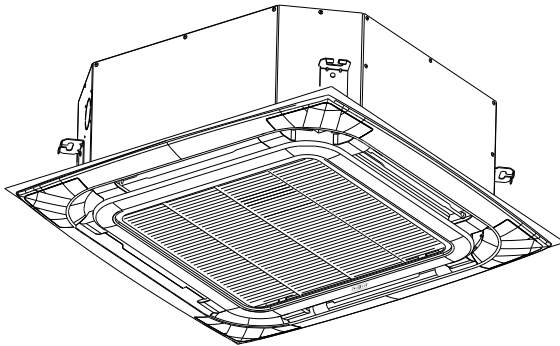




CASSETTE AIR CONDITIONER

OWNER' S MANUAL



MODEL:

OSH-T24HRK3/OSH-OU24HRK3
OSH-T36HRK3/OSH-OU36HFK3
OSH-T48HRK3/OSH-OU48HFK3
OSH-T60HRK3/OSH-OU60HFK3

This instruction manual contains important information and recommendations that we would ask you to comply with to obtain best results from air conditioner.



Thank you once again.

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PRECAUTIONS

- Read the following " PRECAUTIONS" carefully before installation.
- The caution items stated here must be followed because these important contents are related to safety. The meaning of each indication used is as below.
Incorrect installation due to ignoring of the instruction will cause harm or damage, and the seriousness is classified by the following indications.

 WARNING	This indication shows the possibility of causing death or serious injury.
 CAUTION	This indication shows the possibility of causing injury or damage to properties only.

NOTE :

1. Injury means causing harmed, burned, electrical shocked, but not serious for hospitalization.
 2. Damage of property means disrepair of property, material.
- Carry out test running to confirm that no abnormality occurs after the installation. Then, explain to user the operation, care and maintenance as stated in instructions. Please remind the customer to keep the operating instructions for future reference.

 WARNING
<ul style="list-style-type: none"> ● Engage dealer or specialist for installation. If installation done by user is defective, it will cause water leakage, electrical shock or fire.
<ul style="list-style-type: none"> ● Install according to this installation instructions strictly. If installation is defective, it will cause water leakage, electrical shock or fire.
<ul style="list-style-type: none"> ● Use the attached accessories parts and specified parts for installation. Otherwise, it will cause the set to fall, water leakage, fire or electrical shock.
<ul style="list-style-type: none"> ● Install at a strong and firm location which is able to withstand the set's weight. If the strength is not enough or installation is not properly done, the set will drop and cause injury.
<ul style="list-style-type: none"> ● For electrical work, follow the local national wiring standard, regulation and this installation instructions. An independent circuit and single outlet must be used. If electrical circuit capacity is not enough or defect found in electrical work, it will cause electrical shock or fire.
<ul style="list-style-type: none"> ● When carrying out piping connection, take care not to let air or other substances other than the specified refrigerant go into refrigeration cycle. Otherwise, it will cause lower capacity, abnormal high pressure in the refrigeration cycle, explosion and injury.
<ul style="list-style-type: none"> ● Grounding is necessary. It may cause electrical shock if grounding is not perfect.
<ul style="list-style-type: none"> ● Do not install the unit at place where leakage of flammable gas may occur. In case gas leaks and accumulates at surrounding of the unit, it may cause fire.
<ul style="list-style-type: none"> ● It suits for 36000~48000Btu/h cooling and heating capacity type. When the outdoor temperature is lower than 6℃, the system should be electrified over 12 hours.

Operating condition

The protective device maybe trip and stop the unit within temp range listed below:

HEATING	Outdoor air temperature is over 24℃
	Outdoor air temperature is below -7℃
	Room temperature is over 31℃
COOLING	Outdoor air temperature is over 43℃
	Room temperature is below -15℃
DRY	Room temperature is below 18℃

If the air conditioner runs for a long time in "COOLING" or "DRY" mode at air relative humidity higher than 80% (doors or windows opened),dew may generate and drip near air outlet.

Noise pollution

- Install the air conditioner in a place that can bear its weight in order to operate more quietly.
- Install the outdoor unit in a place where the air discharged and the operation noise do not annoy your neighbors.
- Do not place any obstacles in front of the outlet of the outdoor unit for fear it affects operation and increases the noise level.

Features of Protector

- 1 The protective device will trip at following cases.
 - Stop the appliance and restart it at once or change other modes during operation, you have to wait 3 minutes before restarting.
 - After switching on the power circuit breaker and then turn on the air conditioner at once, you have to wait about 20 seconds.
- 2 In case all operations have stopped, you need
 - Press "ON/OFF" button again to restart it.
 - Set TIMER once again if it has been canceled.

Inspection

After a long time of operation, the air conditioner should be inspected for the following items.

- Abnormal heating of the power supply cord and plug or even a burnt smell.
 - Abnormal operating noise or vibration.
 - Water leakage from indoor unit.
 - Metal cabinet electrified .
 - ☑ Stop using the air conditioner if above problem happened.
- It is advisable that the air conditioner should be given a detail check-up after using for five years even if none of the above happen.

Feature of HEATING mode

Preheat

2-5 minutes are necessary to preheat the indoor heat exchanger at the beginning of "HEATING" operation, lest cold air be discharged.

Defrost

In "HEATING" operation the appliance will defrost automatically. This procedure lasts 2~10 minutes, then returns to "HEATING" mode automatically. During defrosting, indoor fan stop running and return to heating mode operation automatically when defrosting has finished.

FUNCTION AND OPERATION OF PANEL'S PARTS

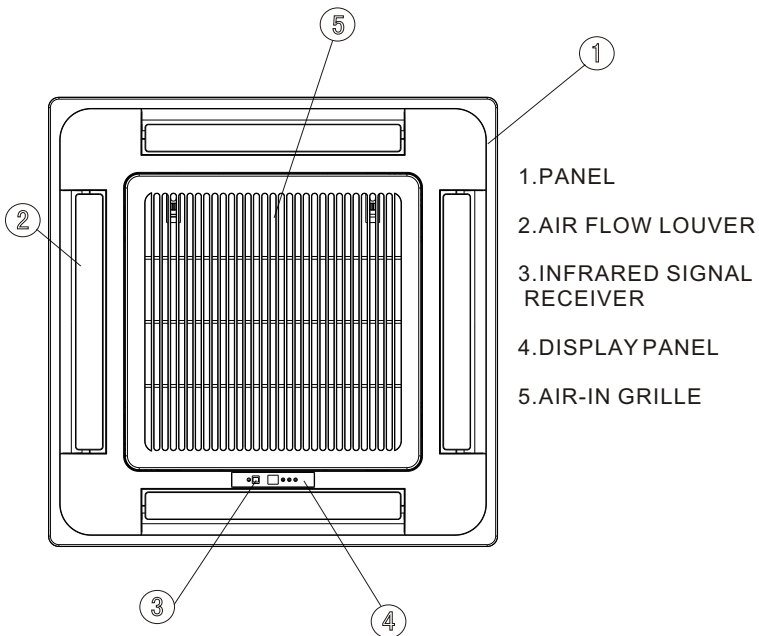
NOTICE

Please adjust room temperature properly especially when the old men, children, patients stay at house.

Lightning and other electromagnetic radiation may cause ill effect. If it is, please plug off the powerswitch ,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



DISPLAY PANEL

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

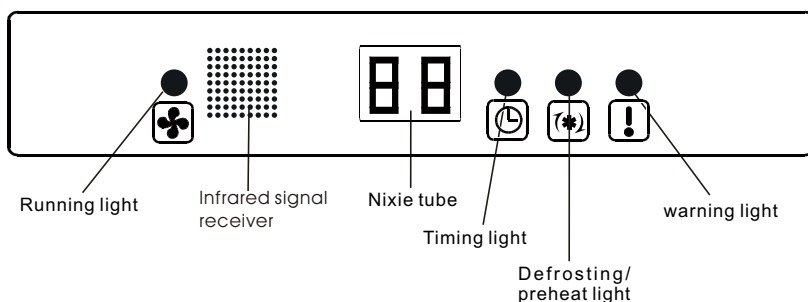
To make your remote controller operation more efficient, please let remote controller emitter aim at infrared signal receiver.

