USER'S MANUAL

BARON SERIES

ASH-09AB, ASH-12AB

sinclair
AIR CONDITIONING

◆ CONTENTS

Operation and maintenance

Installation service

This symbol stands for the items should be forbidden.

This symbol stands for the items should be followed

The products in this manual may be different with the real one, according to different models, some models have displayer and some models without displayer, the position and shape of the displayer please refer to the real one.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
Children should be supervised to ensure that they do not play with the appliance.

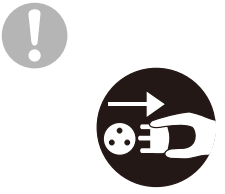
Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

◆ Operation and maintenance-notices for operation

★ Earth: The ground be connected!

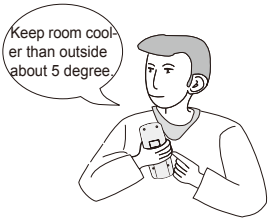
If not, please ask the qualified personnel to install. Furthermore, don't connect each wire to the gas pipe, water pipe, drainage pipe or any other improper places.

★ Be sure to pull out the power plug when not using the air conditioner for a long time.



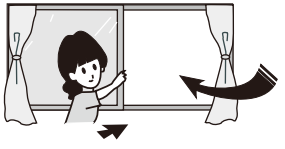
Otherwise, the accumulated dust may cause fire or electric shock.

★ Select the most appropriate temperature.



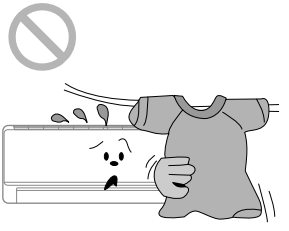
It can preclude the electricity wasted.

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



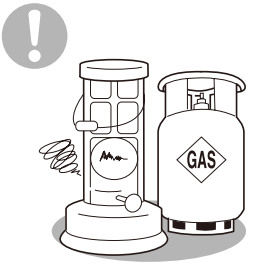
It can decrease the air conditioning capacity.

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



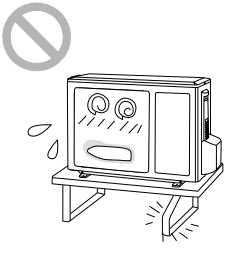
It can decrease the air conditioning capacity or cause a malfunction.

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



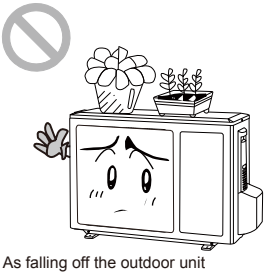
It can cause afire or explosion.

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



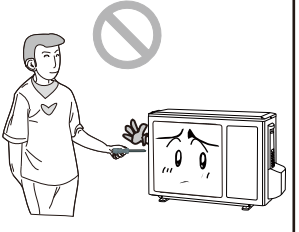
If it is damaged, it may lead to the fall of the unit and cause the injury.

★ 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 attempt to repair the air conditioner by yourself.

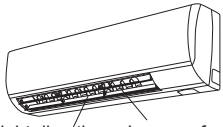


The wrong repair will lead to an electric shock or fire, so you should contact the service center to repair.

◆ Notices for operation

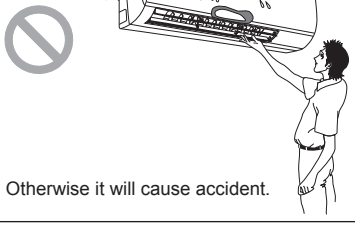
★ If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.

★ 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.



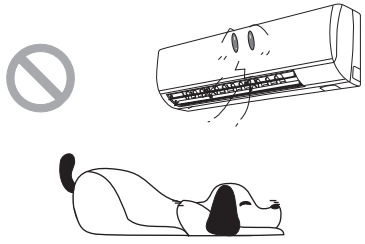
Louver of left/right direction Louver of upward/ downward direction.

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



Otherwise it will cause accident.

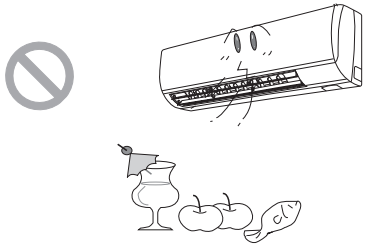
★ Don't blow the wind to animals and plants directly. It can cause a bad influence to them.



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

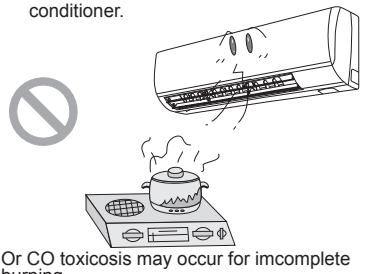
It can cause the health problems.

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



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

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



Or CO toxicosis may occur for imcomplete burning.

◆ Notices for use

Working principle and special functions for cooling

Principle:

Air conditioner absorbs heat in the room and transmit to outdoor and discharged, so that indoor ambient temperature decreased, its cooling capacity will increase or decrease by outdoor ambient temperature.

Anti-freezing function:

If the unit is running in COOL mode and in low temperature, there will be frost formed on the heat exchanger, when indoor heat exchanger temperature decreased below 0℃, the indoor unit microcomputer will stop compressor running and protect the unit.

Working principle and special functions for heating

Principle:

* Air conditioner absorbs heat from outdoor and transmits to indoor, in this way to increase room temperature. This is the heat pump heating principle, its heating capacity will be reduced due to outdoor temperature decrease.
* If outdoor temperature becomes very low, please operate with other heating equipments.

Defrosting:

* When outdoor temperature is low but high humidity, after a long while running, frost will form on outdoor unit, that will effect the heating effect, at this time, the auto defrosting function will act, the heat running will stop for 8-10mins.
* During the auto defrosting, the fan motors of indoor unit and outdoor unit will stop.
* During the defrosting, the indoor indicator flashes, the outdoor unit may emit vapor. This is due to the defrosting, it isn't malfunction.
* After defrosting finished,the heating will recover automatically.

Anti-cool wind function:

In "Heat" mode, under the following three kinds of state, if indoor heat exchanger doesn't arrive at certain temp., indoor fan will not act, in order to prevent cool wind blowing(within 2 mins):

1. Heating starts.
2. After Auto Defrost finished.
3. Heating under the low temperature.

◆ Notices for use

Gentle Breeze

In the following situation, the indoor unit may blow gentle breeze, and the guide louver rotate to a certain position:

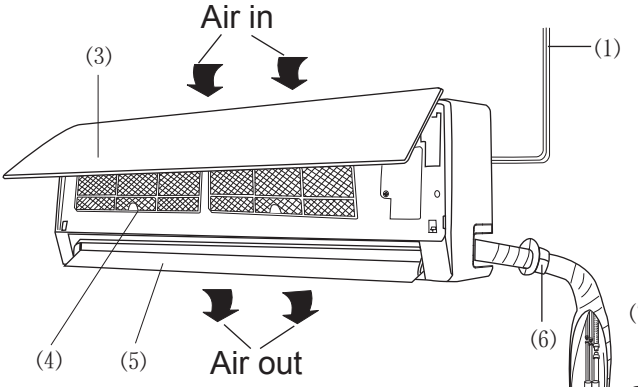
1. In “Heat” mode, the unit turned on, the compressor doesn’t arrive the starting condition.
2. In “Heat” mode, the temperature arrive at the setting value and the compressor stop running about 1min.

