



Commercial Air Conditioner

Service Manual



Model:
AU55NFIAIA

Features:

- Single AC inverter compressor unit
- Central control by one central controller
- Auto-restart
- Max. 8 indoor units can be connected
- Refrigerant: R22
- Super long piping length and large drop
between indoor unit and outdoor unit
- Individual operation for every indoor unit, energy saving
- Negative ion generator(optional)

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1. Description of product & features

1. Nomenclature

A	U	55	N	F	I	A	I	A
1	2	34	5	6	7	8	9	10

1: Product type symbol (A stands for air conditioner)

2: Product model (U stands for air conditioner outdoor unit)

34: Product specification (55 stands for nominal cooling capacity is 55000 BTU)

5: Applicable voltage (N stands for 380-400 V/50 Hz)


6: Product series (F stands for free combination)

7: Appearance character (I stands for 5 HP outdoor unit)

8: Product type (A stands for heat pump type, refrigerant is R22)

9: Design serial number

10: Climate type (A stands for T1 climate)

Appearance	Model	Refrigerant	Nominal capacity(BTU/h)		Indoor units capacity connected(BTU/h)		Max. indoor units
			cooling	heating	Min.	Max.	
	AU55N FIAIA	R22	55000	60000	28000	71000	8

Note:

1. The designed capacity when installing(total capacity of indoor units connected to outdoor unit) < 130% of rated capacity of the outdoor unit.
2. Total working capacity of indoor units ≤100% of rated capacity of the outdoor unit.
3. All the indoor units of the H-MRV series can be matched freely under the 130% of the its cooling capacity(55000Btu/h), but when the matching capacity of indoor units exceeds 100% of the outdoor unit, the efficiency will reduce.

Types of indoor units

type	appearance	model	refrigerant	capacity(BTU/h)	
				cooling	heating
Four way cassette		AB092FCAHA	R22	9000	12000
		AB142FCAHA	R22	14000	17000
		AB182FCAHA	R22	18000	21000
Convertible		AC182FCAHA	R22	18000	21000
Ceiling concealed		AE072FCAKA	R22	7000	9000
		AE242FCAKA	R22	24000	28000
		AE092FCAKA	R22	9000	11000
		AE122FCAKA	R22	12000	14000
		AE142FCAKA	R22	14000	16000
		AE182FCAKA	R22	18000	21000
		AE212FCAKA	R22	21000	24000
Cabinet		AP182FAAHA	R22	18000	21000
Wall-mounted		AS062FMAHA	R22	6000	8000
		AS072FMAHA	R22	7000	9000
		AS092FMAHA	R22	10000	13000
		AS122FMAHA	R22	12000	14000
		AS182FTAHA	R22	18000	21000

4. Character of Products

- 1) The length of horizontal refrigerant pipe can reach 70m, the total pipe length can reach 100m, the height difference between indoors unit and outdoor unit can reach 30m, the height difference between indoor units can reach 10m.
- 2) 1000m super far distance communication between indoor and outdoor units, convenient control and easy to enlarge the scale of units assembly.
- 3) Indoor unit can be controlled separately.
- 4) Equipped with computer-checking interface, conveniently for service work.
- 5) Far distance sending of refrigerant, and distribute refrigerant intelligently and reasonably according to the needs of each room, high efficient and energy saving.
- 6) Display of automatic test of trouble.
- 7) Healthy negative ion generation function can refresh the air and excite the oxygen, it is optional.
- 8) **The ceiling concealed models move the indoor electronic expansion valve out to MP3 (electronic expansion valve box), completely avoid the flow sound of EEV, extremely lower noise, and realize super-silence running in deed.**
- 9) **The ceiling concealed models (except AE07\AE24) all have return air box, it will be set back return air when out of factory. When installation, bottom plate 2 can be removed and installed on the back, consequently, return air mode has been transferred to down return air.**
- 10) **In order to remain the best running state of indoor unit, control the refrigerant flow by MP3 (MP2), so as to realize energy saving for every unit and the most comfortable operation.**
- 11) The units except for convertible model are all wired controller and remote controller models. If you want a wired control unit or a remote control unit, please inform us ahead of schedule.
The unit with remote controller is matched with receive display.
The unit with wired controller equipped with wired controller, can make remote operation on wired controller with remote controller such as YR-H39, but the remote controller is additionally purchased.