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

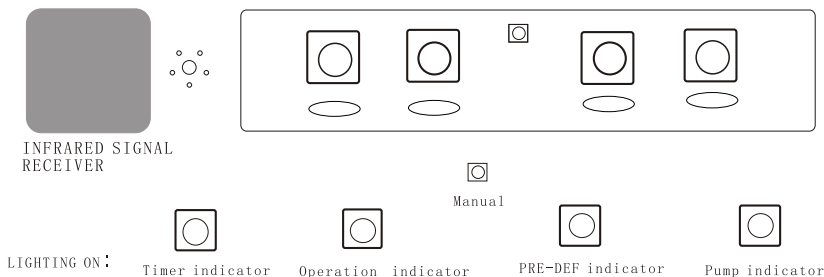
Some obstacles occurring in the system will be recognized by intelligent recognition system of unit, lighting on the DISPLAY PANEL flashing show the type of obstacles.

DISPLAY PANEL

1. It suits for Body dimension :580X255X380 cooling and heating pump type.



2. It suits for Body dimension :830X230X830 or 830X310X830 cooling and heating pump type.



Timer indicator : ON when preset time for switching ON/OFF the unit

Operation indicator : ON when the unit is power on

PRE-DEF indicator : ON when the unit prevent cool air flowing in room.

Pump indicator : ON when the waterlevel is high

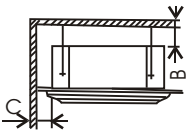
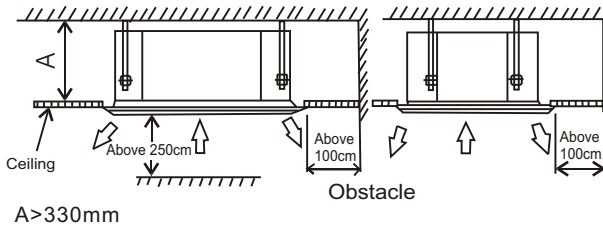
INDOOR UNIT INSTALLATION

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.
2. The appliance shall not be installed in the laundry
3. Electrical Insulation must be done on the air conditioner and the building complying to National Regulations.

INSTALLATION SPACE



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

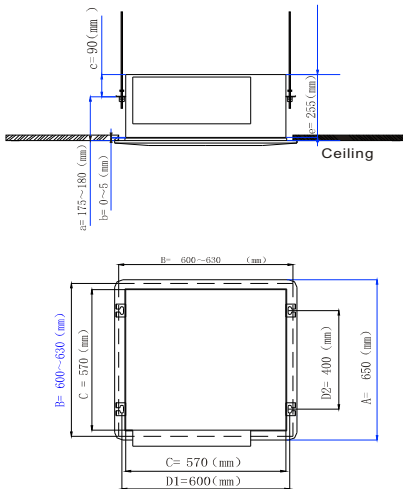
HEIGHT BETWEEN CEILING AND FLOOR

The installation height between ceiling and floor must be 2.7m~3.2m.

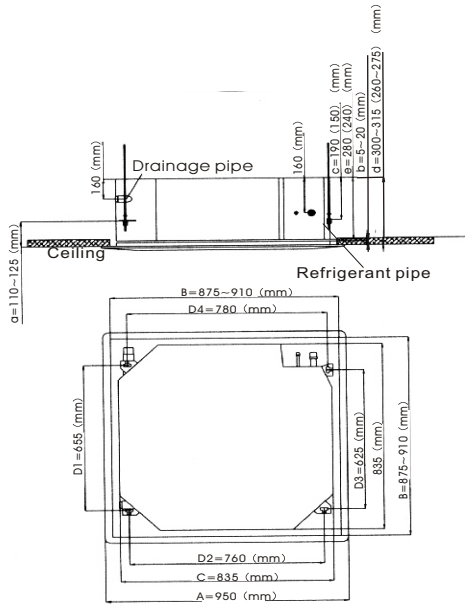
INDOOR UNIT INSTALLATION

SHAPE OF INDOOR UNIT:

- a.distance between hook and ceiling;
- b.height of panel ceiling sponge
- c.distance between hook and indoor unittop;
- d.distance between ceiling and indoor unittop;
- e.height of indoor unit;
- A.dimension of panel
- B.dimension of ceiling cut-out
- C.dimension of indoor unit.



BODY DIMENSION:580×255×580



BODY DIMENSION:830×230×830
BODY DIMENSION:830×310×830

(Please select the space to install indoor unit according to the dimension shown 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).

■ CEILING HOLE AND THE HOOK INSTALLATION

Preparation Work on the Ceiling

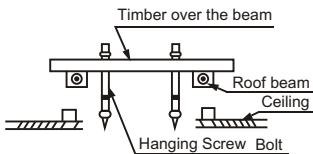
- Installation method should be changed under the different construction structure. Please consult the professional for the detailed information.
- After opening a hole, the ceiling should be horizontal and strong to prevent vibration.
 - ① Cut the beams at the hole and remove them.
 - ② Reinforcing 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 bolts is decided by the size of the unit . Use the following method to install:

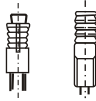
Wooden construction

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



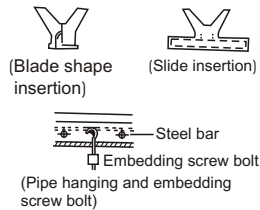
For finished concrete bricks

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



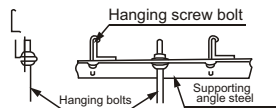
New Concrete Bricks

Inlaying or embedding the screw bolts.



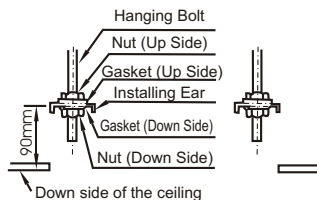
Steel roof beam structure

Install the supporting angle steel.

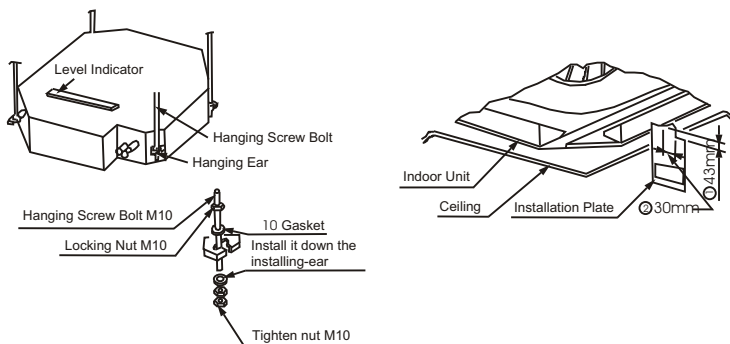


Overhanging the indoor unit

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



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



PANEL INSTALLATION (SOLD SEPARATELY)

- 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.

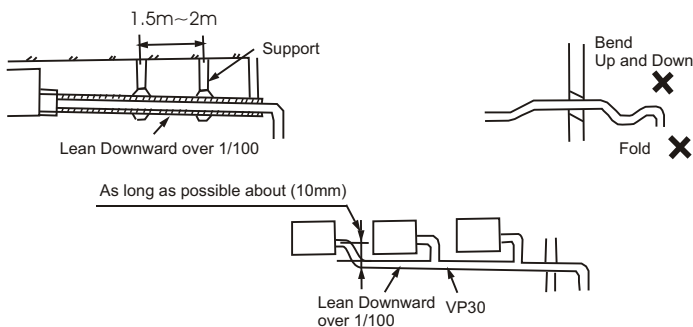
DRAINAGE PIPE INSTALLATION

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

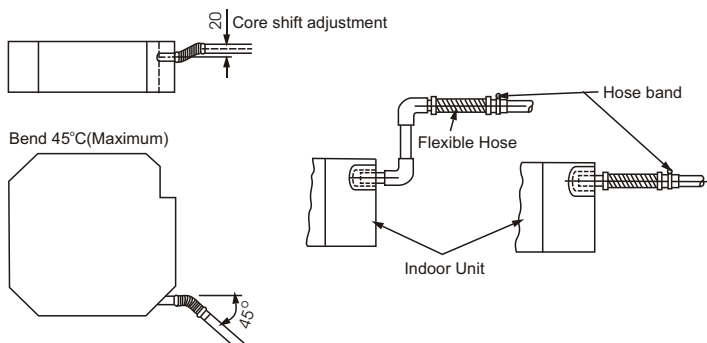
The listed material should be used:

Drainage Pipe Material	Polyvinyl chloride pipe (32mm outer diameter)
Heat Insulation Material	Foamed polyethylene insulation plate (10mm thickness)

Flexible Hose

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.



