Digital Multi Connected Air Conditioners
Owner’s Manual

Models：

GMV-R150W	GMVL-R150W
GMV-R200W2	GMVL-R200W2
GMV-R250W2	GMVL-R250W2
GMV-R300W2	GMVL-R300W2

Please read this manual carefully before operation

Thank you for choosing GREE Air conditioner unit, please keep this owner’s manual carefully for consultation.

66133609

Performance parameters for the units

● Performance Parameters for Outdoor Units

Item \ Model			GMV(L)-R150W	GMV(L)-R200W2	GMV(L)-R250W2	GMV(L)-R300W2
Cooling capacity（W）			15000	20000	25000	30000
Heating capacity（W）			16800	22500	28000	33500
Noise（dB（A））			58	62	64	64
Compressor			Digital vortex×1	Digital vortex×1 + Fixed speed vortex×1	Digital vortex×1 + Fixed speed vortex×1	Digital vortex×1 + Fixed speed vortex ×1
R22 Charge volume		kg	12	15	17.5	20
Power supply			3N~380V 50Hz			
Overload power	Cooling	kW	5.1	6.8	9.85	11.0
	Heating	kW	5.3	6.9	9.85	12.0
Overload current	Cooling	A	7.5	12.3	16.0	19.5
	Heating	A	7.7	12.5	16.0	21.0
Fan motor	Input power	kW	0.55	0.55	0.4×2	0.55×2
	Running current	A	1.0	1.0	0.8×2	1.0×2
Dimension（mm）（W×D×H）			700×700×1250	780×800×1450	1350×700×1300	1350×700×1500
Water-proof level			IPX4			
Climate type			T1			
Connection pipe	Gas pipe	mm	22.2	25.4	28.6	28.6
	Liquid pipe	mm	12.7	12.7	12.7	12.7
	Connection approach		Bell-mouthing			
Weight		kg	200	260	280	320
Recommended power cord		mm^2 ×Piece	4.0×5	4.0×5	6.0×5	6.0×5

Notes: 1. The cooling-only unit (Model GMVL) does not have the item of rating heating capacity

2. The rating cooling capacity is tested under the condition of indoor temp. 27℃DB、19℃WB, outdoor temp. 35℃DB,24℃WB.

3.The rating heating capacity is tested under the condition of indoor temp. 20℃DB、15℃WB, outdoor temp. 7℃DB,6℃WB.

4.The filling amount of the refrigerant R22 does not take into account of the connecting pipes. During the practical installation, additional filling will be needed in accordance with the site conditions.

GREE

The instructions before use

☆ **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. The indoor unit cannot have the individial power switch, and all the indoor unit can only be controlled by one main power control. Disconnect the main power of all the indoor units before cleanning.**

☆ **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 chosed 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 transmition 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 transmition of the unit.**

Safety information

1. Please read this manualcarefully before use this unit, and operate it correctly according to the guide in this manual.
2. Please take specially note to the meaning of these two marks:

Note!: 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.

Note!

- 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 bedew 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 borning odor etc.) happened.
- Keep the air ventilation to prevent the leakage of 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 prefectional 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 corb, drainage pipe and tubings are connected in the correct way to prevent leakage of water, refregerant, electric shock or fair.
- 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, lightening rod or the connecting line of telephone.
- The air conditioner should be turned off at least after 5 mins'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 hand.
- 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 envirenment that can be corrupt easily, like the envirenment with water or high humidity.
- Please don't step on the unit or put things on the unit.
- The leaking resistance test should be took after the installation.

Performance parameters for the units

● Parameters for Wall-mounted Type Indoor Units

Model	GMVL-R20G/A	GMV-R20G/A	GMVL-R25G/A	GMV-R25G/A	GMVL-R35G/A	GMV-R35G/A	GMVL-R50G/A	GMV-R50G/A
Performance	Cooling only	Cooling & heating	Cooling only	Cooling & heating	Cooling only	Cooling & heating	Cooling only	Cooling & heating
Cooling capacity（W）	2000	2000	2500	2500	3500	3500	5000	5000
Heating capacity（W）	—	2300	—	3000	—	4000	—	6200
Electric heating power（W）	—	400	—	400	—	400	—	400
Recycling air volume（m^3/h）	360	360	360	360	500	500	700	700
Noise（dB（A））	31	31	31	31	35	35	46	46
Motor output power（W）	8	8	8	8	11	11	20	20
Power supply	～220V 50Hz							
Type of anti-shock protection	I							
Interior diameter of condensed water drainage pipe（mm）	ф17						ф27	
Dimensions（mm）(W x D x H)	830×189×285		830×189×285		830×189×285		907×195×290	
Weight（kg）	11		11		11		12	
Recommended power cord（mm^2×Pieces）	0.75×3	1.5×3	0.75×3	1.5×3	0.75×3	1.5×3	0.75×3	1.5×3

● Parameters for Floor-standing Type Indoor Units

Item / Model		GMVL-R50L/A	GMV-R50L/A	GMVL-R70L/A	GMV-R70L/A	GMVL-R100L/A	GMV-R100L/AS	GMVL-R120L/A	GMV-R120L/A
Performance		Cooling only	Cooling & heating	Cooling only	Cooling & heating	Cooling only	Cooling & heating	Cooling only	Cooling & heating
Cooling capacity	W	5000	5000	7000	7000	10000	10000	12000	12000
Heating capacity	W	—	5800	—	8000	—	11000	—	13000
Electric heating power	W	—	1200	—	2550	—	3500	—	3500
Recycling air volume	m^3/h	800	800	900	900	1500	1500	1500	1500
Noise	dB（A）	43	43	49	49	53	53	53	53
Motor output power	W	35	35	50	50	100	100	100	100
Rating voltage		～220V					380 3 N	～220V	380 3N
Rating frequency		50Hz							
Type of anti-shock protection		I							
Dimensions（W x D x H）	mm	500×300×1660		500×300×1660		540×380×1750		540×380×1750	
Weight	kg	43		43		55		58	
Recommended power cord	mm^2 ×Piece	1.0×3	1.5×3	1.0×3	2.5×3	1.0×3	2.5×5	1.0×3	2.5×5

● Parameters for C-series Ducted Type Indoor Units

Item \ Model			GMVL—R25P/C	GMV—R25P/C	GMVL—R35P/C	GMV—R35P/C	GMVL—R50P/C	GMV—R50P/C
Cooling capacity		W	2500	2500	3500	3500	5000	5000
Heating capacity		W	—	3000	—	3800	—	5800
Air volume		m^3/h	452	452	572	572	840	840
Noise		dB(A)	37	37	40	40	44	44
Motor output power		W	20	20	20	20	70	70
Electric heating power		W	—	800	—	800	—	1500
Standard external remaining pressure		Pa	0	0	0	0	30	30
Adjustable external remaining pressure		Pa	20	20	20	20	50	50
Type of anti-shock protection			I					
Dimensions	W	mm	875	875	875	875	980	980
	D	mm	680	680	680	680	736	736
	H	mm	220	220	220	220	266	266
Internal diameter of condensed water drainage pipe		mm	ϕ17	ϕ17	ϕ27	ϕ27	ϕ27	ϕ27
Weight		kg	27	27	27	27	36	36
Recommended power cord for cooling-only indoor units		mm^2 ×Pic	1.0×3	1.5×3	1.0×3	1.5×3	1.0×3	1.5×3

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

● The selection of the installational 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 profectional install personnel according to the install instruction instead of install by his/her ownself.

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

● The selection of the installational 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 conveniencely.

☆ The unit cannot be installed in the place where stored the flammability, easy explod thing ortheplace where would have leakage of flammability and explod gas.

☆ The unit cannot be installed in the place where has the corrupt gas and serious dust, saline fog, lampblack and huge humidity.

The selection of installational place of outdoor unit

☆The outdoor unit must be installed on the steady and strong bracket.

☆The outdoor unit should anear to the indoor unit prosibly, to minimize the length and the bend amount of the refregerion pipe.

☆ Prevent to install the outdoor unit under the window or between the construction which lead the normal operating noise pass though into the room.

☆ The air flow is not blocked at the outlet and intake vents

☆ Install the unit in the place with good ventilation so that the unit could suck and discharge enough air.

☆ The unit cannot be installed in the place where has flammability, easy explod thing or the place with polluted air like serious dust, saline fog, etc..

The intake and outlet vent cannot install wind lead tube. When the unit is heating indoor, the condensation water would flow downward from the chassis of the outdoor unit; When the outdoor temp. is below 0℃（32℉）, the condensation water would frozen. When install the outdoor unit should note not to affect the heat emit.

Note !

The air conditioner unit installed in the following place may have malfunction, if the malfunction cannot prevent, please contact the Nominated Repair Centre Of Gree Electric Appliances, Inc. Of Zhuhai.

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 selection of installational place and notice of the air conditioner unit

● The electric cord disposal

☆ The cord disposal should be installed according to the National Principal.

☆ The power must use the rated voltage and the electriccircurt specific for air conditioner unit.

☆ Please don't pull the power cord vigorously.

☆ All the electric equipment should be installed by the profectionsl personel according to the local law, regulation and this instruction.

☆ The power cord diameter should be big enough, the destroied power cord and connecting cord should be replacedby 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 pretection 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.

Suitable Model	Air Switch Capacity	Recommended lead wire（Section×Piece）
GMV(L)-R150W	20A	4.0mm^2×5
GMV(L)-R200W2	25A	4.0mm^2×5
GMV(L)-R250W2	30A	6.0mm^2×5
GMV(L)-R300W2	40A	6.0mm^2×5

● 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 corb to the following place:

①Tap water pipe； ②Coal gas pipe； ③Ejection pipe； ④The place that is consider to be not reliable by the prefessional personnel.

● Noise notice

☆ Please installl the air conditioner in the place with good ventilation to prevent the decrease of the operate capacity and increase of loud noise.

☆ Please install the unit firmly on the bracket that can bear the weight adequatly, otherwise it would cause oscillate and noise.

☆ Make sure that the heat wind and noise would not interfere the neighbour when installing the outdoor unit.

☆ Don't pile up any obstructs near the outlet vent of the outdoor unit, otherwise, it would decrease the operate capacity and increase noise.

☆ Please contact the seller if some abnormal noise is heard from the air conditioner unit when operating.

● The attachment used for installation

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

Performance parameters for the units

● Parameters for A-series Ducted Type Indoor Units

Item \ Model			GMV（L）—R25P/A	GMV（L）—R35P/A	GMV（L）—R50P/A	GMV（L）—R70P/A	GMV（L）—R100P/A（S）	GMV（L）—R120P/A
Cooling capacity		W	2500	3500	5000	7000	10000	12000
Heating capacity		W	3000	3800	5800	8000	11000	13000
Air volume		m^3/h	452	572	840	1400	2000	2000
Noise		dB(A)	37	40	44	46	48	48
Motor output power		W	12	20	70	150	225	225
Electric heating power		W	500	800	1500	2100	3600	3600
External remaining pressure		Pa	10		50	50	50	
Type of anti-shock protection			I					
Dimensions	W	mm	755		904	1108	1425	
	D	mm	680		736	756	756	
	H	mm	220		266	300	300	
Internal diameter of condensed water drainage pipe		mm	ϕ17		ϕ27		ϕ27	
Weight		kg	23		36	55	75	
Recommended power cord for cooling-only indoor units		mm^2 ×Pcs	1.0×3	1.0×3	1.0×3	1.0×3	1.0×3	1.0×3
Recommended power cord for heat pump type indoor units		mm^2 ×Pcs	1.5×3	1.5×3	2.5×3	2.5×3	2.5×5	2.5×5

Notes: 1. There are no parameters for the two items of rating heating capacity and electric heating power for the cooling-only units;

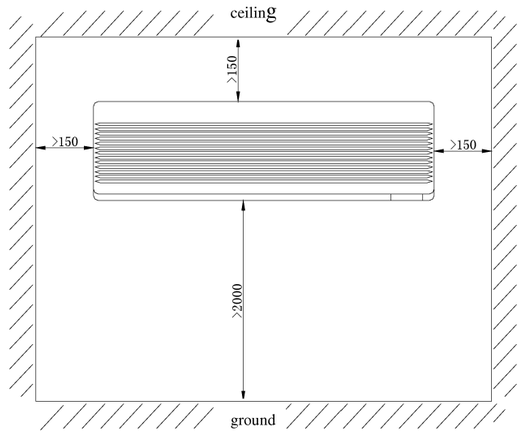
2.All the indoor units will have 220V power supply except for the two models of GMV—R100P/AS and GMV—R120P/A which will have 3-phase 380V power supply.

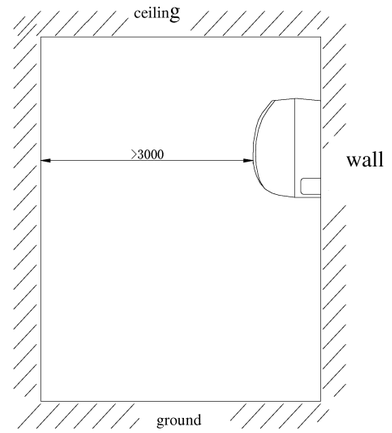
● Parameters for Low Static Ultra Thin Ducted Type Indoor Units

Model	GMVL-R20P/L	GMV-R20P/L	GMVL-R25P/L	GMV-R25P/L	GMVL-R35P/L	GMV-R35P/L	GMVL-R50P/L	GMV-R50P/L	GMVL-R70P/L	GMV-R70P/L
Performance	Cooling only	Cooling and heating	Cooling only	Cooling and heating	Cooling only	Cooling and heating	Cooling only	Cooling and heating	Cooling only	Cooling and heating
Cooling capacity（W）	2000	2000	2500	2500	3500	3500	5000	5000	7000	7000
Heating capacity（W）	—	2500	—	3000	—	3800	—	5800	—	8000
Electric heating power（W）	—	400	—	500	—	800	—	1500	—	2100
Recycling air volume（m^3/h）	400	400	452	452	572	572	840	840	1400	1400
Noise（dB（A））	34	34	36	36	38	38	42	42	46	46
Motor output power（W）	20	20	20	20	20	20	40	40	40	40
Power supply	220V ～50Hz									
Type of anti-shock protection	I									
External remaining pressure（Pa）	0									
Interior diameter of drainage pipe（mm）	ϕ27									
Dimensions（mm）（W x D x H）	Main body：1020×490×185						Main body：1380×490×185		Main body：1650×490×185	
Weight（kg）	20		20		20		22		30	
Recommended power cord（mm^2×pieces）	1.0×3	1.0×3	1.0×3	1.0×3	1.0×3	1.0×3	1.0×3	1.5×3	1.0×3	2.0×3

The installation of wall mounted type indoor unit

● Schematic diagram of installation spaces





Important Notice:

● The unit must be installed by the professional personnel according to this install instruction to ensure the well use.

● Please contact the local Gree special nominated repair department before installation. Any mulfunction caused by the unit that is installed by the department that is not special nominated by Gree would not dealed with on time by the inconvenience of the business contact.

● It should be guide under the prefessional personnel when the air conditioner unit is moved to other place.

● The installation of the rear panel

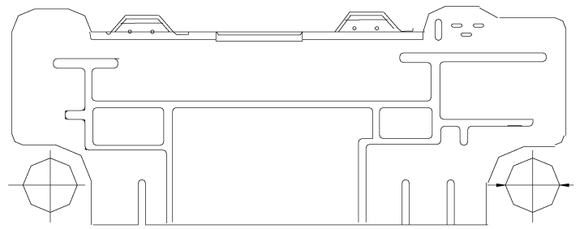


Fig.1

1. Find the horizontal position by seton method; since the drainage pipe is on the left side, adjust the rear panel to make its left side a little bit lower.
2. Fix the rear panel on the wall by bolt.
3. After installing the rear panel, pull it by hand to check if it is firm enough. The hang panel should can support the weight of an adult (60KG), and the weight shared by every bolt for steady should be fairly even.
4. The diameter showed on the fig.1 is: 50mm for model 20、25、35；65mm for model 50.

Installation the wall mounted type indoor unit

● Install the piping hole

☆ Make the piping hole（Φ50 or Φ65）in the wall at a slight downward slant to the outdoor side. The center of the hole should be determined refer to Fig.1.

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

● Install the drainage pipe

☆ For well draining, the drain hose should be placed at a downward slant.

☆ Do not wrench or bend the drain hose or flood its end by water. (Fig.2)

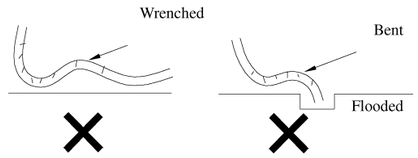


fig .2

☆ Wrap heat resistant material when connect the longer drainage tube though indoor.

● Install the connection pipes

Connect the connect pipe with the two relative leading pipe, tie the nut on tie –in ofthe connect pipe tightly.

Note !

☆ Be careful in bending the connection pipes, or you will damage the pipes.

☆ If the tightening torque is too great in tightening the flare nut, leakage will happen.

● Electrical wiring

Note: The power of every indoor unit should be unity power supply.

1. Open the panel upward;

2. Disassembly the set screw on the connect panel, refer to fig.3;

3. Route the power connection cord from the back and button of the appliance box and though the wiring hole upward;

4. Connect the blue wire of the power connection cord to the terminal "N（1）", the brown one to "2" , and the yellow-green one (earth wire) to " ⏚ " . Compact the power connecting pipe with the coarchtate trough listed in front of the connect pipe platoon on the appliance box, as shown in fig.4.

