Owner's Manual

Original Instructions

Commercial Air Conditioners

AHU-KIT

Models：

GMV-N36U/A-T

GMV-N71U/A-T

GMV-N140U/A-T

GMV-N280U/A-T

GMV-N560U/A-T

Thank you for choosing commercial air conditioners. Please read this Owner’ s Manual carefully before operation and retain it for future reference.

If you have lost the Owner's Manual,please contact the local agent or visit www.gree.com or send an email to global@gree.com.cn for the electronic version.

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

To Users

Thank you for selecting Gree's product. Please read this instruction manual carefully before installing and using the product, so as to master and correctly use the product. In order to guide you to correctly install and use our product and achieve expected operating effect, we hereby instruct as below:

(1) This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsibility for their safety. Children should be supervised to ensure that they do not play with the appliance.

(2) In order to ensure reliability of product, the product may consume some power under stand-by status for maintaining normal communication of system and preheating refrigerant and lubricant. If the product is not to be used for long, cut off the power supply; please energize and preheat the unit in advance before reusing it.

(3) Please properly select the model according to actual using environment, otherwise it may impact the using convenience.

(4) This product has gone through strict inspection and operational test before leaving the factory. In order to avoid damage due to improper disassembly and inspection, which may impact the normal operation of unit, please do not disassemble the unit by yourself. You can contact with the special maintenance center of our company if necessary.

(5) For personal injury or property loss and damage caused by improper operation such as improper installation and debugging, unnecessary maintenance, violation of related national laws and rules and industrial standard, and violation of this instruction manual, etc., we will bear no liability.

(6) When the product is faulted and cannot be operated, please contact with our maintenance center as soon as possible by providing the following information.

1) Contents of nameplate of product (model, cooling/heating capacity, product No., ex-factory date).
2) Malfunction status (specify the situations before and after the error occurs).

(7) All the illustrations and information in the instruction manual are only for reference. In

order to make the product better, we will continuously conduct improvement and innovation. We have the right to make necessary revision to the product from time to time due to the reason of sales or production, and reserve the right to revise the contents without further notice.

(8) The final right to interpret for this instruction manual belongs to Gree Electric Appliances Inc. of Zhuhai.

Contents

1 Safety Precautions 1
2 Product Introduction 4
2.1 Names of Key Components 4
2.2 Overall System Connection Diagram 4
2.3 Standard Fittings 6
2.4 Specifications 7
2.5 Selecting the Air Handling Unit 8
3 Preparations for Installation 12
3.1 Before Installation 12
3.2 Location for Installation 13
3.3 Requirements for Communication Wire 14
3.4 Wiring Requirements 16
3.5 Piping Requirements 16
3.6 Capacity Setting 19
4 Installation Instructions 20
4.1 Unit Dimensions and Maintenance Space 20
4.2 EXV Installation 23
4.3 Piping Installation 25
4.4 Installation of the Control Box 26
4.5 Installation of the Temperature sensors 29
4.6 Installation of the EXV Cable 32
4.7 Installation of Wired Controller 32
5 Wire Connection 33
5.1 Connect Cables and Terminals of Wiring Board 33
5.2 Power Cord Connection 34
5.3 Connection of Communication Wire between Indoor Unit and Outdoor Unit (or Indoor Unit) 36
5.4 Connect Communication Wire of Wired Controller 36
5.5 Illuminate for Connection of Wired Controller and Indoor Units (AHU-KIT) Network 37
6 Statement on linkage function setting 39
7 Operation and Maintenance 39
7.1 Before Operation 39
7.2 Test Operation 40
7.3 Routine Maintenance 40
7.4 Disposal Requirements 41
8 Table of Error Codes for Indoor Unit 41
9 Troubleshooting 42

1 Safety Precautions

Warning: If not abide strictly, it may cause severe damage to the unit or the people.

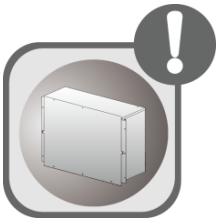
Note: If not abide strictly, it may cause slight or medium damage to the unit or the people.

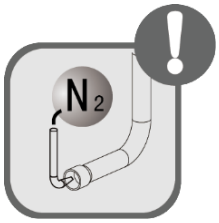
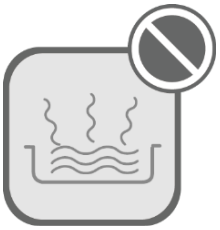
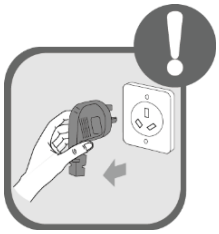
This sign indicates that the operation must be prohibited. Improper operation may cause severe damage or death to people.

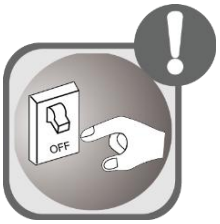
This sign indicates that the items must be observed. Improper operation may cause damage to people or property.

WARNING!

This product can't be installed at corrosive , inflammable or explosive environment or the place with special requirements, such as kitchen. Otherwise, it will affect the normal operation or shorten the service life of the unit, or even cause fire hazard or serious injury. As for above special places, please adopt special air conditioner with anti-corrosive or anti-explosion function .

	Please install the unit according to instructions in this manual. Read this manual carefully before starting up or checking the machine.		Installation should be performed by dealer or qualified technicians. Do not install the product by yourself. Improper installation may result in water leakage, electric shock or fire hazard.
	Make sure the local power supply is in accordance with units before installation, and check the power supply carefully.		When the installation is finished, please check and make sure the drain pipe, pipeline and electric wire are all well connected in order to avoid water leakage, refrigerant leakage, electric shock or fire hazard.
	Please use specialized accessories or parts to carry out installation, or water leakage, electric shock, fire hazard may resulted.		R410A refrigerant can produce poisonous gas once it meets fire, so please ventilate the room immediately if refrigerant leaks out during installation.
	Diameter of power cord must be large enough. Damaged power cord and connecting wire must be replaced by specialized electric cable.		After the power cord is connected, please install the cover of electric box to avoid danger.

	Nitrogen must be charged according to technical requirements.		During Cooling mode, indoor temperature should not be set too low. Keep the difference between indoor temp and outdoor temp within 5°C.
	For units with wired controller, do not connect power supply until the wired controller is well installed. Otherwise, the wired controller cannot be used.		Volatile liquid like thinner or gasoline will damage the appearance of this product. (Please use soft dry cloth and wet cloth with mild detergent to clean the outer case of air conditioner.)
	Connect power supply 8 hours before operation. Do not disconnect power if you want to stop the unit in a short period of time, e.g. in one night. (This is for protecting the compressor.)		If you use gas heater or petroleum heater in the same room, please open the door or window to maintain good air circulation in case the room may lack of oxygen.
	Never start or stop this product by inserting or removing the power cord.		Do not turn off the air conditioner until it runs for at least 5 minutes. Otherwise, oil-return of the compressor will be affected.
	Children are not allowed to operate this product.		Do not operate this product with wet hands.
	Please turn the unit off and unplug your air conditioner before cleaning. Otherwise, it may cause electric shock or personal injury.		Do not spray water on this product or it will cause malfunction or electric shock.
	Do not expose this product directly to water or place it in a damp or corrosive environment.		Do not repair this product by yourself. Improper repair will cause electric shock or fire hazard. Please contact GREE service center and have it repaired by professional technicians.

	This product must be properly grounded through the receptacle to avoid electric shock. The grounding wire shouldn't be connected with gas pipe, water pipe, lightning arrester or telephone line.		If abnormal condition occurs (e.g. unpleasant smell), please turn off the unit at once and disconnect power supply. Then contact GREE service center. If the air conditioner continues to operate despite of abnormal condition, the unit may be damaged and it may cause electric shock or fire hazard.)

Any personal injury or property loss caused by improper installation, improper debug, unnecessary repair or not following the instructions of this manual should not be the responsibility of Gree Electric Appliances, Inc. of Zhuhai.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Disposal	
	This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

2 Product Introduction

2.1 Names of Key Components

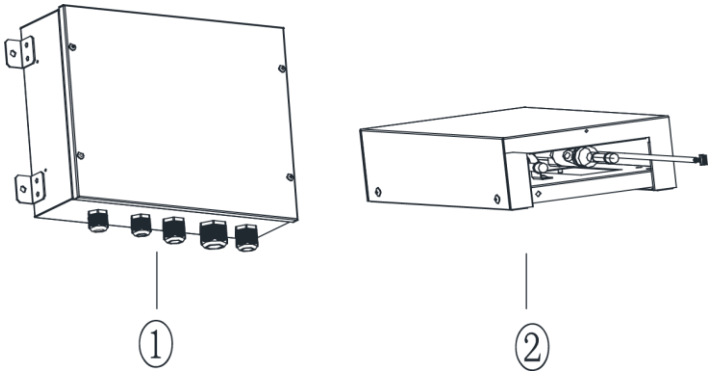


Fig.2.1

No.	①	②
Name	Control Box	EXV Box

2.2 Overall System Connection Diagram

When one AHU-KIT is connected to one AHU, the connection diagram is as follows:

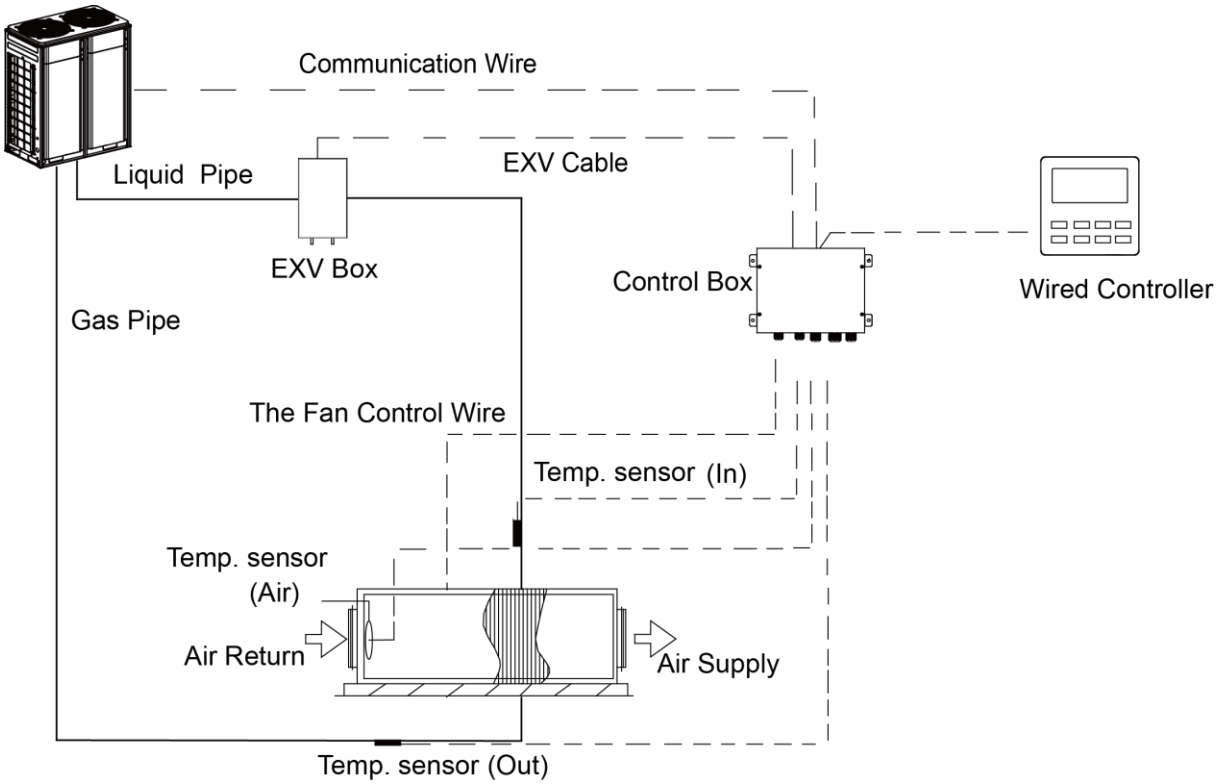


Fig.2.2.1

When several AHU-KITs (n≤2) are in parallel connection with one AHU, the connection diagram is as follows:

