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* The design and specifications are subject to change without prior notice for product improvement. Consult with the sales agency or manufacturer for details.

* The shape and position of buttons and indicators may vary according to the model, but their function are the same.

INSTRUCTION FOR SERVICING(R32)

1. Check the information in this manual to find out the dimensions of space needed for proper installation of the device, including the minimum distances allowed compared to adjacent structures.
2. Appliance shall be installed, operated and stored in a room with a floor area larger than 4m².
3. The installation of pipe-work shall be kept to a minimum.
4. The pipe-work shall be protected from physical damage, and shall not be installed in an unventilated space if the space is smaller than 4m².
5. The compliance with national gas regulations shall be observed.
6. The mechanical connections shall be accessible for maintenance purposes.
7. Follow the instructions given in this manual for handling, installing, cleaning, maintaining and disposing of the refrigerant.
8. Make sure ventilation openings clear of obstruction.
9. Notice: The servicing shall be performed only as recommended by the manufacturer.
10. Warning: The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
11. Warning: The appliance shall be stored in a room without continuously operating open flames (for example an operating gas appliance) and ignition sources (for example an operating electric heater).
12. The appliance shall be stored so as to prevent mechanical damage from occurring.
13. It is appropriate that anyone who is called upon to work on a refrigerant circuit should hold a valid and up-to-date certificate from an assessment authority accredited by the industry and recognizing their competence to handle refrigerants, in accordance with the assessment specification recognized in the industrial sector concerned. Service operations should only be carried out in accordance with the recommendations of the equipment manufacturer. Maintenance and repair operations that require the assistance of other qualified persons must be conducted under the supervision of the person competent for the use of flammable refrigerants.
14. Every working procedure that affects safety means shall only be carried out by competent persons.
15. Warning:
 - * Do not use any means to accelerate the defrosting process or clean the frost on your own. Follow the recommended guidelines from the manufacturer.
 - * The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater.
 - * Do not pierce or burn.
 - * Be aware that refrigerants may not contain an odor.



Caution: Risk of fire



Read operator's manual



Operating instructions



Read technical manual

INSTRUCTION FOR SERVICING(R32)

16. Information on servicing:

1) Checks to the area

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized. For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

2) Work procedure

Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapor being present while the work is being performed.

3) General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided. The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material

4) Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

5) Presence of fire extinguisher

If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO₂ fire extinguisher adjacent to the charging area.

6) No ignition sources

No person carrying out work in relation to a refrigeration system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

7) Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any work that will produce heat. A degree of ventilation shall continue during the period that the work is carried out.

The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

8) Checks to the refrigeration equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed.

If in doubt consult the manufacturer's technical department for assistance.

INSTRUCTION FOR SERVICING(R32)

The following checks shall be applied to installations using flammable refrigerants:

- The charge size is in accordance with the room size within which the refrigerant containing parts are installed;
- The ventilation machinery and outlets are operating adequately and are not obstructed;
- If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
- Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
- Refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

9) Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:

- That capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- That no live electrical components and wiring are exposed while charging, recovering or purging the system;
- That there is continuity of earth bonding.

17. Repairs to sealed components

- 1) During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.
- 2) Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc. Ensure that apparatus is mounted securely. Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.

NOTE: The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.

18. Repair to intrinsically safe components

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.

Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating. Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

INSTRUCTION FOR SERVICING(R32)

19. Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

20. Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

21. Leak detection methods

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants.

Electronic leak detectors shall be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25 % maximum) is confirmed. Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work. If a leak is suspected, all naked flames shall be removed/ extinguished. If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

22. Removal and evacuation

When breaking into the refrigerant circuit to make repairs or for any other purpose conventional procedures shall be used. However, it is important that best practice is followed since inflammability is a consideration. The following procedure shall be adhered to:

- Remove refrigerant;
- Purge the circuit with inert gas;
- Evacuate;
- Purge again with inert gas;
- Open the circuit by cutting or brazing.

The refrigerant charge shall be recovered into the correct recovery cylinders. The system shall be flushed with OFN to render the unit safe. This process may need to be repeated several times. Compressed air or oxygen shall not be used for this task.

Flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipe-work are to take place.

Ensure that the outlet for the vacuum pump is not close to any ignition sources and there is ventilation available.

23. Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant. It is essential that electrical power is available before the task is commenced.

INSTRUCTION FOR SERVICING(R32)

- a) Become familiar with the equipment and its operation.
- b) Isolate system electrically.
- c) Before attempting the procedure,ensure that:
 - . mechanical handling equipment is available,if required,for handling refrigerant cylinders;
 - . all personal protective equipment is available and being used correctly;
 - . the recovery process is supervised at all times by a competent person;
 - . recovery equipment and cylinders conform to the appropriate standards.
- d) Pump down refrigerant system,if possible.
- e) If a vacuum is not possible,make a manifold so that refrigerant can be removed from various parts of the system.
- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate in accordance with manufacturer's instructions.
- h) Do not overfill cylinders.(No more than 80% volume liquid charge).
- i) Do not exceed the maximum working pressure of the cylinder,even temporarily.
- j) When the cylinders have been filled correctly and the process completed,make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- k) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

24. Labeling

Equipment shall be labled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

25. Recovery

When removing refrigerant from a system,either for servicing or decommissioning,it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders,ensure that only appropriate refrigerant recovery cylinders are employed.Ensure that the correct number of cylinders for holding the total system charge are available.All cylinders to be used are designated for the recovered refrigerant and labled for that refrigerant(i.e.Special cylinders for he recovery of refrigerant).Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order.

Empty recovery cylinders are evacuated and,if possible,cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of all appriate refrigerants includeing,when applicable,flammable refrigerants.In addition,a set of calibrated weighing scales shall be available and in good working order.Hoses shall be complete with leak-free disconnect couplings and in good condition.Before using the recovery machine,check that it is in satisfactory working order,has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release.Consult manufacturer if in doubt. The recovered refrigerant shall be returned to the refrigerant supplier in the correct recover cylinder,and the relevant waste transfer note arranged.Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed,ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process.When oil is drained from a system,it shall be carried out safely.

INSTALLATION PRECAUTIONS(R32)

Important Considerations

1. The air conditioner must be installed by professional personnel and the Installation manual is used only for the professional installation personnel! The installation specifications should be subject to our after-sale service regulations.
2. When filling the combustible refrigerant, any of your rude operations may cause serious injury or injuries to human body and objects.
3. A leak test must be done after the installation completed.
4. It is a must to do the safety inspection before maintaining or repairing an air conditioner using combustible refrigerant in order to ensure that the fire risk is reduced to minimum.
5. It is necessary to operate the machine under a controlled procedure in order to ensure that any risk arising from the combustible gas or vapor during the operation is reduced to minimum.
6. Requirements for the total weight of filled refrigerant and the area of a room to be equipped with an air conditioner (are shown as in the following Tables GG.1 and GG.2)

The maximum charge and the required minimum floor area

$$m_1 = (4\text{m}^3) \times \text{LFL}, m_2 = (26\text{m}^3) \times \text{LFL}, m_3 = (130\text{m}^3) \times \text{LFL}$$

Where LFL is the lower flammable limit in kg/m^3 , R32 LFL is 0.306kg/m^3 .