Specifications

Item				model	AU55NFIAIA	
Function					Cooling	Heating
Nominal capacity				BTU/h	55000	60000
Total power input				W	6600	5000
Max. power input				W	8000	8000
Dehumidifying capacity				10 - ³ ×m ³ /h	/	
Power source				N,V,Hz	3N 380-400V 50HZ	
Running current(max. running current)				A / A	cooling:11.2/13.5 heating:9/13.5	
Outdoor unit	Unit model (color)				WHITE	
	Compressor	Model / Manufacturer			AHV60FCHT/MITSUBISHI	
		Type			Scroll	
	Fan	Type × Number			Axial-flow X 2	
		Speed	H/M/L	r/min	920/840/560	
		Fan motor output power		kW		
		Air-flow(H-M-L)		m ³ /h	8000	
	Heat exchanger	Type / Diameter		mm	/	
		Total area		m ²	/	
		Temp. scope		℃	/	
	Dimension	External	(L×W×H)	mm×mm×mm	948×340× 1250	
		Package	(L×W×H)	mm×mm×mm	1090×410X1355	
	Drainage pipe (material , I.D./O.D.)			mm	/	
	Refrigerant control method			mm/mm	capillary +electronic expansion	
	Defrosting				Auto	
	Volume of Accumulator			L	/	
	Noise level			≤dB(A)	58/-/-	
	Type of 4 way valve				/	
	material of reduce noise				Rubber bracket	
	crankcase heater power			W	/	
	Weight (Net / Shipping)			kg / kg	125/135	
PIPING	Refrigerant	Type / Charge		g	R22 / 4700	
		Recharge quantity		g/m	/	
	Pipe	Liquid		mm	9.52	
		Gas		mm	19.05	
	Connecting Method				flared	
	Between I.D & O.D	MAX.Drop		m	30	
		MAX.Piping length		m	100	

3 SAFETY PRECAUTIONS

- Please read these "Safety Precautions" first then accurately execute the installation work.
- Though the precautionary points indicated herein are divided under two headings, **△WARNING** and **△CAUTION** those points which are related to the strong possibility of an installation done in error resulting in death or serious injury are listed in the **△WARNING** section. However, there is also a possibility of serious consequences in relationship to the points listed in the **△CAUTION** section as well. In either case, important safety related information is indicated, so by all means, properly observe all that is mentioned.
- After completing the installation, along with confirming that no abnormalities were seen from the operation tests, please explain operating methods as well as maintenance methods to the user (customer) of this equipment, based on the owner's manual.

Moreover, ask the customer to keep this sheet together with the owner's manual.

△ WARNING

- This system should be applied to places of office, restaurant, residence and the like. Application to inferior environment such as engineering shop could cause equipment malfunction.
- Please entrust installation to either the company which sold you the equipment or to a professional contractor. Defects from improper installations can be the cause of water leakage, electric shocks and fires.
- Execute the installation accurately, based on following the installation manual. Again, improper installations can result in water leakage, electric shocks and fires.
- When a large air-conditioning system is installed to a small room, it is necessary to have a prior planned countermeasure for the rare case of a refrigerant leakage, to prevent the exceeding of threshold concentration. In regards to preparing this countermeasure, consult with the company from which you purchased the equipment, and make the installation accordingly. In the rare event that a refrigerant leakage and exceeding of threshold concentration does occur, there is the danger of a resultant oxygen deficiency accident.
- For installation, confirm that the installation site can sufficiently support heavy weight. When strength is insufficient, injury can result from a falling of the unit.
- Execute the prescribed installation construction to prepare for earthquakes and the strong winds of typhoons and hurricanes, etc. Improper installations can result in accidents due to a violent falling over of the unit.
- For electrical work, please see that a licensed electrician executes the work while following the safety standards related to electrical equipment, and local regulations as well as the installation instructions, and that only exclusive use circuits are used.
Insufficient power source circuit capacity and defective installment execution can be the cause of electric shocks and fires.
- Accurately connect wiring using the proper cable, and insure that the external force of the cable is not conducted to the terminal connection part, through properly securing it. Improper connection or securing can result in heat generation or fire.
- Take care that wiring does not rise upward, and accurately install the lid/service panel. Its improper installation can also result in heat generation or fire.