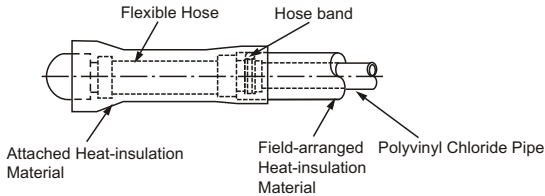
Connection Procedure

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.

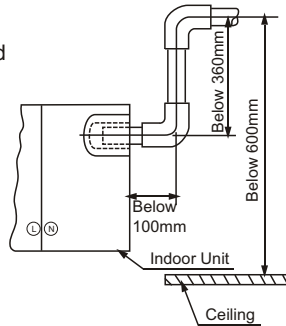
Heat Insulation

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



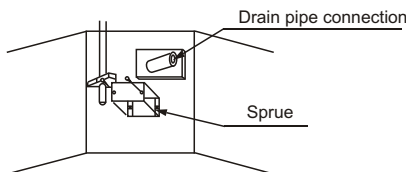
Drainage Upward

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 220-240VAC to 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 1 min..



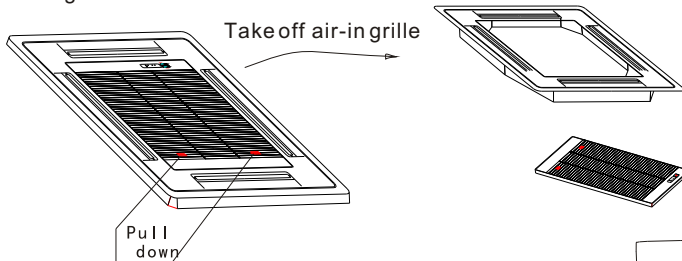
Motor Sound Test

- The drainage test is doing during checking the drain pump motor running sound .
- Reset the water level switch connection to the original position after the drainage test .

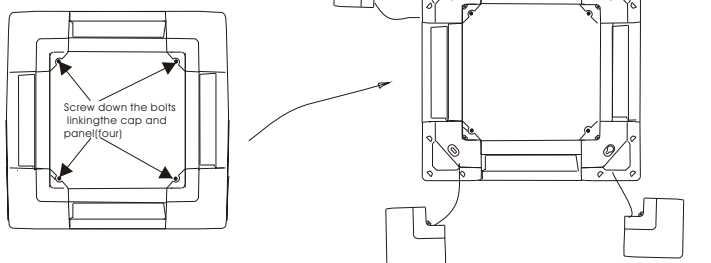
INSTALLATION OF PANEL

● **BODY DIMENSION: 830X230X830 830X310X830**

Unload air-in grille



Unload panel installation cap



■ INSTALLATION OF PANEL

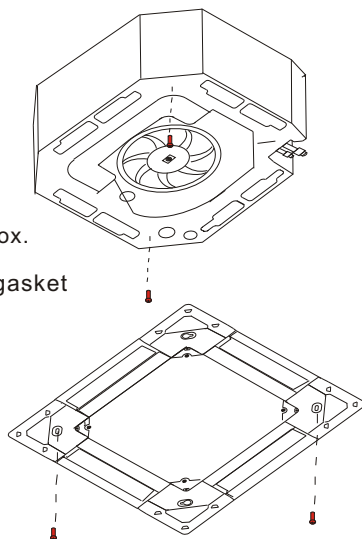
1. Please screw M10 gasket and M6*20 bolt at the corner of indoor unit, before screwing them fasten, screw other two additional bolts which locate red bolt showing as figure and notice that the direction of red arrow on the electrical box aligns the one on the panel.

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 outdoor unit

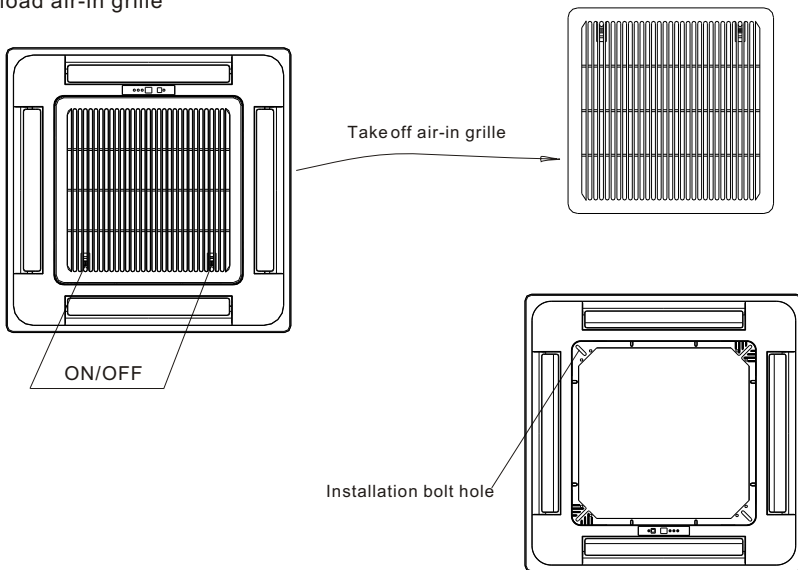
4. Adjust the location and direction of panel to tally louver of panel with outlet of outdoor, screw all the bolts fasten to make the panel and outdoor unit pressed together.

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



BODY DIMENSION:574X250X574

Unload air-in grille



INSTALLATION OF PANEL

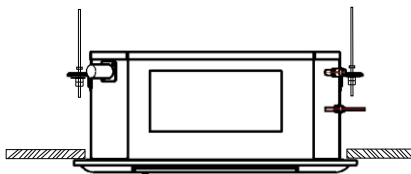
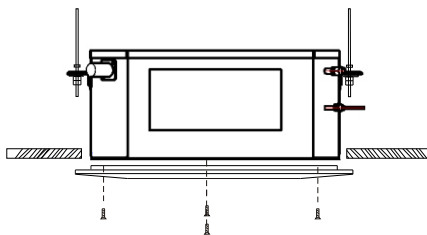
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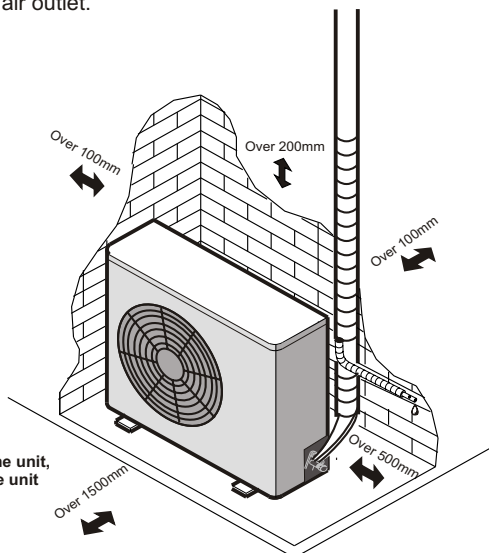
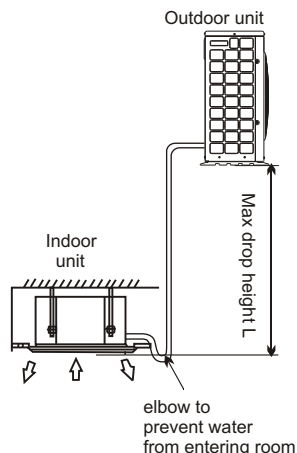
OUTDOOR UNIT INSTALLATION

● Location for installing outdoor unit

1. Install it at a place where it is convenient for installation and well ventilated.
2. Keep the required distance away from the wall as required on the previous page when carrying on installation.
3. Pipe length and drop height should comply with the scope required below.

Liquid pipe size	φ 6.35	φ 9.52	φ 12.7
Max pipe length	15m	20m	25m
Max drop height L	7.5m	9m	10m
Max. bending No.	5	5	5

4. When operating at a special place, for example, a place of greasy dirt, vulcanization gas or high-salty seashore, make sure to adopt an effective isolation measure.
5. Avoid installing it on the roadside where there is a risk of muddy water.
6. Install it where your neighbors would not be annoyed by operating noise or discharged hot air.
7. Install it on a fixed shelf that is not subject to increasing noise.
8. Install it at a place without blockage for air outlet.



- ☑ Please install the air conditioner according to international rules.
- Above figure is only a simple presentation of the unit, it may not match the external appearance of the unit you purchased.

REFRIGERANT PIPE INSTALLATION



CAUTION

Ventilate the air if there was any refrigerant leakage during the installation.

Leaked refrigerant will generate poisonous gas if meeting fire.



Make sure there is no refrigerant leakage after the installation.