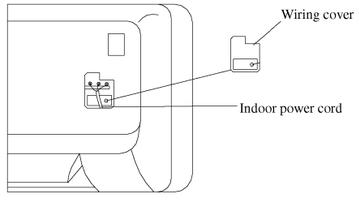


Fig.3

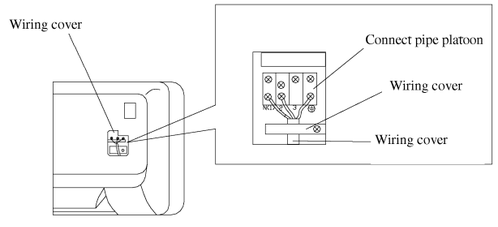


Fig.4

Performance parameters for the units

Rating Operational Status for Air Conditioning Units

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

Notes: 1. All the cooling/heating capacities, operational noises, etc. listed below are the test results of the product upon leaving the factory;

2. All the parameters listed below are the test results under the rating operational status. In case of any changes in the parameters, please refer to the nameplate of the product for the finalized data;

3. The data for the heating capacities of the indoor units are the heat pump heating capacities, not including the auxiliary electric heating power;

4. The following performance parameters are tested and measured under the Q/GD21.10—2002 Standards.

● Parameters for Cassette Type Indoor Units

Item \ Model		GMVL-R50T/A	GMV-R50T/A	GMVL-R70T/A	GMV-R70T/A	GMVL-R100T/A	GMVL-R120T/A	GMV-R100T/AS	GMV-R120T/A
Functions		Cooling only	Cooling and heating	Cooling only	Cooling and heating	Cooling only	Cooling only	Cooling and heating	Cooling and heating
Cooling capacity	W	5000	5000	7000	7000	10000	12000	10000	12000
Heating capacity	W	—	5500	—	7500	—	—	11000	12500
Electric heating power	W	—	700	—	1400	—	—	2100	2100
Recycling air volume	m^3/h	680	680	1180	1180	1860	1860	1860	1860
Noise	dB(A)	45	45	47	47	52	52	52	52
Motor output power	W	35	35	35	35	50	50	50	50
Power supply		220V ～50Hz						380V 3N～ 50Hz	
Type of anti-shock protection		I							
Dimensions (W x D x H))	cm	Main body：84×84×19 Front panel：95×95×6		Main body：84×84×24 Front panel：95×95×6		Main body：84×84×32 Front panel：95×95×6			
Weight (main body/front panel)	kg	25/6.5		30/6.5		38/6.5			
Recommended power cord	mm^2 ×pieces	1.0×3	1.5×3	1.0×3	2.5×3	1.0×3	1.0×3	1.5×5	1.5×5

Trouble–shooting

● The Following Phenomena are not Operational Failures:

Phenomena		Cause
Air conditioning system does not work.	Activation immediately after the stop of operations	The overload protection maintains a delay of 3 minutes before re-activation.
	Upon the turning on of the power	Wait for about one minute.
Thin fog blown from the unit	During the cooling operation	The air with high humidity inside the room is cooled swiftly.
The system produces noises.	Slight tick-tack sound may be heard upon starting the operation	The sound is produced from the electronic expansion valve in the initialization process.
	There are sustained s—s—s sounds during the cooling operation	The sound is made by the refrigerant in flowing inside the unit.
	There are s—s—s sounds when activation or stopping	The sound is made when the flow of the gas form refrigerant stops.
	There are sustained s—s—s sounds during and after the operations	The sound is from the operation of the drainage system.
	There are quacking sounds during and after the operations	The sound is produced from the frictions caused by the expansion of the front panel or other parts due to temperature variations.
The air conditioning system blows out dust.	Upon activation after long time period of suspension	The dust inside the indoor units is blown out.
The air conditioner emits odor.	During operational processes	The odor inside the room is sucked in by the units and then blown out.

● After services

☆ In any case that the air conditioning units that you have purchased happen to have any quality problem or other troubles, please contact the local authorized Glee After Service Department. Refer to the “Directory of Nationwide Network of Glee Service Centers” for details.

Install the indoor unit

5. Connect the wiring (communication) though the piping hole of the chassis and the botton of the appliance upward, then insert them on the control panel CN15, CN16 and CN17 of the indoor unit, and clamp them with the wire clamp packed in the chassis;
6. Reinstall the wiring cover on the original place and tighten the bolt;
7. Recover the surface panel.

Note!

● The incorrect of wiring connecting would lead mulfunction of some of the electric elements.

● Make sure that the lead between the connect end and the clamp end has some need space after the wire is fixed.

● Install the indoor unit

1. When routing the piping and wiring from the left or right side of the indoor unit, please refer to fig. 5 (a), (b), cut off the tailings from the pipe holder in necessary (shown in fig.5（c）).

☆ Cut dowm tailings 1 when only the power cord is led.

☆ Cut down tailings 1,2 (or 1,2,3) when the connection cord and wire are led.

☆ The pad wire type ①、②、③ are recommended.

2. Let the tubing and cord pass though the piping hole afer tied up (refer to fig .5 (d)).
3. Hang the claw behind the indoor unit on the pothookon the wall rear panel, move the unit left and right to check if the body is firm.
4. Guarnntee that the install height of the indoor unit should above 2.0m from the floor.

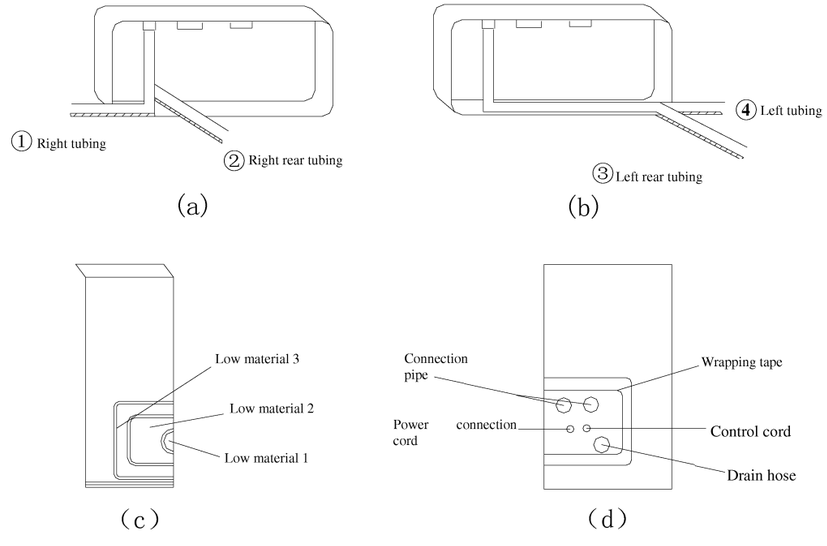
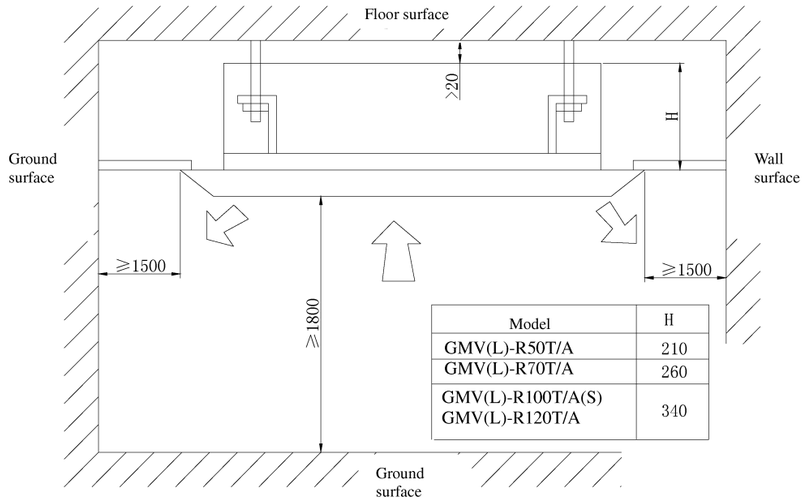


Fig.5

Install of the cassette type indoor unit

● Schematic diagram of installation spaces



Model	H
GMV(L)-R50T/A	210
GMV(L)-R70T/A	260
GMV(L)-R100T/A(S) GMV(L)-R120T/A	340

Fig.6

● Select install location of the indoor unit

1. Obstruct should put away from the intake or outlet vent of the indoor unit so that the air flow can be blow though all the room.

2. Make sure that the installation had accord with the requirement of the schematic diagram of installation spaces.

3. Select the place where can stand 4 times of the weight of the indoor unit and would not increase the operating noise and oscillate.

4. The horizontally of the installation place should be guaranteed.

5. Select the place where easy drain condensated coagulated water, and easy connect with outdoor unit.

6. Make sure that there are enough space for care and maintenance. **Make sure that the weight between the indoor unit and ground is above 1800mm.**

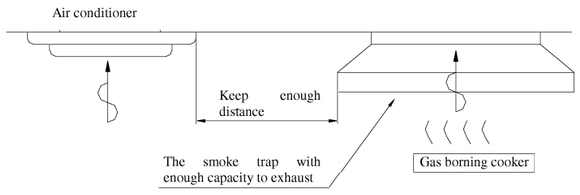
7. When installing the steev bolt, check if the install place can stand the weight 4 times of the unit's. If not, reinforce before installation. (Refer to the install cardbord and find where should be reinforced)

Note !

There will be lots of lampblack and dust stick on the acentric, heat exchanger and water pump in dining room and kitchen, which would reduce the capacity of heat exchanger, lead water leakage and abnormal operation of the water pump. **The following treatment should be taken under this circumsantce:**

1. Ensure that the smoke trap above cooker has enough capacity to obviate lampblack to prevent the indraft of the lampblack by the air conditioner.

2. Keep the air conditioner far from the kitchen so that the lampblack would not be indraft by the air conditioner.



Trouble–shooting

Warning !

- In case of any abnormal phenomena (such as unpleasant smell, etc.), stop the operation of the units immediately and turn off the main power supply. Contact the authorized Glee Service Center. If the system keeps operating when some abnormal conditions happen, damages might caused to the air conditioning units, and such hazards like fire or electric shock accidents might occur.
- Never try to do the repairs by yourself. Erroneous maintenance or repairs will cause electric shock or fire hazard. Please contact the authorized Glee Service Center for professional maintenance and repairs.

● Follow the Checklist Before Contacting the Services of Repairs:

Phenomena	Cause	Corrective remedies
Air conditioning system does not operate at all.	Fuse blown or breaker off	Replace the fuse or turn on the breaker.
	Power failure	Reactivate the system for operations when power is restored.
	Power supply not connected	Connect the power supply.
	Poor battery power of remote controller	Replace with new batteries
	Remote controller out of control range	Practice controls within the range of 8 meters.
The system stops immediately after being activated.	The air inlet or outlet openings of the indoor or outdoor units are blocked.	Remove the obstacles.
Abnormal operations of cooling, heating	The air inlet or outlet openings of the indoor or outdoor units are blocked.	Remove the obstacles.
	Improper setting of temperature	Adjust the temperature setting on the wireless remote controller or remote controller.
	Air speed setting too low	Adjust the setting on the wireless remote controller or remote controller.
	Incorrect direction of air delivery	Adjust the setting on the wireless remote controller or remote controller.
	Doors or windows open	Close the doors and windows.
	Direct sunlight exposure	Hang a window curtain or louver.
	Too many people in the room	
	Too many heat sources in the room	Reduce the heat sources.
	Filter screen blocked by dirt	Clean the screen.

● Notes

If no cause is identified after going through the above checklist, please contact the authorized Glee Service Center, describing the symptoms and model of your air conditioning units.

Method of maintenance

Warning!

● When cleaning the air conditioner unit, the units must be turned off, and the main power supply source to the air conditioners be disconnected. Otherwise, it might cause electric shock hazards.

● Do not get the air conditioning units wet, which might cause electric shock hazards. It must be made sure that under no circumstance should the air conditioning units be cleaned by way of flushing water.

Attention!

● Some volatile liquids like the diligent or gasoline may damage the outer appearance of the air conditioner units (Use only the soft and dry cloth or wet cloth soaked with neutral detergent solutions to clean the outer cases of the units).

● Never try to use warm water above 45℃ to clean the outer case of the units, which might cause fading or deformation.

● Do not dry the air filter screen of the indoor unit on the fire, which might cause fire hazard or deformation of the screen.

● 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 to see if the batteries of the remote controller have been replaced;

☆ Check to see of the air filter screen is properly placed;

☆ Check to see if the outdoor unit is firmly installed. Contact the authorized Glee Service Center for any abnormal phenomena.

☆ If the unit is to be activated for operations after long time period of suspension, the main power switch of the air conditioning system should be turned “ON” 8 hours in advance of the operation so as to activate the system successfully and smoothly.

● Maintenance After the Ending of the Operational Seasons

☆ Clean the filter screen and the bodies of the indoor and outdoor units;

☆ Disconnect the main power supply for the air conditioning system;

☆ Clear off the dust and foreign objects on the outdoor unit;

☆ In case of any rust to the outdoor unit, apply some paint on the rusted section so as to prevent the rusted area from expanding.

Please refer to the supplied operational instruction manuals of the indoor units for the details of the specific methods for the maintenance of various indoor units.

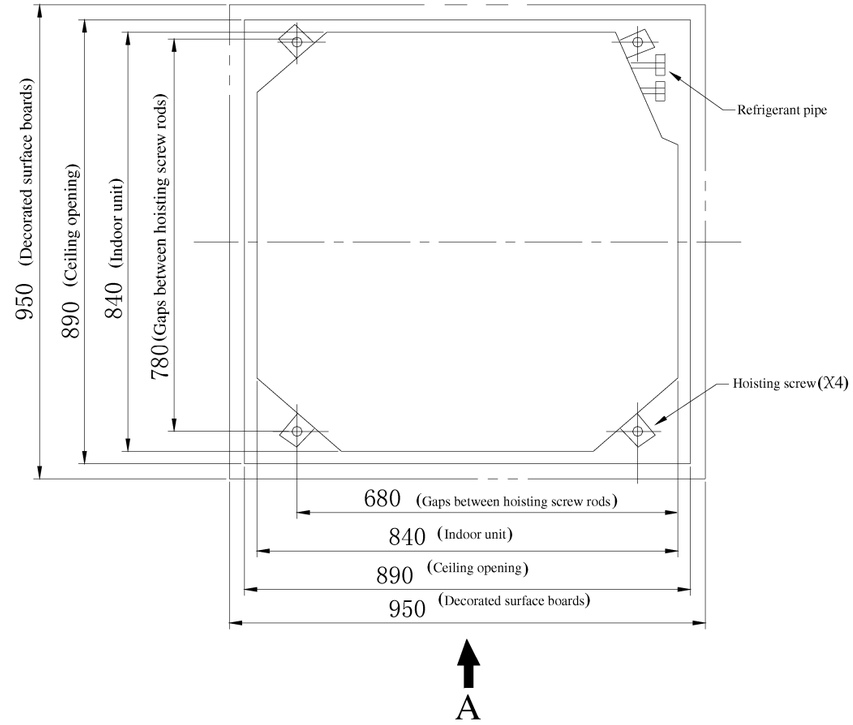
Install the cassette type indoor unit

● Important notice:

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

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

● Dimension of ceiling opening and location of the hoisting screw (M10)



Install dimension of mode GMV（L）-R120T/A、GMV（L）-R100T/A（S）、GMV（L）-R70T/A 、GMV（L）-R50T/A

☆ The drilling of holes in the ceiling must be done by the professional personnal.

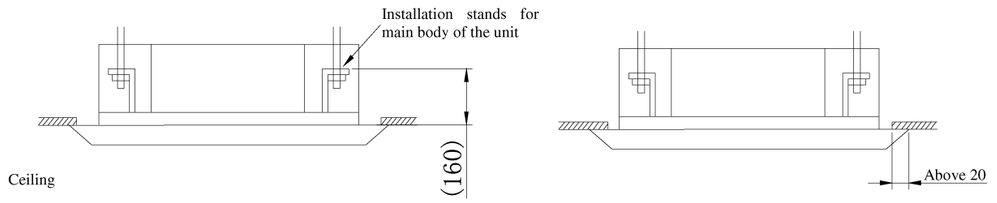


Fig.7

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.

Install of the cassette type indoor unit

● Main body of hoisting air conditioner

1 .The primary step for install the indoor unit.

☆ When attach the hoisting stand on housting screw, do use nut and gasket individially 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.

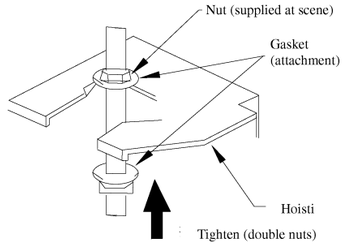
3 Adjust the unit to the suitale install place. (Refer to the fig.7)

4 Check if the unit is horizontal.

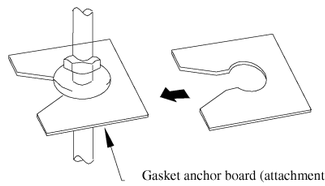
☆ Inner drainage pump and bobber switch are included in the indoor unit, check if 4 angle of every unit are horizontal by water lever. (If the unit is slant toward the opposite of the coagulate water flow, there may be malfunction of the bubber switch and lead water drop.)

5 Backout the gasket anchor board used to prevent gasket break off and tighten the nut on it.

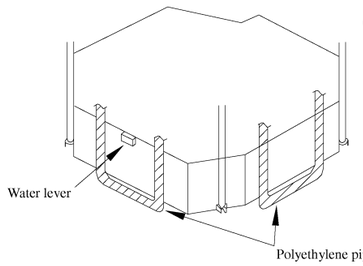
6 Backout the install cardboard.

