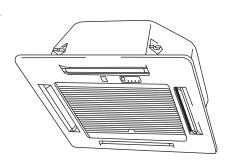
CASSETTE TYPE AIR CONDITIONER

INDOOR UNIT OPERATION & INSTALLATION MANUAL



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Cautions	1-3
Parts of function	4
Maintenance	5
Trouble Shooting	6-7
Installation Procedure	8-13
Installation Check and Trial Operation	14

No.0010573687



- Please read this manual carefully before use.
- Please keep this manual carefully and safely.

■ CAUTIONS

Disposal of the old air conditioner

Before disposing an old air conditioner that goes out of use.please make sure it's inoperative and safe. Unplug the air conditioner in order to avoid the risk of child entrapment.

It must be noticed that air conditioner system contains refrigerants, which require specialized waste disposal. The valuable materials contained in a air conditioner can be recycled. Contact your local waste disposal center for proper disposal of an old air conditioner and contact your local authority or your dealer if you have any question. Please ensure that the pipework of your air conditioner does not get damaged prior to being picked up by the relevant waste disposal center, and contribute to environmental awareness by insisting on an appropriate, anti-pollution method of disposal.

Disposal of the packaging of your new air conditioner

All the packaging materials employed in the package of your new conditioner may be disposed without any danger to the environment.

The cardboard box may be broken or cut intosmaller pieces and given to a waste paper diposal service. The wrapping bag made of polyethylene and the polyethylene foam pads contain no fluorochloric hydrocarbon.

All these valuable materials may be taken to a waste collecting center and used again after adequate recycling.

Consult your local authorities for the name and address of the waste materials collecting centers and waste paper diposal services nearest to your house.

Safety Instructions and Warnings

Before starting the air conditioner, read the information given in the User's Guide carefully. The user's Guide contains very important observations relating to the assembly, operation and maintenance of the air conditioner.

- The manufacturer does not accept responsibility for any damages that may airse due to non-observation of the following instruction.
- Damaged air conditioners are not to be put into operation. In case of doubt, consult your supplier.
- Use of the air conditioner is to be carried out in strict compliance with the relavtive instructions set forth in the User's Guide.
- Installation shall be done by professional people,don't install unit by yourself.
- The distance between the indoor unit and the floor should be more than 2.0m.
- For the purpose of safety, the air conditioner must be properly grounded in accordance with specifications.
- Always remember to unplug air conditioner before opening inlet grill. Never unplug your air conditioner by pulling on the power cord. Always grip plug firmly and pull straight out from the outlet.
- All electrical repairs must be carried out by qualified electricians. Inadequate repairs may result in a major source of danger for the user of the air conditioner.
- Do not damage any parts of the air conditioner that carry refrigerant by piercing or perforating the air conditioner's tubes with sharp or pointed items, crushing or twisting any tubes, or scraping the coatings off the surfaces. If the refrigerant spurts out and gets into eyes, it may result in serious eye injuries.
- Do not obstruct or cover the ventilation grille of the air conditioner.Do not put fingers or any other things into the inlet/outlet and swing louver.
- Do not allow children to play with the air conditioner. In no case should children be allowed to sit on the outdoor unit.

■ CAUTIONS

Safety cautions

Carefully read the following information in order to operate the air conditioner correctly. Below are listed three kinds of Safety Cautions and Suggestions.

WARNING! Incorrect operations may result in severe consequences of death or serious injuries.

CAUTION! Incorrect operations may result in injuries or machine damages; in some cases may cause serious consequences.

INSTRUCTIONS: These information can ensure the correct operation of the machine.

Be sure to conform with the following important Safety Cautions.

The Safety Cautions should be at hand so that they can be checked at any time when needed. If the conditioner is transferred to the new user, this manual should be as well transferred to the new user.

WARNING!

• Don't blow the human body with the cooling air too long, and don't let the room temperature decrease too low either.

Otherwise the one will feel unpleasant or harm ones' health.

