



Manual for Cassette Type Indoor Units of Multiple Connection Units

Models:

GMV-R30T/D	GMVL-R30T/D	GMVR-R30T/D
GMV-R35T/D	GMVL-R35T/D	GMVR-R35T/D
GMV-R45T/D	GMVL-R45T/D	GMVR-R45T/D
GMV-R50T/D	GMVL-R50T/D	GMVR-R50T/D
GMV-R60T/D	GMVL-R60T/D	GMVR-R60T/D
GMV-R70T/D	GMVL-R70T/D	GMVR-R70T/D
GMV-R80T/DS	GMVL-R80T/D	GMVR-R80T/D
GMV-R100T/DS	GMVL-R100T/D	GMVR-R100T/D
GMV-R120T/DS	GMVL-R120T/D	GMVR-R120T/D
GMV-R140T/DS	GMVL-R140T/D	GMVR-R140T/D

USER NOTICES

- ☆ **When operating, the general capacity of the cooperating indoor unit should not larger than the outdoor unit's. Otherwise, it will cause the shortage of cooling (heating) capacity.**
- ☆ **The power supply of the indoor unit must be the unified power supply, disconnect the main power of all the indoor units before cleaning.**
- ☆ **In order to turn on the units successfully, the main power switch should be opened 8 hours before the operation.**
- ☆ **After receiving the turn off signal, every indoor unit will continue to work for 20-70sec to make use of the rest cool air or the rest heat air in the heat exchanger, while preparing for the next operation. And this is normal.**
- ☆ **When the chose operating mode of the indoor unit are clash with the operating mode of the outdoor unit, the malfunction light will glimmer after 5sec on the indoor unit or remote controller showing that the operation clash, then the indoor unit will stop. At this time, change the operation mode of the indoor unit to the one that would not clash with the outdoor operating mode to make the operation normal. The cooling mode is not clash with the dry mode, while the fan mode is not clash with any mode.**
- ☆ **When installing, the communication cord can not twisted with the power cord, and they should be separated and the space between them should at least 2cm. Otherwise it may cause the abnormal of the communication of the unit.**

Notices for use

Please read this manual carefully before use this unit, and operate it correctly according to the guide in this manual.

1. Please take specially note to the meaning of these two marks:



Warning!: This mark means that it may cause casualty or badly heart if the operation is incorrect.



Note!: This mark means that it may cause casualty or property loss if the operation is incorrect.



Warning!

- Please contact the special nominated repair agency to install the unit. The incorrect installation may cause water leakage, electric shock and fire etc..
- Please make sure that the unit is installed in the place that can bear the weight of it adequately. If the place is not strong enough, the air conditioner may drop and cause casualty event.
- The drainage pipe should be installed correctly according to the installation instruction to assure correct drain, and the heat preservation should be take to prevent condensation. The incorrect installation of pipe may lead leakage and between the things in house.
- Don't use or store any flammability, easy explod or venomous hazardous thing beside the air conditioner.
- Cut down the main power switch immediately if malfunction (such as smell the burning odor etc.) happen.
- Keep the air ventilation to prevent the leakage or oxygen in the room.
- Don't insert your hands or other things into the discharge outlet or inlet grill.
- Please check if there are spoil in the bracket after the long duration frequently.
- Do not refit the conditioner. Please contact the agency or professional personnel to repair or move the conditioner.



Note!

- Before installation, please check if the power is the same with the power required on the nameplate, and check the safety of the power.
- Please check and make sure that the cord, drainage pipe and tubings are connected in the correct way to prevent leakage of water, refrigerant, electric shock or fire.
- The main power must connectable to the earth in order to assure the conditioner earthing effectively and to prevent electric shock. Please don't connect the earthing line with the gas pipe, water pipe, lightning rod or the connecting line of telephone.
- The air conditioner should be turned off at least after 5mins' operation; otherwise it would affect the duration of the unit.
- Don't let the children operate the air conditioner.
- Please don't operate the unit by wet hands.
- Please turn off the main power of the unit before cleaning the conditioner or change the filter.
- Please cut off the main power if the conditioner will be used for a long time.
- Please don't let the conditioner expose directly in the environment that can be corrupt easily, like the environment with water or high humidity.
- The leaking resistance test should be took after the installation.

Performance parameters for the cassette type indoor units

Model	GMVL-R80T/D	GMV-R80T/DS	GMVR-R80T/D	GMVL-R100T/D	GMV-R100T/DS	GMVR-R100T/D
Function	Cooling only	Cooling and heating	Cooling and heating	Cooling only	Cooling and heating	Cooling and heating
Cooling capacity (W)	8000	8000	8000	10000	10000	10000
Heating capacity (W)	—	8800	8800	—	11000	11000
Auxiliary electric heat power (W)	—	2100	—	—	2100	—
Air volume (m ³ /h)	1860	1860	1860	1860	1860	1860
Noise (dB (A))	40	40	40	40	40	40
Inside diameter of drainage pipe (mm)	φ 27					
Dimension (mm) (W×D×H)	Main body: 840×840×320 Front panel: 950×950×60					
Weight (kg) (Main body/front panel)	38/6.5					

Model	GMVL-R120T/D	GMV-R120T/DS	GMVR-R120T/D	GMVL-R140T/D	GMV-R140T/DS	GMVR-R140T/D
Function	Cooling only	Cooling and heating	Cooling and heating	Cooling only	Cooling and heating	Cooling and heating
Cooling capacity (W)	12000	12000	12000	14000	14000	14000
Heating capacity (W)	—	12500	12500	—	14500	14500
Auxiliary electric heat power (W)	—	2100	—	—	2100	—
Air volume (m ³ /h)	1860	1860	1860	1860	1860	1860
Noise (dB (A))	40	40	40	40	40	40
Inside diameter of drainage pipe (mm)	φ 27					
Dimension (mm) (W×D×H)	Main body: 840×840×320 Front panel: 950×950×60					
Weight (kg) (Main body/front panel)	38/6.5					

⚠ Notice:

- 1.The cooling capacity is tested under outdoor temperature 35°C (dry bulb) /24°C (wet bulb), indoor temperature 27°C (dry bulb) / 19°C (wet bulb).
- 2.The heating capacity is tested under outdoor temperature 7°C(dry bulb) /6°C(wet bulb), indoor temperature 20°C(dry bulb), that does not include the heating capacity of auxiliary electric heat.
3. The noise is tested in the half silencing room, the measuring point is in the place of 1.4m under the unit, the actual running value would be higher due to the surrounding environment changes.
4. All above are tested according to GB/T18837—2002, the specification parameters will be changed, please refer to the data on the nameplate.

Performance parameters for the cassette type indoor units

● Parameters of four-way air supply cassette type indoor units

Model	GMVL-R30T/D	GMV-R30T/D	GMVR-R30T/D	GMVL-R35T/D	GMV-R35T/D	GMVR-R35T/D
Function	Cooling only	Cooling and heating	Cooling and heating	Cooling only	Cooling and heating	Cooling and heating
Cooling capacity (W)	3000	3000	3000	3500	3500	3500
Heating capacity (W)	—	3300	3300	—	3800	3800
Auxiliary electric heat power (W)	—	700	—	—	700	—
Air volume (m ³ /h)	680	680	680	680	680	680
Noise (dB (A))	37	37	37	37	37	37
Inside diameter of drainage pipe (mm)	φ 27					
Dimension (mm) (W×D×H)	Main body: 840×840×190 Front panel: 950×950×60					
Weight (kg) (Main body/front panel)	25/6.5					

Model	GMVL-R45T/D	GMV-R45T/D	GMVR-R45T/D	GMVL-R50T/D	GMV-R50T/D	GMVR-R50T/D
Function	Cooling only	Cooling and heating	Cooling and heating	Cooling only	Cooling and heating	Cooling and heating
Cooling capacity (W)	4500	4500	4500	5000	5000	5000
Heating capacity (W)	—	5000	5000	—	5500	5500
Auxiliary electric heat power (W)	—	700	—	—	700	—
Air volume (m ³ /h)	680	680	680	680	680	680
Noise (dB (A))	37	37	37	37	37	37
Inside diameter of drainage pipe (mm)	φ 27					
Dimension (mm) (W×D×H)	Main body: 840×840×190 Front panel: 950×950×60					
Weight (kg) (Main body/front panel)	25/6.5					

Model	GMVL-R60T/D	GMV-R60T/D	GMVR-R60T/D	GMVL-R70T/D	GMV-R70T/D	GMVR-R70T/D
Function	Cooling only	Cooling and heating	Cooling and heating	Cooling only	Cooling and heating	Cooling and heating
Cooling capacity (W)	6000	6000	6000	7000	7000	7000
Heating capacity (W)	—	6500	6500	—	7500	7500
Auxiliary electric heat power (W)	—	1400	—	—	1400	—
Air volume (m ³ /h)	1180	1180	1180	1180	1180	1180
Noise (dB (A))	39	39	39	39	39	39
Inside diameter of drainage pipe (mm)	φ 27					
Dimension (mm) (W×D×H)	Main body: 840×840×240 Front panel: 950×950×60					
Weight (kg) (Main body/front panel)	30/6.5					

The selection of installation place and notice of the units

● The selection of the installation place of the air conditioner unit

The installation must accord with the national and local safe criterion.

Since the quality of installation would affect the operation directly, user should contact the seller and have the conditioner installed and tested by the professional install personnel according to the install instruction instead of install by his/her own self.

Only connect the power after all the installation works are finished.

● The selection of the installation place of the indoor unit

- ☆ Prevent direct sun burn.
- ☆ Make sure that the top steeve, ceiling, and the structure of the construction etc. is strong enough to bear the weight of the unit.
- ☆ The drainage pipe is easy to drain.
- ☆ The air flow is not blocked at the outlet and intake vents.
- ☆ The connecting pipe indoor and outdoor can by lead to outside conveniently.
- ☆ The unit cannot be installed in the place where stored the flammability, easy explode thing other place where would have leakage of flammability and explode gas.
- ☆ The unit cannot be installed in the place where has the corrupt gas and serious dust, saline fog, lampblack and huge humidity.



