



## Manual for Duct Type Indoor Units of Multiple Connection Units

Models:

<b>GMV-R20P/D</b>	<b>GMVL-R20P/D</b>	<b>GMVR-R20P/D</b>
<b>GMV-R25P/D</b>	<b>GMVL-R25P/D</b>	<b>GMVR-R25P/D</b>
<b>GMV-R30P/D</b>	<b>GMVL-R30P/D</b>	<b>GMVR-R30P/D</b>
<b>GMV-R35P/D</b>	<b>GMVL-R35P/D</b>	<b>GMVR-R35P/D</b>
<b>GMV-R40P/D</b>	<b>GMVL-R40P/D</b>	<b>GMVR-R40P/D</b>
<b>GMV-R50P/D</b>	<b>GMVL-R50P/D</b>	<b>GMVR-R50P/D</b>
<b>GMV-R60P/D</b>	<b>GMVL-R60P/D</b>	<b>GMVR-R60P/D</b>
<b>GMV-R70P/D</b>	<b>GMVL-R70P/D</b>	<b>GMVR-R70P/D</b>
<b>GMV-R80P/D</b>	<b>GMVL-R80P/D</b>	<b>GMVR-R80P/D</b>
<b>GMV-R100P/DS</b>	<b>GMVL-R100P/D</b>	<b>GMVR-R100P/D</b>
<b>GMV-R120P/DS</b>	<b>GMVL-R120P/D</b>	<b>GMVR-R120P/D</b>
<b>GMV-R140P/DS</b>	<b>GMVL-R140P/D</b>	<b>GMVR-R140P/D</b>

Please read this manual carefully before using it

## Performance parameter list of ducted type indoor unit

Item \ Model		GMVR— R60P/D	GMVR— R70P/D	GMVR— R80P/D	GMVR— R100P/D	GMVR— R120P/D	GMVR— R140P/D	
Cooling capacity	W	6000	7000	8000	10000	12000	14000	
Heating capacity	W	6600	8000	8800	11000	13000	15000	
Air volume	m <sup>3</sup> /h	1400	1400	1400	2000	2000	2000	
Noise	dB(A)	42	42	42	44	44	44	
Motor output power	w	150	150	150	225	225	225	
The max. outside unit surplus pressure	Pa	50	50	50	50	50	50	
Phase No. -Voltage-Frequency	220V~ 50Hz							
Type of anti-shock protection	I							
Outline dimension	W	mm	1112	1112	1112	1382	1382	1382
	D	mm	756	756	756	756	756	756
	H	mm	300	300	300	300	300	300
Condensation water pipe aperture (Outside×Inside)	mm	φ 30× φ 27						
Net weight	kg	55	55	55	75	75	75	
Air supply vent dimension	L	mm	918	918	918	1155	1155	1155
	W	mm	207	207	207	207	207	207
Air return vent dimension	L	mm	1008	1008	1008	1278	1278	1278
	W	mm	250	250	250	250	250	250
Gas pipe diameter	mm	φ 15.9	φ 15.9	φ 15.9	φ 19.05	φ 19.05	φ 19.05	
Liquid pipe diameter	mm	φ 9.52	φ 9.52	φ 9.52	φ 12.7	φ 12.7	φ 12.7	

● Parameters of the complete heat pump ducted type indoor unit

Item	Model		GMVR— R20P/D	GMVR— R25P/D	GMVR— R30P/D	GMVR— R35PD	GMVR— R40P/D	GMVR— R50P/D
	Cooling capacity	W		2000	2500	3000	3500	4000
Heating capacity	W		2300	3000	3300	3800	4500	5800
Air volume	m <sup>3</sup> /h		450	450	570	570	840	840
Noise	dB(A)		37	37	39	39	40	40
Motor output power	w		20	20	20	20	70	70
Standard outside unit surplus	Pa		0	0	0	0	15	15
Adjustable outside unit surplus pressure	Pa		20	20	20	20	40	40
Phase No. -Voltage-Frequency	220V~ 50Hz							
Type of anti-shock protection	I							
Outline dimension	W	mm	875	875	875	875	980	980
	D	mm	680	680	680	680	736	736
	H	mm	220	220	220	220	266	266
Condensation water pipe aperture (Outside× Inside)	mm		φ 20× φ 17		φ 30× φ 27		φ 30× φ 27	
Net weight	kg		27	27	27	27	36	36
Air supply vent dimension	L	mm	515	515	515	515	738	738
	W	mm	100	100	100	100	125	125
Air return vent dimension	L	mm	515	515	515	515	738	738
	W	mm	172	172	172	172	207	207
Gas pipe diameter	mm		φ 9.52		φ 12.7		φ 12.7	
Liquid pipe diameter	mm		φ 6.35		φ 6.35		φ 9.52	





## USER NOTICES

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

## Notices for use

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

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

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

 **Warning!**

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

 **Note! :**

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

## Performance parameter list of ducted type indoor unit

Item \ Model		GMV— R60P/D	GMV— R70P/D	GMV— R80P/D	GMV— R100P/DS	GMV— R120P/DS	GMV— R140P/DS
Cooling capacity	W	6000	7000	8000	10000	12000	14000
Heating capacity	W	6600	8000	8800	11000	13000	15000
Air volume	m <sup>3</sup> /h	1400	1400	1400	2000	2000	2000
Noise	dB(A)	42	42	42	44	44	44
Auxiliary electric power	W	2100	2100	2100	3600	3600	3600
Motor output power	w	150	150	150	225	225	225
The max. outside unit surplus pressure	Pa	50	50	50	50	50	50
Phase No. -Voltage-Frequency		220V~ 50Hz			3N 380V~ 50Hz		
Type of anti-shock protection		I					
Outline dimension	W	mm	1112	1112	1112	1382	1382
	D	mm	756	756	756	756	756
	H	mm	300	300	300	300	300
Condensation water pipe aperture (Outside× Inside)	mm	φ 30 × φ 27					
Net weight	kg	55	55	55	75	75	75
Air supply vent dimension	L	mm	918	918	918	1155	1155
	W	mm	207	207	207	207	207
Air return vent dimension	L	mm	1008	1008	1008	1278	1278
	W	mm	250	250	250	250	250
Gas pipe diameter	mm	φ 15.9	φ 15.9	φ 15.9	φ 19.05	φ 19.05	φ 19.05
Liquid pipe diameter	mm	φ 9.52	φ 9.52	φ 9.52	φ 12.7	φ 12.7	φ 12.7