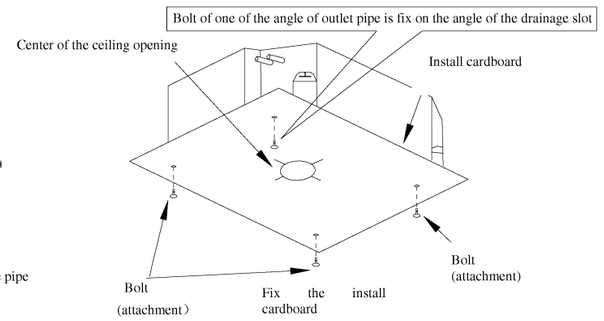


【Fix the hoisting stand firmly】



Fix the gasket firmly





Note !

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

Guide to remote controller operations

7）When there happen any operational failures, the remote controller will display the failure code accordingly,shows the high-pressure protection for the compressor.

The implications of the failure codes are as follows:

Failure	Failures implied
E1	High pressure protection for compressor
E2	Protection against freezing for indoor unit
E3	Low pressure protection for compressor
E4	Protection of compressor exhaust air temperature
E5	Overload protection for compressor
E6	Communication failures
F0	Failure with the indoor ambient temperature sensor
F1	Failure with the indoor coil inlet temperature
F2	Failure with the indoor coil interim temperature
F3	Failure with the indoor coil outlet temperature
F4	Failure with outdoor ambient temperature sensor
F5	Failure with the outdoor coil inlet temperature sensor
F6	Failure with the outdoor coil interim temperature sensor
F7	Failure with the outdoor coil outlet temperature sensor
F8	Failure with exhaust air temperature sensor 1 (nominal)
F9	Failure with exhaust air temperature sensor 2
FA	Failure with oil temperature sensor 1 (nominal)
Fb	Failure with oil temperature sensor 2 (digital)
FC	Failure with high pressure sensor
Fd	Failure with low pressure sensor

In the case that the controller displays any failures, the unit should be turned off immediately for checking and inspection. Call the professionals for maintenance or trouble-shooting.

Guide to remote controller operations

5）**Setting of operational modes**

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 remote controller 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.

❖ Each pressing of the button will shift the operational mode in the following sequence:
→ Cooling→Dehumidification→Air Delivery→Heating

❖ During the “Cool” mode operation, the indicating light for cool operation will be on. The temperature setting must be lower than the current room temperature. If not, this air conditioning system will not go in to the cooling mode. Instead, only the fan will operate.

❖ During the “Dehumidification” mode operation, the indicating light for dehumidification operation will be on. The fan of the indoor unit will operate in low air speed within the range of a certain temperatures. The dehumidification effect of this mode is more obvious than the operation in the cooling mode, and more energy saving.

❖ During the “Heat” mode operation, the indicating light for heating operation will be on. The temperature setting must be higher than the current room temperature. If not, this air conditioning system will not be activated for heating operation.

❖ During the “Fan” mode operation, the indicating light for fan operation will be on. The room temperature is displayed on the LCD of the controller.

❖ During heat operation, when the outdoor temperature is low while the humidity is high, there will be frosting on the outdoor unit, which will cause the reduction of the heating effect. In this case, the controller will automatically activate the defrosting cycle, with the indicating light of “Defrosting” flashing.

Note: The cooling-only units do not have the heating mode.

6）**Setting of timing**

In the switch-off state, the unit can be set for timed switch-on. In the switch-on state, the unit can be set for timed switch-off. Each pressing of the timing button will increase the time setting by 0.5 hour. Press and hold the button will automatically increase half an hour for every 0.5 seconds.

The range for setting the timing will be 0.5—24 hours.

Install of the cassette type indoor unit

● Connect the refrigerant pipe

☆ When connect the pipe to the unit or backout it from the unit, please do use both spanner andtorque wrench. As shown in fig.8.

☆ When connect, smear both inside and outside of the flare nut with freeze motor oil, screw it for 3 to 4 turns by hand and then tighten it

☆ Refer to form 1 to check if the wrench had been tighted (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.8.

☆ Only use median sponge to entwine the wiring interface of the gas pipe and heat preservation sheath of the gas collection tube.

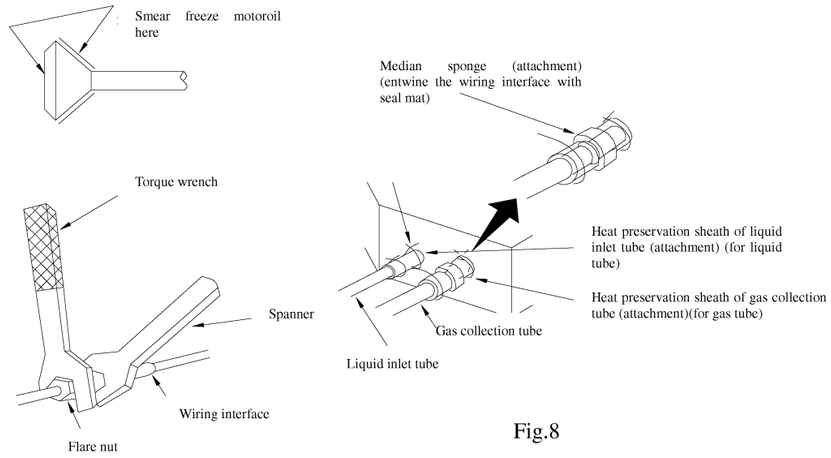


Fig.8

Form 1: The tightening torque needed for tightening nut

Diameter	Surface thickness（mm）	Tightening torque
ф6.35mm	≥0.5	15-30 (N • m)
ф9.52mm	≥0.71	30-40 (N • m)
ф12.7mm	≥1	45-50 (N • m)
ф15.9mm	≥1	60-65 (N • m)
ф19.05mm	≥1	70-75 (N • m)

● Drainage hose

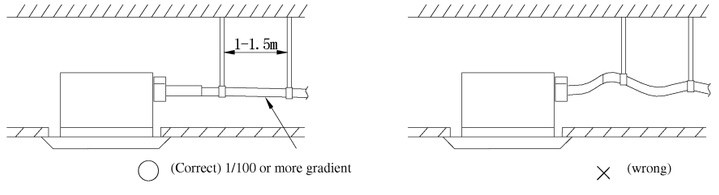
1. Install the drain hose

☆ The diameter of the drain howe should equil or bigger than the connection pipe’s. (The diameter of polythene pipe: Outer diameter 25mm Surface thickness ≥1.5mm)

☆ Drain hose should be short and drooping gradient should at less 1/100 to prevent the formation of air bubble.

☆ If drain hose cannot has enough drooping gradient, drain raising pipe should be added.

☆ To prevent bent of the drain hose, the distance between hoisting stand should is 1 to 1.5m.



Install the cassette type indoor unit

☆ Use the drain hose and clamp attached. Insert the drain hose to the drain vent, and then tighten the clamp.

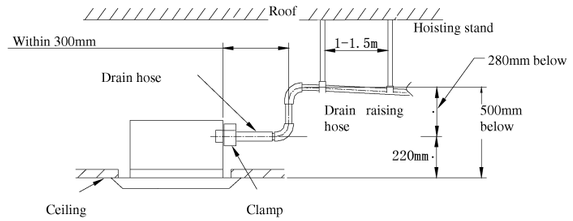
☆ Entwine the big sponge on the clamp of drain hose to insulate heat.

☆ Heat insulation should be done to indoor drain hose.

Drain stepup pipe note

☆ The install height of the drain raising pipe should less than 280mm.

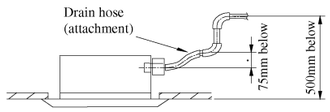
☆ The drain raising pipe should form a right angle with the unit, and distance to unit should not beyond 300mm.

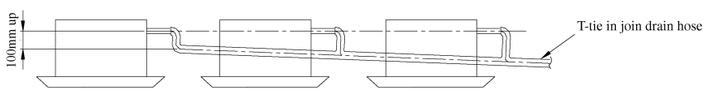


Instruction

☆ The slant gradient of the attached drain hoseshould within 75mm so that the drain hole doesn't has to endure the unnecessary outside force.

☆ Please install the drain hose according to the following process if several drain hoses join together.





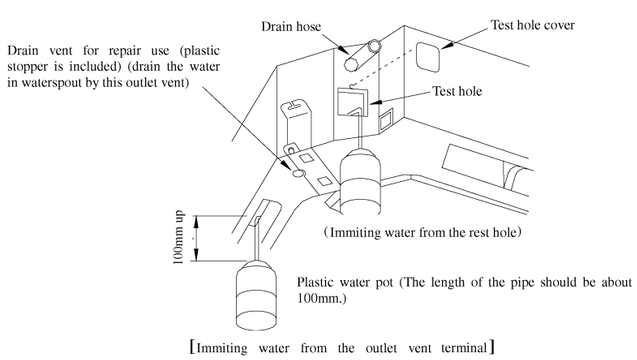
The specs of the selected join drain hose should fits the running capacity of the unit.

2 Check the smoothness of drain after installation.

☆Check the drain state by immiting 600cc water slowly from the outlet vent or test hole.

☆ Check the drain in the state of refrigerating after installation of the electric circurt.

【Way of immiting】



【Immiting water from the outlet vent terminal】

Guide to remote controller operations

1） **On/Off switch**

Press the On/Off button and the unit will be activated

❖ Press the button once again and the unit will stop operating. The indoor unit will deliver the cooled or heated air for another 20—70 seconds.

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.

2）**Fan control (Only the related performances or functions are displayed).**

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

→ Auto→low speed→medium speed→high speed

When the fan control is set to be automatic during the operational modes of heating, cooling and air delivery, the fan speed will be adjusted accordingly with the room temperature conditions; during the dehumidification mode operation, the fan speed will be automatically set to be in the low speed.

3）**Temperature adjustment**

Press the temperature adjustment button,

△: For increase of the set temperature;

▽: For decrease of the set temperature.

(Each pressing of this button will increase or decrease 1℃ of the temperature. Press and hold the button, the temperature will be increased or decreased by 1℃ for every 0.5 second).

❖ Ranges of temperature setting in various modes:

Heating mode -------- 16℃～30℃

Cooling mode -------- 16℃～30℃

Dehumidification mode -------- 16℃～30℃

Air delivery mode -------- 16℃～30℃

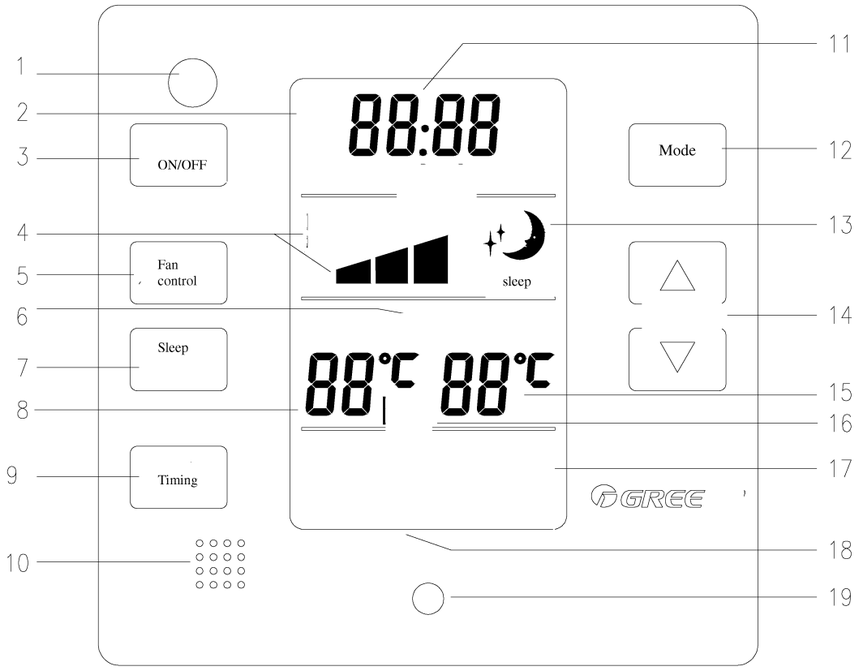
4）**Setting of sleeping mode**

❖ If the controller is in the mode of cool or dehumidification, the preset temperature Ts will be raised by 1℃ in one hour after pressing the sleeping mode button, and by two degrees C in two hours. A total of 2℃ will be raised within the 2 hours. Then unit will operate under the set temperature.

❖ If the controller is in the mode of heating, the preset temperature Ts will be dropped by 1℃ in one hour after pressing the sleeping mode button, and by 2℃ in two hours. A total of 2℃ will be dropped within the 2 hours. Then unit will operate under the set temperature.

❖ In the air delivery mode, there is no such performance as sleeping mode operation.

Guide to remote controller operations



Various Components of Remote controller			
1	Reception head of remote signal	2	Display of timed on/off
3	On/Off button	4	Fan control display (auto, high speed, medium speed, low speed)
5	Fan control button	6	Defrosting display
7	Sleeping mode button	8	Display of temperature setting
9	Timer button	10	Buzzer
11	Display of timer	12	Mode button
13	Sleep mode display	14	Temperature adjustment button
15	Display of ambient temperature	16	Display of testing
17	Display of operational modes (cooling, dehumidification, air delivery, heating)	18	Display of operation conflicts
19	Power supply indicator light		

Install the cassette indoor unit

●Electrical wiring

⚠ Note: The power of the entire indoor unit must be unity power supply

☆ About the electrical wiring, please see the circuit diagram attached with the unit.

☆ All the installation of electrical wiring must be done by professional personnel.

☆ Please do take the earthing treatment.

Wiring method of connection unit and controller

☆ Connection wiring (communication)：

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

② Wiring according to the indoor side circuit diagram.

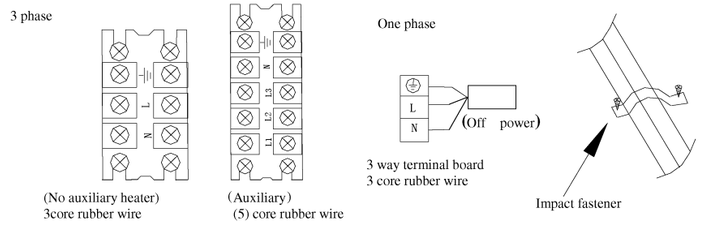
☆ Fix the impact fastener after connetion.

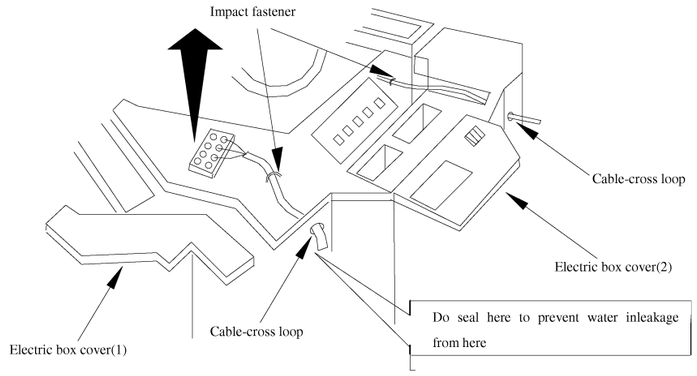
☆ Entwine the small sponge on the electric wire (do entwine it to prevent condensation)

☆ 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.





Install the cassette type indoor unit

● Install the 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.9.

2. Install the panel

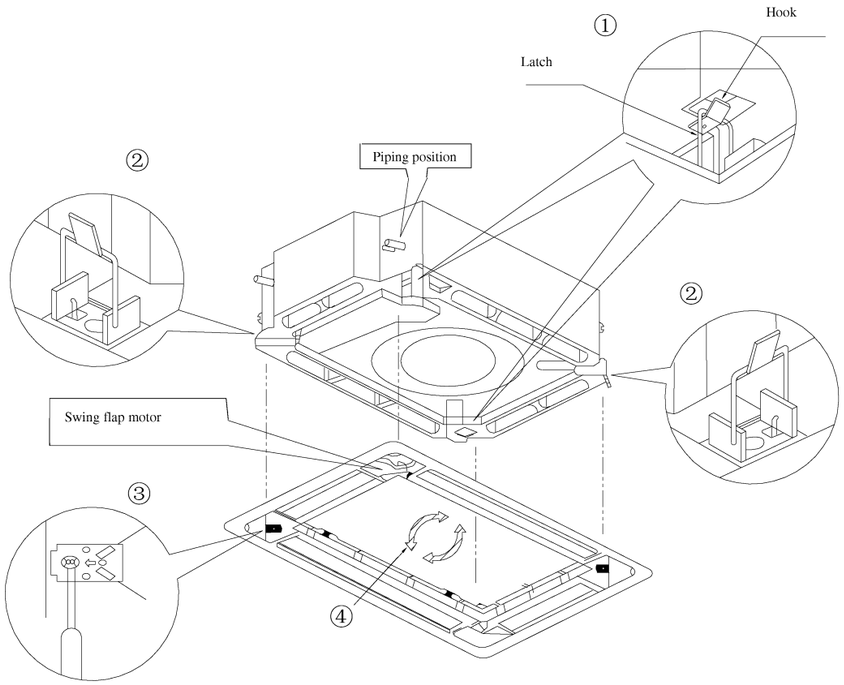
① Install the panel on the indoor unit temporarily. When install, hang the latch on the hook that is located on the oppsite side of the swing flap on the panel of the indoor unit. (2 positions)

② Hang the remaining 2 latchs 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.



