heating) capacity.
Is heat insulation sufficient?	It may cause condensation and dripping.
Does the unit drain well?	It may cause condensation and dripping.
Is the voltage in accordance with the rated	It may cause electric malfunction or
voltage marked on the nameplate?	Damage the part.
Is the electric wiring and piping connection	It may cause electric malfunction or
installed correctly and securely?	Damage the part.
Has the unit been connected to a secure earth connection?	It may cause electrical leakage.
Is the power cord specified?	It may cause electric malfunction or damage the part.
Has the inlet and outlet been covered?	It may cause insufficient cooling (heating) capacity.
Has the length of connection pipes and refrigerant capacity been recorded?	The refrigerant capacity is not accurate.

Care and maintenance

CAUTION

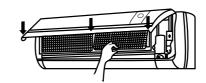
- ▲ Turn power off and pull out the power plug before cleaning air conditioner.
- ▲ Never sprinkle water on the indoor unit and the outdoor unit for cleaning because it can cause an electric shock.
- ▲ Volatile liquid (e.g. thinner or gasoline) will damage the air conditioner. (So wipe the units with a dry soft cloth, or a cloth slightly moistened with water or cleanser.)

Take down the surface panel and clean it (Take it down before cleaning) 2.Washing 1.Pull along the direction Wipe with a cloth slightly moistof arrows to take ened with water or cleaner, and down surface panel. then dry it in the shade. Note: Never use water above Axis (b) (a) 45° C to wash the panel, or it could cause deformation or discoloration. 3.Install surface panel Install the supports (those are on two ends of surface panel) into the supporting slots and put the axis into the slot, then cover the sur-(b) (a)

face panel and clasp it. Cleaning the Air Filters (Recommended once every three months) If dust is much more around the air conditioner, the air filters should be cleaned many times. 1. Take down the ail filter Open the surface panel, hold the tab of air filter and raise it slightly, and then take it out along the direction of arrows (See the right figure). 2.Cleaning To clear the dust adhering to the filters, you can either use a vacuum cleaner, or wash them with water and dry it in the shade (See the right figure). **NOTE:**Never use water above 45°C to wash the filters, or it could cause deformation or discoloration. Never parch it by fire, or it could cause a fire or deformation.

3. Reinsert the filters

Reinsert the filters along the direction of arrow, then cover the surface panel and clasp it.



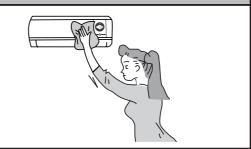
Check before use

- 1.Be sure that nothing obstructs the air outlet and intake vents.
- 2.Check that whether ground wire is properly connected or not.
- 3. Check that whether the batteries of air conditioner are changed or not.
- 4. Check that whether the installation stand of the outdoor unit is damaged or not. If damaged, please contact the service center of GREE.



Maintain after use

- 1. Clean filters and other parts.
- 2. Turn main power off.
- 3. Clear dust from the outdoor unit.
- Repaint the rubiginous place on the outdoor unit to prevent it from spreading.



♦

Trouble shooting

Warning: Don't attempt to repair the air conditioner by yourself, it can cause an electric shock or fire Please check the following items before asking for repair, it can save your time and money.

Phenomenon	Trouble Shooting
Indoor unit does not operate immediately when the air conditioner is restarted.	Once the air conditioner is stopped, it will not operate in approximately 3 minutes to protect itself.
There's unusual smell blowing from the outlet after operation is started.	This is caused by the odors in the room which have been breathed into the air conditioner.

Phenomenon	Trouble Shooting
Sound of water flow can be heard during operation.	This is caused by the refrigerant flowing inside the unit.
Mist is emitted during cooling operation.	Because the air of the room is cooled down rapidly by the cold wind and it looks like the fog.
Creaking noise can be heard when start or stop the unit.	This is caused by the deformation of plastic due to the change of temperature.
Air conditioner does not operate at all.	 Has the power been shut down? Is the wiring loose? Is the leakage protection switch in operation? Is voltage higher or lower? Is TIMER ON in operation?
Cooling (Heating) efficiency is not good.	 Is SET TEMP. suitable? Is air inlet or outlet obstructed? Are air filters dirty? Are the windows and door closed? Is indoor fan speed set at low speed? Is there any other heat source in your room?
Remote control is not available.	 Remote control can't be used occasionally when the air conditioner is disturbed or changing its functions frequently. At that time, pull out the power plug and insert it again to recover the operation. Is the remote control out of effective disance to the indoor unit? Are there any obstruction between the remote control and the signal receptor? Replace the worn batteries of remote control if the voltage of the batteries is not sufficient.

Immediately stop all operations and plug out, contact the service center in following situations.

If you have any question, please inform the service center.

- ▲ Unusual noise can be heard during operation.
- Air switch or leakage protection switch often breaks.
- Carelessly splash water or something into air conditioner.
- ▲ Water is leaked in the room.
- ▲ Electrical lines and power plug are very hot.
- ▲ Wind blowing from the outlet smells terrible during operation.



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.