● Parameters of auxiliary electric heat pump ducted type indoor unit

Item		Model	GMV— R20P/D	GMV— R25P/D	GMV— R30P/D	GMV— R35P/D	GMV— R40P/D	GMV— R50P/D
Cooling capacity	W		2000	2500	3000	3500	4000	5000
Heating capacity	W		2300	3000	3300	3800	4500	5800
Air volume	m <sup>3</sup> /h		450	450	570	570	840	840
Noise	dB(A)		37	37	39	39	40	40
Auxiliary electric power	W		800	800	800	800	1500	1500
Motor output power	W		20	20	20	20	70	70
Standard outside unit surplus pressure	Pa		0	0	0	0	15	15
Adjustable outside unit surplus pressure	Pa		20	20	20	20	40	40
Phase No. -Voltage-Frequency		220V~ 50Hz						
Type of anti-shock protection		I						
Outline dimension	W	mm	875	875	875	875	980	980
	D	mm	680	680	680	680	736	736
	H	mm	220	220	220	220	266	266
Condensation water pipe aperture (Outside×Inside)		mm	φ 20× φ 17		φ 30× φ 27		φ 30× φ 27	
Net weight		kg	27	27	27	27	36	36
Air supply vent dimension	L	mm	515	515	515	515	738	738
	W	mm	100	100	100	100	125	125
Air return vent dimension	L	mm	515	515	515	515	738	738
	W	mm	172	172	172	172	207	207
Gas pipe diameter		mm	φ 9.52		φ 12.7		φ 12.7	
Liquid pipe diameter		mm	φ 6.35		φ 6.35		φ 9.52	

**The selection of installation place and notice of the units**

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

The installation must accord with the national and local safe criterion.  
 Since the quality of installation would affect the operation directly, user should contact the seller and have the conditioner installed and tested by the professional install personnel according to the install instruction instead of install by his/her own self.  
 Only connect the power after all the installation works are finished.

● The selection of the installation place of the indoor unit

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



**Note!**

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

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

● The electric cord disposal

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

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

### ● Earthing requirement

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

### ● The attachment used for installation

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

## Performance parameter list of ducted type indoor unit

Item \ Model		GMVL— R60P/D	GMVL— R70P/D	GMVL— R80P/D	GMVL— R100P/D	GMVL— R120P/D	GMVL— R140P/D	
Cooling capacity	W	6000	7000	8000	10000	12000	14000	
Air volume	m <sup>3</sup> /h	1400	1400	1400	2000	2000	2000	
Noise	dB(A)	42	42	42	44	44	44	
Motor output power	w	150	150	150	225	225	225	
The max. outside unit surplus pressure	Pa	50	50	50	50	50	50	
Phase No. -Voltage-Frequency	220V~ 50Hz							
Type of anti-shock protection	I							
Outline dimension	W	mm	1112	1112	1112	1382	1382	1382
	D	mm	756	756	756	756	756	756
	H	mm	300	300	300	300	300	300
Condensation water pipe aperture (Outside×Inside)	mm	φ 30× φ 27						
Net weight	kg	55	55	55	75	75	75	
Air supply vent dimension	L	mm	918	918	918	1155	1155	1155
	W	mm	207	207	207	207	207	207
Air return vent dimension	L	mm	1008	1008	1008	1278	1278	1278
	W	mm	250	250	250	250	250	250
Gas pipe diameter	mm	φ 15.9	φ 15.9	φ 15.9	φ 19.05	φ 19.05	φ 19.05	
Liquid pipe diameter	mm	φ 9.52	φ 9.52	φ 9.52	φ 12.7	φ 12.7	φ 12.7	

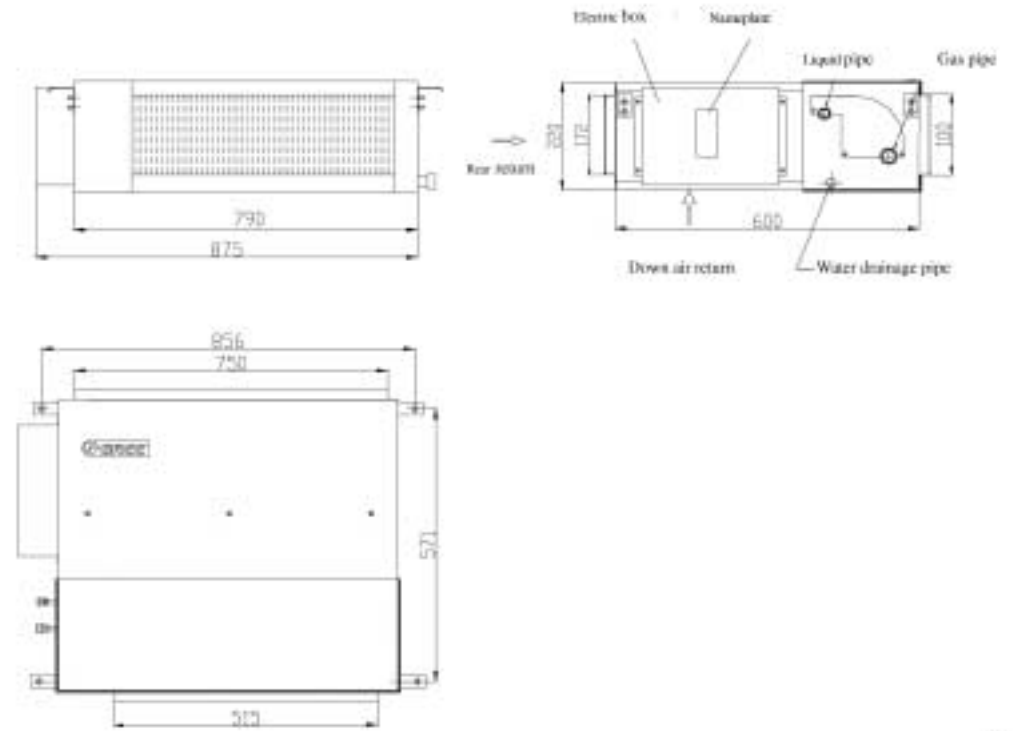
● Parameters for cooling only ducted type indoor units

Item	Model		GMVL— R20P/D	GMVL— R25P/D	GMVL— R30P/D	GMVL— R35P/D	GMVL— R40P/D	GMVL— R50P/D
	Cooling capacity	W		2000	2500	3000	3500	4000
Recycling air volume	m <sup>3</sup> /h		450	450	570	570	840	840
Noise	dB(A)		37	37	39	39	40	40
Motor output power	w		20	20	20	20	70	70
Standard outside unit surplus pressure	Pa		0	0	0	0	15	15
Adjustable outside unit surplus pressure	Pa		20	20	20	20	40	40
Phase No.		220V~ 50Hz						
-Voltage-Frequency								
Type of anti-shock protection		I						
Outline dimension	W	mm	875	875	875	875	980	980
	D	mm	680	680	680	680	736	736
	H	mm	220	220	220	220	266	266
Condensation water pipe aperture (Outside×Inside)		mm	φ 20× φ 17		φ 30× φ 27		φ 30× φ 27	
Net weight		kg	27	27	27	27	36	36
Air supply vent dimension	L	mm	515	515	515	515	738	738
	W	mm	100	100	100	100	125	125
Air return vent dimension	L	mm	515	515	515	515	738	738
	W	mm	172	172	172	172	207	207
Gas pipe diameter		mm	φ 9.52		φ 12.7		φ 12.7	
Liquid pipe diameter		mm	φ 6.35		φ 6.35		φ 9.52	

## Install of the ducted type indoor unit

● Outline dimension diagram of indoor unit

The following figures fit for the indoor units of GMV(L,R)-R20P/D; GMV(L,R)-R25P/D; GMV(L,R)-R30P/D; GMV(L,R)-R35P/D



Unit: mm

The following figures fit for the indoor units of GMV(L,R)-R40P/D; GMV(L,R)-R50P/D; GMV(L,R)-R60P/D; GMV(L,R)-R70P/D; GMV(L,R)-R80P/D; GMV-R100P/DS; GMV-R120P/DS; GMV-R140P/DS; GMV R (L)-R100P/D; GMV R (L)-R120P/D; GMV R (L)-R140P/D