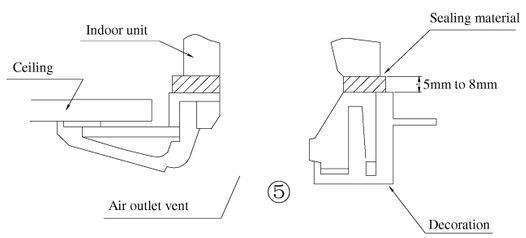


Fig 9

Names and functions of every part of the wireless remote controller

Optional steps:

6. Press the **Sleep** mode button to set the unit in the sleeping mode.

7. Press the **Timer** button and press the **+/-** button as well to set the desired operation time.

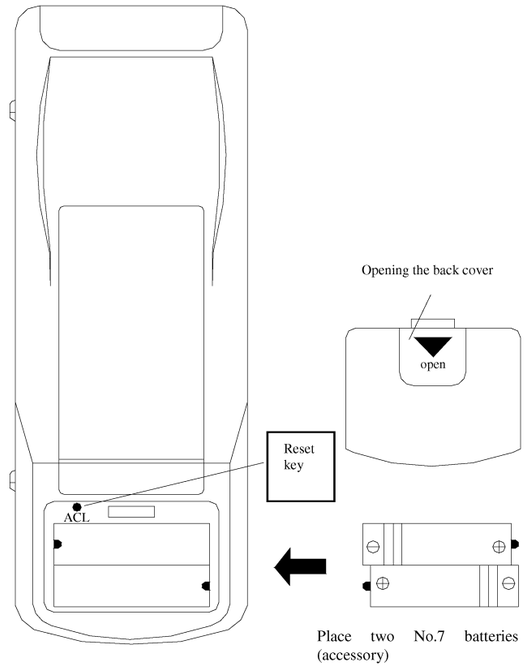
Note: When the selected operational mode of the indoor units contradicts to the operational mode of the outdoor unit, the fault alarming light of the indoor unit will flash in 5 seconds and the indoor unit will stop operating. In this case, you may shift the operational mode of the indoor unit to the 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.

● Installation of Batteries into the Wireless Remote Controller

The remote controller uses two No.7 alkali batteries.

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

2. Close the back cover of the remote controller.



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℃ 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℃ 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℃, and press the "-" button once and the temperature will go down by 1℃. The room temperature can be adjusted at user's discretion within the range of 16—30℃.

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. Press the **Swing** button to make the air swing blades to sweep the air at a certain angle. Press the button once again to stop the sweeping (the ducted type indoor units do not have the air sweeping performance).
4. Set the fan speed by pressing the **Fan** button.
5. Press the **+/-** button to select the needed temperature.

Install the cassette type indoor unit

Note

1. Improper screwing of the screws may cause the troubles shown in fig.10.

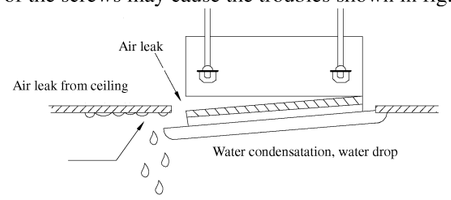


Fig.10

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.11)

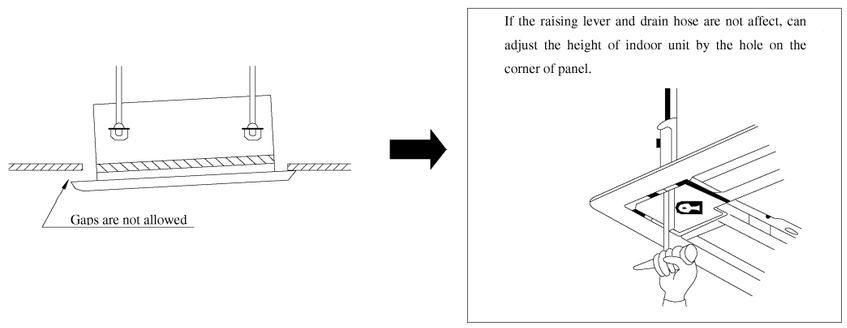


Fig.11

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

3. Wiring of the decoration panel (Fig.12)

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

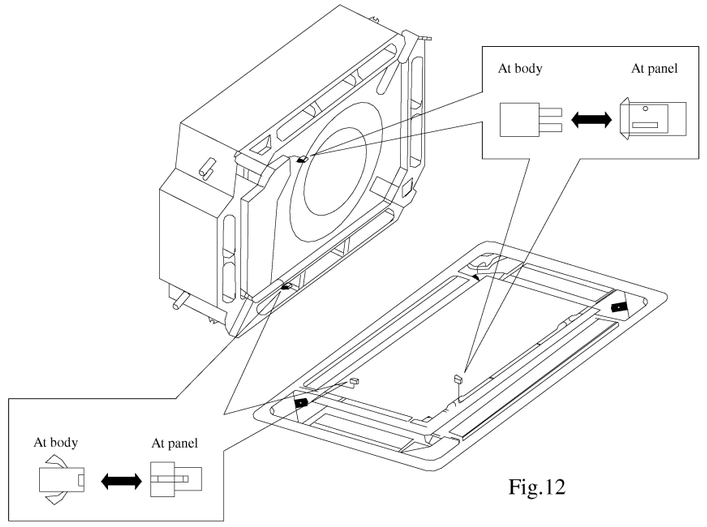
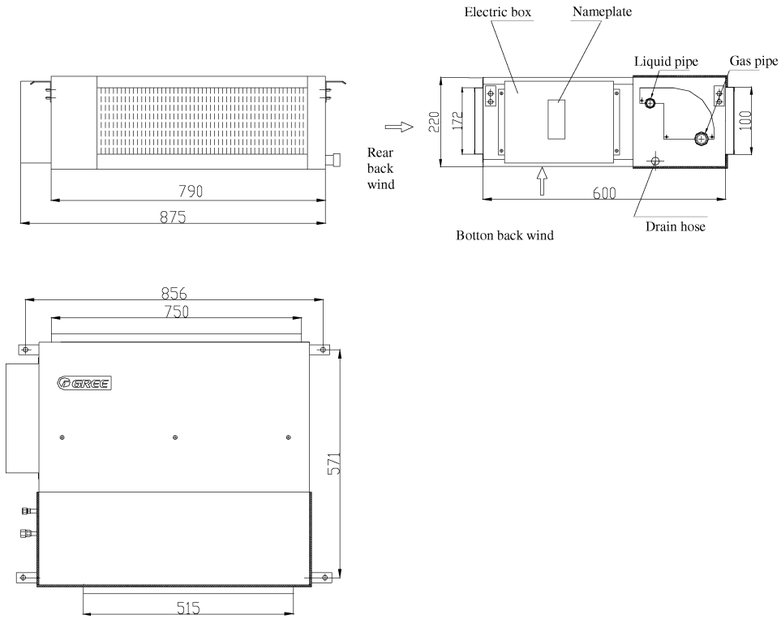


Fig.12

Install of the ducted type indoor unit

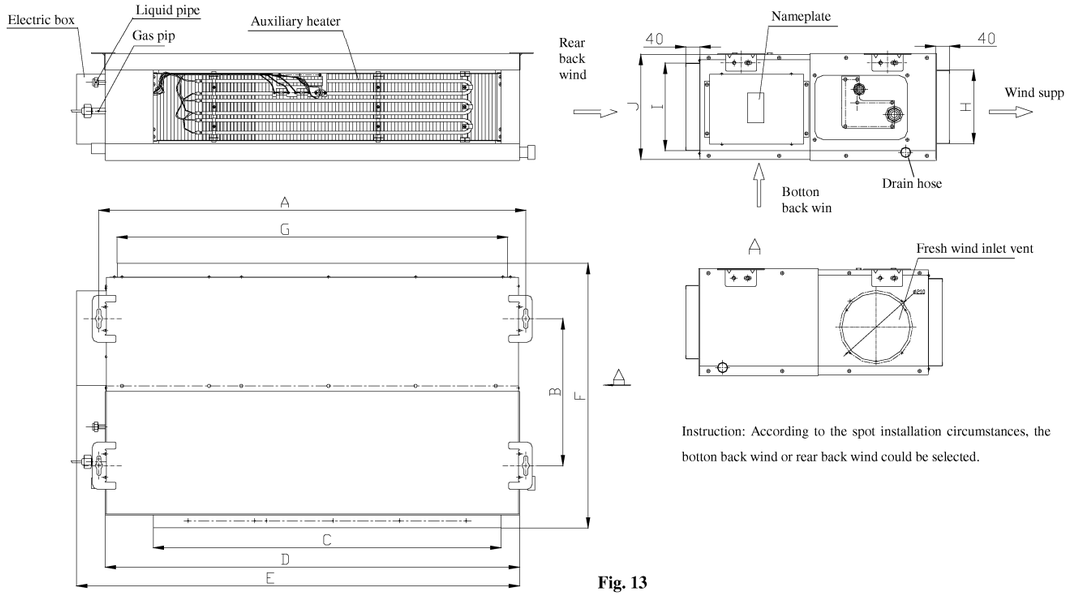
● Shape dimension diagram of indoor unit

The diagram of below is fit for the indoor units of GMV（L）-R25P/C、GMV（L）-R35P/C



The diagram of below is fit for the indoor units of GMV（L）-R25P/A、GMV（L）-R35P/A、GMV（L）-R50P/A、GMV（L）-R50P/C、

GMV（L）-R70P/A、GMV（L）-R100P/A、GMV（L）-R120P/A



Instruction: According to the spot installation circumstances, the botton back wind or rear back wind could be selected.

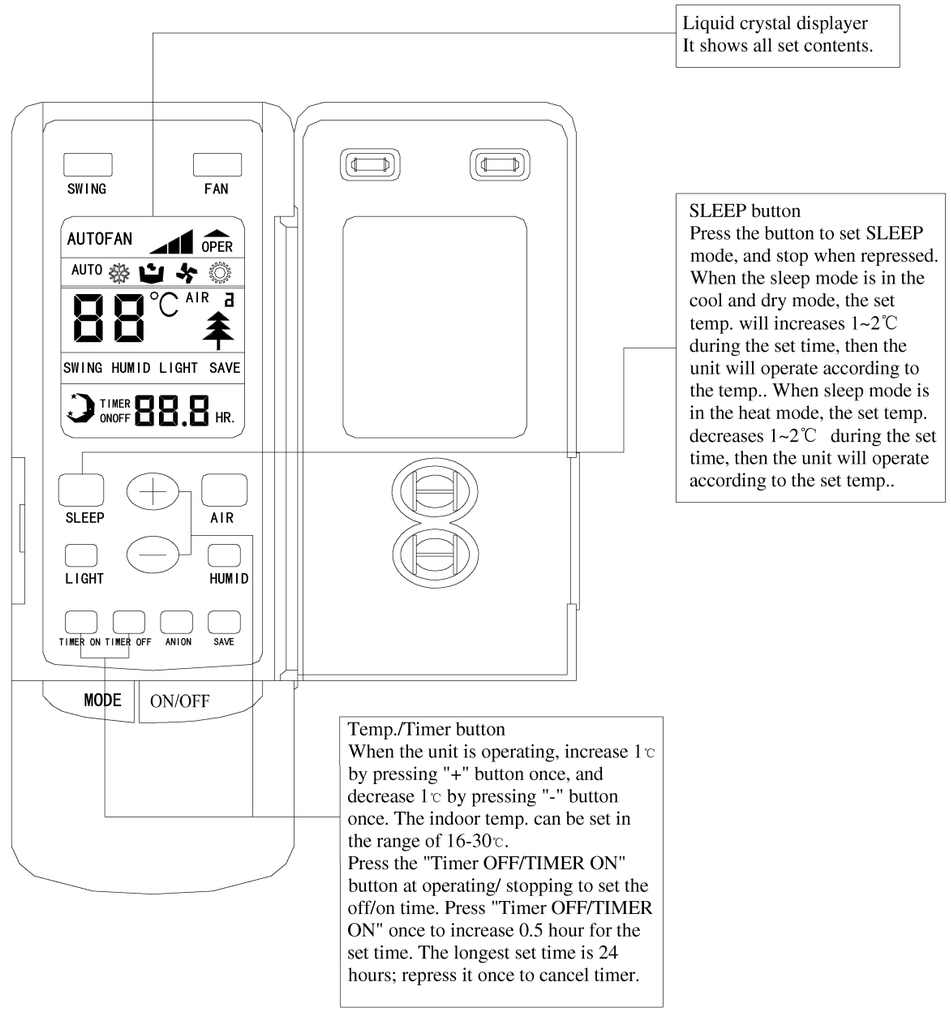
Fig. 13

Names and functions of every part of the wireless remote controller

● Names and Functions of Every Button of the Wireless Remote Controller (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 every part of the wireless remote controller

● Names and Functions of Various Buttons on the Wireless Remote Controller

Remote controller is optional for the ducted type indoor units.

Attention !

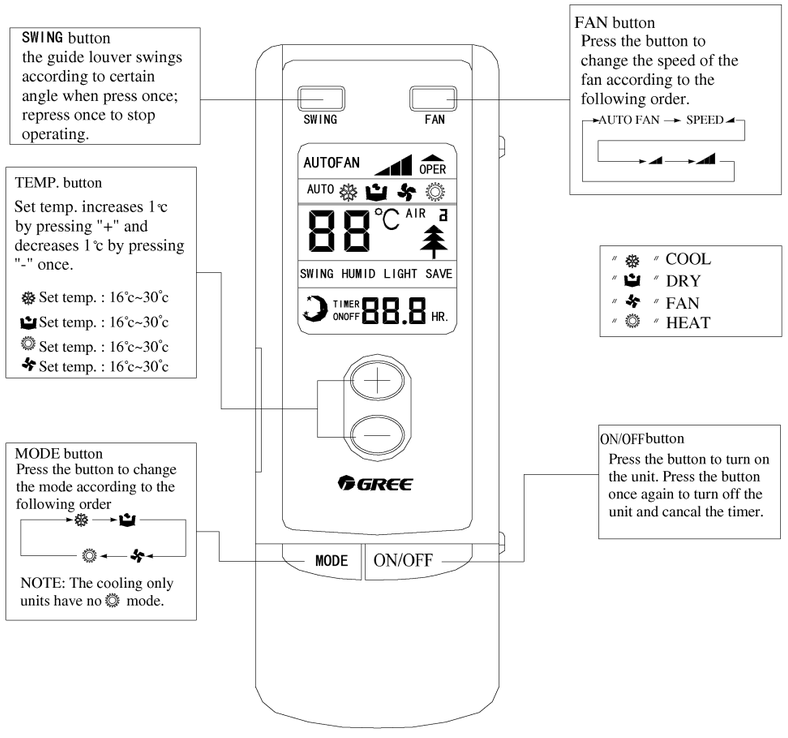
● It must be made sure that there is no obstacle between the remote controller and the signal-receiving window.

● The signal reception distance of the remote controller can be as far as 10 meters.

● Do not accidentally drop the remote controller onto the ground or throw it at random.

● Do not allow any liquid to get inside the remote controller.

● 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.

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.

Install of the ducted type indoor unit

unit：mm

Model	A	B	C	D	E	F	G
GMV（L）-R25P/A	736	564	515	670	765	680	515
GMV（L）-R35P/A	736	564	515	670	765	680	515
GMV（L）-R50P/A	932	430	738	904	980	736	738
GMV（L）-R50P/C	932	430	738	904	980	736	738
GMV（L）-R70P/A	1112	420	918	1070	1155	756	1008
GMV(L)-R100P/A(S)	1382	420	1155	1340	1425	756	1278
GMV（L）-R120P/A	1382	420	1155	1340	1425	756	1278

Model	H	I	J	Wiring (Liquid pipe))	Wiring (Gas pipe)	Drain hose (Outside x inside)
GMV（L）-R25P/A	172	172	230	φ6.35	φ9.52	φ20× φ17
GMV（L）-R35P/A	172	172	230	φ6.35	φ12.7	φ20× φ17
GMV（L）-R50P/A	207	207	266	φ9.52	φ12.7	φ30× φ27
GMV（L）-R50P/C	207	207	266	φ9.52	φ12.7	φ30× φ27
GMV（L）-R70P/A	207	250	300	φ9.52	φ15.9	φ30× φ27
GMV(L)-R100P/A(S)	207	250	300	φ12.7	φ19.05	φ30× φ27
GMV（L）-R120P/A	207	250	300	φ12.7	φ19.05	φ30× φ27

● **Schematic diagram of installation spaces**

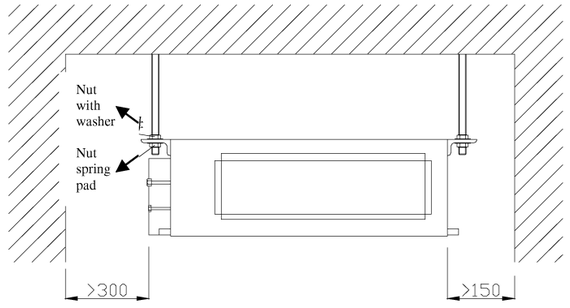


Fig.14

● **Schematic diagram of installation spaces**

1. Ensure that the latches at top are firm enough to stand the weight of unit.
2. Convenience to drain by drain hose.
3. There is no obstruct around intake and outlet vent, keep well ventilation.
4. Ensure the install distance of the indoor unit as shown in fig.14, ensure the necessary space for care and maintaince.
5. Far from space heater, leakage of combustible gas and place with fog.
6. This unit is model cassette type (hide installation type is hided in ceiling), as shown in fig.18.
7. Indoor unit, outdoor unit, power cord, and connection pipe should have at least 1m's distance with TV set, radio, to prevent the apparence of disturb picture and noise happened on the above metioned home appliance. (If the electric wave were strong, even though 1m had maintained, noise would still happened.

