Haier

Commercial Air Conditioning

SERVICE MANUAL

Models

AS072XVERA
AS092XVERA
AS122XVERA
AU182XFERA
AU222XFERA

● Features

- **High energy efficiency**
- **Newly designed V-appearance for wall mounted unit, step or stepless air flow control**
- **New outdoor unit with valve cover plate, also the grille is changed from metal one to plastic one**
- **Adjustable heating temperature compenstation**
- **Free combination, multiple connection types with different types of indoor unit, total indoor load can be up to 135% than the standard match**
- **Infrared control type**
- **Central control and full automation, if connected with a central controller**
- **New friendly refrigerant R410a, zero ODP, environment protection**
- **Advanced technology, DC inverter control function**
- **Health airflow and sterilize function for wall mounted unit, more healthy**
- **Weekly timer (standard)**
- **Group control function**
- **Auto restart function**
- **Low ambient temperature heating (-15 degree) function**
- **Room card function**

Manual code: SYJS-013-05REV.3 **Edition: 2007-04-14**

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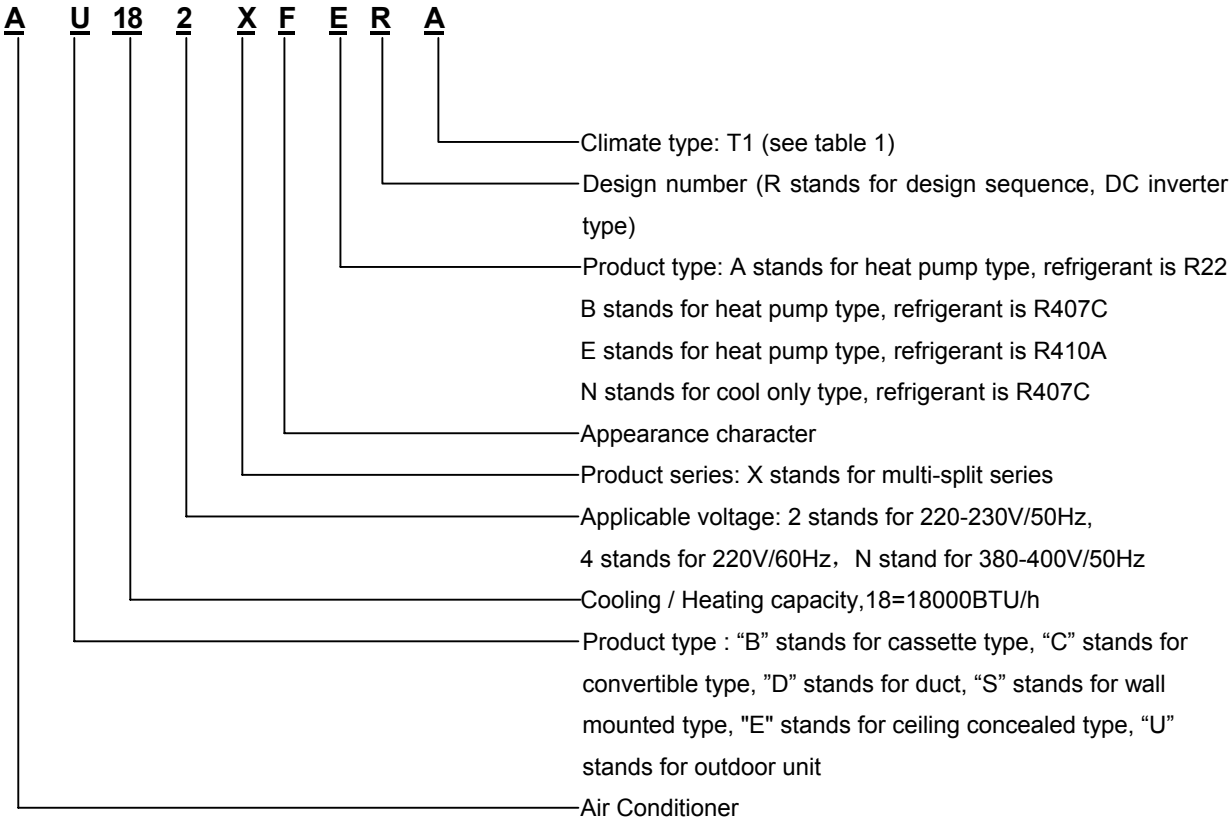
1.1. Products code explanation



1.2 Brief Introduction for T1、T2、T3 working condition

Type of Air Conditioner	Climate type		
	T1	T2	T3
Cooling Only	18 ℃~43℃	10℃~35℃	21℃~52℃
Heat pump	-7℃~43℃	-7℃~35℃	-7℃~52℃
Electricity Heating	~43℃	~35℃	~52℃

1.3 Operating Range of Air Conditioners

Working temperature range					
			Rated	Maximum	Minimum
Cooling	Indoor	DB℃	27	32	18
		WB℃	19	23	14
	outdoor	DB℃	35	43	10
		WB℃	24	26	6
Heating	Indoor	DB℃	20	27	15
		WB℃	14.5	--	--
	outdoor	DB℃	7	24	-15
		WB℃	6	18	--

1.4 Product features

▶ High efficienct, universal outdoor unit

The outdoor unit can match with wall mounted type, duct and cassette type indoor unit. One set outdoor can match with multiple indoor units, up to 3 sets. Even when you have already installed the air conditioner, if you want to add or reduce one unit, go ahead freely as long as your operation complies with our design. Greatly convenient for designer and installer.

▶Total indoor load can be up to 135% than the standard match

The total capacity of all indoor units can be 135% more than the mominal cooling capacity, but the total indoor cooling capacity will not be increased.

▶ Newly designed V- appearance indoor unit

The wall mounted type indoor unit adopts the newly designed V appearance, more fashion, more beautiful. The unit is designed with the health airflow and sterilize function, which will make the air more healthy. Also the air blow direction can be set as step or stepless control, much convenient to control.

▶ Newly designed guarding plate of valve

In order to protect the valve against the dust, the rain or the snow, etc. we add a guarding plate to the valve.

▶ Adopt the much friendlier refrigerant R410a

The air conditioner system adopts the greatly friendly refrigerant R410a, which is protective for the ozone layer and is good to avoid the earth getting warmer. Benefit for the environment.

▶ Adopt the advanced DC inverter technology

The system adopts the advanced DC inverter technology, which can consume less power energy to realize the equal efficiency, saving money for you.

▶ With air inlet filter, enhance the air quality

The high efficiency filter can collect the dirt and remove the bacterium, which can be installed on the easy-to-unload place, convenient to be cleaned.

▶ Convenient infrared remote controller

This remote controller YR-H65 can realize the healthy air flow and sterilize function, it is mobile type appearance, so smart and compact.

And the infrared controller can be equipped with the controller holder, convenient to fix the remote controller.

Auto–restart function (optional)

All indoor units have auto-restart function. When the power supply cut off suddenly, the unit will automatically recover the previous running mode once the power supply is on.

Self-diagnostic function

In the course of operation, if the failure occurs, the failure code will display on the wired controller or on the operation panel. Then according to the failure code chart, you can eliminate the failure soon.

Central control function, if connected with a detector and a central controller

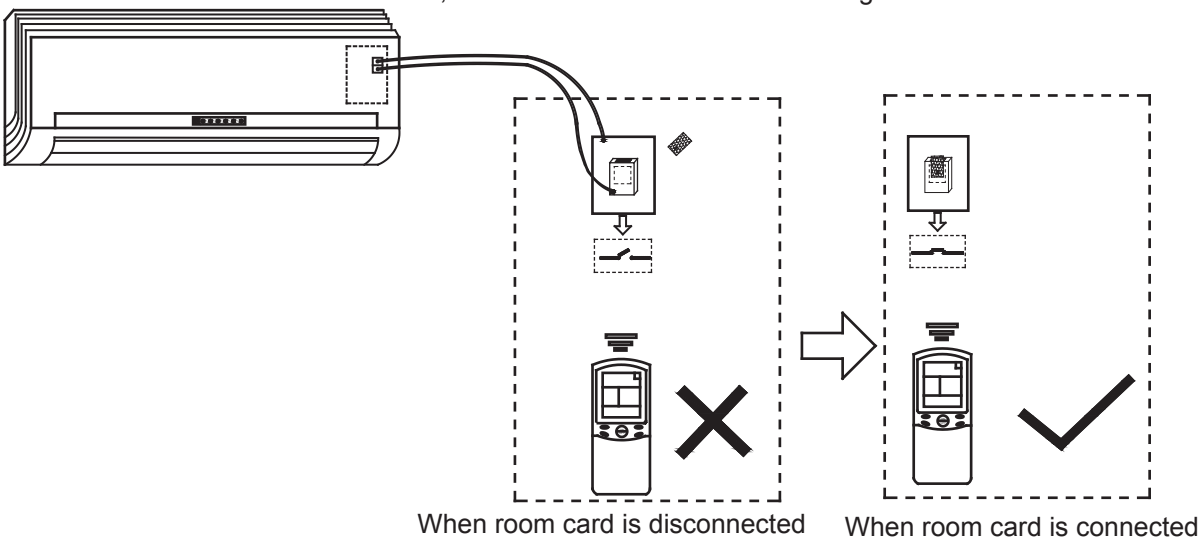
That is convenient for building management.

Weekly timing function, if connected with a detector and a weekly timer

Adjustable heating temperature compensation

In heating mode, the temperature compensation can be adjusted by the remote controller. If you do not want the compensation, you can set the compensation as 0 degree.

▶When room card function is available,indoor will be controlled as below figure:



2. Specification

Item			Model	AU182XFERA	
Function			——	Cooling	Heating
Rating capacity			W	5300	7000
Power input			W	1650	1800
EER / COP			W/W	3.21	3.88
Minimum capacity			W	1500	1800
Power input			W	500	500
Maximum capacity			W	5800	7400
Power input			W	2300	2300
Power source			——	1PH, 220-230V~, 50Hz	
Max.Running current			A / A	10.2	10.2
Power facor(under rating power input)			——	99%	99%
Fuse size (recommended size)			A	25	
Outdoor unit	Compressor	Model / Manufacture	——	TNB175FLBM1 / MISTUBISHI ELEC.	
		Oil charge and type	——	670CC, MEL 56	
		Type	——	Twin Rotary (DC inverter)	
		Number	——	1	
	Fan	Type × Number	——	Axial × 1	
		Speed	r/min	850/ 700/ 500	
		Motor output power	W	35	
		Air-flows (H/M/L)	m³/h	about 3000	
	Heat exchanger	Type / Diameter	mm	TP2M / 7.0	
		Face area	m²	about 0.52	
	Dimension (L×W×H)	External	mm	928/288/680	
		Package	mm	1015/405/760	
	Refrigerant control method		——	PMV	
	Defrosting method		——	Automatic by reversible cycle	
	Crankcase heater power		W	35	
	Noise level	H/M/L	dB(A)	51/-/-	
	Weight	Net / Shipping	kg / kg	54 / 60	
Piping	Refrigerant	Type / Charge	kg	R410A / 2.0	
		No need to recharge	m	30	
		Recharge	g/m	20	
	Pipe	Liquid	mm	3* Φ6.35	
		Gas	mm	3* Φ9.52	
	Connecting method		——	Flared	
	Between I.D &O.D	Drop between IU & OU	m	≤5	
		Piping length between IU & OU	m	≤10	
		Total liquid piping length	m	≤30	
		Drop between indoor units	m	≤1	
		Max.Drop between IU & OU	m	10(indoor unit lower than outdoor unit)	
		Max.Drop between IU & OU	m	15 (indoor unit higher than outdoor unit)	
		Max.Drop between indoor units	m	5	
		Max.Piping length between IU &	m	25	
		Max.Total liquid piping length	m	45	

1. The above performance data are from the combination of AU182XFERA+2*AS092XVERA+AS122XVERA.

2. Large drop and long piping installation will obviously reduce the totao capacity.

Item			Model	AU222XFERA	
Function			——	Cooling	Heating
Rating capacity			W	6400	7300
Power input			W	2100	2000
Current input			A	9.3	8.9
EER / COP			W/W	3.04	3.65
Minimum capacity			W	1500	1800
Power input			W	500	500
Maximum capacity			W	6800	7500
Power input			W	2900	2900
Power source			——	1PH, 220-230V~, 50Hz	
Max.Running current			A / A	12.9	12.9
Power facor(under rating power input)			——	99%	99%
Fuse size (recommended size)			A	25	
Outdoor unit	Compressor	Model / Manufacture	——	TNB175FLBM1 / MISTUBISHI	
		Oil charge and type	——	670CC, MEL 56	
		Type	——	Twin Rotary (DC inverter)	
		Number	——	1	
	Fan	Type × Number	——	Axial × 1	
		Speed	r/min	960/ 700/ 500	
		Motor output power	W	35	
		Air-flows (H/M/L)	m³/h	about 3200	
	Heat exchanger	Type / Diameter	mm	TP2M / 7.0	
		Face area	m²	about 0.52	
	Dimension (L×W×H)	External	mm	928/288/680	
		Package	mm	1015/405/760	
	Refrigerant control method		——	PMV	
	Defrosting method		——	Automatic by reversible cycle	
	Crankcase heater power		W	35	
	Noise level	H/M/L	dB(A)	55/-/-	
	Weight	Net / Shipping	kg / kg	54 / 60	
Piping	Refrigerant	Type / Charge	kg	R410A / 2.0	
		No need to recharge	m	30	
		Recharge	g/m	20	
	Pipe	Liquid	mm	3* Φ6.35	
		Gas	mm	3* Φ9.52	
	Connecting method		——	Flared	
	Between I.D &O.D	Drop between IU & OU	m	≤5	
		Piping length between IU & OU	m	≤10	
		Total liquid piping length	m	≤30	
		Drop between indoor units	m	≤1	
		Max.Drop between IU & OU	m	10(indoor unit lower than outdoor unit)	
		Max.Drop between IU & OU	m	15 (indoor unit higher than outdoor	
		Max.Drop between indoor units	m	5	
		Max.Piping length between IU &	m	25	
		Max.Total liquid piping length	m	45	

1. The above performance data are from the combination of AU222XFERA+AS092XVERA+2*AS122XVERA.
2. Large drop and long piping installation will obviously reduce the total capacity.

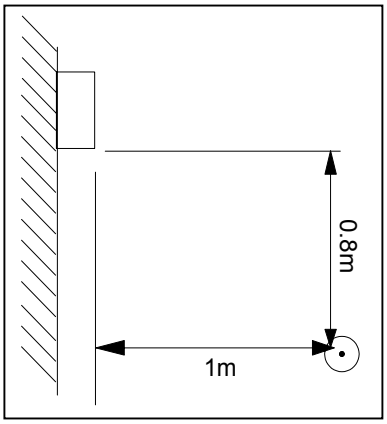
Item			Model	AS072XVERA		AS092XVERA	
Function			——	Cooling	Heating	Cooling	Heating
Capacity			BTU/h	7000	8000	9000	10000
Capacity			W	2000	2300	2500	2900
Power cable			——	3 × (1.0~1.5mm^2)			
Communication cable			——	2x(0.75~1.25mm^2), must be shielded			
Dehumidifying capacity			10 - ³×m³/h	1.0	/	1.0	/
Power source			N, V, Hz	1,220-230~, 50			
Running current			A / A	0.15	0.15	0.15	0.15
	Fan	Type × Number	——	CROSS×1		CROSS×1	
		Speed	r/min	1150/1050/950		1200/1100/1000	
		Motor output power	W	27		27	
		Air-flows (H/M/L)	m³/h	480/430/380		520/450/390	
	Heat exchanger	Type / Diameter	mm	TP2M / 7×0.35			
		Total area	m²	about 0.15		about 0.15	
	Dimension (L×W×H)	External	mm	795*197*265		795×197×265	
		Package	mm	880×315×330		880×315×330	
	Drainage pipe	material, diameter	mm	PVC, 11.4/16.4			
	Controller type		——	Infrared (YR-H65)			
	Refrigerant control		——	PMV on outdoor unit			
	Noise level	H/M/L	dB(A)	36/33/30		38/34/31	
	Weight	Net / Shipping	kg / kg	7.6/10.6		7.6/10.6	
Piping	Refrigerant	Type	——	R410A		R410A	
	Pipe	Liquid	mm	6.35		6.35	
		Gas	mm	9.52		9.52	
	Connecting method		——	Flared		Flared	

Item				AS122XVERA	
Function			——	Cooling	Heating
Capacity			BTU/h	11000	13000
Capacity			W	3200	3800
Dehumidifying capacity			10 - ³×m³/h	1.6	/
Power cable			——	3 × (1.0~1.5mm^2)	
Communication cable			——	2x(0.75~1.25mm^2), must be shielded	
Power source			N, V, Hz	1, 220~230, 50	
Running current			A / A	0.15	0.15
	Fan	Type × Number	——	CROSS×1	
		Speed	r/min	1250/1150/1050	
		Motor output power	W	27	
		Air-flows (H-M-L)	m³/h	550/480/430	
	Heat exchanger	Type / Diameter	mm	TP2M / 7×0.35	
		Total area	m²	about 0.20	
	Dimension (L×W×H)	External	mm	795×197×265	
		Package	mm	880×315×330	
	Drainage pipe	material, diameter	mm	PVC, 11.4/16.4	
	Controller type		——	Infrared (YR-H65)	
	Refrigerant control		——	PMV on outdoor unit	
	Noise level	H/M/L	dB(A)	39/36/33	
	Weight	Net / Shipping	kg / kg	7.6/10.6	
Piping	Refrigerant	Type	——	R410A	
	Pipe	Liquid	mm	6.35	
		Gas	mm	9.52	
	Connecting method		——	Flared	

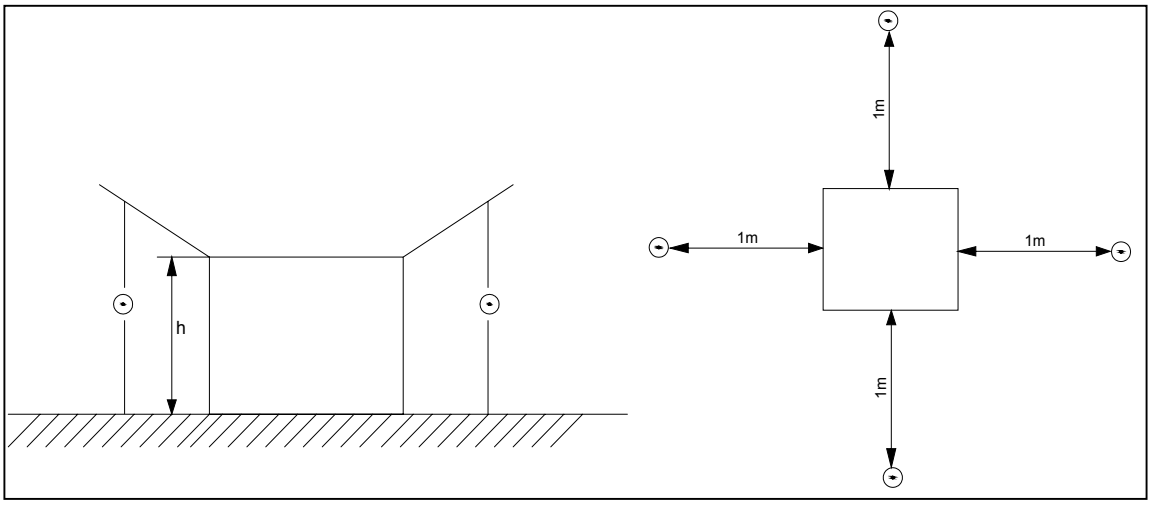
Norminal condition: indoor temperature (cooling): 27℃DB/19℃WB, indoor temperature (heating): 20℃ DB
Outdoor temperature(cooling): 35℃DB/24℃WB, outdoor temperature(heating): 7℃DB/6℃WB
The noise level will be measured in the third octave band limited values, using a Real Time Analyser calibrated sound intensity meter. It is a sound pressure noise level. The detailed method please refer to the following information:

Installation state: the unit should be placed on the flat floor or be mounted in horizontal direction.
Testing method:

mounting-on-wall unit:



outdoor unit:
1.air outlet from side: the noise level is the average sound pressure level measured from front, left, right directions.
2.air outlet from top: the noise level is the average sound pressure level measured from front, back, left, right directions.
measured point:
H (height to the ground) = (h (unit height) + 1m) /2
and, it is 1m to each side.



Note: ⊙ is the real time analyser position

3. Safety precaution

Carefully read the following information in order to operate the airconditioner correctly .

Below are listed three kinds of Safety Cautions and Suggestions.

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

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

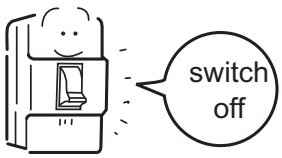
INSTRUCTIONS: These information can ensure the correct operation of the machine.

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

WARNING!

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

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



- After the unit being used for a long time, the base should be checked for any damages.

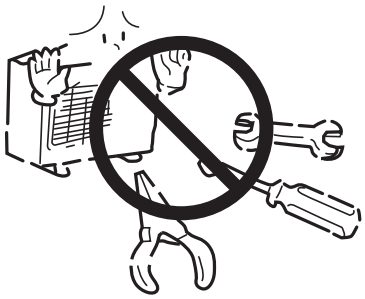
  If the damaged base is not repaired, the unit may fall down and cause accidents.

- Don't dismantle the outlet of the outdoor unit.

  The exposed fan is very dangerous which may harm human beings.

- When the unit needs maintenance and repairment, please call dealer to handle it.

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



WARNING!

- Installed electrical-leaking circuit breaker .

  It easily cause electrical shock without circuit breaker.

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

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

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

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

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

- When conditioner is removed or reinstalled, dealer should be responsible for them.
  Incorrect installation may cause water leaking, electrical shock and fire hazard.

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

Earthing

- Nothing or nobody is permitted to placed on or stand on outdoor unit.

  The falling of goods and people may cause accidents.

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

  Otherwise will be shocked.

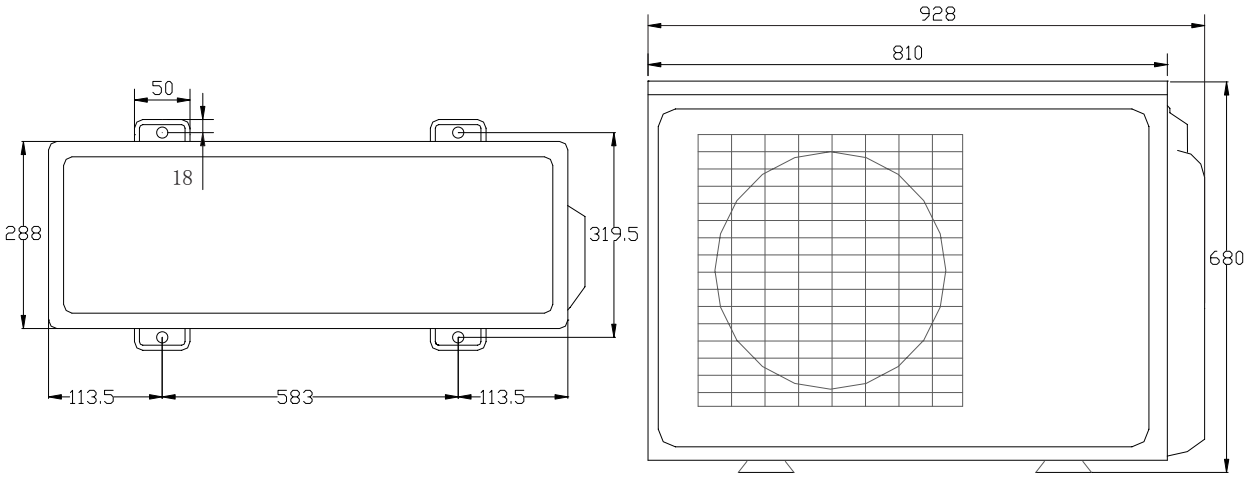
- Only use correctly-typed fuse.
  May not use wire or any other materials replacing fuse, other-wise may cause faults or fire accidents.

- Use discharge pipe correctly to ensure efficient discharge.

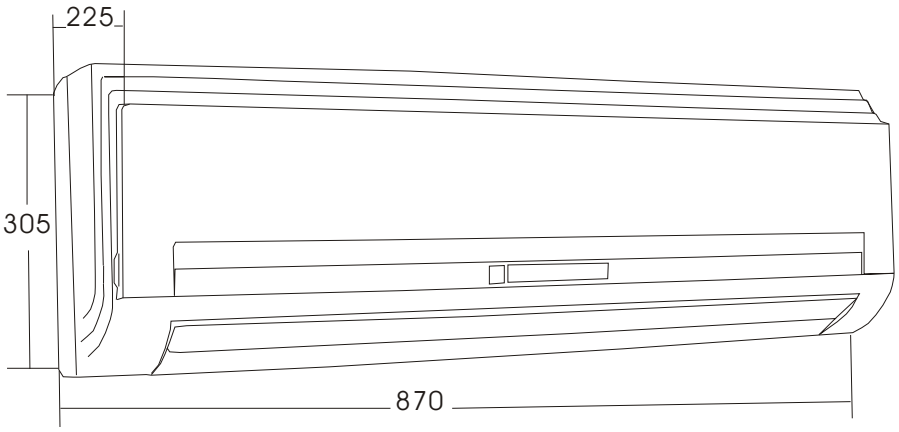
  Incorrect pipe use may cause water leaking.

4. Net dimension of indoor and outdoor

AU18/222XFERA:



Wall mounted unit:



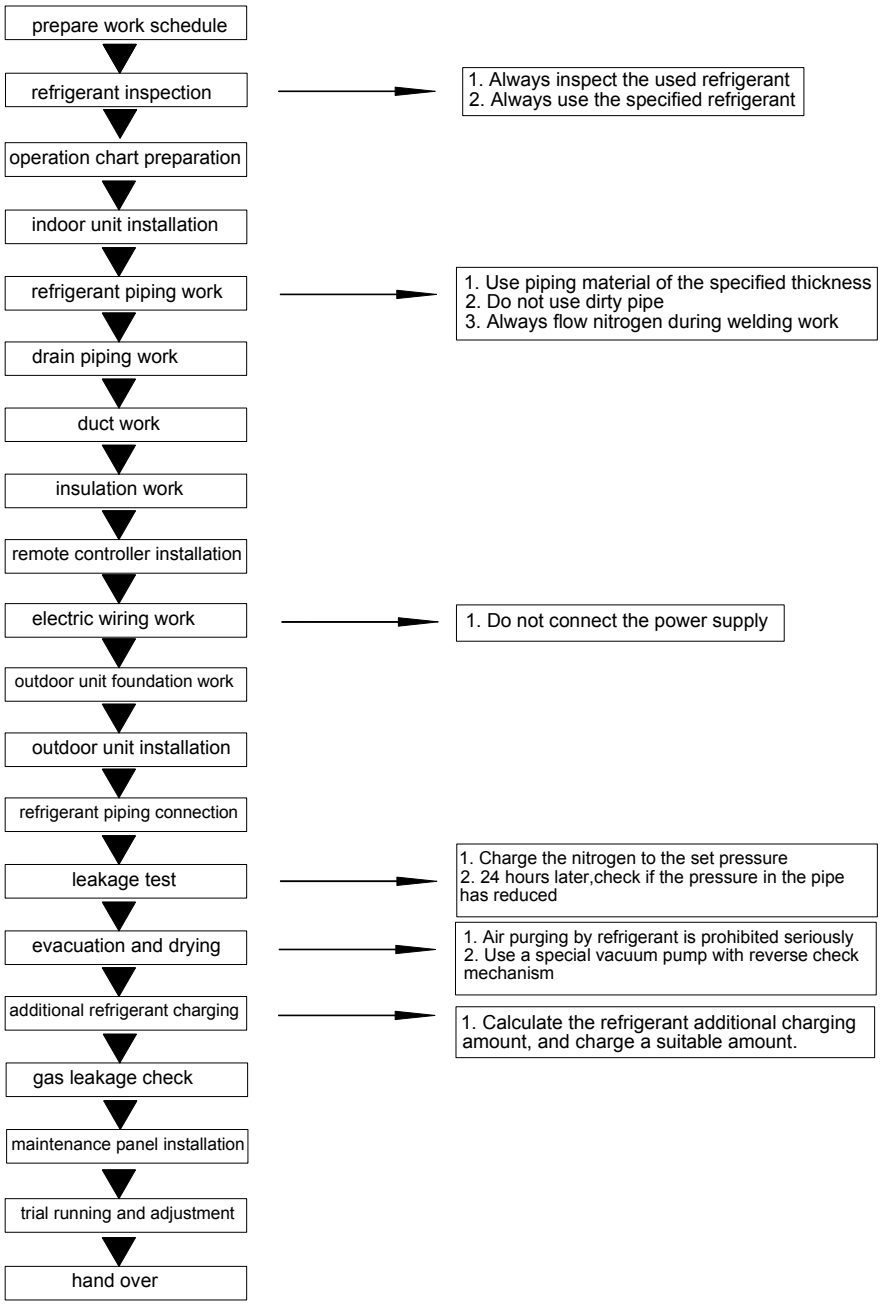
5. Installation Instructions

■R410A

The working pressure of R410A is approximately 1.6 times higher than R22. Because the oil in the refrigerant is different, please do not mix them.