For the appliances with a charge amount $m_1 < M = m_2$:

The maximum charge in a room shall be in accordance with the following:

$$m_{\text{max}} = 2.5 \times (\text{LFL})^{(5/4)} \times h_0 \times (A)^{1/2}$$

The required minimum floor area A min to install an appliance with refrigerant charge M(kg)

shall be in accordance with following: $A_{\text{min}} = (M / (2.5 \times (\text{LFL})^{(5/4)} \times h_0))^2$

Where:

Table GG.1 - Maximum charge (kg)

Category	LFL (kg/m^3)	h_0 (m)	Floor area (m^2)						
			4	7	10	15	20	30	50
R32	0.306	1	1.14	1.51	1.8	2.2	2.54	3.12	4.02
		1.8	2.05	2.71	3.24	3.97	4.58	5.61	7.254
		2.2	2.5	3.31	3.96	4.85	5.6	6.86	8.85

Table GG.2 - Minimum room area (m^2)

Category	LFL (kg/m^3)	h_0 (m)	Charge amount (M) (kg)						
			Minimum room area (m^2)						
R32	0.306	0.6	1.224kg	1.836kg	2.448kg	3.672kg	4.896kg	6.12kg	7.956kg
			29	51	116	206	321	543	
			10	19	42	74	116	196	
			3	6	13	23	36	60	
			2	4	9	15	24	40	

Installation Safety Principles

1. Site Safety



Open Flames Prohibited



Ventilation Necessary

2. operation safety



Mind Static Electricity



Must wear protective clothing and anti-static gloves



Don't use mobile phone

INSTALLATION PRECAUTIONS(R32)

3. Installation Safety
 - Refrigerant Leak Detector
 - Appropriate Installation Location




















The left picture is the schematic diagram of a refrigerant leak detector.

Please note that:

1. The installation site should be well-ventilated.
2. The sites for installing and maintaining an air conditioner using Refrigerant R32 should be free from open fire or welding, smoking, drying oven or any other heat source higher than 548 which easily produces open fire.
3. When installing an air conditioner, it is necessary to take appropriate anti-static measures such as wear anti-static clothing and/or gloves.
4. It is necessary to choose the site convenient for installation or maintenance wherein the air inlets and outlets of the indoor and outdoor units should be not surrounded by obstacles or close to any heat source or combustible and/or explosive environment.
5. If the indoor unit suffers refrigerant leak during the installation, it is necessary to immediately turn off the valve of the outdoor unit and all the personnel should go out till the refrigerant leaks completely for 15 minutes. If the product is damaged, it is a must to carry such damaged product back to the maintenance station and it is prohibited to weld the refrigerant pipe or conduct other operations on the user's site.
6. It is necessary to choose the place where the inlet and outlet air of the indoor unit is even.
7. It is necessary to avoid the places where there are other electrical products, power switch plugs and sockets, kitchen cabinet, bed, sofa and other valuables right under the lines on two sides of the indoor unit.

Suggested Tools

Tool	Picture	Tool	Picture	Tool	Picture
Standard Wrench		Pipe Cutter		Vacuum Pump	
Adjustable/ Crescent Wrench		Screw drivers (Phillips & Flat blade)		Safety Glasses	
Torque Wrench		Manifold and Gauges		Work Gloves	
Hex Keys or Allen Wrenches		Level		Refrigerant Scale	
Drill & Drill Bits		Flaring tool		Micron Gauge	
Hole Saw		Clamp on Amp Meter			

SAFETY PRECAUTIONS

SAFETY RULES AND RECOMMENDATIONS FOR THE INSTALLER

1. **R**ead this guide before installing and using the appliance.
2. **D**uring the installation of the indoor and outdoor units, access to the working area should be forbidden to children. Unforeseeable accidents could happen.
3. **M**ake sure that the base of the outdoor unit is firmly fixed.
4. **C**heck that air cannot enter the refrigerant system and check for refrigerant leaks when moving the air conditioner.
5. **C**arry out a test cycle after installing the air conditioner and record the operating data.
6. **P**rotect the indoor unit with a fuse of suitable capacity for the maximum input current or with another overload protection device.
7. **E**nsure that the mains voltage corresponds to that stamped on the rating plate. Keep the switch or power plug clean. Insert the power plug correctly and firmly into the socket, thereby avoiding the risk of electric shock or fire due to insufficient contact.
8. **C**heck that the socket is suitable for the plug, otherwise have the socket changed.
9. **T**he appliance must be fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under "over voltage category III conditions", and these means must be incorporated in the fixed wiring in accordance with the wiring rules.
10. **T**he air conditioner must be installed by professional or qualified persons.
11. **D**o not install the appliance at a distance of less than 50 cm from inflammable substances (alcohol, etc.) Or from pressurized containers (e.g. spray cans).
12. **I**f the appliance is used in areas without the possibility of ventilation, precautions must be taken to prevent any leaks of refrigerant gas from remaining in the environment and creating a danger of fire.
13. **T**he packaging materials are recyclable and should be disposed of in the separate waste bins. Take the air conditioner at the end of its useful life to a special waste collection center for disposal.
14. **O**nly use the air conditioner as instructed in this booklet. These instructions are not intended to cover every possible condition and situation. As with any electrical household appliance, common sense and caution are therefore always recommended for installation, operation and maintenance.
15. **T**he appliance must be installed in accordance with applicable national regulations.
16. **B**efore accessing the terminals, all the power circuits must be disconnected from the power supply.
17. **T**he appliance shall be installed in accordance with national wiring regulations.
18. **T**his appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