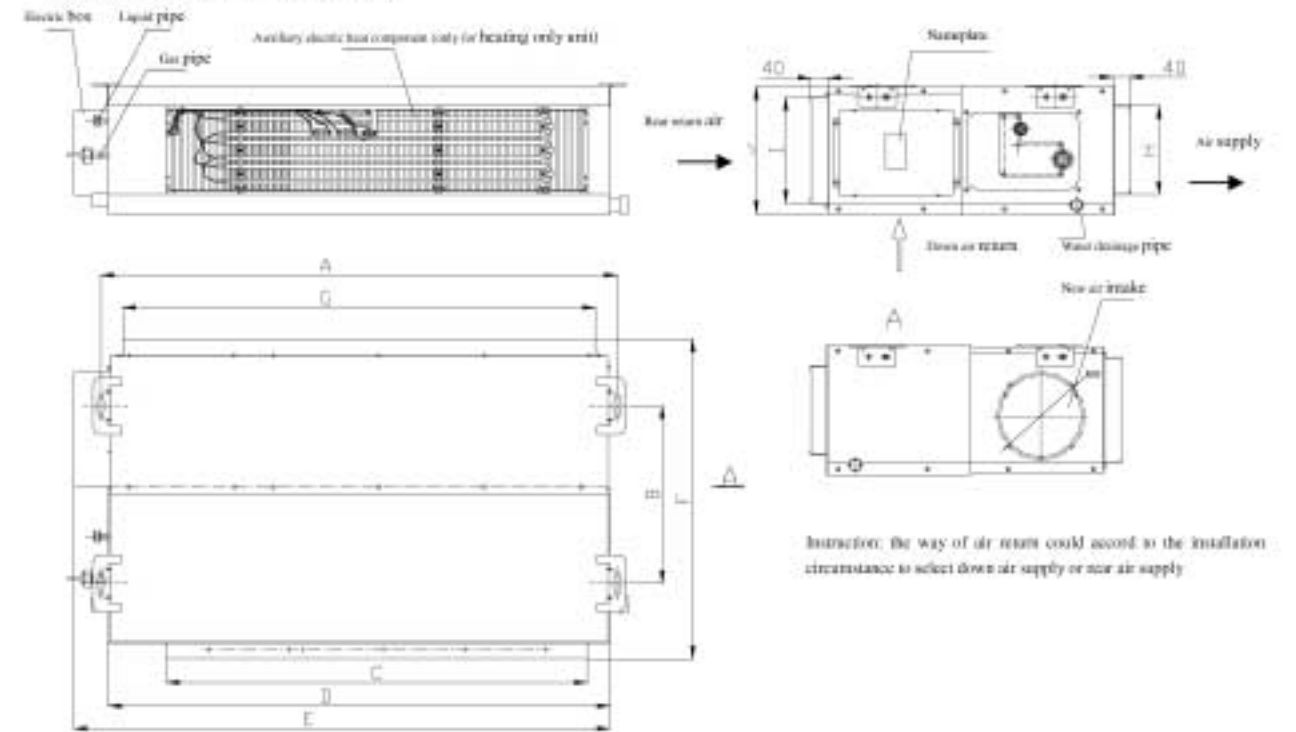


Fig.1  
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## Install of the ducted type indoor unit

Unit: mm

Model	A	B	C	D	E	F	G
GMV (L, R)-R40P/D GMV (L, R)-R50P/D	932	430	738	904	980	736	738
GMV (L, R)-R60P/D GMV (L, R)-R70P/D GMV (L, R)-R80P/D	1112	420	918	1070	1155	756	1008
GMV-R100, 120, 140P/DS GMVL-R100, 120, 140P/D GMVR-R100, 120, 140P/D	1382	420	1155	1340	1425	756	1278

Model	H	I	J	Wiring (Liquid pipe)	Wiring (Gas pipe)	Drain hose (Outside×Inside)
GMV (L, R)-R40P/D GMV (L, R)-R50P/D	207	207	266	φ9.52	φ12.7	φ30×φ27
GMV (L, R)-R60P/D GMV (L, R)-R70P/D GMV (L, R)-R80P/D	207	250	300	φ9.52	φ15.9	φ30×φ27
GMV-R100, 120, 140P/DS GMVL-R100, 120, 140P/D GMVR-R100, 120, 140P/D	207	250	300	φ12.7	φ19.05	φ30×φ27

### ● Schematic diagram of installation spaces

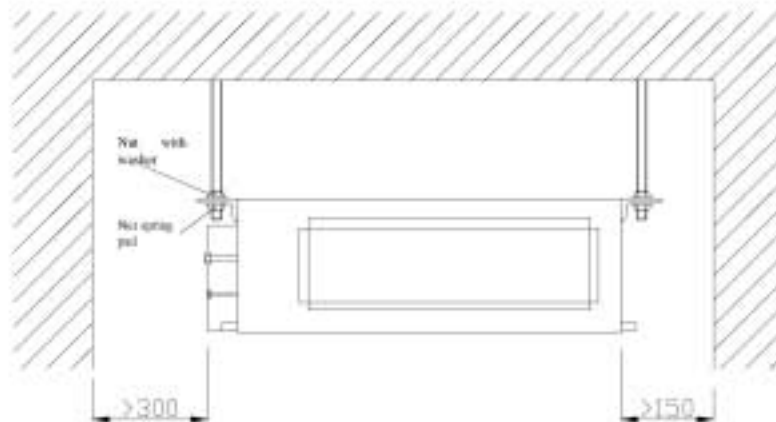


Fig. 2

### ● Select of install location

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. 2, ensure the necessary space for care and maintenance.
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. 6.
7. Indoor unit, outdoor unit, power cord, and connection pipe should have at least 1m's distance with TV set, radio, to prevent the appearance of disturb picture and noise happened on the above mentioned home appliance. (If the electric wave were strong, even though 1m had maintained, noise would still happened.)

## Performance parameter list of ducted type indoor unit

### ⚠ Notes:

1. Under the outdoor temp. 35°C (dry bulb)/ 24°C (wet bulb), indoor temp. 27°C (dry bulb)/ 19°C (wet bulb), the cooling capacity is tested.
2. Under the outdoor temp. 7°C (dry bulb)/ 6°C (wet bulb), indoor temp. 20°C (dry bulb), the heating capacity is tested, that do not include the auxiliary electric heating capacity.
3. The ducted type indoor unit outside static pressure viz. high static pressure---standard static pressure can be changed by the wire connection in the electric box.
4. The noise is tested in the half silencing room, the measuring point is in the place of 1.4m under the unit, the actual running value would be higher due to the surrounding environment changes.
5. All above are tested according to GB/T18837—2002, the specification parameters will be changed, please refer to the data on the nameplate.