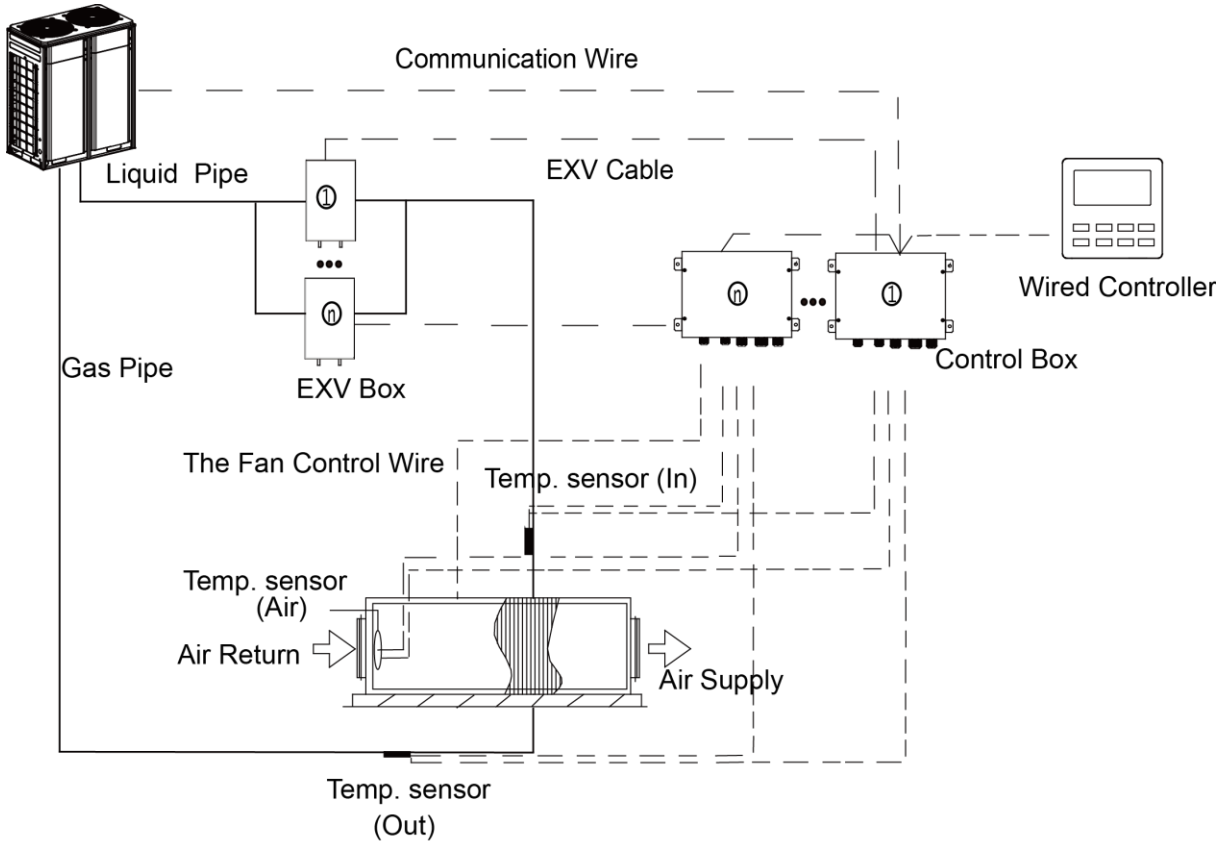
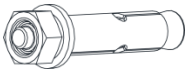
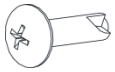
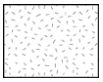
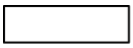
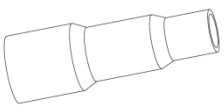


Fig.2.2.2

2.3 Standard Fittings

Please use the supplied standard fittings listed below as instructed.

No.	Name	Appearance	Quantity
1	Magnetic ring		1or2
2	Swell screw		4
3	Self-tapping screw		4
4	Bundle		1
5	Operating Instruction Manual		1
6	Operating Instruction Manual (Unitary Page)		1
7	Wired controller		1
8	Insulator		2
9	aluminum tape		2
10	rubber belt		2
11	Fastener		4
12	Reducer pipe（Only for 71, 280, 560 type）		2

2.4 Specifications

Model				GMV-N36U/A-T		GMV-N71U/A-T			GMV-N140U/A-T		
Defaulted capacity of ex-factory	Capacity			36		71			140		
	Cooling		kW	3.6		7.1			14.0		
	Heating		kW	4.0		8.0			16.0		
Adjustable capacity	Capacity			28	36	45	56	71	90	112	140
	Cooling		kW	2.8	3.6	4.5	5.6	7.1	9.0	11.2	14.0
	Heating		kW	3.2	4.0	5.0	6.3	8.0	10.0	12.5	16.0
Power input			W	5.0		5.0			5.0		
Power Supply			V/Ph/Hz	220~240/1/50 & 208~230/1/60		220~240/1/50 & 208~230/1/60			220~240/1/50 & 208~230/1/60		
Size of connection pipe	AHU-KIT (ex-factory pipe size)		mm	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52
	Air handling unit	Liquid pipe	mm	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52
		Gas pipe	mm	Φ9.52	Φ12.7	Φ12.7	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9
	Connection method			Brazing Connection		Brazing Connection			Brazing Connection		
Outline dimension （W×D×H）	EXV box		mm	203×326×85		203×326×85			203×326×85		
	Control box		mm	334×284×111		334×284×111			334×284×111		
Packing size（W×D×H）			mm	539×461×247		539×461×247			539×461×247		
Net weight			kg	8.6		8.6			8.6		

Model				GMV-N280U/A-T					GMV-N560U/A-T		
Defaulted capacity of ex-factory	Capacity			280					560		
	Cooling		kW	28.0					56.0		
	Heating		kW	31.5					63.0		
Adjustable capacity	Capacity			224	280	335	400	450	504	560	840
	Cooling		kW	22.4	28.0	33.5	40.0	45.0	50.4	56.0	84.0
	Heating		kW	25.0	31.50	37.5	45.00	50.00	56.50	63.0	94.5
Power input			W	5.0					5.0		
Power Supply			V/Ph/Hz	220~240/1/50 & 208~230/1/60					220~240/1/50 & 208~230/1/60		
Size of connection pipe	AHU-KIT (ex-factory pipe size)		mm	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ15.9	Φ15.9	Φ15.9
	Air handling unit	Liquid pipe	mm	Φ9.52	Φ9.52	Φ12.7	Φ12.7	Φ12.7	Φ15.9	Φ15.9	Φ19.05
		Gas pipe	mm	Φ19.05	Φ22.2	Φ25.4	Φ25.4	Φ28.6	Φ28.6	Φ28.6	Φ31.8
	Connection method			Brazing Connection					Brazing Connection		
Outline dimension （W×D×H）	EXV box		mm	203×326×85					246×500×120		
	Control box		mm	334×284×111					334×284×111		
Packing size（W×D×H）			mm	539×461×247					759×645×180		
Net weight		kg		8.6					11.8		

Model(Combined)			GMV-N560U/A-T+ GMV-N140U/A-T	GMV-N560U/A-T+ GMV-N280U/A-T	GMV-N560U/A-T+GM V-N560U/A-T	
Capacity			840+140	840+280	840+560	840+840
Cooling	kW		98	112	140	168
Heating	kW		110.5	126	157.5	189
Power input	W		5+5	5+5	5+5	
Power Supply	V/Ph/Hz		220~240/1/50 & 208~230/1/60	220~240/1/50 & 208~230/1/60	220~240/1/50 & 208~230/1/60	
Size of connection pipe	Air handling unit	Liquid pipe	Φ19.05	Φ19.05	Φ19.05	Φ19.05
		Gas pipe	Φ38.1	Φ38.1	Φ41.3	Φ41.3
Outline dimension （W×D×H）	EXV box	mm	246×500×120+20 3×326×85	246×500×120+20 3×326×85	(246×500×120)×2	
	Control box	mm	(334×284×111)×2	(334×284×111)×2	(334×284×111)×2	
Net weight	kg		11.8+8.6	11.8+8.6	11.8+11.8	

NOTE!

The specifications of the unit is subject to change without prior notice due to improvement product. Please refer to the nameplate.

2.5 Selecting the Air Handling Unit

Select the air handling unit according to the technical data and limitations mentioned in the following table. Lifetime of the unit, operation range or operation reliability may be influenced if you neglect these limitations.

Model(Combined)	Capacity (kW)	Allowed Heat Exchanger Volume(dm^3)		Allowed Heat Exchanger Capacity(kW)				Suggested Air Flow(m^3/h)	
				Cooling		Heating			
		Min	Max	Min	Max	Min	Max	Min	Max
GMV-N36U/A-T	2.8	0.67	0.75	2.5	2.8	2.8	3.2	375	505
	3.6	0.75	0.96	2.8	3.6	3.2	4.0	420	650
GMV-N71U/A-T	4.5	0.96	1.20	3.6	4.5	4.0	5.0	540	810
	5.6	1.20	1.50	4.5	5.6	5.0	6.3	675	1010
	7.1	1.50	1.90	5.6	7.1	6.3	8.0	840	1280
GMV-N140U/A-T	9.0	1.90	2.40	7.1	9.0	8.0	10.0	1065	1620
	11.2	2.40	2.99	9.0	11.2	10.0	12.5	1350	2015
	14.0	2.99	3.74	11.2	14.0	12.5	16.0	1680	2380
GMV-N280U/A-T	22.4	3.74	5.98	14.0	22.4	16.0	25.0	2100	3810
	28.0	5.98	7.48	22.4	28.0	25.0	31.5	3360	4760
	33.5	7.48	8.94	28.0	33.5	31.5	37.5	4200	5695
	40.0	8.94	10.68	33.5	40.0	37.5	45.0	5025	6800
	45.0	10.68	12.02	40.0	45.0	45.0	50.0	6000	7650
GMV-N560U/A-T	50.4	12.02	13.46	45.0	50.4	50.0	56.5	6750	8570

	56.0	13.46	14.95	50.4	56.0	56.5	63.0	7560	9520
	84.0	14.95	22.43	56.0	84.0	63.0	94.5	8400	14280
GMV-N560U/A-T +GMV-N140U/A-T	98.0	22.43	26.17	84.0	98.0	94.5	110.5	12600	16660
GMV-N560U/A-T +GMV-N280U/A-T	112.0	26.17	29.90	98.0	112.0	110.5	126.0	14700	19040
GMV-N560U/A-T	140.0	29.90	37.38	112.0	140.0	126.0	157.5	16800	23800
+GMV-N560U/A-T	168.0	37.38	44.86	140.0	168.0	157.5	189.0	21000	28560

a) The capacity is obtained at these test conditions: superheat (SH) = 5℃ and supercool (SC) = 3℃.
Cooling: Saturated evaporating temperature = 6℃, air return temperature is 27℃(DB)/19℃(WB).
Heating: Saturated condensing temperature = 46℃, air return temperature is 20℃(DB).

b) The heat exchanger of air handling unit is designed for R410A, and it's working pressure is 4.3MPa.

c) Quantity of rows of heat exchanger: no more than 4 rows.

d) The diameter of copper pipe of heat exchanger is no more than 12.7mm, 9.52mm is recommended.

e) Air inlet temperature range of heat exchanger: cooling: 16~35℃, heating: 10~27℃.

NOTES!

When the AHU-KIT is matched with AHU, they can connect with VRF outdoor unit as VRF indoor unit. The connection is limited by the outdoor unit. There are three kinds of connection method:

(1) Connection method 1: one-to-one

The AHU-KIT as below can adopt one-to-one connection method with VRF outdoor unit. Total capacity of AHU-KIT should be 80%~110% of that of outdoor unit.

Model(Combined)	Capacity in application (kW)	Capacity DIP
GMV-N71U/A-T	7.1	71
GMV-N140U/A-T	9.0	90
	11.2	112
	14.0	140
GMV-N280U/A-T	22.4	224
	28.0	280
	33.5	335
	40.0	400
	45.0	450
GMV-N560U/A-T	50.4	504
	56.0	560
	84.0	840
GMV-N560U/A-T+GMV-N140U/A-T	98.0	840+140
GMV-N560U/A-T+GMV-N280U/A-T	112.0	840+280
GMV-N560U/A-T+GMV-N560U/A-T	140.0	840+560
	168.0	840+840

(2) Connection method 2: one-to-more

The AHU-KIT as below can adopt one-to-more connection method with VRF outdoor unit. Total capacity of AHU-KIT should be 50%~110% of that of outdoor unit.

Model	Capacity in application (kW)	Capacity DIP
GMV-N36U/A-T	2.8	28
	3.6	36
GMV-N71U/A-T	4.5	45
	5.6	56
	7.1	71
GMV-N140U/A-T	9.0	90
	11.2	112
	14.0	140
GMV-N280U/A-T	22.4	224
	28.0	280

(3) Connection method 3: one-to-more (mixed connection)

The AHU-KIT as below can adopt one-to-more connection method with general VRF indoor unit. Total capacity of AHU-KIT and VRF indoor unit should be 50%~110% of that of outdoor unit. Total capacity of AHU-KIT cannot exceed 30% of that of outdoor unit.