SAFETY PRECAUTIONS

SAFETY RULES AND RECOMMENDATIONS FOR THE INSTALLER

19. **D**o not try to install the conditioner alone, always contact specialized technical personnel.
20. **C**leaning and maintenance must be carried out by specialized technical personnel. In any case disconnect the appliance from the mains electricity supply before carrying out any cleaning or maintenance.
21. **E**nsure that the mains voltage corresponds to that stamped on the rating plate. Keep the switch or power plug clean. Insert the power plug correctly and firmly into the socket, thereby avoiding the risk of electric shock or fire due to insufficient contact.
22. **D**o not pull out the plug to switch off the appliance when it is in operation, since this could create a spark and cause a fire, etc.
23. **T**his appliance has been made for air conditioning domestic environments and must not be used for any other purpose, such as for drying clothes, cooling food, etc.
24. **A**lways use the appliance with the air filter mounted. The use of the conditioner without air filter could cause an excessive accumulation of dust or waste on the inner parts of the device with possible subsequent failures.
25. **T**he user is responsible for having the appliance installed by a qualified technician, who must check that earthing/grounding is done in accordance with current legislation and insert a thermal magnetic circuit breaker.
26. **T**he batteries in the remote controller must be recycled or disposed of properly. For disposal of scrap batteries, please discard the batteries as sorted municipal waste at the accessible collection point.
27. **N**ever remain directly exposed to the flow of cold air for a long time. The direct and prolonged exposition to cold air could be dangerous for your health. Particular care should be taken in the rooms where there are children, old or sick people.
28. **I**f the appliance gives off smoke or there is a smell of burning, immediately cut off the power supply and contact the Service Center.
29. **T**he prolonged use of the device in such conditions could cause fire or electrocution.
30. **H**ave repairs carried out only by an authorised Service Center of the manufacturer. Incorrect repair could expose the user to the risk of electric shock, etc.
31. **U**nhook the automatic switch if you foresee not to use the device for a long time. The airflow direction must be properly adjusted.
32. **T**he flaps must be directed downwards in the heating mode and upwards in the cooling mode.
33. **E**nsure that the appliance is disconnected from the power supply when it will remain inoperative for a long period and before carrying out any cleaning or maintenance.
34. **S**electing the most suitable temperature can prevent damage to the appliance.

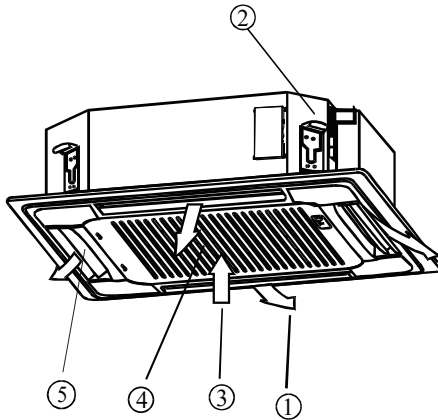
SAFETY PRECAUTIONS

SAFETY RULES AND PROHIBITIONS

1. **D**o not bend, tug or compress the power cord since this could damage it. Electrical shocks or fire are probably due to a damaged power cord. Specialized technical personnel only must replace a damaged power cord.
2. **D**o not use extensions or gang modules.
3. **D**o not touch the appliance when barefoot or parts of the body are wet or damp.
4. **D**o not obstruct the air inlet or outlet of the indoor or the outdoor unit. The obstruction of these openings causes a reduction in the operative efficiency of the conditioner with possible consequent failures or damages.
5. **I**n no way alter the characteristics of the appliance.
6. **D**o not install the appliance in environments where the air could contain gas, oil or sulphur or near sources of heat.
7. **T**his 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.
8. **D**o not climb onto or place any heavy or hot objects on top of the appliance.
9. **D**o not leave windows or doors open for long when the air conditioner is operating.
10. **D**o not direct the airflow onto plants or animals.
11. **A** long direct exposition to the flow of cold air of the conditioner could have negative effects on plants and animals.
12. **D**o not put the conditioner in contact with water. The electrical insulation could be damaged and thus causing electrocution.
13. **D**o not climb onto or place any objects on the outdoor unit.
14. **N**ever insert a stick or similar object into the appliance. It could cause injury.
15. **C**hildren should be supervised to ensure that they do not play with the appliance. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

PARTS AND FUNCTIONS

Indoor Unit



- ① Air Outlet
- ② Pump
- ③ Air Return
- ④ Filter
- ⑤ Air Louver

Requirements

- The air conditioner cannot be started up until it is powered on for 2 hours. Furthermore, in case of a shut down lasting for about one day only, please do not cut off the electricity supply. (it is necessary to heat the crankcase heater so as to avoid force start of compressor.)
- Notice that the air inlet/outlet must not be choked up. If chokeup takes place, the air conditioner behavior may be affected, or air conditioner cannot run because of actuation of protector.

Please check whether the following list of accessories are of full scope. If there are some spare items, please store them carefully aside.

FUNCTION AND OPERATION OF PANEL'S PARTS

⚠ NOTICE

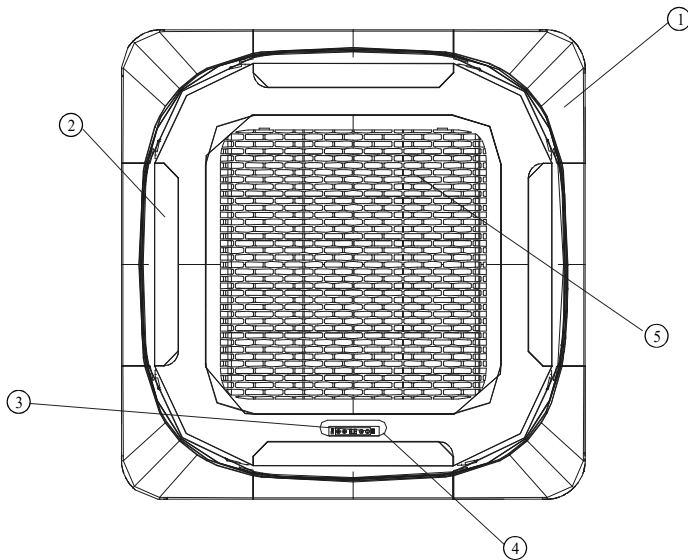
Please adjust room temperature properly especially when the oldmen, children,patients stay athouse.

Lightning and other electromagnetic radiation may cause ill effect .

If it is,please plug off the power switch ,and replug in ,then restart the unit.

Do not block the inlet of indoor unit or outlet of outdoor unit, any of blocks will reduce cooling or heating efficiency.

● CONSTITUTION OF PANEL



① Panel

② Air Flow Louver

③ Infrared Signal Receiver

④ Display Panel

⑤ Air-Return Grille

INDOOR UNIT INSTALLATION

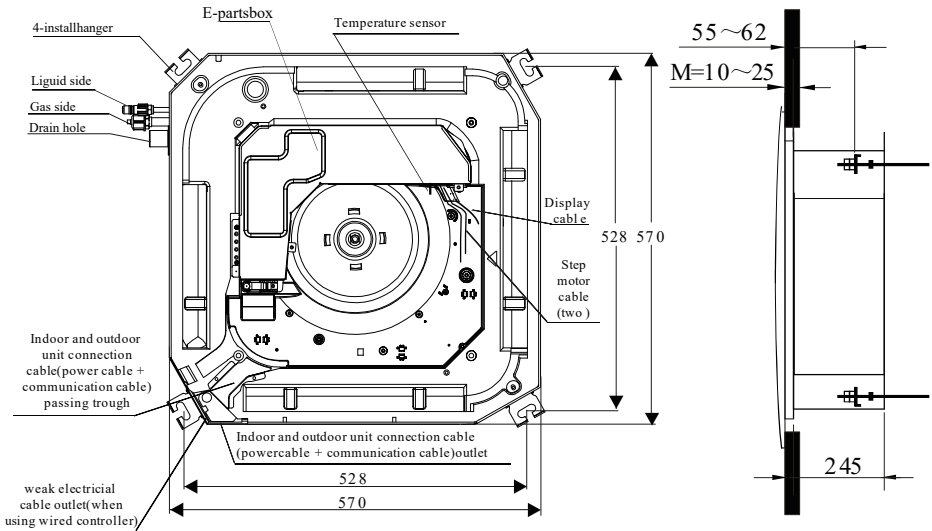
(Please select the space to install indoor unit according to the dimension show above), then install correctly, and have enough space for maintenance.