## Care and maintenance



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

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

### Daily care

#### (1) Clean air filter

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

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

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

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

#### (3) Maintenance After the Ending of the Operational Seasons

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

## 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. 1. The install of inflate bolt is shown in Fig. 3.

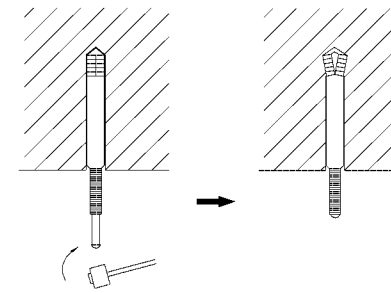


Fig.3

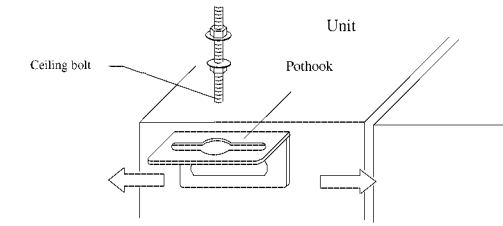


Fig.4

2. Install the hook on the unit, as shown in Fig. 4  
3. Install the indoor unit to the ceiling as shown in Fig. 5

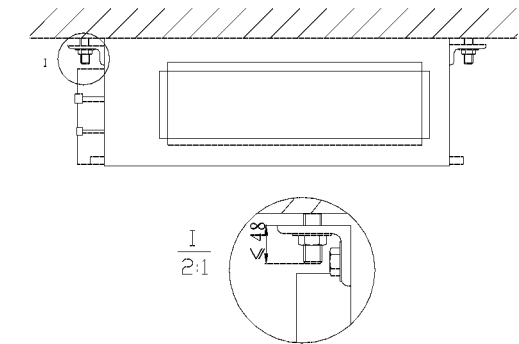
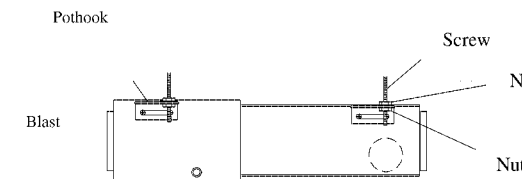


Fig. 5

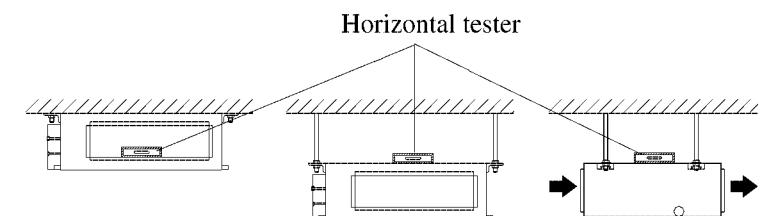


Note:

- ☆ 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 level 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.



## Install of the ducted type indoor unit

### ● Install of wind supply pipe

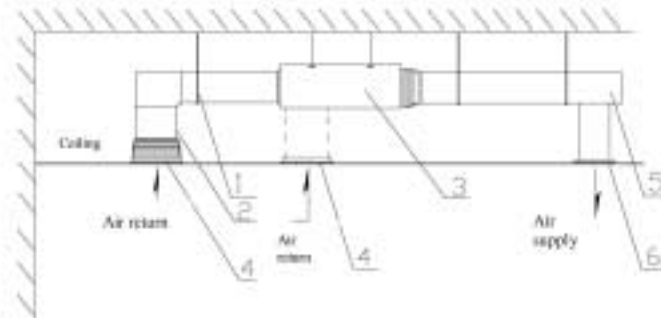


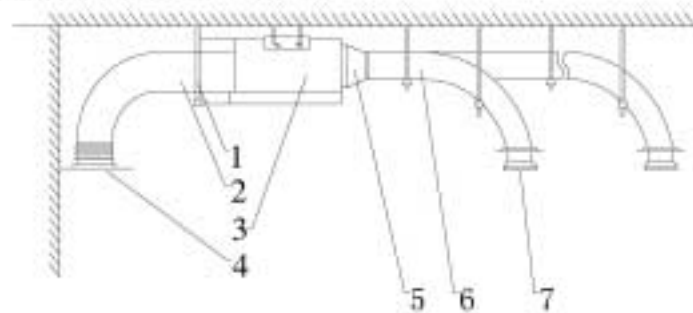
Fig. 6 Sketch of install ducted type unit

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. 6 only shows the install of rear back wind vent, back wind vent can also be 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 wind pipe should add a transitional pipe, which size should match the size of wind supply vent of the unit. After connecting the transitional 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, 140 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 wind supply pipe to the farthest wind supply vent plus the general length of back wind pipe to the relative farthest back wind vent.

2. To the unit with auxiliary heater, if the circle wind pipe is need to connected, the straight length of transmission wind pipe should no less than 200mm.



Number	1	2	3	4	5	6	7
Name	Screw	Back wind pipe	Ducted type indoor unit	Back wind vent	Transitional wind pipe	Wind supply pipe	Wind outlet pipe

## Troubleshooting

Please check the following items before asking for repair:

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

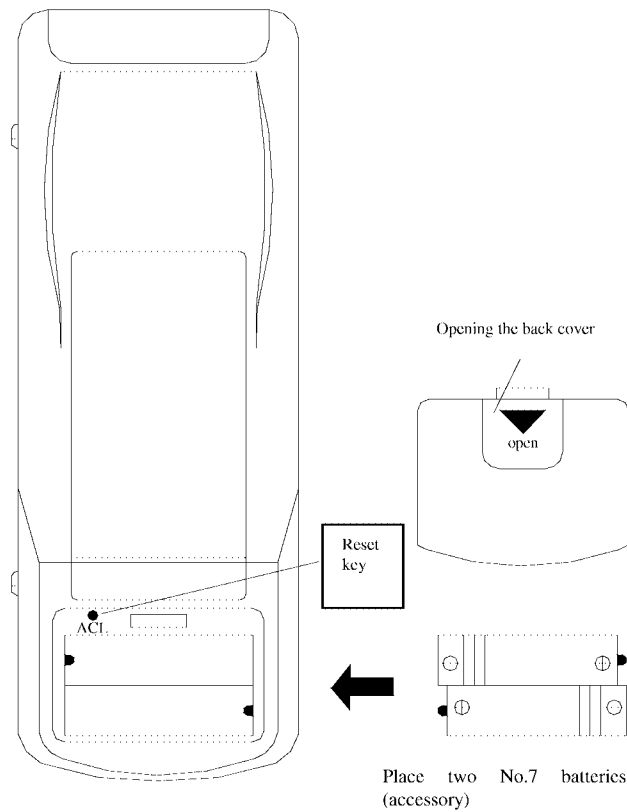
**Notes:**

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

## ● Installation of batteries into the wireless remote control

The remote control uses two No. 7 alkali batteries.