 If any abnormal phenomena is found (e. g. smell of firing), please cut off the power supply immediately, and contact the dealer to find out the handling method.

In such case, to continue using the conditioner will damage the conditioner, and may cause electrical shock or fire hazard.

• When need maintenance and repairment, call dealer to handle it.

Incorrect maintenance and repairment may cause water leak, electrical shock and fire hazard.

• Please let the dealer be responsible for installing the conditioner.

Incorrect installation may cause water leak, electrical shock and fire hazard.

• Don't put fingers or any other things into the inlet/outlet and swing louver while the conditioner is in operation.

Because the highspeed fan is very dangerous and may cause injuries.

• Call the dealer to take measures to prevent the refrigerant from leaking.

If conditioner is installed in a small room be sure to take every measure in order to prevent suffocation accident even in case of refrigerant leakage.

• When conditioner is deinstalled or reinstalled dealer should be responsible for them.

Incorrect installation may cause water leaking, electrical shock and fire hazard.

CAUTIONS!

• Conditioner should not be used for any other purpose other than air conditioning.

Don't use air-conditioner for any other special purposes, e.g. the preservation and protection of food, animals, plants, pecision apparatus as well as work of art, otherwise the qualities of these stuffs may be damaged.

• When air-conditioner is co-used with other heat-radiator the frequent replacement of room atmosphere should be required.

Inefficient ventilation may cause suffocation.

• Don't operate the air-conditioner with damp hands.

Otherwise will be shocked.

• Only use correctly-typed fuse.

May not use wire or any other materials replacing fuse, otherwise may cause faults or fire accidents.

 Don't place any burning unit in the air flow of air-conditioner, which may cause incomplete combustion.

CAUTIONS

• Pets and plants should not be blowed directly in the air flow.

Otherwise will suffer damage.

• When use the fumigating insecticide don't open air-conditioner.

Otherwise the poisonous chemicals may settle in air-conditioner which harm the health of chemical-allergic people.

- No inflammable spray fluid should be permitted to be placed or used near toairconditioner otherwise may cause fire accidents.
- Air-conditioner should be cleaned only after power supply is cut off to keep from shock or hurt.
- Don't clean air-conditioner with water. Otherwise may cause shock.

Installation

Please ask the dealer or specialist to install, never try by the users themselves. After the installation please be sure of the following conditions.

WARNING!

Please call dealer to install the air-conditioner.
 Incorrect installation may cause water leaking, shock and fire hazard.

CAUTION!

- Air-conditioner can't be installed in the environment with inflammable gases because the inflammable gases near to air-conditioner may cause fire hazard.
- Installed electrical-leaking circuit breaker.

It easily cause electrical shock without circuit breaker.

[Location]

- Air-conditioner should be located in well-vented and easily-accessible place.
- Air-conditioner should not be located in the following places:
 - (a) Place with machine oils or other oil vapours.
 - (b) Seaside with high salt content in the air.
 - (c) Near to hot spring with high content of sulfide gases.
 - (d) Area with frequent fluctuation of voltage e.g. factory, etc.
 - (e) In vehicles or ships.
 - (f) Kitchen with heavy oil vapour or humidity.
 - (g) Near to the machine emitting electric-magnetic waves.
 - (h) Places with acid, alkali vapuor.

- TV, radio, acoustic appliances etc are at least 1 m far away to the indoor unit, outdoor unit, power
- Connect earthing wire.

Earthing wire should not be connected to the gas pipe, water pipe, lightning rod or phone line, incorrect earthing may cause shock.

Earth

 Use discharge pipe correctly to ensure efficient discharge.

Incorrect pipe use may cause water leaking. supply wire, connecting wire, pipes, otherwise images may be disturbed or noises be created. As required, take measures against heavy snow.