※ Working temperature range		
	Indoor sideDB/WB(ºC)	Outdoor sideDB/WB(ºC)
Maximum cooling	32/23	43/26
Maximum heating	27/---	24/18

The operating temperature range (outdoor temperature) for cooling only unit is 18℃~ 43℃; for heat pump unit is -7℃~ 43℃.

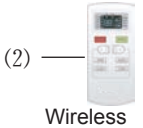
◆ Names and functions of each part

Indoor unit



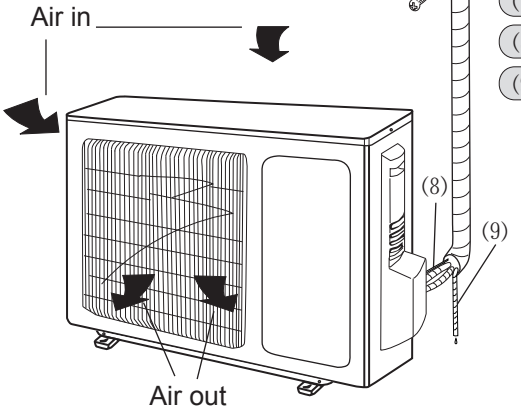
The pattern in displayer:

- ❄ : Cool
- 💧 : Dry
- ☼ : Heat
- ⏻ : Run
- 88 : Set temp.



(1) Power cable
(2) Remote control
(3) Front panel
(4) Filter
(5) Guide louver
(6) Wall pipe
(7) Bind tape
(8) Connection wire
(9) Drainage pipe

Outdoor unit



◆ Operation of wireless remote control

Names and functions of wireless remote control

Note: Be sure that there are no obstructions between receiver and remote controller; Don't drop or throw the remote control; Don't let any liquid in the remote control and put the remote control directly under the sunlight or any place where is very hot.

Signal transmitter

Remote control

ON/OFF

ON/OFF button

- Press this button, the unit will be turned on, press it once more, the unit will be turned off. When turning on or turning off the unit, the Timer, Sleep function will be canceled, but the presetting time is still remained.

MODE

MODE button

- Press this button, Auto, Cool,Dry, Fan, Heat mode can be selected circularly. Auto mode is default while power on. Under Auto mode,the temperature will not be displayed; Under Heat mode, the initial value is 28℃(82℉);Under other modes, the initial value is 25℃(77℉).

AUTO → COOL → DRY → FAN → HEAT → AUTO

AUTO ◀ DRY ◀ COOL ◀ FAN ◀ HEAT ◀ AUTO

(Only for cooling and heating unit. As for cooling only unit, it won't have any action when it receives the signal of heating operation.)

SLEEP

SLEEP button

- Press this button, Sleep On and Sleep Off can be selected. After powered on,Sleep Off is defaulted. After the unit is turned off, the Sleep function is canceled. After Sleep function set up, the signal of Sleep will display. In this mode, the time of timer can be adjusted. Under Fan and Auto modes, this function is not available.

FAN

FAN button

- By pressing this key, you may select AUTO, FAN 1, FAN 2, FAN 3 or FAN 4, and may also cycle between them. FAN 4 only in cool or heat mode. After being energized, AUTO is defaulted. Only LOW fan can be set under DRY mode, pressing this key can not adjust the fan speed, but can send message.

AUTO → Fan 1 → Fan 2 → Fan 3 → Fan 4 → AUTO

SWING

SWING button

- Press this key to activate or deactivate the swing.

◆ Operation of wireless remote control

Names and functions of wireless remote control

Notice: This is a general use remote controller, it could be used for the air conditioners with multifunction; For some function, which the model dosen't have, if press the corresponding button on the remote controller that the unit will keep the original running status.

Remote control

+

+ button

- For presetting temperature increasing. Press this button,can set up the temperature, when unit is on . Continuously press and hold this button for more than 2 seconds, the corresponding contents will be changed rapidly, until unpress the button then send the information, ℃ (℉) is displaying all along. In Auto mode, the temperature can not be set up, but operate this button can send the signal. Centigrade setting range :16-30; Fahrenheit scale setting range 61-86.

-

- button

- Presetting temperature can be decreased. Press this button, the temperature can be set up, continuously press this button and hold for two seconds, the relative contents can quickly change, until unhold this button and send the order that the ℃ (℉) signal will be displayed all the time. The temperature adjustment is unavailable under the Auto mode, but the order can be sent by if pressing this button.

TIMER

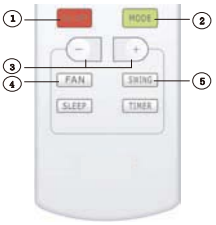
TIMER button

- By pressing this key under switch-off state, you may set the time for auto switch-on. The range of setting is 0.5 ~ 24 hours. The characters "T-ON" and "H" will flash for 5 seconds. Within 5 seconds,you may make one press of this key to complete the setting and send the message.If the setting is valid, the set time will be displayed for 2 seconds before display of the temperature message. During flash, you may press "+" key to increase the value and press "-" key to decrease the value. The time will increase or decrease by 0.5 hours with each press of this key. If pressing "+" or "-" key continuously, the time value will change rapidly. The remote controller can increase the set time by 0.5 hours every 0.25 seconds. After being energized, the fault is no timer setting, and there is no display of "T-ON" or "H". Press ON/OFF key to switch on the unit and cancel the auto switch-on.When the temperature display becomes constant, you may press this key again to display the remaining set time. The time value, "T-On" and "H" will display constantly for 2 seconds. After 2 seconds,the preset temperature will be displayed. Within these 2 seconds, you may press this key again to cancel the auto switch-on and send the message.
- By pressing this key under switch-on state, you may set the time for auto switch-off. The method of setting as the same as for auto switch-on.

◆ Operation of wireless remote control

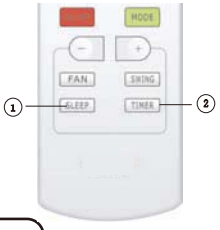
Guide for operation- General operation

1. After powered on, press ON/OFF button, the unit will start to run.(Note: When it is powered on, the guide louver of main unit will close automatically.)
2. Press MODE button, select desired running mode.
3. Pressing + or - button, to set the desired temperature. (It is unnecessary to set the temp. at AUTO mode.)
4. Pressing FAN button, set fan speed, can select AUTO, FAN 1, FAN 2, FAN 3 or FAN 4.
5. Pressing SWING button, to select the swing.