Refrigerant	R22 (single)	R410A (mixed)	R407C (mixed)
Oil	Mineral oil (SONTEX 200LT)	Synthetic oil (POE oil)	Synthetic oil (POE oil)
Pressure ratio	1	Approx. 1.6	Approx. 1.1

■Operation flow



■Piping material

1. Use the correct refrigerant piping and materials for R410A
2. For the pipe wall thickness, see the table below:

Pipe diameter	Φ6.35	Φ9.52	Φ12.7	Φ15.88	Φ19.1
Pipe wall thickness	0.8	0.8	0.8	1.0	1.2

Note: Always observe and comply with the local regulations when installing the refrigerant piping.

■Tools

R410A work requires a number of special tools (* symbol). Since the tools used in R22 work cannot be used for R410A, provide the tools separately.

Tool name	Process and application	
Pipe cutter	Piping cutting	Refrigerant piping work
*Flaring tool	Pipe flaring work	
*Torque wrench	Flare nut connection	
Expander	Expansion at pipe connection	
Pipe bender	Pipe bending work	
Nitrogen gas	Pipe oxidation prevention	Air tightness test
Welder	Pipe brazing	
*Gauge manifold	Vacuum evacuation and refrigerant charging operation check	Air tightness test Refrigerant additional charging
*Charging hose		
*Vacuum pump (with adapter)		Vacuum drying
Electronic scale		Refrigerant additional charging
Gas leakage detector	Gas leakage test	

■Work precautions

Refrigerant check: Before work, check the used refrigerant and prepare materials matched to the refrigerant.

Refrigerant piping: Observe the basics of refrigerant piping to avoid the unnecessary problems. In addition, when performing the welding work, seal in the nitrogen gas to the pipes, and prevent it from the oxidation.

Leak pressure detection: Perform seal detection and make sure there is no refrigerant leakage.

Vacuum drying: If the vacuum pump has not the reverse flow check mechanism, use the pump together with a reverse flow check adapter.

Additional refrigerant: Charge a suitable amount of refrigerant with a special R410A gauge manifold and charging hose.

5.1 Outdoor Installation

Cautions

•All electrical repairs must be carried out by qualified electricians. Inadequate repairs may result in a major source of danger for the user of the air conditoiner.

• Do not damage any parts of the air conditioner that carry refrigerant by piercing or perforating the air conditioner's tubes with sharp or pointed items, crushing or twisting any tubes, or scraping the coatings off the surfaces. If the refrigerant spurts out and gets into eyes, it may result in serious eye injuries.

• Do not obstruct or cover the ventilation grille of the air conditioner. Do not put fingers or any other things into the inlet/outlet and swing louver.

• Do not allow children to play with the air conditioner. In no case should children be allowed to sit on the outdoor unit.

Specifications

The refrigerating circuit is leak-proof.

The machine is adaptive in following situation

1. Applicable ambient temperature range:

Cooling	Indoor	Maximum:D.B/W.B	32°C/23°C
		Minimum:D.B/W.B	18°C/14°C
	Outdoor	Maximum:D.B	43°C/26°C
		Minimum:D.B	10°C/6°C
Heating	Indoor	Maximum:D.B	27°C
		Minimum:D.B	20°C
	Outdoor	Maximum:D.B/W.B	24°C/18°C
		Minimum:D.B/W.B	-15°C

2. If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similar qualified person.

3. If the fuse on PC board is broken please change it with the type of T 3.15A /250VAC or T 25A/250VAC. Please check the circuit diagram about the fuse replaced.

4. The wiring method should be in line with the local wiring standard.

5. The power cable and connecting cable are self-provided. The requirement of the power cable to the outdoor unit: H05RN-F 3G 4.0mm^2

Model	Cable type
AU182XFERA AU222XFERA	H05RN-F 3G 4.0mm^2

All the cables shall have got the Local authentication certificate.

6. The breaker of the air conditioner should be all-pole switch; and the distance between its two contacts should be no less 3mm. Such means for disconnection must be incorporation in the fixed wiring.

7. The waste battery shall be disposed properly.

Safety precautions

To ensure proper installation, please read this safety precautions carefully before the installation. After installation, start the unit correctly and ensure that you show the customer how to operate and maintain the units.

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

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

⚠ WARNING

- Installation work must be carried out by professional qualified people, do not install the unit by yourself. Incorrect installation will cause water leakage, electric shock and potentially fire.
- Install the unit as per the manual. Incorrect installation will cause water leakage, electric shock or fire risk.
- Be sure to use specified accessories and parts. Otherwise, water leakage, electric shock, fire risk or unit falling down may occur .
- Mounting position must be strong enough to hold the unit. Or, the unit will potentially fall down causing injuries.
- When installing the unit, take in consideration storms and high winds. Incorrect installation may cause the unit to fall down.
- All electric work should be carried out by experienced personnel as per current regulations and this manual. Incorrect installation or undersized electric cable may cause electric shock or fire risk.
- All circuits must be earthed. Ensure that no external forces will affect the terminal block and electric cable. Poor wiring and installation may cause fire risk.
- Arrange wire connection between connecting the indoor and outdoor power supply correctly. Fix terminal cover firmly to avoid overheating, electric shock or even fire risk.
  In the case of a refrigerant leakage during unit installation, keep the room well ventilated.
- Check the unit upon installation. Be sure there is no leakage. Refrigerant will induce a poisonous gas subject to heat.
- Isolate power supply before touching terminal block.

⚠ WARNING

- All units shall be earthed. The earth must not be connected to a gas pipe, water pipe, or telephone line. Poor earthing could cause electric shock.
- Be sure to install a circuit breaker to avoid electric shock.
- Arrange water drainage according to this manual. Cover pipe with insulation materials to prevent condensation occuring. Improper installation of water drainage will cause water leakage.
- To maintain good picture or reduce noise, keep the unit at least 1m from T.V. or radio,
- when installing the communication wire and power supply. (If the radio wave is relatively strong, 1m is not enough to reduce the interference).
- Do not install the unit in following places:

  (a) Oil mist or oil gas exists, such as kitchen, or, plastic parts may age, or water leakage.

  (b) Where there is corrosive gas. Copper tube and welded part may be damaged due to corrosion causing leakage.

  (c) Where there is strong radiation. It will affect the unit's control system, causing malfunction of the unit.

  (d) Where there are flammable gas, dirt, and volatile matter (thinner, gasoline) exist, these items will cause a fire risk.

Installation accessories

The following accessories are supplied together with the outdoor unit.

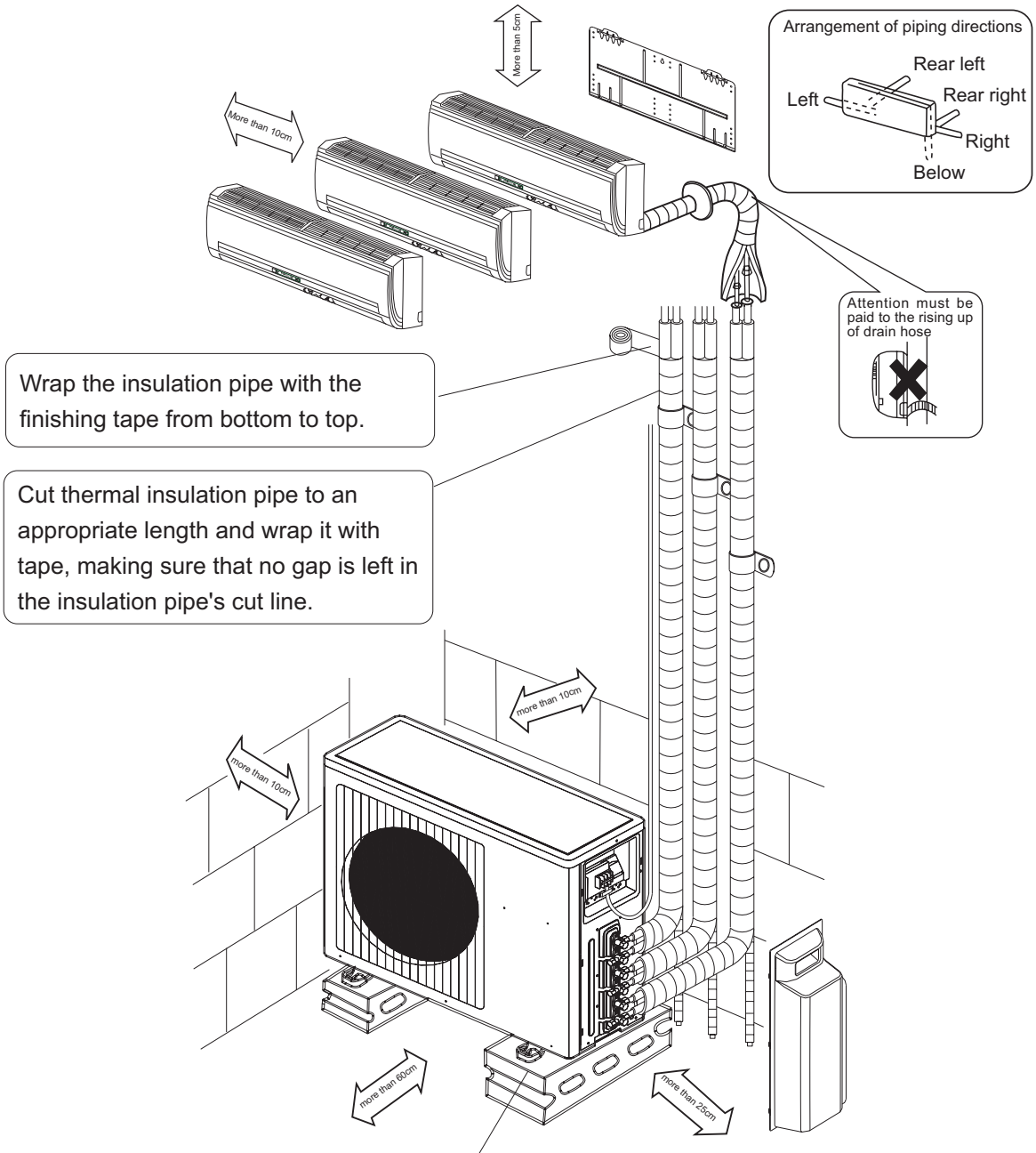
No.	Drawing	Name of parts	Quantity
1		Drainage elbow	1
2		Rubber cushion	4
3		Clamp	1

Choose the installation place

- Place, robust not causing vibration, where the body can be supported sufficiently.
- Place, not affected by heat or steam generated in the vicinity, where inlet and outlet of the unit are not disturbed.
- Place, possible to drain easily, where piping can be connected with the outdoor.
- Place,where cold air can be spread in a room entirely.
- Place, nearby a power receptacle, with enough space around.(Refer to drawings).
- Place, where the distance of more than 1m from televisions, radios, wireless apparatuses and fluorescent lamps can be left.
- In the case of fixing the remote controller on a wall, place where the indoor unit can receive signals when the fluorescent lamps in the room are lightened.

Installation drawings of indoor and outdoor units

1. Do not connect the embedded branch piping and the outdoor unit when only carrying out piping work without connecting the indoor unit in ordor to add another indoor unit later. Make sure that no dirt or mositure gets into eigher side of the embedded branch piping.
2.It is impossible to connect the indoor unit for one room only. Be sure to connect at least 2 rooms.



If there is the danger of the unit failing or overturning, fix the unit with foundation bolts, or with wire or other means.

If the location does not have good drainage, place the unit on a level mounting base(or a plastic pedestal). Install the outdoor unit in a level position. Failure to do so may result in water leakage or accumulation.

Power source

- Before inserting power plug into receptacle, check the voltage without fail. The power source is the same as the corresponded nameplate.
- Install an exclusive branch circuit of the power.
- A receptacle shall be set up in a distance where the power cable can be reached. Do not extend the cable by cutting it.

Matching of the indoor and outdoor units

AU182XFERA

Combination	A	B	C	Remark
1:2	07	12	—	—
	09	09	—	—
	09	12	—	—
	12	12	—	—
1:3	07	07	07	—
	07	07	09	—
	07	07	12	—
	07	09	09	—
	07	09	12	*
	09	09	09	*
	09	09	12	*

AU222XFERA

Combination	A	B	C	Remark
1:2	07	14	—	—
	09	12	—	—
	09	14	—	—
	1	12	—	—
1:3	07	07	09	—
	07	07	12	—
	07	09	09	—
	07	09	12	*
	09	09	09	*
	09	09	12	*
	09	12	12	*

WARNING!
Combinations those marked * can not be applied where the temperature in winter is too low and in summer is too higher to avoid bad heating or cooling effect.

Limitations on the installation

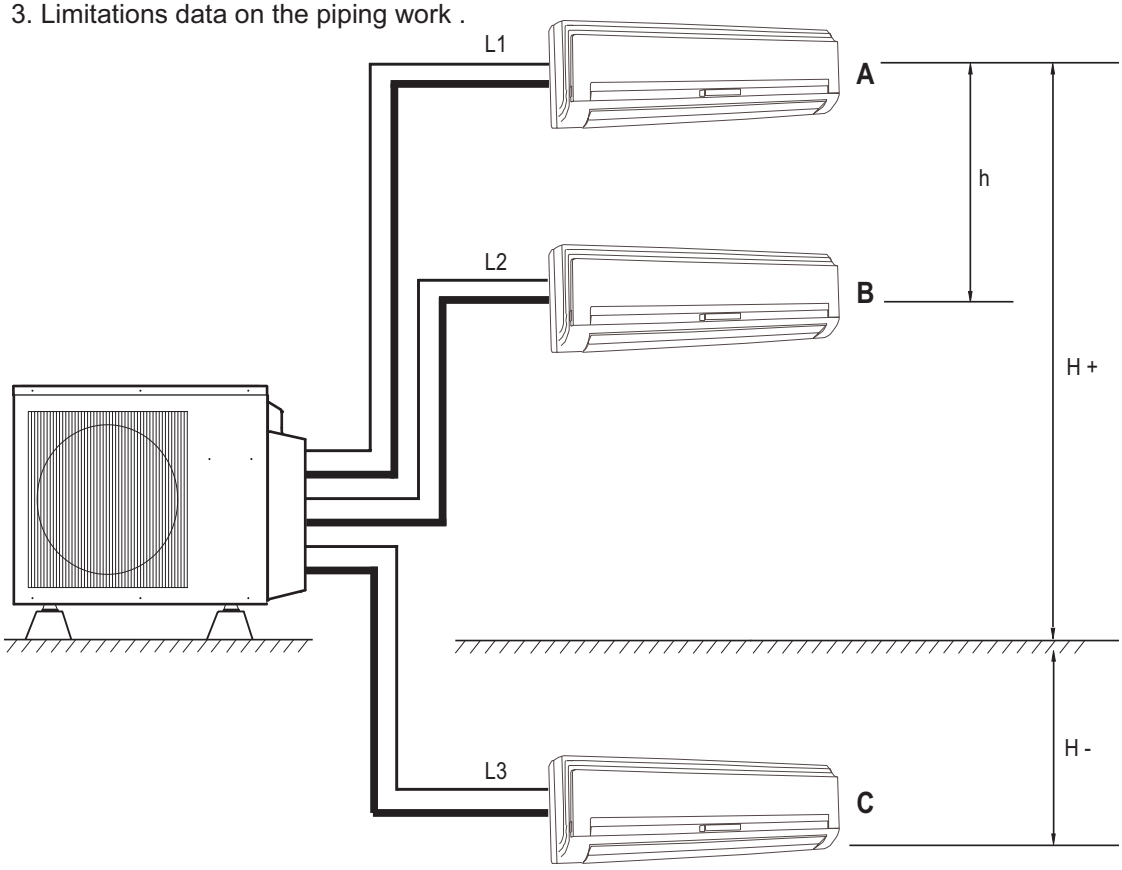
1.Precautions on installation

- Check the strength and level of the installation ground so that unit will not cause any operating vibration or noise after installation.
- In accordance with the foundation drawing in fix the unit securely by means of the foundation bolts.
- It is best to screw in the foundation bolts unit their length are 20 mm from the foundation surface.

2.Selecting a location for installation of the indoor units

- The maxinum allowable length of refrigerant piping, and the maxmum allowable height difference between the outdoor and indoor units, are listed below.
  (The shorter the refrigerant piping, the better the performance. Connect so that the piping is as short as possible. Shortest allowable length per room is 3m)

3. Limitations data on the piping work .



The piping length information, please refer the following table.

Item	Unit	Descriptions	Standard	Maximum
A, B, C liquid pipe	mm	Size of the liquid side connection pipe	∅6.35	/
A, B, C Gas pipe	mm	Size of the gas side connection pipe	∅9.52	/
L1 (one way)	m	Pipe length when the compressor connects with two indoor units	*10	*30
L2 (one way)	m	Pipe length when the compressor connects with two indoor units	*10	*30
L3 (one way)	m	Pipe length when the compressor connects only one indoor unit	*10	*30
L1+L2+L3	m	Total liquid piping length	*30	*45
h	m	Drop between every two indoor units	*1	*5
H +	m	Drop between the outdoor unit and the indoor unit	*5	*15
H -	m	Drop between the outdoor unit and the indoor unit	*5	*10

Refrigerant piping work

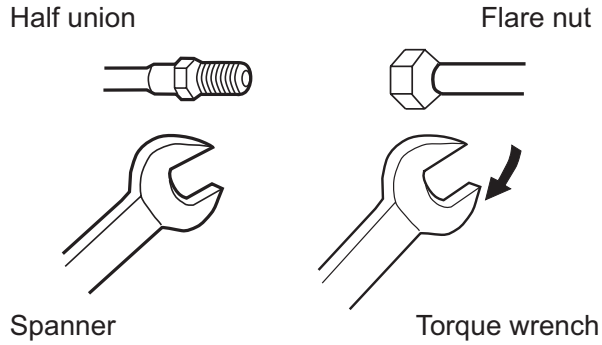
1. Selection of pipe

- To this unit, both liquid and gas pipes shall be insulated as they become low temperature in operation.
- Use optional parts for piping set or pipes covered with equivalent insulation material.

Liquid pipe	∅6.35mm (1/4") x 0.8mm
Gas pipe	∅9.52mm (3/8") x 0.8mm

2. Connection of pipe

- Apply refrigerant oil on half union and flare nut.
- To bend a pipe, give the roundness as large as possible not to crush the pipe.
- Connecting the pipe of gas side firstly makes working easier.

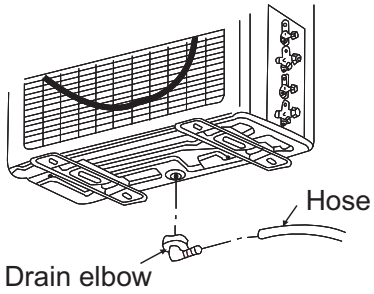


Forced fastening without careful centering may damage the threads and cause a leakage of gas.

Pipe Diameter (∅)	Fastening Torque
Liquid Side 6.35mm (1/4")	18N.m
Gas Side 9.52mm (3/8")	50N.m

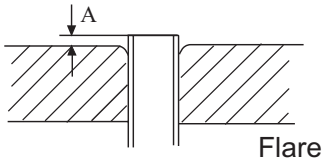
3. Attaching Drain-Elbow

- If the drain-elbow is used, please attach it as figure.



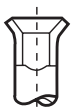
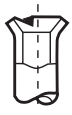
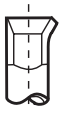
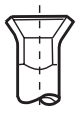
4.Cutting and Flaring work of piping

- Pipe cutting is carried out with a pipe cutter and burs must be removed.
  After inserting the flare nut, flaring work is carried out.



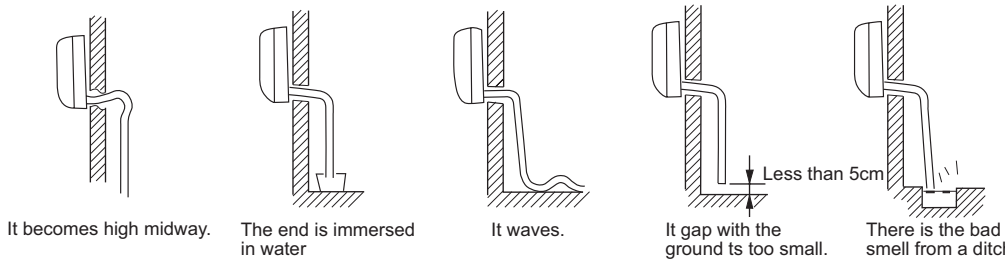
Flare tooling dia.

	Pipe diameter*	Size A (mm)
Liquid side	6.35mm(1/4")	0.8~1.5
Gas side	9.52mm(3/8")	1.0~1.5

Correct	Incorrect				
					
	Lean	Damage of flare	Crack	Partial	Too outside

5.On drainage

- Please install the drain hose so as to be downward slope without failure.
- Please don't do the drainage as shown below.

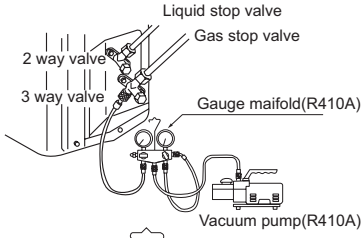


Please pour water in the drain pan of the indoor unit, and confirm that drainage is carried out serely to outdoor.

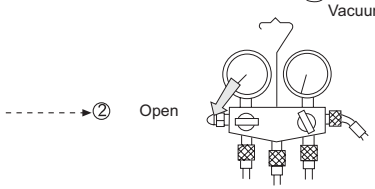
In case that the attached drain hose is in a room, please apply heat insulation to it without fail.

Purging method: to use vacuum pump

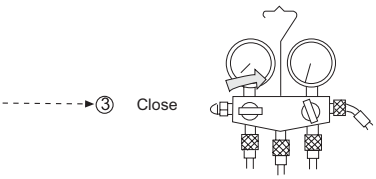
①.Detach the service port's cap of 3-way valve, the valve rod's cap for 2-way valve and 3-way valves, connect the service port into the projection of charge hose (low) for gaugemanifold. Then connect the projection of charge hose (center) for gaugemanifold into vacuum pump.



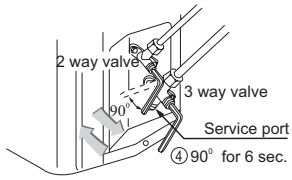
②.Open the handle at low in gaugemanifold, operate vacuum pump. If the scale-moves of gause (low) reach vacuum condition in a moment, check ①again.



③.Vacuumize for over 15min. And check the level gauge which should read -0.1MPa (-76 cm Hg) at low pressure side. After the completion of vacuumizing, close the handle 'Lo' in the vacuum pump. Check the condition of the scale and hold it for 1-2min. If the scale-moves back in spite of tightening, make flaring work again, then return to the beginning of ③ .



④.Open the valve rod for the 2-way valve to and an angle of anticlockwise 90 degree. After 6 seconds, close the 2-way valve and make the inspection of gas leakge.

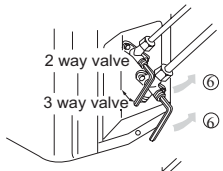


⑤.No gas leakage?

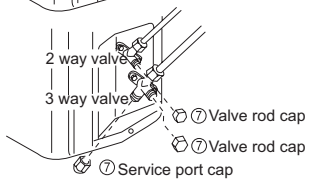
In case of gas leakage, tighten parts of pipe connection. If leakage stops, then proceed ⑥steps.

If it does not stop gas leakage, discharge whole refrigerants from the service port. After flaring work again and vacuumize, fill up prescribed refrigerant from the gas cylinder.

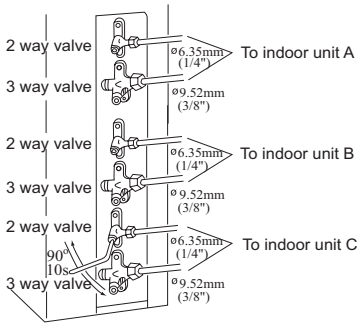
⑥.Detach the charge hose from the service port, open 2-way valve and 3-way. Turn the valve rod anticlockwise until hitting lightly.



⑦.To prevent the gas leakage, turn the service ports cap, the valve rodis cap for 2-way valve and 3-way's a little more than the point where the torque increases suddenly.



CAUTION:
If the refrigerant of the air conditioner leaks, it is necessary to make all the refrigerant out. Vacuumize first, then charge the liquid refrigerant into air conditioner according to the amount marked on the nameplate.



Wiring work

1. Electric wiring

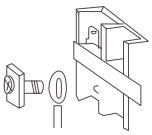
Note:

- The air conditioner must use special circuit , and wiring by the qualified electrician according to the wiring rules specified in national standard.
- The grounding wire and the neutral wire shall be strictly separated. Connect the neutral wire with grounding wire is incorrect.
- The electric leakage breaker must be installed.
- All the electric wire must be copper wire.When wiring,there shall keep a proper distance between the power line and communication wire to avoid twist together. Otherwise,signal disturbance will occur,and the air conditioner can not operate normally. Power supply: 1PH, 220-230V~, 50Hz.
- The wiring method of power line is Y connection. If the power line is damaged, in order to avoid risk of electric shock, it must be replaced by the manufacturer or its repair center or other similar qualified person.The connecting cable must be shielded.
- Fuse: T3.15A 250VAC T25A 250VAC (Please check with the outdoor unit wiring diagram.)
- Please check the circuit diagram about the fuse replaced.

2. Wiring method

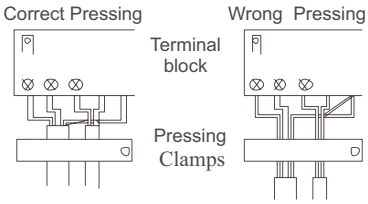
- Wiring method of ring terminals

  For the connection wire with ring terminals, its wiring method is as shown in the right figure: remove the connecting screw, put the screw through the ring on the end of the wire, then connect to the terminal block and fasten screw.