Leaked refrigerant will generate poisonous gas if meeting fire.



Allowed Length and Drop of Pipes

Requirements are different when installing the outdoor unit.

Material and Size of the Pipes

Pipe Material		Copper Pipe for Air Conditioner			
Size(mm)	Liquid side	6.35(1/4inch)	6.35(1/4inch)	9.52(3/8inch)	12.7(1/2inch)
	Gas side	9.52(3/8inch)	12.7(1/2inch)	15.8(5/8inch)	19.05(3/4inch)

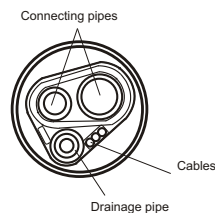
■ Connection of the Refrigerant Pipe

- Double-span should be used when connecting the pipes.
- The wrench torque follow the below table:

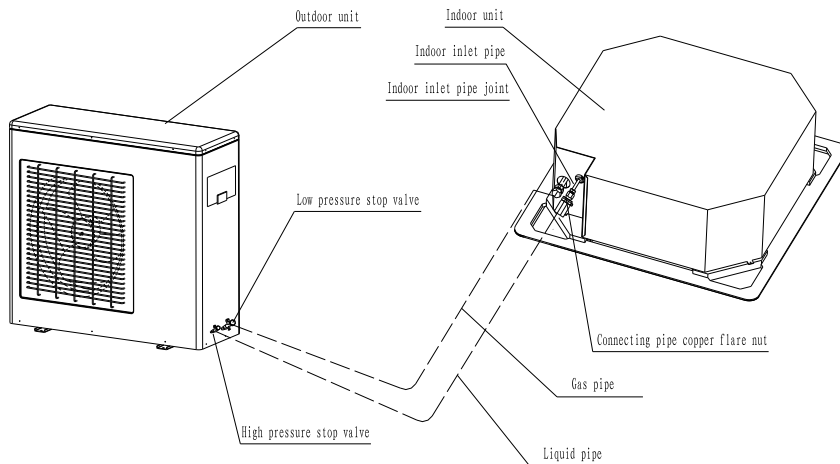
Pipe external diameter	Added wrench torque (N.m)	Pipe external diameter	Added wrench torque (N.m)
	14.2(1.4kgf.m)~17.0 (1.7kgf.m)	12.7	49.5(5.04kgf.m) ~60.3(6.16kgf.m)
9.52	32.7(3.33kgf.m) ~39.9(4.07kgf.m)	19.05	97.2(9.9kgf.m)~118.6(12.1kgf.m)
15.88	61.8(6.3kgf.m)~75.4(7.7kgf.m)		

■ Wrap the piping

- Wrap the connecting pipes and cables together with tape, but not including the drainage pipe. Drainage pipe can be fixed along them separately.
- Wrapping from the joint of outdoor unit to that of indoor unit, each round of tape should cover half of its previous one.



- The following figure only shows the assembly relationship of the indoor unit ,outdoor unit and refrigerant pipes.
- Please refer to the following figures to install.



NOTE

- The throttle subassembly **has** been installed in the outdoor unit..
- Use two spanners to connect the pipe with indoor/outdoor pipes to avoid the copper pipe cracking.
- Please pay attention to the connection orientation when connecting.

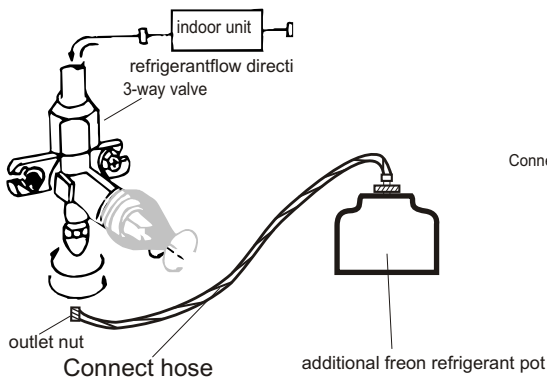
AIR PURGING

Use a vacuum pump, to vacuum from the gas side refrigerant adding mouth of the outdoor unit.

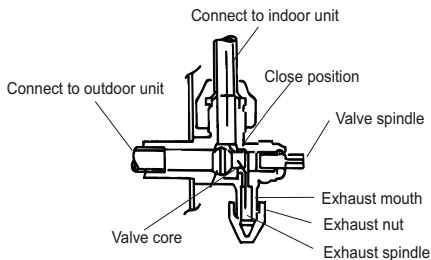
Air and moisture remains inside the refrigeration system, may has the following bad effects:

- Rise of pressure inside the refrigeration system;
 - Decrease of cooling (or *heating) effect;
 - Moisture frozen and blocking the refrigeration system;
 - Rusting of certain parts of the system
- Don' t use the refrigerant of the outdoor unit to do the vacuum. (A certain volume of refrigerant had been added into the outdoor unit in factory.)

After connecting the indoor and outdoor units , it is necessary to exhaust the air inside the pipes completely as follows:



3-way valve diagram



Air exhaust process:

- (1). Loosen the liquid pipe flare nut and remove the exhaust nut of 3-way valve.
- (2). Connect the outlet nut of the additional freon refrigerant pot to the exhaust mouth.
- (3). Loosen the outlet nut of the additional freon refrigerant pot.
- (4). After exhausting air for almost one minute, then tighten the liquid pipe flare nut.
- (5). Detect all the pipe joints leakage of freon in this unit with soap water.
- (6). If the unit has no leakage, then tighten the exhaust nut of 3-way valve.
- (7). Press the spindle and let the additional freon refrigerant leak out until the velocity of purging Air is slow and warm.
- (8). Back the exhaust nut to the unit.
- (9). Loosen the valve spindle and core to Maximum.

CHARGE ADDITIONAL REFRIGERANT

Refrigerant Volume to Be Added

Refrigerant volume to be added is calculated according to outdoor unit installation manual. Be sure to add refrigerant measuring by a scale.


CAUTION

- If the added refrigerant volume is inadequate (too much or insufficient), the compressor malfunction will be caused. Be sure to calculate the refrigerant volume carefully.
- The service man should write down the piping length and the added refrigerant volume in the nameplate, which is on the electric control box cover of outdoor unit, for diagnosing the compressor and refrigeration circulation malfunction.

The refrigerant charge volume for the unit is based on using a 5m connecting pipe. If the connecting pipe's length is longer than 5m, it is advisable to charge additional refrigerant for the unit in order to achieve better operation.

Specification of Liquid pipe	Max. length	R22	R410A
φ 6.35	15m	(L-5)X0.03kg	(L-5)X0.022 kg
φ 9.52	20m	(L-5)X0.05kg	(L-5)X0.054kg
φ 12.7	25m	(L-5)X0.10kg	(L-5)X0.11kg

(* "L" refers to length of connection pipe.)

-  The additional refrigerant should be charged from the service port of the 3-way valve when the appliance is operating in cooling mode.
Do not allow air enter the refrigeration system while charging refrigerant.

Open/Close the valves

Open/Close the spools or the valves of outdoor unit with a 5mm hexagon spanner.

ELECTRIC WIRING



WARNING

Specified power cables should be used. Do not apply any pressure on the terminals used to connect.

Improper connection may cause fire.



Grounding must be properly done.

The grounding wire should be away from gas pipes, water pipes, telephone, lightning rods or other grounding wires. Improper grounding may cause electric shock.



Electric Wiring must be done by professionals. Use a separate circuit according to national regulations.

The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.

If the wiring capacity is not enough, electric shock or fire may occur.

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

An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.



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

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

■ Panel Wiring

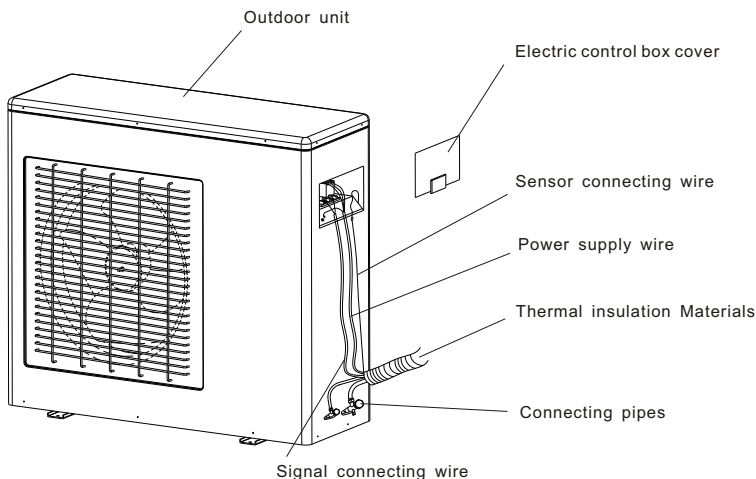
Connect the Swing Motor terminal block according to cassette indoor unit wiring diagram.