Install of the ducted type indoor unit

●Install the indoor unit

1. Insert the M10 inflate bolt to the hole then nail the iron nails into the bolts. The distance between holes is shown in fig.13. The install of inflate bolt is shown in fig.15.

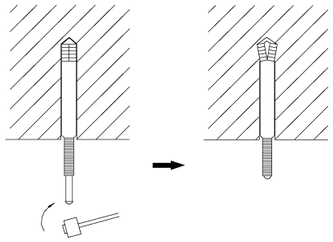


Fig.15

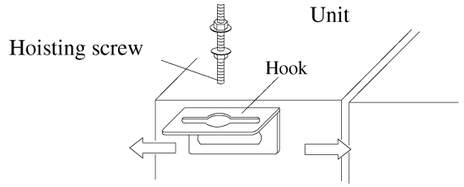


Fig.16

2. Install the hook on the unit, as shown in fig.16.
3. Install the indoor unit to the ceiling as shown in fig.17.

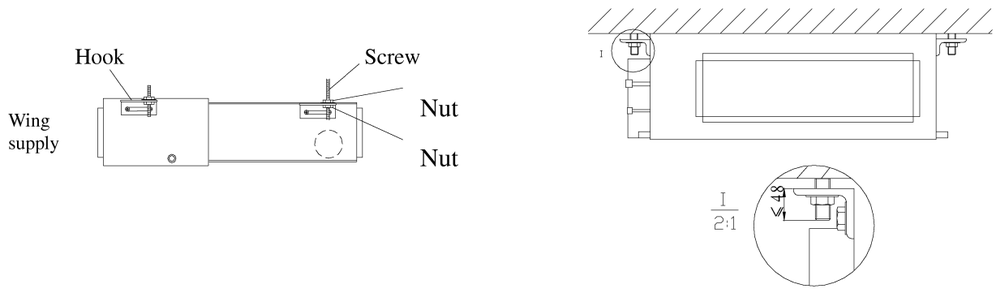


Fig.17

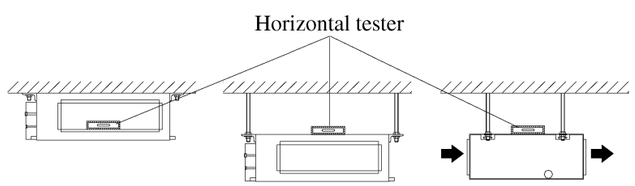
⚠ **Note：**

☆ To open an opening on the ceiling, probably reinforce would to be done to keep the ceiling smooth and to prevent librate. Please consult user or builder for detail.

☆ If the ceiling if not strong enough, an angle iron stand can be made and has the unit fixed on the stand.

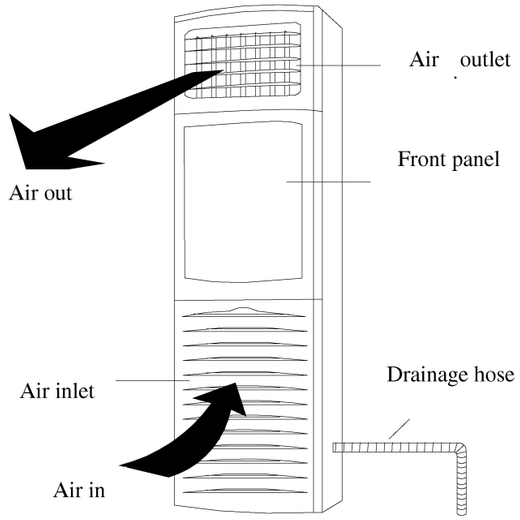
● Water lever test for indoor unit

The water lever test must be tested after installing the indoor unit to make the front, back, left and right or the unit are horizontal, as shown below.



Configuration of the unit and name of each part

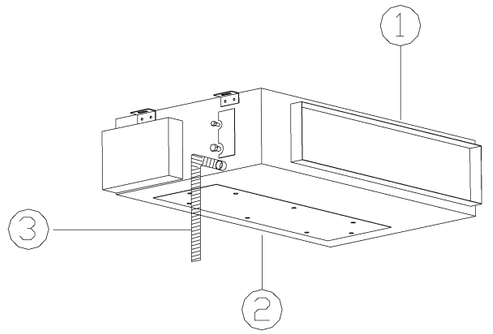
● Floor-standing Type Indoor Units



Applicable to models of:

GMV-R50L/A
GMV-R70L/A
GMV-R100L/AS
GMV-R120L/A
GMVL-R50L/A
GMVL-R70L/A
GMVL-R100L/A
GMVL-R120L/A

● Low Static Super Thin Ducted Type Indoor Units



Applicable to models of:

GMV-R20P/L
GMV-R25P/L
GMV-R35P/L
GMV-R50P/L
GMV-R70P/L
GMVL-R20P/L
GMVL-R25P/L
GMVL-R35P/L
GMVL-R50P/L
GMVL-R70P/L

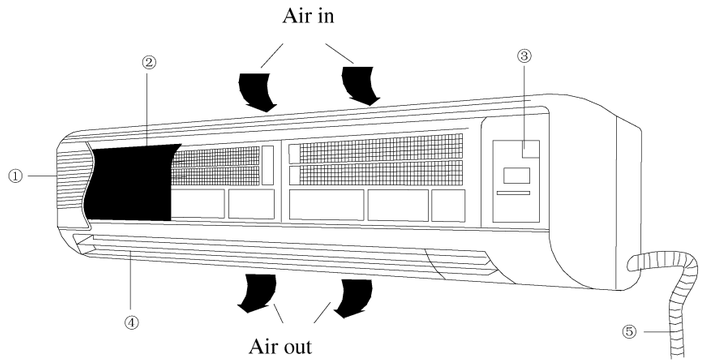
① Air outlet
② Air return
③ Condensed water pipe

☆ This air conditioner is not connected to ducts;

☆ The height for all models in this series is only 18.5cm.

Configuration of the unit and name of each part

● Wall-mounted Indoor Units



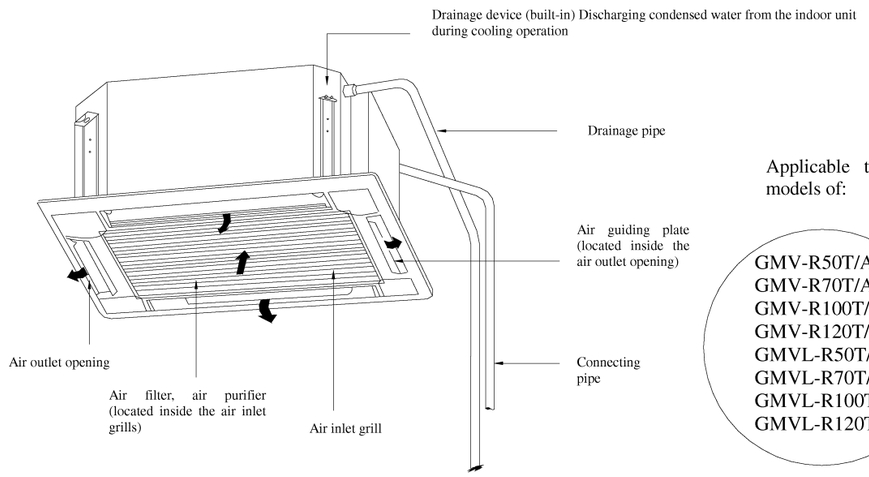
Applicable to unit models of:

GMV-R20G/A
GMV-R25G/A
GMV-R35G/A
GMV-R50G/A
GMVL-R20G/A
GMVL-R25G/A
GMVL-R35G/A
GMVL-R50G/A

No.	Description	No.	Description
1	Panel	4	Air guiding plate
2	Filter	5	Connecting pipe
3	Cover plate of wiring		

Note: The above figure shows the outer appearance of model 50 unit. There are slight differences in outer appearances for the other models.

● Cassette Type Indoor Units



Applicable to unit models of:

GMV-R50T/A
GMV-R70T/A
GMV-R100T/AS
GMV-R120T/A
GMVL-R50T/A
GMVL-R70T/A
GMVL-R100T/A
GMVL-R120T/A

Install of the ducted type indoor unit

● **Install of wind supply pipe**

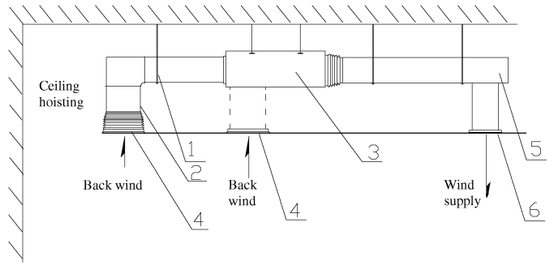


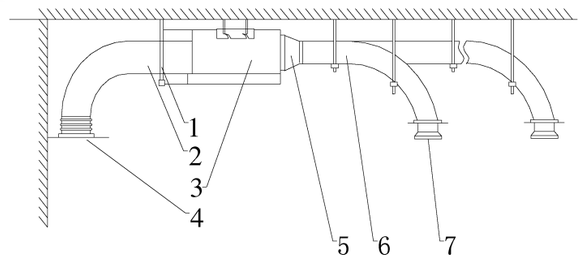
Fig.18 Sketch of install ducted type unit

No.	1	2	3	4	5	6
Name	Hoisting	Back wind pipe	Ducted type indoor unit	Back wind vent	Wind supply bent	Wind outlet

Note: Fig.18 only shows the install of rear back wind vent, button back wind vent can also been installed according to the actual install need. The method of install is similar to the rear back wind vent's. The wind supply pipe, which is rectangle or circle and connect with the wind vent of the indoor unit, should at least keep one open. The circle wind pipe type should adopt circle preservation pipe to transmit cool(heat) wind to room. The circle windpipe type should add a transitionary pipe, which size should match the size of wind supply vent of the unit. After connecting the transitionary pipe, install the circle wind outlet vent connection pipe, whose longest length to every individual wind outlet vent should not over 10m. Ducted type indoor unit model 70 can share 3 transitional pipe, while model 100, 120 can share 4. The transitional pipe, whose straight length is 200, and circle wind outlet connection pipe, whose diameter is 200, produced by our company, can be ordered separately as standard fittings. Model 50 and the model below it do not share circle wind vent. The following is the diagram for install circle wind pipe.

⚠ **Note: 1、The longest length of wind pipe means the general length of the wing supply pipe to the farest wind supply vent plus the general length of back wind pipe to the relative farest back wind vent.**

2、To the unit with auxiliary heater, if the circle wind pipe is need to connected, the straight length of trainsitional wind pipe should not shorter than 200mm.



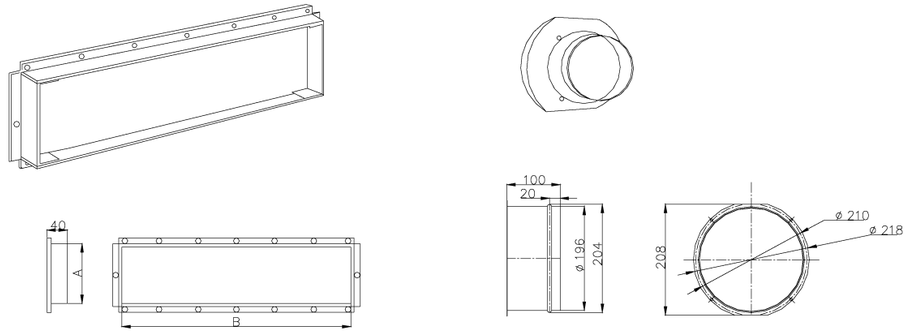
No.	1	2	3	4	5	6	7
Name	Screw	Back wind pipe	Ducted type indoor unit	Back wind vent	Trainsitional wind pipe	Wind supply pipe	Wind outlet pipe

Install of ducted type indoor unit

● Install proceed of circle wind pipe

1. Preinstall the circle wing outlet vent on the transitional pipe and fixed it by screw;
2. Sheath the transitional wind pipe on the wind outlet vent and connect by rivet;
3. Sheath the wind outlet pipe on circle wind outlet vent and prick it tightly by strap, so the connection with the unit finished. Other proceeds are omitted.

● Type and dimention of the back wind, wind supply vent



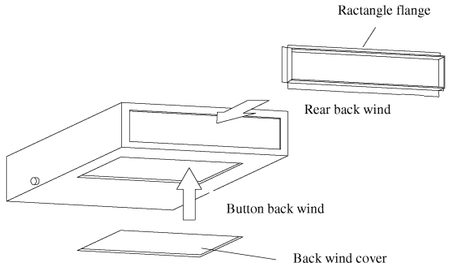
Circle wind pipe and dimention

Unit:mm

Product model		Dimention of the ractangle wind supply flange		Dimention of the ractangle back wind flange	
		A	B	A	B
GMV(L)-R25P/A	GMV(L)-R35P/A	172	515	172	515
GMV(L)-R25P/C	GMV(L)-R35P/C	100	515	172	515
GMV(L)-R50P/A		207	738	207	738
GMV(L)-R50P/C		125	738	207	738
GMV(L)-R70P/A		207	918	250	1008
GMV(L)-R100P/A(S)	GMV(L)-R120P/A	207	1155	250	1278

● Install the back wind pipe

1. Rear back wind type is adopted for the unit when the unit leave the factory, and the back wind cover is installed at the botton as shown below.
2. When button back wind vent is needed to adopt, change the position of ractangle flange and back wind cover.

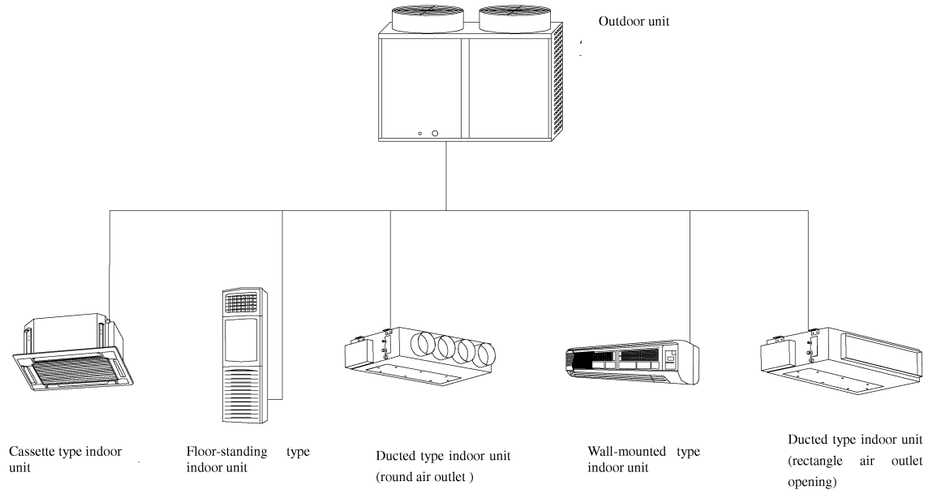


3. Connect the back wind pipe on the back wind vent of the indoor unit by rivet, and connect the other terminal to back wind vent. In order to adjust the weight conveniently, pucker a canvas wind pipe, and strengthen it with 8# iron thread.

☆ Install type can be selected according to the overall plans and all factors into the conditions of architact and maintaince, as shown in fig.19a, and fig.19b.

Configuration of the unit and name of each part

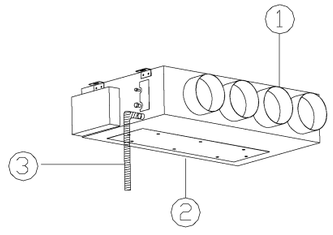
● System configuration



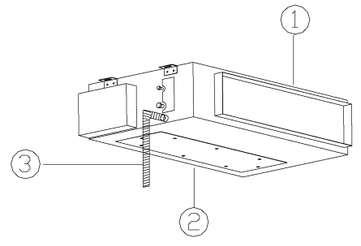
The digital multi variable air conditioning unit is composed of one outdoor unit and a maximum combination of 16 indoor units, which can be of the cassette type, wall-mounted type, ducted type, low static ultra-thin ducted type and floor-standing type. The cassette type, wall-mounted type and floor-standing type indoor units are controlled by remote controllers, and the ducted type indoor units and low static super thin ducted type indoor units can be controlled either by wireless remote controller or by remote controller. Once any one of the indoor units in the system receives a signal for operation, the outdoor unit will begin operating. When all the indoor units stop operation, the outdoor unit stops operation as well.

● Ducted Type Indoor Units

Round air outlet



Rectangle air outlet



① Air outlet
② Air return
③ Condensed water pipe

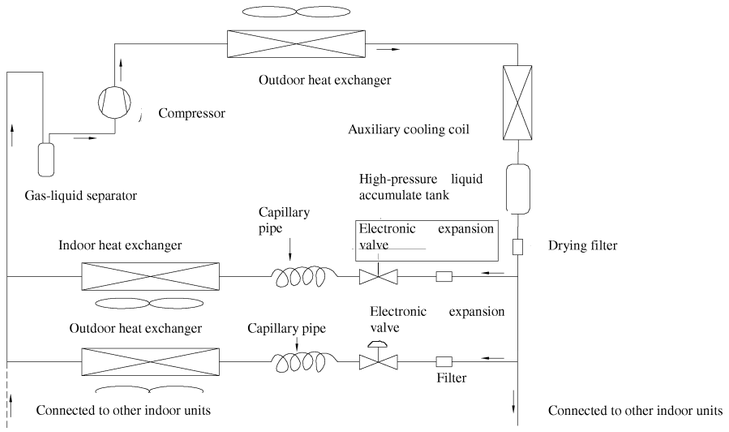
Applicable to unit models of:

GMV-R25P/C GMVL-R25P/C
GMV-R35P/C GMVL-R35P/C
GMV-R50P/C GMVL-R50P/C
GMV-R70P/A GMVL-R70P/A
GMV-R100P/AS GMVL-R100P/A
GMVL-R120P/A GMVL-R120P/A

☆ This air conditioner does not include connecting pipes and ducts;

☆ The manufacturer tacitly approves the rectangle and round air outlet as the standard accessories. Orders for these accessories can be made with the end-user's option.