Select installation location considering piping and wiring connection after the Indoor Unit has been hanged. Then decide the piping wiring leading direction.

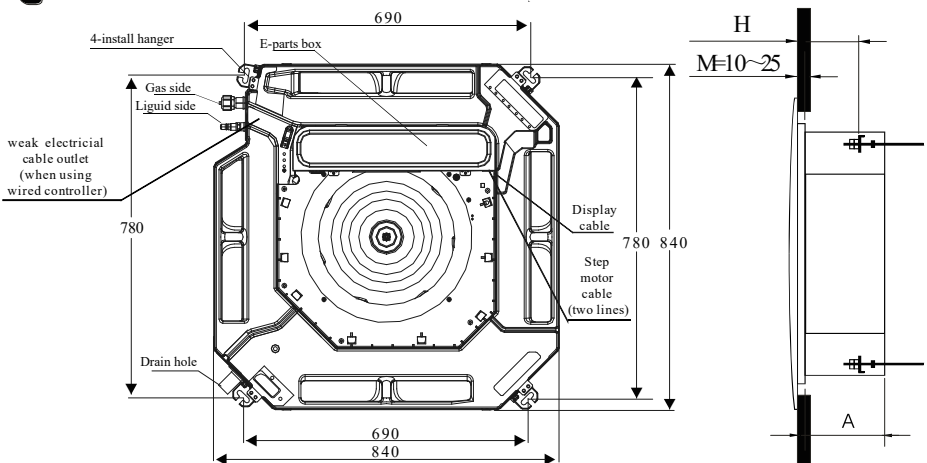
- Be sure to lead the refrigerant pipes, drain pipes and connection wires out to its connection location before hanging the unit if the opening on the ceiling has been decided.
- Confirm sizes of the indoor unit and ceiling opening with the attached installation paper pattern. (Please fix the paper pattern below the body with M5X16 screws (4)).

9k-18k

Unit: mm



24k



INDOOR UNIT INSTALLATION

 Height description of the body dimensions

Unit: mm

	A	H
9-18K	245	130~135
24K	245	130~135

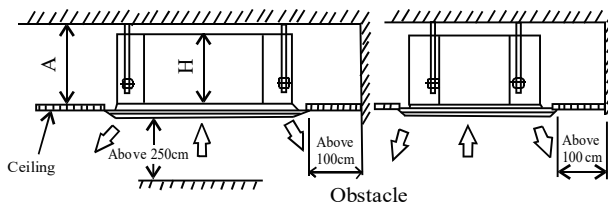
■ INSTALLATION LOCATIONS

▲ CAUTIONS

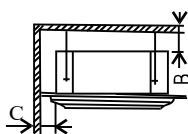
1. Location in the following places may cause malfunction of the machine. (If unavoidable, please consult your local dealer)
 - a. A place where there is flammable gas leakage.
 - b. There is salty air surrounding (near the coast).
 - c. There is caustic gas (the sulfide, for example) existing in the air (near a hot spring).
 - d. A place where can not bear the weight of the machine.
 - e. In kitchen where it is full of oil gas.
 - f. There is strong electromagnetic wave existing.
 - g. There is acid or alkaline liquid evaporating.
 - h. A place where air circulation is not enough.
 - i. The appliance shall not be installed in the laundry
2. Electrical Insulation must be done on the air conditioner and the building complying to National Regulations.

INDOOR UNIT INSTALLATION

INSTALLATION SPACE



Indoor unit	Model	Length of H(mm)	Length of A(mm)
Compact cassette	9K-18K(Q8)	245	>275
Cassette	24K(Q8)	245	>275



Wall material	Flammable material	Fire-proof material or other nonflammable material so other than metal	Fire-proof structure
Up(B)	Above 5cm	Above 5cm	Above 5cm
Sides(C)	Above 100cm	Above 100cm	——

HEIGHT BETWEEN CEILING AND FLOOR

The installation height between ceiling and floor must be greater 2.5m.

CEILING HOLE AND THE HOOK INSTALLATION

Preparation Work on the Ceiling

- Installation method should be changed under the different construction structure. Please consult the professional for the detailed information.
- After opening a hole, the ceiling should be horizontal and strong to prevent vibration.
 - ① Cut the beams at the hole and remove them.
 - ② Reinforcing the beams that have been cut and the beams fixing the ceiling.

Installation of the hanging screw bolt

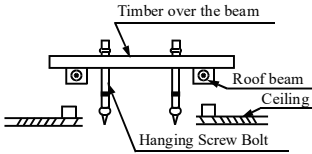
Bolt with M10 whorl is to be used. The center distance between the bolt side is decided by the size of the unit.

Use the following method to install:

INDOOR UNIT INSTALLATION

Wooden construction

Put the square timber over the roof beam, then install the hanging screw bolts.



For finished concrete bricks

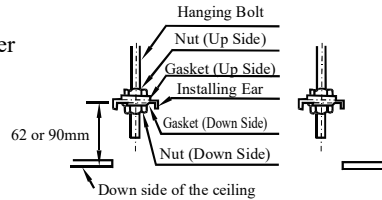
Install the hanging hook with expansible bolt into the concrete deep to 45~50mm to prevent loose.



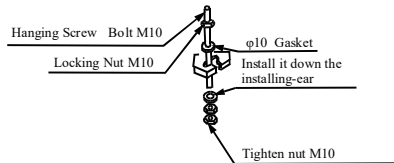
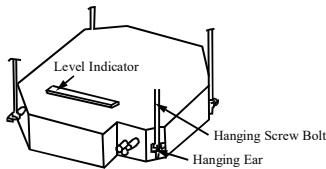
Overhanging the indoor unit

Cassette: Adjust the gasket (down side) to 90mm over the ceiling.

Compact cassette: Adjust the gasket (down side) to 62mm over the ceiling.

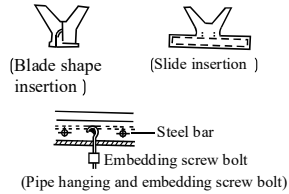


- Install the hanging bolt into T groove of the hanging tool.
- Over hang the indoor unit and ensure it is level using a level indicator.