Model	Capacity in application (kW)	Capacity DIP
GMV-N36U/A-T	2.8	28
	3.6	36
GMV-N71U/A-T	4.5	45
	5.6	56
	7.1	71
GMV-N140U/A-T	9.0	90
	11.2	112
	14.0	140
GMV-N280U/A-T	22.4	224
	28.0	280

NOTES!

When connecting AHU-KIT with general VRF indoor unit, capacity requirement shall be followed strictly. Otherwise, it may affect the operation, or even damage the unit.

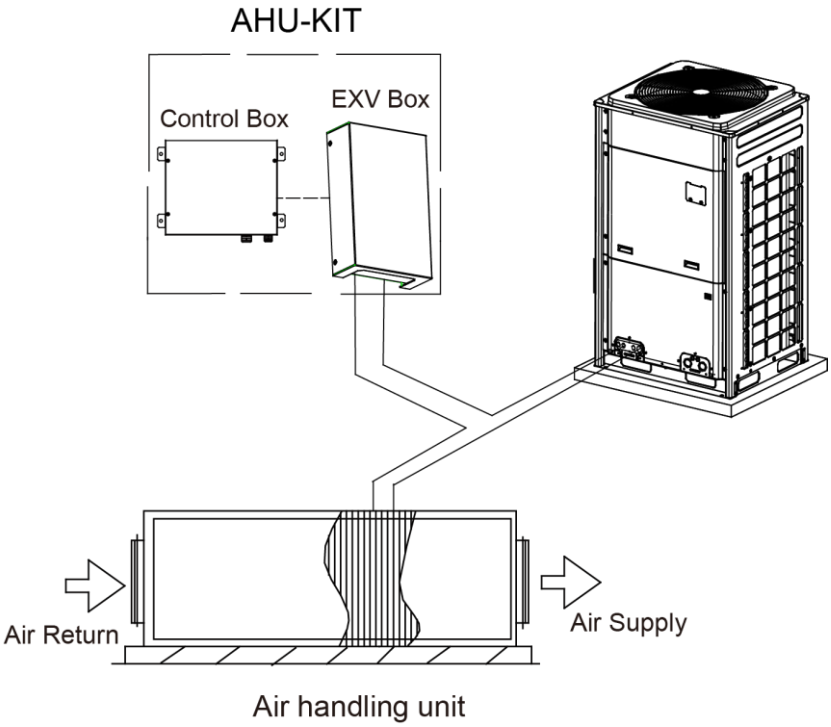


Fig.2.5.1 AHU-KIT one-to-one (single unit) connection diagram

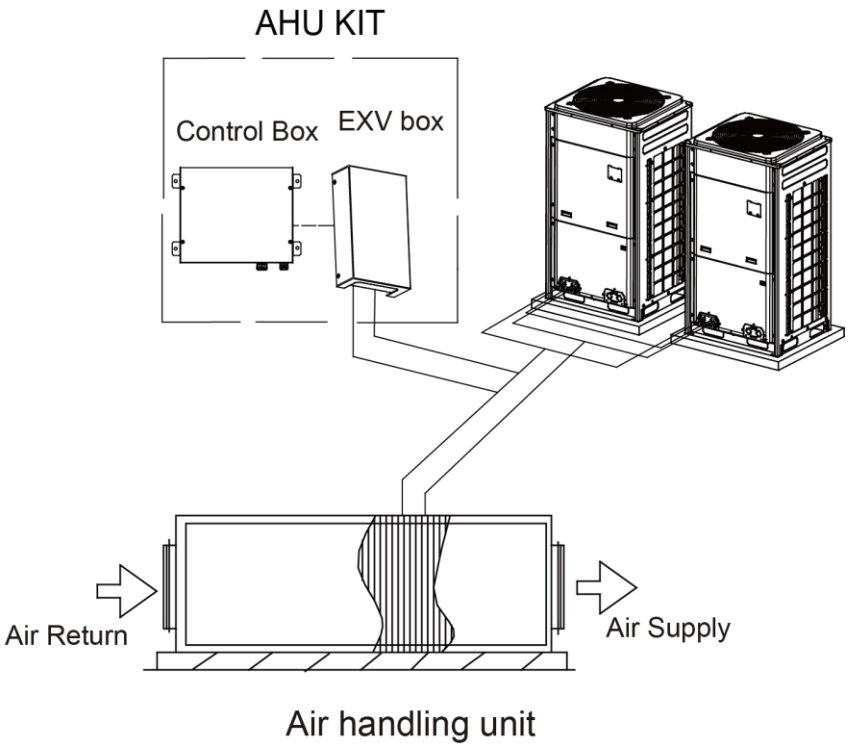


Fig.2.5.2 AHU-KIT one-to-one (combination outdoor unit) connection diagram

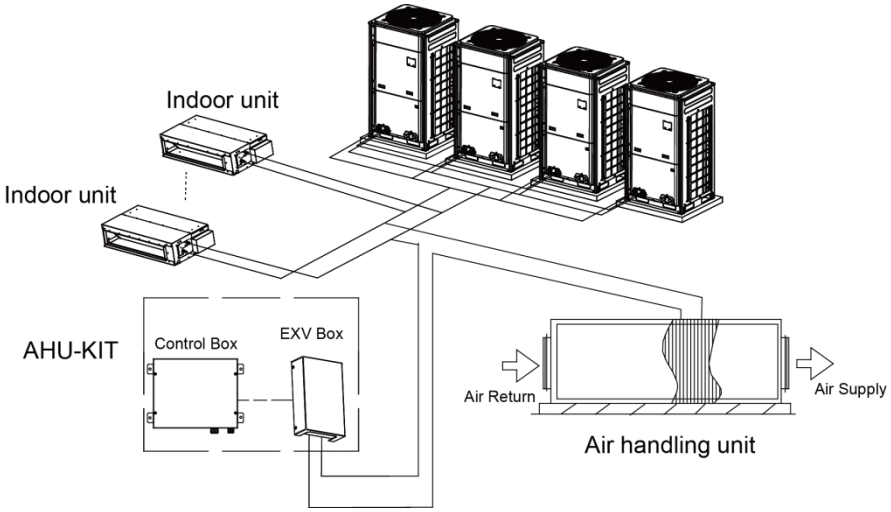


Fig.2.5.3 AHU-KIT one-to-more (hybrid connection) connection diagram

3 Preparations for Installation

3.1 Before Installation

NOTES!

Product graphics are only for reference. Please refer to actual products. Unspecified measure unit is mm.

(1) This equipment is designed for R410A system, and the designed working pressure is 4.3 MPa or 43 bar.

(2) Working Ambient Temp.:Tmax=45℃.

(3) Precautions for R410A:

a) The refrigerant requires strict cautions for keeping the system clean, dry and tight.

—Clean and dry：Foreign materials (including mineral oils or moisture) should be prevented from getting mixed into the system.

—Tight：Read this manual carefully and follow these procedures correctly.

b) Since R410A is a mixed refrigerant, the required additional refrigerant must be charged in its liquid state. (If the refrigerant is in state of gas, its composition changes and the system will not work properly).

(4) The connected air handling units must have heat exchangers designed exclusively for R410A.

(5) Never use this appliance in a place with inflammable and explosive gas.

(6) For the following items, take special care during construction and check after installation is finished:

Tick √ when checked
☐ Are the temperature sensors fixed firmly? Temperature sensor may come loose.
☐ Is the capacity code setted correctly? System performance may not reach relevant requirements or will lead to reliability problem.
☐ Is the control box fixed firmly? The unit may drop, vibrate or make noise.
☐ Do electrical connections comply with specifications? The unit may malfunction or components may burn out.
☐ Are wiring and piping correct? The unit may malfunction or components may burn out.
☐ Is the unit safely grounded? Dangerous at electric leakage.

3.2 Location for Installation

Select an installation site where the following conditions are fulfilled and that meets your customer's approval.

(1) The EXV box can be installed inside and outside. The control box should be installed inside.

(2) Do not install the EXV box in or on the outdoor unit.

(3) Do not put the option boxes in direct sunlight. Direct sunlight will increase the temperature inside the option boxes and may reduce its lifetime and influence its operation.

(4) Choose a flat and strong mounting surface.

(5) Make sure there is enough free space in front and in the side of the AHU-KIT unit for future maintenance.

(6) The installation site should be far away from heat source, inflammable gas and smoke.

(7) Keep the air handling unit, power supply wiring and transmission wiring at least 1 m away from televisions and radios. This is to prevent image interference and noise in those electrical appliances. (Noise may be generated depending on the conditions under which the electric wave is generated, even if 1 m is kept.)

(8) Make sure the electronic expansion valve is installed in an upright position.

NOTES!

① Do not install or operate the unit in rooms mentioned below:

a).Where mineral oil, like cutting oil is present.

b).Where the air contains high levels of salt such as air near the ocean.

c).Where sulphurous gas is present such as that in areas of hot spring.

d).In vehicles or vessels.

e).Where voltage fluctuates a lot such as that in factories.

f).Where high concentration of vapor or spray are present.

g).Where machines generating electromagnetic waves are present.

h).Where acidic or alkaline vapor is present.

② Installing this unit must comply with the relevant local and national codes.

③ Connecting the power after all installation works are done.

3.3 Requirements for Communication Wire

NOTES!

If the unit is installed in the place with strong electromagnetic interference, shielded wire must be applied on the communication wire between indoor unit (AHU-KIT) and wired controller. Twisted pair wire with shielding function must be applied on the communication wire between indoor unit and indoor unit (outdoor unit).

3.3.1 Selecting communication wire for AHU-KIT and wired controller

Wire Type	Total Length of Communication wire L(m)	Wire Gauge (mm^2)	Remark
Light/Common PVC Jacket Soft Wire	L ≤ 250	2×0.75 ～ 2×1.25	The total length of communication wire should not exceed 250m.
Light shield/Common PVC Jacket Soft Wire	L ≤ 250	2×0.75 ～ 2×1.25	The shield cable is required when the unit is installed in the environment of strong magnetic or interference.

Connection between AHU-KIT and wired controller is shown as follows：

(1) When one AHU-KIT is connected to one AHU, you can adopt the connection ways of one wired controller to one AHU-KIT or one wired controller to several AHU-KITs (group control, n≤16).

(2) When several AHU-KITs are in parallel connection with one AHU, you can only adopt the way of one wired controller to several AHU-KITs (group control, n≤2).

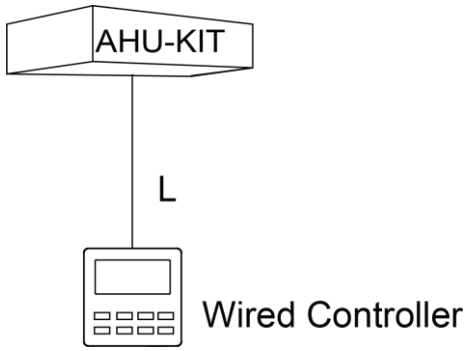


Fig.3.3.1 One wired controller to one AHU-KIT

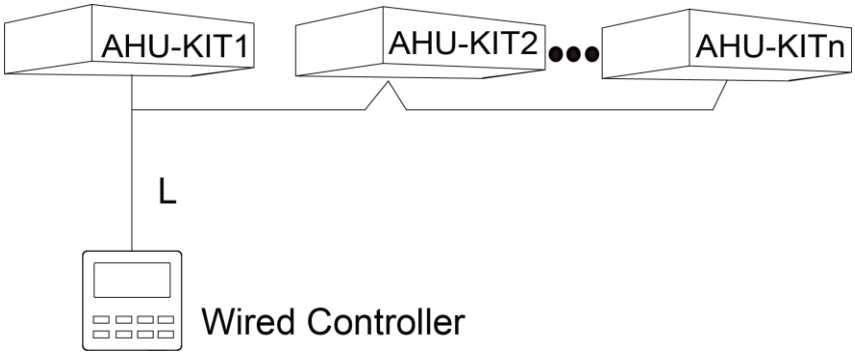


Fig.3.3.2 One wired controller to several AHU-KITs

3.3.2 Select Communication wire for AHU-KIT and Outdoor Unit

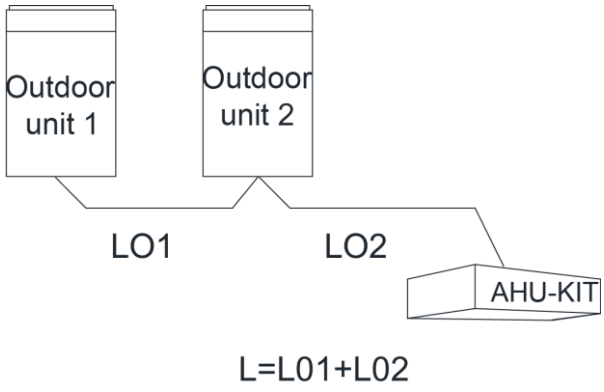


Fig.3.3.3

Wire Type	Total Length of Communication wire L(m)	Wire Gauge (mm^2)	Remark
Light/Common PVC Jacket Soft Wire	L ≤ 1000	≥ 2×0.75	If wire gauge is 2X1 mm^2, then it's OK to increase the length of communication wire. But total length should not exceed 1500m.
Light shield/Common PVC Jacket Soft Wire	L ≤ 1000	≥ 2×0.75	The shield cable is required when the unit is installed in the environment of strong magnetic or interference.