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



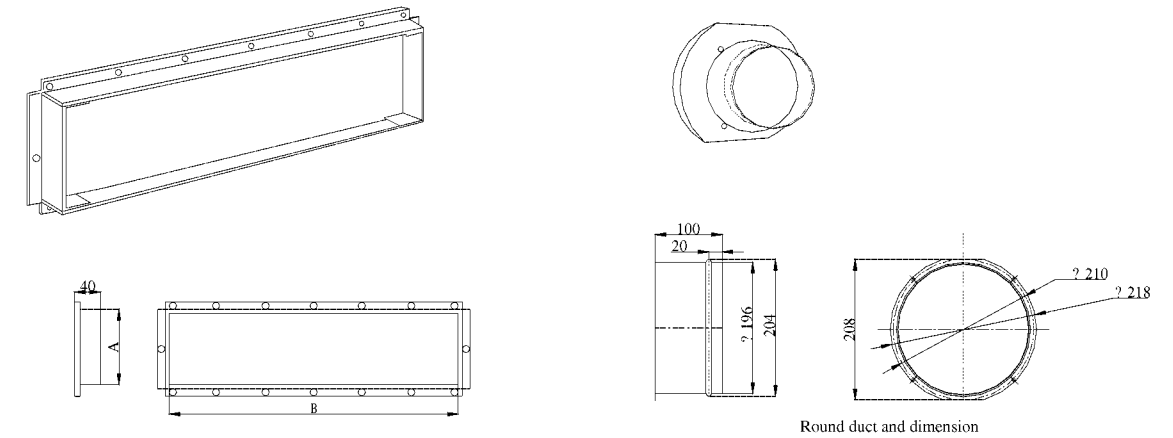
1. After installing the batteries, the display screen will show the graphics and letters or codes for all the performance functions. In 10 seconds, using the remote controller can control the operation.
2. The battery life is about one year.
3. Do not use the new battery with the used one, or use batteries 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.

## Install of the 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.

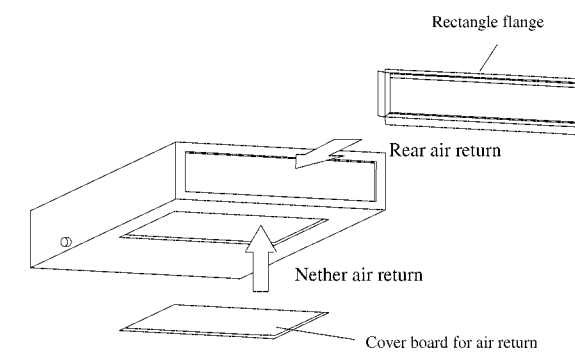
### ● Type and dimension of the back wind, wind supply vent



Unit:mm

Model	Dimension of rectangle air supply flange		Dimension of rectangle air return flange	
	A	B	A	B
GMV (L, R) -R20P/D	100	515	172	515
GMV (L, R) -R30P/D				
GMV (L, R) -R40P/D	125	738	207	738
GMV (L, R) -R60P/D	207	918	250	1008
GMV (L, R) -R80P/D				
GMV-R100, 120, 140P/DS	207	1155	250	1278
GMVR (L) -R100, 120, 140P/D				

### ● Install the back wind pipe



1. Rear back wind type is adopted for the unit when the unit leaves the factory, and the back wind cover is installed at the bottom as shown below.
2. When button back wind vent is needed to adopt, change the position of rectangle 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 architect and maintenance, as shown in fig. 7 a, fig. 7b.

## Install of the ducted type indoor unit

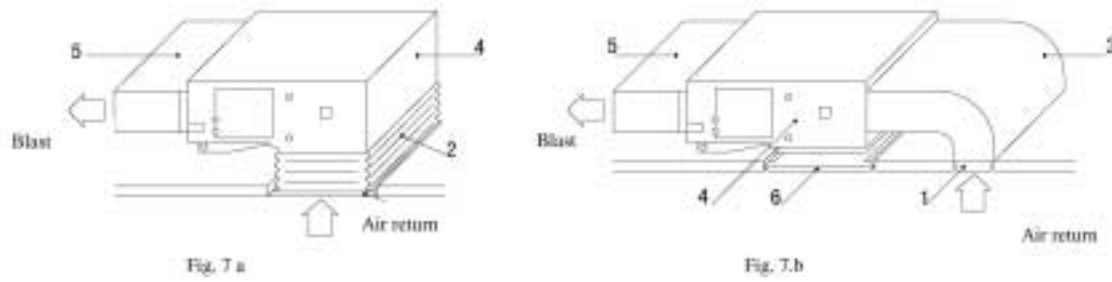


Fig. 7 Install the back wind pipe

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.8. 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.9.
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.

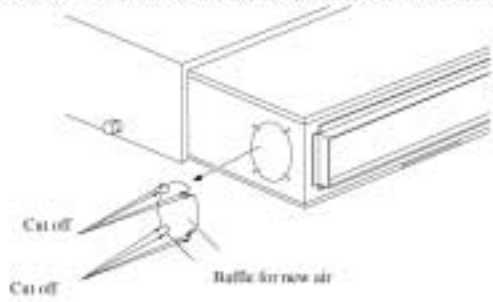


Fig.8

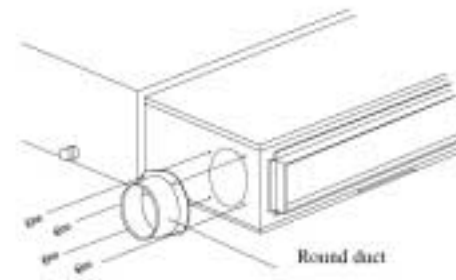


Fig.9

### ⚠ 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 duct. 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 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).

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

#### Temperature/Timing button

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

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

## Change the batteries of wireless remote control

### ● Guide to operational controls

#### General steps:

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

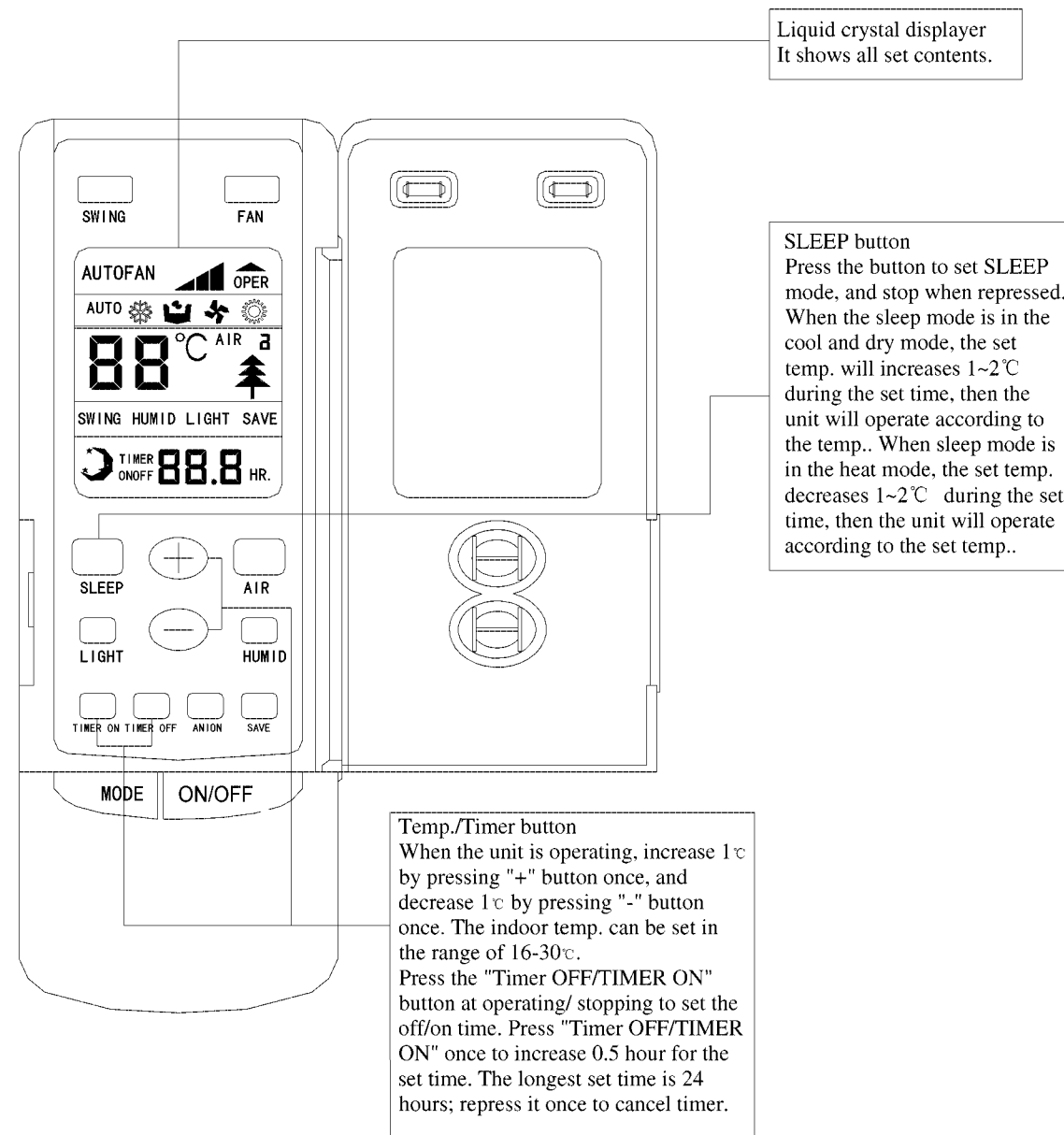
#### Optional steps:

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

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

## Names and functions of wireless remote control

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



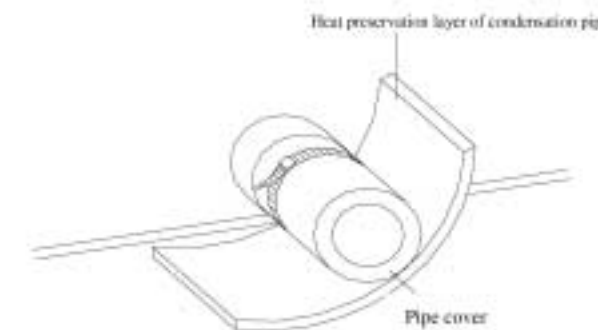
### ⚠ Attention!

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

## Install of the ducted type indoor unit

### ● Installation of Condensed Water Pipes

- ☆ The condensed water pipes should be kept at 5 ~ 10° 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.
- ☆ 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.



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

Fig.10 Heat preservation of condensation pipe

### ● 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 will 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.

## Install of the ducted type indoor unit

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

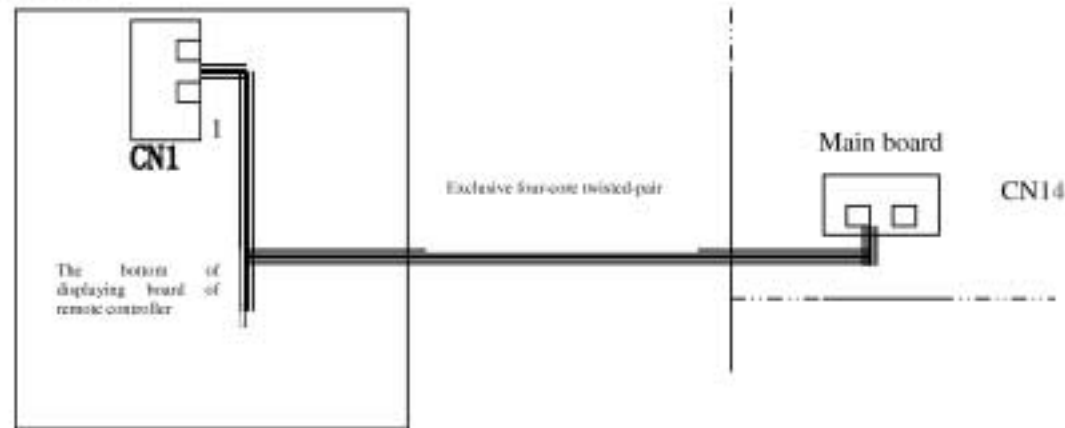


Fig.11 The sketch map for power supply and communication connection of the wired remote controller

The above is the sketch map for power supply and communication connection of the wired remote controller. Insert the four core twisted pair wire, which has pulled in the CN17 from the main board into the connecting terminal CN14 of the display board. To confirm that the power supply must be turned off before the installing and wiring. To check the connected status after installing and wiring, to confirm that there is no connected loosening phenomenon, to make sure there is no short circuit phenomenon in the power supply cord.

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

### ● The installation method of remote controller



Fig. 12 The installation sketch map of the wired remote controller

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

Fig. 12 shows the simple installation procedure of the wired remote controller, it is necessary to pay attention to these followings during the installation:

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

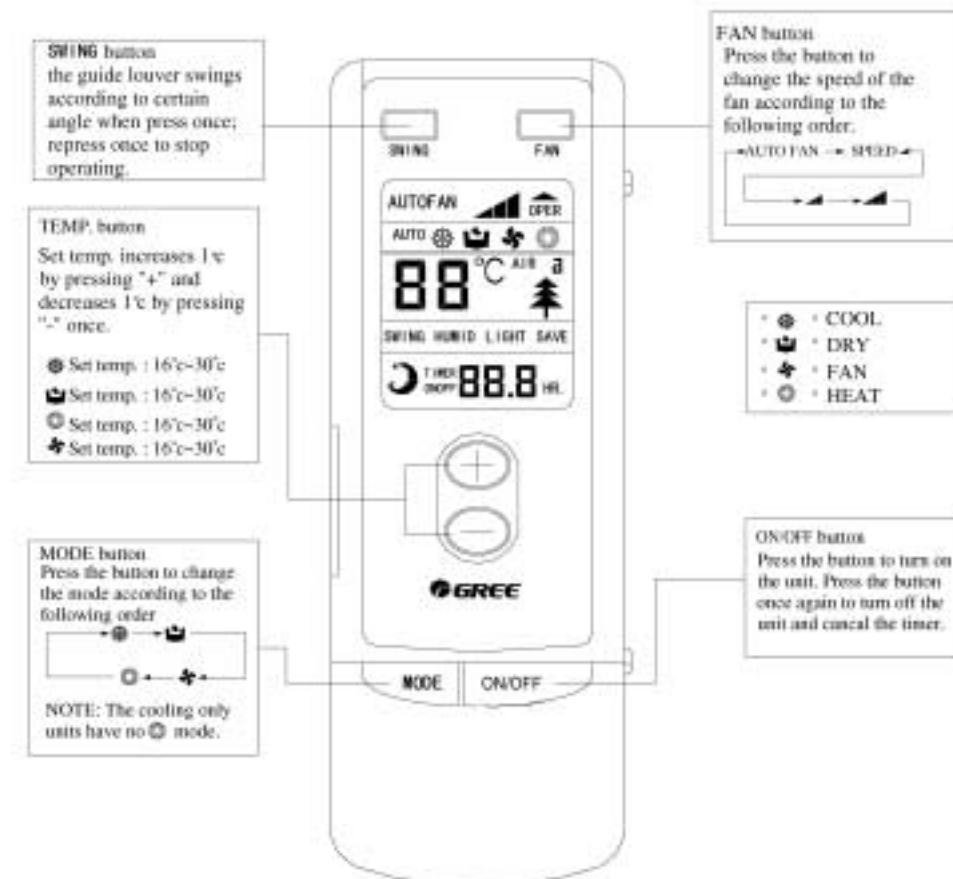
## Names and functions of wireless remote control

### ● Names and functions of wireless remote control

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

#### ⚠ Attention !

- It must be made sure that there is no obstacle between the wireless remote control and the signal-receiving window.
- The signal reception distance of the remote control can be as far as 10 meters.
- Do not drop the remote controller onto the ground or throw it at random.
- Do not allow any liquid to get inside the remote control.
- 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.