■ Terminal Board Diagram

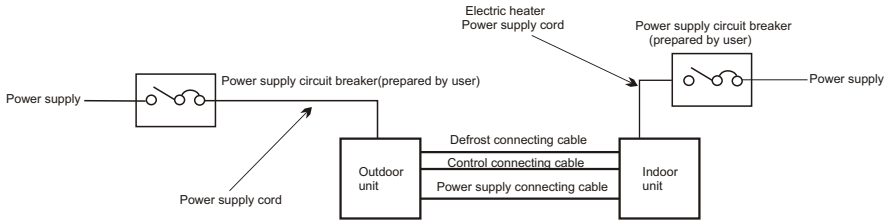
Please refer to cassette indoor unit wiring for the wiring.

■ Steps of external wiring connection

1. Remove air intake grille and electric box cover of indoor unit.
2. Remove access door of outdoor unit.
3. Connect the power supply connecting cable, the control connecting cable and defrost connecting cable between indoor and outdoor unit. (The defrost connecting cable is not applicable for heat pump models.) Please refer to the following pages for details.
4. Make sure the cables being fixed well with an effective anchorage after connecting.
5. Grounding work must be carried out for indoor and outdoor units.
6. Install the components removed back to the unit.



3. External wiring diagrams



TEST RUN

■ Before testing

- Check if piping, drainage and external wiring have been finished correctly.
- 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

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

■ Notes

- Please read this operating and installation instructions carefully.
- Do not let air in or refrigerant out during installing or reinstalling the appliance.
- Test run the air conditioner after finishing installation and keep the record .
- Type of fuse for controller of indoor unit is 50T, rated specification is T 10 A, 270V. Fuse for the whole unit is not supplied by the manufacturer, so the installer must employ a suitable fuse or other over-current protective device for the power supply circuit according to the maximum power input as required.
- The air conditioner operates safely when ambient static pressure is 0.8~1.05 standard atmosphere pressure.

ADJUSTING AIR FLOW DIRECTION

■ Cassette Type

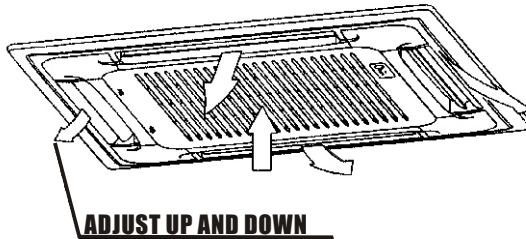
While the unit is in operation, you can adjust the air flow louver to change the flow direction and realize the room temperature evenly. Thus you can enjoy it more comfortably.

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. The swing scale of every side is 30°. When the air conditioner isn't in operation (including when TIME ON is set), the SWING button will be disabled.

MAINTENANCE

▲WARNING

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

Cleaning the indoor unit and remote controller

▲CAUTIONS

- Use a dry cloth to wipe the indoor unit and remote controller.
- A cloth dampened with cold water may be used on the indoor unit if it is very dirty.
- Never use a damp cloth on the remote controller.
- 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.
- 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.

Checks before operation

⚠CAUTIONS

- Check that the wiring is not broken off or disconnected.
- 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).

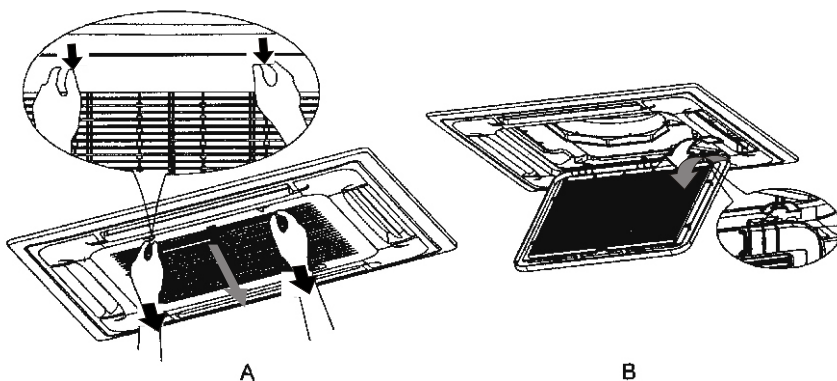
■ Cassette Type

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.



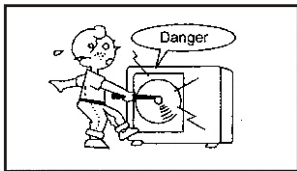
2. Take out the air-in grill (together with the air filter shown in Sketch B)

Pull the air-in grill down at 45° and lift it up to take out the grill.

3. Dismantle the air filter

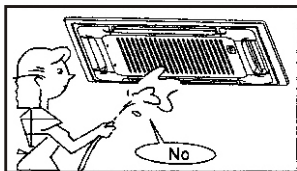
4. Clean the air filter (Vacuum cleaner or pure water may be used to clean the air filter. If the dust accumulation is too heavy, please use soft brush and mild detergent to clean it and dry out in cool place).

IMPORTANT SAFETY INFORMATION



⚠CAUTION

Do not attempt to install this unit by yourself. This unit requires installation by qualified persons.

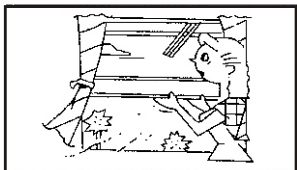


⚠DANGER

Do not attempt to service the unit yourself. This unit has no user serviceable components. Opening or removing the cover will expose you to dangerous voltage. Turn off the power supply will not prevent potential electric shock.

⚠DANGER

Never put hands or objects into the Air Outlet of indoor or outdoor units. These units are installed with a fan running at high speed. To touch the moving fan will cause serious injury.

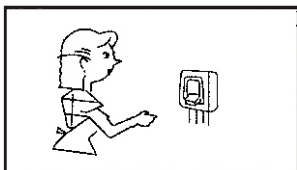


⚠DANGER

To avoid the risk of serious electrical shock, never sprinkle or spill water or liquid on unit.

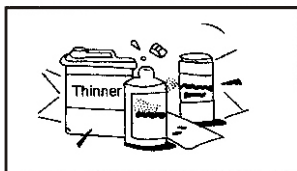
⚠WARNING

Ventilate the room regularly while the air conditioner is in use, especially if there is also a gas appliance in use in this room. Failure to follow these directions may result in a loss of oxygen in the room.



⚠WARNING

To prevent electric shock, turn off the power or disconnect the power supply plug before beginning any cleaning or other routine maintenance.

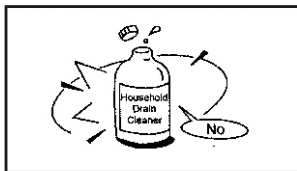


⚠WARNING

Do not use liquid cleaners or aerosol cleaners, use a soft and dry cloth for cleaning the unit. To avoid electric shock, never attempt to clean the units by sprinkling water.

⚠CAUTION

Do not use caustic household drain cleaners in the unit. Drain cleaners can quickly destroy the unit components (drain pan and heat exchanger coil etc).



⚠NOTE

For proper performance, operate the unit in temperature and humidity ranges indicated in this owner's manual. If the unit is operated beyond these conditions, it may cause malfunctions of the unit or dew dripping from the unit.

These are not failures

Room air is smelly.

A bad odor comes from the air conditioner.

- Smells impregnated in the wall, carpet, furniture, clothing, or furs, are coming out. A white mist of chilled air or water is generated from the outdoor unit.

⚠CAUTION

If any of the following conditions occur, stop the air conditioner immediately, set off the power switch, and contact the dealer.

- The indicator lamps flash rapidly (five times per second), you disconnect the unit with the power and then connect the unit with the power again after two or three minutes but the lamps still flash.
- Switch operations are erratic.
- The fuse is blown frequently or the circuit breaker is tripped frequently.
- Foreign matter or water has fallen inside the air conditioner.
- Any other unusual condition is observed.

TROUBLES AND CAUSES (CONCERNING REMOTE CONTROLLER)

Before you ask for service or repairs, check the following points.