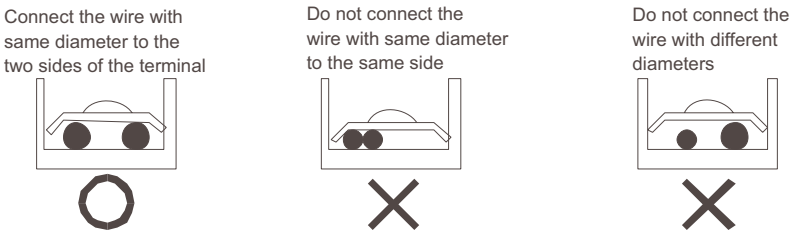

Wiring Method for Ring Terminal Block

- Wiring method of straight terminals

  For the connection wire without orbicular terminals, its wiring method is: loosen the connection screw, and insert the end of the connection wire completely into the Terminal block, then fasten the screw. Slightly pull the wire outwards to confirm it is firmly held.



- Crimp connection method for wires without terminals



Crimp connection method for connection wire

After connection,the wire must be fastened by wire cover. The wire cover shall press on the protection coat of the connection wire,as shown in right top figure.

Note:When connecting the wiring,confirm the terminal number of indoor and outdoor units carefully. Incorrect wiring will damage the controller of air conditioner or the unit can not operate.

3. Wiring method of outdoor unit:

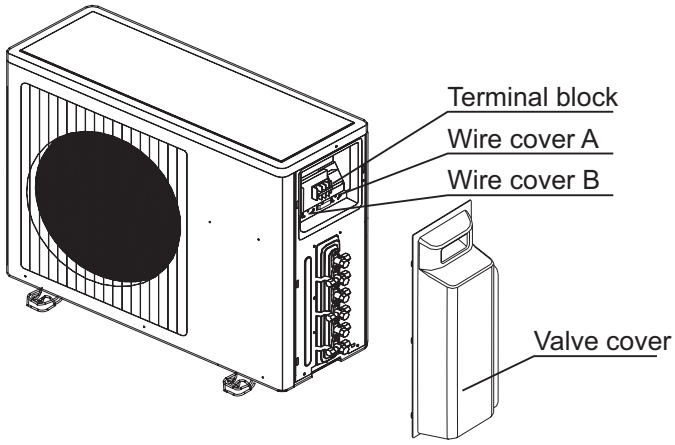
- Power line

  Remove the repair board of the outdoor unit and loosen the wire cover A,then put the live wire, neutral wire and grounding wire through the wire cover ,and connect them to terminal block correspondingly. After connection, fasten wire cover to its previous state.

- Communication wire of indoor unit.

  Loosen wire cover , put the communication wire through the wire cover B, and connect them to terminal block correspondingly. After connection, fasten wire cover B to its previous state.

  Note: Power line and communication wire are provided by consumers themselves.



4. Wiring method of indoor unit

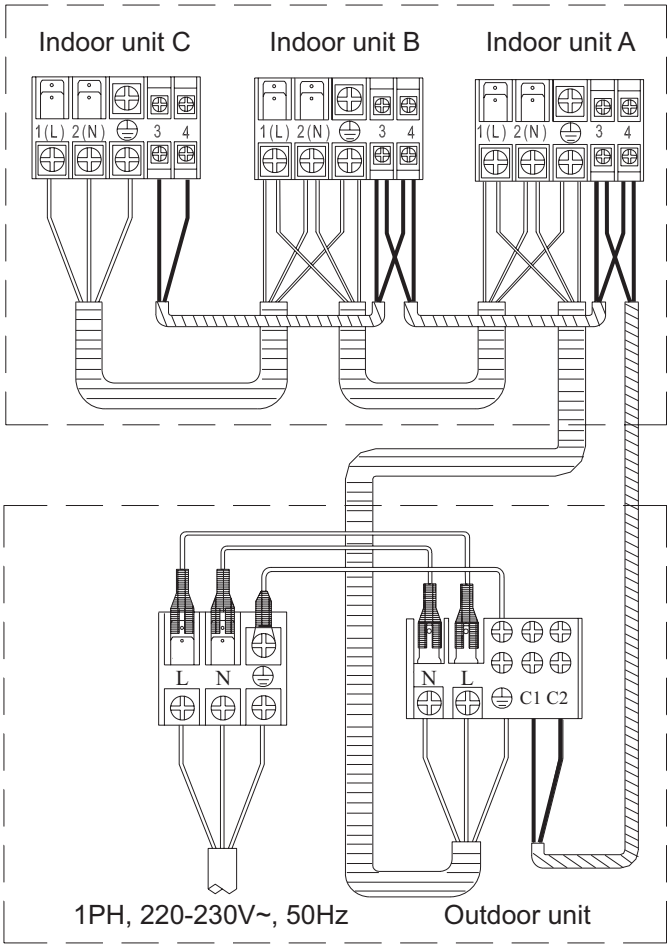
Loosen wire cover and connect the power line and communication wire of indoor unit to the terminal correspondingly.

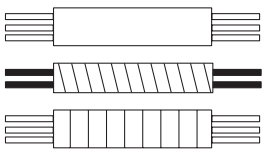
Note:

When connecting power line to power supply terminal, please pay attention to the following items:

- Do not connect the power line with different dimensions to the same connection wire end. Improper contact will cause heat generation.
- Do not connect the power line with different dimensions to the same grounding wire end. Improper contact will affect protection.
- Keep a proper distance between the communication wire and the power line. Otherwise, abnormal communication will occur because of disturbance.
- Do not connect the power line to the connecting end of communication wire. Incorrect connection will cause damage to the connected unit.

5. Example wiring diagram





Power supply cable: H05RN-F 3G 4.0mm²

Communication cable (Shield wire): H05RN-F 2X1.5mm²

Connecting cable (Shield wire): H05RN-F 3G 2.5mm²

- Please refer to the indoor unit installation manual to find detailly how to set and check the communication address.
- Incorrect address setting will cause abnormal to the system.
- The distance between the signal wires and the power cabes should be at least 50mm.

6. After installation, please fill in the following table for easy daily maintenance:

Indoor unit NO.	Room name	Model of indoor unit	Serial No.
A			
B			
C			

Test running

- Before starting the test running, please confirm the following works have been done successfully.
  1) Correct piping work;
  2) Correct wiring work;
  3) Correct match of indoor and outdoor unit;
  4) Proper recharge of refrigerant if needed;
  5)Correct indoor unit addresses setting.
- Make sure that all the stop valves are fully open.
- Check the voltage supplied to the outdoor and indoor units, please cinfirm that is 230V.

- Test running.

1) If the temperature is lower than 16℃, it is impossible to test cooling with remote controller, and also when the temperature is higher than 30℃, it is impossible to test heating.
2) To test cooling, set the lowest temperature at 16℃. To test heating,set the highest temperature, at 30℃.
3) Please check both cooling and heating operation of each unit individually and then also check the simultaneous operation of all indoor units.
4)After ruuning the unit for about 20 minutes, check the indoor unit outlet temperature.
5) After the unit is stopped, or working mode changed, the system will not start again for about 3 minutes.
6)During cooling operation, frost may ocur on the indoor unit or pipes, this is normal.
7) Operate the unit according to the operation manual. Please kindly explain to our customers how to operate through the instruction manual.

■ Items to confirm

Check items for test run, put mark " ✓ in ☐ ".
☐ Gas leakage from pipe connection?
☐ Heat insulation treatment of pipe connection?
☐ Are the connection wiring of indoor and outdoor unit firmly inserted into the terminal block?
☐ Is the connection wiring of indoor and outdoor firmly fixed?
☐ Is drainage securely arranged?
☐ Is the ground wire securely and firmly connected?
☐ Is power supply voltage abided by electric code?
☐ Is there any noise?
☐ Does cooling perform normally?
☐ Does room temperature regulator operate normally?

Indoor unit installation

Cautions

- All electrical repairs must be carried out by qualified electricians. Inadequate repairs may result in a major source of danger for the user of the air conditioner.
- Do not damage any parts of the air conditioner that carry refrigerant by piercing or perforating the air conditioner's tubes with sharp or pointed items, crushing or twisting any tubes, or scraping the coatings off the surfaces. If the refrigerant spurts out and gets into eyes, it may result in serious eye injuries.
- Do not obstruct or cover the ventilation grille of the air conditioner. Do not put fingers or any other things into the inlet/outlet and swing louver.
- Do not allow children to play with the air conditioner. In no case should children be allowed to sit on the outdoor unit.

Specifications

The refrigerating circuit is leak-proof.

The machine is adaptive in following situation

1. Applicable ambient temperature range:

			Rated	Maximum	Minimum
Cooling	Indoor	DB ℃	27	32	18
		WB ℃	19	23	14
	outdoor	DB ℃	35	43	10
		WB ℃	24	26	6
Heating	Indoor	DB ℃	20	27	15
		WB ℃	14.5	--	--
	outdoor	DB ℃	7	24	-15
		WB ℃	6	18	--

2. If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similar qualified person.

3. If the fuse on PC board is broken, please change it with the type of T 3.15A /250VAC

4. The wiring method should be in line with the local wiring standard.

5. The power cable and connecting cable are self-provided.
The requirement of the connecting cable:

Model	Connecting cable(sheilded wire)
AS072XVERA AS092XVERA AS122XVERA	H05RN-F 3G 2.5mm^2 H05RN-F 2X1.5mm^2

All the cables shall have got the Local authentication certificate.

6. The breaker of the air conditioner should be all-pole switch; and the distance between its two contacts should be no less than 3mm. Such means for disconnection must be incorporation in the fixed wiring.

7. The waste battery shall be disposed properly.

8. The indoor unit installation height is at least 2m.

9. The appliance is not intended for ase young children or infirm persons without super vision.

10. Young children should be super vised to ensure that they do not play with the applience.

1. Safety precautions

Carefully read the following information in order to operate the air conditioner correctly.
Below are listed three kinds of Safety Cautions and Suggestions.
WARNING! Incorrect operations may result in severe consequences of death or serious injuries.
CAUTION! Incorrect operations may result in injuries or machine damages; in some cases may cause serious consequences.
INSTRUCTIONS: These information can ensure the correct operation of the machine.
Be sure to conform with the following important Safety Cautions.
The Safety Cautions should be at hand so that they can be checked at any time when needed.
If the conditioner is transferred to the new user, this manual should be as well transferred to the new user.

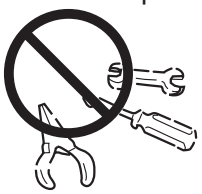
WARNING!

- Don't blow the human body with the cooling air too long, and don't let the room temperature decrease too low either.
  Otherwise the one will feel unpleasant or harm ones' health.

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

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

- When you need maintenance and repairment, call dealer to handle it.
  Incorrect maintenance and repairment may cause water leak, electrical shock and fire hazard.



- Please let the dealer be responsible for installing the conditioner.
  Incorrect installation may cause water leak, electrical shock and fire hazard.
- Don't put fingers or any other things into the inlet/outlet and swing louver while the conditioner is in operation.

  Because the highspeed fan is very dangerous and may cause injuries.
- Call the dealer to take measures to prevent the refrigerant from leaking.

  If conditioner is installed in a small room, be sure to take every measure in order to prevent suffocation accident even in case of refrigerant leakage.
- When conditioner is deinstalled or reinstalled dealer should be responsible for them.

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

CAUTIONS!

- **Conditioner should not be used for any other purpose other than airconditioning.**

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

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

  Otherwise will be shocked.

- **Don't dismantle the outlet of the outdoor unit.**

The exposure of fan is very dangerous which may harm human beings.

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

Inefficient ventilation may cause suffocation.

- **After a long time use of air-conditioner the base should be checked for any damages.**

If the damaged base is not repaired, the unit may fall down and cause accidents.

- **No goods or nobody is permitted to placed on or stand on outdoor unit.**

The falling of goods and people may cause accidents.

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

Otherwise will suffer damage.

- **Only use correctly-typed fuse.**

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

- **Don't place any burning unit in the air flow of air-conditioner, which may cause incomplete combustion.**
- **No inflammable spray fluid should be permitted to be placed or used near to airconditioner other wise may cause fire accidents.**
- **Air-conditioner should be cleaned only after power supply is cut off to keep from shock or hurt.**
- **Don't clean air-conditioner with water.**

Otherwise may cause shock.

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

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

CAUTIONS ON INSTALLATION

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

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

CAUTION !

- **Air-conditioner can't be installed in the envi-ronment with inflammable gases because the inflammable gases near to air-conditioner may cause fire hazard.**
- **Installed electrical-leaking circuit breaker.**
  It easily cause electrical shock without circuit breaker.
- **Connect earthing wire.**
  Earthing wire should not be connected to the gas pipe, water pipe, lightning rod or phone line, incorrect earthing may cause shock.
- **Use discharge pipe correctly to ensure efficient discharge.**
  Incorrect pipe use may cause water leaking.

Earthing

[Location]

- Air-conditioner should be located in well-vented and easily-accessible place.
- Air-conditioner should not be located in the following places:
  (a) Places with machine oils or other oil vapours.
  (b) Seaside with high salt content in the air.
  (c) Near to hot spring with high content of sulfide gases.
  (d) Area with frequent fluctuation of voltage e.g. factory, etc.
  (e) In vehicles or ships.
  (f) Kitchen with heavy oil vapour or humidity.
  (g) Near to the machine emitting electric-magnetic waves.
- (h) Places with acid, alkali vapuor.
  TV, radio, acoustic appliances etc are at least 1 m far away to the indoor unit, outdoor unit, power supply wire, connecting wire, pipes, otherwise images may be disturbed or noises be created.
- As required, take measures against heavy snow.

[Wiring]

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

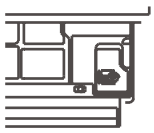
[Operating noise]

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

2. Emergency and Test Operation

Emergency operation:

- Use this operation only when the remote controller is defective or lost.
- When the emergency operation switch is pressed "Pi" sound is heard once, which means the start of this operation.
- In this operation,the system automatically selects the operation modes, cooling or heating, according to the room temperature.
- When machine is running in emergency, the set value and wind speed of temperature could not be altered; meanwhile, it can not operate for dehumidifying or under timing mode.

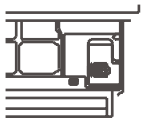


Test operation

Test operation switch is the same as emergency switch.

- Use this switch in the test operation when the room temperature is below 16 ^{o}C, do not use it in the normal operaion.
- Continue to press the test operation swich for more than 5 seconds, after you hear the "Pi" sound twice, release your finger from the switch:the cooling operation starts with the air flow speed "Hi".

Removal of the restriction of emergency or test operation.



Press the emergency operation switch once more, or manipulate through the remote controller ; the "Pi" sound, the emergency or test operation is stopped.

When the remote controller is manipulated, it gets the system back to the normal operation mode.

Disconnect power supply before clean the unit.

Don' t touch it with wet hand.
Don' t wash with hot water or solvent to clean the unit.

Air filter and outdoor cleaning

1.Open the inlet grill.
2.Detach the Air filters.
3.Use water or vacuum cleaner to clean it. If it is extremely dirty,wash it with neutral detergent or soap water.
4.Wash it with clean water and install it after complete dry.
5.Close the inlet grill.

Caution:

- Do not use hot water over 40^{o}C, as this may cause damage to air filter.
- Wipe air filter carefully.
- Clean it with warm and wet cloth or with neutral detergent, then wipe it dry with clean and soft cloth.
- If air conditioner is very dirty, clean it with cloth soaked in neutral detergent, then wipe off the detergent with clean water.
- Don't use insecticide or other chemical detergents.

3. Preparation for installation

Installation tools

1	Screw Driver (flat head, wabbler, triangle)	8	Pipe Expander
2	Steel Saw	9	Knives
3	60mm Drill	10	Clippers
4	Inner Hexagon Spanner	11	Leakage Checker or Soap Liquid
5	Shifting Spanner	12	Measuring Tape
6	Spanner	13	Scraper or File
7	Pipe Cutter	14	Refrigeration Oil

4. Accessories for installation

Self-contained accessories

No.	A	B	C	D	E	F
Name of Parts	Non-adhesive Tape	Adhesive tape	Connecting Hose	Heat insulation material	Gypsum powder	Drain hose

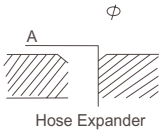
5. Choose the installation place

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

6. Method for Cutting and Expanding Pipes.

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

1.cutting hose 2.Removing burr 3.Put on nut 4.Expand Hose



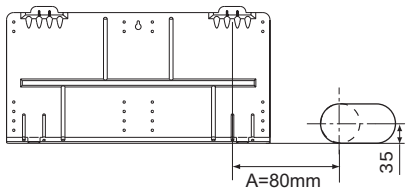
Expansion Size

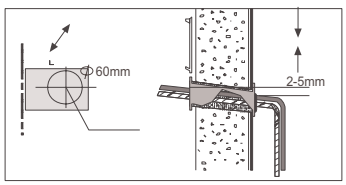
Hose dia.Φ	Size (mm)A
6.35 mm(1/4)	0.8-1.5
9.52 mm(3/8)	1.0-1.5

7. When the mounting plate is first fixed

1. Carry out, based on the neighboring pillars or lintels, a proper leveling for the plate to be fixed against the wall, then temporarily fasten the plate with one steel nail.

2. Make sure once more the proper level of the plate, by hanging a thread with a weight from the central top of the plate, then fasten securely the plate with the attachment steel nail.

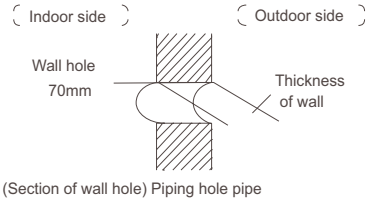




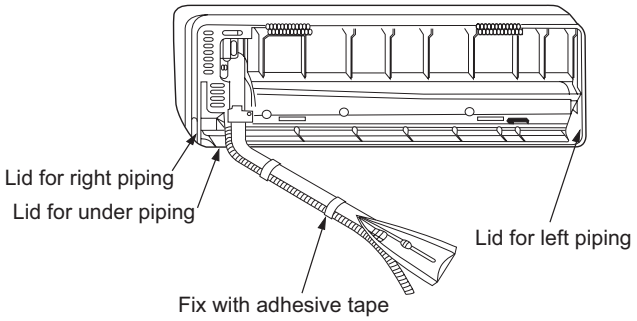
3. Making a Hole on the wall and Fitting the piping Hole cover.

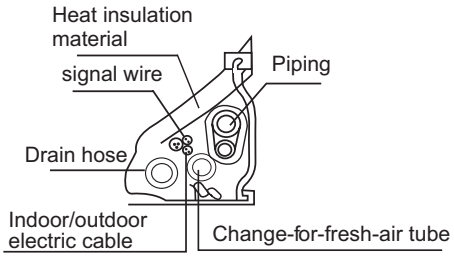
- Make a hole of 60mm in diameter, slightly descending to outside the wall. Install piping hole cover and seal it off with putty after installation.

4. Drawing of pipe Rear piping
Draw pipes and the drain hose, then fasten them with the adhesive tape. Left Left-rear, piping.
In case of left side piping, cut away, with a nipper, the lid for left piping.
In case of left-rear piping, bend the pipes according to the piping direction to the mark of hole for left-rear piping which is marked on heat insulation materials.
(1) Insert the drain hose into the dent of heat insulation materials of indoor unit.
(2) Insert the indoor/outdoor electric cord from backside of indoorunit, and pull it out on the front side, then connect them.
(3) Coat the flaring seal face with refrigerant oil and connect pipes.
Cover the connection part with heat insulation materials closely, and make sure fixing with adhesive tape.



(Section of wall hole) Piping hole pipe





Indoor/outdoor electric cord and drain hose must be bound with refrigerant piping by protecting tape

8. Other direction piping

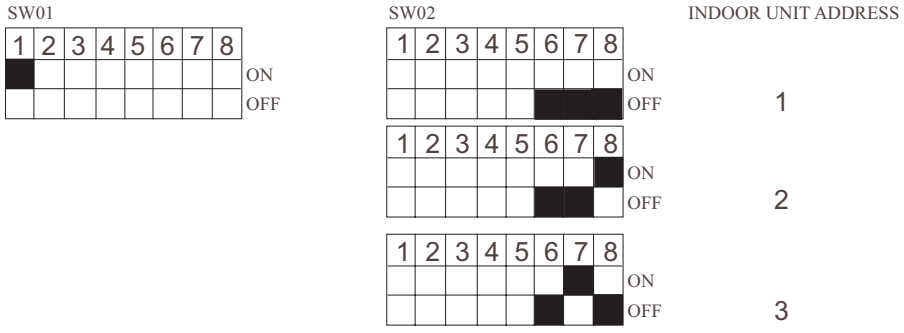
- Cut away, with a nipper, the lid for piping according to the piping direction and then bend the pipe according to the position of wall hole. When bending, be careful not to crash pipes.
- Connect beforehand the indoor/outdoor electric cable, and then pull out the connected to the heat insulation of connecting part specially.
- Hang surely the unit body onto the upper notches of the mounting plate. Move the body from side to verify its secure fixing.
- In order to fix the body onto the mounting plate, hold up the body aslant from the underside and then put it down perpendicularly.

9. Indoor unit communication addresses setting

CAUTION! FAIL TO DO THIS, THE UNIT WILL NOT WORK.

1.There are two methods to set the communication address
A. Use the remote controller(default status in first installation).
B. Use dip switches on the indoor unit PCB.
2. Address setting procedure when using the remote controller.
A. Set the addresses only after the successful installation of the refrigerant pipes and connecting cables, and open all the stop valves;
B. Please confirm that the indoor units and the outdoor unit in the same system use the same power source;
C. Power on the units, but put all the indoor units in the status of STANDBY;
D. Please note that the address must be set as following:
Indoor unit that connect to valve A, the address must be 1;
Indoor unit that connect to valve B, the address must be 2;
Indoor unit that connect to valve C, the address must be 3;
E. Example: set unit A to address 1.

Continuously press the emergency switch for about 15 seconds, the buzzer will sound 4 times(PI PI PI PI) and then leave go of the switch. At this time, the indoor unit has entered the address setting procedure. But the LCD display board is blank.
F. Use the controller to turn on the indoor unit. At this time, the controller should be changed from OFF to ON, and then the LCD display board will display number □1□. That is to say, the address setting is enabled.
G. Press the button □SLEEP□ on the controller, the times you press it stands for the address you want to set, detailed as following:
Press button □SLEEP□ one time, the address is □1□, and the LCD display board shows □1□;
Press button □SLEEP□ two times, the address is □2□, and the LCD display board shows □2□;
Press button □SLEEP□ three times, the address is □3□, and the LCD display board shows □3□;
H. Use the remote controller to turn off the unit, At this time, the controller should be changed from ON
I. If you want to change the address, please repeat the above steps from E to G.
J. After setting all the addresses, please power off the system and then power on again. Otherwise the system will not start to work.
K. Once the addresses are successfully set, please do not change it any more to avoid confusion.
3. Address setting procedure when using the DIP switches SW01 and SW02.
A. The DIP switches SW01 and SW02 are on the indoor unit PCB.
B. Before carrying out the address setting work, the system must be powered off.
C. Take off the front panal and the filters, then take off the flaps and also the front cover,disconnect the swing motor connectors from the PCB and then take out the lower part of the PCB.
D. Change the position of DIP 1 of SW01 from OFF to ON, if fail to do this, the addresses set by SW02 will not work.
E. Use SW02 to set the addresses as following(DO NOT CHANGE OTHER DIP SWITCHES):



4. How to check the addresses?(necessary procedure)
When finish all the above works, please power off and power on again to the whole system but set all the indoor units in STANDBY. Then continously press the emergency switch until you hear the buzzer sound 5 times(Pi Pi Pi Pi Pi), and then the LCD display board will show the address of this indoor unit. Press any key on the remote controller, it will exit the address checking precedure.

10.Installation check and trial operation

Check the Layout of the Drain Pipe and Connection Wires, and also the piping and address setting. The drain pipe should be placed underneath, and the connection wires should be placed upside; and the drain pipe especially the section inside the machine and indoors must be wound up with insulating material to preserve heat. The drain pipe shall be sloped and no concave and convex shall occur along the whole pipe. And the cases as the right figure indicates shall not occur.

10.1 Installation check

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

10.2 Trial operation

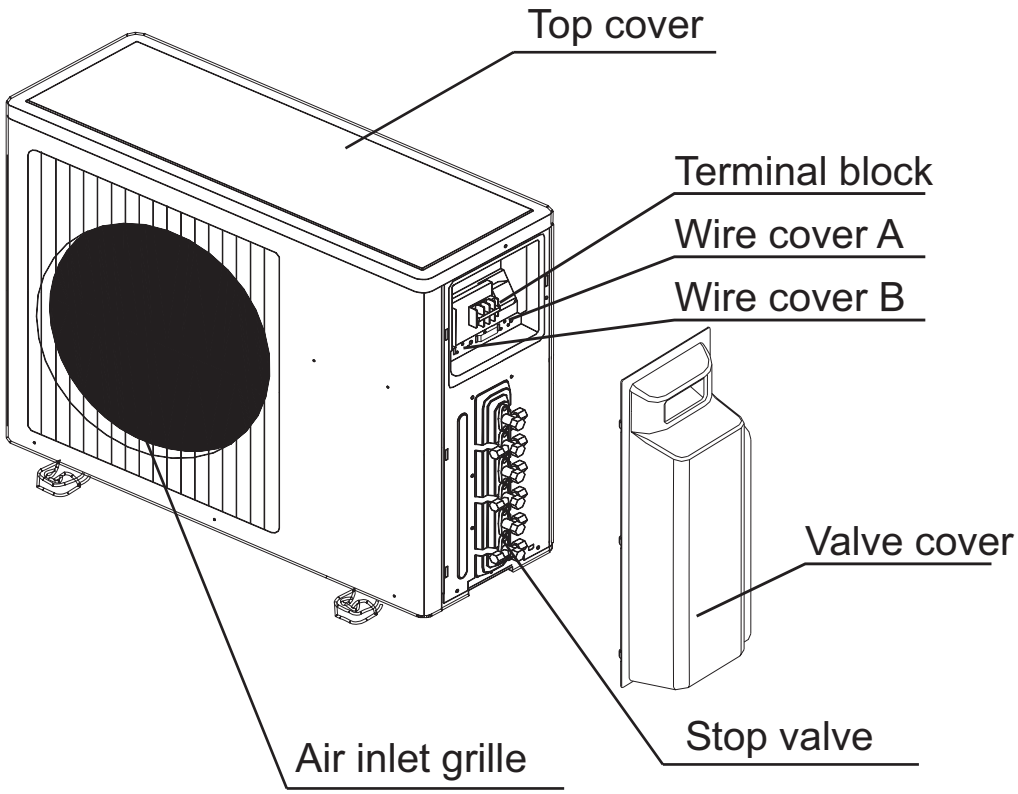
The person who has completed this installation shall be requested to conduct a test operation for check:

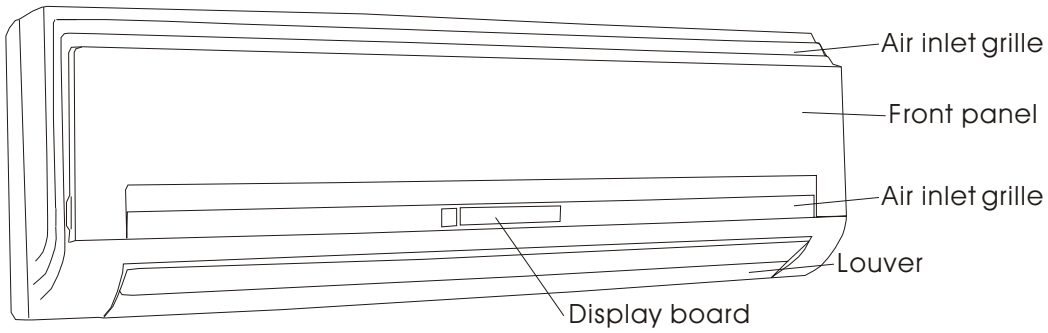
- Is the temperature adjuster working normally?
- Does the location for installation conform to requirements?