## Guide for operation of remote controller of multiple connection indoor units

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

The description of malfunction codes is shown below:

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

## Technical characteristic of remote controller of multiple connection indoor units

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

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

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

## Install of the ducted type indoor unit

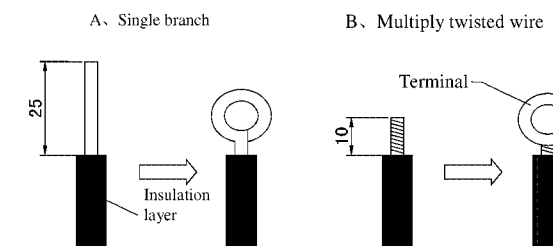
● Connection between the electric wires and the terminals on the terminal plate: (As shown in Fig.13)

### 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 or 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 CN14 on the electric circuit board of the indoor unit;
4. Bind the distribution (communication) wires firmly together and fix them.

## Install of the ducted type indoor unit

● Connection of power supply:

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

A、 Air conditioner units using single-phase power supply

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

B、 Air conditioner units using three-phase power supply

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

● Connection of remote controller signal wire:

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

**⚠ Attention:**

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

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

**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.**

## Guide for operation of remote controller of multiple connection indoor units

6) Temperature adjustment (Fig.7)

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

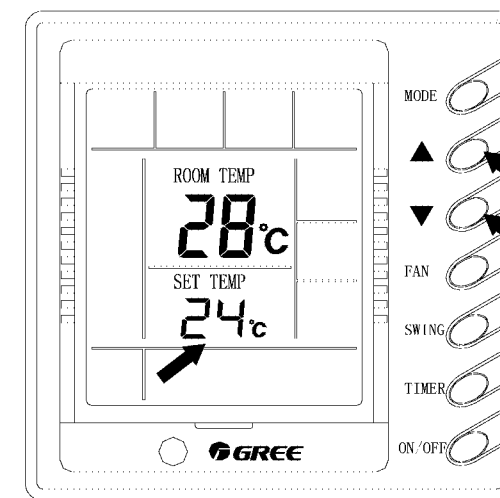
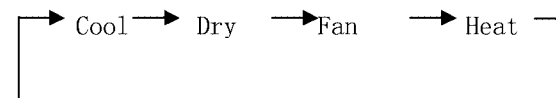


Fig7

7) The running mode setting (Fig. 8)

- ❖ When pressing MODE button each time, the mode will be changed as following: :



- ❖ At “COOL” mode, the COOL display will be light on, the temperature of setting should be lower than the room temperature. If the setting temperature is higher than the room sensor, the unit will not run at cool mode operation.
- ❖ At “DRY” mode, the DRY display will be light on. Fan motor will run at low fan speed in the definite temperature range. The dehumidifying effect of this mode is better than that in COOL mode and more energy saving.
- ❖ At “HEAT” mode, the HEAT display will be light on. The temperature should be set higher than the room temperature ; If the setting temperature is lower than the room temperature, the unit will not run at HEAT mode operation.

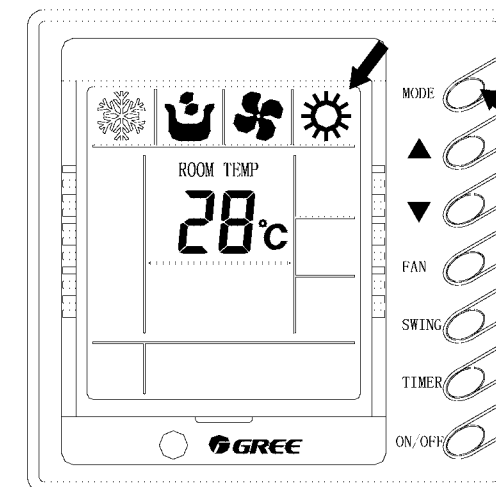


Fig8

8) Malfunction display (Fig. 9)

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

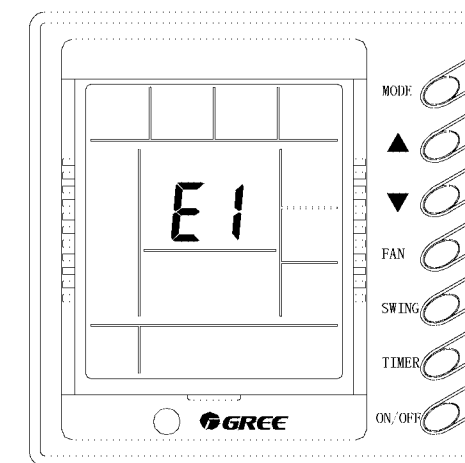


Fig9



# Guide for operation of remote controller of multiple connection indoor units

## 3) SLEEP SETTING (Fig.4)

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

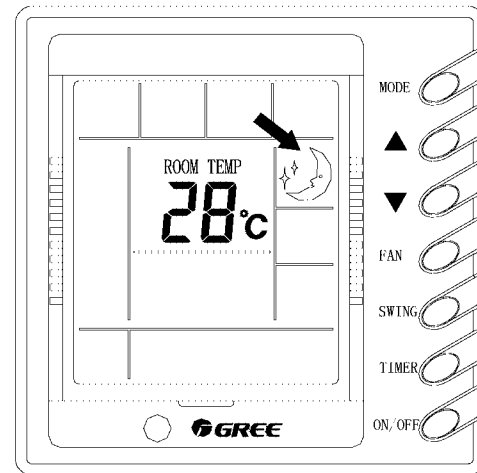


Fig4

## 4) SWING (Fig.5)

- ❖ Press SWING button, the SWING operation will be started.
- ❖ Press SWING button once more, the SWING operation will be stopped.
- ❖ There is no swing function in ducted type and ultra thin ducted type indoor unit.