● Operational Principle for Cooling-only Type Digital Multi variable Air Conditioner Units



Schematic diagram for the operational principle for cooling-only type digital multi variable air conditioner units

The indoor and outdoor units will begin to operate once the power is turned on. During the cooling operation, the low-temperature and low-pressure refrigerant gases from various indoor unit heat exchangers will be gathered together and then be sucked in by the compressor to be compressed into the high-temperature and high-pressure gases, which will then be discharged into the heat exchanger of the outdoor unit where they undergo the heat exchange process with the exterior air and then become the liquid state refrigerant. Through the branching pipe or the diversity branching pipe, the liquid refrigerant flows to various indoor unit. Pressure will be reduced by way of the throttling components. After dropping of temperature, the liquid refrigerant passes into the heat exchangers of the indoor units where it undergoes the heat exchange process with the air for conditioning and then becomes the low-temperature and low-pressure refrigerant gas. Such a cycle is repeated again and again so that the cooling purpose is achieved.

Install of ducted type indoor unit

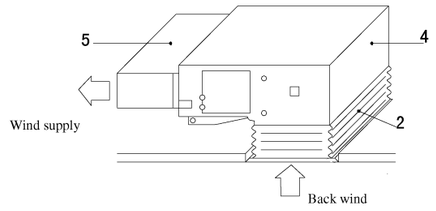


Fig.19 A

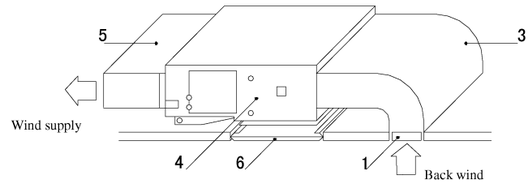


Fig.19B

Fig.19 Install the back wind pipe

No.	Name	No.	Name
1	Back wind vent (with filter)	4	Indoor unit
2	Canvas wind pipe	5	Wind supply pipe
3	Back wind pipe	6	Test grill

● Install new wind pipe

1. When new wind pipe is need to be connected, cut the new wind baffle as shown in fig.20. Plug up the gap of new wind baffle by sponge if new wind pipe is not used.
2. Install the circle flange so that the new wind pipe can be connected as fig.21.
3. Well sealed and heat preservation should be done for both wind pipe and circle flange pipe.
4. New wind should be the air after filtrate treatment.

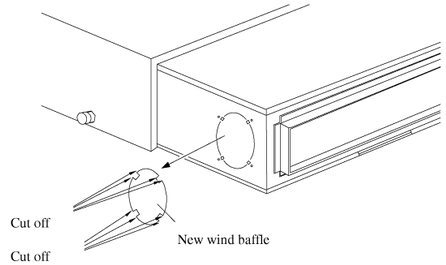


Fig.20

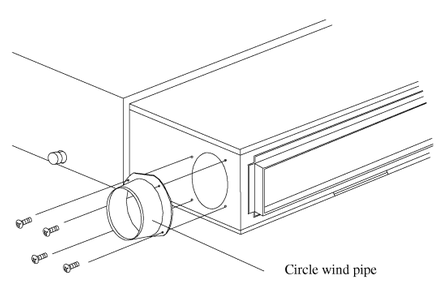


Fig.21

⚠ Attention：

●There should be thermal insulation layers around the air delivery and air return ducts as well as on the new air ducts to protect against heat losses and condensation. Adhere the plastic nails onto the ducts, and then attach a layer of insulation cloth with the tinfoil onto the ducts. Fix the plastic nail and then seal tightly the joints by way of tinfoil tapes. Some other materials with good thermal insulation properties can also be used.

● The air delivery and air return ducts should be fixed to the prefabricated ceiling boards with iron stands. The joints of the air ducts should be sealed tightly to prevent from air leakage.

● The designing and operation of the air ducts should comply with the related state standards and procedures for engineering.

● It is recommended to leave at least a space of 150mm between the edge of the air return duct and the wall, and a filter screen should be placed at the air return opening.

● Muffling and vibration reduction should be taken into consideration during the designing and operation of the air ducts. In addition, the noise source should be kept away from the crowds. It is absolutely not allowed to design the placement of the air return opening right above the head of the users (in the offices, lounges or other public sites).

Install of ducted type indoor unit

● Installation of Condensed Water Pipes

☆ The condensed water pipes should be kept at 5—10 degrees of gradient to facilitate discharge of the condensed water. Thermal insulation materials should be placed at the joints of the condensed water pipes so as to prevent from dew condensation. (as shown in Fig.22)

☆ There is an outlet for condensed water on the left and right side of the indoor unit. When the outlet of the condensed water is determined, the outlet on the opposite side should be blocked with a stopper and wrapped with strings so as to prevent the water from leaking. Thermal materials will be used to wrap the sealing properly.

☆ The outlet for condensed water on the right side is blocked with a stopper when the product leaves the factory.

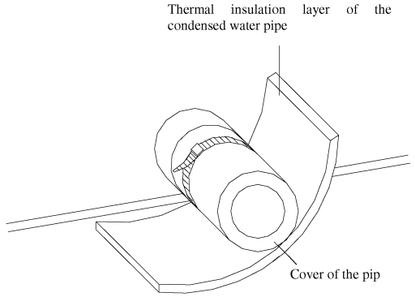


Fig.22: Thermal insulation of the condensed water pipe

⚠**Attention: It must be made sure that there is no leakage at the joints of the condensed water pipes.**

● Designing of the Drainage Pipelines

☆ The drainage pipes should be kept at a certain gradient (1/50—1/100) so as to avoid bulges of pipes where there might be water bends.

☆ When connecting the drainage pipes with the unit, care must be taken not to exert too much force on the pipelines of either side of the unit, and the pipes should be fixed as close to the unit as possible.

☆ The drainage pipes can be the locally purchased hard PVC pipes for common purposes. When making the connections, the end of the PVC pipe should be inserted into the drainage hole. Use drainage hose and wire bondage to fix it tightly. It is not allowed to use adhesive glue to join the drainage hole and the drainage tube.

☆ When the drainage pipeline is laid for a couple of units, the position of the shared pipeline should be approximately 100mm lower than the drainage outlet of each unit. In this case, some special-purpose pipes with thicker walls sill be used.

● Testing on the Drainage System

☆ Upon completion of the installation of the electric appliances, the testing on the drainage system should be performed.

☆ During the testing, it should be made sure that the water flows through the pipeline in the correct direction. Careful observations should be made on the joints to ensure that there is no leakage of water at the joints.

☆ In the case that the unit is to be installed in a new building, it is recommended that the testing be made prior to the decoration of the ceiling.

Operational theories for the air conditioning units

● Operational Principle for Heat Pump Type Digital Multiple Connection Air Conditioners

Schematic diagram for the operational theories for heat pump type digital multi variable air conditioner units

The indoor and outdoor units will begin to operate once the power is turned on. During the cooling operation, the low-temperature and low-pressure refrigerant gases from various indoor unit heat exchangers will be gathered together and then be sucked in by the compressor to be compressed into the high-temperature and high-pressure gases, which will then be discharged into the heat exchanger of the outdoor unit where they undergo the heat exchange process with the exterior air and then become the liquid state refrigerant. Through the Y manifold pipe or the manifold gathering pipe, the liquid refrigerant flows to various indoor unit. Pressure will be reduced by way of the throttling components. After dropping of temperature, the liquid refrigerant passes into the heat exchangers of the indoor units where it undergoes the heat exchange process with the air for conditioning and then becomes the low-temperature and low-pressure refrigerant gas. Such a cycle is repeated again and again so that the cooling purpose is achieved. During the heating operation, the 4-way electromagnet valve operates in the reverse direction so that the refrigerant will undergo the cycling in the reverse direction of the cooling process. The refrigerant discharges heat in the heat exchangers of the indoor units (the electric heating components also begin to operate under a certain condition to produce heat), and undergo the heat pump heating cycles by absorbing heat in the heat exchanger of the outdoor unit so that the heating purpose is achieved.

Filling of refrigerant and test running

● Post-installation Checklist

Item for check	**Possible occurrences in case of improper installation**	**Checking**
Are all the parts of the unit firmly installed?	The unit might fall down, vibrate or produce much operational noises	
Has the check for air leakage been done?	Air leakage might lead to insufficient cooling (heating) capacity	
Is there enough thermal insulation for the unit?	There might be dew condensation or water dripping.	
Is the drainage system smooth and unblocked?	There might be dew condensation or water dripping.	
Is the voltage of the power supply the same as the specifications on the product nameplate?	Incorrect voltage might lead to operational failures or damages of machine parts.	
Is the wiring and installation of pipelines correct?	Incorrect voltage might lead to operational failures or damages of machine parts.	
Is the unit properly grounded?	Improper grounding might result in hazard of electric power leakage	
Do the types and specifications of the electric cables meet the requirements?	Improper types or specifications might lead to operational failures or damages of machine parts.	
Is there anything blocking the air outlet or air inlet for the indoor and outdoor units?	Blockage might result in insufficient cooling (heating) capacity.	
Have the lengths of the refrigerant pipe and the volume of refrigerant filling been recorded?	Without the record, it will be hard to control the volumes of the additional filling of refrigerant.	

● Trial Running

1. **Checks to be done prior to the test running**

☆ Check to see if there are any damages on the outer appearance and pipeline system of the unit caused during the shipping or delivery;

☆ Check to see if the wiring terminals of the electric components inside the unit are loose or off, and if the sequence of phases is correct;

☆ Check to see if the turning direction of the fan is correct;

☆ Check to see if all the valves in the system are completely open;

2. **Trial running**

☆ The test running must be done by the professionals under the circumstance that all the items in the above checklist are in the qualified conditions;

☆ Supply power to the unit and set the remote controller or the remote controller in the “ON” mode;

☆ Within one minute, the fan of the outdoor unit and the compressor will be automatically activated;

☆ After the compressor is activated, the test running should be stopped immediately for further checks in the case that there occur some abnormal sounds.

Install of ducted type indoor unit

● The installation position and method for remote controller

☆ Firstly to choose the installation position, according to the signal cable dimension of the remote controller to dig a groove or a hole for burying connection wire.

☆ Remote controller(Outline dimension 120×120×16) connect with the connection wire of indoor unit, if it is installed in the exposed way, the 1 # PVC pipe can be selected and to set up the corresponsing groove (As show in Fig. 23); if it is installed in the concealed way, the 1 # PVC pipe (As show in Fig. 24) can be selected, then install the connection wire on the remote controller (As show in Fig. 25), finally to fix the remote controller on the wall.

☆ According to the two pieces of screw hole, which are on the remote controller rear cover, to drill two holes on the wall, and then hammer the stoppers into each hole, to put 2 pcs of screw hole on the remote controller rear cover aim at the stopper, and then use the wood screw to fix the rear cover of remote controller on the wall.

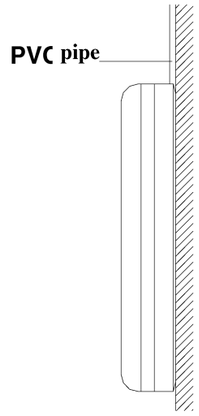


Fig.23 wire installation in expose way

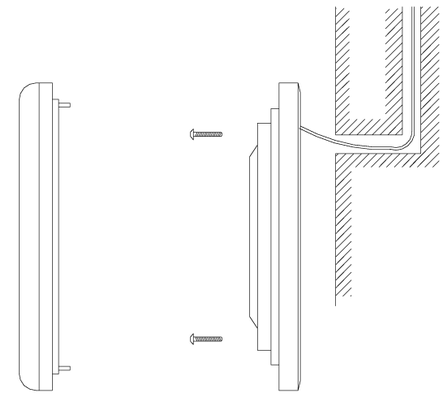


Fig. 24 wire installation in concealed way

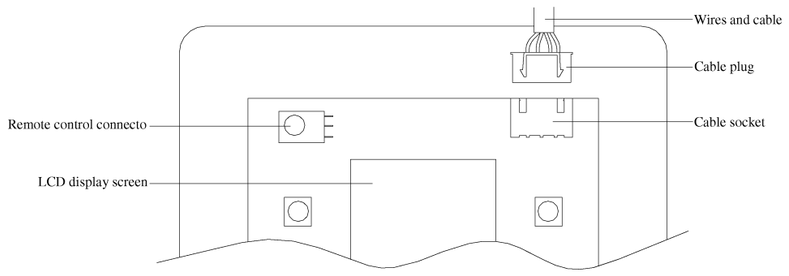


Fig. 25

☆ The communication distance between the main board and the controller can be as far as 20 meters(standard distance being 8 meters).

Install of ducted type indoor unit

● Connection between the Electric Wires and the Terminals on the Terminal Plate: (As shown in Fig.26)

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.

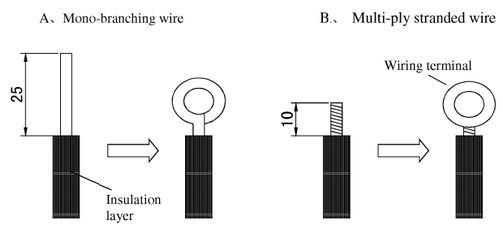
B. **Connection of multi-ply stranded wires**

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.

Filling of refrigerant and trial running

● Filling of Refrigerant

1. Refrigerant has been filled when the indoor unit leaves the factory. Additional filling for refrigerant should be made on the installation spot for the part of the connected pipelines.

2. Check and see if the liquid valve and air valve of the outdoor unit are closed.

3. Use a vacuum pump to expel the air inside the indoor unit and the connecting pipes at the valve of the outdoor unit as shown in Fig.33.

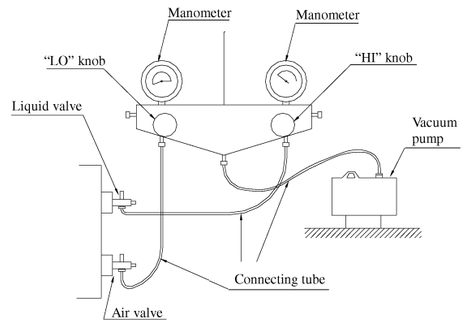


Fig.33

4. When the compressor is not working, fill the specified additional R22 refrigerant into the unit at the filling opening of the liquid pipe valve of the outdoor unit (it is not allowed to do the filling on the side of the air pipe).

● Method of Calculating the Mass of the Additional Filling of Refrigerant

1. The mass of refrigerant in the system when the outdoor unit leaves the factory

	GMV(L)-R150W	GMV(L)-R200W2	GMV(L)-R250W2	GMV(L)-R300W2
Filling (kg)	12	15	17.5	20

Notes: ☆ The mass of the refrigerant filled upon leaving the factory does not include the needed amount of the additional filling of refrigerant for the pipeline system connecting the indoor and outdoor units;

☆ The length of the connecting pipes is determined on the installation site. And the needed amount of the additional filling of refrigerant is to be determined by the dimensions and lengths of the liquid pipes.

2. Calculation method for the mass of the additional filling of refrigerant (with the liquid pipe length as the basic reference)

Volume of additional filling of refrigerant = Σ length of liquid pipe × additional filling amount per meter of liquid pipe

Additional filling amount per meter of liquid pipe （kg/m）					
Φ22.2	Φ19.05	Φ15.9	Φ12.7	Φ9.52	Φ6.35
0.41	0.29	0.187	0.12	0.06	0.03

The instruction of code switch

● The Instruction of Code Switch

☆ The addresses of the indoor units are allotted on the basis of the air conditioning system programming. The addresses for the indoor units in the same system should not be repeatedly used.

☆ The address and capacity of an indoor unit is allotted by way of the 8-bit DIP switch 1 on the main board of the indoor unit. The 5^{th} to 8^{th} bits for the setting of the capacity of the indoor unit have been preset before the indoor unit leaves the factory. During installation, only the 1^{st} to 4^{th} bits are to be adjusted for the allotment of the address of the indoor unit.

☆ The address of the remote controller is allotted by way of the 4-bit DIP switch on the main board of the remote controller. The address of the remote controller should be identical to that of the indoor unit.

☆ For the floor-standing type indoor units and Model 25, 35 and 50 wall-mounted type indoor units, the address and capacity of an indoor unit is allotted by way of two 4-bit DIP switches on the main board of the indoor unit, in which the 4-bit DIP switch for the setting of the capacity of the indoor unit (with the mark of "capacity" underneath) has been preset before the indoor unit leaves the factory. Before installation, only the other 4-bit DIP switch (with the mark of "address" underneath) is to be adjusted for the allotment of the address of the indoor unit.