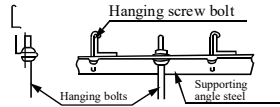
New Concrete Bricks

Inlaying or embedding the screw bolts.



Steel roof beam structure

Install the supporting angle steel.



PANEL INSTALLATION

- Panel installation should be done after piping and wiring.
- Be sure that the indoor unit and ceiling hole installation size is right before installation.

CAUTION

Be sure to seal the connection parts between the panel - the ceiling and the panel - the indoor unit, or even small gaps may cause wind/water leakage or condensing water.

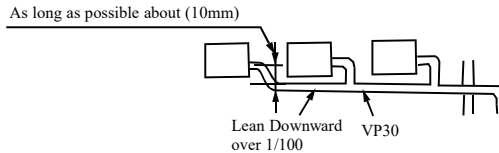
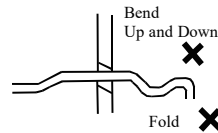
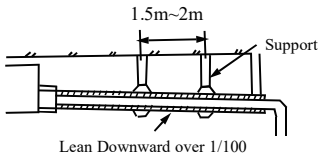
DRAINAGE PIPE INSTALLATION

CAUTION

Be sure to follow Installation Manual during drainage installation, the drainage pipe must have the heat insulation to prevent condensing.

⚠ CAUTION

- The drain pipe of indoor unit must have the heat insulation , or it will condense dew, as well as the connections of the indoor unit.
- The declivity of the drain pipe downwards should be over 2/100, and no winding and bending.
- The total length of the drain pipe when pulled out transversely shall not exceed 20m , when the pipe is over long, a prop stand must be installed every 1.5 to 2m to prevent winding.
- Refer to the following figures about the installation of the pipes.
- Do not impose any pressure on the connection part of the drainage pipe.



Drainage Pipe Material, Heat-insulating Material

The listed material should be used:

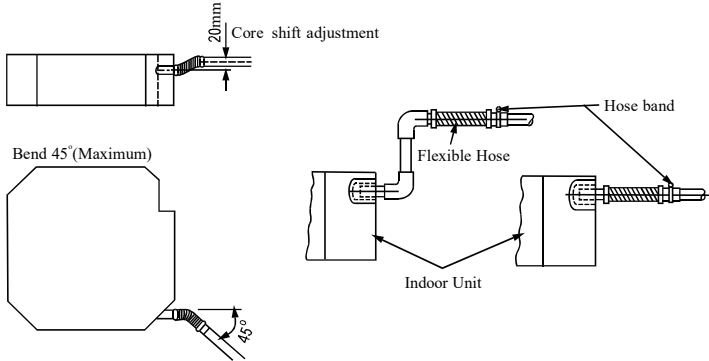
Drainage Pipe Material	Polyvinyl chloride pipe (φ32mm outer diameter)
Heat Insulation Material	Foamed polyethylene insulation plate (10mm thickness)

DRAINAGE PIPE INSTALLATION

FlexibleHose

Measure diameter of the hard pipe using cutting method, and adjust the joining angle.

- Pull out the flexible hose, do not over deform than illustrated below.
- Be sure to bind it with the attached band.
- Please place the flexible hose horizontally.



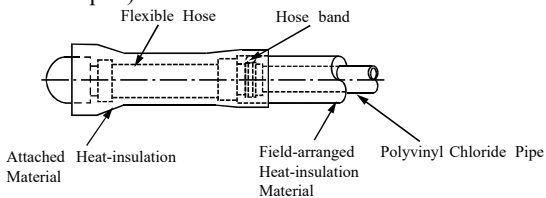
Connection Procedure

Connect the transparent pipe with the polyvinyl chloride pipe.

- Use polyvinyl chloride glue at the connection part of the drainage pipe, be sure no water leakage.
- Paste glue at the front 40mm of the polyvinyl chloride pipe, insert it into the transparent pipe.
- It needs 10 minutes for the glue to dry. Do not impose pressure on the connection during the drying period.

Heat Insulation

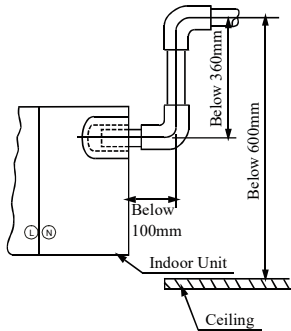
Wrap the flexible hose carefully with the attached heat insulation material from the start to the end (to indoor part)



DRAINAGE PIPE INSTALLATION

Drainage Upward

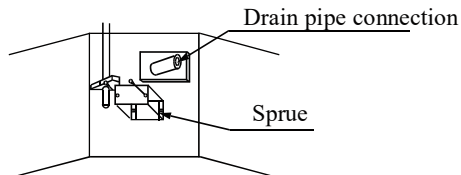
To make sure that the drainage pipe would not be slanted downward, lead it upward to a height 360mm maximum, then downward lead it.



Drainage Test

Check whether the drain pipe is unhindered before testing.

- 1) Stow water from sprue to check.
- 2) Stow 600cc water with pot or hose from sprue slowly , preventing touching the drain pump motor.
- 3) After the preparation work , disconnect the water level switch ,power 220-240V to AC of terminal board, and the drain pump start up immediately.
- 4) After drain pump run 2 min.,reset the water level pin, and the drain pump motor will stop after running 22min..

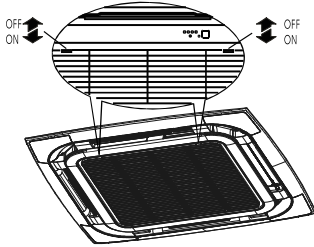


INSTALLATION OF PANEL

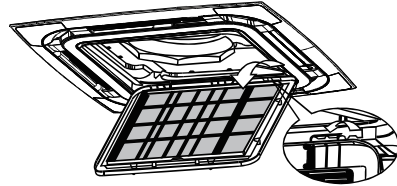
● CASSETTE DIMENSION:24K

Unit: mm

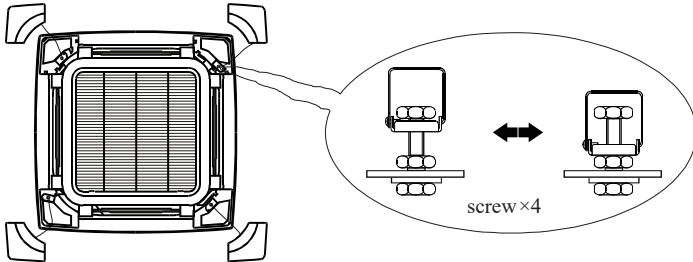
Unload air-in grille



Take off air-in grille



Unload panel installation cap



■ INSTALLATION OF PANEL

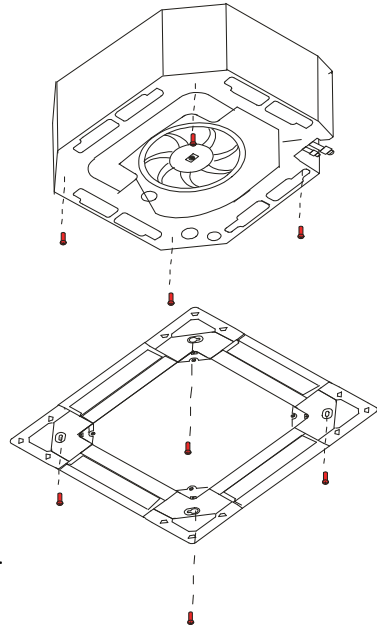
1. Please screw M10 gasket and M6*20 bolt at the corner of indoor unit, before screwing them fasten, screw other two additional bolt which located red bolt show in gas figure and notice that the direction of red arrow on the electrical box aligns the one on the panel.