3.4 Wiring Requirements

Power Cord Size and Air Switch Capacity:

Model	Power Cord Size	Air Switch Capacity(A)	Ground Wire	Power Cord
			Minimum Sectional Area(mm^2)	Minimum Sectional Area(mm^2)
GMV-N36U/A-T	220~240V/1ph/50Hz & 208~230V/1ph/60Hz	6	1.0	1.0
GMV-N71U/A-T		6	1.0	1.0
GMV-N140U/A-T		6	1.0	1.0
GMV-N280U/A-T		6	1.0	1.0
GMV-N560U/A-T		6	1.0	1.0

NOTES!

① Use copper wire only as unit's power cord. Operating temperature should be within its rated value.

② Above selection requirements: Power cord size is based on BV single-core wire (2~4pc) at 40°Cambient temperature when laying across plastic pipe. Air switch is D type and used at 40°C. If actual installation condition varies, please lower the capacity appropriately according to the specifications of power cord and air switch provided by manufacturer.

③ Install cut-off device near the unit. The minimum distance between each stage of cut-off device should be 3 mm (The same for both indoor unit and outdoor unit).

3.5 Piping Requirements

3.5.1 Selection of Piping Requirements

(1) Ensure the inside of the pipes is clean and no foreign materials.

(2) Pipe specifications:

R410A System		
Pipe Φ（mm）	Thickness(mm)	Temper grade of piping material
Φ6.35	≥0.8	O
Φ9.52	≥0.8	O
Φ12.70	≥0.8	O
Φ15.9	≥1.0	O
Φ19.05	≥1.0	1/2H
Φ22.2	≥1.2	1/2H
Φ25.40	≥1.2	1/2H
Φ28.6	≥1.2	1/2H
Φ31.8	≥1.3	1/2H
Φ34.90	≥1.3	1/2H

Φ38.10	≥1.5	1/2H
Φ41.30	≥1.5	1/2H
Φ44.5	≥1.5	1/2H
Φ51.4	≥1.5	1/2H
Φ54.1	≥1.5	1/2H

3.5.2Piping Design

When one AHU-KIT is connected to one AHU, the piping diagram is as follows:

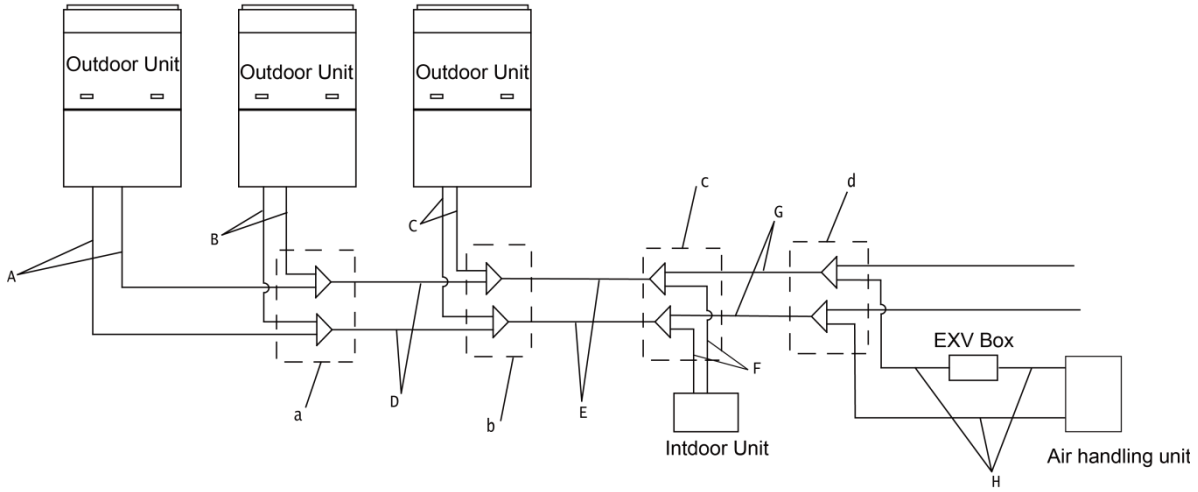


Fig.3.5.1 One AHU-KIT to one AHU

When several AHU-KITs are connected to one AHU, the piping diagram is as follows:

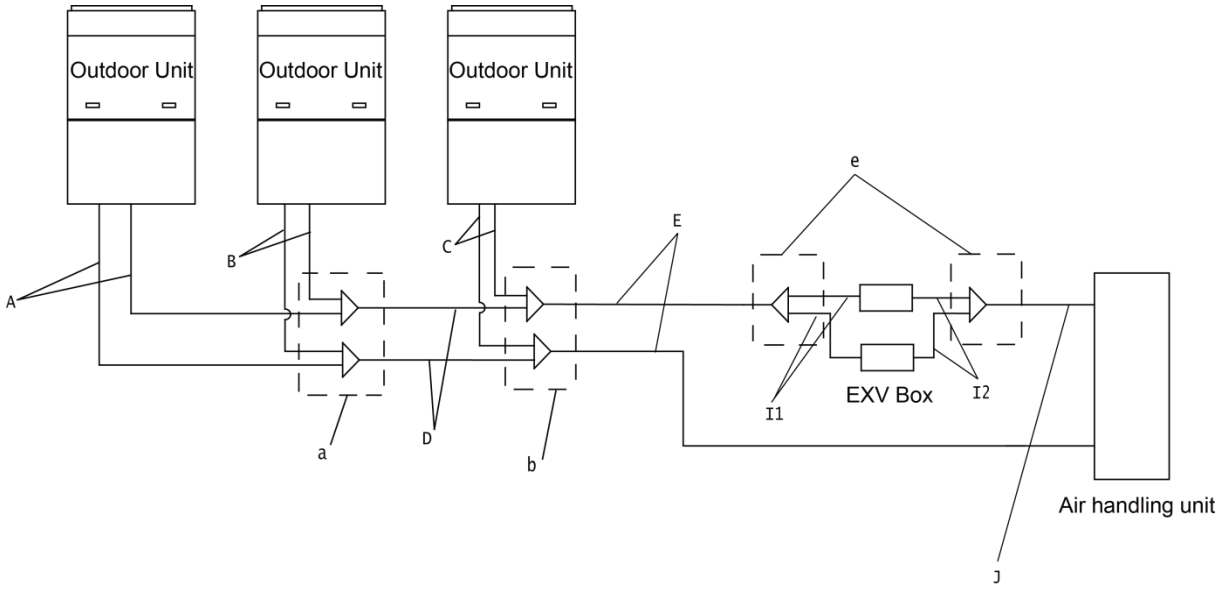


Fig.3.5.2 Several AHU-KITs to one AHU

3.5.2.1Selection of Branch Pipe

(1) Branch pipes (a, b) between outdoor units shall be selected according to the total capacity of outdoor unit ,as follows:

	Model
Selection of branch pipe between ODU modules	ML01/A

(2) Branch pipe (c, d) between indoor units shall be selected according to the total capacity of downstream IDUs ,as follows:

Selection of branch pipe between indoor units	Total rated capacity of downstream IDUs X(kW)	Model
Y-type Manifold	X＜20.0	FQ01A/A
	20.0≤X≤30.0	FQ01B/A
	30.0＜X≤70.0	FQ02/A
	70.0＜X≤135.0	FQ03/A
	135.0＜X	FQ04/A
T- type Manifold	X≤40.0	FQ014/H1
	40.0＜X≤68.0	FQ018/H1
	68.0＜X	FQ018/H2

(3) When several AHU-KITs are connected to one AHU, branch pipe (e) shall be selected according to the following table:

Model	Branch pipe	Quantity
GMV-N560U/A-T+GMV-N140U/A-T	FQ01U/A	1
GMV-N560U/A-T+GMV-N280U/A-T	FQ01U/A	1
GMV-N560U/A-T+GMV-N560U/A-T	FQ01U/A	1

3.5.2.2 Selection of Piping Dimension

Piping dimension can be selected according to the total rated capacity of upstream or downstream modules. Detailed requirements are as below:

(1) Piping (A, B, C) from ODU to branch pipe shall be selected according to the rated capacity of ODU;

(2) Piping D between branch pipes of ODU modules shall be selected according to the total rated capacity of upstream modules;

(3) Piping E and G of branch pipe at IDU side shall be selected according to the total rated capacity of downstream IDUs;

(4) Piping F from IDU branch pipe to IDU shall be selected according to the rated capacity of IDU;

(5) Piping (I1, I2, J, H) between branch pipe and AHU-KIT shall be selected according to the capacity of AHU-KIT;

Relationship between capacity and piping dimension is as below:

Rated capacity (kW)	Gas pipe (mm)	Liquid pipe (mm)
Q≤2.8	Φ9.52	Φ6.35
2.8＜Q≤5	Φ12.7	Φ6.35
5＜Q≤14.2	Φ15.9	Φ9.52
14.2＜Q≤25.2	Φ19.05	Φ9.52
25.2＜Q≤28	Φ22.2	Φ9.52
28＜Q≤40	Φ25.4	Φ12.7
40＜Q≤45	Φ28.6	Φ12.7
45＜Q≤68	Φ28.6	Φ15.9
68＜Q≤96	Φ31.8	Φ19.05
96＜Q≤135	Φ38.1	Φ19.05
135＜Q≤186	Φ41.3	Φ19.05

Note:

① As the capacity of AHU-KIT is adjustable, please select piping according to actual capacity in the project.

② If the ex-factory pipe diameter of AHU adapter is inconsistent with the actual required pipe diameter for the project, please conduct conversion on site.

3.6 Capacity Setting

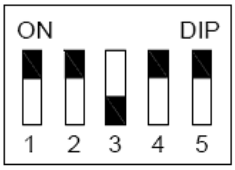
Capacity ranges of different AHU-KIT unit are as follows:

Model	Acquiescent capacity (kW)	Adjustable capacity (kW)
GMV-N36U/A-T	3.6	2.8/3.6
GMV-N71U/A-T	7.1	4.5/5.6/7.1
GMV-N140U/A-T	14.0	9.0/11.2/14.0
GMV-N280U/A-T	28.0	22.4/28.0/33.5/40.0/45.0
GMV-N560U/A-T	56.0	50.4/56.0/84.0

Different capacities of same model of AHU-KIT unit are achieved through dialing capacity code of mainboard (shown as "S1").Capacity code setting is shown as follows:

S1					Capacity
1	2	3	4	5	(kW)
0	1	0	0	0	2.8
0	0	1	0	0	3.6
0	1	1	0	0	4.5
0	0	0	1	0	5.6
0	1	0	1	0	7.1
0	0	1	1	0	9.0
0	1	1	1	0	11.2
0	0	0	0	1	14.0
1	1	0	0	1	22.4
1	0	1	0	1	28.0
0	1	1	0	1	33.5
0	0	0	1	1	40.0
1	0	0	1	1	45.0
0	1	0	1	1	50.4
1	1	0	1	1	56.0
0	0	1	1	1	84.0

Please ensure dialing the code switch properly in place instead of middle position. Setting the switch to "ON" stands for "0", otherwise stands for "1".



(Notes: The black part is the deflector rod.) The figure shows that the addresses of ”1,2,3,4,5” are ”0,0,1,0,0”.

NOTES!

① The selected air handling unit must be designed for R410A.

② Extraneous substances (including mineral oils or moisture) must be prevented from getting mixed into the system.