Note!

The air conditioner unit installed in the following place may have malfunction, if the malfunction cannot prevent, please contact the Nominated Repair Center of Gree.

- ①The place with greasy all around;
- ②The seashore place with salinity and alkali;
- ③The place with vulcanized gas (such as vulcanized hot spring);
- ④The place with high frequency equipment (such as wireless equipment, electric welding machine and medical treatment equipment);
- ⑤The place with special environment.

● The electric cord disposal

- ☆ The cord disposal should be installed according to the National Principal.
- ☆ The power must use the rated voltage and the electric circuit specific for air conditioner unit.
- ☆ Please don't pull the power cord vigorously.
- ☆ All the electric equipment should be installed by the professional personnel according to the local law, regulation and this instruction.
- ☆ The power cord diameter should be big enough, the destroyed power cord and connecting cord should be replaced by the specific cord.
- ☆ The earthing should reliably connect with the specific earthing equipment in the architecture, and this should be done by the professional personnel. There must be creepage protection switch and air switch with enough capacity in the rated circuit (reference the following form). The air switch should maintain the functions of magnetic de-buckle and heat de-buckle to assure the protection when circuit-short and overload happen.

The selection of installation place and notice of the air conditioner unit

● Earthing requirement

- ☆ The air conditioner is class I appliance, so please do take the reliable measurement to earthing.
- ☆ The yellow and green cord in the air conditioner unit is earthing cord which cannot be used for other purpose, and cut off, as well as fixed up with screw. Otherwise, it would lead electric shock.
- ☆ The earthing resistance should fit the requirement of the national standard GB17790.
- ☆ The reliable earthing terminal must be offered by the user power. And please don't connect the earthing cord to the following place:
① Tap water pipe; ② Gas pipe; ③ Sewage drain; ④ The place that is consider to be not reliable by the professional personnel.

● The attachment used for installation

Every attachment used for installation of the indoor and outdoor unit please refer to the packing list in every individual package carton.

Care and maintenance

 Note: Please pay attention to the following items before cleaning the unit:

- Before contact the wiring devices, the indoor unit general power supply should be turned off;
- Only when the unit and general power supply is turned off, can clean the unit, otherwise that may cause electric shock or hurt;
- Never clean the unit with water, otherwise that may cause electric shock;
- When cleaning the unit, pay a special attention, please adopt the firm standing platform.

Daily care

(1) Clean air filter

- Do not remove the filter unless cleaning. Or it would cause breakdown;
- The filter should be regularly cleaned when the unit is used in dusty condition. (Generally once for 3 months)

(2) Checks to be made before the starting of the operational seasons

- Check to see if the air inlet or outlet openings of the indoor and outdoor units are blocked;
- Check to see if the units are properly grounded;
- Check if wire connections are well;
- After power on, the power indicator light of wire controller should lit.

Note: If there is any abnormality exist, please ask for the after sales personnel for conducting.

(3) Maintenance After the Ending of the Operational Seasons

- Running the unit in fan mode for half a day to dry the inner part of unit in the sunny day;
- If the unit will not be used for a long time, please shut of the power, so that can save the energy. After power-off, the power indicator light of wire controller will extinguish.

Troubleshooting

Please check the following items before asking for repair:

Malfunction	Cause
Air conditioner can not start up	<ol style="list-style-type: none"> 1. Power supply is not put through. 2. The electricity leakage cause the creepage switch tripped off. 3. Circuit voltage is too low.
Air conditioner can run but stops immediately	<ol style="list-style-type: none"> 1. The air inlet, air outlet of the indoor unit and outdoor unit are blocked.
Poor cooling capacity	<ol style="list-style-type: none"> 1. The room filter is dirty or be blocked. 2. There are heat source or too many people in the room. 3. Door or window opened. 4. There is obstruction in the air inlet and outlet vents. 5. Setting temp. is too high that preclude the cooling.
Poor heating capacity	<ol style="list-style-type: none"> 1. Air filter is too dirty or blocked. 2. Door or window is not opened well. 3. Setting temp. is too low that preclude the heating.
Wireless remote control can not be operated	<ol style="list-style-type: none"> 1. Under the circumstances of changing batteries etc., the wireless remote control system would halt occasionally, slide down the cover, and press "ACL" button to resume the operation. 2. Is the remote control out of effective distance to the indoor unit? Are there any obstruction between the remote control and the signal receptor? 3. For the ducted indoor unit, the wireless remote control should aim at the remote controller. 4. Check if the voltage of batteries in the wireless remote control is insufficient, please replace the batteries.

Notes:

After passing through the check of above items, the unit is still in abnormal running, please stop the unit running immediately and contact with the local service center and ask the maintenance person for repairing.

Cassette type indoor units installation

● Installation dimension diagram

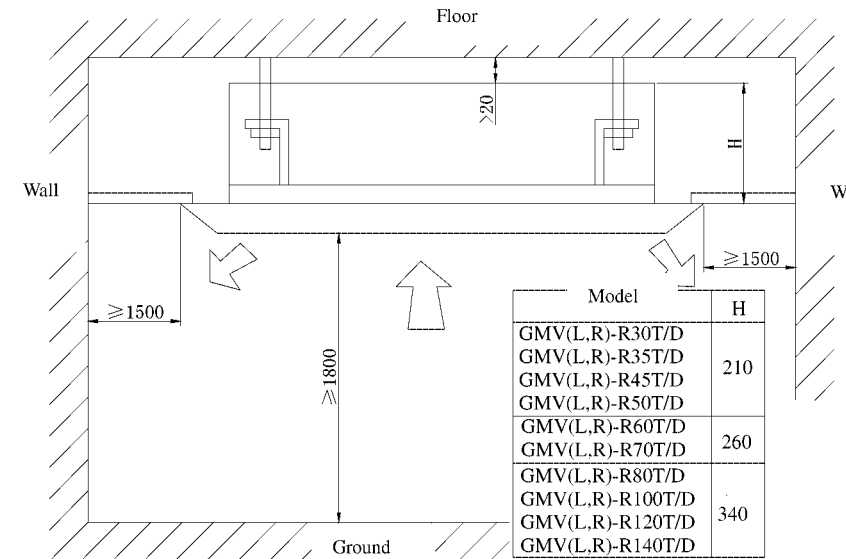


Fig.1

● Installation position selection of indoor unit

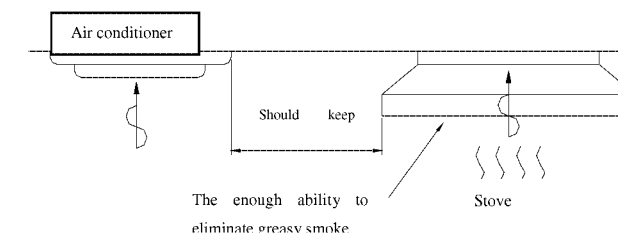
1. The air inlet and outlet vents should be kept away from barriers, so that the outflow air can reach all parts of the room.
2. Ensure the unit installation should accord with the dimension installation diagram requirements.
3. Select the place that can support 4 times of the unit's weight and will not increase noise and vibration.
4. The installation should ensure that it is horizontal.
5. Select a place easy to drain water and connect with the water system.
6. Make sure there is enough space for maintenance and make sure the distance between the unit and ground is 1800mm.
7. Make sure the suspension bolt pitch can hold 4 times of the indoor units' weight, other wise, you should strengthen the suspension bolt pitch.

⚠ Please refer to the installation drawing to find out each of the reinforce points)

Note!

In the hotels or kitchen, there are a lot of greasy smokes and dusts flow on the centrifugal fan blade and heat exchanger as well as the water pump, so it will reduce the heat exchanging ability, and will effect water drop and water pump normal working etc. At this situation, should adopt the following measures:

1. To make sure that there are enough ability to eliminate greasy smoke, to avoid the smoke be sucked by the air conditioner.
2. Make sure that the Air conditioner should be far away from the kitchen, to avoid the greasy smoke sucked by the air conditioner. Fig. 2



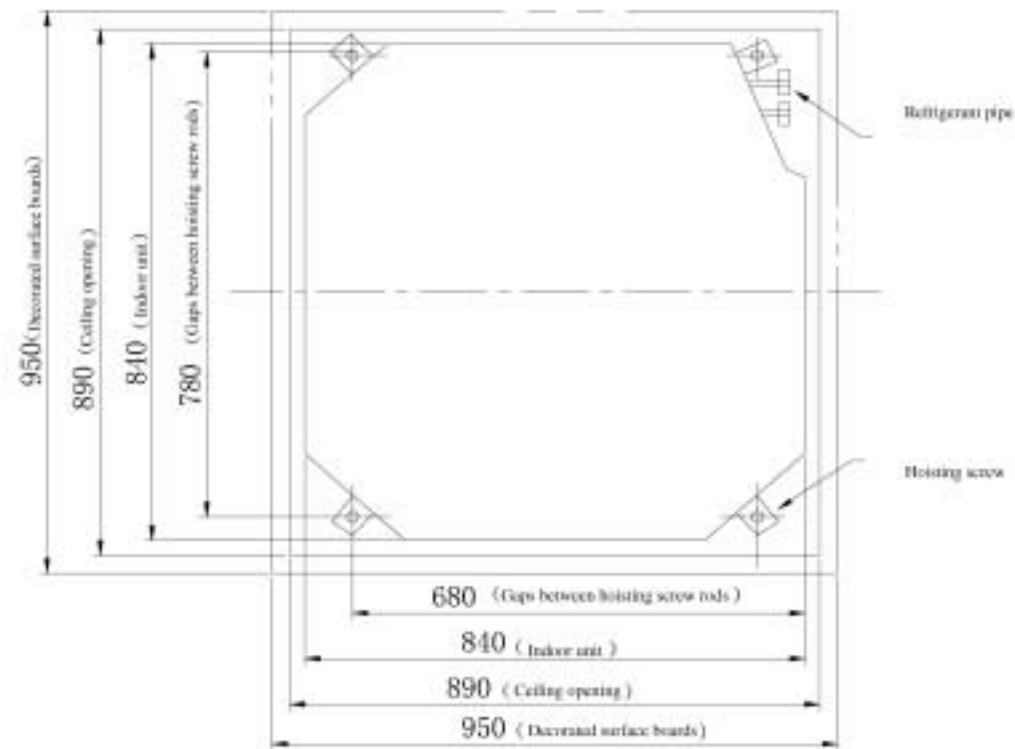
Cassette type indoor units installation

● Important note

☆ To guarantee the good performance, the unit must be installed by professional personnel according with this instruction.