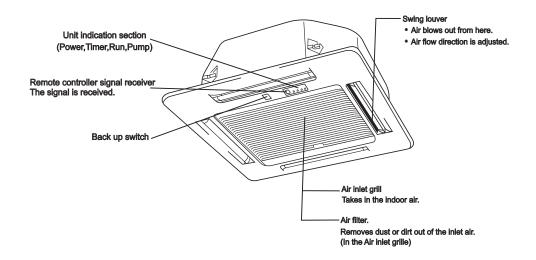
[Wiring]

 Air-conditioner should be equipped with special power supply wire.

[Operating noise]

- Chose the following locations:
 - (a) Capable of supporting air-conditioner weight, don't increase operating noise and vibration.
 - (b) Hot vapour from outdoor unit outlet and operating noise don't disturb neighbour.
- No obstacles around the outdoor unit outlet.

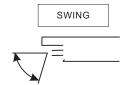
■ PARTS AND FUNCTIONS



Adjusting up/down air flow direction

■ Up/down direction can be adjusted by using the SWING button on the remote controller. Each time pressing this button, the mode changes in the following sequence.

Change to the AIRFLOW mode.



Louver moves in upward and downward directions

(louver stopped) LOUVER STOPPED

SWING -

When the LOUVER button is pushed during SWING mode, it stops swinging at the just angle.

No indication-

A CAUTION

- Avoid direct air flow to body for many hours.
- Avoid downward blowing operation of cooling mode for many hours.
- Do not touch the swing louver during swing operation.

• Recommendable stopping angle of the louver continuously.

COOL and DRY	(Horizontal blowing)
НЕАТ	(Downward Blowing)

■ MAINTENANCE

Cleaning

- Dust can be cleaned from the Air Filter either with a vacuum cleaner, or by washing the filter in a solution of mild detergent and warm water.
- If you wash the filter, be sure to allow it to dry thoroughly in a shady place before reinstalling.
- If dirt is allowed to accumulate on the Air Filter, air flow will be reduced, lowering operating efficiency and increasing noise.
- During periods of normal use, the Air Filters should be cleaned every two weeks.
- After drying the air filter, set it up on the air conditioner, close the inlet grill.





- When used for extended periods, the unit may accumulate dirt inside, which reduces its performance. We recommend that the unit is inspected regularly, in addition to your own cleaning and care. for more information, consult authorized service personnel.
- When cleaning the unit's body, do not use water hotter than 40°C, harsh abrasive cleansers, or volatile agents like benzene or thinner.
- Do not expose the unit body to liquid insecticides or hairsprays.
- When shutting down the unit for one month or more, first allow the Fan mode to operate continuously for about half a day to allow internal parts to dry thoroughly.

Maintenance after Season of Use

Clean the dust filter, the indoor unit, and outdoor unit, then cover it.



Turn on the machine and let it operate for half a day under the status of sending air in a sunny day so as to make the inside of the air conditioner fully dry.



• Maintenance before Season of Use

Check the inlet and outlet of the outdoor unit, see if they are blocked.

The dust filter must be installed to ensure the air filter to be clean, otherwise dust would enter to damage the machine or cause failure.

■ TROUBLE SHOOTING

The followings are not malfunction:

Water flowing sound is heard.	When the air conditioner is started, when the compressor starts or stops during operation or when the air conditioner is stopped, it sometimes sounds "shuru shuru" or "gobo gobo". It is the flowing sound of the refrigerant, and it is not a trouble.
Cracking sound is heard.	This is caused by heat expansion or contraction of plastics.
It smells.	Air blew out from the indoor unit sometimes smells. The smell results from residents of tobacco smoke or cosmetics stuck inside of unit.
During operation, white fog comes out of indoor unit.	During the cooling and dehumidifying operation, a thin white fog would be sprayed out of the indoor unit. It is a watery fog formed by a condensed air blew out of the unit.
During cooling mode, it is automatically buttoned to Fan mode.	To prevent frost from being accumulated on the indoor unit heat exchanger, it is sometimes automatically buttoned to the Fan Mode but it will soon be returned to the cooling mode.
The air conditioner cannot be restarted soon after it stops.	This is due to its self-protection function, therefore the machine cannot work until three minutes later.
Air does not blow or the fan speed cannot be changed during the dehumidifying mode.	During the dehumidifying operation, when the room temperature is less than 2°C higher than the temperature set, the air conditioner will operate at low fan speed intermittently regardless to the fan speed set.
Water or steam comes from the outdoor unit during heating.	This results from removal of the frost accumulated on the outdoor unit.
During heating, the fan in the indoor unit still works even after the unit operation stops.	To eliminate the afterheat, the fan in the indoor unit will still operate for a while after the unit automatically stops.
There would be sooting around the outlet and a sound "Si Si" would be heard.	It is due to the accumulation of anion, which can be cleaned after the unit is turned off. The sound "Si Si" is due to generation of anion.