Guide for operation- Optional operation

1. Press SLEEP button, to set sleep.
2. Press TIMER button, can set the scheduled timer on or timer off.



Introduction for special function

★ About AUTO RUN

When AUTO RUN mode is selected, the setting temperature will not be displayed on the LCD, the unit will be in accordance with the room temp. automatically to select the suitable running method and to make ambient comfortable.

★ About LOCK

Under switch-on or switch-off state, you may hold "+" and "-" key simultaneously to lock and unlock the keypad. When locked, the display will show the LOCK icon, in which case the lock icon will flash three times upon operation of any key. After the keypad is unlocked, the lock icon on the display will be hidden. After being energized, the default is unlock.

★ About switch between Fahrenheit and Centigrade

Under switch-off state, you may hold "-" and "MODE" keys simultaneously to switch between ℃ and ℉ .

★ About Lamp

Under switch-on or switch-off state, you may hold "+" and "FAN" key simultaneously for 3 seconds to set the lamp on or off and send the code. After being energized, the lamp is defaulted on.

★ About Blow over heat

When the unit is running in Heat mode or Auto Heat mode, compressor and indoor fan is running, to turn the unit off, the compressor, outdoor fan will stop running. The upper and lower guide board rotate to horizontal position, then the indoor fan will run at low fan speed, 10s later, the unit will turn off.

◆ Operation of wireless remote control

Changing batteries and notices

1. Slightly to press the place to take out the back cover of wireless remote control.(As shown in figure)
2. Take out the old batteries. (As show in figure)
3. Insert two new AAA1.5V dry batteries, and pay attention to the polarity. (As show in figure)
4. Attach the back cover of wireless remote control. (As show in figure)

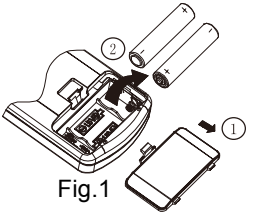


Fig.1

★ NOTE:

- When changing the batteries, do not use the old or different batteries, otherwise, it can cause the malfunction of the wireless remote control.
- If the wireless remote control will not be used for a long time, please take them out, and don't let the leakage liquid damage the wireless remote control.
- The operation should be in its receiving range.
- It should be placed at where is 1m away from the TV set or stereo sound sets.
- If the wireless remote control can not operate normally, please take them out, after 30s later and reinsert, if they cannot normally run, please change them.

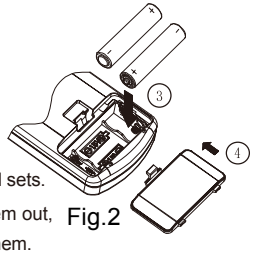


Fig.2

Emergency operation

If the wireless remote control is lostor broken, please use the manual switch button. At this time, the unit will run at the Auto mode, but the temperature and fan speed cannot be changed. The operation was shown as below:

To open the panel, the manual switch is on the displayer box.

- Turn on the unit: At unit turned off, press the button, the unit will run at Auto mode immediately.The microcomputer will accord to the indoor temperature to select (Cooling, Heating, Fan) and obtain the comfortable effect.
- Turn off the unit: At unit turned on, press the button, the unit will stop working.

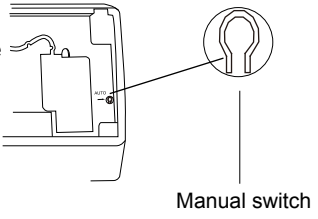


Fig.3

◆ Clean and care

Caution

- Disconnect the power supply before cleaning air conditioner, or it may cause electric shock.
- 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.)

Clean the front panel

When cleaning the front panel, please dip the cloth into the water temperature of 45℃ below, then to dry the cloth and wipe the dirty part.

Note: Please do not to immerse the front panel in water, due to there are microcomputer components and circuit diagrams on the front panel.

Clean the air filter (Recommended once every three months)

NOTE: If dust is much more around the air conditioner, the air filters should be cleaned many times. After taking off the filter, don't touch the fin of indoor unit, in order to avoid hurt your fingers.

① Take down the air filter

At the slot of surface panel to open an angle, pull the air filter downward and take it out, please see the Fig. 4(a, b).

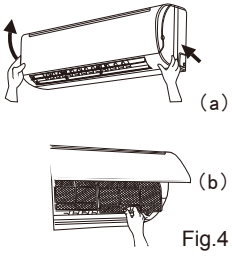
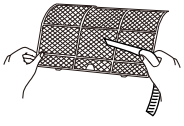


Fig.4

② Clean the air filter

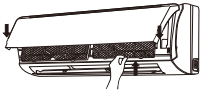
To clean the dust adhering to the filters, you can either use a vacuum cleaner, or wash them with warm water the water with the neutral detergent should below 45 degree) ,and dry it in the shade.

NOTE: Never use water above 45℃ to clean, or it can cause deformation or discoloration. Never parch it by fire, or can cause a fire or deformation.



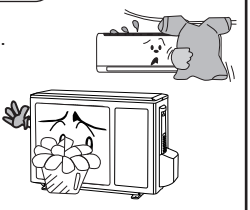
③ Insert the air filter

Reinsert the filters along the direction of arrowhead, and then to cover the cover and clasp it.



◆ Clean and care

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 dealer.

Maintain after use

① Turn main power off.

② Clean the filter and indoor and outdoor units' bodies.

③ Clear dust and obstructions from the outdoor unit.

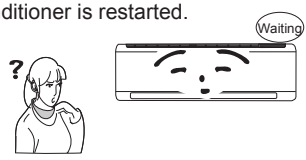
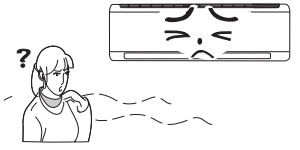
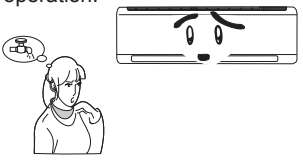
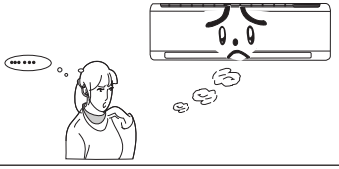
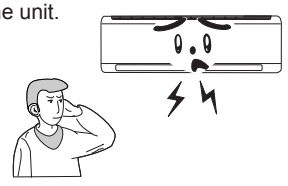
④ Repaint the rubiginous place on the outdoor unit to prevent it from spreading.

⑤ Adopt the special shield to cover the outdoor unit, avoid the rain water, dust enter into the unit and get rust.