4 Installation Instructions

4.1 Unit Dimensions and Maintenance Space

(1) Size of control box for GMV-N36U/A-T、GMV-N71U/A-T、GMV-N140U/A-T、GMV-N280U/A-T and GMV-N560U/A-T (Unit: mm):

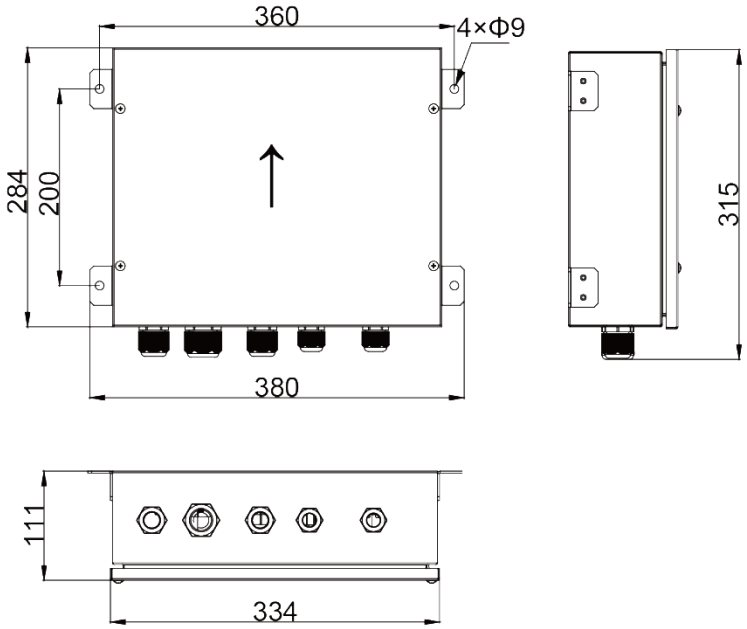


Fig.4.1.1

(2) Size of EXV box for GMV-N36U/A-T、GMV-N71U/A-T、 GMV-N140U/A-T and GMV-N280U/A-T(Unit: mm):

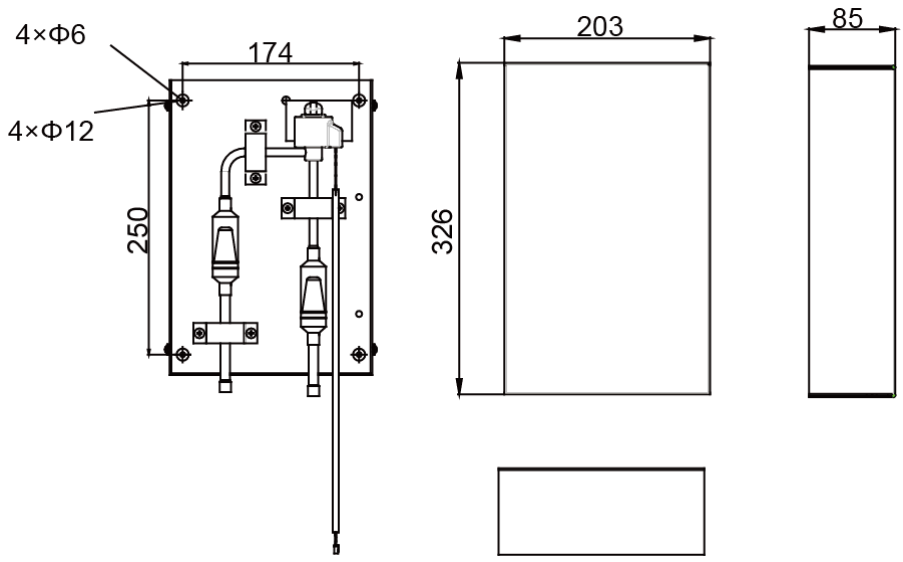


Fig.4.1.2

(3) Size of EXV box for GMV-N560U/A-T (Unit: mm):

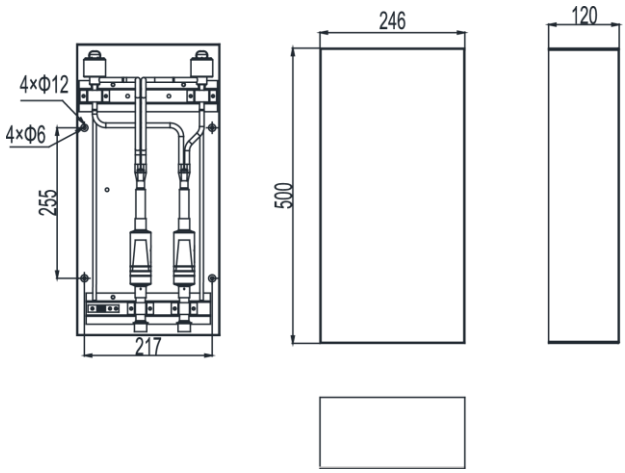


Fig.4.1.3

Maintenance space of control space (Unit: mm):

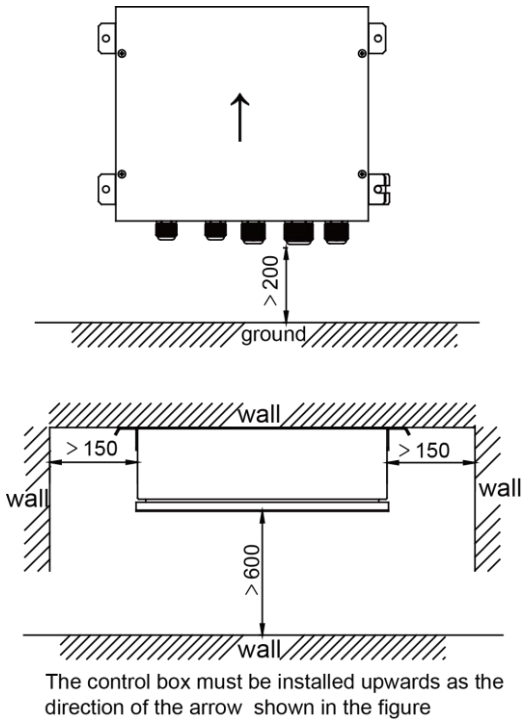


Fig.4.1.4

Maintenance space of EXV box (Unit: mm):

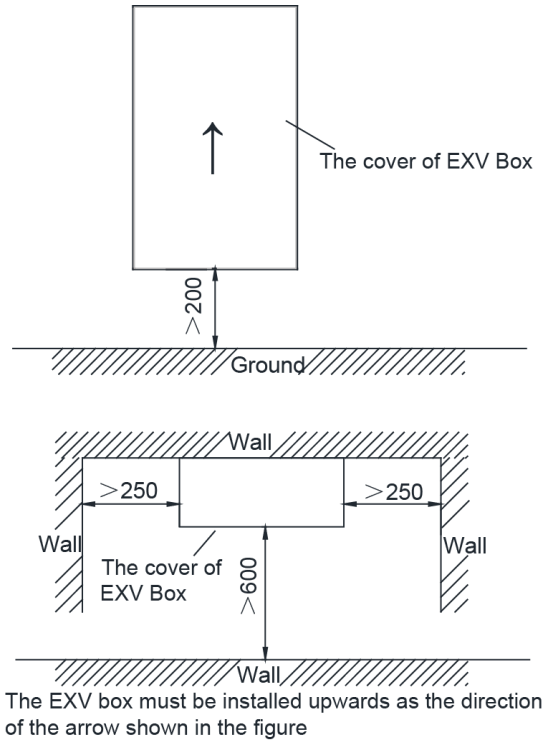


Fig.4.1.5

4.2 EXV Installation

4.2.1 Mechanical Installation

(1) Remove the EXV box cover by unscrewing screws.

(2) Drill 4 holes on correct position (measurements as indicated in figure below) and fix the valve kit box securely with 4 screws through the provided holes Ø12 mm.

NOTES!

① Make sure that the EXV box is installed upwards.

② Make sure there is enough free space in front and in the side of the box for future maintenance.

4.2.2 Brazing Work

(1) Prepare the inlet/outlet field piping just in front of the connection (do not braze yet).

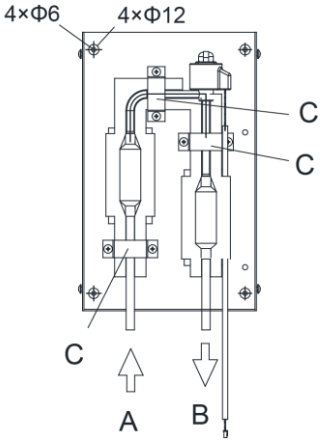


Fig.4.2.1

A Inlet coming from the outdoor unit

B Outlet to air handling unit

C Wire clamp

(2) Remove the wire clamp (C) by unscrewing 6xM4.2.

(3) Braze the field piping.

NOTES!

(1) Make sure there is nitrogen protection during welding.

Brazing without carrying out nitrogen replacement or releasing nitrogen into the piping will create large quantities of oxidized film on the inside of the pipes, adversely affecting valves and compressors in the refrigerating system and preventing normal operation.

(2) When brazing while inserting nitrogen into the piping, nitrogen must be set to 0.02 MPa with a pressure-reducing valve (=just enough so that it can be felt on the skin).

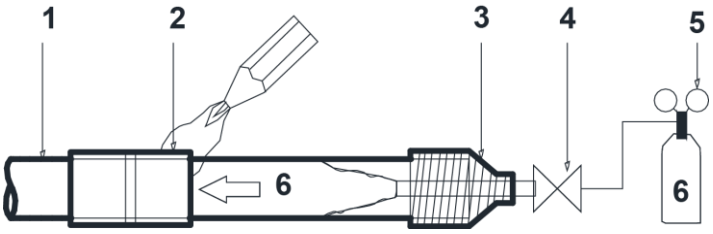


Fig.4.2.2

1) Refrigerant piping
2) Part to be brazed
3) Taping
4) Hands valve
5) Pressure-reducing valve
6) Nitrogen

For details, see manual of the outdoor unit.

(3) Make sure to cool the filters and valve body with a wet cloth and make sure the body

temperature does not exceed 120°C during brazing.

(4) Make sure that the other parts such as electrical box, tie wraps and wires are protected from direct brazing flames during brazing.

(5) The EXV box is required to be installed in a vertical direction within the range of 90±15° (not allowed for horizontal work). Welding the connection tubes first before refrigerant pipes in order to avoid face-down soldering.

(6) All field piping must be provided by a licensed refrigeration technician and must comply with the relevant local and national codes.

a) For refrigerant piping of outdoor unit, refer to the installation manual supplied with the outdoor unit.

b) The maximum allowed piping length depends on the connected outdoor model.

(7) Secure the wire clamp (C) in place again (6xM4.2).

(8) Make sure that field pipes are fully insulated. Make sure that there is no gap between both ends in order to avoid condensation dripping (finish the connection with tape eventually).

4.3 Piping Installation

When one AHU-KIT is connected to one AHU, the piping installation diagram is as follows:

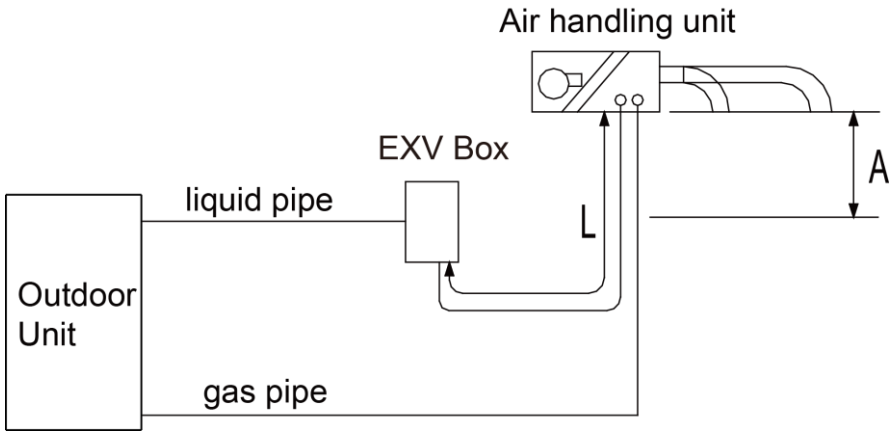


Fig.4.3.1

When several AHU-KITs are connected to one AHU, the piping installation diagram is as follows:

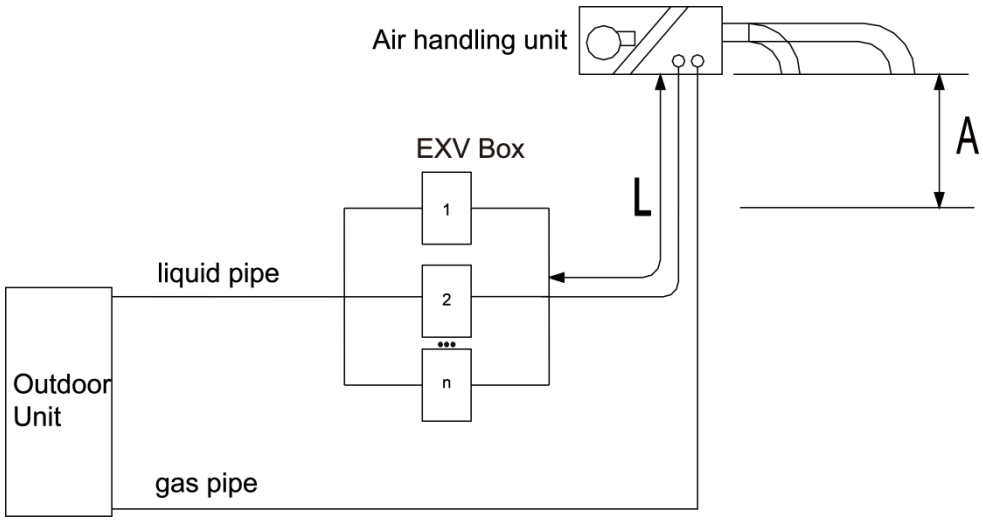


Fig.4.3.2

NOTES!