Winding up with Protective Plastic Tape.The connection pipes,drain pipe, and the connection wires shall be wound up with PVC tape.

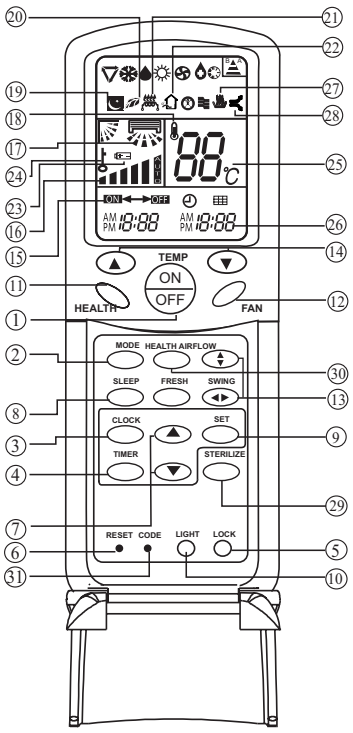
Notes: The connection pipes shall also be wound up with insulating material to preserve the temperature. The airing direction shall be from bottom to top.

6. Parts and Functions





7. Remote controller YR-H65



①Power ON/OFF
Used for unit start and stop.

②MODE
Used to select AUTO run,COOL, DRY, HEAT and FAN operation.

③ CLOCK
Used to set correct time.

④TIMER
Used to select TIMER ON, TIMER OFF, TIMER ON/OFF.

⑤LOCK
Used to lock buttons and LCD display.

⑥RESET
Used to reset the controller back to normal condition.

⑦HOUR
Used to set clock and timer setting.

⑧SLEEP
Used to select sleep mode

⑨SET
Used to confirm Timer and Clock setting.

⑩LIGHT
Control the light up and go out of the control panel's background light source and control the switch of the buzzer.

⑪ HEALTH
Used to set Health operation function

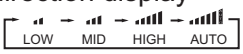
⑫FAN
Used to select fan speed: AUTO, LOW FAN, MED FAN, HIGH FAN.

⑬ SWING
Used to set UP/DOWN air sending and RIGHT/LEFT air sending direction.

⑭ TEMP
Used to set temp.,temp. range:16℃~30℃

⑮Timer ON/OFF display

⑯ Fan speed and air sending direction display



⑰ Swing direction display

⑱ Room temperature display

⑲ Sleep state display

⑳ Health display
Display when set Health operation function.

㉑Electric Heating display

㉒Fresh Air state display

㉓Battery Capacity display
Display when the electric power of the battery is insufficient.

㉔Lock state display

㉕Temperature display
Used to display the set temperature

㉖Clock display

㉗Humidifying display

㉘Sterilize display
(This function is optional)

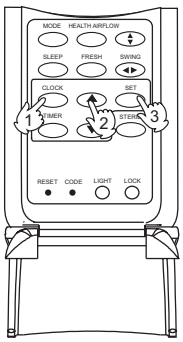
㉙STERILIZE
(This function is optional)

㉚HEALTHAIRFLOW
Used to set healthairflow

㉛CODE A/B selection
For this unit, please set to code A

Note: This model does not have the following related display and function ⑱ ㉑ ㉓ ㉗

Clock set



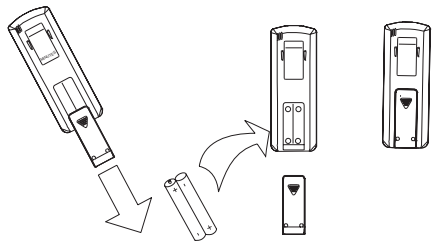
When unit is started for the first time
and after replacing batteries in remote
controller, clock should be adjusted as follows:
Press CLOCK button, "AM"or "PM" flashes.
Press ▲ or ▼to set correct time. Each press will increase
or decrease 1 min . If the button is kept pressed, time will change quickly.
After time setting is confirmed, press SET, "AM" and "PM"
stop flashing, while clock starts working.

Remote controller's operation

- When in use, put the signal transmission head directly to the receiver hole on the indoor unit
- The distance between the signal transmission head and the receiver hole should be within 7m without any obsacles as well.
- Don't throw the controller, prevent it from being damaged.
- When electronic-started type fluorescent lamp or change-over type fluorescent lamp or wireless telephone is installed in the room, the receiver is apt to be disturbed in receiving the signal so the distance to the indoor unit should be shorter.

Loading of the battery

Slightly press " ▼ " and push down the cover.
Load the batteries as illustrated.
2 R-03 dry batteries, (cylinder)
Be sure that the loading is in line with the "+"/"-" pole request as illustrated.
Put on the cover again.


2R-03 dry batteries

Confirmation indicator:

In disorderation, reload the batteries or load the new batteries after 5 mins.

Note:The waster batteries should be disposed properly,use two new same-type batteries when loading.

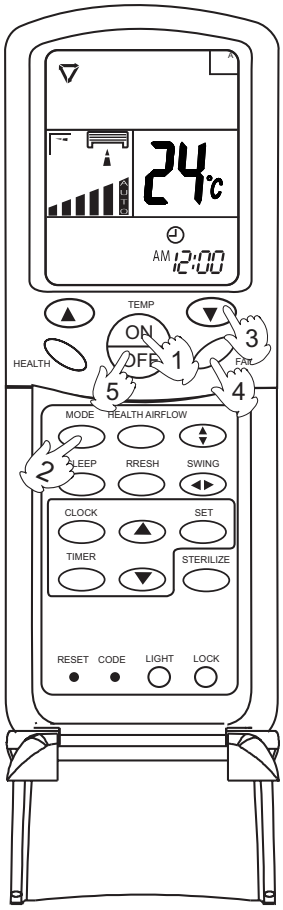
If the remote controller can□t function normally or doesn□t work at all,use a sharp-pointed item to press the reset key.

Hint:Remove the batteries in case unit won□t be in usage for a long period.

If there are any displays after taking-out just need to press reset key.

When throw away the waste batteries, please perform in accordance with the local regulation.

Auto operation



① Press ON/OFF button
Unit starts running.
The previous status appears on the display(except. TIMER, SLEEP mode)

② Press MODE button. For each press, operation mode changes as follows:

Remote controller

Select Auto run,
" ▽ " appears and auto run starts.

③ Select temp. button
Press TEMP button
▲ Every time the button is pressed, temp. setting increases 1 ˚C
▼ Every time the button is pressed, temp. setting decreases 1˚C
If the button is kept pressed, setting will increase or decrease quickly.

④ Press FAN,For each press, operation mode changes as follows:

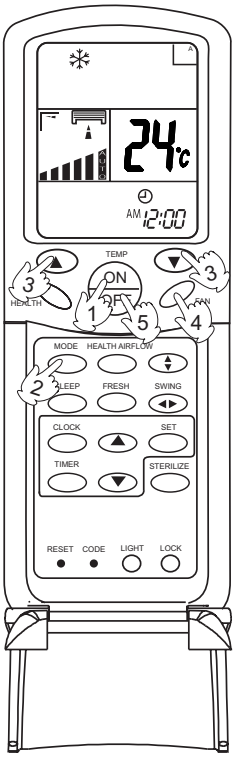
Remote controller

Unit runs at the speed displayed on LCD.
When fan speed is AUTO,it is changed automatically according to the indoor temperature.

⑤ Press ON/OFF button
Unit stops running.

Note:
During Auto run operation, temp. setting will be shown in LCD display, unit will select heating, cooling or fan operation according to the room temp.

Cooling operation



① Press ON/OFF button
Unit starts running.
The previous status appears on the display(except. TIMER, SLEEP mode)

② Press MODE button. For each press, operation mode changes as follows:

Remote controller

Select cooling operation, Shows"❄" cooling operation starts.

③ Select temp. button
Press TEMP button
▲ Every time the button is pressed, temp. setting increases 1˚C
▼ Every time the button is pressed, temp. setting decreases 1˚C
If the button is kept pressed, setting will increase or decrease quickly.

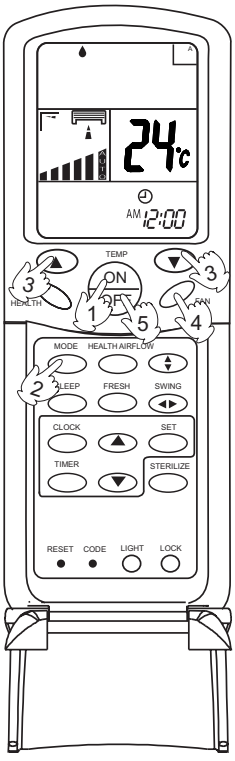
④ Press FAN button. For each press, fan speed changes as follows:

Remote controller

Unit runs at the speed displayed on LCD. When fan speed is AUTO,it is changed automatically according to the indoor temperature.

⑤ Press ON/OFF button
Unit stops running,and when entry this mode for the next time,it will show the previous setting.

Dry operation



① Press ON/OFF button
Unit starts running.
The previous status appears on the display (except. TIMER, SLEEP mode)

② Press MODE button. For each press, operation mode changes as follows:

Remote controller

Select Drying operation shows"💧" Dry operation starts

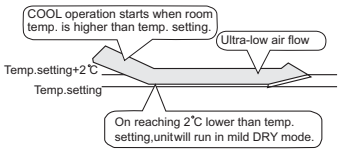
③ Select temp. button
Press TEMP button
▲ Every time the button is pressed, temp. setting increases 1˚C
▼ Every time the button is pressed, temp. setting decreases 1˚C
If the button is kept pressed, setting will increase or decrease quickly.

④ Press FAN button. For each press, fan speed changes as follows:

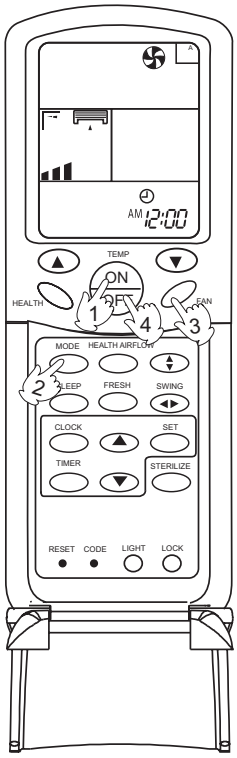
Remote controller

Unit runs at the speed displayed on LCD.
In DRY mode, when room temp.becomes 2˚C lower than temp. setting,unit will run intermittently at LOW speed regardless of FAN setting.

⑤ Press ON/OFF button
Unit stops running, and when entering this mode for the next time, it will show the previous setting



Fan operation



① Press ON/OFF button
Unit starts running.
The previous status appears on the display (except. TIMER, SLEEP mode)

② Press MODE button. For each press,operation mode changes as follows:

Remote controller → AUTO → COOL → DRY → FAN → HEAT

Select Fan operation shows " ", Fan operation starts.

③ Press FAN button. For each press, fan speed changes as follows:

LOW → MID → HIGH

Unit runs at the speed displayed on LCD.

④ Press ON/OFF button
Unit stops running, and when entering this mode for the next time, it will show the previous setting.

Note:
In this mode, temp. can't be selected, temp.setting will not be shown in LCD display.In Fan operation mode, "AUTO" fan speed is not available. Operation cycles are as follows:

LOW → MID → HIGH

Heating operation

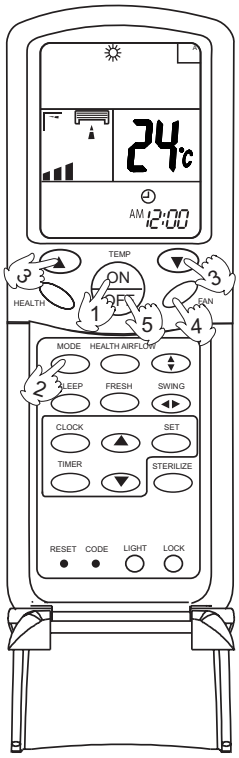
Note: For cooling only type, this function is invalid.

① Press ON/OFF button
Unit starts running.
The previous status appears on the display (except. TIMER, SLEEP mode)

② Press MODE button. For each press,operation mode changes as follows:

AUTO → COOL → DRY → FAN → HEAT

Select Heating operation " " appears and Heating operation starts.



③ Select temp. button
Press TEMP button
▲Every time the button is pressed, temp. setting increases 1˚C
▼Every time the button is pressed, temp. setting decreases 1˚C
If the button is kept pressed, setting will increase or decrease quickly.

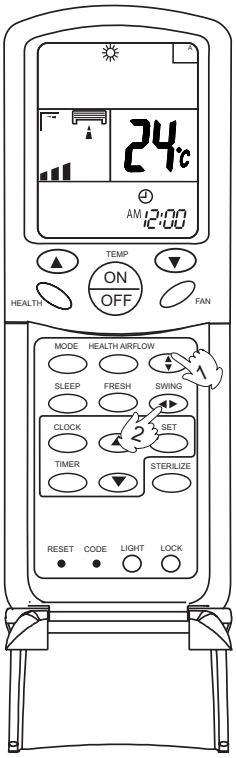
④ Press FAN button. For each press, fan speed changes as follows:

In heat mode,warm air will blow out after a short period of time due to cold-draft prevention function.

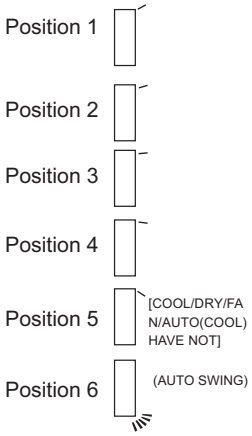
⑤ Press ON/OFF button
Unit stops running, and when entering this mode for the next time, it will show the previous setting.

Air flow adjustment

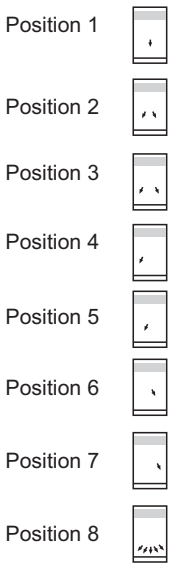
Swing louvers
(Vertical louvers)
(Horizontal louvers)



Up and down



Side from side



Side from side

Swing

- Press SWING the vertical louvers move from side to side.

Fixed position

- Press the SWING again to fix the vertical louvers at your desired position.

Swing

- Press SWING the horizontal louvers move from up to down.

Fixed position

- Press the SWING again to fix the horizontal louvers at your desired position.

Note: Put louvers at up position in cooling and down position in heating mode. This will be helpful to keep an even room temp.

Notice: In cooling or dry operation, don't put horizontal louvers at downward position for a long time, or outlet grill might get frosted. Don't expose your skin to cool or warm air for a long time.

Sleep operation

Remote control unit

Before go to bed, you can press the Sleep button, the air conditioner will operate in comfortable sleep mode to make your sleep more comfortable.

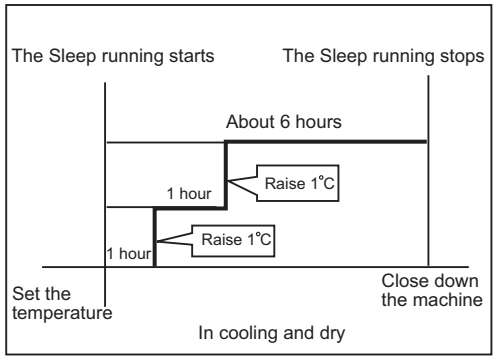
Usage of the Sleep function

After starting, set the Run mode and press the Sleep button.

Run mode

1. In cooling and dry

After starting of the Sleep operation, the temperature will be raised for 1 C higher than the set temperature 1 hour later,and be raised for 1 C after another hour. It continues under that condition for 6 hours, then the machine will be switched off. The temperature is higher than the set temperature so as to avoid catching cold in sleeping.



2. In heating (the single-cooling conditioners do not have the function)

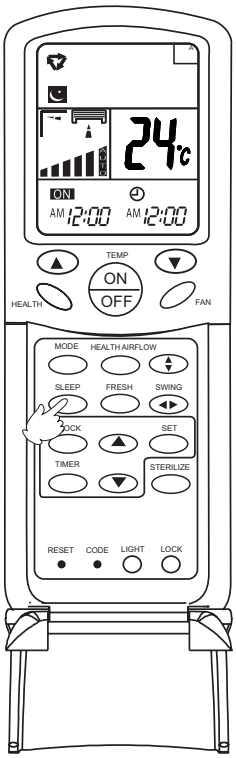
After the Sleep running starts, the temperature will drop for 2 C after another one hour. The temperature will raise for 1 C after 3 hours running under the above temperature, and the conditioner will be closed down after running for 3 hours. The temperature is lower than the set temperature so as to avoid uneasiness in sleeping.

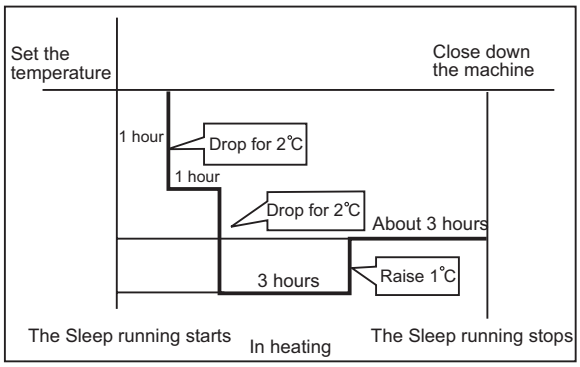
3. In automatic running

The conditioner will run under automatically selected working mode of sleeping.

4. In Fan running

The Sleep function is invalid.





TIMER ON/OFF operation

Remote control unit

TIMER operation

Set Clock correctly before starting Timer operation (refer to page 2)

You can let unit start or stop automatically at following times: Before you wake up in the morning, or get back from outside or after you fall asleep at night.

TIMER ON/OFF

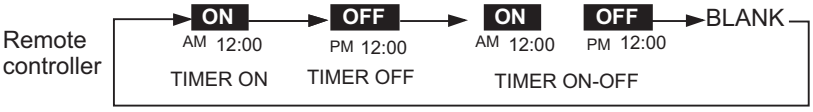
(1) After unit start, select your desired operation mode.

Operation mode will be displayed on LCD.

(2) TIMER mode selection

Press TIMER button to change TIMER mode.

Every time the button is pressed, display changes as follows:



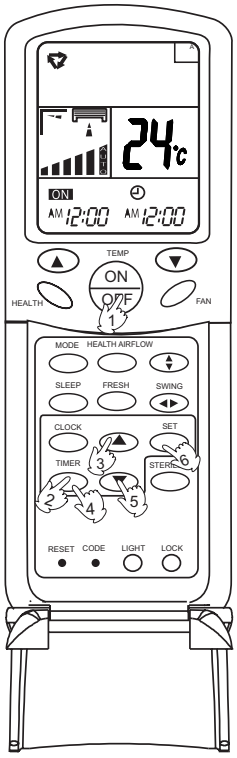
Select your desired TIMER mide (TIMER ON or TIMEROFF) ON or OFF will flash.

(3) Timer setting

Press HOUR ▲ / ▼ button.

▲ Every time the button is pressed, time increases 1 min, If button is kept pressed, time will change quickly.

▼ Every time the button is pressed, time decreases 1 min, If button is kept pressed, time will change quickly. Time will be shown on LCD. It can be adjusted within 24 hours.



(4) Confirming your setting

After setting correct time, press SET button to confirm, " ON " or " OFF " stops flashing.

Time displayed: Unit starts or stops at x hour x min (TIMER ON or TIMER OFF)

Timer mode indicator on indoor unit lights up.

To cancel TIMER mode

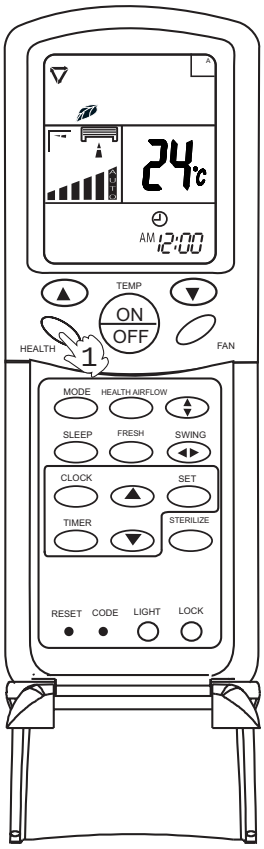
Just press TIMER button several times until TIMER mode disappears.

Hints

After replacing batteries or a power failure happens, Time setting should be reset.

Remote controller possesses memory function when use TIMER mode next time, just Press SET button after mode selecting if timer setting is the same as previous one.

Health & Fresh Air operation



Health operation

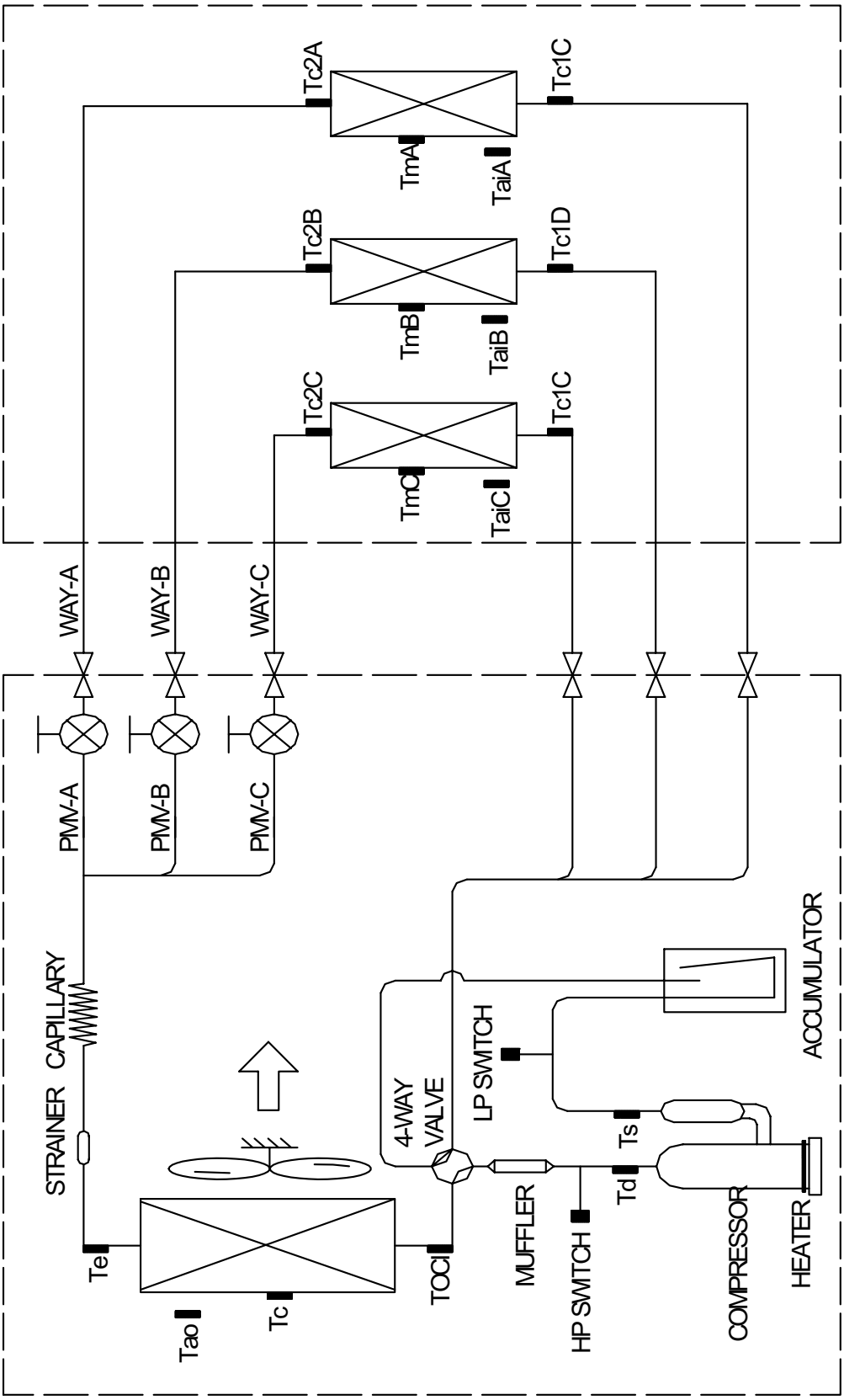
After turning on the unit and set the desired working mode. Press the Health button, the LCD will display " ", the unit begins health operation (start the negative ion generation device). Press the Health button again, the " " displayed on the LCD disappears, health operation is cancelled (turn off the negative ion generation device).

Note: When indoor fan motor does not work, the unit will automatically turn off negative ion generation device.

About Health operation

After the start of Health operation, the negative ion generator will generate large amount of negative ion, which can effectively balance the amount of positive & negative ion in the air and has the bacteria-killing and accelerating the dust deposition of the room to make the room air fresh and healthy.

8. Refrigerant Diagram



Main part explanation:

No.	Main Part Name	Specification	For what purpose?
1	Heater	220V, 35W	Heat up the compressor when system stops to avoid liquid compressing and liquid flood-back
2	Compressor	dc inverter	Drive the system to realize the refrigerant circulation
3	Td sensor	50K@80@	For target SH control and high discharge temprature protection
4	HP switch	4.5 / 3.7Mpa	Cut off the system when discharge pressure is too high to protect system
5	4-WAY valve	/	Cooling / heating swtiching
6	Toci sensor	10K@25@	For target super heating control when heating
7	Tc sensor	10K@25@	For high pressure/ frequency/ outdoor fan speed control when cooling
8	Tao sensor	23K@25@	For target frequency range and heater control
9	Te sensor	10K@25@	For defrost operation and low pressure control when heating
10	PMVs	1.5mm, 500PLS	Refrigerant distributioin and target SH(cooling) and SC(heating) control
11	LP switch	0.05 / 0.15Mpa	Cut off the system when suction pressure is too low or system serious leakage to protect system
12	Accumulator	1.5L	Separate the liquid refrigerant and gas refrigerant in suction line to avoid liquid flood-back
13	Ts sensor	10K@25@	To calculate the target SH and SC, and control the start up of the compressor
14	Tc2	10K@25@	To calculate the real super heating value together with Tout to operate the PMVs, for target compressor frequency control and low pressure protection when cooling
15	Tm	10K@25@	To calculate the real super cooling value together with Tin to operate the PMVs, for target compressor frequency control and high pressure control when heating
16	Tc1	10K@25@	To calculate the real super heating value together with Tin to operate the PMVs
17	Tai	23K@25@	To calculate the temperature difference between the inlet and outlet of the indoor unit to control the target rrequency and THERMO. ON or OFF.