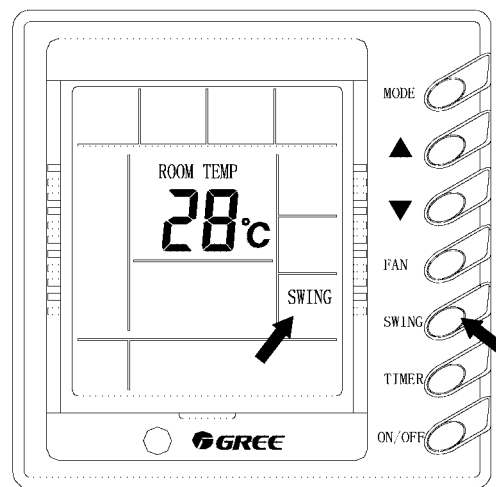
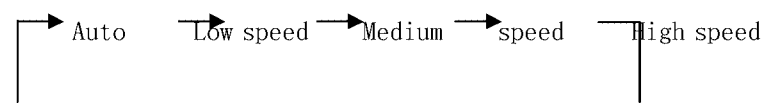


Fig5

## 5) Fan control (Fig.6)

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



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

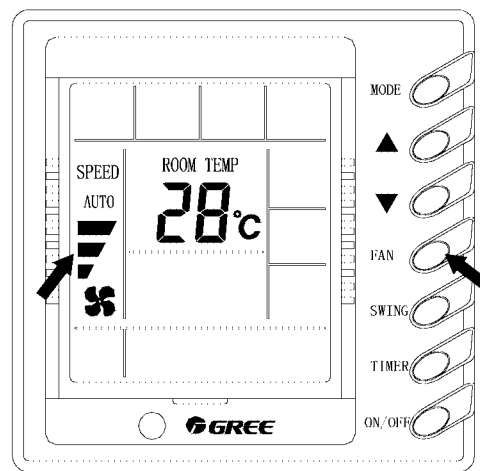


Fig6

# The construction and names of ducted type indoor unit

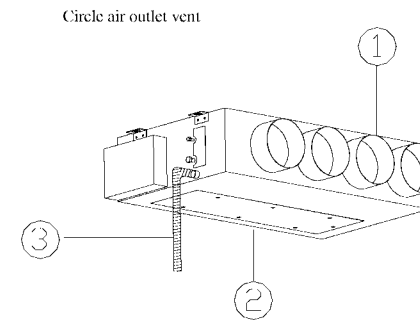


Fig.1

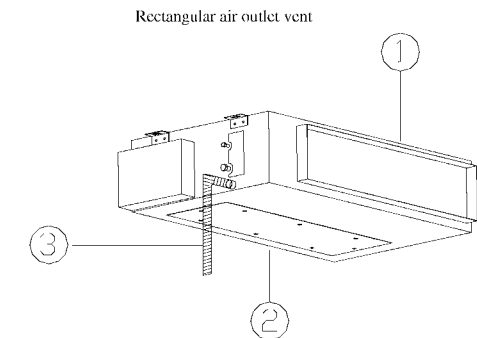
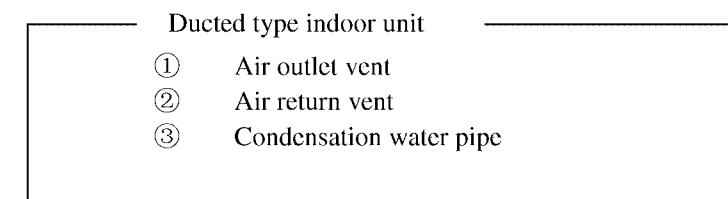


Fig.2



Note: 1. This air conditioner does not include connecting pipes and ducts;

2. 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.

# Rating operational status for units

Rating operational status for units

	Indoor side status		Outdoor side status	
	Dry bulb temperature $^{\circ}\text{C}$	Wet bulb temperature $^{\circ}\text{C}$	Dry bulb temperature $^{\circ}\text{C}$	Wet bulb temperature $^{\circ}\text{C}$
Rating cooling	27	19	35	24
Rating heating	20	15	7	6

# Guide for operation of remote controller of multiple connection indoor units

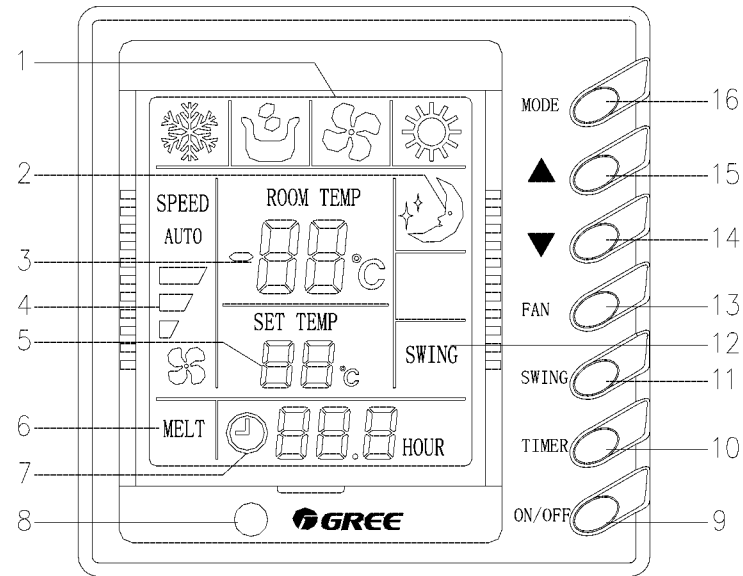


Fig.1

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

## 1) On/Off switch (Fig.2)

- ❖ Press the On/Off button and the unit will be activated.
- ❖ Press the button once again and the unit will stop operating.
- ❖ When press ON/OFF key again, the unit will stop.

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

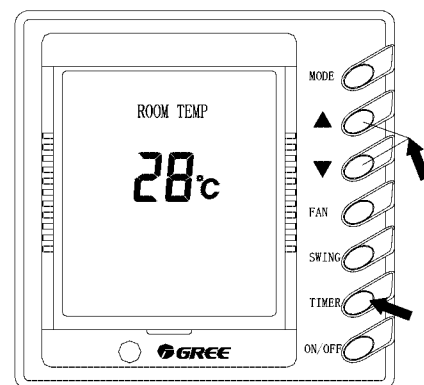


Fig2

# Guide for operation of remote controller of multiple connection indoor units

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

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

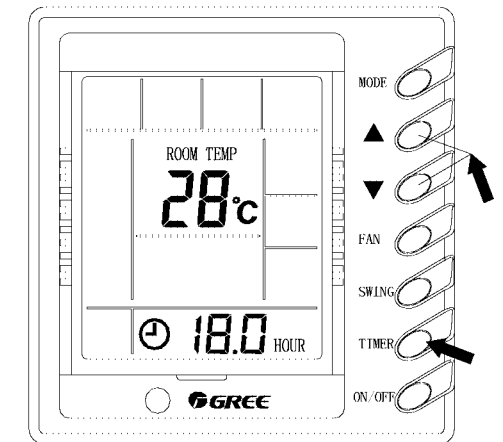
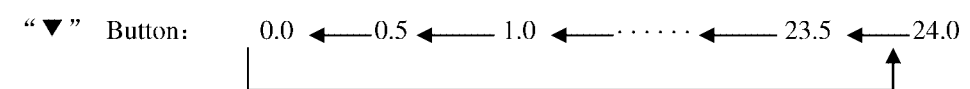
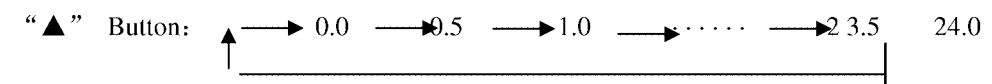


Fig3



**Note:** The above displayed is the relative displaying zone.