A: When the air handling unit is installed at the top of the EXV box, vertical distance between the bottom of the air handling unit to the EXV box is no more than 2 m; if the air handling unit is installed under the EXV box, vertical distance between the bottom of the air handling unit to the EXV box is no more than 2 m.

L: The length of liquid pipe between the air handling unit to EXV box is no more than 2 m.

L is to be considered as a part of the total maximum piping length. See installation manual of the outdoor unit for piping installation.

4.4 Installation of the Control Box

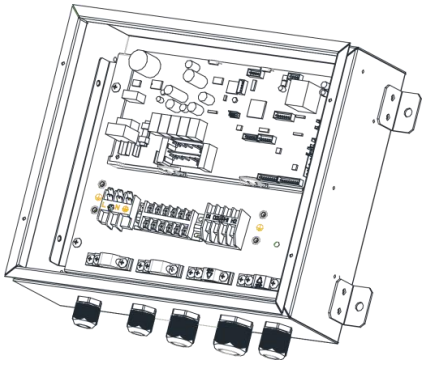


Fig.4.4.1

4.4.1 Mechanical Installation

(1) Fix the control box with its hanger brackets to the mounting surface.

(2) Open the lid of the control box.

(3) For electrical wiring: refer to the following contents.

(4) Install the screw nuts.

(5) Close the unnecessary openings.

(6) Close the lid securely after installation to ensure that the control box is watertight.

4.4.2 Wire connection Inside the Control Box

4.4.2.1 Wring of Control Accessories when One AHU-KIT is Connected to One AHU

NOTES!

① Pull the wires inside through the screw nut and close the nut firmly in order to ensure a good pull relieve and water protection.

② The cables require an additional pull relief. Fixing the cable with the wire clamp.

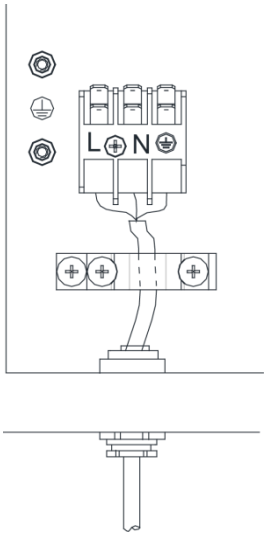


Fig.4.4.2.1

Precautions:

① Temperature sensor cable and remote controller wire should be kept away from power cable in a distance of at least 50mm. Violating this rule may generate electric noise and lead to malfunctions.

② Use wires as specified and connect them tightly with wiring terminals. Keep the wires in order and do not obstruct other devices. Insecure connection may result in overheating or even cause electric shock or fire hazard.

Wiring connection:

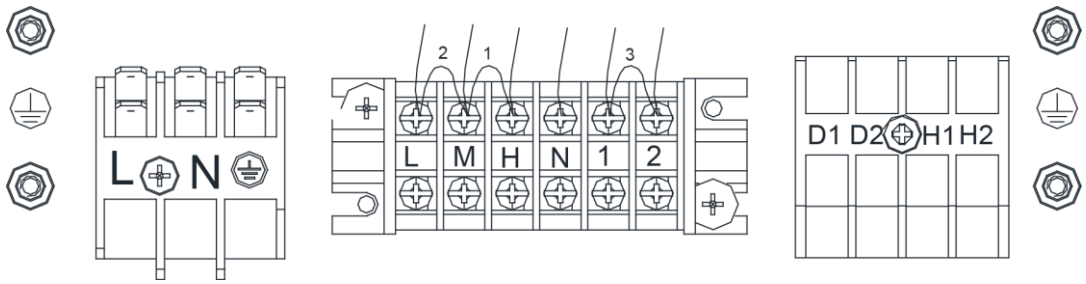


Fig.4.4.2.2

Connecting cables according to the following instructions, as figure shown above.

L..... Live

N..... Neutral

..... Protective earth (screw)

H.....High gear of fan

M.....Middle gear of fan

L..... Low gear of fan

1/2..... Lines of fault signal from external feedback

D1/D2.....Communication wires

H1/H2.....Wired controller

NOTES!

① The H, M, L of fan gear lines and the 1, 2 of Lines of fault signal from external feedback are shorted by the factory default.

② Neutral line of fan connects to the N.

③ It can be connected to any of them (H, M, L) when there is only one gear.

④ Disconnect the short cable between H and M when there are two gears, then connect the high gear cable to H, and connect low gear cable to either M or L.

⑤ When there are three gears, disconnect the short cables between H and M, M and L, then connect the high gear cable, middle gear cable and low gear cable to H,M,L for each.

⑥ The lines of fault signal from external feedback are connected to the 1, 2.The line is a dry contact and closed normally. If the line is closed, it represents no fault and the system operates normally; if the line is disconnected, it represents malfunction and the system will stop.

⑦ Disconnect the short cable between 1 and 2 when there is fault signal, and connect the signal cable to 1 and 2.

⑧ Pull the wires inside through the screw nut and close the nut firmly in order to ensure a

good pull relieve and water protection.

⑨ Connect the fan cable of IDU and fan error information cable to either AHU-KIT.

⑩ Put through the wires to the coil, tighten the coil while maintaining loose condition of wires to ensure it is not closely tied up and is waterproof.

4.4.2.2 Wiring of Control Accessories when Several AHU-KITs are in Parallel Connection with One AHU

For the wring of control accessories when several AHU-KITs are in parallel connection with one AHU, connect fan control wire and external signal feedback signal wire of air handling unit to any one AHU-KIT. Please refer to the wiring method of AHU-KIT for the connection method.

4.5 Installation of the Temperature sensors

4.5.1 Refrigerant Temperature sensors

Location of the temperature sensor: A correct installation of the temperature sensors is required to ensure a good operation:

(1) IN Temp. sensor(Liquid Temp. sensor)

Install the IN temperature sensor after the distributor and on the coldest temperature pipe of a heat exchanger.

(2) OUT Temp. sensor (Gas Temp. sensor)

Install the OUT temperature sensor 200mm after the outlet of the heat exchanger.

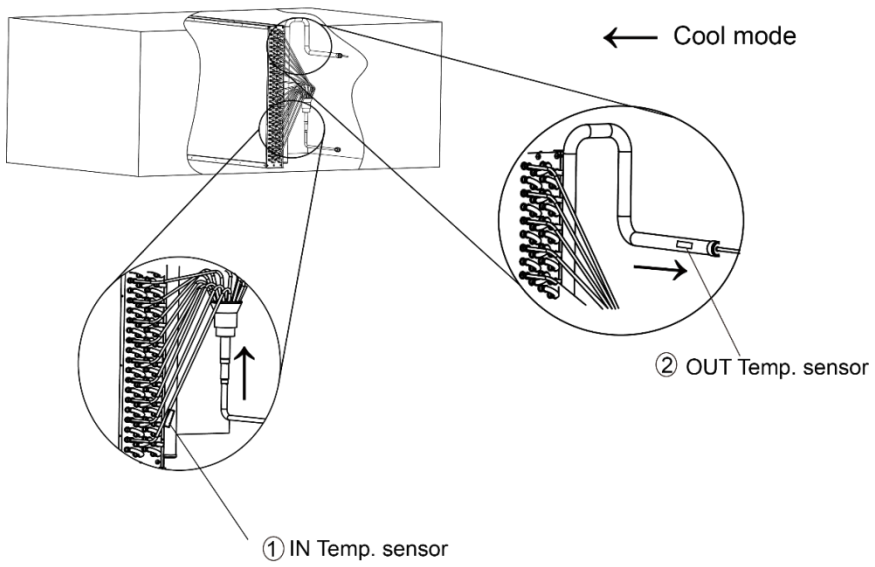


Fig.4.5.1.1

① IN Temp. sensor (Liquid Temp. sensor)

② OUT Temp. sensor (Gas Temp. sensor)

Installation of the temperature sensor cable：

(1) The length of temperature sensor wire is 10 m.

(2) Put the temperature sensor cable in an individual protective tube.

(3) Apply stress release in the temperature sensor wire to prevent the temperature sensor wire from getting loose due to stress. Stress or looseness of temperature sensor wire will lead to poor contact and inaccuracy of temperature measuring.

Fixation of the temperature sensor:

① Put the temperature sensor wire slightly down to avoid water accumulation on top of the temperature sensor.

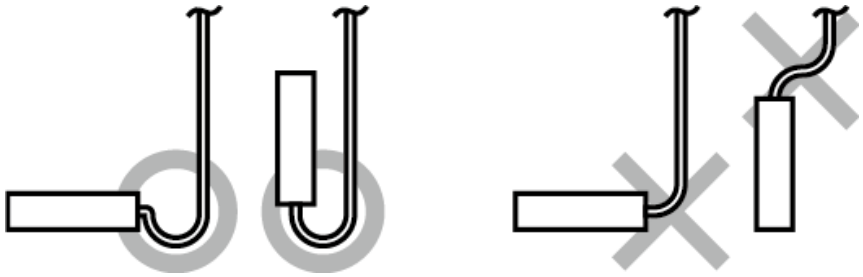


Fig.4.5.1.2

② Keep the temperature sensor and air handling unit in good contact. Put the top of the temperature sensor on the air handling unit, because the top of temperature sensor is the most sensitive part. Please fixing the temperature sensor on the horizontal plane of copper tube (within ±30°), and make them close together.

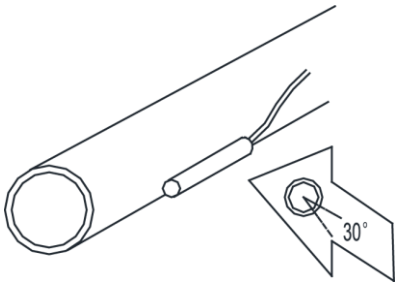


Fig.4.5.1.3

③ Fix the temperature sensor with insulating aluminum tape in order to ensure good heat transference.

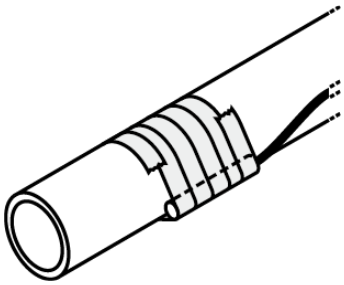


Fig.4.5.1.4

④ Cover the temperature sensor with rubber belt to prevent looseness of temperature sensor.

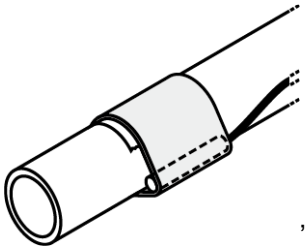


Fig.4.5.1.5

⑤ Use two wire ties to bind the temperature sensor securely.

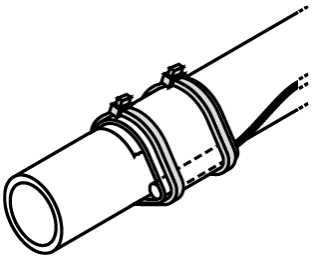


Fig.4.5.1.6

⑥ Wrap the temperature sensor with insulator

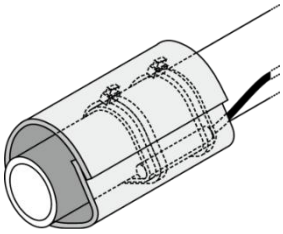


Fig.4.5.1.7

4.5.2 Air Temperature sensor

The air temperature sensor can be installed in the space which needs temperature control, or the inlet scoop of air handling unit.

NOTES!

① For connection to outdoor unit and to AHU-KIT unit: Pull the wires inside through the screw nut and close the nut firmly in order to ensure a good pull relieve and water protection.