☆ Please contact the local GREE special nominated repair department before installation. Any malfunction caused by the unit that is installed by the department that is not special nominated by GREE would not deal with on time by the inconvenience of the business contact.

● Ceiling opening dimension and suspension screw (M10) position



↑ fig.3 Units installation dimension
A

GMV (R.L) -R140T/D(S), GMV (R.L) -R120T/D(S), GMV (R.L) -R100T/D (S),
GMV (R.L) -R80T/D (S), GMV (R.L) -R70T/D , GMV (R.L) -R60T/D , GMV (R.L) -R50T/D,
GMV (R.L) -R45T/D, GMV (R.L) -R35T/D, GMV (R.L) -R30T/D

☆ The drill work should be operated by the professional.

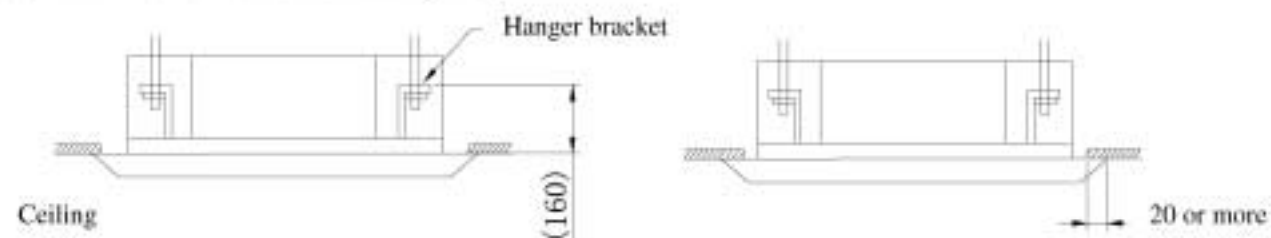


Fig.4

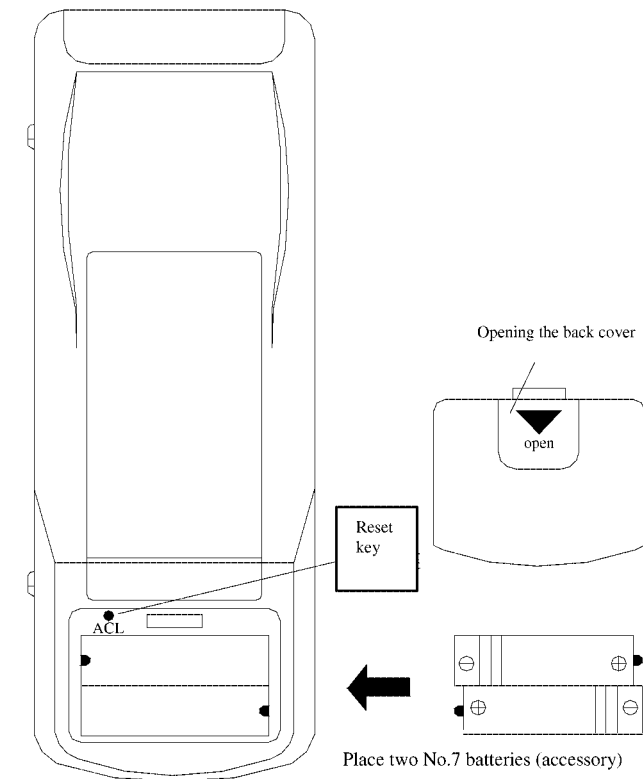
Notes: The dimension for the ceiling openings with * marks can be as large as 910mm. But the overlapping sections of the ceiling and the decorated surface boards should be maintained at no less than 20mm.

Names and functions of wireless remote control

● Installation of batteries into the wireless remote control

The remote control uses tow No. 7 alkali batteries.

1. Slide downward the back cover of the remote control and take out the used batteries, and then replace with two new ones (in correct polarities).
2. Close the back cover of the remote control.



- 1) Opening the back cover
- 2) Place two No.7 batteries (accessory)
- 3) Close the back cover

1. After installing the batteries, the display screen will show the graphics and letters or codes for all the performance functions. In 10 seconds, using the remote controller can control the operation.
2. The battery life is about one year.
3. Do not use the new battery with the used one, or use batteries in different types.
4. When the remote controller is not in use for a long period of time, take out the batteries from the controller to avoid the leaked battery liquid from damaging the controller.
5. The remote controller should be at least 1 meter away from the TV set or audio equipment.
6. The remote controller should be operated within the range of signal reception (10 meters).
7. In the case that the batteries need replacements or in the other cases that the controller is unable to work for effective controls, take off the back cover and press the ACL button (reset) to reset the controller.

temperature will rise by 1—2°C in a certain period of time, and the unit will then operate under the condition of the set temperature. During heating operation after the operations in the sleeping mode, the set temperature will drop by 1—2°C in a certain period of time, and the unit will then operate under the condition of the set temperature.

Temperature/Timing button

When the unit is operating, press the “+” button once and the temperature will go up by 1°C, and press the “-” button once and the temperature will go down by 1°C. The room temperature can be adjusted at user’s discretion within the range of 16—30°C.

When the unit is in the On/Off mode, press the “Timing” button will set the time for the turning off or on of the unit. Press the “+” button, the timing will be increased by 0.5 hour; press the “-”, the timing will be decreased by 0.5 hour. After adjustments, press the “Timing” button once again to transmit the setting. Press the “Delete” button will cancel the time setting.

● **Guide to operational controls**

General steps:

1. After connecting to the power supply, press the **On/Off** button and the air conditioner unit is ready for operation.
2. Press the **Mode** button to select the needed operational mode.
3. Set the fan speed by pressing the **Fan** button.
4. Press the +/- button to select the needed temperature.

Optional steps:

5. Press the **Sleep** mode button to set the unit in the sleeping mode.
6. Press the **Timer** button and press the +/- button as well to set the desired operation time.

Note: When the selected operational mode of the indoor units contradicts to the operational mode of the outdoor unit, the fault alarming light of the indoor unit will flash in 5 seconds and the indoor unit will stop operating. In this case, you may shift the operational mode of the indoor unit to the operational mode not contradictory to that of the outdoor unit; and the unit will restore its normal operation. The cooling mode and the dehumidification mode are not contradictory to each other. The air delivery mode is not conflicting to any other modes.

Cassette type indoor units installation

● **Hoist the main body of the unit**

- 1 The primary step for install the indoor unit.
 - ☆ When attach the hoisting stand on hoisting screw, do use nut and gasket individually at the upper and lower of the hoisting stand to fix it. The use of gasket anchor board can prevent gasket break off.
- 2 Use install cardboard
 - ☆ Please refer to the install cardboard about the dimension of ceiling opening.
 - ☆ The central mark of the ceiling opening is marked on the install cardboard.
 - ☆ Install the install cardboard on the unit by bolt(3 piece), and fix the angle of the drainage pipe at the outlet vent by bolt.
- 3 Adjust the unit to the suitable install place. (Refer to the fig.7)
- 4 Check if the unit is horizontal.
 - ☆ Inner drainage pump and bobber switch are included in the indoor unit, check if 4 angle of every unit are horizontal by water lever. (If the unit is slant toward the opposite of the coagulate water flow, there may be malfunction of the bobber switch and lead water drop.)
- 5 Backout the gasket anchor board used to prevent gasket break off and tighten the nut on it.
- 6 Backout the install cardboard.

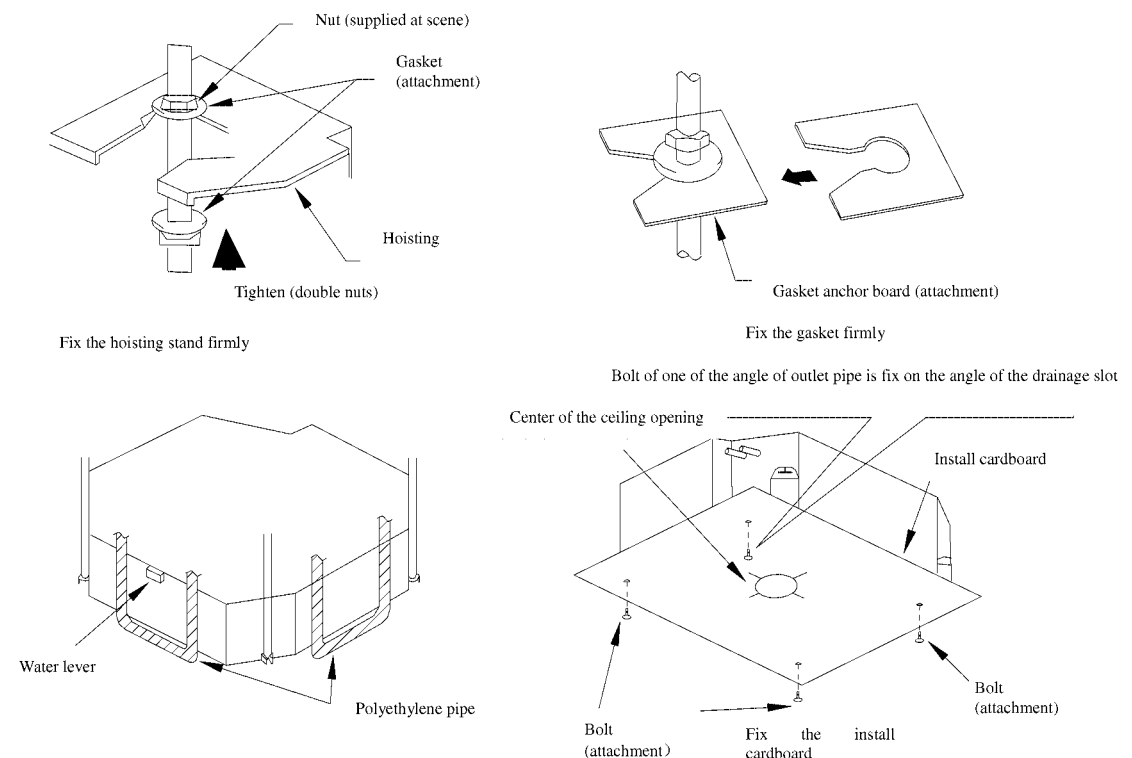


Fig.5

Warning!