2. Please connect step motor wire, display board wire to the electrical box according to ELECTRIC WIRING DIAGRAM on the electrical box.

3. Then screw the other two M6*20 bolt with M10 gasket through the hole of panel into indoor unit.

4. Adjust the location and direction of panel totally louver of panel with outlet of outdoor, screw all the bolts fasten to make the panel and indoor unit pressed together.

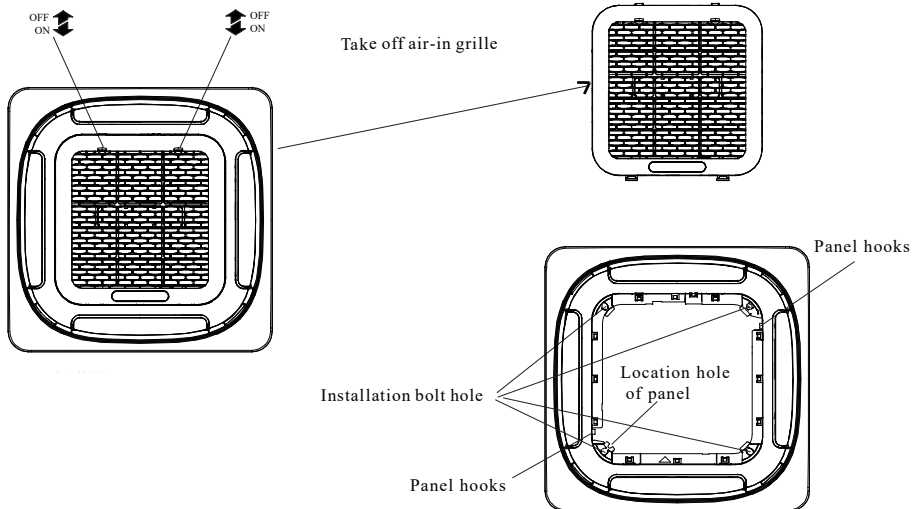
5. Return the air-in grille and panel back to the indoor unit.



INSTALLATION OF PANEL

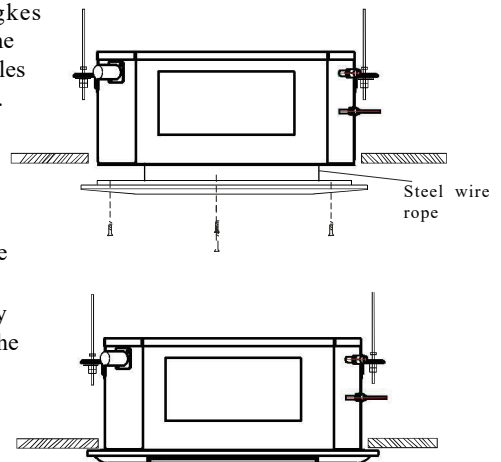
● PANELDIMENSION: 18K

Unload air-in grille



■ INSTALLATION OF PANEL

1. Please screw two M5*20 bolt at the opposite angles of indoor unit, before fixing screws, determine the orientation of the panel: Align the positioning holes on the panel with the positioning pins on the box.
2. Please connect step motor wire, display board wire to the electrical box according to ELECTRIC WIRING DIAGRAM on the electrical box.
3. Then screw the other two M5*20 bolt through the hole of panel into indoor unit.
4. Adjust the location and direction of panel to tally louver of panel with outlet of outdoor, screw all the bolts fasten to make the panel and indoor unit pressed together.
5. Return the air-in grille and panel back to the indoor unit.



CAUTION

Be sure to Install Current Leakage Protection Switch.
Or electric shock may occur.
The appliance must be positioned so that the plug is accessible.
The appliance shall be installed in accordance with national wiring regulations.

CAUTION

- 1. Power cord is to be selected according to national regulations.
- 2. Outdoor unit power cord should be selected and connected according to the outdoor unit installation manual.
- 3. Wiring should be away from high temperature components, or the insulation layer of the wires may melt down.
- 4. Use wire clamp to fix the wires and terminal block after connection.
- 5. Control wire should be wrapped together with heat insulated refrigerant pipes.
- 6. Connect the indoor unit to power only after the refrigerant has been vacuumed.
- 7. Don't connect the power wire to the signal wire connection end.

■ Panel Wiring

Connect the Swing Motor terminal block according to cassette indoor unit wiring diagram.

■ Terminal Board Diagram

Please refer to cassette indoor unit wiring for the wiring.

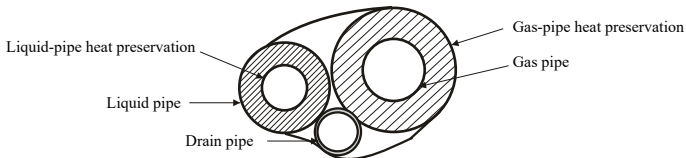
1. Binding treatment

Once the connecting wires have been properly connected, bind the connecting tubing, connecting wire and drain pipe by binding tapes

After binding treatment, the cross section is shown in the figure below:

Notice: Drain pipe must not be flattened during binding treatment.

Drain pipe outlet should be led to a place that can avoid affecting the environment.



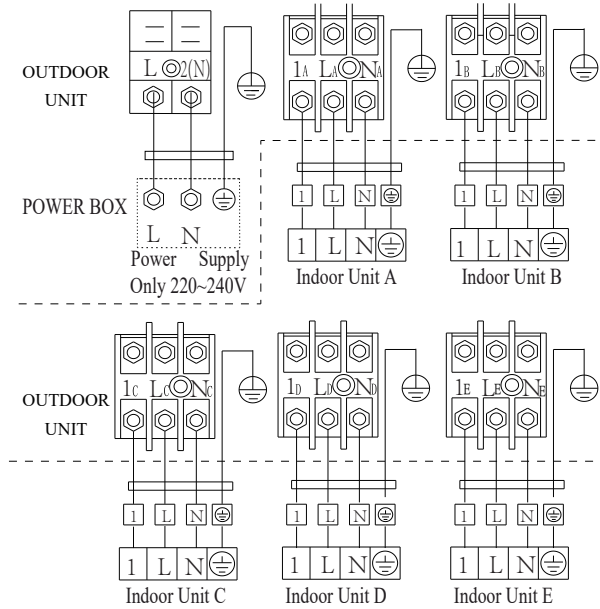
- Open or close incorrectly.
- Objects or water into the AC.
- Fuse or electric leakage protector breaks for several times.