Please check your air conditioner as the procedure below before contacting the local maintenance center for after sales service:

The air conditioner cannot be started							
Is power turned on?	Is power supply normal?	Is the leakage breaker tripped?					
The power switch is not on the position of "ON".	Power cut?	Please Turn off the power supply immediately and contact the local maintenance center.					

■ TROUBLE SHOOTING

Insufficient Cold Air or Hot Air

Has the mode been selected correctly? Is the door or window open?



Is the dust filter too dirty?(it should be cleaned once every two weeks)

Has the inlet or outlet been blocked?



Insufficient Cold Air?

Is there any other hot resources in the room?



Is the sun light directly sent into the room?



Are there many people in the room?



If, after the above-mentioned checks are made and treated accordingly, the air conditioner still cannot work normally or one of the following facts are found, please stop the operation and contact your local service center:

- Fuse or circuit breaker often breaks;
- Water is leaked during cooling and dehumidifying;
- Working abnormally or abnormal sound is heard.

Instructions to Users

- To enable the air conditioner to work well, please install it as required by this manual.
- When moving the air conditioner, please don't scratch the shell.
- Connect the indoor unit and the outdoor unit with the connecting pipe supplied by manufacturer, the installaiton method described in this manualmust be carried out with the tools required by manufacturer.
- The max.length of the connection pipe is 50 meters, and the max.height difference between the indoor unit and outdoor unit is 30 meters.
- Please keep this manual carefully for maintenance and installation.
- After installation, please operate the air conditioner as per this manual.

Adjust the air flow direction Set a proper room temperature Too cold and too hot are not only harmful for health but also will consume too much electricity. Instructions to Operation Avoid the direct sunlight and hot air flow Use of Timer Time set can make your room in a comfortable temperature when you wake up or come back.

Notes: After installation, please confirm that the refrigerant is not leaked.

- Please read these "Safety Precautions" first then accurately execute the installation work.
- The precautionary points indicated herein are divided under two headings:
 - △ WARNING and △CAUTION those points which are related to the strong possibility of an installation done in error resulting in death or serious injury are listed in the △WARNING section. However, there is also a possibility of serious consequences in relationship to the points listed in the △CAUTION section as well.

In either case, important safety related information is indicated, so by all means, properly observe all that is mentioned.

• After completing the installation, along with confirming that no abnormalities were seen from the operation tests, please explain operating methods as well as maintenance methods to the user of this equipment, based on the owner's manual.

Moreover, ask the customer to keep this sheet together with the owner's manual.