9. Electrical Control Functions

Outdoor electric control functions:

1. Switch setting and functions:

No	Item
A8	**Set in factory**
C1	Switch function: SW5-1---outdoor fan motor selection, ON: DC fan motor; OFF: AC fan motor
	Switch function: SW5-2---defrosting data setting, ON=6degree, OFF＝8degree (set when out of factory). For the place where is easy to frost, it is 6 degree; for the place hard to frost, it is 8 degree.
C2	Switch function: SW5-3，SW5-4---piping length selection, the set data is M when out of factory. S（SW5-3=OFF SW4=ON） L（SW5-3=ON SW4=OFF） -（SW5-3=ON SW4=ON） M（SW5-3=OFF SW4=OFF）
C3	Switch function: SW5-5，SW5-6---outdoor horse power selection (for different outdoor, the current limitation is different too. The corresponding selection must be taken, or the module protection will occur.) 2HP（SW5-5=OFF SW5-6=ON） 2.5HP（SW5-5=ON SW5-6=OFF） 3HP （SW5-5=ON SW5-6=ON） 3.5HP（SW5-5=OFF SW5-6=OFF）
C4	Switch function: SW5-7，SW5-8： **SW5-7－pre-set, set as OFF when out of factory.** **SW5-8－silent operation function, ON---available, OFF---not available (set when out of factory)** When it is ON, the max. fan speed is Class-6, and the max. running frequency is 10Hz.
C8	**Set in factory**

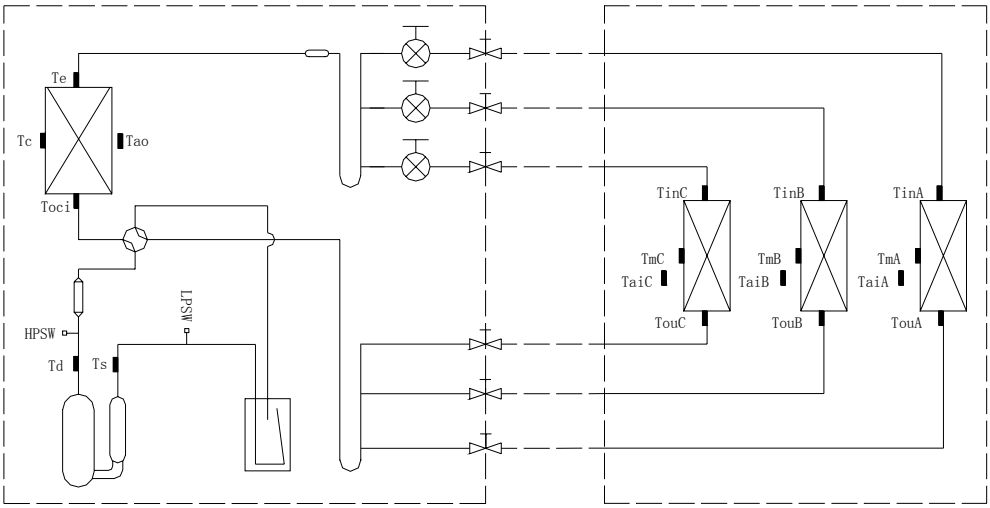
2. Defination of 4-bit dip switch SW5 on failure indicator board:

1	2	3	4	Defination
OFF	OFF	OFF	OFF	State when out of factory (normal state)
OFF	ON	OFF	OFF	Compulsory cooling: frequency 60HZ, outdoor fan motor Class-7, fixed open angle 300, the others are in normal state
ON	OFF	OFF	OFF	Compulsory heating: frequency 50HZ, outdoor fan motor Class-5, fixed open angle 300, the others are in normal state
OFF	OFF	ON	OFF	Rated operation: auto changeover for cool/heat, max. frequency 53HZ(E) in cooling, and max. frequency 72HZ(E) in heating, the frequency is set automatically in other states.

3. Main control functions

3.1 Refrigerant diagram

3.1 Refrigerant diagram



3.2 Outdoor frequency control

3.2.1 Compressor running frequency range: 20~90RPS

3.2.2 Defination of high-efficiency operation and its frequency control

In order to meet the cooling request at high ambient temperature and the heating request at low ambient temperature, we set the high-efficiency operation.

Entering condition: cooling mode, Tao≥33℃(E), heating mode, Tao≤5℃(E).

3.3 Electronic expansion valve (EEV) control

3.3.1 Electronic characteristic

Max. open angle	500 pulse
Driving speed	PPS

3.3.2 Initialization of EEV

EEV driving speed: open direction: 32MS; close direction: 32MS

3.3.3 Open angle limitation of EEV

	Unit stop	Adjustable upper limitation	Thermostat ON	Thermostat OFF	Adjustable lower limitation
Cool/dry	5（E）	450（E）	standard open angle+tolerance	5（E）	80（E）
heat	60（E）	450（E）	standard open angle+tolerance	60（E）	80（E）

3.3.4 Standard open angle control

In Cool/Dry mode, standard open angle: outdoor ambient temp.≥20℃, 250 pulse(E);

Outdoor ambient temp.＜20℃, 210 pulse(E);

In Heat mode, standard open angle: outdoor ambient temp.≥10℃, pulse (E);

outdoor ambient temp.＜10℃, 210 pulse (E).

3.3.5 When discharging temp. Td is too high, modify the EEV angle.

In order to cooperate the compressor discharging temp. over high protection, the system will enlarge the EEV open angle. Within 5 minutes after compressor starts up, it will not modify. The detecting period is 30 seconds.

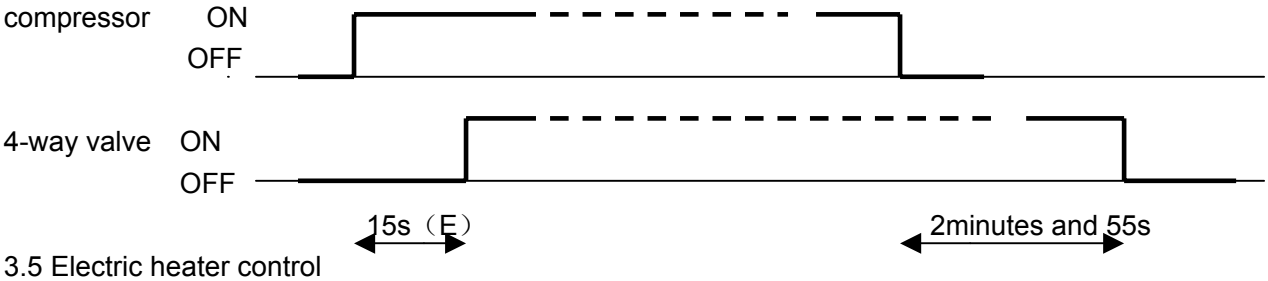
Cooling mode	Indoor modification angle
100℃<discharging temp.	+50degree/30seconds, it will stop until up to the max. permitted opening angle
90℃< discharging temp.<=100℃	Keep the angle

<=90℃	-5degree/30seconds, and reduce to 0 degree gradually
Heating mode	**Indoor modification angle**
100℃< discharging temp.	+50degree/30seconds, it will stop until up to the max. permitted opening angle
90℃< discharging temp.<=100℃	Keep the angle
<=90℃	-5degree/30seconds, and reduce to 0 degree gradually

3.4 4-way valve control in heating

Protection when 4-way valve can not reverse in heating:

10 minutes later after compressor startup, if indoor coil average temp. is below 15degree and keeps for 1 minute, the unit will stop and occur the 4-way valve protection.

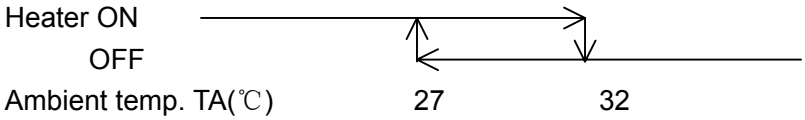


3.5 Electric heater control

If compressor has not run for a long time, the refrigerant will deposit on the bottom of compressor and mix with the refrigeranr oil. When re-startup, because low pressure reduces, refrigerant will be segregated from the refrigerant oil and cause soam in the oil, which will make compressor exhaust a lot of oil. Therefore please stop heating the compressor bottom to ensure the low pressure in startup period should not go down greatly.

✧ Ambient temp. TA≤27degree, when compressor stops, the electric heater will be electrified.

✧ When TA≥32degree, or compressor running, the electric heater will be off.



3.6 Control of liquid spray valve SV2:

According to the compressor discharging temp., open or close the SV2.

①Control condition:

A. In every mode (including defrosting and oil return operation), the control can work.

B. In 3 minutes after compressor startup, ignore the abnormal compressor suction and discharging value.

②3 minutes later after compressor startup, according to the discharging temp., the following procedure will be taken:

Td≤90℃, SV2 close;

Td＞110℃, SV2 open.

③In 150 seconds when compressor stops, in order to keep the system in balanc, please open the liquid spray valve SV2. 150 seconds later after compressor stops, SV2 close.

3.7 Control of defrosting in heating

In heating mode, defrosting temp. sensor will check the frosting condition of outdoor heat exchanger and make defrosting control.

3.7.1 Enter condition:

①In heating mode, if the compressor has run for 10 minutes continously and run for 45 minutes in all, the system will measure the defrosting temperature sensor Te and outdoor ambient temp. sensor TA, if the below condition can be met for continous 5 minutes, the unit will enter defrosting operation:

Te≤C×TA－α

Herein: C：TA＜0℃，C=0.8　TA≥0℃，C=0.6

According to SW2, the setting is as follow: in the place easy to frost, it is H; when out of factory, it is M.

Jumper selection	M(out of factory)	H
α (℃)	8(E)	6(E)

②Defrosting entering condition: -15℃≤C×TA－α≤-2℃

③Stop and Pause condition of compressor running accumulative time in heating mode:

Checking Stop: running operation changes from heating to cooling.

Checking Pause: thermostat OFF, or the unit stops.

3.7.2 Cancel condition:

It will take the max. 10 minutes from beginning defrosting to quit it. Te sensor will measure the condition of outdoor heat exchanger, if the temp. is over 7℃ for 60 seconds in all or is up to 12℃ for 30 seconds in all, the defrosting will be over.

3.7.3 Compulsory defrosting control

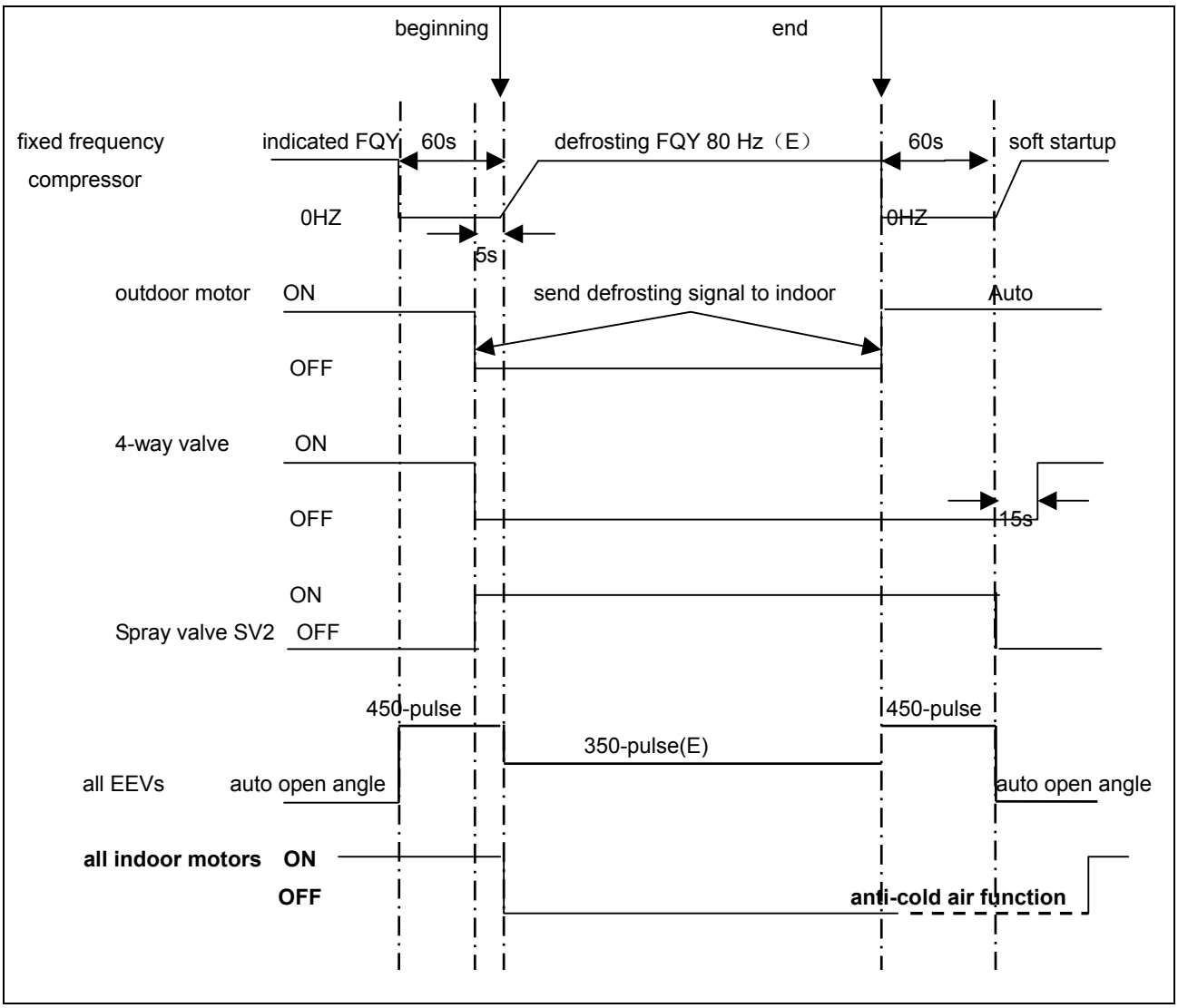
Enter condition: in heating mode, after receiving the compulsory defrosting signal from indoor unit, the unit will perform the compulsory defrosting operation.

Cancel condition: Te≥12℃ and keep for 1 minute or the defrosting time is over 10 minutes.

The manual defrosting signal of indoor unit will remain until the outdoor enters defrosting mode.

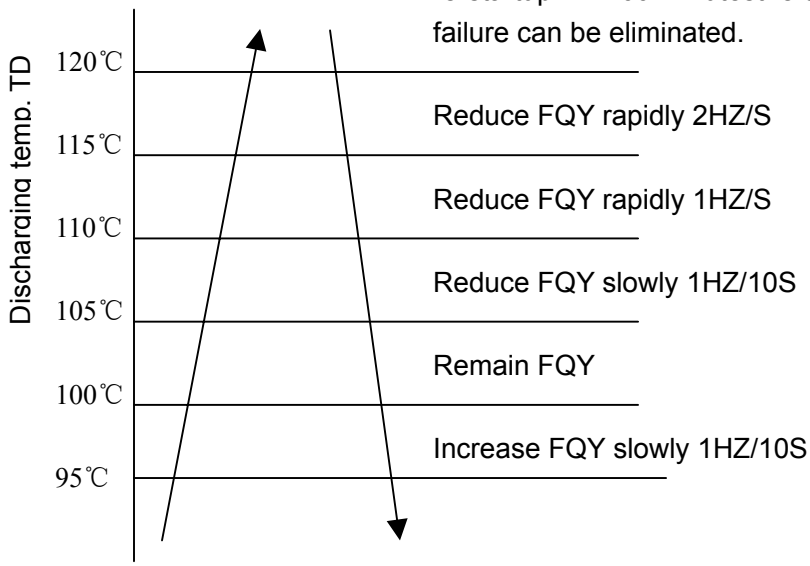
Note: When outdoor compressor not running, the unti still can enter manual defrosting, but it will comply with the 3-minute protection of compressor.

3.7.4 Defrosting operation flow chart

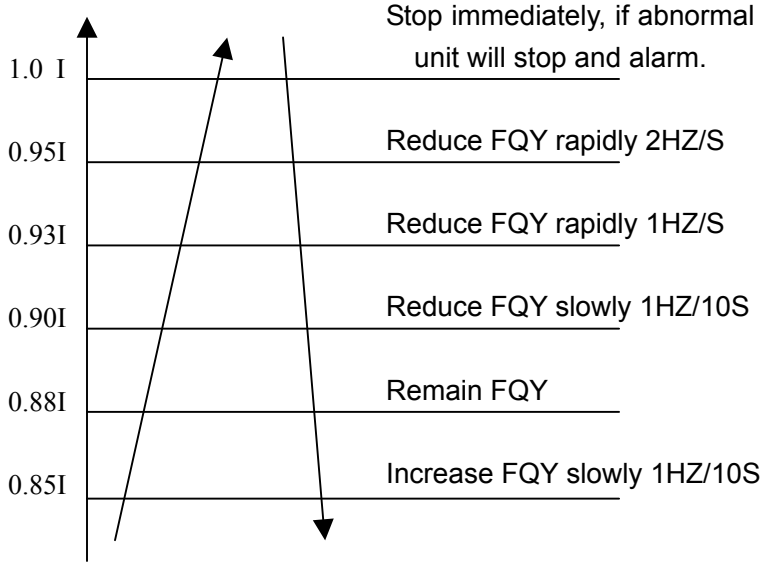


3.8 Frequency control when Td is too high

Purpose: make compressor frequency control if the discharging temp. is too high, to lower the discharging temp. efficiently and ensure the system can run normally.



3.9 Frequency control when there is CT over current protection



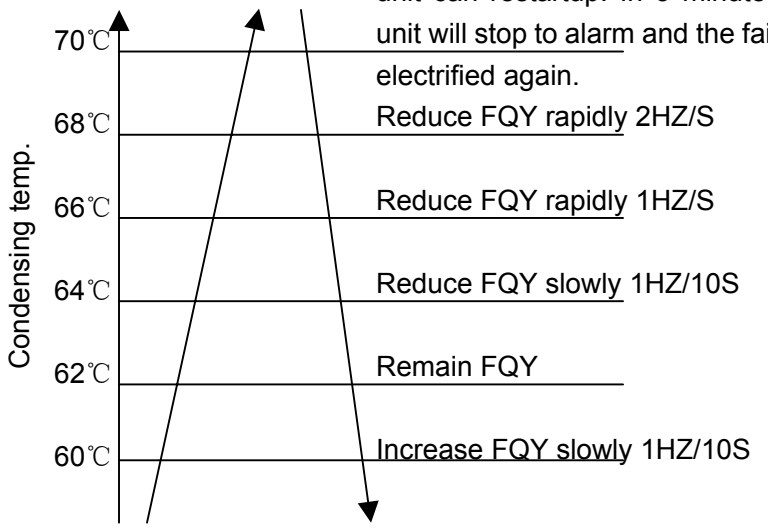
3.10 High pressure protection

When the input signal of pressure switch is high level:1, that shows there is no protection.

When the input signal of pressure switch is low level: 0 for 1 minute, that shows high pressure protection works. At this time, compressor stops, outdoor will send the alarm signal. The alarm can be resumable. If in 60 minutes, the failure occurs 3 times, the failure can be confirmed and send failure code to indoor.

Meanwhile, by controling the max. condensate temp. Tc (cooling) or TmAVE (heating), please confirm as follow:

In nominal cooling/dry/heating mode, high pressure can be controlled by limiting the max. frequency.



3.11 Low pressure protection

(1) When compressor is running, if output signal of low pressure switch is low level: 0 for 1 minute continously, compressor will stop,outdoor alarms. The alarm can be resumable. If in 60 minutes, the failure occurs 3 times, the failure can be confirmed and send failure code to indoor.

(2) When compressor no running, if output signal of low pressure switch is low level: 0 for 30 seconds continously, alarm will occur.

• When unit stops, the reason that system still checks the low pressure : in a long time stop, make protection for the compressor on the condition of great refrigerant leakage.

• The reason that low pressure switch action time is 30 seconds: when compressor stops, low pressure does not change, so it will be shorter than the set time in operation.

(3) When compressor starts up, in 8 minutes, low pressure switch signal will be shielded.

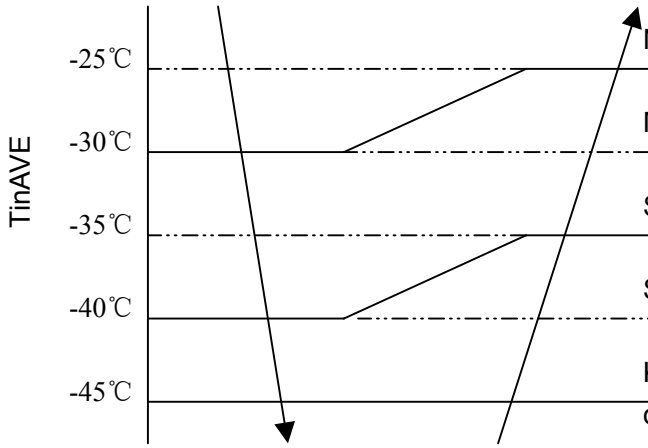
(4) In defrosting, low pressure switch will be shielded.

(5) In oil return procedure, low pressure switch will be shielded.

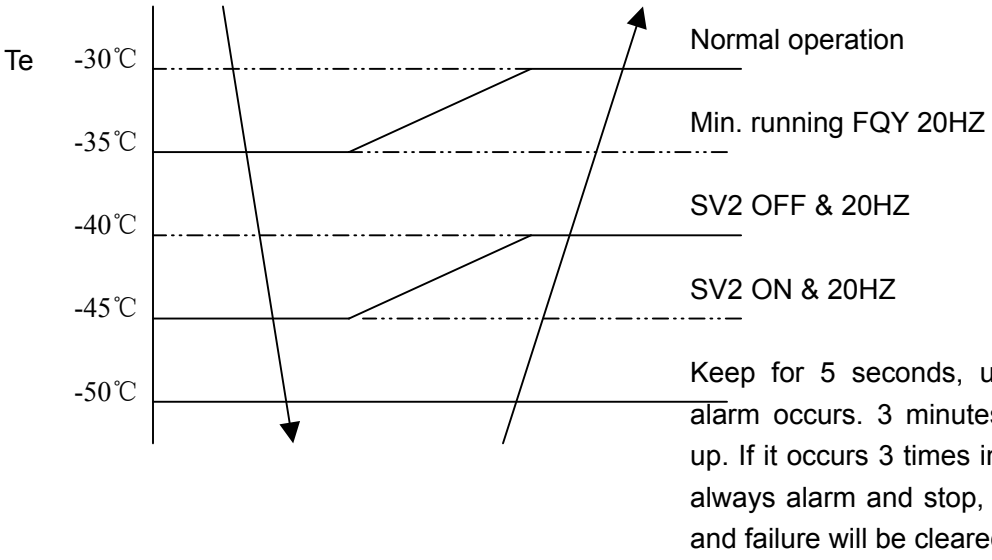
(6) In the refrigerant discharging procedure after the oil return in cooling is over, low pressure switch will be shielded.

In addition, the system will control low pressure through the evaporator temp. TE to realize the low pressure protection function.

In cooling, confirm through Tc2AVE:



In heating, confirm through defrosting temp. Te:



If the failure is not confirmed as the permanent protection, outdoor will not send failure code to indoor, and indoor will not alarm.

Indoor electric control functions:

Note: The following functions are applicable for the unit in normal state.

1. Parameter input:

1.1 Analog data input:

1.1.1 Indoor temperature sensor input (TA): 1-way, 23KΩ at 25℃

1.1.2 Indoor coil outlet temp/inlet temp (TC1: gas pipe, TC2: liquid pipe): 2-way, 10KΩ at 25℃

1.1.3 Indoor middle coil temp. (Tm): 1-way, 10KΩ at 25℃.

1.2 Functional switch setting:

1.2.1 Central control address setting and indoor communication address setting:

8-way (SW01), the detailed definition is as follow: 0-OFF, 1-ON

AS072~AS122XVERA:

SW01								description
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
--	0	0	0	0	0	0	0	Central control address=1
--	0	0	0	0	0	0	1	Central control address =2
----								----
--	1	1	1	1	1	1	0	Central control address =127
--	1	1	1	1	1	1	1	Central control address =128
0	--	--	--	--	--	--	--	Indoor communication address set by remote controller
1	--	--	--	--	--	--	--	Indoor communication address set by dip switch

SW02								description
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
0	0	--	--	--	--	--	--	AS072 capacity selection
0	1	--	--	--	--	--	--	AS092 capacity selection
1	0	--	--	--	--	--	--	AS122 capacity selection
--	--	0	0	--	--	--	--	LCD display board (LCD remote receiver)
--	--	1	1	--	--	--	--	LED display board (LED remote receiver)
--	--	--	--	0	--	--	--	Room card function valid
--	--	--	--	1	--	--	--	Room card function unavailable
--	--	--	--	--	0	0	0	Indoor communication address 1
--	--	--	--	--	0	0	1	Indoor communication address 2
--	--	--	--	--	0	1	0	Indoor communication address 3
--	--	--	--	--	0	1	1	Indoor communication address 4
--	--	--	--	--	1	0	0	Indoor communication address 5
--	--	--	--	--	1	0	1	Indoor communication address 6
--	--	--	--	--	1	1	0	Indoor communication address 7
--	--	--	--	--	1	1	1	Indoor communication address 8

Note: The above dip switches are correlative to the system security, so please confirm the conformity between the unit and the dip switch. The incorrect dip switch setting will result in the system wrong operation or the wrong failure diagnosis.

2. Cooling operation

2.1 The set temperature in cooling: TS=the set temp. on remote controller

2.2 After cooling startup, indoor unit will send the frequency code to outdoor according to the temp. difference between the set temp. and the ambient temp.

3. Heating operation

3.1 In heating operation, the set temp. TS=the set temp. on remote controller

3.2 After heating startup, indoor unit will send the frequency code to outdoor according to the temp. difference between the set temp. and the ambient temp.

4. Dry operation

Room temp.-(set temp.+ tolerance) ＞2℃, indoor operation is identical to the cooling operation, and sends the cooling operation signal to outdoor.

Room temp.-(set temp.+ tolerance) ≤2℃, indoor unit sends the dry operation signal to outdoor.

Room temp. ＜16℃, indoor unit stops running and sends stop-unit signal to outdoor.

5. Fan operation

Indoor fan motor will run as the fan speed set on the remote controller and indoor unit will send the stop-unit signal to outdoor.

6. Auto operation

If the unit enters Auto mode for the first time, the system will adjust the operation mode according to the room temp. and the set temp.

When room temp.≥set temp., entering cooling mode;

When room temp.＜set temp., entering heating mode.

Mode conversion will be confirmed after compressor has stopped for 15 minutes.

7. Abnormal operation

When outdoor modes from the request of indoor unit conflict, the one entering firstly will take priority.

After indoor receives the ON command from remote controller, it will firstly confirm the outdoor current operation mode. If they are the same mode, indoor unit will run as the request of remote controller. If they are different modes, the system will forbid to operate, and indoor will keep the OFF mode. After setting on remote controller, if the buzzer sounds two times, that shows abnormal operation. Indoor will run until the outdoor mode and the requested mode of remote controller are the same.

8. Compensation control for discontinuous operation

After the unit starts up in cooling/heating mode, in 3 minutes, the compressor run/stop will not be controlled by the room temp., but after changing the set temp., if compressor stop condition can be met, the system will stop compressor immediately.

9. Anti-cold air control

In heating mode, after compressor startup, the system will control indoor fan motor according to indoor coil temperature. At the beginning of startup, the indoor fan motor can run only when indoor mid-coil temp. is over 28℃(±2℃). When indoor mid-coil temp. goes down to 18℃(±2℃), indoor fan motor will stop running.