ELECTRIC WIRING

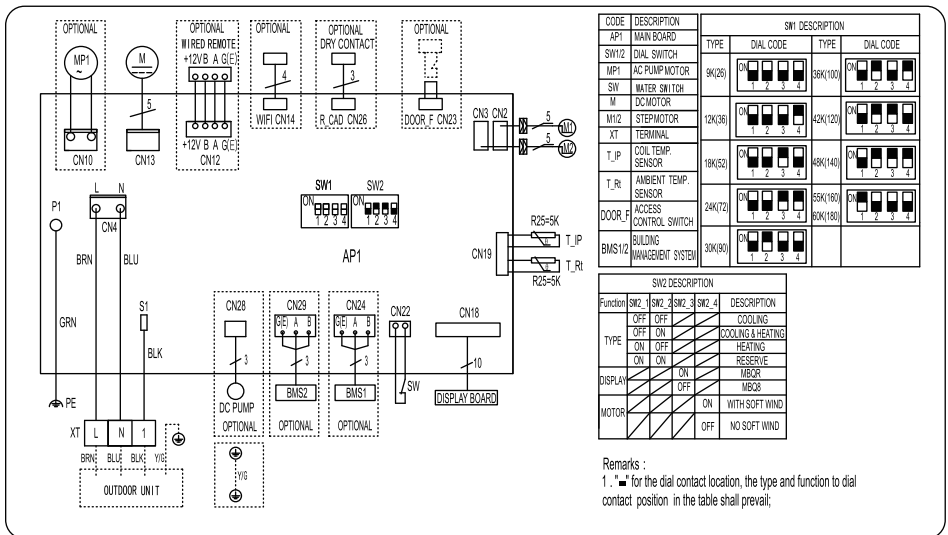
2.External wiring diagrams

Cable Connection Between IDU To ODU

⚠ Note: Plug the connective cables to the corresponding terminals, as shown. For example, Terminal(A) of the outdoor unit must connect with Terminal (A) on the indoor unit.



INDOOR UNIT



TEST RUN

Before testing

- a. Check if piping, drainage and external wiring have been finished correctly.
- b. Check if the power supply complies with requirements; if there is refrigerant leakage; if the all wires and cables are correctly connected and well fixed.

■ Function test

- a. After checking, energize your appliance and press the buttons on the control panel to see if the buttons function;
- b. If LCD screen displays normally.

■ Notes

1. Please read this operating and installation instructions carefully.
2. Do not let air in or refrigerant out during installing or reinstalling the appliance.
3. Test run the air conditioner after finishing installation and keep the record .
4. The air conditioner operates safely when ambient static pressure is 0.8~1.05 standard atmosphere pressure.

CHECKS BEFORE OPERATION

▲ CAUTIONS

- 1. Check that the wiring is not broken off or disconnected.
- 2. Check that the air filter is installed. (Some air-conditioners have no air filters) Check that the outdoor unit air outlet or inlet is not blocked.

Before you clean the air conditioner, be sure to disconnect the power supply plug.

■ Clean the air filter

- The air filter can prevent the dust or other particulate from going inside. In case of blockage of the filter, the working efficiency of the air conditioner may greatly decrease. Therefore, the filter must be cleaned once two weeks during long time usage.
- If the air conditioner is positioned in a dust place, the cleaning frequency of the air filter must be increased.
- If the accumulated dust is too heavy to be cleaned, please replace the filter with a new one (replaceable air filter is an optional fitting).

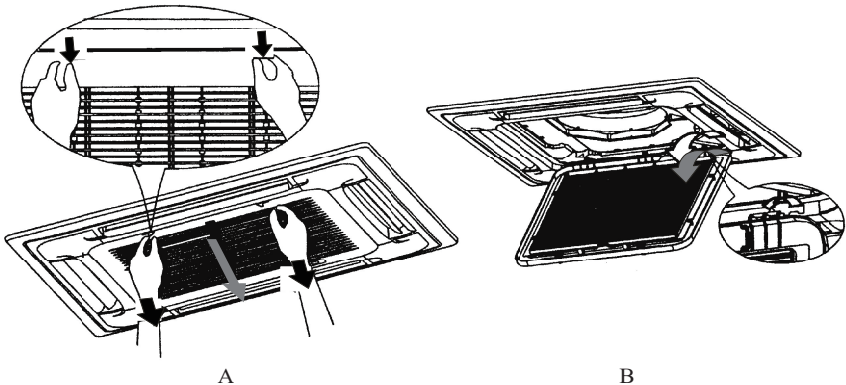
■ Cassette

1. Open the air-in grill

Push the grill switches towards the middle simultaneously as indicated in sketch A. Then pull down the air-in grill.

Caution:

The control box cables, which are originally connected with the main body electrical terminators must be pulled off before doing as indicated below.



2. Take out the air-in grill (together with the air filter shown in Sketch B) Pull the air-in grill down at 45 ° and lift it up to take out the grill.

3. Dismantle the air filter.

4. Clean the air filter (Vacuum cleaner or pure water may be used to clean the air filter. If the dust accumulation is too heavy, please use soft brush and mild detergent to clean it and dry out in cool place).

ADJUSTING AIR FLOW DIRECTION

■ Cassette Type

While the unit is in operation, you can adjust the air flow louver to change the flow direction and naturalize the room temperature evenly.

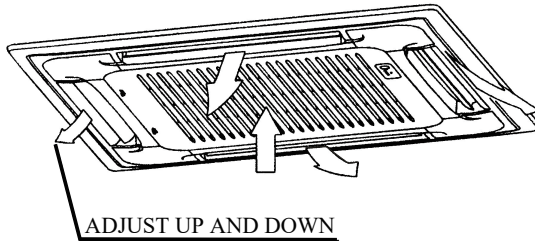
Thus you can enjoy it more comfortably.

1. Set the desired air flow direction.

Push the SWING button to adjust the louver to the desired position and push this button again to maintain the louver at this position.

2. Adjust the air flow direction automatically.

Push the SWING button, the louver will swing automatically.



While this function is set, the swing fan of indoor unit runs; otherwise, the swing fan doesn't run.

When the air conditioner isn't in operation (including when TIMER ON is set), the SWING button will be disabled.

▲WARNING

Before you clean the air conditioner, be sure to disconnect the power supply plug.

Cleaning the indoor unit and remote controller.