WARNING

- Please entrust installation to either the company which sold you the equipment or to a professional contractor. Defects from improper installations can be the cause of water leakage electric shocks and fires.
- Execute the installation accurately, based on following the installation manual. Again improper installations can result in water leakage, electric shocks and fires.
- Please install your air conditioner on a wall or any place which can holder the weight of the air conditioner. And it cannot be installed on a non-professional metal structure (such as a burglary-resisting net). Otherwise injury would occur due to a falling of the unit.
- Execute the prescribed installation construction to prepare for earthquakes and the strong airs of typhoons and hurricanes, etc. Improper installations can result in accidents due to a violent falling over of the unit.
- Wiring shall be done with the specified cable and the connection shall be firm and reliable. And the terminal connector shall be fixed firmly and reliably not to let external force exercise on the cables. Any improper connection or fixing would cause heat, fire, and other accidents.
- Wiring shall be done in a correct shape not to make any section rise upward, and accurately install the air conditioner. The cable shall not be clamped by the lid or outer plate. Any improper installation would lead to fire, heat, or other accidents.
- When setting up or moving the location of the air conditioner, do not mix air etc, or anything other than the designated refrigerant (R22 or R407C) within the refrigeration cycle, for such mixing would result in rupture and injury caused by abnormal high pressure.
- Always use accessory parts and authorized parts for installation construction. Using parts not authorized by this company can result in water leakage, electric shock, fire and refrigerant leakage.
- The drain pipe must not be placed or connected into the sewage tank where harmful gas such as sulphurous gas and etc would exist, otherwise the harmful gas would enter the room.
- During installation, if the refrigerant is leaked, please immediately take measures of ventilation, otherwise a harmful gas would be generated whenever the refrigerant meets fire.
- After installation, please ensure that the refrigerant is not leaked, because the leakage of refrigerant would produce a harmful gas if it meets fire or heating stoves.
- Don't install the air conditioner where a flammable gas would be probably produced, otherwise in case the flammable gas is leaked and exists around the unit, fire would be caused.
- For the drain pipe, follow the installation manual to insure that it allows proper drainage and thermally insulate it to prevent condensation. Inadequate plumbing can result in water leakage and water damage to interior items.
- The refrigerant gas pipe and liquid pipe shall all be thermally insulated to preserve the temperature. Any improper insulation would make the unit moist and the water would drop onto the floor or wet the indoor items.

- Execute proper grounding. Do not connect the earth wire to a gas pipe, water pipe, lightening rod, or a telephone ground wire.
 - Improper placement of earth wires can result in electric shock.
- An electric leakage breaker must be installed, otherwise electric shock or other accidents would occur.
- After completion of the installation, the air conditioner shall be electrified to check for electric leakage.

Accessories Delivered with Your Air Conditioner

Please check if your unit is delivered with the following accessories.

No.	1	2	3	4	(5)	6	7	8	9	(10)
Name	Rempte controller	R-03 dry battery	Screw M15x22		Heat-insulation tube	Heat-insulation rube			Commecting cable	Plastic clamp
and		18			Φ35x120	Φ30x100	SERVED TO THE SERVED THE SERVED TO THE SERV			
shape		ET.	W.				and			65/ 650
Qty	1	2	4	1	1	1	1	6	1	1

Preparation for Installation

Installation Tools

- 1. Screw Driver (flat head, wabbler, triangle)
- 2. Steel Saw
- 3. 60mm Drill
- 4. Inner Hexagon Spanner
- 5. Shifting Spanner
- 6. Spanner (14,17,19,27mm)

- 7. Pipe Cutter
- 8. Pipe Expander
- 9. Knives
- 10.Clippers
- 11.Leakage Checker or Soap Liquid
- 12.Measuring Tape
- 13. Scraper or File
- 14. Refrigeration Oil

Self-contained Accessories

No.	A	В	С	D	Е	F
Name of	Non-adhesive	Adhesive	Connecting	Heat	Gypsum	Drain hose
Parts	Tape	tape	Hose	insulation	powder	
		_		material		

Select installation place

- Install the indoor unit where the weight of the unit can be supported.
- Install the indoor unit where the heat source and steam source are not close and the unit inlet and outlet are not blocked.
- Install the indoor unit where the drainage is easy and the outdoor unit can be easily connected.
- Install the indoor unit where its cold air and hot air can be easily sent to all the corners of the room.
- Install the indoor unit where the power socket is near and there is sufficient space around the indoor unit.
- Install the indoor unit where there is no TV set, radio set, and wireless appliance underneath, and the sunlight lamp is over one meter away.
- If the remote controller is installed on the wall, the indoor unit shall be ensured to receive the signal while the sunlight lamp is on.