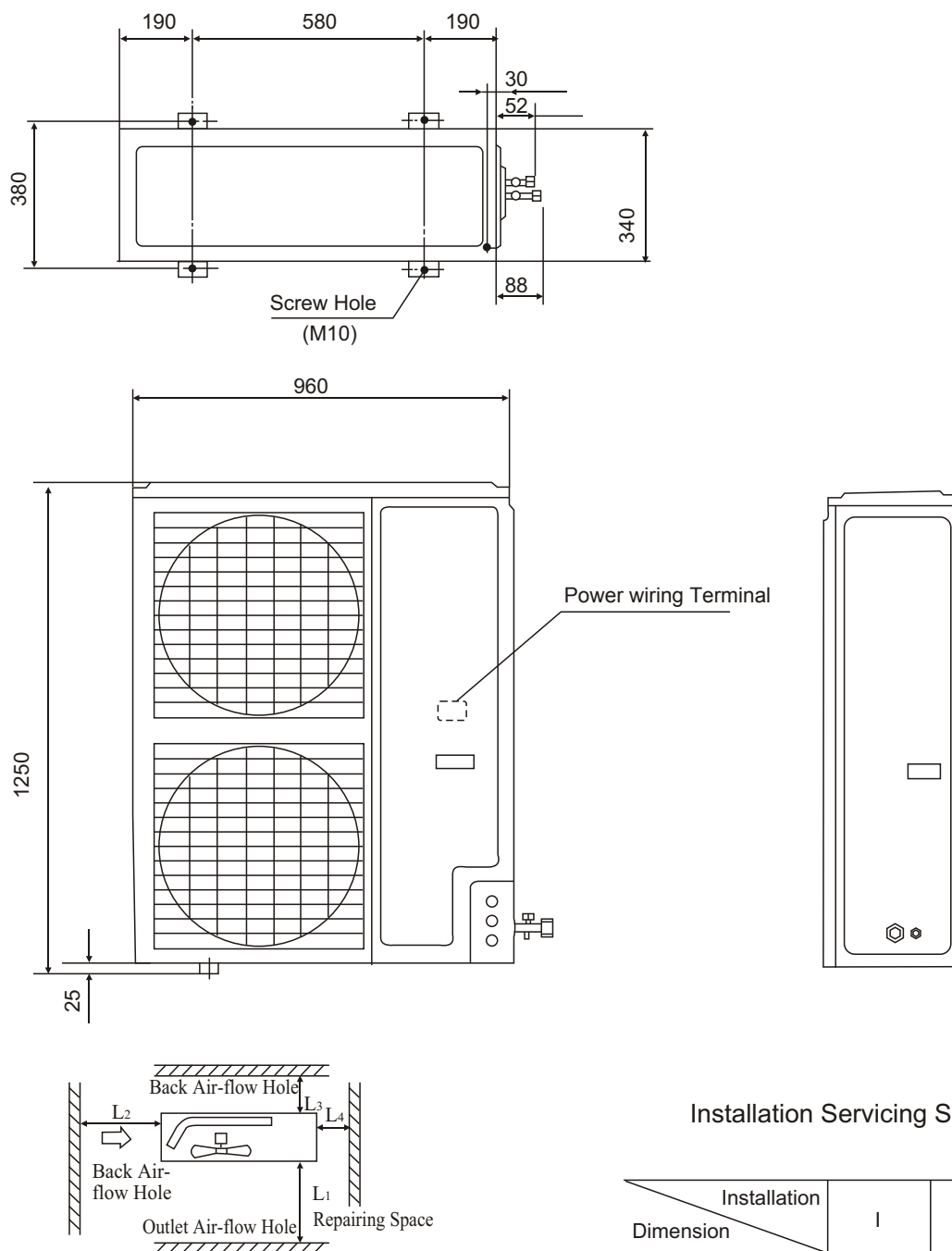
SAFETY PRECAUTIONS**△ WARNING**

- When setting up or moving the location of the air conditioner, do not mix air etc. or anything other than the designated refrigerant (please see nameplate) within the refrigeration cycle.
- Rupture and injury caused by abnormal high pressure can result from such mixing.
Always use accessory parts and authorized parts for installation construction. Using parts not authorized by this company can result in water leakage, electric shock, fire and refrigerant leakage.
- The position of indoor unit must be above the floor 2.5m.

△ CAUTION

- Execute proper grounding. Do not connect the ground wire to a gas pipe, water pipe, lightening rod or a telephone ground wire.
Improper placement of ground wires can result in electric shock.
- The installation of an earth leakage breaker is necessary depending on the established location of the unit. Not installing an earth leakage breaker may result in electric shock.
- Do not install the unit where there is a concern about leakage of combustible gas.
The rare event of leaked gas collecting around the unit could result in an outbreak of fire.
- For the drain pipe, follow the installation manual to insure that it allows proper drainage and thermally insulate it to prevent condensation. Inadequate plumbing can result in water leakage and water damage to interior items.