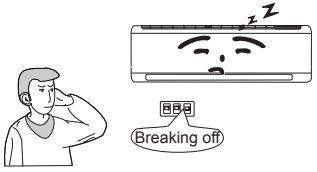
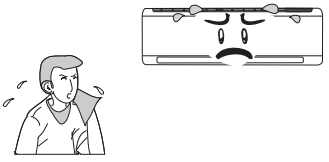
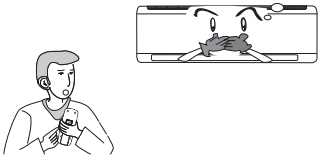
◆ Troubleshooting

CAUTION

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	Troubleshooting
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. 	● The unit has no peculiar smell by itself. If has, that is due to the smell accumulated in the ambient. ● Solution method: Cleaning the filter. If problem still has, so need to clean air conditioner. (Please contact with the authorized maintenance center.)
Sound of water flow can be heard during the operation. 	● The air conditioner is started, when it is running the compressor started or stopped running, or the unit is stopped, sometimes there is swoosh or gurgle, the sound is due to refrigerant flowing they are not malfunctions.
In COOL mode, sometimes the mist emitted from the air outlet vent. 	● When the indoor temperature and humidity are very high, this phenomenon would happen. This is caused by the room air is swiftly cooled down. After running for a while, indoor temperature and humidity will fall down, the mist will die away.
Creaking noise can be heard when start or stop the unit. 	● This is caused by the deformation of plastic due to the changes of temperature.

◆ Troubleshooting

Phenomenon	Troubleshooting
The unit can not run. 	● Has the power been shut down? ● Is power plug loosed? ● Is the circuit protection device tripped off or not? ● Is voltage higher or lower? (Tested by professionals) ● Is the TIMER correctly used?
Cooling(Heating) efficiency is not good. 	● Is Temp. setting suitable? ● Were inlet and outlet vents obstructed? ● Is filter dirty? ● Are the windows and doors clothed? ● Did Fan speed set at low speed? ● Is there any heat sources in the room?
Wireless remote control is not available. 	● The unit is interfered by abnormal or frequent functions switchover occasionally the controller cannot operate. At this time, you need to pull out of the plug, and reinsert it. ● Is it in its receiving range? Or obstructed? To check the voltage in wireless remote control inside is charged, otherwise to replace the batteries. ● Whether the wireless remote control is damaged.
If water leakage in the room.	● The air humidity is on the high side. ● Condensing water over flowed. ● The connection position of indoor unit drainage pipe is loosed.
If water leakage in outdoor unit.	● When the unit is running in COOL mode, the pipe and connection of pipe would be condensed due to the water cooled down. ● When the unit is running in Auto Defrosting mode the ice thawed and flowed out. ● When the unit is running in HEAT mode, the water adhered on heat exchanger dripped off.
Noise from indoor unit emitted.	● The sound of fan or compressor relay is switching on or off. ● When the defrosting is started or stop running, it will sound. That is due to the refrigerant flowed to the reverse direction.

◆ Troubleshooting

Phenomenon	Troubleshooting
Indoor unit cannot deliver air.	● In HEAT mode, when the temperature of indoor heat exchanger is very low, that will stop deliver air in order to prevent cool air. (Within 2min) ● In HEAT mode, when the outdoor temperature is low or high humidity, there are much frost be formed on the outdoor heat exchanger, that the unit will automatically defrost, indoor unit stop blowing air for 3-12min. During the defrosting, there is water flowing out or vapor be produced. ● In dehumidifying mode, sometimes indoor fan will stop, in order to avoid condensing water be vaporized again, restrain temperature rising.
Moisture on air outlet vent.	● If unit is running under the high humidity for a long time, the moisture will be condensed on the air outlet grill and drip off.
H1: Defrosting	● It is normal.

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

There is harsh sound during operation.
The terrible odors emitted during operation.
Water is leaking in the room.
Air switch or protection switch often breaks.
Carelessy splash water or something into unit.
There is an abnormal heat in power supply cord and power plug.

▶ Stop running and disconnect the power supply.

◆ Notices for installation

Important Notices

1. The unit installation work must be done by qualified personnel according to the local rules and this manual.
2. Before installation, please contact with local authorized maintenance center, if unit is not installed by the authorized maintenance center, the malfunction may not solved, due to discommodious contacts.
3. When removing the unit to the other place, please firstly contact with the authorized Maintenance Center in the local area.

Basic Requirements For Installation Position

Install in the following place may cause malfunction. If it is unavoidable contact with service center please:

- Place where strong heat sources, vapors, flammable gas or volatile object are emitted.
- Place where high-frequency waves are generated by radio equipment, welders and medical equipment.
- Place where a lot of salinities such as coast exists.
- Place where the oil (machine oil) is contained in the air.
- Place where a sulfured gas such as the hot spring zones is generated.
- Other place with special circumstance.

Indoor Unit Installation Position Selection

1. The air inlet and outlet vent should be far from the obstruction, make sure that the air can be blown through the whole room.
2. Select a position where the condensing water can be easily drained out, and the place is easily connected for outdoor unit .
3. Select a location where the children can not reach .
4. Can select the place where is strong enough to withstand the fu ll weight and vibration of the unit. And will not increase the noise .
5. Be sure to leave enough space to allow access for routine maintenance. The height of the installed location should be 250cm or more from the floor.
6. Select a place about 1m or more away from TVset or any other electric appliances.
7. Select a place where the filter can be easily taken out.
8. Make sure that the indoor unit installation should accord with installation dimension diagram requirements.
9. Do not use the unit in the immediate surrou ndings of a laundry a bath a shower or a swimming pool.

Outdoor Unit Installation Position Selection

1. Select a location from which noise and outflow air emitted by unit will not inconvenience neighbors, animals, plants.
2. Select a location where there should be sufficient ventilation.
3. Select a location where there should be no obstructions cover the inlet and outlet vent.
4. The location should be able to withstand the full weight and vibration of the outdoor unit and permit safe installation.
5. Select a dry place, but do not expose under the direct sunlight or strong wind.
6. Make sure that the outdoor unit installation dimension should accord with installation dimension diagram, convenient for maintenance, repair.
7. The height difference of connecting the tubing within 5m, the length of connecting the tubing within 10m.
8. Select a place where it is out of reach for the children.
9. Select a place where will not block the passage and do not influence the city appearance.

◆ Notices for installation

Safety Requirements For Electric Appliances

1. The power supply should be used the rated voltage and AC exclusive circuit, the power cable diameter should be satisfied.
2. Don't drag the power cable emphatically.
3. It should be reliably earthed, and it should be connected to the special earth device, the installation work should be operated by the professional.
4. The min. distance from the unit and combustive surface is 1.5m.
5. The appliance shall be installed in accordance with national wiring regulations.
6. An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring. For models with a power plug, make sure the plug is within reach after installation.
7. Including an air switch with suitable capacity, please note the following table. Air switch should be included magnet buckle and heating buckle function, it can protect the circuit-short and overload. (Caution: please do not use the fuse only for protect the circuit)

Air-conditioner	Air switch capacity
07、09K	10A
12K	16A
18K、24K	25A

Note:

- Make sure that the Live wire or Zero line as well as the earth wire in the family power socket can not be wrong connected, there should be reliable and no short circuit in the diagram.
- wrong connection may cause fire.
- GWH18ND-K3NNA2A, GWH18ND-K3NNA4A, GWH18ND-K3NNA8A, GWH18ND-K3NNB3A, GWH18ND-K3NNB4A can be connected only to a supply with system impedance no more than 0.232 ohm. In case necessary, please consult your supply authority for system impedance information."