② The cables require an additional pull relief. Fixing the cable with the wire clamp.

③ The connection of temperature sensor requires enough space.

4.5.3 Installation of Temperature Sensor when Several AHU-KITs are in Parallel Connection with One AHU

When several AHU-KITs are in parallel connection with one AHU, all linkage AHU-KIT inlet pipes' and outlet pipes' temperature sensor must be installed at the position of corresponding pipeline of air handling unit. Install the ambient temperature sensor at the same position of air return outlet. Please refer to above installation method of single AHU-KIT temperature sensor. The installation diagram is as below:

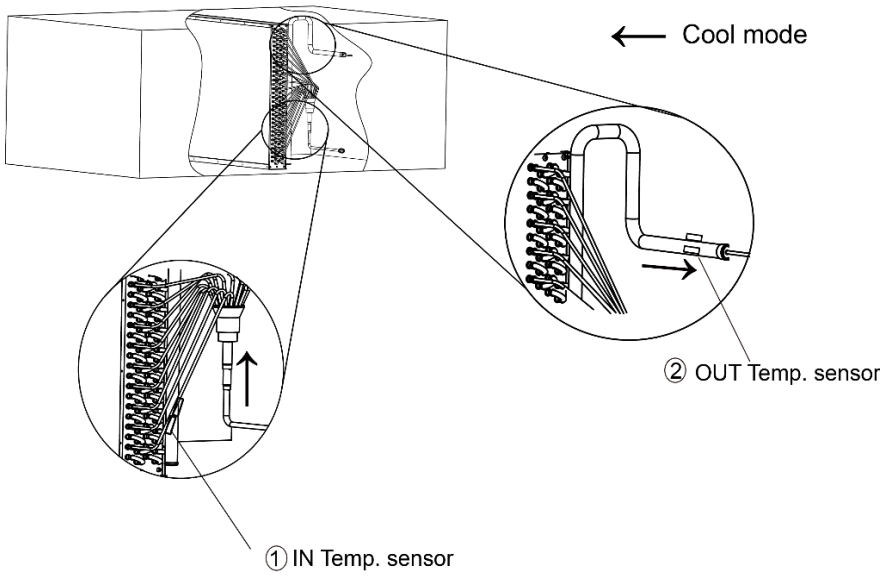


Fig.4.5.3

① IN Temp. sensor (Liquid Temp. sensor)

② OUT Temp. sensor (Gas Temp. sensor)

4.6 Installation of the EXV Cable

Referring to the circuit diagram, then connect the EXV cable to the circuit-board of control box. Be sure that the cable is fixed firmly in order to ensure a good pull relieve and water protection.

4.7 Installation of Wired Controller

Please refer to User Manual of Wired Controller for the installation details.

NOTES!

When installation is finished, the unit must be tested and debugged before operation. Please

refer to Instruction Manual of ODU for auto addressing and debugging details.

5 Wire Connection

NOTES!

① Units must be earthed securely, or it may cause electric shock.

② Please carefully read the wiring diagram before carry out the wiring work, incorrect wiring could cause malfunction or even damage the unit.

③ The capacity of power supply should be big enough.

④ The unit should be powered by independent circuit and specific socket.

⑤ The wiring should be in accordance with related regulations in order to ensure the units reliable running.

⑥ Install circuit breaker for branch circuit according to related regulations and electrical standards.

⑦ All wiring must use pressure terminal or single wire. Multi-twisted wire that connects directly to the wiring board may cause fire hazard.

⑧ Keep cable away from refrigerant piping, compressor and fan motor.

⑨ Do not alter the inner wires of air conditioner. Manufacturer does not assume responsibility for damage or abnormal operation due to this reason.

⑩ If the unit is installed in places with strong electromagnetic interference, it's recommended to use twin-twisted shield wire. During wire connection, please pay attention that the metal shield layer of the twin-twisted wire must be grounded(outer case) in order to prevent the unit from electromagnetic interference.

⑪ The communication wires should be separated from power cord and connection wire between indoor unit and outdoor unit.

⑫ The appliance shall be installed in accordance with national wiring regulations.

⑬ For security，it is suggested that the exposed wires of EXV and temperature sensors wrapped in insulated tubes for good isolation.

5.1 Connect Cables and Terminals of Wiring Board

(1) Connection of Wire and Patch Board Terminal (as shown in fig.5.1.1)

1) Strip about 25mm insulation of the wire end by stripping and cutting tool.

2) Remove the wiring screws on the terminal board.
3) Shape the tail of wire into ring by needle nose plier, and keep the gauge of ring in accordance with screw.
4) Use the screwdriver for tightening the terminal.

(2) The connection of stranded wire (as shown in fig.5.1.2)

1) Strip about 10mm insulation of the end of stranded wire by stripping and cutting tool.
2) Loosen the wiring screws on terminal board.
3) Insert the wire into the ring tongue terminal and tighten by crimping tool.
4) Use the screwdriver for tightening the terminal.

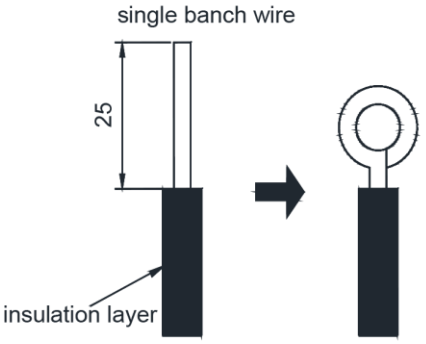


Fig.5.1.1

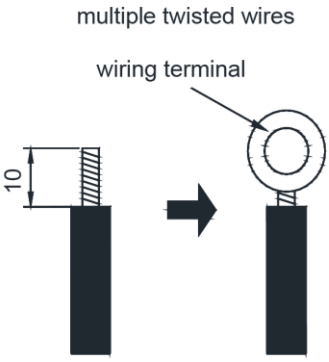


Fig.5.1.2

5.2 Power Cord Connection

NOTES!

Each indoor unit must be installed with a independent circuit breaker for short-circuit protection and overload protection. In general, this circuit breaker is under close status.

During operation process, all indoor units and outdoor units in one system must be energized. Otherwise, the system can’t operation normally.

Power supply of each indoor unit must be from the same source.

Power connection diagram for one AHU-KIT connected to one AHU:

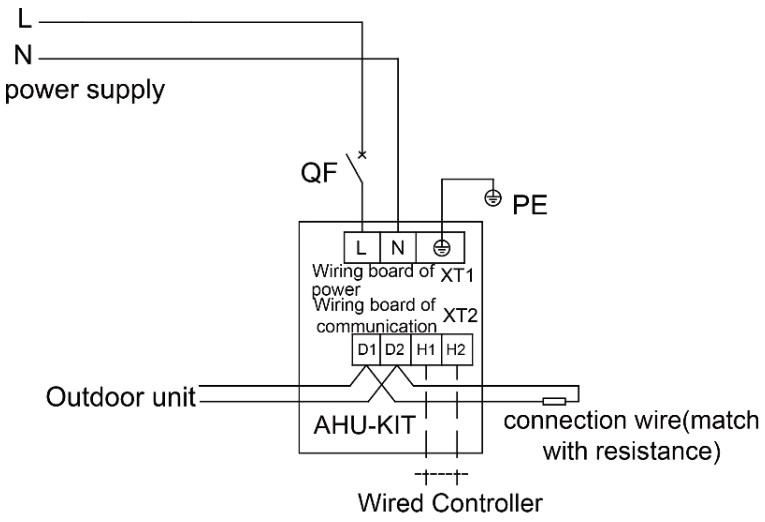


Fig.5.2.1

For units with single-phase power supply:

(1) Detach the electric box lid.

(2) Let the power cord pass through the wiring through-holes.

(3) Connect the power cord to terminal “L, N, ⏚”.

(4) Fix the power card with wiring clamp.

Power connection diagram for several AHU-KITs in parallel connection with one AHU:

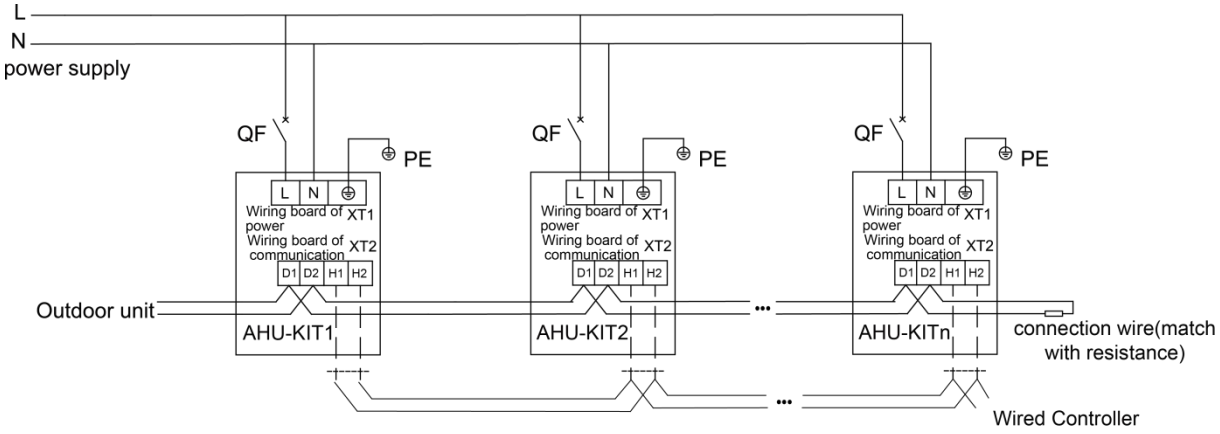


Fig.5.2.2

(1) Detach the electric box lid.

(2) Let the power cord pass through the wiring through-holes.

(3) Connect the power cord to terminal “L, N, ⏚”.

(4) Fix the power card with wiring clamp.

5.3 Connection of Communication Wire between Indoor Unit and Outdoor Unit (or Indoor Unit)

(1) Detach the control box lid.

(2) Let the Communication cable pass through the wiring through-holes.

(3) Connect the communication wire to terminal D1 and D2 of indoor 4-bit wiring board, as shown in fig.5.3.1.

(4) Fix the communication cable with clamp of electric box.

(5) For more reliable communication, make sure connect the terminal resistor to the most downstream IDU of the communication bus (terminal D1 and D2), as shown in fig 5.3.2, terminal resistor is provided with each ODU.

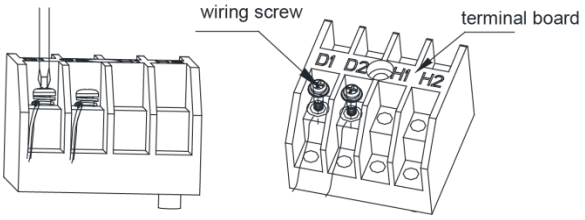


Fig.5.3.1

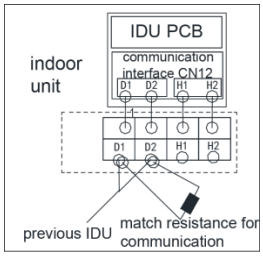


Fig.5.3.2

5.4 Connect Communication Wire of Wired Controller

(1) Open electric box cover of indoor unit.

(2) Let the communication wire go through the rubber ring.

(3) Connect the communication wire to terminal H1 and H2 of indoor 4-bit wiring board.

(4) Fix the communication wire with wire clip on the electric box.

(5) Wiring instructions of remote receiving light board and wired controller:

Fig.5.4 shows the installation of wired controller:

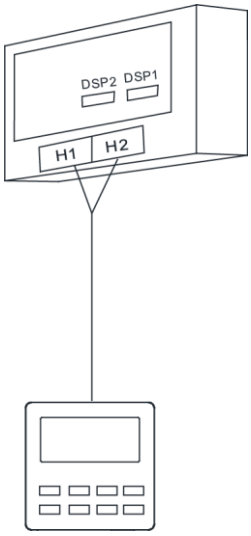


Fig.5.4

5.5 Illuminate for Connection of Wired Controller and Indoor Units (AHU-KIT) Network

(1) Communication wire of indoor unit and outdoor unit (or indoor unit) is connected to D1, D2.

(2) Wired controller is connected to H1, H2.

(3) One indoor unit can connect two wired controllers that must be set as master one and slave one.

(4) One wired controller can control 16 indoor units in maximum at the same time (as shown in fig.5.5).

NOTES!

① The type of indoor units must be the same if they are controlled by the same wired controller.

② When the indoor unit is controlled by two wired controllers, the addresses of the two wired controllers should be different through address setting. Address 1 is for main controller; Address 2 is for slave controller. Detailed settings please refer to the instruction manual of wired controller.