Setting Change is impossible		
Symptoms	Causes	Reason and Disposal
The fan speed can not be changed.	● Check whether the MODE indicated on the display is "AUTO"	When the automatic mode is selected, the air conditioner automatically selects the fan speed
	● Check whether the MODE indicated on the display is "DRY"	When dry operation is selected, the air conditioner automatically select the fan speed. The fan speed can be selected during "COOL" and "FAN ONLY", and "HEAT" mode.
The Transmission Indicator ▲ Never Comes On		
Symptoms	Causes	Reason and Disposal
The remote control signal is not transmitted even when the ON/OFF button is pushed.	● Check whether the batteries in the remote controller are exhausted.	The remote control signal is not transmitted, because the power supply is off.
The Display never comes on		
Symptoms	Causes	Reason
The TEMP. indicator does not come on.	● Check whether the MODE indicated on the display is "FAN ONLY"	The temperature cannot be set during fan only operation.

HAND OVER TO CUSTOMERS

INSTALL MANUAL of indoor and outdoor unit must be handed over to the customers.

Please narrate the manual to the customers in detail.

Error code

Fault code of indoor unit			
Failure	Error Code	Failure description	Remarks
Indoor ambient sensor fault	E1	1. Check whether the sensors are normal. 2. Check whether the sensors are Connected.	
Indoor coil sensor fault	E2		
Outdoor coil sensor Fault sensor fault	E3		
outdoor unit protection	E4	(if there is an outdoor control board) 1. View the fault code of outdoor unit. (if there is not an outdoor control board) 1. Check whether the protection input and the neutral line is short circuit.	Unrecoverable before restart.
Water pump fault	d3	(if there is a water pump) 1. Check whether the water pump is normal. 2. Check whether the water level switch is normal. 3. Check whether the water level switch is connected. (if there is not a water pump) 1. Check whether the water level switch is short circuit.	Recoverable
EEPROM fault	Ed		Unrecoverable before restart.

Fault code of thyristor unit: ● Lighting ◎ Flashing ○ Extinguishing				
Red	Green	Faults/States	Solutions	Priority
●	○	Zero-cross point fault	1. Check whether the power frequency is 50Hz.	1
◎ (1Hz)	○	Outdoor ambient sensor/Outdoor coil sensor fault Outdoor exhaust sensor fault (reserved)	1. Check whether the sensors are normal. 2. Check whether the sensors are connected.	2
○	●	Standby		3
○	◎ (1Hz)	Cooling mode		4
○	◎ (0.5Hz)	Heating mode		5

Fault code of outdoor unit

● Lighting

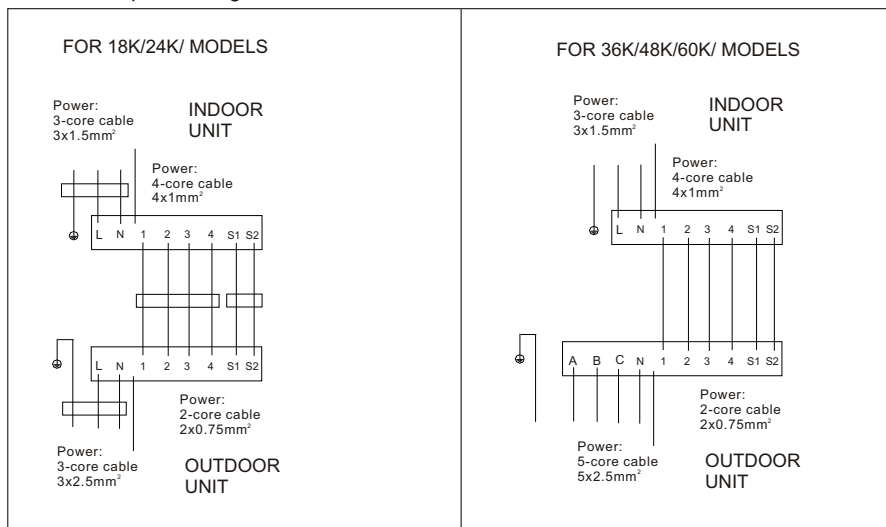
◎ Flashing(1Hz)

○ Extinguishing

Red	Green	Blue	Faults/States	Solutions	Priority
●	●	◎	Phase-sequence error	1.Check whether the Power phase is normal.	1
●	○	◎	Phase-loss		1
◎	○	○	High pressure protection	1.Check whether the high pressure is normal.	2
○	●	◎	Exhaust temperature protection	1.Check whether the exhaust temperature is normal.	3
●	◎	○	Low pressure protection	1.Check whether the low pressure is normal.	4
◎	●	○	Outdoor coil sensor fault	1.Check whether the sensors are normal.	5
◎	◎	○	Outdoor exhaust sensor fault	1.Check whether the sensors are connected.	6
○	●	○	Running		7

WRING DIAGRAM

Please see the pasted diagram instruction on the unit first



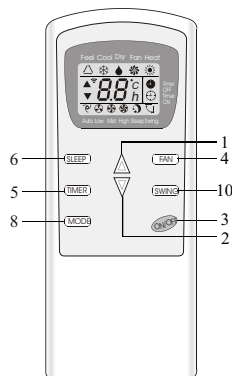
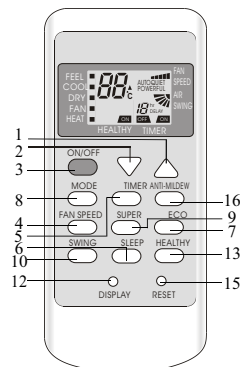
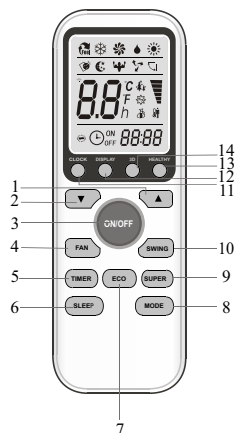
REMOTE CONTROLLER

No.	Button	Function
1	▲ (TEMP UP)	Increase the temperature or time by 1 unit
2	▼ (TEMP DN)	Decrease the temperature or time by 1 unit
3	ON/OFF	To switch the conditioner on and off.
4	FAN	To select the fan speed of auto/low/mid/high
5	TIMER	To set automatic switching-on/off
6	SLEEP	To activate the function "SLEEP"
7	ECO	In cooling mode, press this button, the temperature will increase 2°C on the base of setting temperature In heating mode, press this button, the temperature will decrease 2°C on the base of setting temperature
8	MODE	To select the mode of operation
9	SUPER	In cooling mode, press this button, the unit will give the maximum cooling temperature with 16°C In heating mode, press this button, the unit will give the maximum heating temperature with 31°C
10	SWING	To activate or deactivate the movement of the "DEFLECTORS"
11	CLOCK	When you press this button, the time will be flickering; then through "▲" and "▼", you can adjust the time (one time you press, one minute you adjust; and if you continue to press, the time change rapidly), after adjusting to your required time, please press this button again to fix the time.
12	DISPLAY	To switch on/off the LED display (if present)
13	HEALTHY	To switch - on /off HEALTHY function. It is a button which controls the ionizer or plasma generator only for inverter type.
14	3D	This button is useless for wall-mounted type. When you press "3D", the horizontal and vertical vanes will swing together at the same time.
15	RESET	To restart REMOTE CONTROL
16	ANTI-MILDEW	To activate the function ANTI-MILDEW

⚠ The outlook and some function of remote control may vary according to the model.




















































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

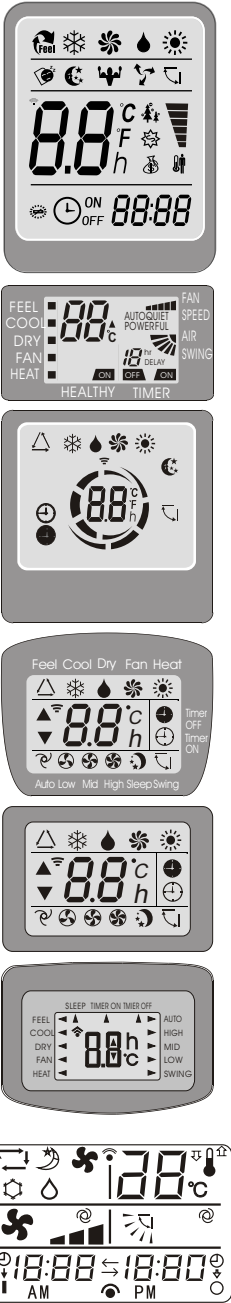
⚠ The unit confirms the correct reception of each press button with a beep.