- Please do tighten the nuts and bolts to prevent air conditioner break off.

Cassette type indoor units installation

● Connect the refrigerant pipe

- ☆ When connect the pipe to the unit or backout it from the unit, please do use both spanner and torque wrench. As show in Fig.6.
- ☆ When connecting the pyramidal nut, the inside and outside of it should be coated with refrigerant machine oil, and screw it for 3 to 4 turns, then tighten it.
- ☆ Please refer to form 1 to check if the wrench had been tightened. (too tight would mangle the nut and lead leakage.)
- ☆ Examine the connection pipe to see if it had gas leakage, then take the treatment of heat insulation, as shown in the Fig. 6.
- ☆ Only use median sponge to entwine the wiring interface of the gas pipe and heat preservation sheath of the gas collection tube.

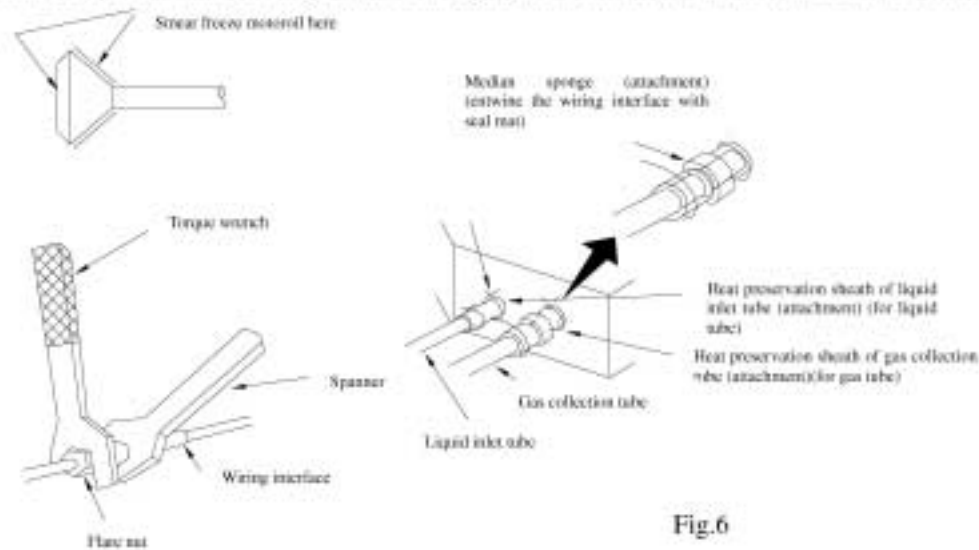


Fig.6

Table 1: Tightening torque table

Pipe diameter	Thickness (mm)	Tightening torque table
φ 6. 35mm	≧0. 5	15-30 (N · m)
φ 9. 52mm	≧0. 71	30-40 (N · m)
φ 12. 7mm	≧1	45-50 (N · m)
φ 15. 9mm	≧1	60-65 (N · m)
φ 19. 05mm	≧1	70-75 (N · m)

● Drainage pipeline

1. Installation of drainage pipe

- ☆ The diameter of the drainage pipe should be greater than of equal to the diameter of the connecting pipe tube (Polythene pipe: outside diameter dimension 25mm, thickness ≧ 1.5mm) .
- ☆ Keep the drainage pipe short and sloping downwards at a gradient of at least 1/100 to prevent air pockets from forming.
- ☆ If the drainage hose cannot be sufficiently set on a slope, add a drainage raising pipe.
- ☆ To keep the drainage hose from sagging, keep space between hanging hooks at 1~1.5m.

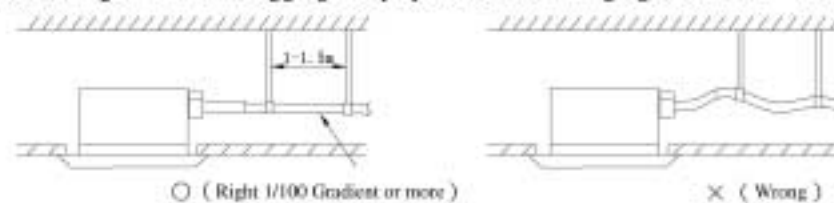


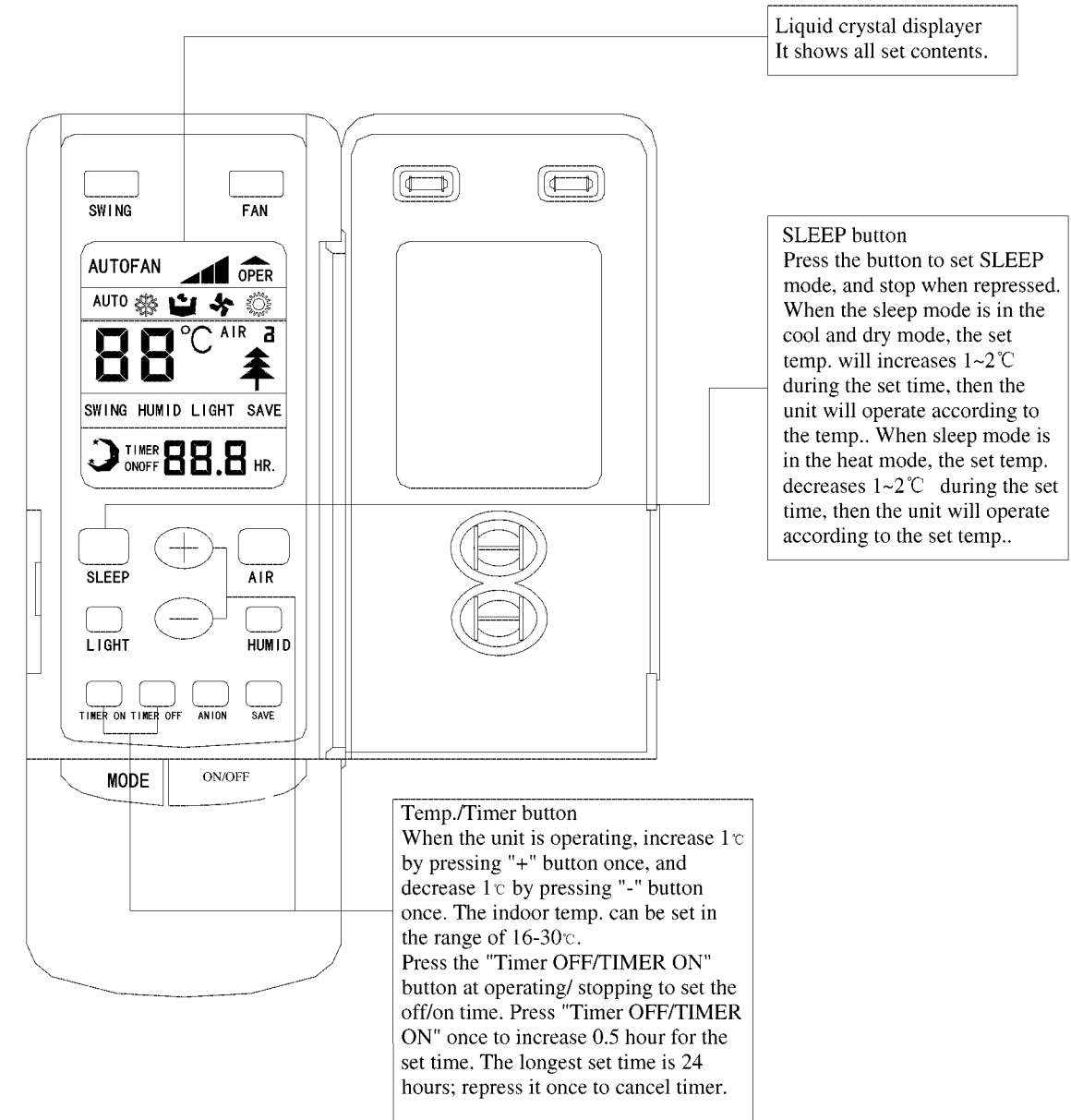
Fig.7

Names and functions of wireless remote control

- Names and functions of every button of the wireless remote control (After opening the cover)

⚠ Attention !

This model is a general-purpose remote controller, which can be applied to varieties of air conditioning systems (various types and performances). No descriptions will be made on the functions and buttons that are not applied in this air conditioning system.