4.Net dimensions of outdoor unit



- Note :
- (1). Fix the parts with screws
 - (2).Don't intake the strong wind directly to the outlet air-flow hole.
 - (3).A one meter distance should be kept from the unit top
 - (4).Don't block the surroundings of the unit with sundries

Installation Servicing Space(at Least)

Unit:mm

Installation Dimension	I	II	III
L ₁	Leave space	Leave space	500
L ₂	300	0	Leave space
L ₃	100	150	100
L ₄	0	0	0

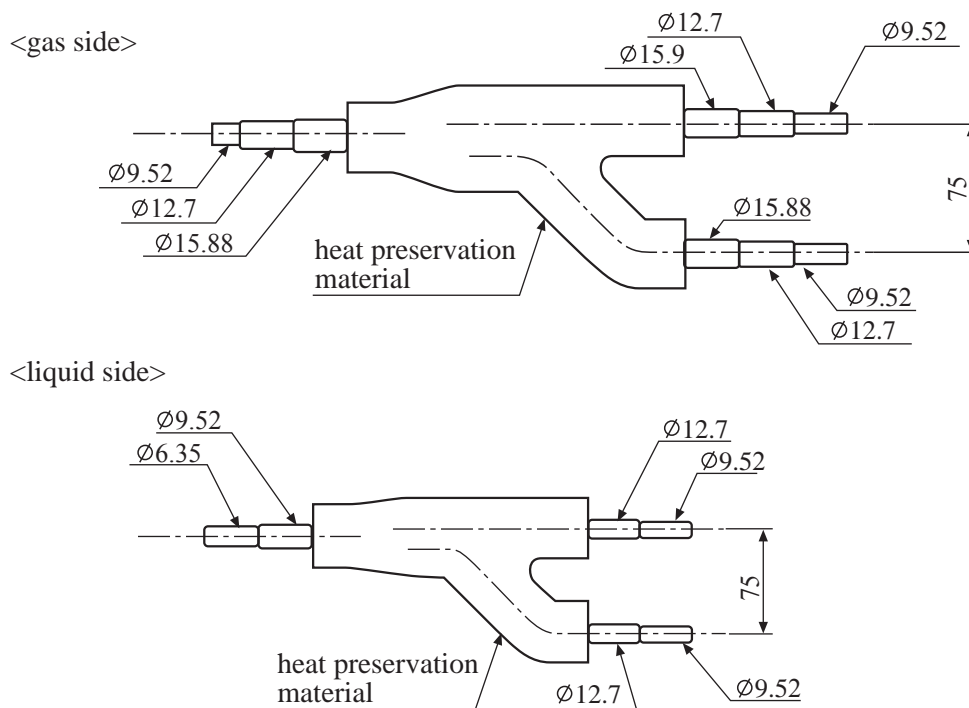
5 INSTALLATION STRUCTION

5.1 Piping dimensions charts

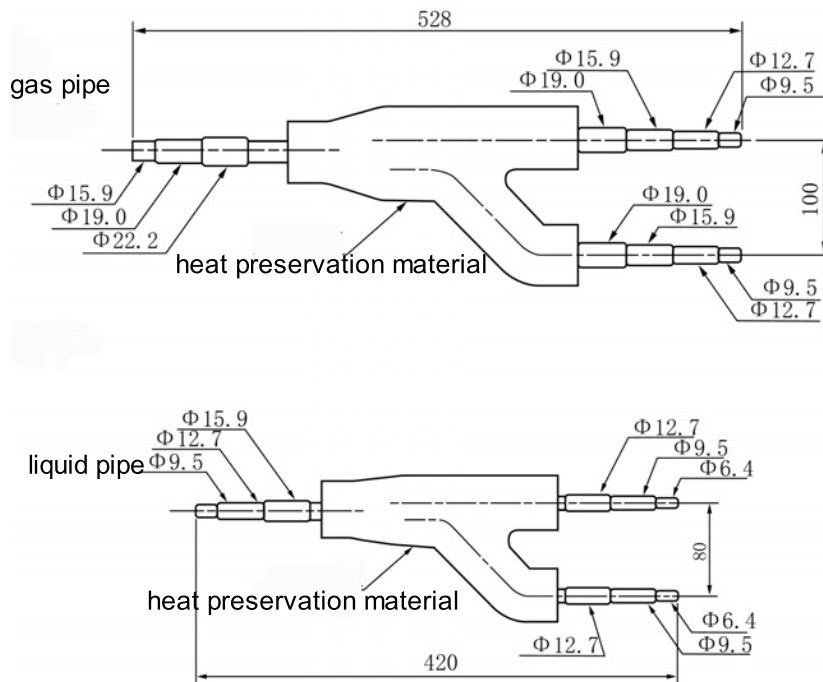
model	liquid pipe		gas pipe	
	mm	inch	mm	inch
AU55	9.52	3/8"	19.05	3/4"
AB09	6.35	1/4"	12.7	1/2"
AB14	6.35	1/4"	12.7	1/2"
AB18	9.52	3/8"	15.88	5/8"
AC18	9.52	3/8"	15.88	5/8"
AE07	6.35	1/4"	9.52	3/8"
AE09	6.35	1/4"	9.52	3/8"
AE12	6.35	1/4"	12.7	1/2"
AE14	6.35	1/4"	12.7	1/2"
AE18	9.52	3/8"	15.88	5/8"
AE21	9.52	3/8"	15.88	5/8"
AE24	9.52	3/8"	15.88	5/8"
AP18	9.52	3/8"	15.88	5/8"
AS06	6.35	1/4"	9.52	3/8"
AS07	6.35	1/4"	9.52	3/8"
AS09	6.35	1/4"	12.7	1/2"
AS12	6.35	1/4"	12.7	1/2"
AS18	9.52	3/8"	15.88	5/8"