Remote control DISPLAY

Meaning of symbols on the liquid crystal display

No.	Symbols	Meaning
1	 or 	FEEL mode indicator
2		COOLING indicator
3		DEHUMIDIFYING indicator
4		FAN ONLY OPERATION indicator
5		HEATING indicator
6	 or 	SIGNAL RECEPTION indicator
7	 or  or  or 	TIMER OFF indicator
8	 or  or  or 	TIMER ON indicator
9	 or  or  or 	AUTO FAN indicator
10	 or  or  or 	LOW FAN SPEED indicator
11	 or  or  or 	MIDDLE FAN SPEED indicator
12	 or  or  or 	HIGH FAN SPEED indicator
13	 or  or  or 	SLEEP indicator
14		COMFORTABLE SLEEP indicator (optional)
15		I FEEL indicator(optional)
16	 or 	FLAP SWING indicator
17		FLAP and Deflectors SWING indicator
18	 or 	SUPER indicator
19	 or  or 	HEALTHY indicator
20	 or 	ECO indicator
21		ANTI-MILDEW indicator
22		BATTERY indicator
23		CLOCK indicator



Preliminary Instructions

How to insert the batteries

Remove the cover from the battery compartment , by sliding it in the direction of the arrow

Insert the new batteries, ensuring that the (+) and (-) directions are correct

Refit the cover by sliding it into place.

⚠ Use 2 LRO 3 AAA (1.5V) batteries . Do not use rechargeable batteries . Replace the old batteries with new ones of the same type when the display is no longer legible.

The remote control batteries must be disposed of in accordance with the applicable laws in force in the country of use.

⚠ Refer to picture 1:

- When you insert the batteries for the first time in the remote control or if you change them, you will see a DIP switch under the back cover.

DIP switch on position	Function
°C	The display is adjusted in degree celsius
°F	The display is adjusted in degree fahrenheit.
Cool	The remote control is adjusted in only cooling mode
Heat	The remote control is adjusted in only heating mode

- BE CAREFUL: After adjusting the function, you need to take out the batteries and repeat again the procedure described above.

⚠ Refer to picture 2:

When you insert the batteries for the first time in the remote control or if you change them, you need to program the remote control of only cooling or heat pump air conditioners.

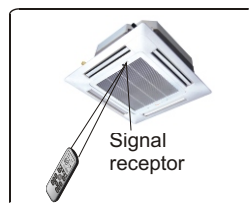
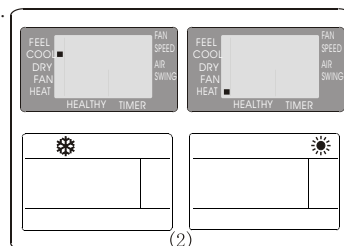
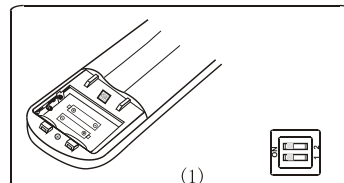
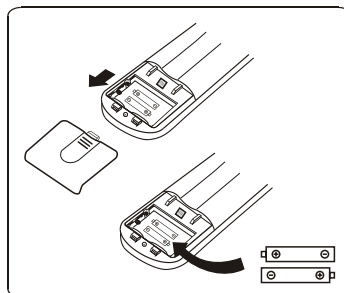
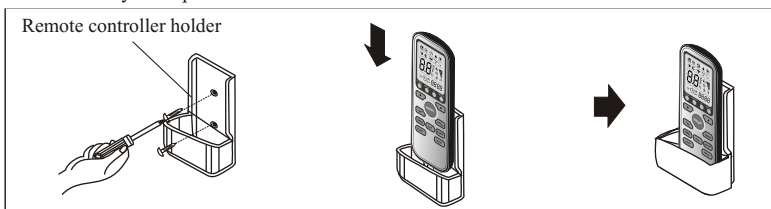
This is very easy: as soon as you insert the batteries, the symbols ❄ (COOL ■) and ☀ (HEAT ■) start flashing. If you push whatever button when the symbol ❄ (COOL ■) is displayed, the remote control is adjusted in only cooling mode . If you push whatever button when the symbol ☀ (HEAT ■) is displayed , the remote control is adjusted in heating mode.

⚠ BE CAREFUL: if you adjust the remote control in cooling mode, it will not be possible to activate the heating function in units with heating pump . you need to take out the batteries and repeat again the procedure described above.

1. Direct the remote control toward the conditioner.
2. Check that there are no objects between the remote control and the receiver on the conditioner.
3. Never leave the remote control exposed to the rays of the sun.
4. Keep the remote control at a distance of at least 1m from the television or other electrical appliances.

Recommendations for locating and using the remote control (if present)

The remote control may be kept in a wall-mounted holder



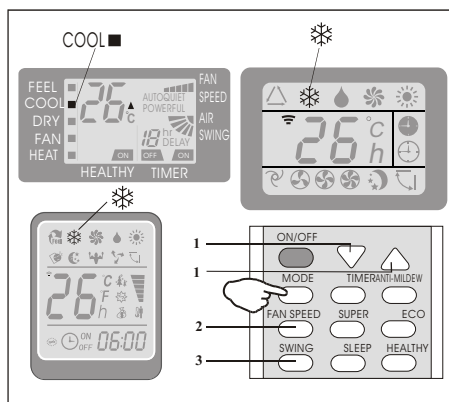
COOLING MODE

COOL ■ The cooling function allows the air conditioner to cool the room and at the same time reduces the humidity in the air.

To activate the cooling function (COOL), press the **MODE** button until the symbol ❄️ (COOL ■) appears on the display.

The cooling cycle is activated by setting the keys ▲ or ▼ at a temperature lower than that of the room.

To optimize the functioning of the conditioner, adjust the temperature (1), the speed (2) and the direction of the air flow (3) by pressing the keys indicated



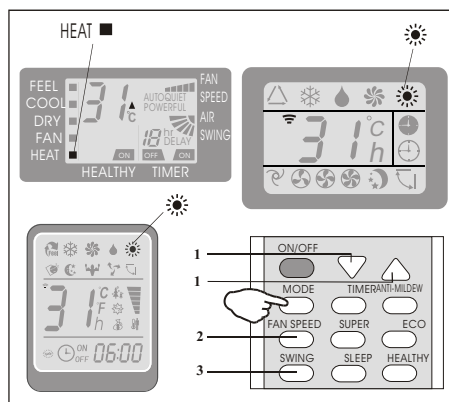
HEATING MODE

HEAT ■ The heating function allows the air conditioner to produce hot air.

To activate the heating function (HEAT), press the **MODE** button until the symbol ☀️ (HEAT ■) appears on the display.

With the keys ▲ or ▼ set a temperature higher than that of the room..

To optimize the functioning of the conditioner adjust the temperature (1), the speed (2) and the direction of the air flow (3) by pressing the keys indicated



⚠️ The appliance is fitted with a Hot Start function, which delays appliance to startup in a few seconds to ensure an immediate output of hot air.

⚠️ In HEATING operation, the appliance can automatically activate a defrost cycle, which is essential to free the condenser from an excessive deposit of frost. This procedure usually lasts for 2-10 minutes during defrosting, fans stop operation. After defrosting, it returns to HEATING mode automatically.

TIMER MODE----TIMER ON



To set the automatic switching-on of the air conditioner

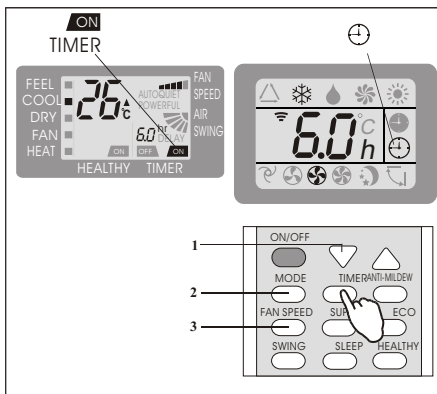
To program the time start, the appliance should be off. Press **TIMER**, Set the temperature with pressing the key **▲** or **▼**. Press **TIMER** Again, set the time with pressing the key **▲** or **▼**, Press the key more times till on the display you can read the time which passes between the programming and the timed start.

IMPORTANT!

Before proceeding with the timed start : program the working mode with the key **MODE** (2) and the fan speed with the key **FAN** (3). Switch the conditioner off (with the key **ON/OFF**).

Note: To cancel the setted function, press the **TIMER** button again.