LCD display

Indicating information of performances selected by various buttons

Sleep mode button

Press this button once, the unit will go into the sleep mode. Press the button once again, the unit will quit the sleep mode. During the cooling and dehumidification operations after the operations in the sleeping mode, the set

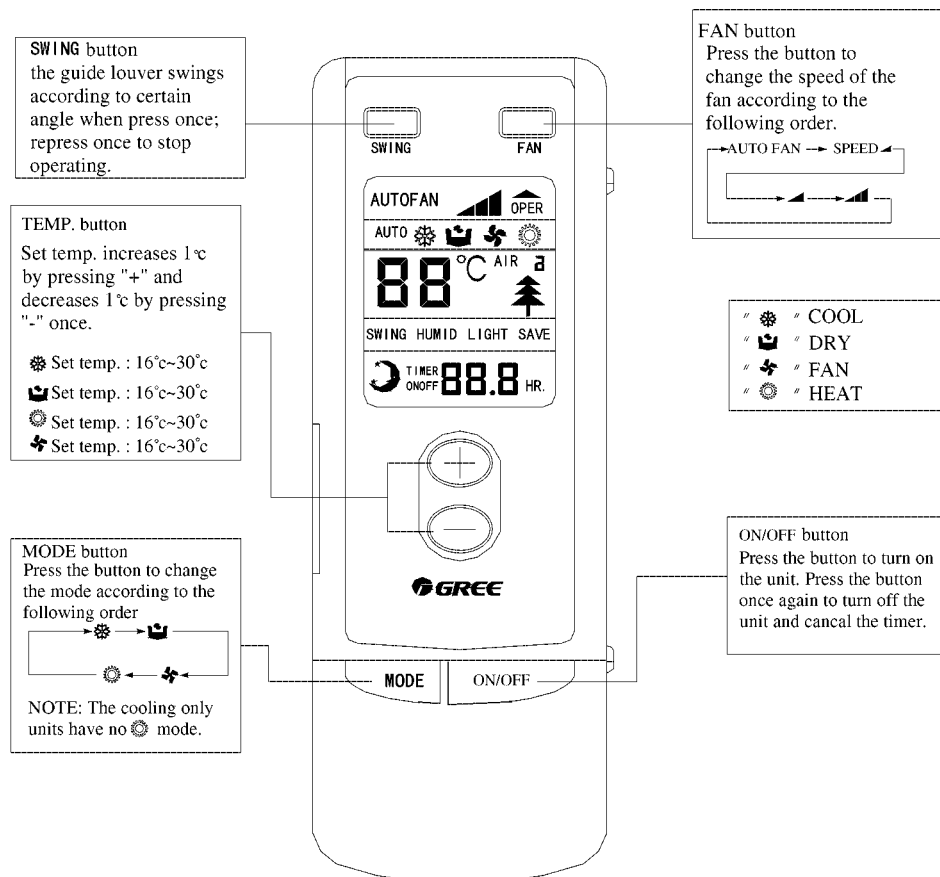
Names and functions of wireless remote control

Names and functions of wireless remote control

The wireless remote control is optional for the ducted type indoor units.

Attention!

- It must be made sure that there is no obstacle between the wireless remote control and the signal-receiving window.
- The signal reception distance of the remote control can be as far as 10 meters.
- Do not drop the remote controller onto the ground or throw it at random.
- Do not drop the remote controller onto the ground or throw it at random.
- Do not expose the remote controller directly to the sunlight or place it at positions with extreme heat.



Attention!

Once each of the indoor units receives the signal for stopping operation, the fan and electronic expansion valve of this unit will continue to work for 20-70 seconds so as to make use of the remaining cooling or heating of the heat exchanger, and also to get ready for the next operation. This phenomenon is something normal.

Cassette type indoor units installation

- ☆ Use the attached drainage hose and clamp.
- ☆ Insert the drainage hose into the drainage socket, tighten the clamp.
- ☆ Wrap the big sealing pad around clamp of the drainage hose to insulate.
- ☆ Insulate the drainage hose inside the room.

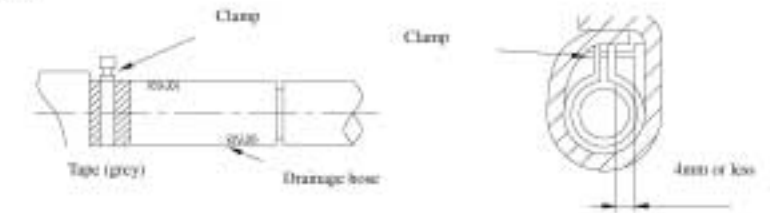


Fig. 8

Precautions for drainage raising pipe

- ☆ Install the drainage raising pipe at a height of less than 280mm.
- ☆ Install the drainage raising pipe at a right angle to the indoor unit and no more than 300mm from the unit.

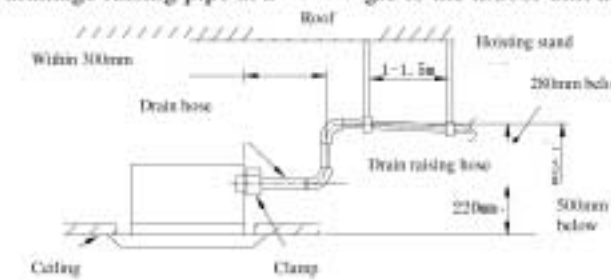
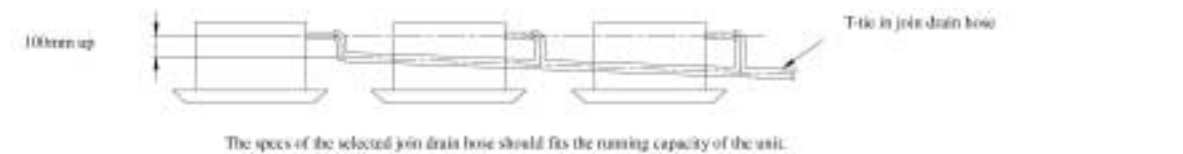


Fig. 9

Instruction

- ☆ The incline of attached drain hose should be 75mm or less.
- ☆ So that the drainage socket does not have to stand additional force.



- 2 After finishing installation, check if drainage water flows smoothly.
- ☆ Add approximately 600cc of water to the drainage trough through air outlet or inspection hole slowly and check drainage flow.
 - ☆ When electric wiring is finished, check drainage flow during cooling operation.
 - ☆ Check the drain in the state of refrigerating after installation of the electric circuit.

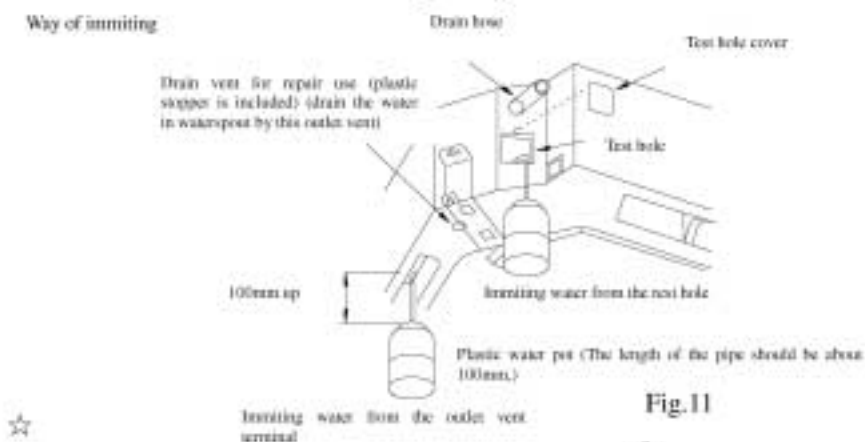


Fig. 11

☆

Cassette type indoor units installation

● Electric wiring

⚠ Notice: the power supply of each indoor unit should be unified.

☆ The electrical work, please refer to the "Circuit diagram" that attached on the units.

☆ All the electrical work must be done by professional.

☆ Grounding must be adopted.

Wiring method of connection unit and controller

☆ Wiring connection (communication):

① Open electric box cover(1), drag the wiring (communication) from the rubber plug A, and impact them well individually by impact fastener.

② Wiring according to the indoor side circuit diagram.

☆ Fix the impact fastener after connection.

☆ Entwine the small sponge on the electric wire (do entwine it to prevent condensation)

☆ Impact tightly by impact fastener after connection and then fit on the electric box (1) and (2).

☆ Cooling only, heat pump only and single auxiliary heater model: connect the 3 cord rubber wire to the counter terminal of the 3 way terminal board.

☆ 3 auxiliary heater model: connect the 5 core rubber wire to the counter terminal of the 5 way terminal board.

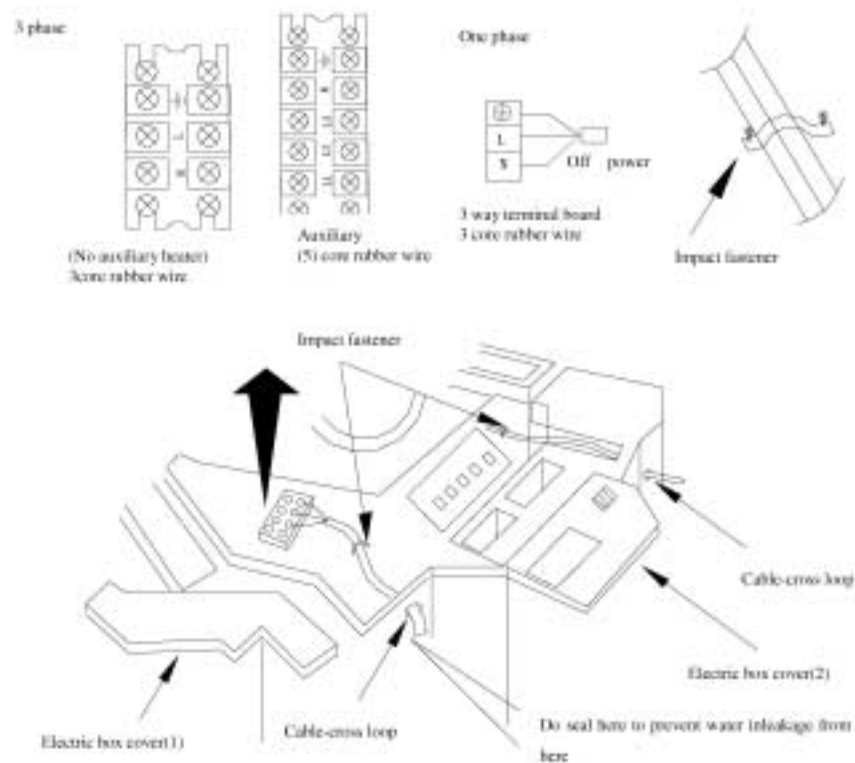


Fig.12

Guide for operation of remote controller of multiple connection indoor units

❖ When the controller displays malfunction, please turn off the unit to stop the malfunction display, ask for the professional to debug.