In defrosting period, indoor fan motor will stop running;
In heating mode, if unit shutoff, indoor fan motor will stop after running for 30 seconds at super low speed.
Note: The above temp. point has taken fuzzy control, and has tolerance ±2℃ according to the different state.
10. Fan motor control in defrosting
10.1 On receiving outdoor defrosting signal, indoor unit will stop after blowing remaining heat at slow speed for 20 seconds.
10.2 In defrosting period, indoor fan motor stops running.
10.3 Defrosting is over, and indoor motor will run as anti-cold air state.
11. Blowing remaining heat operation
When the unit shuts off in heating mode or the thermostat is OFF, indoor motor will stop running after running at super low speed for 30 seconds.
12. Anti-freezed protection (invalid in heating mode)
When compressor has run for over 5 minutes, to prevent indoor evaporator freezing (in cooling/dry mode), if indoor mid-coil temp. is below 0 degree, compressor will stop. When indoor mid-coil temp. is over about 10 degree, the unit can run. After compressor has stopped for 3 minutes, the unit can re-start up.
Note: The above temp. point has taken fuzzy control, and has tolerance ±1℃ according to the different state.
13. Overload protection in heating mode
It is valid only in heating mode, if indoor mid-coil temp. is over about 65 degree continuously for 10 seconds, indoor will stop; while when indoor mid-coil temp. is below 52 degree, indoor will resume.
Note: The above temp. point has taken fuzzy control, and has tolerance ±1℃ according to the different state.
14. Timer operation
TIMER ON/TIMER OFF/TIMER ON/OFF. Timer will count according to the time difference between the TIMER clock and the present clock. In TIMER state, TIMER indicator will be ON.
15. SLEEP function
In cooling/dry mode, after running for 1 hour, the set temp. will increase 1℃, another 1 hour later, the set temp. will increase 1℃ again, then 6 hours later, it will stop.
In heating mode, after running for 1 hour, the set temp. will reduce 2℃, another 1 hour later, the set temp. will reduce 2℃ again, then 3 hours later, the set temp. will increase 1 ℃, and another 3 hours, it will stop.
16. Auto-restart function
In 5 seconds, press SLEEP button 10 times continuously, the buzzer will sound 4 times and enter auto-restart function. In 5 seconds, press SLEEP 10 times continuously, the buzzer will sound twice and quit auto-restart function. If no SLEEP button, press SWING as the same method.
17. Setting indoor unit number
In OFF state, press emergency switch until 15 seconds later, the buzzer sounds 4 times, indoor will enter the indoor unit number setting state, the set method is as follow:

Press ON/OFF button (from OFF mode to ON mode), the times of SLEEP button to be pressed is the set unit number, then press ON/OFF button to quit unit number setting state, at this time, indoor unit is at OFF state, the display panel will display this unit number. For example, press SLEEP button once, it is No. 1 unit; press twice, it is No. 2 unit, and so on. In OFF state, press emergency switch until 15 seconds later, the buzzer sounds 5 times, the display panel will display this unit number and you can check if there are repeated numbers.

18. Setting method of temperature compensation

Set the temperature compensation in heating mode with the remote controller. No compensation in cooling mode. In 24℃ heating mode, press SLEEP button 8 times continuously, indoor buzzer sounds 5 times, that shows temp. compensation works. Switch on the unit in heating mode by the remote controller, press TEMP button to set the set temp., so temperature compensation=the current set temp. - 24℃. For example, if the set temp. is 24℃, the temp. compensation is 0℃; if the set temp. is 25℃, the temp. compensation is 1℃. Please do not set the minus temp. compensation, that is to say the min. temp. compensation is 0℃.

If setting is finished, press ON/OFF button, then indoor buzzer will sound 4 times, that shows the unit quits the temp. compensation.

10. Diagnostic information and troubleshooting

Indoor failure code

TROUBLE SHOOTING	FAILURE CODE	POSSIBLE REASONS
Faulty temperature sensor **Tai**	1*	Sensor disconnected, or broken, or at wrong
Faulty temperature sensor **Tc1**	2*	Sensor disconnected, or broken, or at wrong position, or short circuit
Faulty temperature sensor **Tc2**	3*	Sensor disconnected, or broken, or at wrong
Faulty temperature sensor **Tm**	4*	Sensor disconnected, or broken, or at wrong position, or short circuit
Faulty EEPROM on indoor	5	Faulty indoor unit PCB
Abnormal communication between indoor and outdoor unit	6*	Wrong connection, or the wires be disconnected, or wrong address setting of indoor units, or faulty PCB, or faulty power supply
Indoor unit address repeated	9	Wrong setting of indoor unit address
Central control address repeated	10	Wrong setting of centralized control indoor unit
Faulty indoor unit fan motor	11	Fan is blocked, or the terminal is disconnected from the PCB, or faulty indoor unit PCB
Faulty driver of indoor unit	12	Faulty indoor unit PCB
Malfunction on outdoor unit	20	Check the outdoor unit

Note:

1. Please contact the installers or distributors when trouble happens.
2. Turn the power off and power on again, if the failure code recurs, please change the indoor unit PCB.
3. Failrue codes maked with* are resumable.

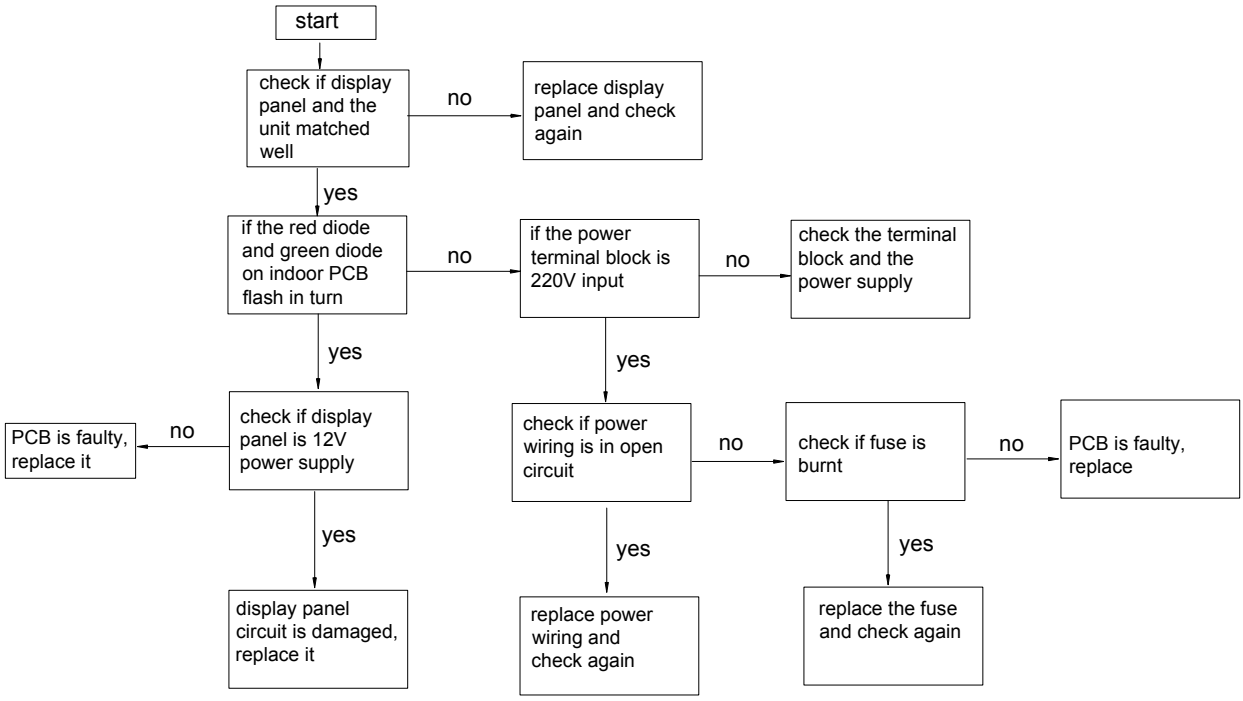
Outdoor trouble shooting

FAILURE CODE	STATE OF LED 5-4-3-2-1	TROUBLE SHOOTING	POSSIBLE REASONS
1	○○○○●	Faulty defrost sensor **Te**	Sensor disconnected, or broken, or short circuit
2	○○○●○	Faulty sensor **Tao**	Sensor disconnected, or broken, or short circuit
3	○○○●●	Faulty sensor **Ts**	Sensor disconnected, or broken, or short circuit
4	○○●○○	Faulty sensor **Td**	Sensor disconnected, or broken, or short circuit
5	○○●○●	Input overcurrent	Over current of the system, or broken of the current sensor,or malfunction with indoor or outdoor fan motors, or faulty PCB.
6	○○●●○	Abnormal communication between indoor and outdoor units	Wrong connection, or the wires be disconnected, or wrong address setting of indoor units, or faulty PCB, or faulty power supply
9	○●○○●	System high pressure protection	High pressure switch is disconnected, or high pressure switch worked, or Tc too high and faulty outdoor fan motor when cooling, or faulty indoor fan motors when heating, or refrigerant overabundance
10	○●○●○	System low pressure protection	Low pressure switch is disconnected, or low pressure switch worked, or Te too low and faulty outdoor fan motors when heating, or faulty indoor fan motor when cooling, or refrigerant shortage
11	○●○●●	IPM protection	IPM over current, or short circuit, or IPM temperature too high, or IPM input voltage too low,or faulty SPDU.
12	○●●○○	EEPROM fault	Faulty outdoor unit PCB
13	○●●○●	Over hot protection of compressor	Serious lack of refrigerant of the system, or the ambient temperature too high, or PMVs be blocked
15	○●●●●	DC fan motor fault	Fan is blocked, or the terminal is disconnected from the PCB
16	●○○○○	Faulty 4-way valve switching on	Coil of 4-way valve is disconnected, or faulty outdoor PCB
17	●○○○●	Faulty sensor **Tc**	Sensor disconnected, or broken, or short circuit
21	●○●○●	Faulty sensor **Toci**	Sensor disconnected, or broken, or short circuit
25	●●○○●	Abnormal communication between main PCB and SPDU	Communication cables broken, or not be well connected, or faulty main PCB, or faulty SPDU
26	●●○●○	Compressor locked rotor	Faulty compressor or SPDU
27	●●○●●	Compressor heavy vibration	Faulty compressor
28	●●●○○	Compressor lose position	Faulty SPDU
29	●●●○●	Faulty compressor start	Faulty compressor or SPDU
30	●●●●○	Faulty position checking circuit	Faulty SPDU
31	●●●●●	Compressor broken	Faulty compressor or SPDU

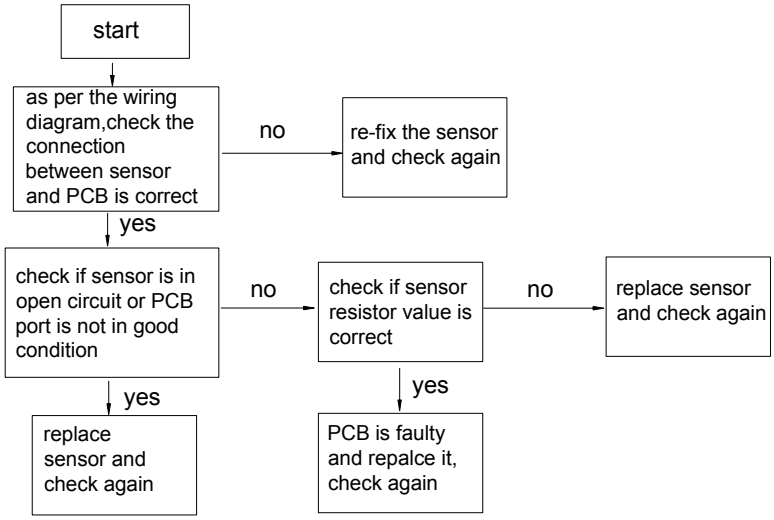
Take off the plastic valve cover, you can find the LEDs near to the communication terminal.
Symbol ● means the LED is ON. Symbol ○ means the LED is OFF.

Troubleshooting:

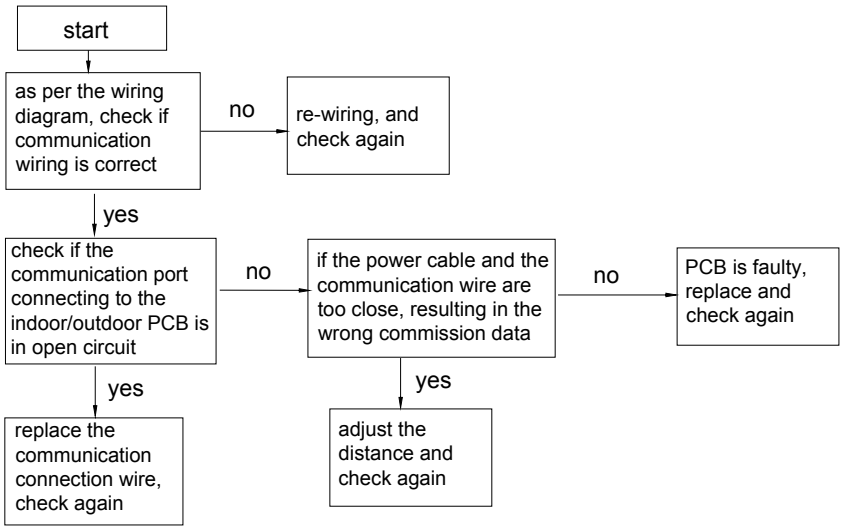
Trouble 1: No display on the operation panel



Trouble 2: Sensor failure



Trouble 3: Communication failure between indoor and outdoor



Trouble 4: Indoor PCB EEPROM data is wrong

1.If the failure occurs when being electrified for the first time, that shows EEPROM （8-bit pin) not fixed firmly or damaged.

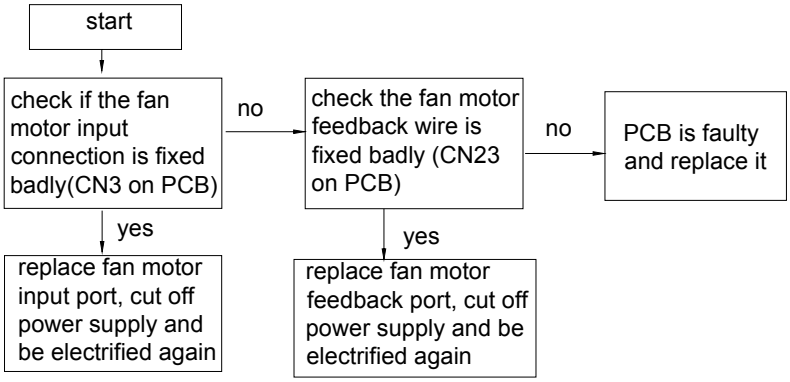
2.If the failure occurs when running, that shows EEPROM is faulty and need to be replaced.

Trouble 5: Indoor repeated unit number

1.Firstly query the unit number: switch off the unit, press SLEEP for about 15 seconds until the buzzer sounds 5 times, on the display panel there will be digit, which is indoor number. By this method,you can check if there is repeated unit number, if yes, please re-set the number as per the unit number setting procedure.

2.Re-set the unit number directly, the unit with outdoor pipe A is No. 1; the unit with outdoor pipe B is No. 2; the unit with pipe C is No.3

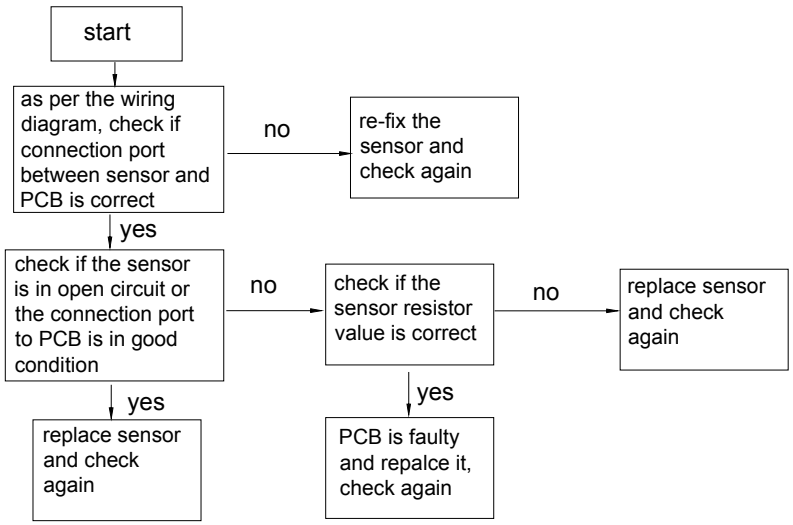
Trouble 6: Indoor fan motor failure, AC fan motor has not 50Hz zero-crossing detection



Trouble 7: Outdoor unit failure

Check the failure code on outdoor indicator board (5-lamp)

Trouble 8: Outdoor unit alarms sensor failure



Trouble 9: AC current over current protection or current transducer damaged, or compressor blocked rotor, compressor great vibration, compressor abnormal startup, state detecting curcuit abnormal or compressor damaged.

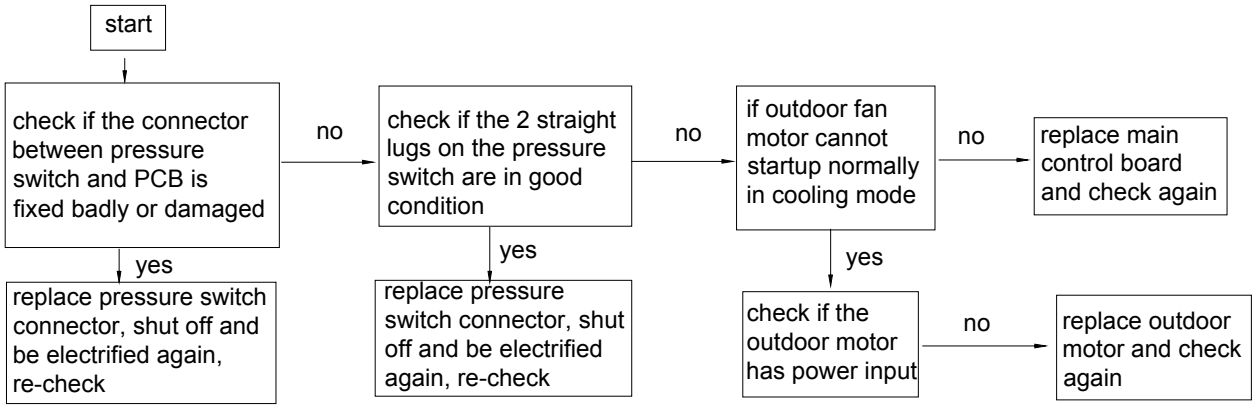
The former twice failure can be resumed automatically, if outdoor board occurs this failure always, and can not be resumed for a long time, that shows:

1. Power module (SPDU) damaged, please replace the power module, then re-wiring as per the wiring diagram (70% possibility)
2. Short circuit in power board results in the power module damaged (15％ possibility)
3. Damaged compressor results in this failure (10％ possibility)
4. Main control board is faulty, replace it (5％ possibility)

Trouble 10: High pressure failure

Reasons:

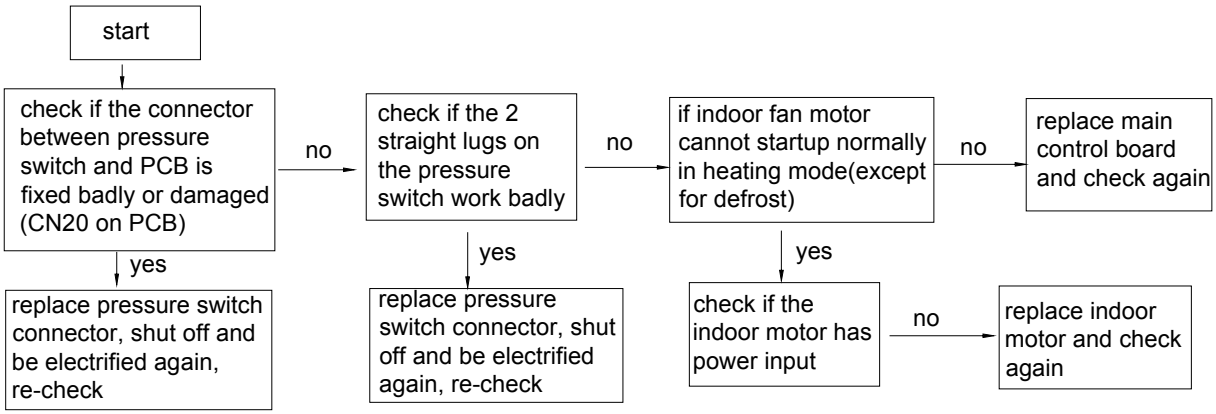
1. Over high system pressure results that the unit stop, and the compressor protection will work. The failure can be resumed.
2. Pressure switch wire is not fixed well or in open circuit.



Failure 11: Low pressure switch failure

Reason: 1. Too low system pressure causes that the unit stops and the compressor protection works, the failure can be resumed.

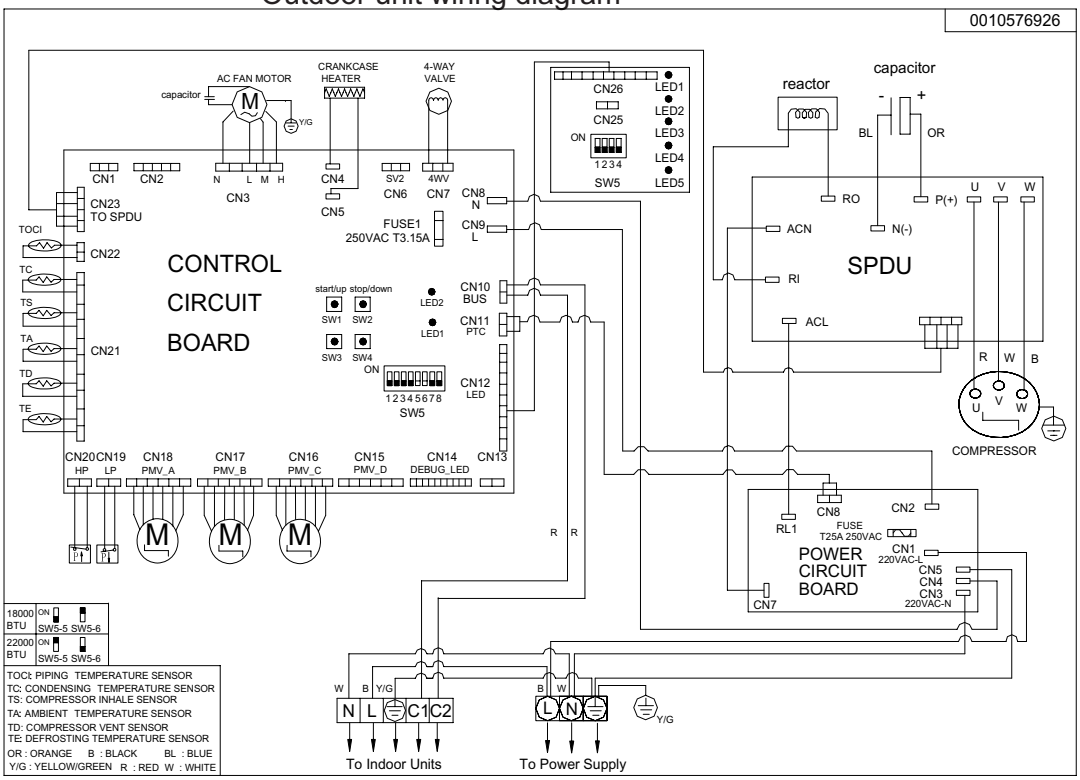
2. Pressure switch wire is not fixed well or in open circuit.