Earthing requirements

1. Air conditioner is type I electric appliance, thus please do conduct reliable earthing measure.
2. The yellow-green two-color wire in air conditioner is earthing wire and cannot be used for other propose. It cannot be cut off and be fix it by screw, otherwise it would cause electric shock.
3. The earth resistance should accord to the National Criterion.
4. The user power must offer the reliable earthing terminal. Please don't connect the earthing wire with the following place:

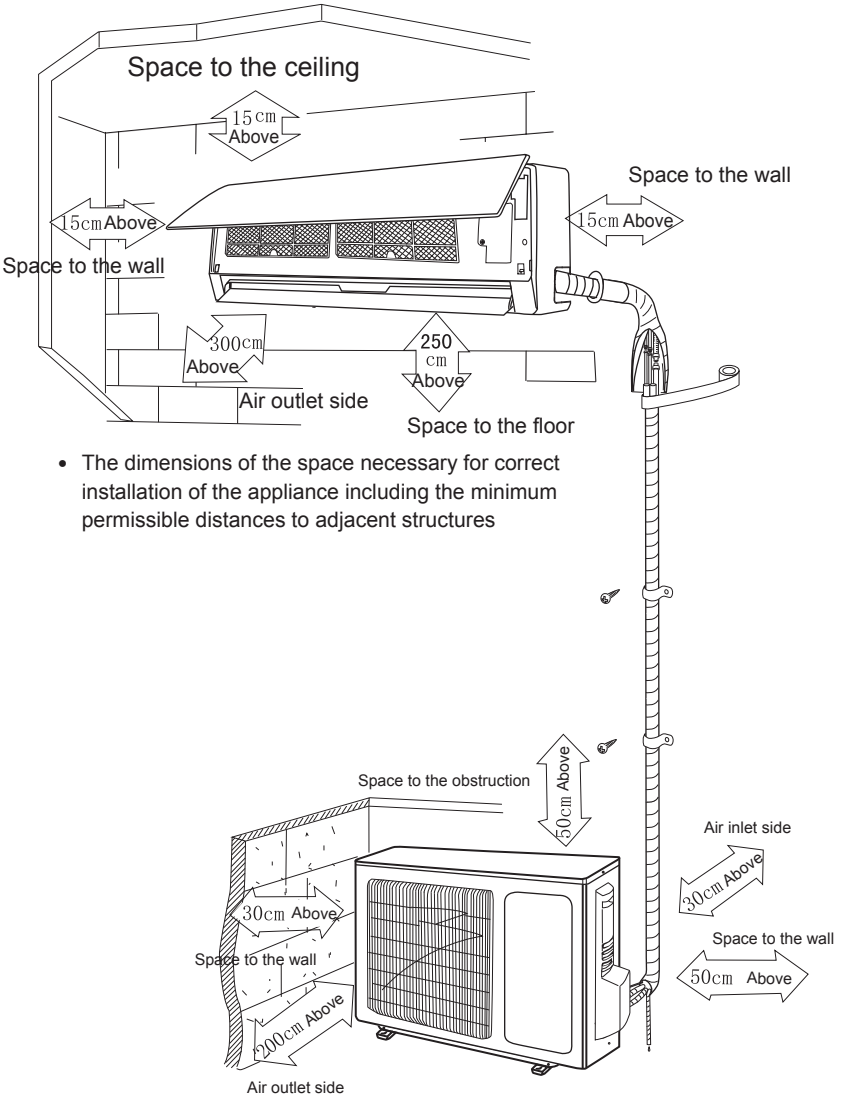
   ① Tap water pipe. ② Gas pipe. ③ Contamination pipe.

   ④ Other places that professional personnel consider them unreliable.

5. The model and rating values for fuses according the silk print on fuse cover or related PCB board.

Installation dimension diagram

Installation dimension diagram



- The dimensions of the space necessary for correct installation of the appliance including the minimum permissible distances to adjacent structures

◆ Install indoor unit

Install the rear panel

1.Always mount the rear panel horizontally. Due to the water tray of indoor unit has been adopted the both-way drainage design, the outlet of water tray should be adjusted slightly down when installing, that is taking the outlet of the water tray as the center of a circle, the included angle between the evaporator and level should be 0 or more, that is good for condensing water drainage.

2.Fix the rear panel on the wall with screws. (Where is pre-covered with plastic granula)

3.Be sure that the rear panel has been fixed firmly enough to withstand the weight of an adult of 60kg, further more, the weight should be evenly shared by each screw.

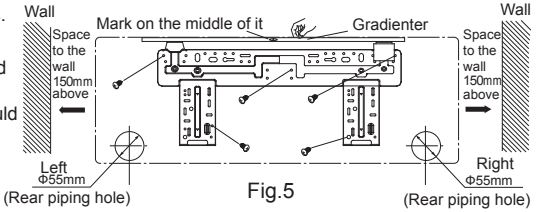
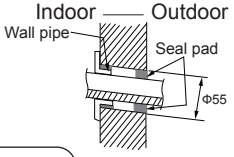


Fig.5

Install the piping hole

1.Make the piping hole (Φ55) in the wall at a slight downward slant to the outdoor side.

2.Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the hole.

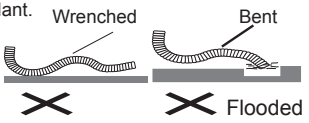


Install the water drainage pipe

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.When the long drainage hose passing through indoor, should wrap the insulation materials.



Connect indoor and outdoor electric wires

1.Open the surface panel.

2.Remove the wiring cover Fig.6.

3.Route the power connection cord and signal control wire (for cooling and heating unit only) from the back of the indoor unit and pull it toward the front through the wiring hole for connection.

4.Connect the interconnection cord to the terminal block, and then fix the cord with cord anchorge.

5.Reassemble the clampand wiring cover.

6.Recover the surface panel.