The setting of the address for the indoor unit and for the remote controller is indicated in the following form:

1~4bit address									
8（4）bit the corresponding pin on the DIP switch									
4	3	2	1	Address	4	3	2	1	Address
0	0	0	0	1	1	0	0	0	9
0	0	0	1	2	1	0	0	1	10
0	0	1	0	3	1	0	1	0	11
0	0	1	1	4	1	0	1	1	12
0	1	0	0	5	1	1	0	0	13
0	1	0	1	6	1	1	0	1	14
0	1	1	0	7	1	1	1	0	15
0	1	1	1	8	1	1	1	1	16
Note: adjust to ON for "0"									

Installation of ducted type indoor units

● Connection of Power Supply Lines：

⚠ **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:**

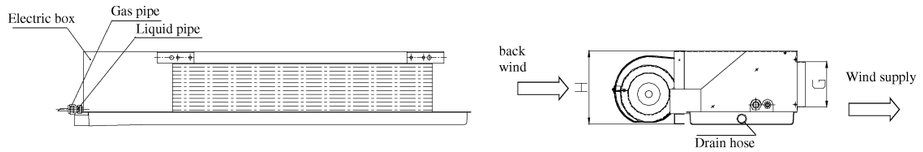
Special precaution must be taken when doing the following connections so as to prevent from the failure of the air conditioner unit due to EMI (electromagnetic interference).

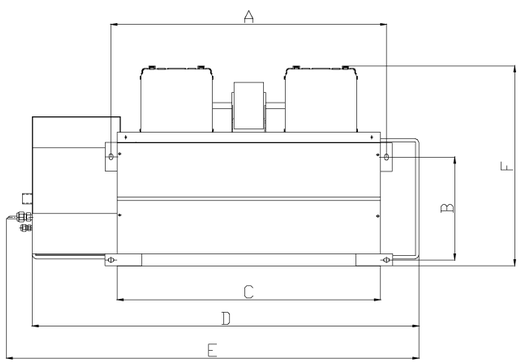
1. The signal lines and the distribution (communication) wires should be separated from the power supply cord and the connection lines between the indoor and the outdoor units;
2. In the case that the air conditioner unit has to be installed at the places subject to the EMI, it is advised to use shielded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

In the case that the engineering conditions demand higher static voltages, the connection of the indoor wires should be modified in accordance with the following diagram.

Installation of the low static ultra-thin ducted type indoor units

● Diagram of Outer Dimension of Indoor Unit





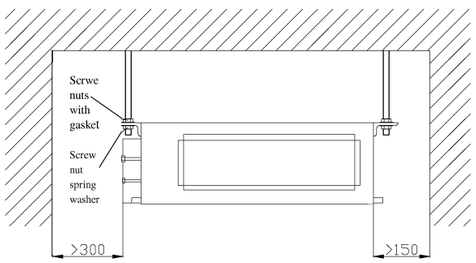
1.The above drawings are for the outer appearance of model GMV（L）-R20P/L、GMV（L）-R25P/L and GMV（L）-R35P/L . The outer appearances of model GMV（L）-R50P/L and GMV（L）-R70P/L are slightly different due to the different numbers of fans.

2.The hoisting hook hole positions shall be subject to the dimensions of the actual products.

Unit：mm

Model	A	B	C	D	E	F	G	H
GMV（L）-R20P/L	672	200	642	977	1020	490	108	185
GMV（L）-R25P/L	672	200	642	977	1020	490	108	185
GMV（L）-R35P/L	672	200	642	977	1020	490	108	185
GMV（L）-R50P/L	952	200	922	1337	1380	490	108	185
GMV（L）-R70P/L	1272	200	1242	1527	1650	490	108	185

● Space Requirements for the Installation of the Indoor Units



● Notes to the Installation of Indoor Units

☆ The low static ultra-thin ducted type indoor units are the derivatives of the ducted type indoor units. They are mainly used in the rooms where the ducted type indoor units are to be installed but the indoor units have to be very thin and without duct.

☆ The selection of the installation positions of the low static ultra-thin ducted type indoor units, the installation of the indoor units, the testing and measuring of horizontal levelness, the installation of the condensed water pipes, the installation position and method of the remote controllers, the connection of the electric wiring and communication lines can refer to the corresponding items for the installation of the ducted type indoor units.

The connection of indoor unit and outdoor unit

Please refer to the Fig.32 to conncet the communication wires of indoor unit and outdoor unit

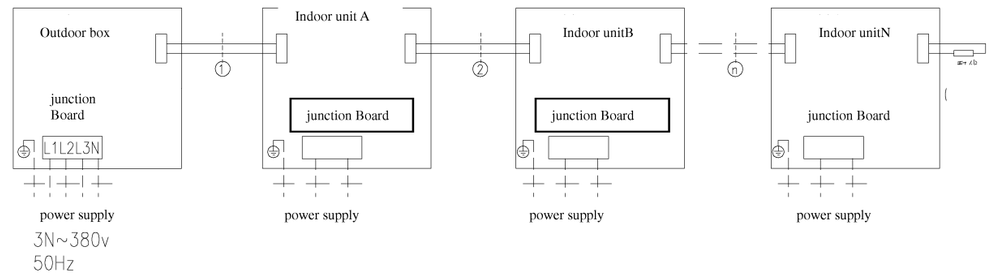
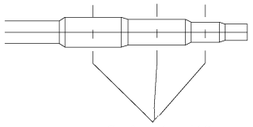


Fig.32 communication wires conncection of indoor unit and outdoor unit

Remark: 1、The additionally installed communication wire of the last indoor unit is wiring(the resistance should be suitable)

2、If the indoor unit is the wall mounted type, the input and output communication wires should be attach to the indoor unit.

The connection of indoor unit and outdoor unit



⚠ CAUTION

● In order to avoid the wrong connection, for the multi variable series air conditioner, each tube should be stuck on the tag, make sure the tube belong to which system very clearly.

● Make sure there is at least 300mm ascending pipe in the inlet side of manifold.

● The installation of connection pipe protective layer

1. In order to avoid the condensing and water dripping on the connection pipe, the gas and liquid pipe of the connection pipe should be wrapped by the insulated materials and plastic belt, isolate from the air.

2. The joint of indoor unit and outdoor unit be wrapped by the insulated material, there is no gap between the surface of the indoor unit and outdoor unit, please refer to Fig.31

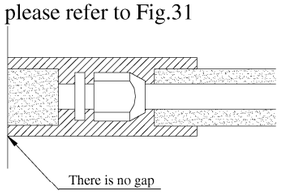


Fig.31

⚠ ATTENTION:

After wrapping, do not twist too tightly, or it will break.

3. Wrapping the tube with belt:

☆ Bundling the connection pipe and cable with belt, in order to prevent the condensing water overflow, the drainage pipe and cable should be divided.

☆ When wrapping the insulated plastic belt, each circle should fold over the half of the previous circle.

☆ After bundling, use the pipe clamp to fix them on the wall.

⚠ ATTENTION:

☆ Do not wrape them tightly, because it will reduce the insulative efficiency, make sure the condensing water is drainaged has been divided.

☆ After proctecting and wrapping, block the wall by the sealing material.

● The communication wires connection of indoor unit and outdoor unit

Open the electric box cover of indoor unit and outdoor unit respectively; the wiring (communication wire) goes through the hole enter into the electric box. It must accord to the circuit diagram of the units, connect the indoor unit and outdoor unit (Please refer to the wiring part of the outdoor unit and indoor unit), the selection of power cord specification shoud refer to the power capacity, installation environment. When all of above are finished, then use the wire clamp to fix the wires, reattach the cover of electric box. The magnetic ring should be installed in both sides of the communication wire.

Installation of the floor standing type indoor units

● Selection of Installation Position

☆ An appropriate place where the delivered air can reach every corner of the room;

☆ A suitable position with minimum influence from external air and without any blockage to the inlet and outlet airflows of the unit;

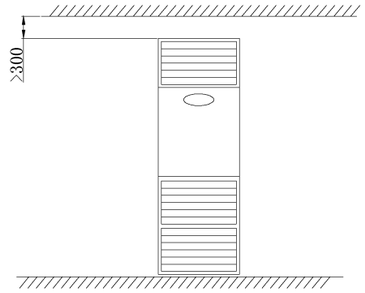
☆ A proper position with shortest length of connecting pipes and drainage pipes from the outdoor unit;

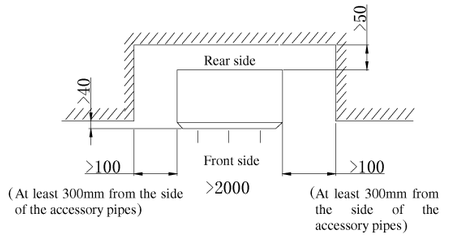
☆ A place to assure sufficient space between the unit and the walls so as to facilitate operation and maintenance and to allow smooth air flow;

☆ A position free from the possible existence of water and steam as well as from the splash of oils;

☆ A position free from the generation or leakage of flammable gases;

☆ A place where the installation can be made on the rigid, flat and weight-bearing floor.





● Installation of the Connecting Pipes

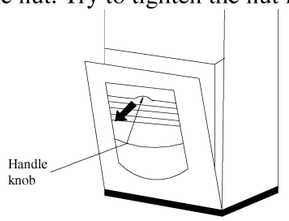
Attention should be paid to the following points prior to the connection of the connecting pipes.

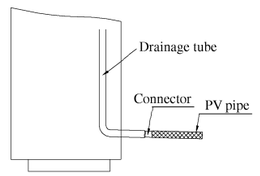
☆The connecting pipes are to be coiled before being packed into the packages. When installing, the pipe coils should be straightened one coil after the other. It is not allowed to pull hard the coils that might make the pipes twisted.

☆ The connecting pipes are thin-wall copper pipes that have been annealed before leaving the manufacturer's factory. They are relatively soft, but the bending radius must be larger than 10cm when they are bended so as to avoid the pipes from being sunk down. Besides, the bended pipes should not be turned in the reverse direction, which might easily cause the pipes to be flattened or broken.

The steps for installing the connecting pipes are as follows:

1. Pull out the handle knob in the direction of the arrow, open the air sucking grills, and remove the grills and the lower plate;
2. Pass the connecting pipe through the pipe hole of the indoor unit, and align it with the pipe connector of the indoor unit;
3. Adjust the shape of the pipe so as to facilitate the joining with the pipe connector; then align with the center and turn the screw nut of the connector 3---5 rounds manually;
4. Use a torque wrench to tighten the screw nut of the connector till the wrench makes a "click" sound. Avoid using too much force in tightening the screw nut, which might damage the screw threads and the nut. Try to tighten the nut firmly to prevent from possible leakage of the refrigerant.





Installation of the floor standing type indoor units

● Connection of the Drainage Pipe

☆ Use the PV pipe and pass it through the pipe hole of the indoor unit, closely connect the pipe with the drainage pipe connector. Use adhesive glue at the joint to prevent from water leakage;

☆ The drainage pipe must be placed slightly slanted downwards to ensure that no water will be accumulated in the pipe;

☆ Thermal insulation tape is used to wrap the joint tightly;

☆ After connecting, insert the water filling tube into the right side of the air outlet, and gently fill the water toward the heat exchanger side plate or the interior wall of the unit. As much as 1,000ml water is to be filled, and then check to see if there are any leakages in the drainage system and the joints.

● Connection of Electric Wires

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

Points of attention for the connection of electric wires:

☆ The power supply should be the specially designated electric circuit;

☆ The circuit must be installed by the professionals in accordance with the wiring rules and procedures up to national standards;

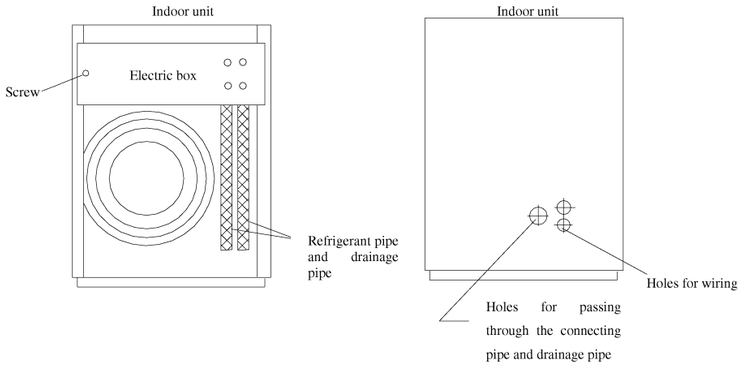
☆ The wire connections should be done in accordance with the wiring diagrams supplied with the unit; all the screws must be tightened firmly so that they will not get loose;

☆ The wire connections for the indoor and outdoor units as well as the power conducting lines should be arranged properly.

Steps for electric wire connections:

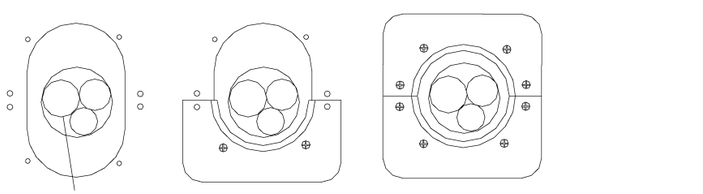
☆ Remove the screw on the cover of the electric box to expose the box interior;

☆ Connect the wires according to the wiring diagrams, and then fix the wires firmly with wire clamp.

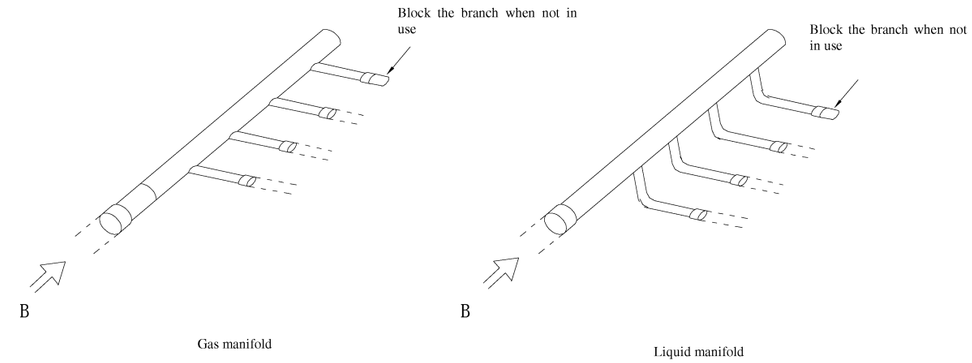


● Installation of the Upper and Lower Baffle Plates

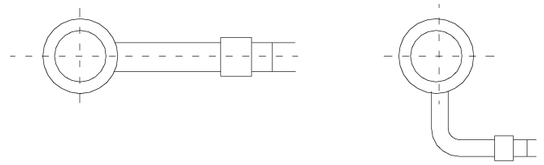
Please refer to the following schematic diagram for the installation upon completion of the installation of the connecting pipe and drainage pipe:



The connection of indoor unit and outdoor unit

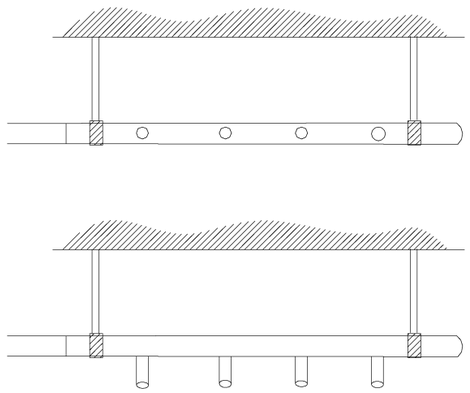


☆ The manifold should be installed horizontally, can't be installed vertically.



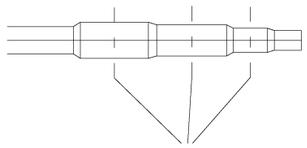
☆ For the gas pipe side, adopts the heat insulation material that can stand 120℃ or much more higher temperature, can not use the enclosed foam for heat preservation. For preventing the water dripping of the liquid pipe, joint the enclosed heat preservation materials with the spot use heat preservation materials, then wrap the joint.

☆ Supporting the manifold. After heat preservation, support the manifold by holders or hang it on the cantilever arm.



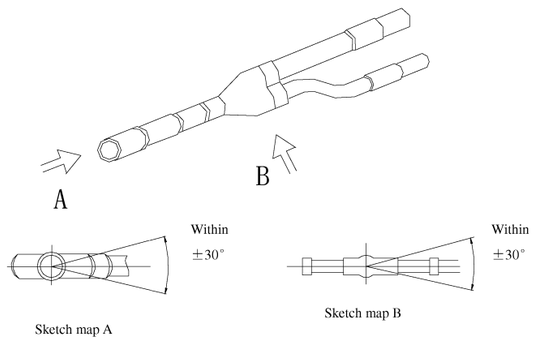
☆ When need to cut the manifold, to cut in the middle of the given pipe.

The connection of indoor unit and outdoor unit



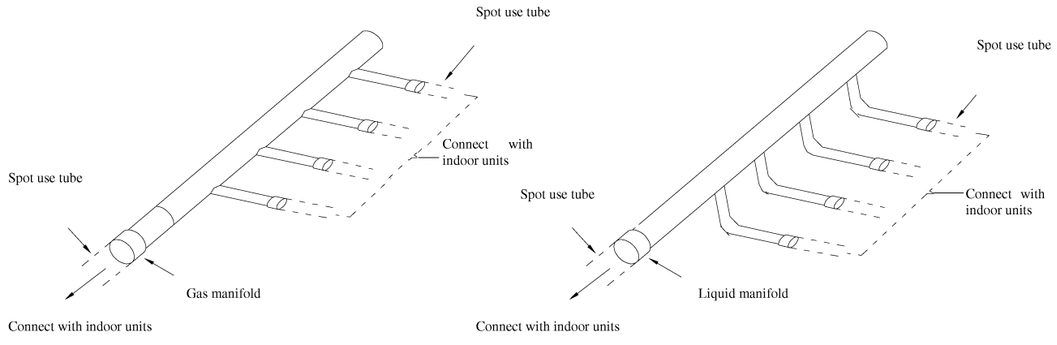
Cut from the middle of it

☆ When installing the Y manifold pipe, make the manifold vertically or horizontally.