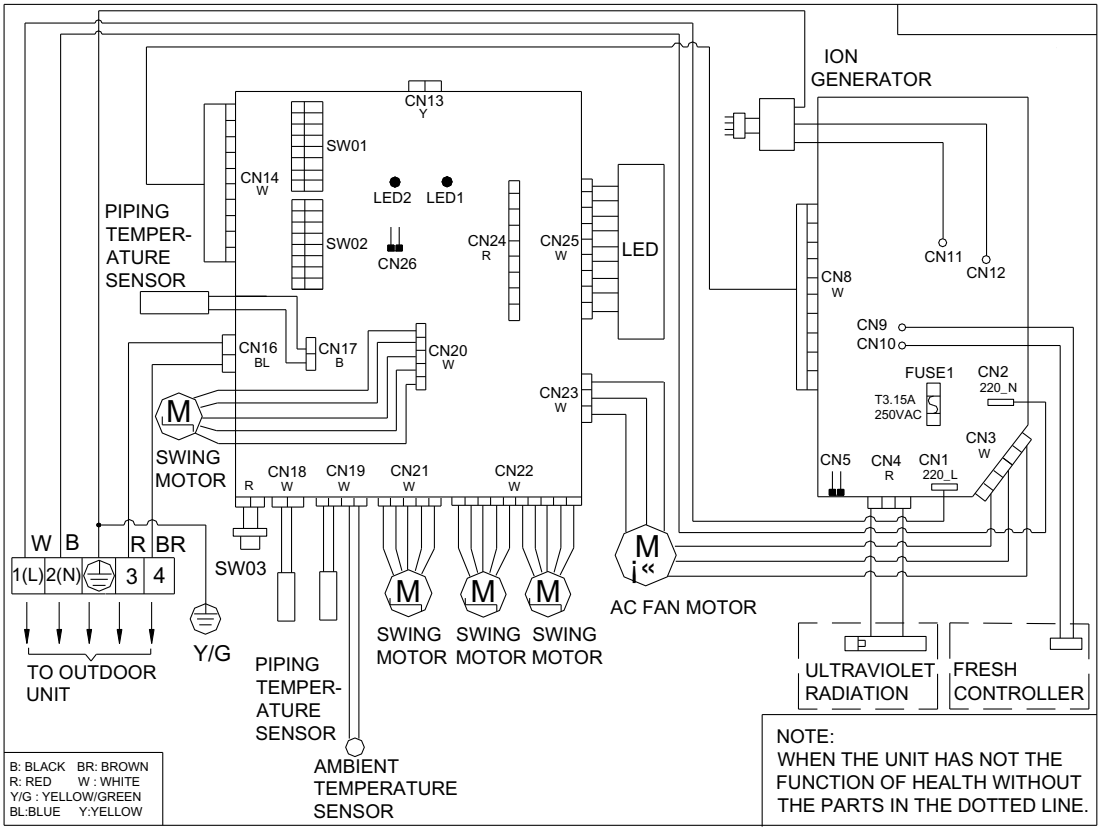
11. Electric data

11.1 Wiring diagram

Outdoor unit wiring diagram

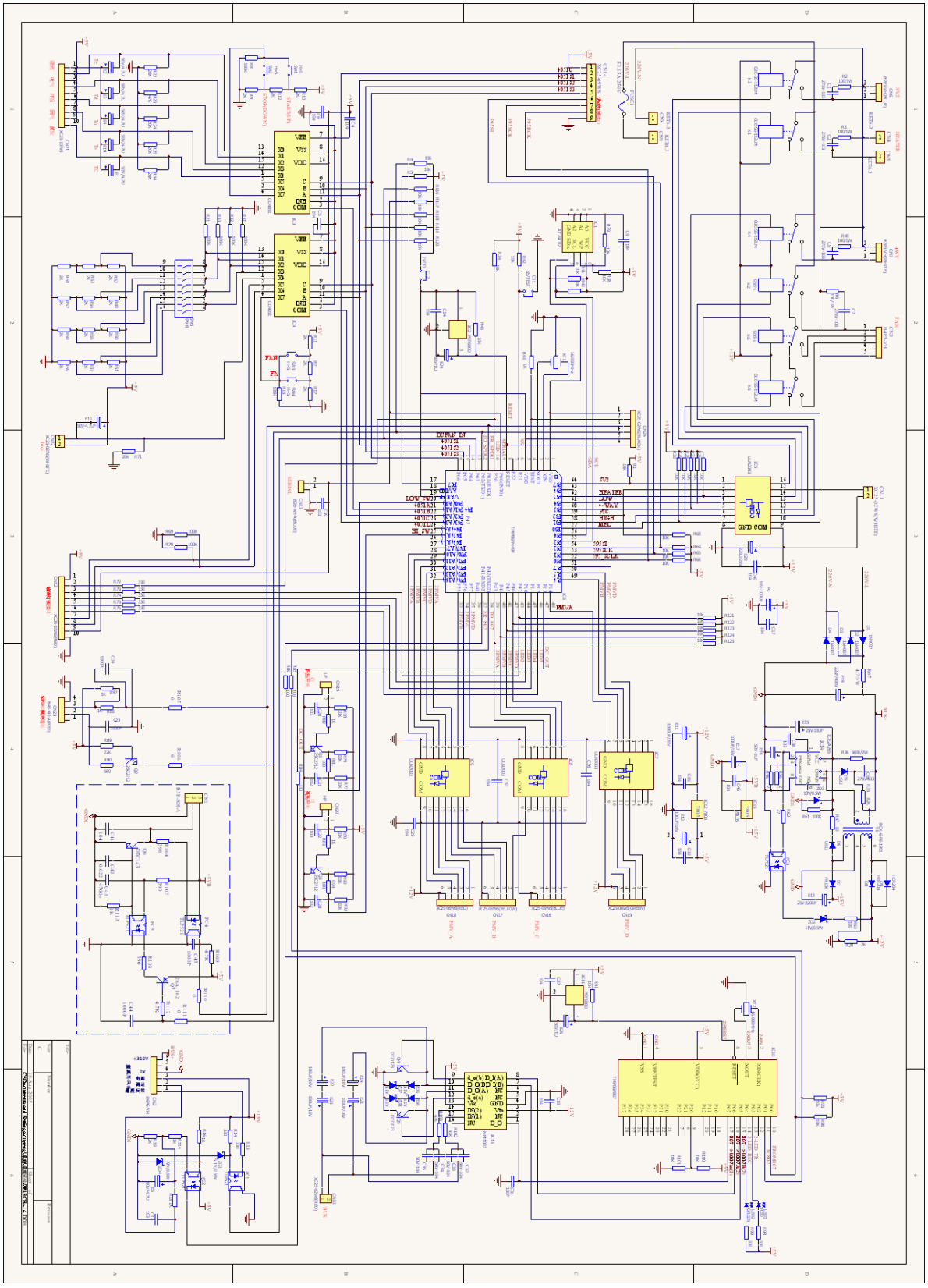


Wall mounted unit wiring diagram

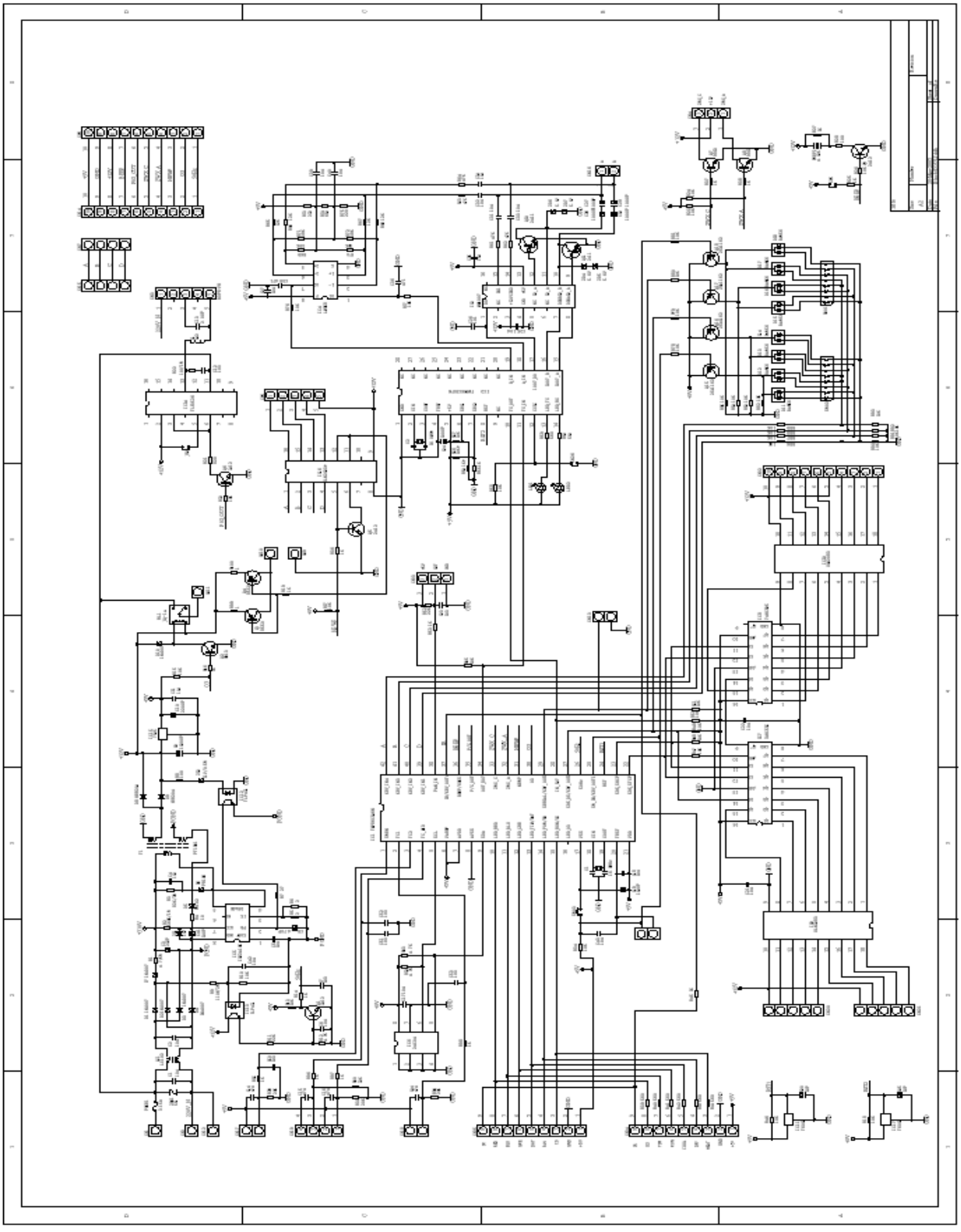


11.2 Circuit diagram

Outdoor circuit diagram:



Indoor circuit diagram:



11.3 Sensor part number and their resistor value

model	name	code	sub-part code	characteristic
AS072XVERA AS092XVERA AS122XVERA	suction temp. sensor	0010451513	001A3900059	1.R25=10KΩ±3% B25/50=3700K±3% 2.R25=23KΩ±2.5% B25/50=4200K±3%
	coil temp. sensor	001A3900059		1.R25=10KΩ±3% B25/50=3700K±3% 2.R25=23KΩ±2.5% B25/50=4200K±4%
	liquid pipe temp. sensor	001A3800103	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
AU182XFERA AU222XFERA	discharging temp. sensor			R80=50KΩ±3% B25/80=4450K±3%
	mid-condensor temperature sensor			R25=10KΩ±3% B25/50=3700K±3%
	outdoor ambient temp. sensor			R25=10KΩ±3% B25/50=3700K±3%

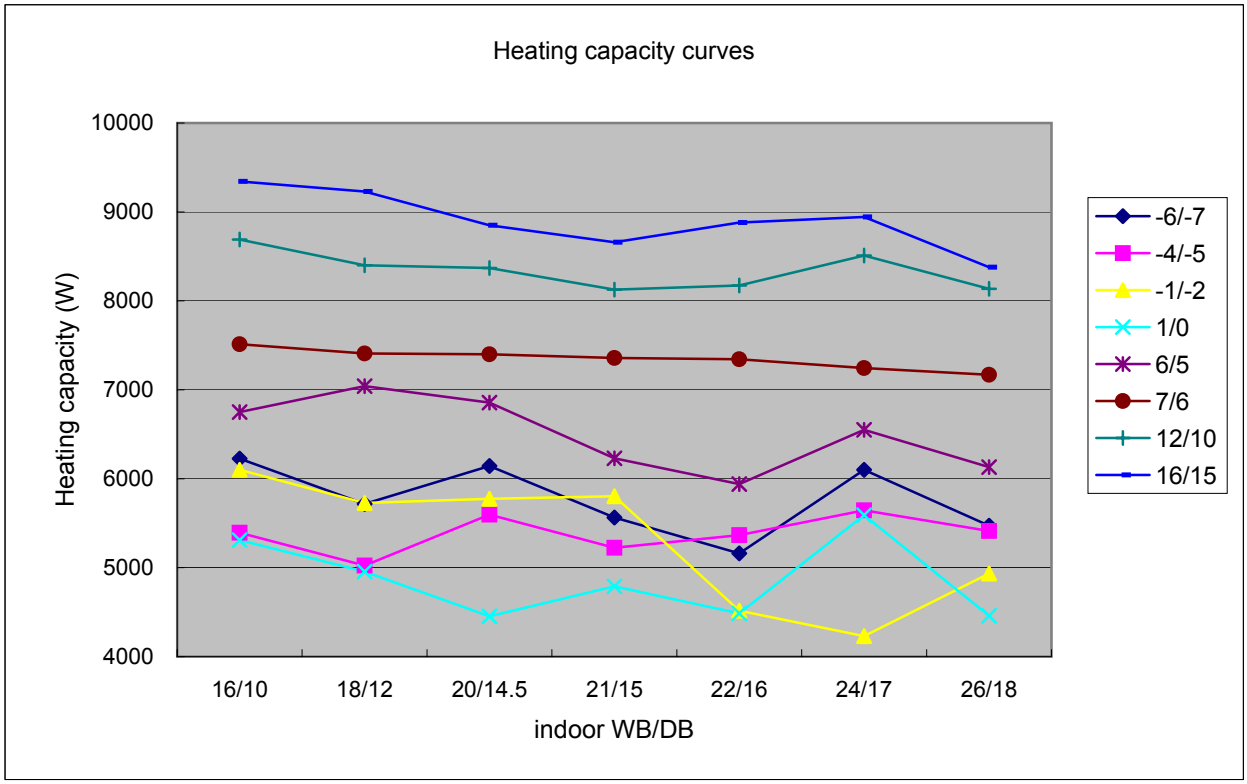
R80=50KΩ±3% B25/80=4450K±3%		R80=50KΩ±3% B25/80=4450K±3%	
T(℃)	Rnom(KΩ)	T(℃)	Rnom(KΩ)
-30	11600	24	536.6
-29	10860	25	511.1
-28	10170	26	486.9
-27	9529	27	464
-26	8932	28	442.3
-25	8375	29	421.7
-24	7856	30	402.1
-23	7372	31	383.6
-22	6920	32	366
-21	6498	33	349.3
-20	6104	34	333.5
-19	5736	35	318.4
-18	5392	36	304.1
-17	5071	37	290.5
-16	4770	38	277.6
-15	4488	39	265.3
-14	4225	40	253.6
-13	3978	41	242.5
-12	3747	42	232
-11	3531	43	221.9
-10	3328	44	212.3
-9	3138	45	203.2
-8	2960	46	194.5
-7	2793	47	186.3
-6	2636	48	178.4
-5	2489	49	170.9
-4	2351	50	163.7
-3	2221	51	155.9
-2	2099	52	150.4
-1	1984	53	144.2
0	1877	54	138.3
1	1775	55	132.7
2	1680	56	127.3
3	1590	57	122.1
4	1506	58	117.2
5	1426	59	112.5
6	1351	60	108
7	1280	61	103.8
8	1214	62	99.68
9	1151		
10	1092		
11	1036		
12	983.2		
13	933.4		
14	886.4		
15	841.9		
16	800		
17	760.8		
18	722.8		
19	687.3		
20	653.8		
21	622		
22	592		
23	553.6		

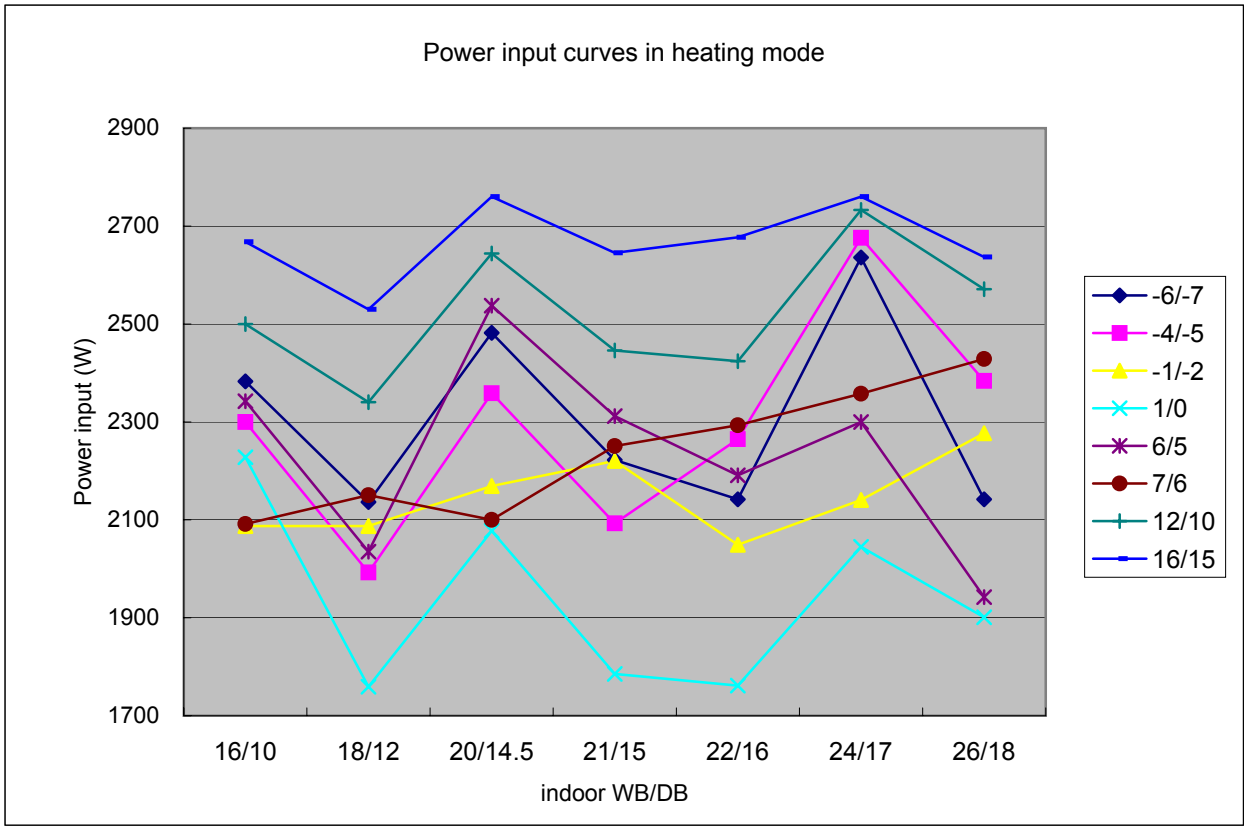
R25=10KΩ±3% B25/50=3700K±3%		R25=10KΩ±3% B25/50=3700K±3%	
T(℃)	Rnom(KΩ)	T(℃)	Rnom(KΩ)
-20℃	90.79	34	6.95
-19	85.72	35	6.68
-18	80.96	36	5.43
-17	76.51	37	5.6
-16	72.33	38	5.59
-15	68.41	39	5.73
-14	64.73	40	5.52
-13	61.27	41	5.32
-12	58.02	42	5.12
-11	54.97	43	4.93
-10	52.1	44	4.9
-9	49.4	45	4.58
-8	46.86	46	4.42
-7	44.46	47	4.26
-6	42.21	48	4.11
-5	40.08	49	3.97
-4	38.08	50	3.83
-3	36.19	51	3.7
-2	34.41	52	3.57
-1	32.73	53	3.45
0	31.14	54	3.33
1	29.64	55	3.22
2	28.22	56	3.11
3	26.4	57	3.11
4	25.61	58	2.9
5	24.41	59	2.81
6	23.27	60	2.72
7	22.2	61	2.63
8	21.18	62	2.54
9	20.21	63	2.49
10	19.3	64	2.38
11	18.43	65	2.3
12	17.61	66	2.23
13	16.83	67	2.16
14	16.09	68	2.09
15	15.38	69	2.03
16	14.71	70	1.96
17	14.08	71	1.9
18	13.48	72	1.85
19	12.9	73	1.79
20	12.36	74	1.73
21	11.84	75	1.68
22	11.34	76	1.63
23	10.87	77	1.58
24	10.43	78	1.54
25	10	79	1.49
26	9.59	80	1.45
27	9.21		
28	8.84		
29	8.48		
30	8.15		
31	7.83		
32	7.52		
33	7.23		

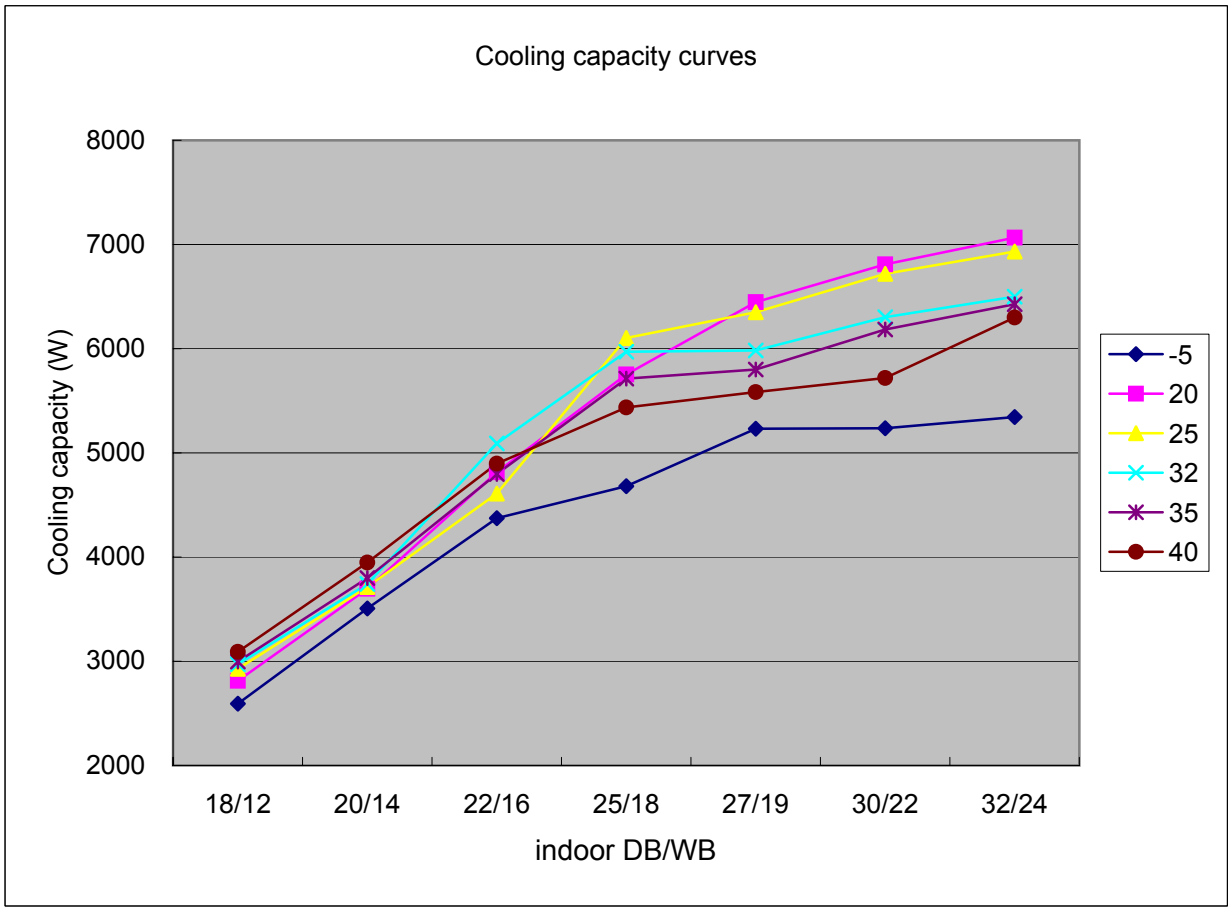
R25=23KΩ±2.5% B25/50=4200K±3%		R25=23KΩ±2.5% B25/50=4200K±3%	
T(℃)	Rnom(KΩ)	T(℃)	Rnom(KΩ)
-20℃	281.34	22℃	26.54
-19℃	263.56	23℃	25.3
-18℃	247.04	24℃	24.12
-17℃	231.66	25℃	23
-16℃	217.35	26℃	21.94
-15℃	204.02	27℃	20.94
-14℃	191.61	28℃	19.99
-13℃	180.04	29℃	19.09
-12℃	169.24	30℃	18.23
-11℃	159.17	31℃	17.42
-10℃	149.77	32℃	16.65
-9℃	140.99	33℃	15.92
-8℃	132.78	34℃	15.22
-7℃	125.11	35℃	14.56
-6℃	117.93	36℃	13.93
-5℃	111.22	37℃	13.34
-4℃	104.93	38℃	12.77
-3℃	99.04	39℃	12.23
-2℃	93.52	40℃	11.71
-1℃	88.35	41℃	11.22
0℃	83.5	42℃	10.76
1℃	78.94	43℃	10.31
2℃	74.67	44℃	9.89
3℃	70.65	45℃	9.49
4℃	66.88	46℃	9.1
5℃	63.33	47℃	8.74
6℃	60	48℃	8.39
7℃	56.86	49℃	8.05
8℃	53.91	50℃	7.73
9℃	51.13	51℃	7.43
10℃	48.51	52℃	7.14
11℃	46.04	53℃	6.86
12℃	43.72	54℃	6.6
13℃	41.52	55℃	6.34
14℃	39.45	56℃	6.1
15℃	37.5	57℃	5.87
16℃	35.66	58℃	5.65
17℃	33.92	59℃	5.44
18℃	32.27	60℃	5.24
19℃	30.72		
20℃	29.25		
21℃	27.86		

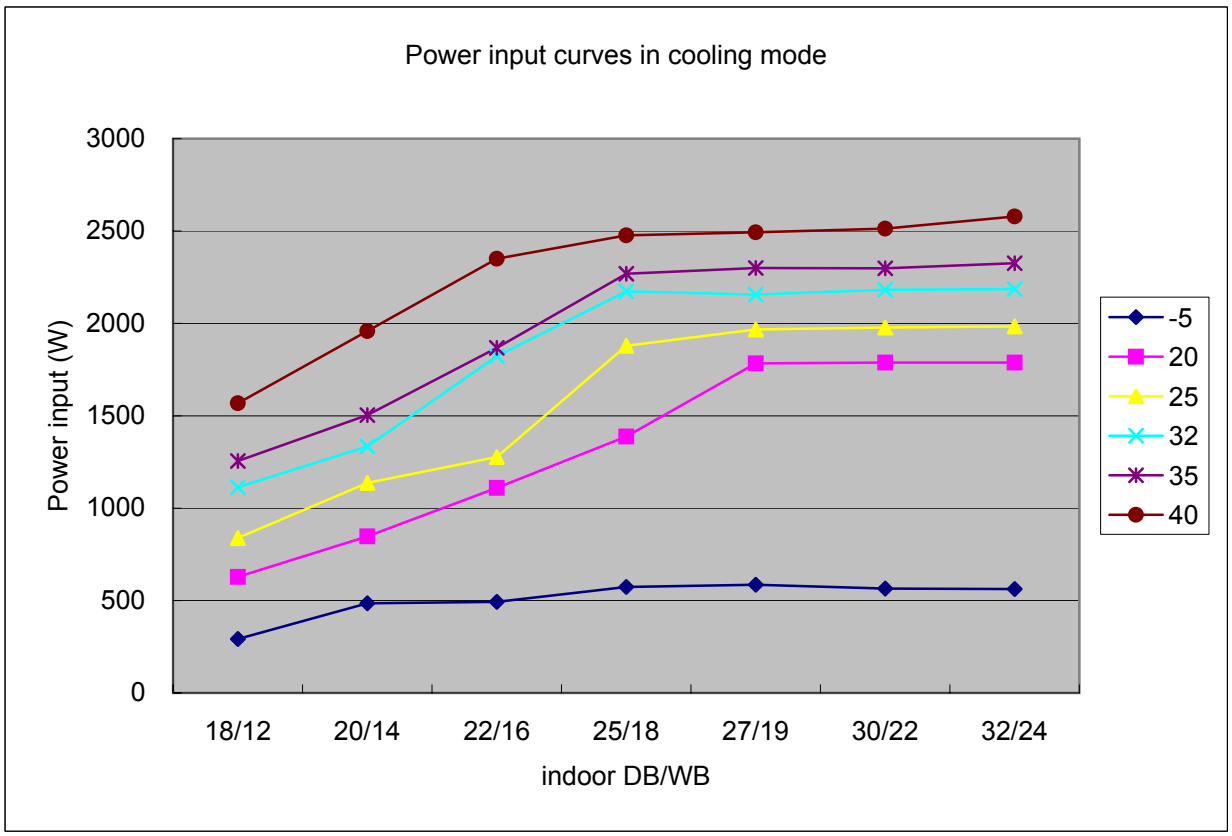
12. Performance curves

The data in the curves are measured with three indoor unit AS07+AS09+AS12 and AU182.