▲ WARNING

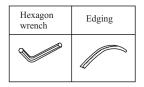
BE SURE TO READ THESE INSTRUCTIONS CAREFULLY BEFORE BEGINNING INSTALLATION. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD CAUSE SERIOUS INJURY OR DEATH, EQUIPMENT MALFUNCTION AND/OR PROPERTY DAMAGE.

BE SURE TO READ INSTALLATION MANUAL FOR INDOOR UNIT WITH THIS MANUAL.

1. Accessories

Confirm accessories shown below are attached in the bag with this Installation manual.

- (a)"Hexagon wrench" for the operation of service valves.
- (b)"Edging" for protection of electric wires from an opening edge.



Method for Cutting and Expanding Pipes.

When the pipe is too long or the mouth is damaged, the pipe needs to cut or expanded.





2. Removing burr



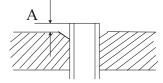
3.Put on nut





Pipe Selection

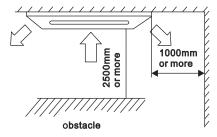
description	Size	A(mm)
Liquid pipe	Ф9.52mm(3/8")	1.0-1.8
Gas pipe	Φ15.88mm(5/8")	1.4-2.2



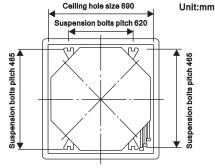
Pipe Expander

Correct	Not Co	rrect			
	Tilting	cracks on expanded mouth	burr	incomplete	too long

2.Installation dimensions:



- 1. Preparation for installation
- (a)Ceiling hole size and Position of suspension bolts 1)The pattern sheet may shrink or expand as humidity changes, so check the actual size before use.



2)The size of ceiling opening can be adjusted within the range shown below.

Bring the unit body to the ceiling opening right in the center so as not to be set aside and so that space between a ceiling opening end and the outside of the unit body becomes equal to that on the opposite side.

3)The size of the pattern sheet equals to the maximum size of the square ceiling opening.

(B) Location of Pipes

For the location of pipes. see the exterior dimension.

3.Installation When rooms have already been ceiled

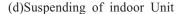
- (a)Drill square hole by using the accessory pattern sheet.

 Bring the center of the unit to the center of the ceiling opening.
- Pattern sheet

 Position of suspension bolts
- (b)Fixing of Suspension Bolts (M10 Field purchased)
 - 1)M10 air used for 4 suspension bolts.
 - 2)Decide positions of the suspension bolts by using the pattern sheet.

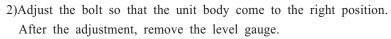
Notes (1) Take the piping direction into account.

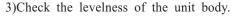
- (2) Fix the suspension bolts so that each bolt can withstand the pull-out load of 490N(50kgf).
- (c)Arrange so that the suspension bolts reach 195 mm above the ceiling.



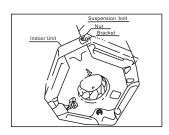
1)Install the indoor unit temporarily.

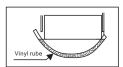
Set a washer and a nut to a suspension bolt, then fix them to the lifting lug.





Since a condensate pump and a float switch are contained indoor unit body. be sure not to incline the unit body.

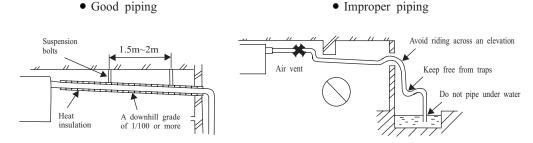




- Note (1) If the unit is inclined to the opposite side of the drain piping, the float switch will malfunction and will drain leak.
 - (2) Check the levelness at four corners br using a level or a vinyl tube filled with water shown in below.

4. Drain piping

(a)Drain piping should always be in a downhill grade (1/50~1/100) and avoid riding across an elevation or making traps.