The description of malfunction codes is shown below:

Malfunction code	Malfunction description
E1	Compressor high pressure protection
E2	Indoor anti-freeze protection
E3	Compressor low pressure protection
E4	Compressor discharge temperature protection
E5	Compressor overload protection
E6	Communication malfunction
E7	Mode conflict
F0	Malfunction of indoor environmental sensor
F1	Malfunction of inlet sensor in indoor coil pipe
F2	Malfunction of medium sensor in indoor coil pipe
F3	Malfunction of outlet sensor in indoor coil pipe
F4	Malfunction of outside environmental sensor
F5	Malfunction of inlet sensor in outdoor coil pipe
F6	Malfunction of medium sensor of outdoor coil pipe
F7	Malfunction of outlet sensor in outdoor coil pipe
F8	Malfunction of rated discharge sensor 1
F9	Malfunction of digital discharge sensor2
FA	Malfunction of rated oil temperature sensor1
Fb	Malfunction of digital oil temperature sensor 2
FC	Malfunction of high pressure sensor
Fd	Malfunction of low pressure sensor
EH	Auxiliary electric heater protection

Technical characteristic of remote controller of multiple connection indoor units

Outline dimension: 80 × 80 × 15mm (Controller)

Working voltage: DC 5V, 4-core twisted-pair is leaded from the main board.

Temperature setting range: 16~30°C can be adjusted continuously

Guide for operation of remote controller of multiple connection indoor units

6) Temperature adjustment (Fig.7)

- ❖ When not setting the time, press “▲” and “▼” button, can set the temperature adjustment.
 - ▲: For increase of the set temperature;
 - ▼: For decrease of the set temperature.
 (When pressing the button once, the temp. will be increased or decreased 1℃)
- ❖ Under every mode, the temp. setting range is 16℃~30℃.



Fig7

7) The running mode setting (Fig.8)

- ❖ When pressing MODE button each time, the mode will be changed as following:
 - Cool → Dry → Fan → Heat
- ❖ At “COOL” mode, the COOL display will be light on, the temperature of setting should be lower than the room temperature. If the setting temperature is higher than the room sensor, the unit will not run at cool mode operation.
- ❖ At “DRY” mode, the DRY display will be light on. Fan motor will run at low fan speed in the definite temperature range. The dehumidifying effect of this mode is better than that in COOL mode and more energy saving.
- ❖ At “HEAT” mode, the HEAT display will be light on. The temperature should be set higher than the room temperature; If the setting temperature is lower than the room temperature, the unit will not run at HEAT mode operation.
- ❖ At “FAN” mode, the FAN display will light on.

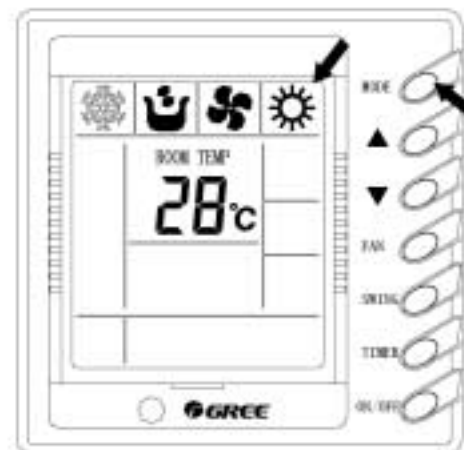


Fig8

8) Malfunction display (Fig.9)

- ❖ When the malfunction happened during the operation, the environment temperature display area will show the error code. As shown in Fig. 9 it shows the compressor high pressure protection.
- ❖ When the malfunction happened, except for the FAN mode is in operation, at the mode of COOL, DRY, HEAT, the outdoor unit and fan motor are closedown, that will not affect the LCD display.

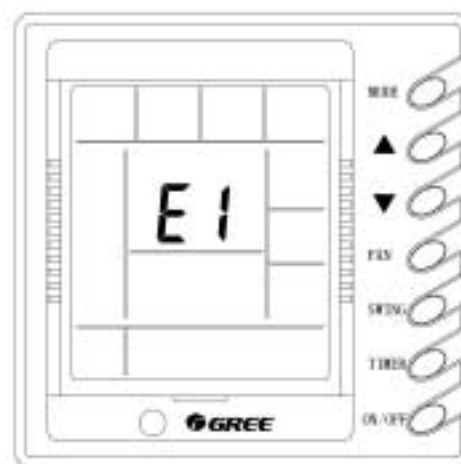


Fig9

Cassette type indoor units installation

● Connection of the power supply and the communication wire of the remote controller

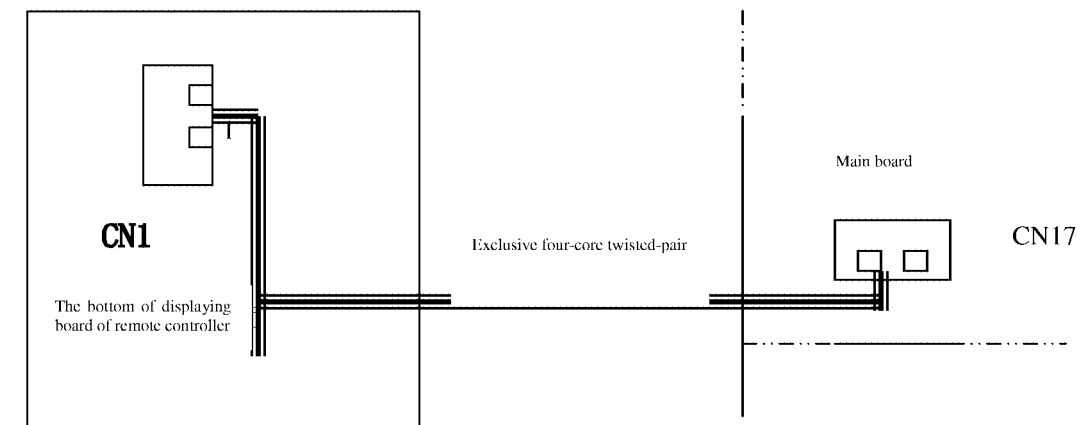


Fig. 13 The sketch map for power supply and communication connection of the wired controller

The above is the sketch map for power supply and communication connection of the wired remote controller. Insert the four core twisted pair wire, which has pulled in the CN17 from the main board into the connecting terminal CN1 of the display board. **To confirm that the power supply must be turned off before the installing and wiring. To check the connected status after installing and wiring, to confirm that there is no connected loosening phenomenon, to make sure there is no short circuit phenomenon in the power supply cord.**

There are 4 pieces of wired remote controller connection wire (which were contained by the four core twisted pair wire), refer to the sketch map, top right corner of the connecting terminals CN1 “1” the upward respective is: Ground wire (GND), communication wire A (A), B (B) and power supply cord (+12V).

● The installation method of remote controller



Fig.14 The installation sketch map of the remote controller

No.	1	2	3	4
Name	The bottom of socket installed inside the wall surface	Base plate of controller	Bolts M4X25	Front panel of controller

Fig. 14 shows the simple installation procedure of the wired remote controller, it is necessary to pay attention to these followings during the installation:

- 1、 Before all the components are installed, please cut off the power supply of the heavy current which was embed in the mounting hole of the wall surface, the power operation are not allowed during the whole installation procedures;
- 2、 Draw out the four core twisted pair wire from the mounting hole of the wall surface, put the wire pass through the slot of the back of the controller base plate;
- 3、 Affix the base plate of the controller to the wall surface, by using the bolts M4X25 to fix the base plate to the mounting hole of the wall surface;
- 4、 At last insert the four core twisted pair wire into the slot of the controller, and clasp the front panel of the remote controller and the base plate of the controller.

Cassette type indoor units installation

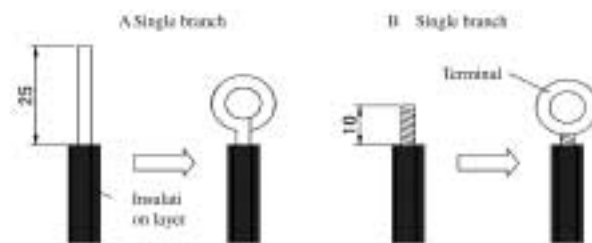
● Connection between the electric wires and the terminals on the terminal plate: (As shown in Fig. 15)

A. Connection of mono-branching wires

1. Use a wire stripper to strip off about 25mm of the insulation layer at the end of the mono-branching wire;
2. Remove the screws on the wiring board of the air conditioner unit;
3. Use the pliers to bend the end of the wire into a ring shape corresponding the size of the screw;
4. Pass the screw through the wire ring and fix it onto the wiring board.

B. Connection of multi-ply stranded wires

1. Use the wire stripper to strip off about 10mm of the insulation layer of the stranded wires;
2. Remove the screws on the wiring board of the air conditioner unit;
3. Use the wire pressing pliers to press the ends of the multi-ply stranded wires onto the terminals corresponding to the size of the screws;
4. Pass the screws through the terminals of the multi-ply stranded wires and fix them onto the wiring board.



Warning:

1. If the power cord or signal cord of the unit is damaged, special-purpose cords must be used for replacement;
2. Please identify the voltages for the components indicated on the nameplate before doing the wire connection, and then connect the wires in accordance with the schematic diagram of wiring.
3. The air conditioner unit should use the special-purpose power cord, and should be equipped with breaker of air switch so as to handle the occurrence of overloads;
4. The air conditioner unit must be properly grounded to prevent from the damages caused by the failure of insulation;
5. All the distribution wires must use the press-connecting terminals or single wires. The direct connection between the multi-ply stranded wires and the terminal board might lead to sparking;
6. All the wiring must follow the schematic diagram for the electric circuits. Any erroneous wiring and connection might result in the abnormal operations or damages of the air conditioner unit;
7. Do not allow the power cord to contact the pipelines or any moving parts like the compressor or fan;
8. The internal wiring of the air conditioner unit should not be altered without authorization. The manufacturer shall not be responsible for any losses or abnormal operations incurred from such unauthorized alterations.

● Connection of distribution (Communication) wires:

1. Open the cover of the electric box of the indoor unit;
2. Pass the distribution (communication) wire through the rubber gasket;
3. Insert the distribution (communication) wire into the three pin stands of CN15, CN16 or CN17 on the electric circuit board of the indoor unit;
4. Bind the distribution (communication) wires firmly together and fix them.