5.2 Y-shape manifold pipe

model: FQG-B120



Dimension is the out diameter connecting to the tubing.



Refrigerant pipes between manifold pipes

Total refrigerating amount of indoor unit group after the manifold pipe	Gas side	Liquid side
Less than 38220Btu/h	15.9	9.52
38220~61157Btu/h	19.05	9.52
61157~126137Btu/h	25.4	12.7

Note: 1. Y-shape manifold pipe can be placed in horizontal or vertical direction

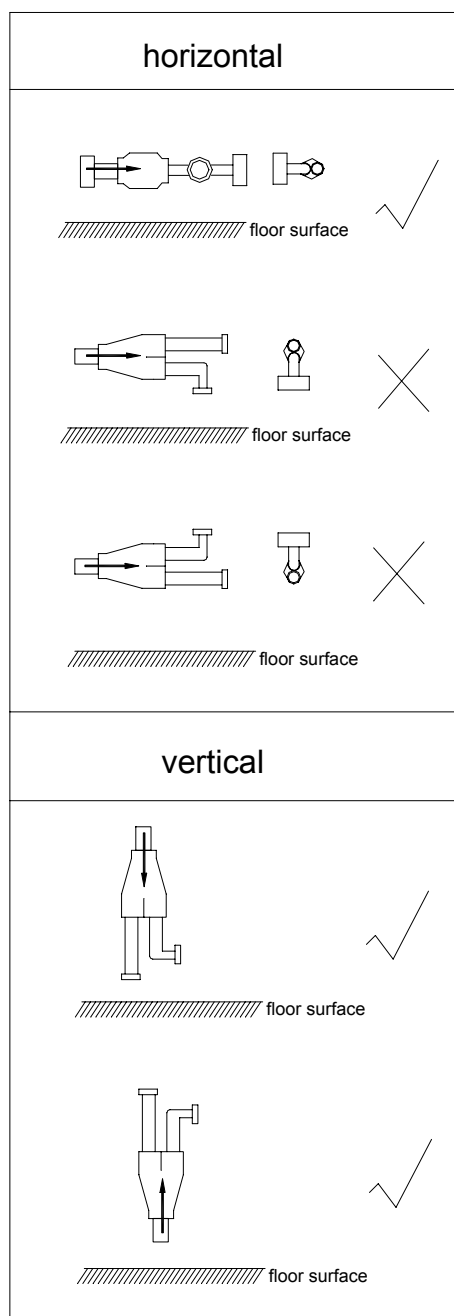
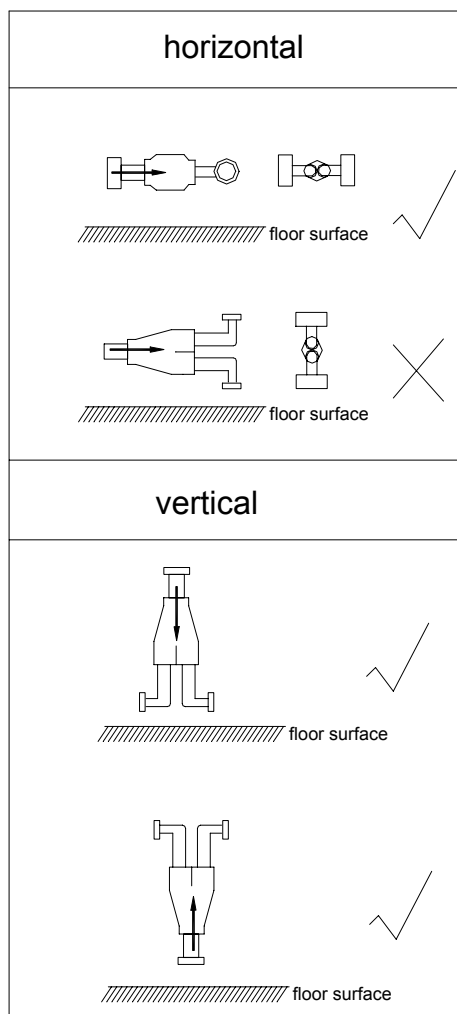
2. The manifold pipes must be welded with hard-solder

3. Pay attention to cut off the unnecessary part from its middle parts of each joint, and to remove burr.

In the file, the figure marked with "✓" is permitted, and the figure marked with "✗" is prohibited.