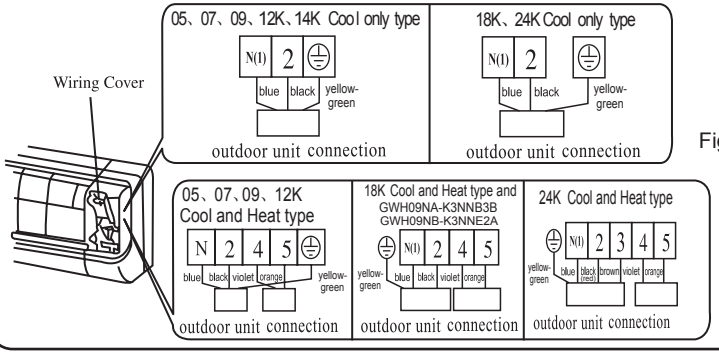


Fig.6

◆ Install indoor unit

NOTE:

When connecting the electric wire if the wire length is not enough, please contact with the authorized service shop to buy a exclusive electric wire that is long enough and the joint on the wire are not allowed.

- The electric wiring must be correctly connected, wrong connection may cause spare parts malfunction.
- Tighten the terminal screw in order to prevent loose.
- After tighten the screw, slight pull the wire and confirm whether is it firm or not.
- If the earth wire is wrong connection, that may cause electric shock.
- The cover plate must be fixed, and tighten the connection wire, if it is poor installed, that the dust, moisture may enter in or the connection terminal will be affected by outside force, and will cause fire or electric shock.

Install the indoor unit

- The piping can be lead out from right, right rear, left left rear.

1. When routing the piping and wiring from the left or right side of indoor unit, cut off the tailings from the chassis in necessary(Show in Fig.7)
   (1) Cut off the tailings 1 when routing the wiring only;
   (2) Cut off the tailings 1 and tailings 2 when routing both the wiring and piping.
2. Take out the piping from body case, wrap the piping electric wire, water pipe with tape and pull them through the piping hole (As show in Fig.8)
3. Hange the mounting slots of the indoor unit on the upper tabs of the rear panel and check if it is firm enough.(As show in Fig.9)
4. The height of the installed location should be 2.5m or more from the floor.

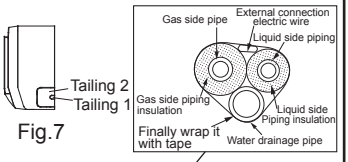


Fig.7

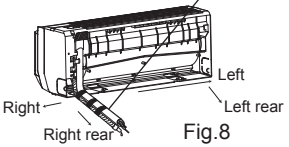


Fig.8

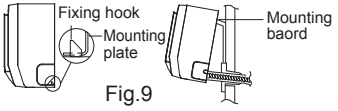
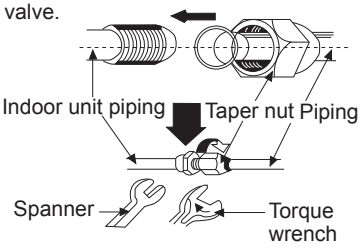


Fig.9

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 the following:

Hex nut diameter	Tightening torque(N·m)
Φ6	15~20
Φ 9.52	31~35
Φ 12	50~55
Φ 16	60~65
Φ 19	70~75



NOTE: Firstly connect the connection pipe to indoor unit, then to outdoor unit; pay attention to the piping bending, do not damage the connection pipe; the joint nut couldn't tighten too much, otherwise it may cause leakage.

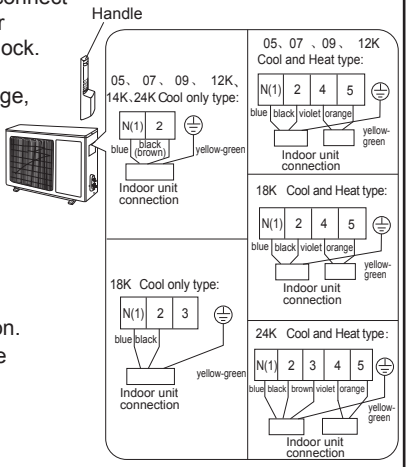
◆ Install outdoor unit

Electric wiring

1. Disassemble the handle on the outdoor unit right side plate.
2. Take off cord anchorage. Connect and fix power connect cord (for cool and heat type,connect and fix power connect cord and signal control wire)to terminal block.
3. Fix the power connection cable with cord anchorage, (for cool and heat type,use the cord anchorage) to fix the power connection cable and the signal control wire).
4. Ensure wire has been fixed well.
5. Install the handle.

NOTE:

- Wrong wiring may cause spare parts malfunction.
- After the cable fixed, make sure there should be a free space between the connection and connection and fixing place on the lead wire.



Air purging and leakage test

1. Connect charging hose of manifold valve to charge end of low pressure valve (both high/low pressure valves must be tightly shut).
2. Connect joint of charging hose to vacuum pump.
3. Fully open handle handle of Lo manifold valve.
4. Open the vacuum pump to evacuate. At the beginning, slightly loosen joint nut of low pressure valve to check if there is air coming inside. (If noise of vacuum pump has been changed, the reading of multimeter is 0) Then tighten the nut.
5. Keep evacuating for more than 15mins and make sure the reading of multi-meter is -1.0×10^5pa (-76cmHg).
6. Fully open high/low pressure valves.
7. Remove charging hose from charging end of low pressure valve.
8. Tighten bonnet of low-pressure valve. (As shown in Fig.10)

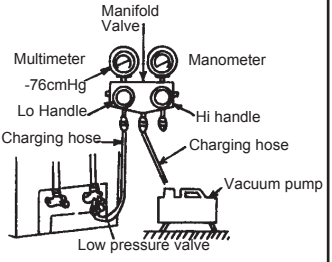
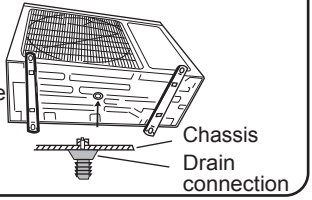


Fig.10

Condensate drainage of outdoor unit (no for cooling only)

The condensate and defrosting water formd during heating in the outdoor unit can be properly discharged by drainage pipe .

Installation method:set the drain connection in Ø 25 hole of the chassis has been installed and then connect drainage pipe with drain nozzle,so that condensate and defrosting waer can be properly discharged



◆ Check after installation and test operation

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.
Is water drainage well?	It may cause condensation and dripping.
Is the voltage in accordance with the rated voltage marked on the nameplate?	It may cause electric malfunction or damage the part.
Is the electric wiring and piping connection installed correctly and securely?	It may cause electric malfunction or 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.
Is 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.

Test Operation

1. Before test operation
   (1) Do not switch on power before installation isfinished 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, press "ON/OFF" button on the wireless remote control to start the operation.
   (2) Press MODE button, to select the COOL, HEAT (Cooling only unit is not available), FAN to check whether the operation is normal or not.