Guide for operation of remote controller of multiple connection indoor units

3) SLEEP SETTING (Fig.4)

- ❖ When PCB is running at COOL or DRY mode, after received the SLEEP mode setting and run for 1 hour, the preset temperature T_{set} will be increased 1°C, 2 hours later it will be increased 1°C again, it has been increased 2°C totally within 2 hours, then the unit will run accord to the setting temperature.
- ❖ When the PCB is running at HEAT mode, after received the SLEEP mode setting and run for 1 hour, the preset temperature T_{set} will be decreased 1°C, 2 hours later the T_{set} will be decreased 1°C again, it has been decreased 2°C totally within 2 hours, then the unit will run accord to the setting temperature.
- ❖ There is no SLEEP function in FAN mode.

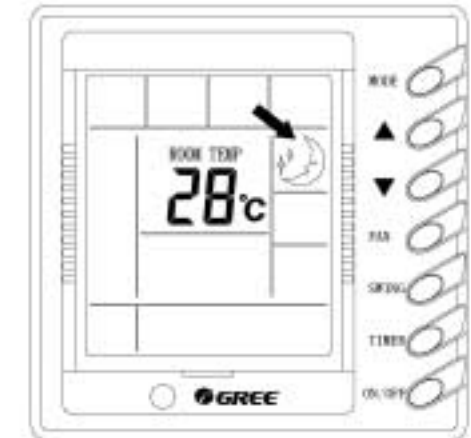


Fig4

4) SWING (Fig.5)

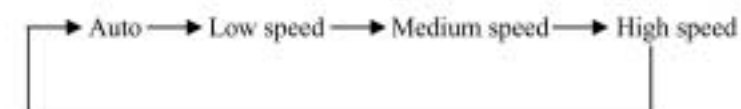
- ❖ Press SWING button, the SWING operation will be started.
- ❖ Press SWING button once more, the SWING operation will be stopped.



Fig5

5) Fan control (Fig.6)

- ❖ Every time when the fan control button is pressed, the fan speed will be shifted in the following sequence:



- ❖ AT DRY mode: The fan speed will be set to the LOW speed automatically.

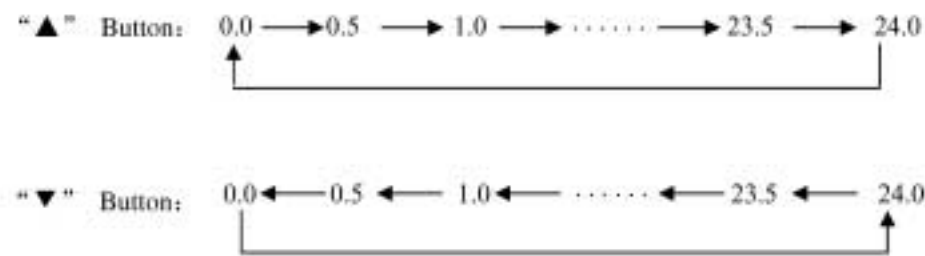


Fig6

Guide for operation of remote controller of multiple connection indoor units

2) **Setting of timing** (Fig.3, hereinafter will be displayed according to the function of the wired remote controller.)

- ❖ At stopping, press TIMER ON button, set ON TIME, at operating, press TIMER OFF button, set OFF TIMER.
- ❖ When it is not timed (i.e. there is no show content in timing display field), press TIMER ON, the liquid will display the pattern of “⌚ xx.x hour”, “⌚” and “HOUR” the samples will be flashed in every 0.5second on and on, at this time press “▲” or “▼” button to set time. After using “▲” or “▼” button, adjust to the desired temperature, then press the TIMER button, at this time “⌚” and “HOUR” will not flash, that shows the TIMER ON has been set.
- ❖ After power on, to press the TIMER button once, LCD will display “⌚ 0.0 HOUR”, the sign of “⌚” and “HOUR” will twinkle, when repress the TIMER button, the LCD will not display the sign, that shows the TIME ON has been canceled.
- ❖ When the TIMER ON has been set, (i.e. the sign of “⌚” and “HOUR” will twinkle continuously), if press the TIMER button once more, LCD will show “⌚ xx.x HOUR” (Note: “xx.x” is the time of last setting, after power on it will be cleared automatically), the sign of “⌚” and “HOUR” will twinkle continuously, at this time could press “▲” or “▼” button for time setting, or press the TIMER button again to confirm the function of time.
- ❖ The range of TIMER ON and TIMER OFF is from 0.5hour to 24hour. Press “▲” or “▼” button for each time, the set time will be increased or decreased 0.5hour, hold the press “▲” or “▼” button, it will increase 0.5hour or decrease 0.5hour every other 0.5second. The setting range of “▲” and “▼” is from 0 to 24, and they are circulatory.



Note: The above displayed is the relative displaying zone.

Cassette type indoor units installation

● Connection of power supply:

⚠ Attention: The power supply for various indoor units must be from the unified power supply.

A. Air conditioner units using single-phase power supply

1. Remove the cover of the electric box of the indoor unit;
2. Pass the power supply cord through the rubber gasket;
3. Connect the power cord to the L and N terminals as well as the grounding screw;
4. Bind the cord and wires firmly together and fix them properly;

B. Air conditioner units using three-phase power supply

1. Pass the power cord through the rubber gasket;
2. Connect the power cord wires to the L1, L2, L3 and N terminals as well as the grounding screw;
3. Use wire-pressing pliers to firmly fix the cords and wires.

● Connection of remote controller signal wire:

1. Open the cover of the electric box of the indoor unit;
2. Pass the signal line of the remote controller through the rubber ring;
3. Insert the signal line of the remote controller into the four-positioned pin stands on the electric circuit board of the indoor unit;
4. Bind the signal lines of the remote controller firmly together and fix them.

⚠ Attention:

Special precaution must be taken when doing the following connections so as to prevent from the failure of the air conditioner unit due to EMI (electromagnetic interference)

1. The signal lines and the distribution (communication) wires should be separated from the power supply cord and the connection lines between the indoor and the outdoor units;
2. In the case that the air conditioner unit has to be installed at the places subject to the EMI, it is advised to use shielded and double-strand wires for the signal lines and distribution (communication) wires.

Cassette type indoor units installation

● The installation of front panel

1. Set the panel to the indoor unit body by matching the position of the swing flap motor of the panel to the piping position of the panel to the piping position of the indoor unit as shown by fig.16.

2. Install the front panel

- ① Install the panel on the indoor unit temporarily. When install, hang the latch on the hook that is located on the oppsite side of the swing flap on the panel of the indoor unit. (2 positions)
- ② Hang the remaining 2 latches to the hooks on the sides of the indoor unit.(Be careful not to let the swing motor lead wire get caught in the sealing material.)
- ③ Screw the 4 hexagon head screws under the latches in about 15mm. (The panel would raise)
- ④ Adjust the panel by turning it toward the direction pointed by the arrow as shown in fig.4, so that the adjust board connect the ceiling well.
- ⑤ Tighten the screws untill the thickness of the sealing metarial between panel and indoor unit reduced to 5-8mm.
- ⑤ Tighten the screws untill the thickness of the sealing metarial between panel and indoor unit reduced to 5-8mm.

Guide for operation of remote controller of multiple connection indoor units

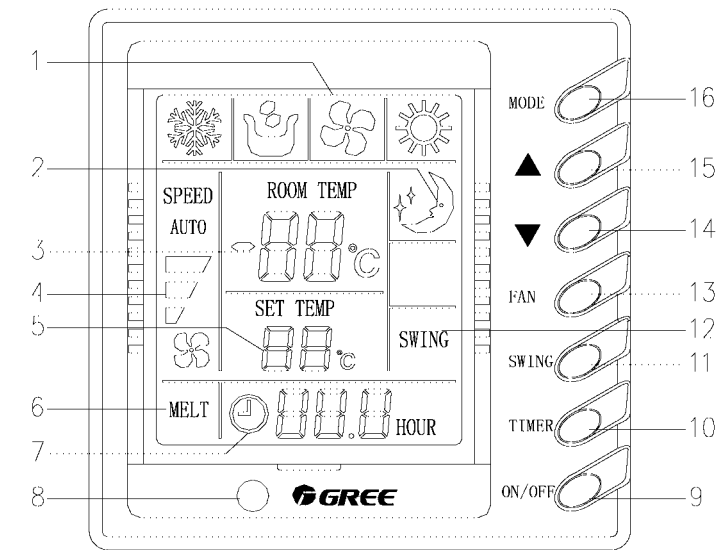


Fig.1

Various Components of Remote controller			
1	Display of operational modes (cooling, dehumidification, air delivery, heating)	9	On/Off button
2	Sleep mode display	10	Timer button
3	Display of ambient temperature/malfunction	11	Swing button (Sleep button for ducted type and ultra thin ducted type units)
4	Fan control display (auto, high speed, medium speed, low speed)	12	Display of swing
5	Display of temperature setting	13	Fan control button
6	Defrosting display	14	Temp. / Timer decreasing button
7	Display of timed on/off	15	Temp. / Timer increasing button
8	Reception head of remote signal	16	Mode button

1) On/Off switch (Fig.2)

- ❖ Press the On/Off button and the unit will be activated.
- ❖ Press the button once again and the unit will stop operating.

NOTE: Fig.2 shows the closedown status after power on. When the communication is normal, both at the running and stopping status will display the environment temp. Here, there is no“graticule line” on the LCD of Fig.3, it shows the unit is closedown..