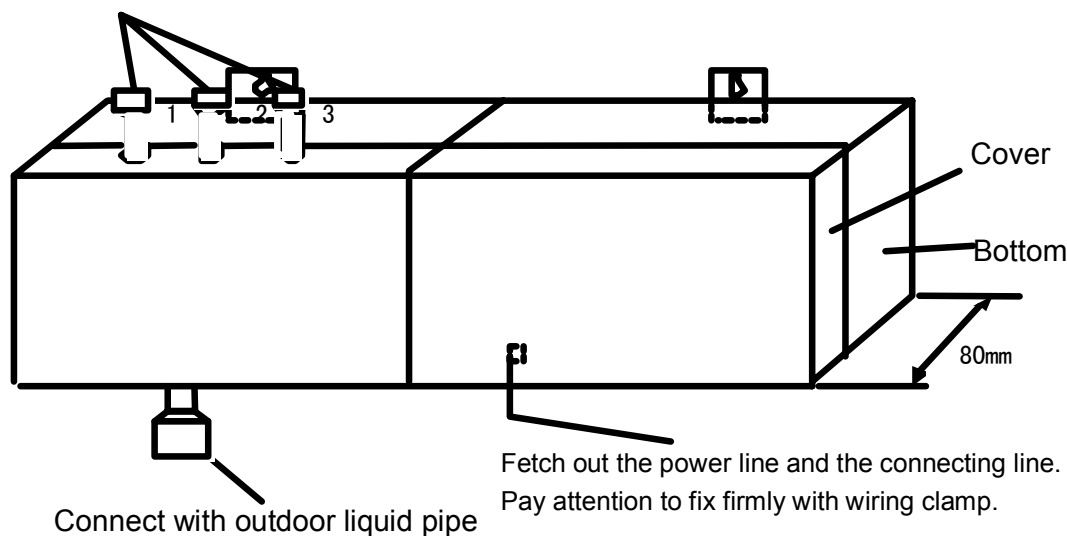
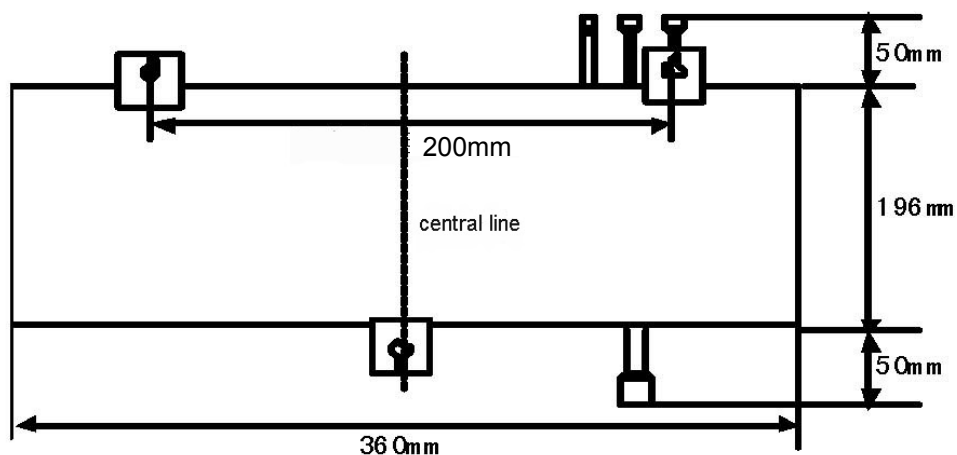
You can confirm the position according to the actual condition.

The refrigerant flow direction is always from the collective side to the divided side.



MP3、MP2 Electronic Expansion Valve Box figure:

Connect with indoor liquid pipe

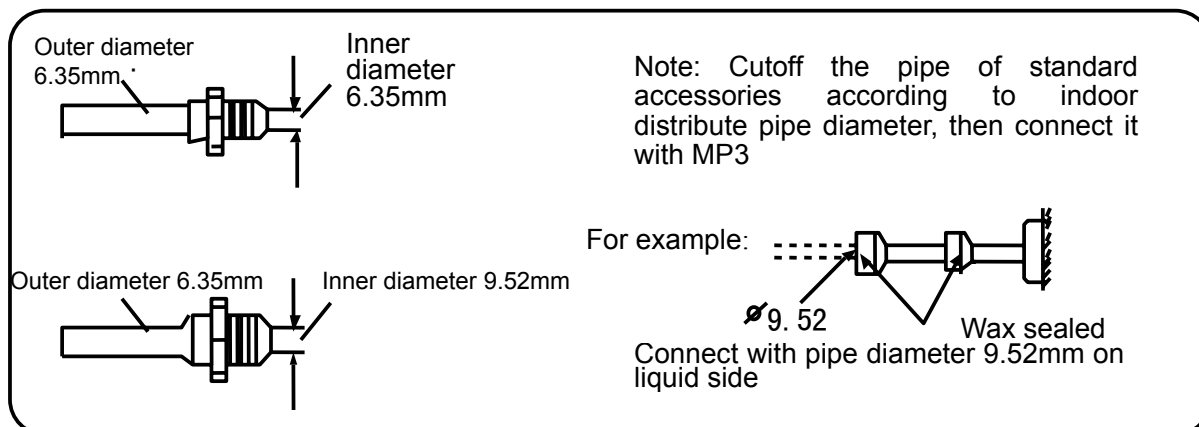
**MP3、MP2 installation dimension:****MP3 (MP2) installation procedure:****1、Installation of MP3 (MP2) can be used for CEILING CONCEALED MODEL****A、Piping connection**

- a、When connecting with indoor unit, refrigerant pipe and the connection wire must be corresponding with the code (A、B、C...) on the device.

NOTE: When using two or more than two MP3 devices (need two or more than two MP3 devices on connecting more than three indoor units), MUST mark definitely Room code of connected indoor unit on the MP3 label, so as to air conditioner maintain conveniently.

- b、When connecting indoor unit, firstly please weld MP3 with the corresponding contribution pipe in the accessories table, then connect MP3 with corresponding indoor connection pipe.

- c、MP3 can only be connected with liquid pipe of the unit, the gas pipe connection is the same as the old ceiling concealed model.



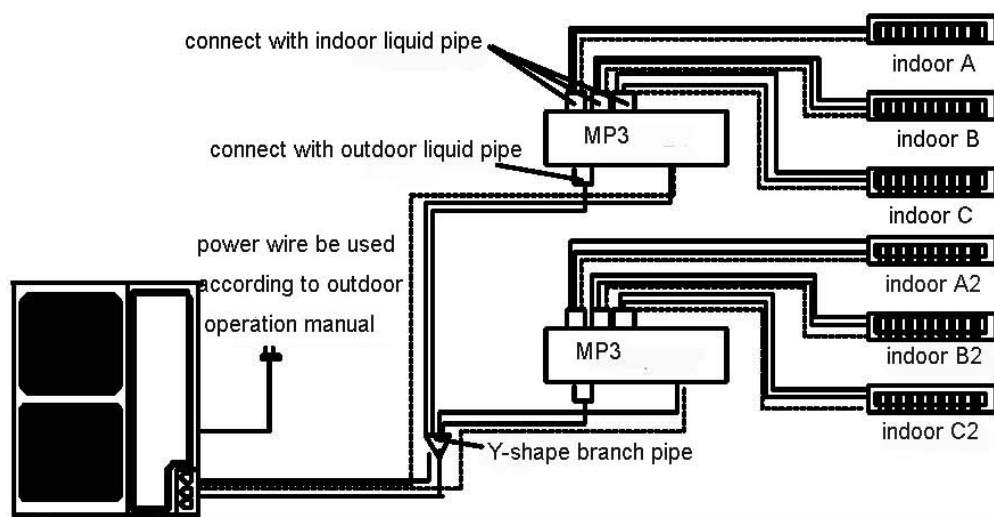
B、MP3(MP2) device installation position

- MP3(MP2) device should be counted on the vertical wall, maintenance cover panel must be to the outer, and open a maintenance door over 600mm out of the panel.
- Indoor distribution pipe must be fetched out from up of MP3 to any direction.
- Lean must be in the range of $\pm 5^\circ$.

C、Wiring connection:

- Power wiring、communication wiring of the same indoor unit must correspond with its connection pipe、electronic expansion valve (refer to the wiring diagram on the indoor electric box cover and MP3).The distance from indoor to MP2(MP3) can be up to 15m.
- After wiring connection, the wiring must be fixed firmly with wire clip.