Note: In case of power off, it is necessary to set **TIMER ON** again



TIMER MODE----TIMER OFF

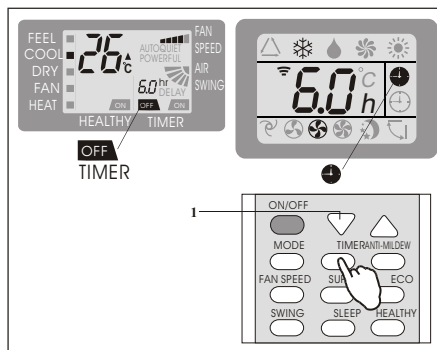


To set the automatic switching-off of the air conditioner

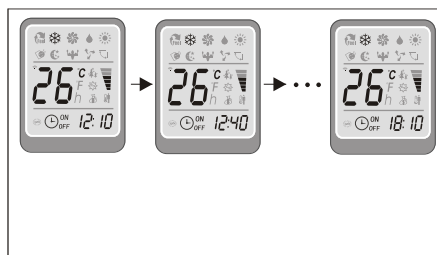
The timed stop is programmed with the appliance on. Press **TIMER**, Set the time pressing the key **▲** or **▼**, Press the key more times till on the display you can read the time which passes between the programming and the timed stop.

Note: To cancel the setted function, press the **TIMER** button again.

Note: In case of power off, it is necessary to set **TIMER OFF** again




⚠ Note: While the time was right settled, the **TIMER** function of this remote (clock function) can be set by half hours



FAN MODE



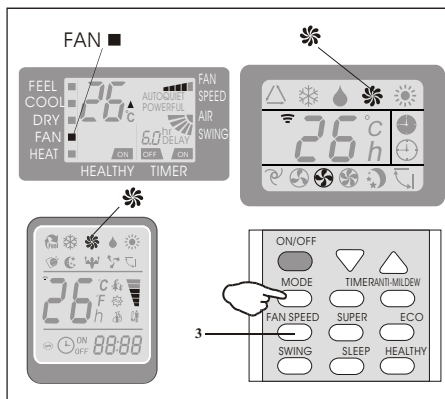
The conditioner works in only ventilation.

To set the FAN mode, Press **[MODE]** until  (FAN ■) appears in the display.

Whith pressing **[FAN]** button the speed changes in the following sequence: LOW/ MEDIUM/HIGH /AUTO in FAN mode.

The remote control also stores the speed that was set in the previous mode of operation.


In FEEL mode (automatic) the air conditioner automatically chooses the fan speed and the mode of operation (COOLING or HEATING).

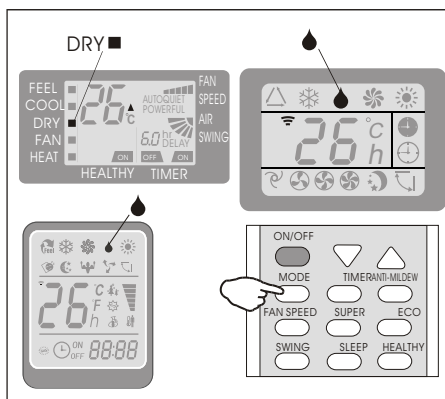


DRY MODE



This function reduces the humidity of the air to make the room more comfortable.

To set the DRY mode, Press **[MODE]** until  (DRY ■) appears in the display. An automatic function of alternating cooling cycles and air fan is activated.



FEEL MODE



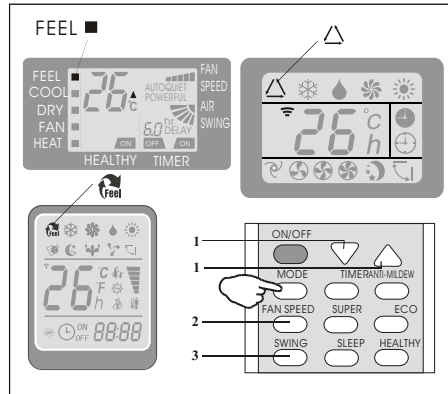
Automatic mode.

To activate the FEEL (automatic) mode of operation, press the **[MODE]** button on the remote control until the symbol \triangle (FEEL \blacksquare) appears in the display.

In the FEEL mode the fan speed and the temperature are set automatically according to the room temperature (tested by the probe which is incorporated in the indoor unit) to ensure user comfort.

Ambient temp	Operation mode	Auto temp.
< 20°C	HEATING (FOR HEAT PUMP TYPE) FAN (FOR COOL ONLY TYPE)	23°C
20°C~26°C	DRY	18°C
> 26°C	COOL	23°C

To optimize the working of the conditioner, adjust the temperature (only $\pm 2^\circ\text{C}$) (1), the speed (2) and the direction of the air flow (3) by pressing the buttons indicated



SLEEP MODE

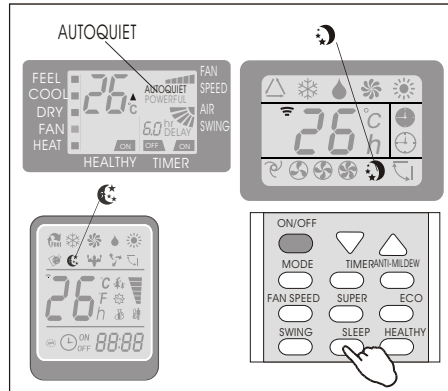


To activate the SLEEP mode of operation, press the **[SLEEP]** button on the remote control until the symbol ☾ (AUTO QUIET) appears in the display.

The function "SLEEP" automatically adjusts the temperature to make the room more comfortable during the night sleep. In cooling or dry mode, the set temperature will automatically raise by 1°C every 60 minutes, to achieve a total rise of 2°C during the first 2 hours of work.

In heating mode the set temperature is gradually decreased by 2°C during the first 2 hours of work.

After 10 hours running in sleep mode the air conditioner is switched off automatically.



Air flow direction adjustment procedure

Adjusting air flow direction

■ Up/down direction can be adjusted by using the AIRFLOW button on the remote controller.
This button, each time pressed, changes the mode in the following sequence:

■ push the LOUVER button, changes the mode to swing louver
Push the button, to stop swing.

NOTE

- When the room temperature controller (thermostat) trips in the heating mode or when the defrosting operation is conducted, the blow flap changes automatically to the horizontal position.
- When the heating operation has just started and the room temperature is still low, it may take a little time before the flap moves to the above away operation angle.
- The flap may stop at the tilted down-blow position during the "Sway operation" in the heating mode.

About TIMER operation

About Amenity reservation

Amenity reservation function is provided to start the operation a little earlier so that the room temperature is near the optimum temperature at the timer ON time in case of starting the operation by TIMER ON/OFF

- Mechanism**
Checking of the room temperature starts 60 minutes ahead of the timer ON time. Depending on the temperature at that time, operation starts 5 to 60 minutes ahead of the timer ON time.
- Amenity reservation is the function only for COOL and HEAT operation mode (including AUTO). It does not actuate in DRY mode.

► In cool operation ◀

Check the room temp. 60 min ahead

About SLEEP Operation

When the SLEEP operation is selected, the room temperature is automatically controlled with elapsed time so that the room isn't too cool during cooling or too warm during heating.

- During cooling and dry: Present temperature is raised 1°C in an hour (when the timer is set), and 2°C raise in two hours. Then the temperature doesn't change ever.
- During heating: Present temperature is lowered 1°C in an hour (when the timer is set), and 2°C lower in two hours. Then the temperature doesn't change ever.

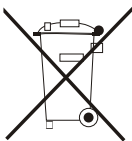
About FAN SPEED

- Capacity of the air conditioner can be selected by your choice. During heating or cooling.

Operation capacity by your choice	FAN SPEED
Set automatically by microcomputer	AUTO
Powerful operation with high capacity	HI
Standard operation	MED
Energy-saving operation	Lo

About power-off memory function

- When the air conditioner disconnect the power suddenly, restart it, the air conditioner operates at the mode it did before power suddenly failed.
- The wire control don't have this function



**IMPORTANT INFORMATION FOR CORRECT DISPOSAL OF THE PRODUCT
IN ACCORDANCE WITH EC DIRECTIVE 2002/96/EC.**

At the end of its working life, the product must not be disposed of as urban waste. It must be taken to a special local authority differentiated waste collection centre or to a dealer providing this service.

Disposing of a household appliance separately avoids possible negative consequences for the environment and health deriving from inappropriate disposal and enables the constituent materials to be recovered to obtain significant savings in energy and resources. As a reminder of the need to dispose of household appliances separately, the product is marked with a crossed-out wheeled dustbin.