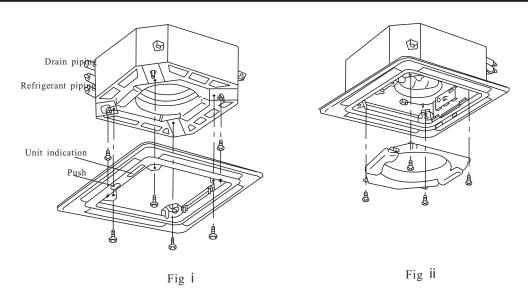
- (b) When connecting the drain pipe to unit, pay sufficient attention not to apply excess force to the piping on the unit side. Also, fix the piping at a point as possible to the unit.
- (c)Do not ever provide an air vent.
- (d)The height of the drain head can be elevated up to a point 500 mm above the ceiling and, when an obstacle exists in the ceiling space, elevate the piping to avoid the obstacle using an elbow or corresponding gadget. When doing this, if the stretch for the needed height is higher than 500 mm, the back-flow quantity of drain at the event of interruption of the operation gets too much and it may cause overflow at the drain pan. Therefore, make the height of the drain pipe within the distance given in the sketch below.
- (e)Avoid positioning the drain piping outlet at a place where generation of odor may be stimulated. do not lead the drain piping direct into a sewer from where sulfur gas may generate.

Drainage Test

- (1) Conduct a drainage test after completion of the electrical work.
- ② During the trial, make sure that drain flows properly through the piping and that no water leaks from connections.
- 3 In case of a new building, conduct the test before it is furnished with the ceiling.
- 4) Be sure to conduct this test even when the unit is installed in the heating season.

5. Procedures

- ① After suspending indoor unit, connect the connecting wires of indoor unit and outdoor unit, and connect power source cable. (see the wiring diagram)
- ② Fix the decorative panel as fig i.
- 3 Connect the signal and the wires of synchro-motor.
- ④ Fix the furniture to fasten the cables (see the below fig ii).



Fixing of Decorative Panel(The panel fixing bolts air attached on the panel.)

(a) Check with the accessory level gauges that the indoor unit height and the size of ceiling hole are correct.

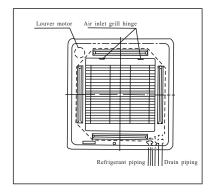
- Remove the level gauges from the indoor unit before fixing the decorative panel.
- (b)Screw two bolts out of four accessory bolts less than 5 mm in the indoor unit diagonally.
- (c)Hang the panel on the two bolts and fix them temporarily.
- (d)Tighten the bolts fixed temporarily and the remaining two bolts.

Screw the remaining two bolts, and tighten all (four) bolts.

- (e)Connect the louver motor connector to the panel respectively.
- (f)Connect the signal cable.
- (g)If the louver motor is not operated by remote control, check if the connector is connected correctly, and turn off the power for more than 10 seconds, then reset it.

Limit in Fixing Panel

- ① Fix the panel only in the direction shown in the figure.
- ② If it is fixed in other way, air will leak. Also wires cannot be connected for auto swing and receiver amp.



■ INSTALLATION CHECK AND TRIAL OPERATION

Installation Check

- Is power supply voltage required? Is water completely drained to outdoors?
- Are power wire and connection wires between indoor and outdoor units correctly connected?
- Are the wires tightly pressed?
- Is any gas leaked from the pipe connectors?
- Are series numbers of the terminals on the indoor and outdoor units corresponding to each other? Is the connection section of the auxiliary pipe insulated? Is the indoor unit fixed firmly?
- Is noise big?

Trial Operation

The person who has completed this installation shall be requested to conduct a test operation for check:

- Is the temperature adjuster working normally?
- Does the location for installation conform to requirements?

Winding up with Protective Plastic Tape

The connection pipes,drain pipe, and the connection wires shall be wound up with PVC tape. Note: The connection pipes shall also be wound up with insulating material to preserve the temperature. The airing direction shall be from bottom to top.