◆ Installation and Maintenance of Healthy Filter

Installation Instructions

1. Forcibly pull the panel for a specific angle from the two ends of the front panel according to the arrow direction. Then pull the air filter downwards to remove it. (See Fig.a)

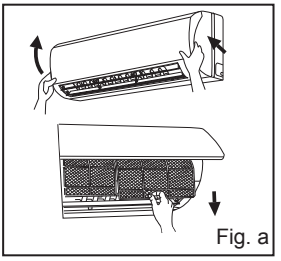


Fig. a

2. Mount the healthy filter onto the air filter,(as shown in Fig.b). If the air filter cannot be installed, please mount the healthy filter on the front case. (as shown in Fig.c)

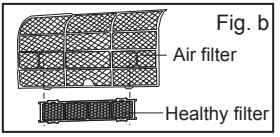


Fig. b

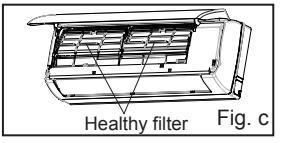


Fig. c

3. Mount the air filter properly along the arrow direction in Fig.d, and then close the panel cover.

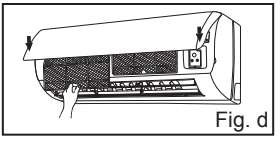


Fig. d

Cleaning and Maintenance

Take out the healthy filter before cleaning and reinstall it after cleaning according to the installation instruction. Pay special attention to that silver ion filter can't be cleaned with water, while active carbon, photocatalyst, low temperature conversion (LTC) catalyst, formaldehyde eliminator, catechin or mite killing filter can, but can't with brush or hard things. Dry it in the shade or sun after cleaning, but not by wiping.

Service Life

The healthy filter commonly has its usage lifetime for one year under normal condition. As for silver ion filter, it is invalid when its surface becomes black (green).

● This supplementary instruction is provided for reference to the unit with healthy filter. If the graphics provided herein is different from the physical goods, the latter one shall prevail. The quantity of healthy filters shall be based on the actual delivery.

◆ Configuration of connection pipe and additional volume of refrigerant

1. Standard length of connection pipe
   5m、7.5m、8m
2. Min length of connection pipe
   For the unit with standard connection pipe of 5m, there is no limitation for the min length of connection pipe. For the unit with standard connection pipe of 7.5m and 8m, the min length of connection pipe is 3m.
3. Max length of connection pipe

Sheet 1 Max length of connection pipe Unit: m

Capacity	Max length of connection pipe		Capacity	Max length of connection pipe
5000 Btu/h（1465 W）	15		24000 Btu/h（7032 W）	25
7000 Btu/h（2051 W）	15		28000 Btu/h（8204 W）	30
9000 Btu/h（2637 W）	15		36000 Btu/h（10548 W）	30
12000 Btu/h（3516 W）	20		42000 Btu/h（12306 W）	30
18000 Btu/h（5274 W）	25		48000 Btu/h（14064 W）	30

4. The calculation method of additional refrigerant oil and refrigerant charging amount after prolonging connection pipe
   After the length of connection pipe is prolonged for 10m at the basis of standard length, you should add 5ml of refrigerant oil for each additional 5m of connection pipe.
   The calculation method of additional refrigerant charging amount (on the basis of liquid pipe):
   (1) Additional refrigerant charging amount= prolonged length of liquid pipe × additional refrigerant charging amount per meter
   (2) When the length of connection pipe is above 5m, add refrigerant according to the prolonged length of liquid pipe. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe. See Sheet 2.

◆ Configuration of connection pipe and additional volume of refrigerant

Sheet 2. Additional refrigerant charging amount for R22, R407C, R410A and R134a

Diameter of connection pipe mm		Indoor unit throttle	Outdoor unit throttle	
Liquid pipe	Gas pipe	Cooling only, cooling and heating (g / m)	Cooling only (g / m)	Cooling and heating (g / m)
Φ6	Φ9.5 or Φ12	20	15	20
Φ6 or Φ9.5	Φ16 or Φ19	50	15	50
Φ12	Φ19 or Φ22.2	100	30	120
Φ16	Φ25.4 or Φ31.8	170	60	120
Φ19	-	250	250	250
Φ22.2	-	350	350	350

Note: The additional refrigerant charging amount in Sheet 2 is recommended value, not compulsory.

SERIES			BARON	
MODEL			**ASH-09AB**	**ASH-12AB**
Capacity	cooling	kW	2,6	3,2
	heating	kW	2,8	3,5
Power supply	Hz		50	50
	V		220-240	220-240
Power current	cooling	A	3,64	4,45
	heating	A	3,46	4,32
Power input	cooling	W	821	1004
	heating	W	779	973
EER	W/W		3,21	3,21
COP	W/W		3,61	3,61
Noise-indoor unit	dB(A)		40/37/35/32	41/38/35/32
Noise-outdoor unit	max	dB(A)	50	52
Air flow	m^3/h		400	550
Dehumidifying volume	l/h		0,8	1,2
Refrigerant type / charge	type / kg		R410a / 0,7	R410a / 0,8
Pipe diameter	Liquid side	inch / mm	¼ / 6	¼ / 6
	gas side	inch / mm	⅜ / 10	⅜ / 10
Length of connection pipe	max	m	15	20
Elevation/Drop height	max	m	10	10
Dimension (w x h x d)	IU	mm	730x255x174	790x265x177
	OU	mm	776x540x320	776x540x320
Net weight	IU	kg	8	9
	OU	kg	31	31
Operating temperature range	cooling	°C	18 ~ 43	18 ~ 43
	heating	°C	-7 ~ 24	-7 ~ 24
The specification of products is subject to change based further development of the units by the producer and can be changed without prior notice.				

Data are based on following conditions:

Length of connection pipe: 5m

Cooling: indoor temperature 27°C DB/19°C WB, outdoor temperature 35°C DB/24°C WB

Heating condition: indoor temperature 20°C DB/15°C WB, outdoor temperature 7°C DB/6°C WB

ES Declaration of Conformity

in compliance with Council directive 73/23/EHS amended by Council directive 93/68/EHS
(Government regulation no.168/1997 Sb. as amended by further changes and additions) and
in compliance with Council directive 89/336/EHS amended by Council directive 93/68/EHS
(Government regulation no.169/1997 Sb. as amended by further changes and additions)

Manufacturer:
NEPA, společnost s ručením omezeným
Purkyňova 45
612 00 Brno
Czech Republic

Description of the unit:
Air conditioners SINCLAIR are designed for adjustments of air by cooling and heating in residential and school facilities, offices, restaurants and similar facilities.
Models differentiate by sizing of the parts in respect of cooling / heating capacity and by design.