▲CAUTIONS

- 1. Use a dry cloth to wipe the indoor unit and remote controller.
- 2. A cloth dampened with cold water may be used on the indoor unit if it is very dirty.
- 3. Never use a damp cloth on the remote controller.
- 4. Do not use a chemically-treated duster for wiping or leave such material on the unit for long, because it may damage or fade the surface of the unit.
- 5. Do not use benzine, thinner, polishing powder, or similar solvents for cleaning. These may cause the plastic surface to crack or deform.

If you do not plan to use the unit for at least 1 month.

1. Operate the fan for about half a day to dry the inside of the unit.
2. Stop the air conditioner and disconnect power.
3. Remove the batteries from the remote controller.

DISPLAY PANEL

Infrared signal receiver : receive of signal from the remote controller.

To make your remote controller operation more efficient, please let remote controller emit or aim at infrared signal receiver.

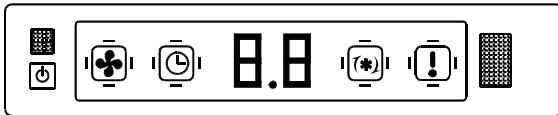
Buzzer: firstly power supplied or any of remote controller operations will make the buzzer sound once.

Some obstacles occurring in the system will be recognized by intelligent recognition system of unit ,lighting on the DISPLAY PANEL flashing show the type of obstacles .

◇ DISPLAY PANEL

1. It suits for cassette body dimension :840mm× 245mm×840mm or 840×290×840 cooling and heating pump type.

The first panel of this housing size.



Running light

Nixie tube

Buzzer

Manual Switch

Warning light

Timing light

Defrosting/preheat light

Infrared signal receiver

Second panel for this housing size.



Running light

Nixie tube

Buzzer

Manual Switch

Trouble light

Timing light

Defrost

Infrared signal

2. It suits for compact cassette body dimension :570mm×245mm×570mm cooling and heating pump type.



Running light

Timing light

Buzzer

Manual Switch

Nixie tube

Defrost

Infrared signal receiver

DISPLAY PANEL

◇ Display function declaration :

1.LED light the state of running light

When powered-on the first time, the running light twinkles, while the double-8 does not lit. When started-up normally, the running light lights on, while the double-8 shows the ambient temperature. When operated normally, the running light lights on, while the double-8 shows the ambient temperature. When closed down, both LED and double-8 are gone out.

2.LED light the state of Timing light

When timing set, the timing light lights on, and the double-8 flash shows the time setting within 5 seconds, then shows the ambient temperature. When without time setting, the timing light gone out, while the double-8 back to the original state.

3.LED light the state of defrosting/preheat light

When in the state of defrost, oil return, cold-wind proof, the defrosting/preheat light lights on, while the double-8 shows the designed temperature. (One-driven-one does not show the oil return state). When out of the state of defrost, oil return, cold-wind proof, the defrosting/preheat light gone out, while the double-8 shows the designed temperature. (One-drive-one does not show the oil return state).

4.LED light the state of warning light

When double-8 shows E* or P*, the running lights gone out, while the warning light lights on.

TROUBLESHOOTING

Error Code	Error Content
E0	Indoor and outdoor communication failure
E1	Indoor ambient temperature sensor failure
E2	Indoor fancoil temperature sensor failure
E3	Outdoor fancoil temperature sensor failure
E4	Abnormal system malfunction (lack of fluorine)
E5	Model configuration error
E6	Indoor PG/DC fan failure
E7	Outdoor ambient temperature sensor failure
E8	Outdoor exhaust temperature sensor failure
E9	Outdoor IPM module failure/compressor drive failure
EA	Outdoor current sensor failure
Eb	PCB and display screen communication failure
EC	Outdoor modules Communication failure
EE	Outdoor EEPROM fault
EF	Outdoor DC fan failure
EH	Outdoor suction sensor failure
EP	Outdoor compressor casing top failure
EU	Outdoor voltage sensor failure
Ej	Outdoor central coil temperature sensor failure
En	Outdoor air pipe temperature sensor failure
Ey	Outdoor liquid pipe temperature sensor failure

Error Code	Error Content
P0	IPM module protection
P1	Overvoltage and undervoltage protection
P2	Overcurrent protection
P3	Other protections
P4	Protection against excessive outdoor exhaust temperature
P5	Cooling protection against overcooling
P6	Cooling and anti overheating protection
P7	Heating and anti overheating protection
P8	Protection against high or low outdoor temperature
P9	Compressor drive protection (abnormal load)
PA	Communication failure/mode conflict
F0	Infrared human sensing sensor failure
F1	Battery module failure
F2	Exhaust temperature sensor failure protection
F3	Failure protection of outer tube temperature sensor
F4	Abnormal protection of refrigerant circulation
F5	PFC protection
F6	Compressor missing/reverse phase protection
F7	Module temperature protection
F8	Abnormal commutation of four-way valve
F9	Module temperature sensor circuit malfunction

TROUBLESHOOTING

Error Code	Error Content
FA	Compressor phase current detection fault
Fb	Cooling and heating overload protection limit frequency reduction
FC	High power protection limit/frequency reduction
FE	Module current (compressor phase current) protection limit/frequency reduction
FF	Module temperature protection limit/frequency reduction
FH	Drive protection limit/frequency reduction
FP	Anti condensation protection limit/frequency reduction
FU	Anti freezing protection limit/frequency reduction
Fj	Exhaust protection limit/frequency reduction
Fn	External AC current protection limit/frequency reduction

Error Code	Error Content
Fy	Fluorine deficiency protection
H1	High pressure switch malfunction
H2	Low pressure switch malfunction
bf	TVOC sensor failure
bc	PM2.5 sensor failure
bj	Humidity sensor failure
bE	CO2 sensor malfunction
bd	Fresh air fan failure
d4	Water full protection
d5	Access control protection

DISPOSAL GUIDELINE

1. Minimum installation height, minimum room area (operating or storage) refer to installation manual.
2. Risk Of Fire- Auxiliary devices which may be ignition sources shall not be installed in the ductwork, other than auxiliary devices listed for use with the specific appliance. See instructions.
3. Mount with the lowest moving parts at least 2.5m (8ft) above floor or grade level.
4. Risk of electric shock. Can cause injury or death. Disconnect all remote electric power supplies before servicing.
5. Risk Of Fire. Flammable Refrigerant Used. To Be Repaired Only By Trained Service Personnel. Do Not Puncture Refrigerant Tubing.
6. Risk Of Fire. Dispose Of Properly In Accordance With Federal Or Local Regulations. Flammable Refrigerant Used.
7. Risk Of Fire. Flammable Refrigerant Used. Consult Repair Manual/Owner's Guide Before Attempting To Service This Product. All Safety Precautions Must Be Followed.
8. Risk Of Fire. Due to Flammable Refrigerant Used. Follow Handling Instructions Carefully in Compliance with National Regulations.