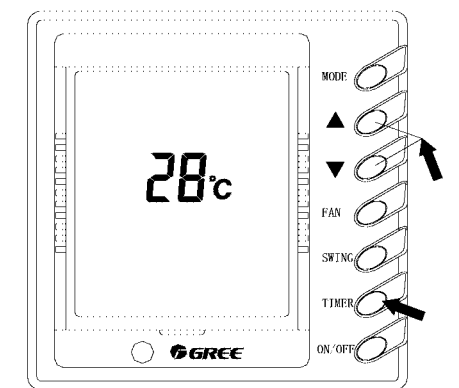


Fig2

Rating operational status for units

Rating operational status for units

	Indoor side status		Outdoor side status	
	Dry bulb temperature °C	Wet bulb temperature °C	Dry bulb temperature °C	Wet bulb temperature °C
Rating cooling	27	19	35	24
Rating heating	20	15	7	6

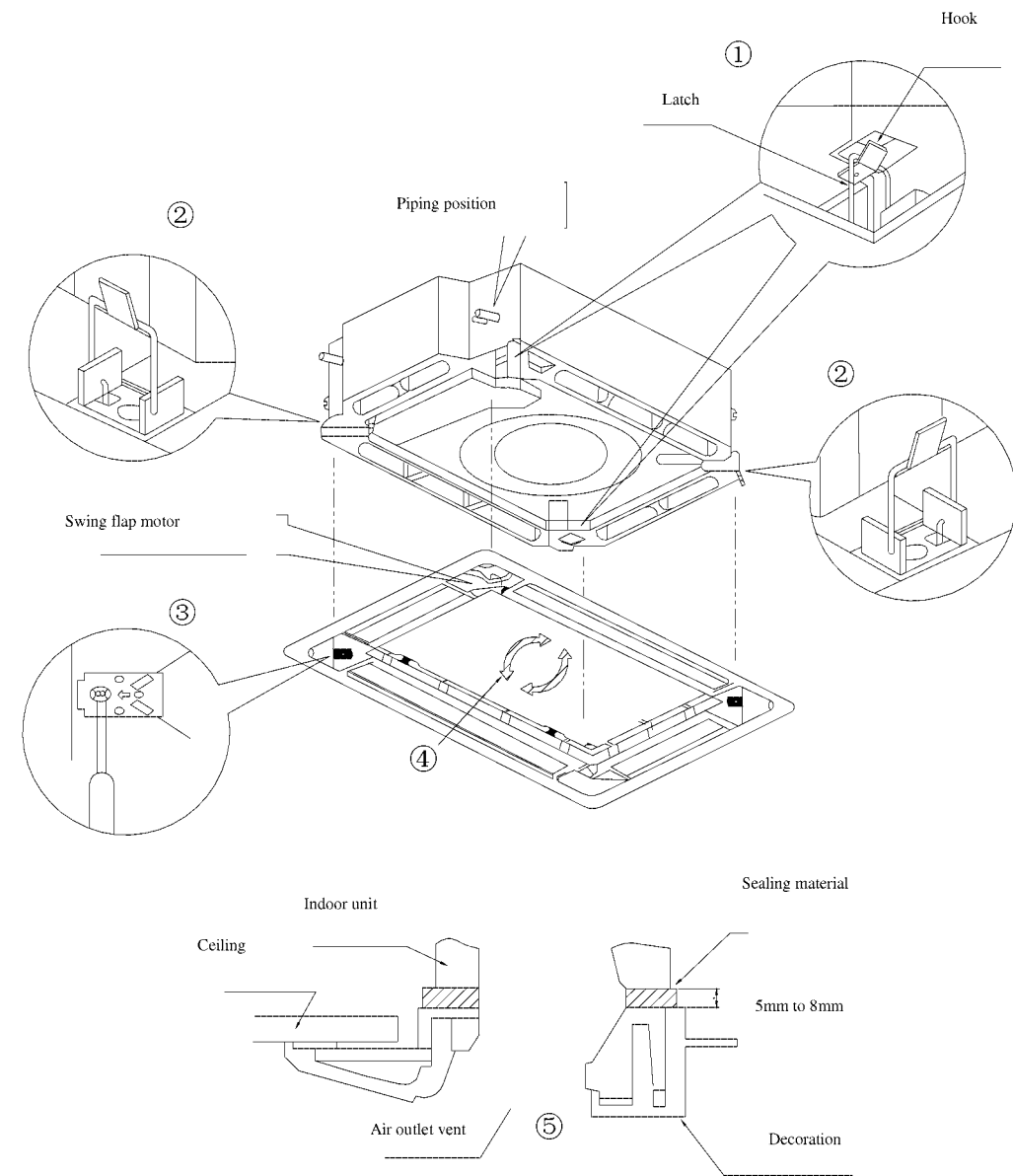


Fig.16

Cassette type indoor units installation

Note

1. Improper screwing of the screws may cause the troubles shown in fig.17.

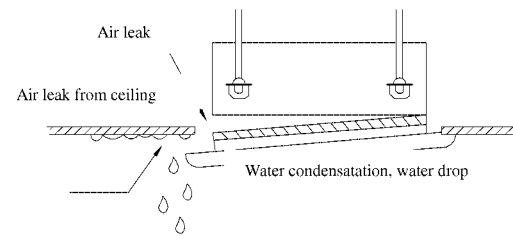


Fig.17

2. If gap still exist between ceiling and decoration panel after tightening the screws, readjust the height of the indoor unit. (As shown in fig.18)

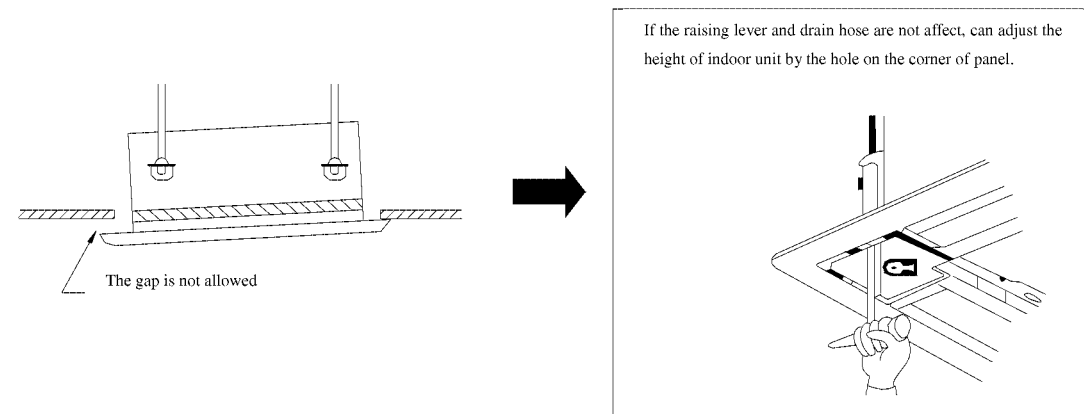


Fig.18

※ After fixing, be sure no gap left between the ceiling and the panel.

3. Wiring of the decoration panel (Fig.19)

☆ Connect the joints for swing flap motor lead wire (at 2 places) installed on the panel.

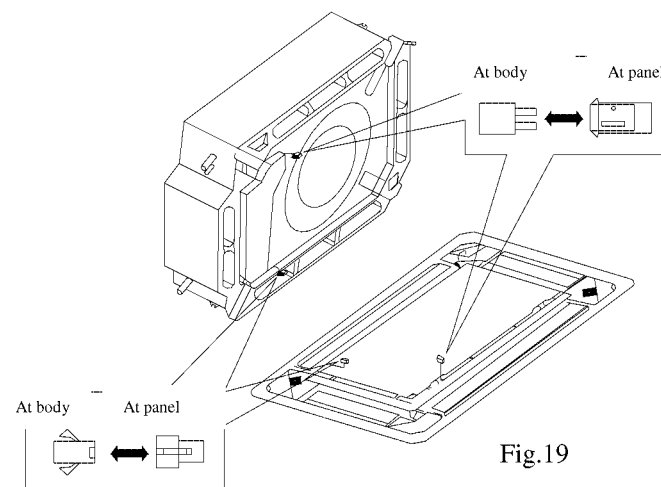


Fig.19

The construction and names of cassette type indoor unit

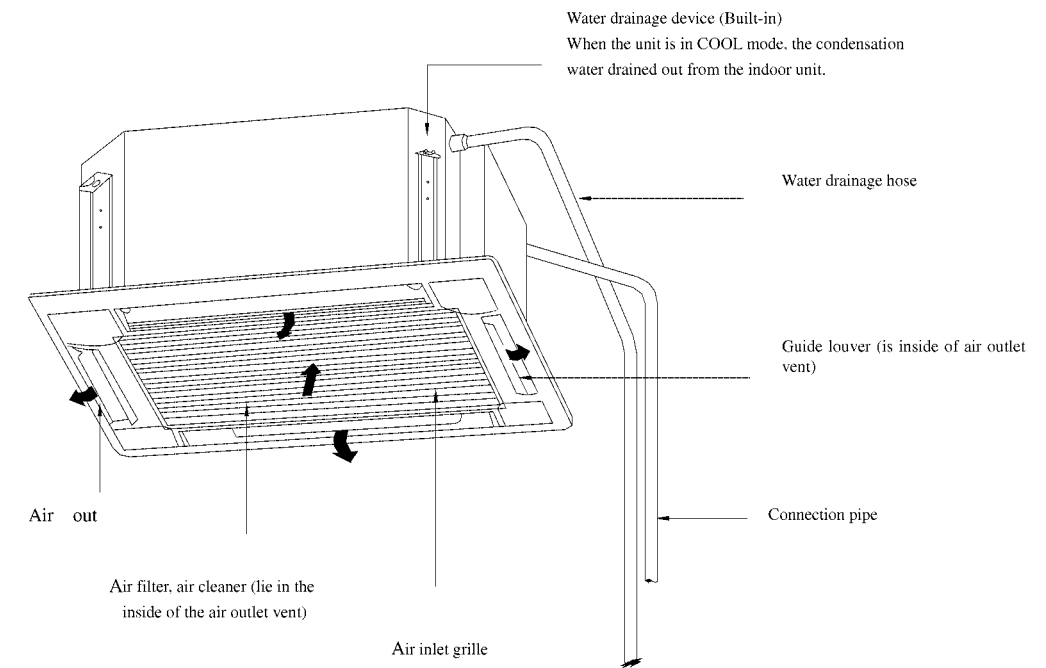


Fig.20