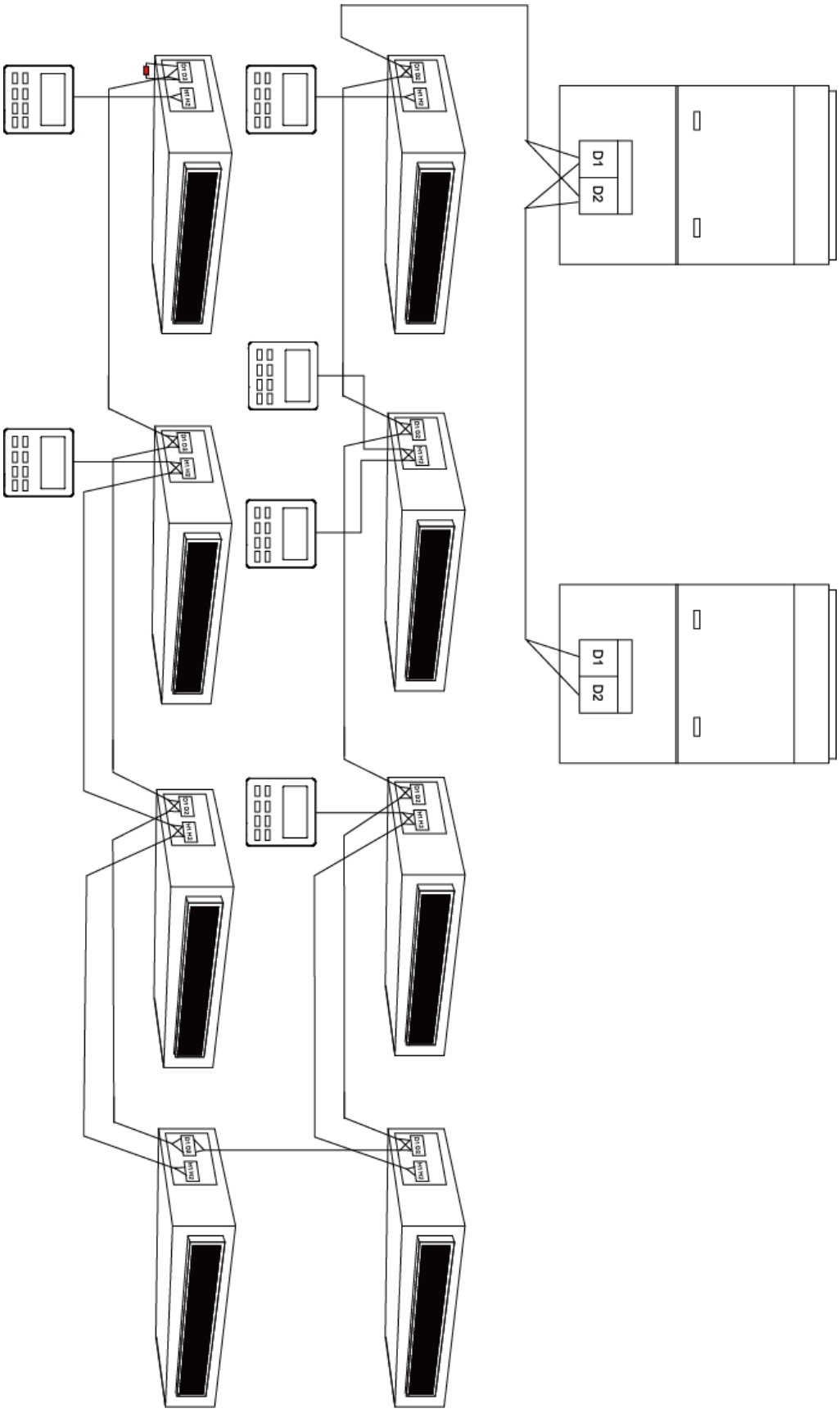


Fig.5.5

6 Statement on linkage function setting

When several AHU-KITs are in parallel connection with one AHU, you must activate linkage function after installation for normal operation. Setting way is as below:

Step 1: Set group control IDU quantity

After making sure all AHU-KITs are energized, set AHU-KIT quantity through wired controller P14, detailed operation is as follows:

Under on or off status, press “Function” button for 5s to enter into the first level menu interface; Under parameter code “C00” status, (after pressing “Mode” button for three times” press “Function” button for 5s to enter into the second level menu. The temperature area displays “P00”. Press “▲” and“▼” button can swing to the second level parameter code. Enter P14 engineer debugging interface, the top right corner of the interface will display “01”, which means the number of AHU-KIT under the control of wired controller is 1, short press “Mode”, and revise actual controlled AHU-KIT quantity through pressing “▲”and“▼”button, If two AHU-KITs are in parallel connection, please set 02,short press “Confirmed/Cancel” button, the setting is successful.

Step 2: Linage function startup setting. The operation is as below:

Operate it according to above operation to enter P53 engineer debugging interface, the top right corner of the interface will display “00”, which means AHU-KIT linkage function is invalid; short press “Mode”, and conduct revision through pressing “▲”and“▼”button, set “01”, which means AHU-KIT linkage function is valid, short press “Confirmed/Cancel” button, the setting is successful.

7 Operation and Maintenance

7.1 Before Operation

NOTES!

① Before initiating operation, please read the operation manuals of outdoor unit, AHU-KIT unit and the air handling unit carefully.

② Refer to the installation manuals of the outdoor unit, AHU-KIT unit and the remote controller about settings of unit.

7.2 Test Operation

Before executing "test operation" as well as before operating the unit, you must check the following:

(1) Refer to the section of "For the following items, take special care during construction and check after installation is finished".

(2) Ensure the construction of refrigerant piping, drain piping and electric wiring are finished.

(3) Check everything written in the installation manuals of the outdoor unit, AHU-KIT unit and the air handling unit.

(4) Open the gas side stop valve.

(5) Open the liquid side stop valve.

Executing the test operation:

(1) Referring to the manuals of the outdoor unit and the air handling unit.

(2) Confirm that the fan of the air handling unit is ON.

7.3 Routine Maintenance

WARNING!

① Only a qualified service person is allowed to perform maintenance.

② Before obtaining access to terminal devices, all power supply circuits must be interrupted.

③ Water or detergent may deteriorate the insulation of electronic components and result in burn-out of these components.

④ Stand at solid table when cleaning the unit.

⑤ Do not clean the unit with hot water whose temperature is higher than 45°C to prevent fade or deformation.

⑥ Clean the filter with a wet cloth dipped in neutral detergent.

⑦ Please contact after-sales service staff if there is abnormal situation.

7.3.1 Maintenance Before the Seasonal Use

(1) Check if the air inlet and air outlet of indoor and outdoor unit are blocked.

(2) Check if securely grounded.

(3) Check if all the power cord and communication cable are securely connected.

(4) Check if any error code displayed after energized.

7.3.2 Maintenance After the Seasonal Use

(1) Set the unit in fan mode for half a day in a sunny day to dry the inner part of unit.

(2) When the unit won't be used for a long time, please cut off power supply for energy saving; the characters on the wired controller screen will disappear after cutting off the power supply.

7.4 Disposal Requirements

Dismantling of the unit, treatment of the refrigerant, of oil and of other parts must be done in accordance with relevant local and national legislation.

8 Table of Error Codes for Indoor Unit

Error Code	Content	Error Code	Content	Error Code	Content
L0	Indoor Unit Error	L9	Quantity Of Group Control Indoor Units Setting Error	d8	Water Temperature Sensor Error
L1	Error From External Feedback	LA	Indoor Units Incompatibility Error	d9	Jumper Cap Error
L2	E-heater Protection	LH	Low Air Quality Warning	dA	Indoor Unit Hardware Address Error
L3	Water Full Protection	LC	Outdoor-Indoor Incompatibility Error	dH	Wired Controller PC-Board Error
L4	Wired Controller Power Supply Error	d1	Indoor Unit PC-Board Error	dC	Capacity DIP Switch Setting Error
L5	Anti-Frosting Protection	d3	Ambient Temperature Sensor Error	dL	Outlet Air Temperature Sensor Error
L6	Model Conflict	d4	Inlet Piping Temperature Sensor Error	dE	Indoor Unit CO_2 Sensor Error
L7	No Master Indoor Unit Error	d6	Outlet Piping Temperature Sensor Error	C0	Communication Error
L8	Power Insufficiency Protection	d7	Humidity Sensor Error	AJ	Filter Cleaning Reminder
db	Special Code: Field Debugging Code				

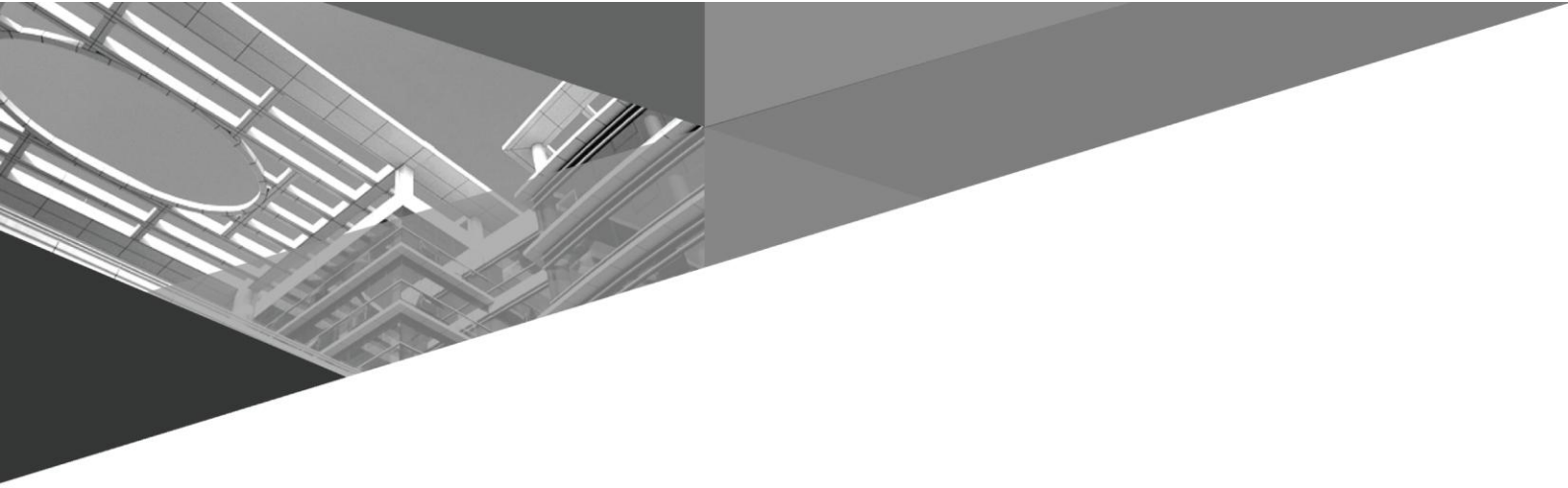
9 Troubleshooting

If your air conditioner is not working well, please check the following table first before asking for service:

Phenomenon	Troubleshooting
The unit can't start	① No power supply. ② Circuit breaker is tripped because of current leakage. ③ Circuit voltage is too low. ④ ON/OFF key sets at the stop position. ⑤ Failure in control system.
The unit stops after running for a while	① Obstacle in front of the condenser. ② Abnormal operation of the control system. ③ Outdoor temperature is higher than 43℃ when cooling mode is used.
Poor cooling effect	① Air filter is dirty or blocked. ② Too many heating sources or people in the room. ③ Doors or windows are open. ④ Obstacle at the air intake and outlet of the unit. ⑤ Setting temperature is too high or refrigerant is insufficient (e.g. refrigerant leakage). ⑥ Poor performance of the indoor temperature sensor.
Poor heating effect	① Air filter is dirty or blocked. ② Doors or windows are open. ③ Wrong temperature setting (too low). ④ Refrigerant leakage. ⑤ Outdoor temperature is lower than -5℃. ⑥ Abnormal operation of the control system.
Indoor fan doesn't start up during heating	① Improper location of tube sensor. ② The tube sensor inserts not well. ③ The wiring of tube sensor is broken. ④ Electricity leakage of capacitor.

NOTES!

If air conditioner still fails to work normally after checking and handling as described above, please stop using it immediately and contact local service center for assistance.



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

Add: West Jinji Rd, Qianshan, Zhuhai,Guangdong, China, 519070
Tel: (+86-756) 8522218
Fax: (+86-756) 8669426
E-mail: gree@gree.com.cn www.gree.com

66170050023