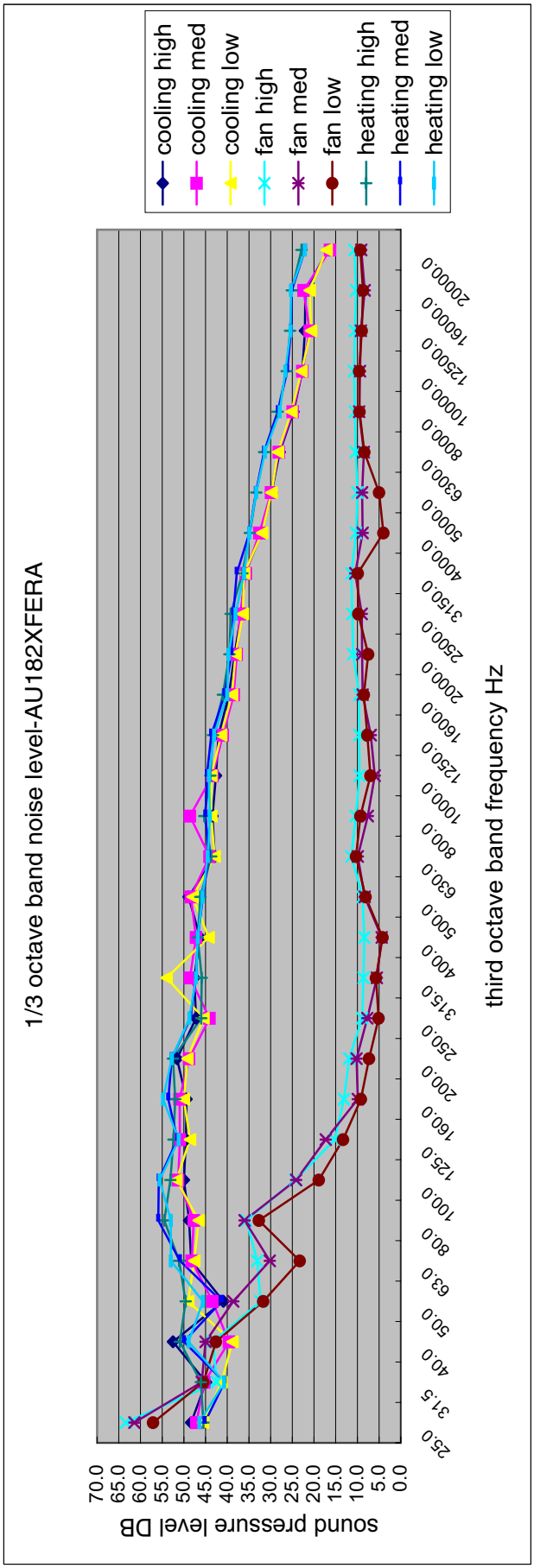

Cooling capacity curves
8000
7000
6000
5000
4000
3000
2000
Cooling capacity (W)
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor DB/WB
-5
20
25
32
35
40

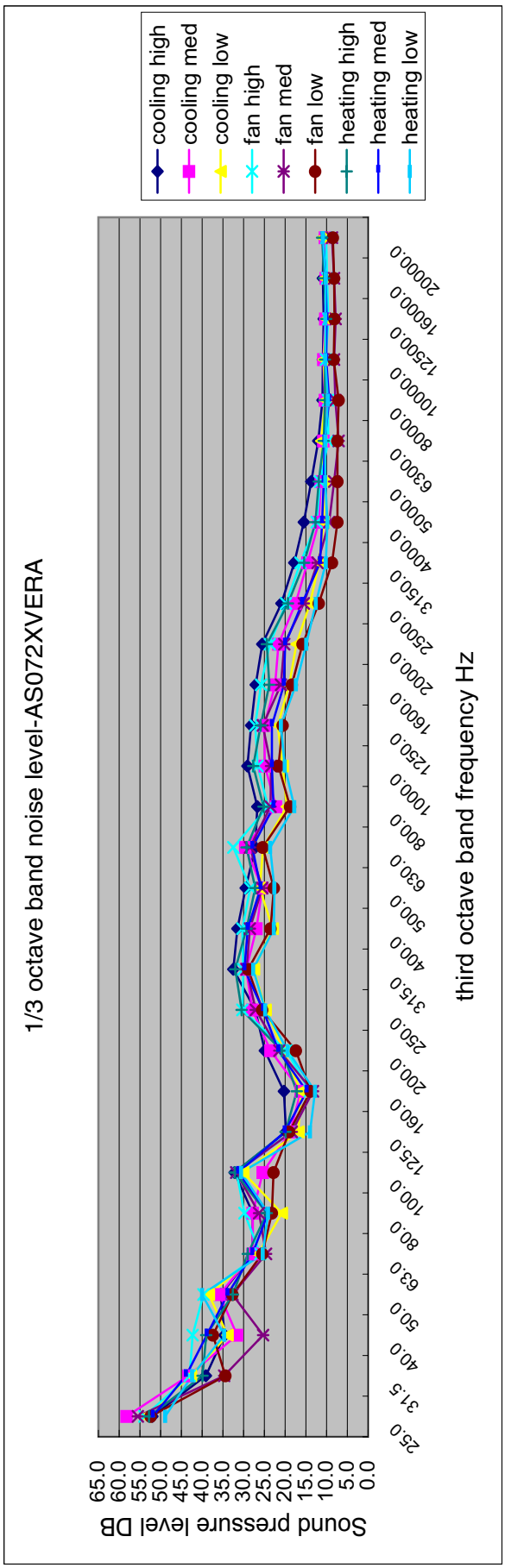

Power input curves in cooling mode
3000
2500
2000
1500
1000
500
0
Power input (W)
18/12
20/14
22/16
25/18
27/19
30/22
32/24
indoor DB/WB
-5
20
25
32
35
40

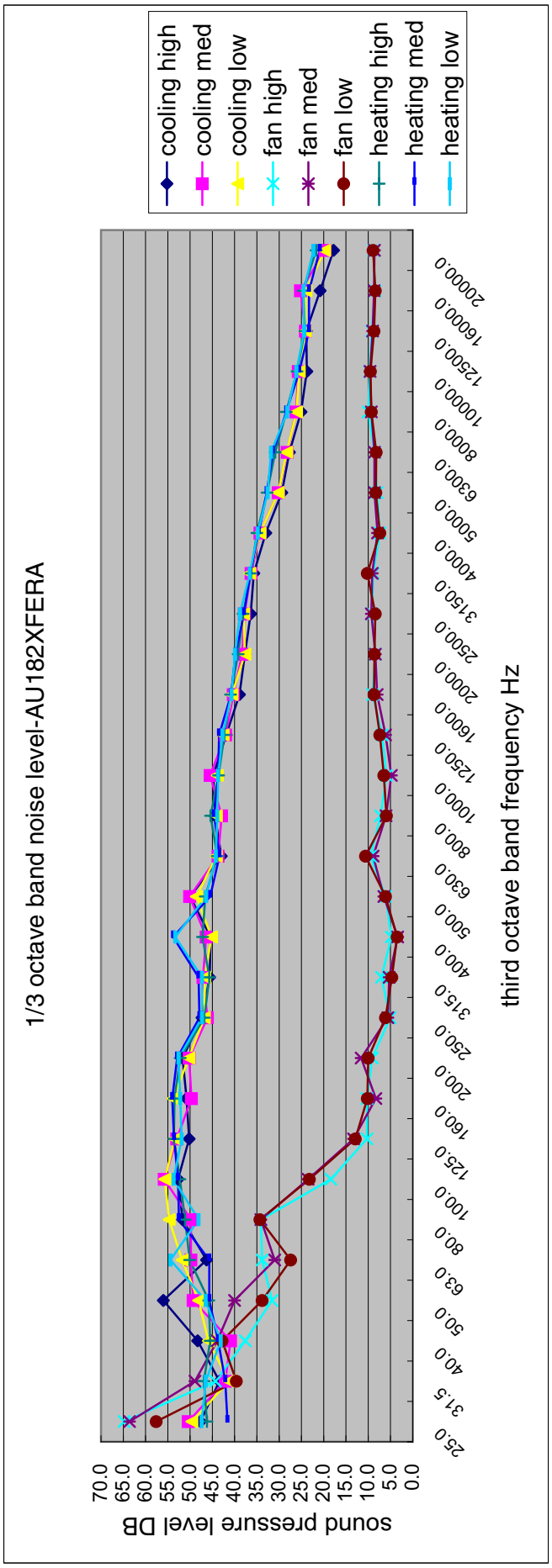
Outdoor unit	Comb.	Compatible indoor units	Application	Rated capacity Output/kW (Nom. cooling)				total cooling capacity(kW)			total power input (kW)			total current (A)@230V			EER (W/W)	ENERGY LABEL
				Unit A	Unit B	Unit C	Unit D	min. data	rated data	max. data	min. data	rated data	max. Data	min. data	rated data	max. Data	rated capacity	
AU182 XFERA	BI (1x2)	07+12	cooling and heating	2.0	3.2	—	—	1.00	5.20	5.80	0.47	1.75	2.30	2.15	7.80	10.20	2.97	C
		09+09	cooling and heating	2.5	2.5	—	—	1.00	5.00	5.40	0.47	1.75	2.30	2.15	7.80	10.20	2.86	C
		09+12	cooling and heating	2.3	2.9	—	—	1.00	5.20	5.80	0.47	1.75	2.30	2.15	7.80	10.20	2.97	C
		12+12	cooling and heating	2.6	2.6	—	—	1.00	5.20	5.80	0.47	1.75	2.30	2.15	7.80	10.20	2.97	C
	TRI (1x3)	07+07+07	cooling and heating	1.73	1.73	1.73	—	1.50	5.20	5.80	0.50	1.70	2.30	2.29	7.62	10.20	3.06	B
		07+07+09	mainly cooling	1.60	1.60	2.00	—	1.50	5.20	5.80	0.50	1.70	2.30	2.29	7.62	10.20	3.06	B
		07+07+12	mainly cooling	1.39	1.39	2.42	—	1.50	5.20	5.80	0.50	1.70	2.30	2.29	7.62	10.20	3.06	B
		07+09+09	mainly cooling	1.48	1.86	1.86	—	1.50	5.20	5.80	0.50	1.70	2.30	2.29	7.62	10.20	3.06	B
		07+09+12	mainly cooling	1.30	1.63	2.27	—	1.50	5.20	5.80	0.50	1.65	2.30	2.29	7.62	10.20	3.15	B
		09+09+09	mainly cooling	1.73	1.73	1.73	—	1.50	5.20	5.80	0.50	1.65	2.30	2.29	7.62	10.20	3.15	B
		09+09+12	mainly cooling	1.56	1.56	2.18	—	1.50	5.30	5.80	0.50	1.65	2.30	2.29	7.40	10.20	3.21	A
AU222 XFERA	BI (1x2)	07+14	cooling and heating	2.0	4.1	—	—	1.00	6.10	6.50	0.47	2.20	2.90	2.20	9.76	12.90	2.77	D
		09+12	cooling and heating	2.5	3.2	—	—	1.00	5.70	6.20	0.47	2.00	2.90	2.20	8.87	12.90	2.85	C
		09+14	cooling and heating	2.4	4.0	—	—	1.00	6.40	6.50	0.47	2.20	2.90	2.20	9.76	12.90	2.91	C
		12+12	cooling and heating	3.2	3.2	—	—	1.00	6.40	6.50	0.47	2.20	2.90	2.20	9.76	12.90	2.91	C
	TRI (1x3)	07+07+09	cooling and heating	2.0	2.0	2.4	—	1.50	6.40	6.50	0.50	2.15	2.90	2.30	9.54	12.90	2.98	C
		07+07+12	mainly cooling	1.78	1.78	2.84	—	1.50	6.40	6.50	0.50	2.15	2.90	2.30	9.54	12.90	2.98	C
		07+09+09	mainly cooling	1.70	2.35	2.35	—	1.50	6.40	6.50	0.50	2.15	2.90	2.30	9.54	12.90	2.98	C
		07+09+12	mainly cooling	1.66	2.07	2.66	—	1.50	6.40	6.50	0.50	2.15	2.90	2.30	9.54	12.90	2.98	C
		09+09+09	mainly cooling	2.13	2.13	2.13	—	1.50	6.40	6.50	0.50	2.15	2.90	2.30	9.54	12.90	2.98	C
		09+09+12	mainly cooling	1.95	1.95	2.50	—	1.50	6.40	6.50	0.50	2.15	2.90	2.30	9.54	12.90	2.98	C
		09+12+12	mainly cooling	1.80	2.3	2.3	—	1.50	6.40	6.50	0.50	2.05	2.90	2.30	9.32	12.90	3.12	B

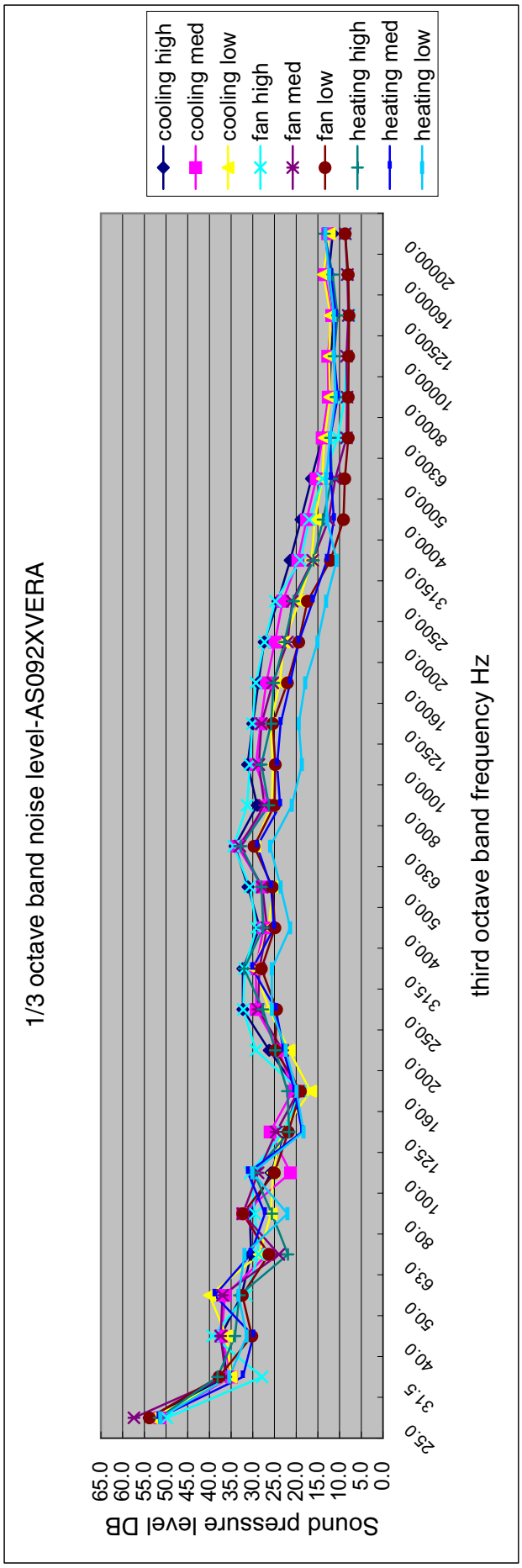
Outdoor unit	Comb.	Compatible indoor units	Application	Rated capacity Output/kW (Nom. heating)				total heating capacity(KW)			total power input (W)		total current (A)@230V			EER (W/W)	ENERGY LABEL
				Unit A	Unit B	Unit C	Unit D	min. data	rated data	max. data	min. data	rated data	max. Data	min. data	rated data	max. Data	rated capacity	
AU182 XFERA	BI (1x2)	07+12	cooling and heating	2.30	3.80	—	—	1.20	6.10	6.50	0.55	1.90	2.30	2.50	8.43	10.20	3.21	C
		09+09	cooling and heating	2.90	2.90	—	—	1.20	5.80	6.50	0.55	1.90	2.30	2.50	8.43	10.20	3.05	C
		09+12	cooling and heating	2.80	3.80	—	—	1.20	6.60	6.80	0.55	1.90	2.30	2.50	8.43	10.20	3.47	B
		12+12	cooling and heating	3.30	3.30	—	—	1.20	6.60	7.00	0.55	1.90	2.30	2.50	8.43	10.20	3.47	B
	TRI (1x3)	07+07+07	cooling and heating	2.20	2.20	2.20	—	1.50	6.60	7.00	0.55	1.85	2.30	2.50	8.21	10.20	3.57	B
		07+07+09	mainly cooling	2.05	2.05	2.55	—	1.50	6.65	7.00	0.55	1.85	2.30	2.50	8.21	10.20	3.59	B
		07+07+12	mainly cooling	1.85	1.85	2.95	—	1.50	6.65	7.00	0.55	1.85	2.30	2.50	8.21	10.20	3.59	B
		07+09+09	mainly cooling	1.85	2.40	2.40	—	1.50	6.65	7.00	0.55	1.85	2.30	2.50	8.21	10.20	3.59	B
		07+09+12	mainly cooling	1.70	2.15	2.80	—	1.50	6.65	7.00	0.55	1.85	2.30	2.50	8.21	10.20	3.59	B
		09+09+09	mainly cooling	2.20	2.20	2.20	—	1.50	6.60	7.00	0.55	1.85	2.30	2.50	8.21	10.20	3.57	B
		09+09+12	mainly cooling	2.05	2.05	2.55	—	1.50	6.65	7.00	0.55	1.80	2.30	2.50	7.99	10.20	3.69	A
AU222 XFERA	BI (1x2)	07+14	cooling and heating	2.30	4.60	—	—	1.20	6.90	7.20	0.55	2.20	2.90	2.50	9.76	12.90	3.14	C
		09+12	cooling and heating	2.90	3.80	—	—	1.20	6.70	7.20	0.55	2.20	2.90	2.50	9.76	12.90	3.05	C
		09+14	cooling and heating	2.75	4.45	—	—	1.20	7.20	7.20	0.55	2.20	2.90	2.50	9.76	12.90	3.27	C
		12+12	cooling and heating	3.60	3.60	—	—	1.20	7.20	7.20	0.55	2.20	2.90	2.50	9.76	12.90	3.27	C
	TRI (1x3)	07+07+09	cooling and heating	2.20	2.20	2.80	—	1.50	7.20	7.40	0.55	2.15	2.90	2.50	9.54	12.90	3.35	C
		07+07+12	mainly cooling	2.00	2.00	3.20	—	1.50	7.20	7.40	0.55	2.15	2.90	2.50	9.54	12.90	3.35	C
		07+09+09	mainly cooling	2.10	2.55	2.55	—	1.50	7.20	7.40	0.55	2.10	2.90	2.50	9.32	12.90	3.43	B
		07+09+12	mainly cooling	1.85	2.30	3.05	—	1.50	7.20	7.40	0.55	2.10	2.90	2.50	9.32	12.90	3.43	B
		09+09+09	mainly cooling	2.40	2.40	2.40	—	1.50	7.20	7.40	0.55	2.10	2.90	2.50	9.32	12.90	3.43	B
		09+09+12	mainly cooling	2.18	2.18	2.84	—	1.50	7.20	7.40	0.55	2.05	2.90	2.50	9.09	12.90	3.51	B
		09+12+12	mainly cooling	2.00	2.60	2.60	—	1.50	7.20	7.40	0.55	2.05	2.90	2.50	9.09	12.90	3.51	B

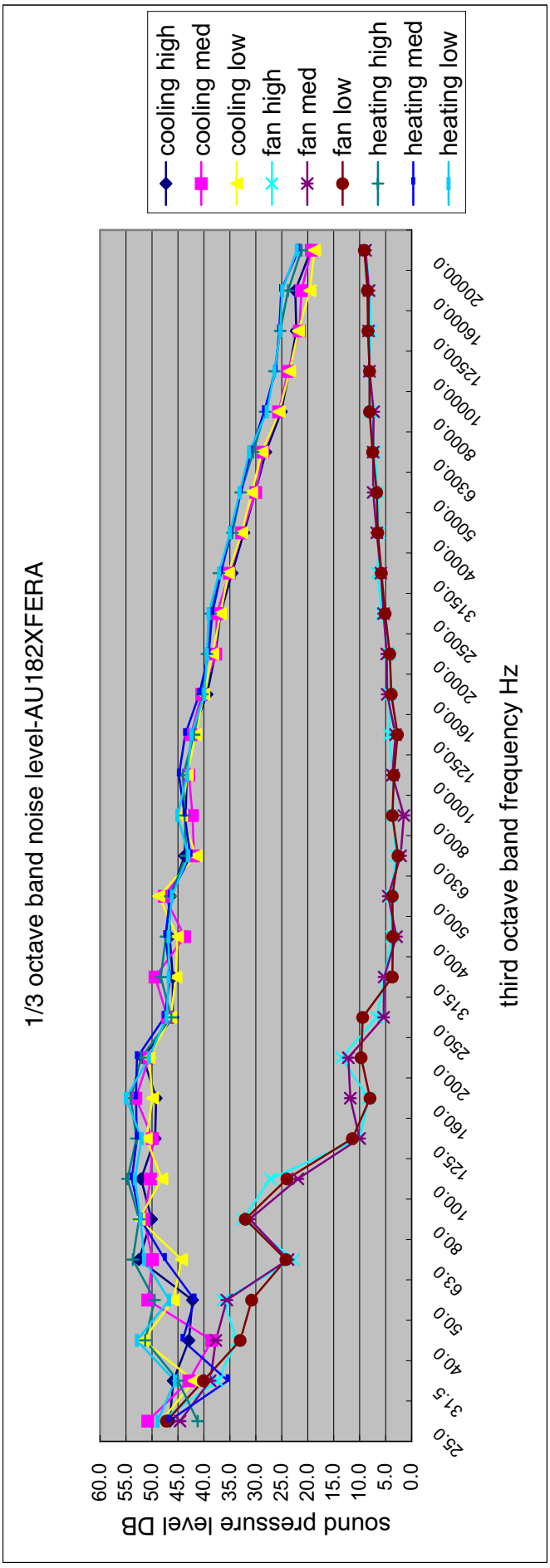
13. Noise level

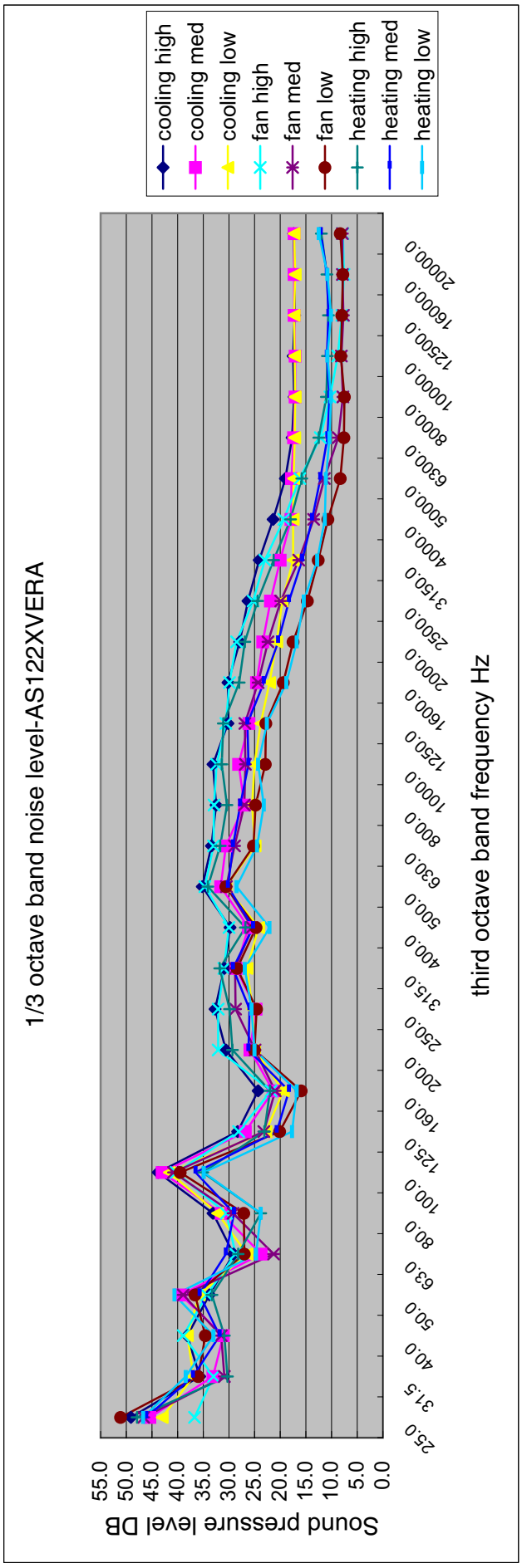





1/3 octave band noise level-AU182XFERA
cooling high
cooling med
cooling low
fan high
fan med
fan low
heating high
heating med
heating low
sound pressure level DB
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
25.0
31.5
40.0
50.0
63.0
80.0
100.0
125.0
160.0
200.0
250.0
315.0
400.0
500.0
630.0
800.0
1000.0
1250.0
1600.0
2000.0
2500.0
3150.0
4000.0
5000.0
6300.0
8000.0
10000.0
12500.0
16000.0
20000.0
third octave band frequency Hz


1/3 octave band noise level-AS092XVERA
cooling high
cooling med
cooling low
fan high
fan med
fan low
heating high
heating med
heating low
Sound pressure level DB
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
25.0
31.5
40.0
50.0
63.0
80.0
100.0
125.0
160.0
200.0
250.0
315.0
400.0
500.0
630.0
800.0
1000.0
1250.0
1600.0
2000.0
2500.0
3150.0
4000.0
5000.0
6300.0
8000.0
10000.0
12500.0
16000.0
20000.0
third octave band frequency Hz


1/3 octave band noise level-AU182XFERA
cooling high
cooling med
cooling low
fan high
fan med
fan low
heating high
heating med
heating low
sound pressure level DB
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
25.0
31.5
40.0
50.0
63.0
80.0
100.0
125.0
160.0
200.0
250.0
315.0
400.0
500.0
630.0
800.0
1000.0
1250.0
1600.0
2000.0
2500.0
3150.0
4000.0
5000.0
6300.0
8000.0
10000.0
12500.0
16000.0
20000.0
third octave band frequency Hz


1/3 octave band noise level-AS122XVERA
cooling high
cooling med
cooling low
fan high
fan med
fan low
heating high
heating med
heating low
Sound pressure level DB
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
25.0
31.5
40.0
50.0
63.0
80.0
100.0
125.0
160.0
200.0
250.0
315.0
400.0
500.0
630.0
800.0
1000.0
1250.0
1600.0
2000.0
2500.0
3150.0
4000.0
5000.0
6300.0
8000.0
10000.0
12500.0
16000.0
20000.0
third octave band frequency Hz

14. Air velocity and distribution

Fig 1
top view
flow control panel horizal
lourer:center

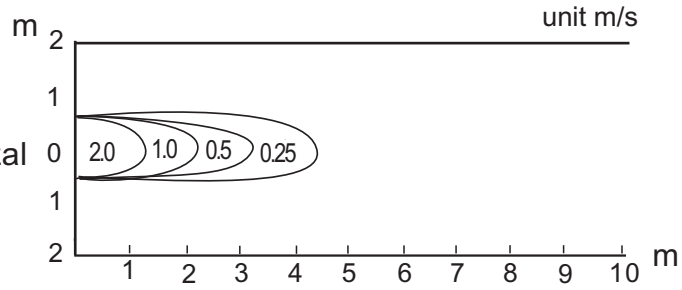


Fig 2
top view
flow control panel horizontal
lourer:right and left

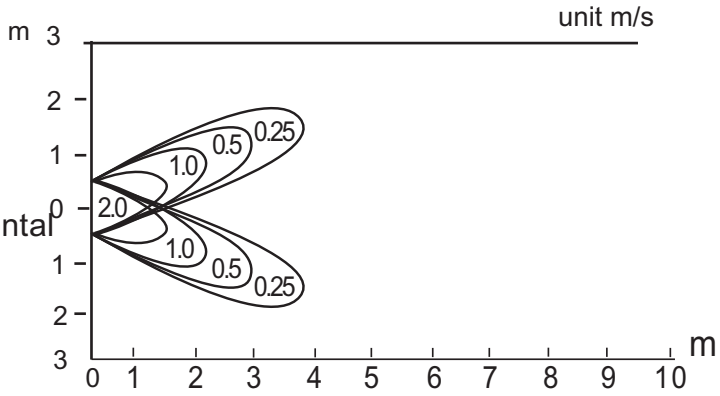


Fig 3
top view
flow control panel horizontal
lourer:center

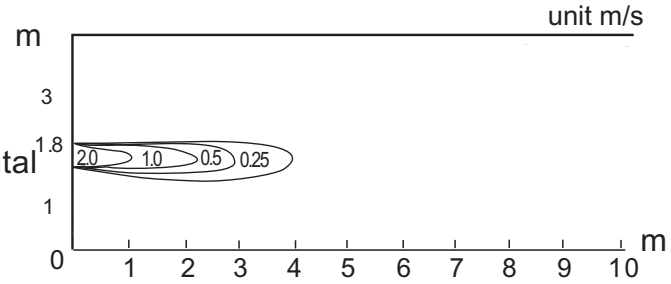
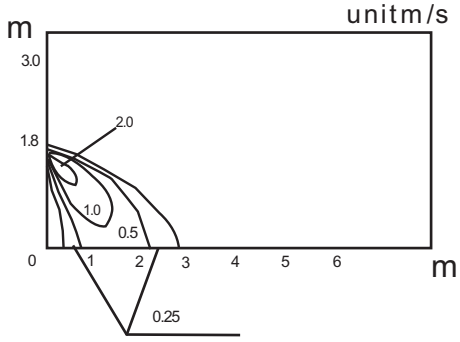


Fig 4
top view
flow control panel vertical
lourer:center



Condition
Fan speed:high
Operation mode:fan
Voltage:230V,50Hz

Sincere Forever

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266101, Qingdao, China

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