Wall mounted split	**Multi combi**	**Floor-ceiling indoor**
ASH-09AB	MC-H07AIC PT	ASF-18AIA
ASH-12AB	MC-H09AIC PT	ASF-24AIA
Wall mounted split	MC-H12AIC PT	ASF-36AIA
ASH-09AC PT	MC-H18AIC PT	ASF-42AIA
ASH-13AC PT	MC-F09AI	**Cassette indoor**
ASH-18AC PT	MC-F12AI	ASC-18AIA
ASH-24AC PT	MC-F18AI	ASC-24AIA
Wall mounted split	MC-F24AI	ASC-36AIA
ASH-09AIP PT	MC-C12AI	ASC-42AIA
ASH-12AIP PT	MC-C18AI	**Duct indoor**
ASH-18AIP PT	MC-C24AI	ASD-18AIA
ASH-24AIP PT	MC-D09AI	ASD-24AIA
Wall mounted split	MC-D12AI	ASD-36AIA
ASH-09AISW	MC-D18AI	ASD-42AIA
ASH-09AISB	MC-D24AI	**Outdoor units**
ASH-09AISR	MC-P09AI	ASGE-18AIA WK
ASH-13AISW	MC-P12AI	ASGE-24AIA WK
ASH-13AISB	MC-P18AI	ASGE-36AIA WK
ASH-13AISR	MC-E18AI	ASGE-36AIA-3 WK
	MC-E24AI	ASGE-42AIA-3 WK
	MC-E28AI	
	MC-E36AI	
	MC-E42AI	

The list of harmonized directives that were used for Declaration assessment:
EN 60335-1:2002, EN 60335-2-40:2003
EN 61000-6-3:2001, EN 55014-1:2006, EN 61000-3-2:2006, EN 61000-3-3:1995,
EN 55014-2:1997
PN-EN 55014-1:2004, PN-EN 55014-2:1999/A1:2004, PN-EN 60335-1:2004, PN-EN 60335-2-40:2004(U)
89/336/EEC, 89/392/EEC, 73/23/EEC (96/68/EEC)
PN-EN 61000-3-3:1997, PN-EN 61000-3-3:2004, PN-EN 61000-6-3:2004

The last two digits of the year when the mark CE was appointed on the product: 10

In Brno, date: 22.3.2012

.....Ing. Stanislav Jobanek, Business director.....
Name, function, signature of authorized person of manufacturer
or
name, function, signature of authorized deputy

NEPA spol. s r. o. 21
Purkyňova 45, 612 00 Brno
DIČ: CZ45528382
Tel: 541 590 140, Fax: 541 590 124

SPLIT AIR CONDITIONER INDOOR UNIT

Model	ASH-09AB
Rated Voltage	220-240V~
Rated Frequency	50Hz
Cooling Capacity	2638W
Heating Capacity	2814W
Air Flow Volume	400m³/h
Sound Pressure Leve(H)l	37dB(A)
Weight	8kg
Manufactured Date	

sinclair AIR CONDITIONING

ISO9001

CE qrs

Sinclair Corporation Ltd, 1-4 Argyll St., London, UK

63229936851

AIR CONDITIONER OUTDOOR UNIT

sinclair AIR CONDITIONING

Model	ASH-09AB		
Rated Voltage	220-240V~	(ISO 5151)	
Rated Frequency	50Hz	Cooling Capacity	2638W
Climate Type	T1	Heating Capacity	2814W
Weight	31kg	Cooling Power Input	821W
Isolation	I	Heating Power Input	779W
Refrigerant	R410A	Cooling Rated Input	1000W
Refri. Charge	0.66kg	Heating Rated Input	1120W
Comp. LRA	15A	Sound Pressure Level	50dB(A)
Maximum Allowable Pressure			5.2MPa
Operating Pressure (Discharge Side/Suction Side)			3.8/1.2MPa
Manufactured Date		Moisture Protection	IP24

Contains fluorinated greenhouse gases covered by the Kyoto Protocol

CE qrs ISO9001

Sinclair Corporation Ltd, 1-4 Argyll St., London, UK

63229936852

SPLIT AIR CONDITIONER INDOOR UNIT

Model	ASH-12AB
Rated Voltage	220-240V~
Rated Frequency	50Hz
Cooling Capacity	3223W
Heating Capacity	3516W
Air Flow Volume	550m³/h
Sound Pressure Leve(H)l	38dB(A)
Weight	9kg
Manufactured Date	

sinclair AIR CONDITIONING

ISO9001

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Sinclair Corporation Ltd, 1-4 Argyll St., London, UK

63229936853

AIR CONDITIONER OUTDOOR UNIT

sinclair AIR CONDITIONING

Model	ASH-12AB		
Rated Voltage	220-240V~	(ISO 5151)	
Rated Frequency	50Hz	Cooling Capacity	3223W
Climate Type	T1	Heating Capacity	3516W
Weight	31kg	Cooling Power Input	1004W
Isolation	I	Heating Power Input	973W
Refrigerant	R410A	Cooling Rated Input	1450W
Refri. Charge	0.84kg	Heating Rated Input	1400W
Comp. LRA	23A	Sound Pressure Level	52dB(A)
Maximum Allowable Pressure			6.1MPa
Operating Pressure (Discharge Side/Suction Side)			3.8/1.2MPa
Manufactured Date		Moisture Protection	IP24

Contains fluorinated greenhouse gases covered by the Kyoto Protocol

CE qrs ISO9001

Sinclair Corporation Ltd, 1-4 Argyll St., London, UK

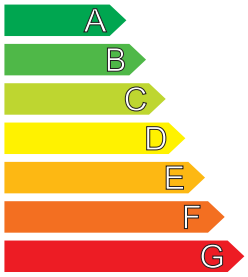
63229936854

Energy

Manufacturer: SINCLAIR AIR CONDITIONING

Unit model: ASH-09AB

More efficient



Less efficient

A

Annual Energy Consumption kWh in cooling mode *(Actual consumption will depend on how the appliance is used and climate)*		**410.5**
Cooling output	kW	**2.638**
Energy Efficiency Ratio *Full load (the higher the better)*		**3.21**
Type: Cooling only	—	
Cooling+Heating	—	←
Air cooled	—	←
Water cooled	—	
Heat output	kW	**2.814**
Heating performance A: higher G: lower		**A** B C D E F G
Noise (dB(A) re 1 pW)		**50/60**

Further information is contained in product brochures

Norm EN 14511
Air-conditioner
Energy Label Directive 2002/31/EC

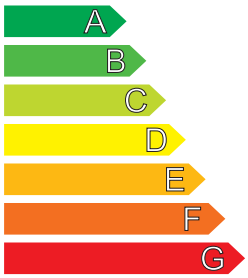
62229924539

Energy

Manufacturer: SINCLAIR AIR CONDITIONING

Unit model: ASH-12AB

More efficient



Less efficient

A

Annual Energy Consumption kWh in cooling mode *(Actual consumption will depend on how the appliance is used and climate)*		**502**
Cooling output	kW	**3.223**
Energy Efficiency Ratio *Full load (the higher the better)*		**3.21**
Type: Cooling only	—	
Cooling+Heating	—	←
Air cooled	—	←
Water cooled	—	
Heat output	kW	**3.516**
Heating performance A: higher G: lower		**A** B C D E F G
Noise (dB(A) re 1 pW)		**51/62**

Further information is contained in product brochures

Norm EN 14511
Air-conditioner
Energy Label Directive 2002/31/EC

62229924540