☆ For the gas pipe side, adopts the heat insulation material that can stand 120℃ or much more higher temperature, can not use the enclosed foam for heat preservation. For liquid pipe is for water dripping.

2. Manifold



☆ If the dimension of the chosen spot use tube is different from the dimension of manifold joint, using the casing knife to cut from the middle of it and deburring. The diagram is the same as one of the type Y divided manifold.

☆ To block the branch when not in use.

Installation of the outdoor units

● Points of Attention for the Installation of the Outdoor Units

In order to ensure the smooth operations of the units, the selection of the installation position should follow the basic principles described below:

☆ The installation of the outdoor units should prevent the back flow of the exhausted air from the outdoor unit, and there should be enough spaces for maintenance operations around the unit.

☆ The installation position must have a good ventilation condition so as to allow the unit to take in and exhaust sufficient air, which will ensure no blockage for the air inlet and outlet. Remove anything that might block the air inlet into or outlet from the unit.

☆ The installation position should be strong enough to bear the weight of the outdoor unit, and should have good conditions for reducing operational noises and vibration. It should be made sure that the air delivery and operational noise will not disturb the neighbors.

☆ Special hoisting holes must be used to lift and move the outdoor unit. Care must be taken to protect the unit during the hoisting and installing operations. It is not allowed to scrap or damage the metal parts that might cause rust.

☆ Direct exposure to the sunlight is to be avoided as much as possible.

☆ The installation position should allow the smooth discharge of rainfalls and defrosting water.

☆ It should be made sure that the unit will not be buried in the snow at the installation position, nor affected by dust or oil fogs.

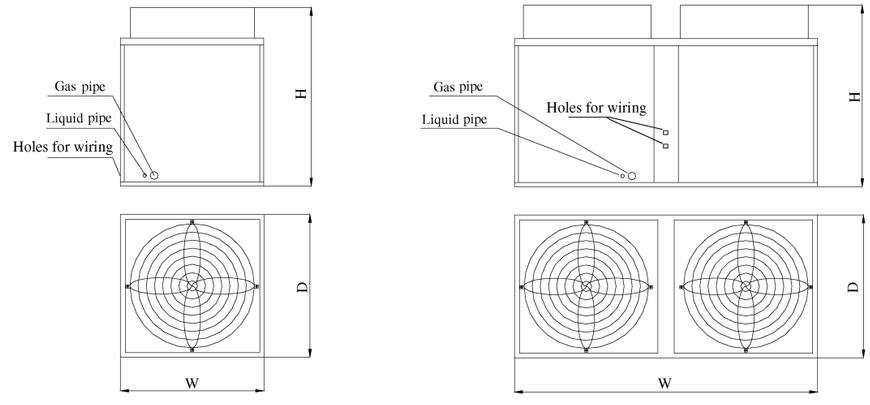
☆ Rubber absorbers or spring absorbers should be used for the installation of the outdoor unit so as to meet the specifications of noise & vibration reductions.

☆ The installation dimensions should follow the requirements specified in the installation instruction manual. The outdoor unit must be firmly fixed at the installation position.

☆ The installation of the outdoor unit must be done by professional staff.

● Installation of the Outdoor Unit

1. Outer dimensions of the outdoor units



GMV(L)-R200W2、GMV(L)-R150W　　GMV(L)-R300W2、GMV(L)-R250W2

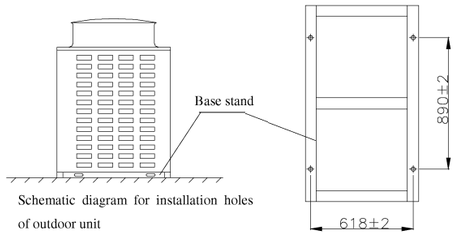
Fig.27

Unit：mm

		GMV(L)-R150W	GMV(L)-R200W2	GMV(L)-R250W2	GMV(L)-R300W2
Width	mm	700	780	1350	1350
Depth	mm	700	800	700	700
Height	mm	1200	1450	1300	1500

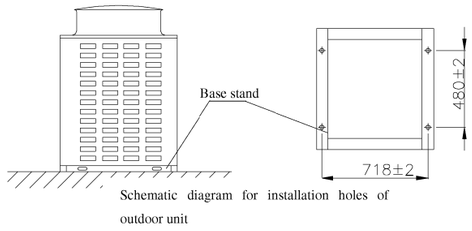
Installation of outdoor units

2. Installation hole positions of outdoor units



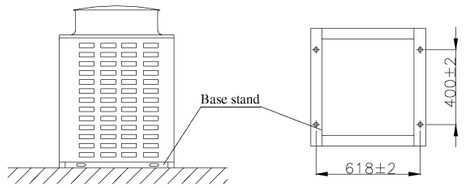
Schematic diagram for installation holes of outdoor unit

GMV(L)-R300W2、GMV(L)-R250W2 installation hole of outdoor unit



Schematic diagram for installation holes of outdoor unit

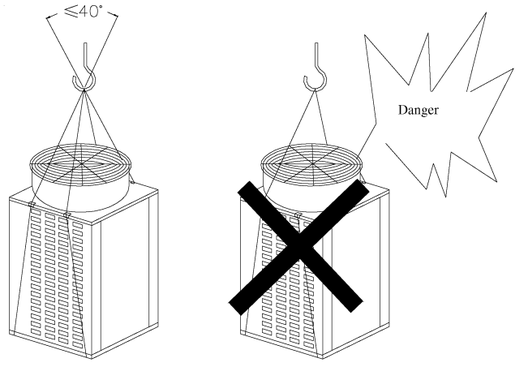
GMV(L)-R200W2 installation hole of outdoor unit



Schematic diagram for installation holes of outdoor unit

GMV(L)-R150W installation hole of outdoor unit

3. When removing the outdoor unit, two ropes are needed to hang the unit along the four ways. In order to avoid the excursion, the angle between the ropes should be less than 40° , the outdoor unit GMV-R150W/A is shown below and other outdoor units are similar to it.



4. When installing the unit, the M12 crew is utilized to fix the supporter and base frame of the units.

The connection of indoor unit and outdoor unit

3. The dimension (indoor tubing) that is from the divergent part to the indoor unit tubing (indoor tubing) is the same with the dimension of indoor unit tubing, (See table 4) (If the dimension from first divergence to a indoor unit is more than 30m, so will increase one dimension from the first divergence to the gas side tubing of indoor unit).

Table 4：Dimensions of indoor tubing Unit：Inch

Models of indoor units	Gas pipe	Liquid pipe
Model 20、25	φ9.52	φ6.35
Wall mounted type of model 20、25	φ12.7	φ6.35
Model 35	φ12.7	φ6.35
Wall mounted type of model 50	φ12.7	φ6.35
Ducted type of model 50	φ12.7	φ9.52
Cassette type, floor standing type of model 50	φ15.9	φ9.52
Model 70	φ15.9	φ9.52
Model 100、120	φ19.05	φ12.7

● The pipe connection of indoor unit and outdoor unit

☆ Screw nut with torque please refer to table 1.

☆ The copper flare should be aimed at the corrugated connect joint, srew the flare nut tightly with hands.

☆ Screw down the flare nut with torque wrench, until there is the sound like “ka ka……”

☆ The bending of the tubing should not too small, otherwise it will broken. Please use the bender when installation personel bending the tubing.

☆ Using the sponge to wrap the unheat-preservated connection pipe and joint , using the plastic bag to pack them up.

⚠ ATTENTION:

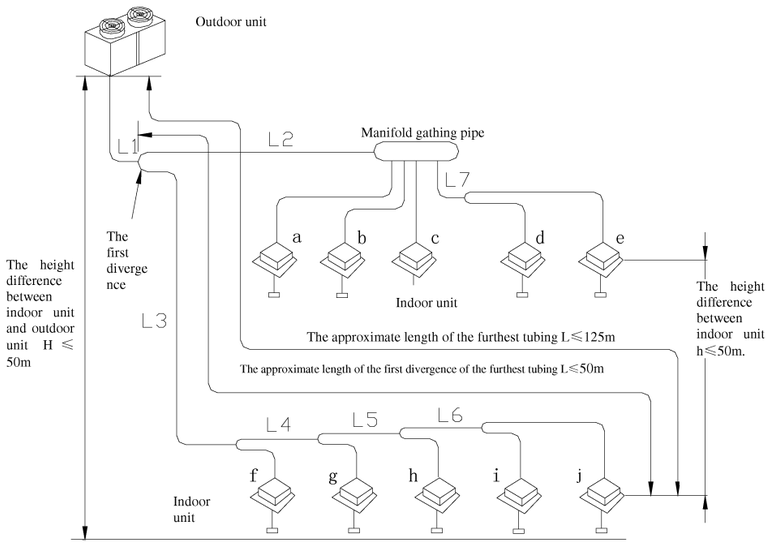
1. When connecting the indoor unit with connection pipe, please do not to pull all the joints of indoor unit, otherwise it may cause the damage of capillaries and other tubes or it may cause leakage.
2. Connection pipe should be supported by the holder, can not supported by the units.

● The connection of manifold

1. Y manifold pipe

☆ The Y manifold pipe has additional tubes, they are used to adjust the diameter of different tubes, if the dimension of spot use tube is different from the dimension of manifold joint, using the casing knife to cut from the middle of it and deburring. As shown below:

The connection of the indoor unit and outdoor unit



The designed approximate dimension for each type Y divided manifold is 0.5m and manifold is 1.0m.

Fig.29 The permitted length and height difference

● The dimensions of connection pipe

1. The dimensions from outdoor unit to the first divergence of the tubing (main tube) are same with the tubing dimensions of outdoor unit (See table 2)

Table 2：The tubing dimensions of the outdoor unit

Items \ Models			GMV(L)-R150W	GMV(L)-R200W2	GMV(L)-R250W2	GMV(L)-R300W2
Connection pipe	Gas pipe	mm	φ22.2	φ25.4	φ28.6	φ28.6
	Liquid Pipe	mm	φ12.7	φ12.7	φ12.7	φ12.7
	Method of connection		Flaring connection			

2. The tubing dimensions of the devirgent part (manifold dimension) are selected according to the capacity of the indoor unit that is behind the manifold. If they are more than the outdoor unit capacity, please refer to the outdoor unit capacity.

Table 3：Dimensions of manifold Unit：mm

The summation of indoor unit capacity	Gas pipe	Liquid pipe
Less than 80	φ15.9	φ9.52
More than 80 less than140	φ19.05	φ12.7
More than 140 less than180	φ22.2	φ12.7
More than 180 less than 220	φ25.4	φ12.7
220 Above	φ28.6	φ12.7

The installation of outdoor unit

5. The requirement of installation space dimension for unit body as show in Fig.28.

☆ The requirement of installation space dimension for outdoor unit of GMV(L)-R300W2、GMV(L)-R250W2、GMV(L)-R200W2 、GMV(L)-R150W

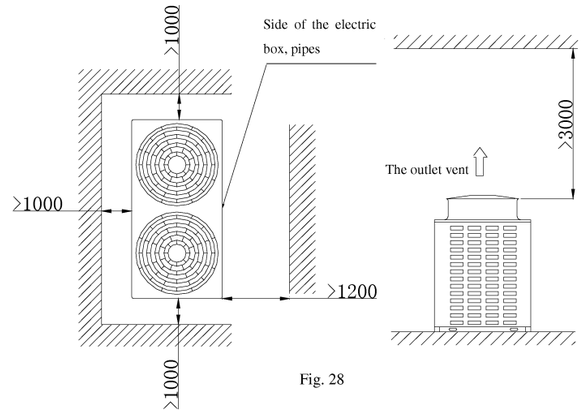


Fig. 28

Note: The model GMV（L）-R200W2、GMV（L）-R150W are mono-fan type unit

6. The outdoor unit should be installed on the 10cm of base of concrete.

●Electric wiring

⚠ ATTENTION:

☆ The outdoor unit and indoor unit should be supplied by the same power, or could be supplied separately, make sure the power supply of each indoor units should be the same.。

☆ It is necessary to install the breaker which could break off the whole power system.

● The connection of power cord：

1. Put the wire through to the rubber band.
2. Connecting the power cord with the terminal marked “L1, L2, L3, N” and earthing crew.
3. Using the wire clamp to fix the wire.

● The connection of wiring(communication wire)：

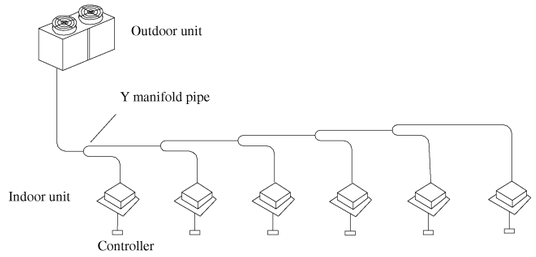
1. Open the electric box cover of the outdoor unit.
2. Put the wiring (communication wire) through the base frame, across the rubber band of the electric box.
3. Insert the wiring (communication wire) into the tribt needle file CN10 of the outdoor unit circuit board.
4. Use the clamp to fix the wiring (communication wire).
5. Reattach the cover of the terminal board then tighten the crews.
6. Reattach the front panel.

The installation of outdoor unit

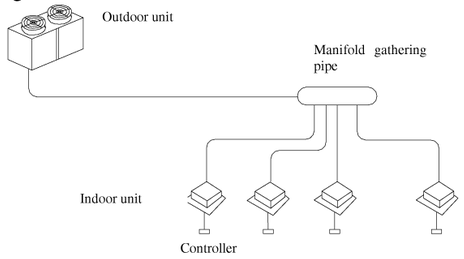
● The Manifold Method of Connection Pipe

The manifold methods of indoor unit and outdoor unit is shown as following:

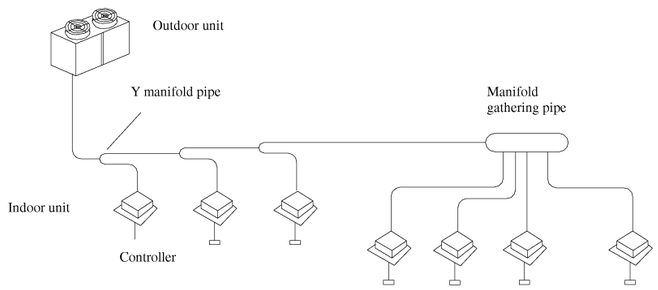
1. The pipeline manifold（is shown below）



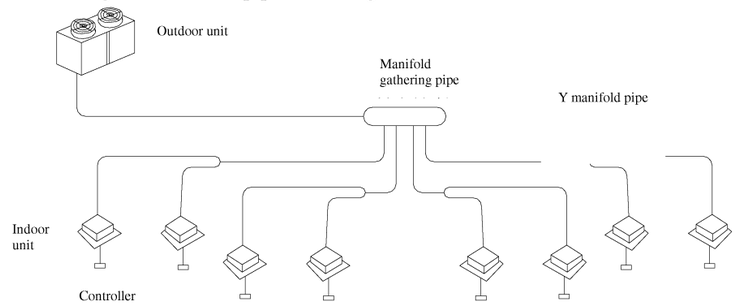
2. The manifold divergence（is shown below）



3. Pipeline divergence first then manifold divergence（is shown below）



4. The manifold divergence first then pipeline divergence（is shown below）



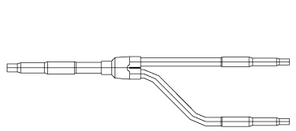
The connection of the indoor unit and outdoor unit

● Capacity codes of indoor unit and outdoor unit

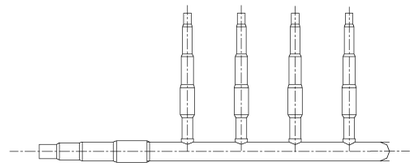
	Capacity type	Capacity code	Capacity type	Capacity code
Indoor unit	20 Model	20	70 Model	70
	25 Model	25	100 Model	100
	35 Model	35	120 Model	120
	50 Model	50		
Outdoor unit	150 Model	150	200 Model	200
	250 Model	250	300 Model	300

☆ One outdoor unit can match with at least sixteen outdoor unit;

☆ The summation of indoor unit capacity code could be selected in the range of the value of outdoor unit capacity code from 50%-135%.



Y manifold pipe



Manifold pipe

The type Y manifold pipe and manifold pipe could be selected from the following form：

	The total capacity of the indoor unit which is behind the manifold	Models
Y manifold pipe（2 bifurcations）	⩽150	FQ01
	>150	FQ02
Manifold pipe（4 bifurcations）	⩽150	FQ10
	>150	FQ11

● The permitted length and height difference of connection pipe

		Permitted value	Total length of tubing
The total length of tubing（actual length）		250m	$L_1+L_2+L_3+L_4+L_5+L_6+L_7+$ a+b+…+i+j
The length of the farmost tubing（m）	Actual length	100m	$L_1+L_3+L_4+L_5+L_6+$j
	Approximate length	125m	
The approximate length which is from the first manifold to the farmost tubing L（m）		50m	$L_3+L_4+L_5+L_6+$ j
The height difference of indoor unit and outdoor unit	The outdoor unit is above	50m	——
	The outdoor unit is down	40m	——
The height difference of indoor unit and outdoor unit		15m	——