2、MP3(MP2) refrigerant circuit can be used for ceiling concealed model (only show out liquid pipe connection)



ADMISSIBLE COMBINATION EXAMPLES OF MULTIFLEX INVERTER

Type of INDOOR UNITS CIRCUIT (×100W)								REAL COOLING CAPACITY (OF EACH UNIT IN COMBINATION) Kw								REAL HEATING CAPACITY (OF EACH UNIT IN COMBINATION) kW								kW	
																								TOTAL COOLING CAPACITY	TOTAL HEATING CAPACITY
18	18	18	18	18	18	18	18	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	14.00	16.00
18	18	18	18	18	18	71		1.41	1.41	1.41	1.41	1.41	1.41	5.54		1.61	1.61	1.61	1.61	1.61	1.61	6.35		14.00	16.00
18	18	18	18	18	18	60		1.50	1.50	1.50	1.50	1.50	1.50	5.00		1.71	1.71	1.71	1.71	1.71	1.71	5.71		14.00	16.00
18	18	18	18	18	18	56		1.54	1.54	1.54	1.54	1.54	1.54	4.76		1.76	1.76	1.76	1.76	1.76	1.76	5.46		14.00	16.00
18	18	18	18	18	18	56	18	1.38	1.38	1.38	1.38	1.38	1.38	4.34	1.38	1.58	1.58	1.58	1.58	1.58	1.58	4.92	1.58	14.00	16.00
18	18	18	18	18	18	50		1.59	1.59	1.59	1.59	1.59	1.59	4.46		1.82	1.82	1.82	1.82	1.82	1.82	5.06		14.00	16.00
18	18	18	18	18	18	50	18	1.43	1.43	1.43	1.43	1.43	1.43	3.99	1.43	1.64	1.64	1.64	1.64	1.64	1.64	4.55	1.64	14.00	16.00
18	18	18	18	18	18	40		1.70	1.70	1.70	1.70	1.70	1.70	3.80		1.95	1.95	1.95	1.95	1.95	1.95	4.32		14.00	16.00
18	18	18	18	18	18	40	18	1.52	1.52	1.52	1.52	1.52	1.52	3.36	1.52	1.73	1.73	1.73	1.73	1.73	1.73	3.86	1.73	14.00	16.00
18	18	18	18	18	18	32		1.80	1.80	1.80	1.80	1.80	1.80	3.20		2.06	2.06	2.06	2.06	2.06	2.06	3.66		14.00	16.00
18	18	18	18	18	18	32	18	1.59	1.59	1.59	1.59	1.59	1.59	2.87	1.59	1.82	1.82	1.82	1.82	1.82	1.82	3.24	1.82	14.00	16.00
18	18	18	18	18	18	25		1.89	1.89	1.89	1.89	1.89	1.89	2.66		2.17	2.17	2.17	2.17	2.17	2.17	3.01		14.00	16.00
18	18	18	18	18	18	25	18	1.67	1.67	1.67	1.67	1.67	1.67	2.31	1.67	1.91	1.91	1.91	1.91	1.91	1.91	2.65	1.91	14.00	16.00
18	18	18	18	18	18	40		1.70	1.70	1.70	1.70	1.70	1.70	3.80		1.95	1.95	1.95	1.95	1.95	1.95	4.32		14.00	16.00
18	18	18	18	18	18	40	32	1.40	1.40	1.40	1.40	1.40	1.40	3.11	2.49	1.60	1.60	1.60	1.60	1.60	1.60	3.56	2.84	14.00	16.00
18	18	18	18	18	18	40	25	1.46	1.46	1.46	1.46	1.46	1.46	3.24	2.00	1.66	1.66	1.66	1.66	1.66	1.66	3.70	2.31	14.00	16.00
18	18	18	18	18	18	32	25	1.53	1.53	1.53	1.53	1.53	1.53	2.72	2.10	1.75	1.75	1.75	1.75	1.75	1.75	3.10	2.42	14.00	16.00
18	18	18	18	18	18	32		1.80	1.80	1.80	1.80	1.80	1.80	3.20		2.06	2.06	2.06	2.06	2.06	2.06	3.66		14.00	16.00
18	18	18	18	18	18	25	25	1.59	1.59	1.59	1.59	1.59	1.59	2.23	2.23	1.82	1.82	1.82	1.82	1.82	1.82	2.53	2.53	14.00	16.00
18	18	18	18	18	18	25		1.89	1.89	1.89	1.89	1.89	1.89	2.66		2.17	2.17	2.17	2.17	2.17	2.17	3.01		14.00	16.00
18	18	18	18	18	18	18		2.00	2.00	2.00	2.00	2.00	2.00	2.00		2.29	2.29	2.29	2.29	2.29	2.29	2.29		14.00	16.00
18	18	18	18	18	71			1.57	1.57	1.57	1.57	1.57	6.15			1.79	1.79	1.79	1.79	1.79	7.06			14.00	16.00
18	18	18	18	18	60	25		1.44	1.44	1.44	1.44	1.44	4.80	2.00		1.65	1.65	1.65	1.65	1.65	5.49	2.29		14.00	16.00
18	18	18	18	18	60			1.68	1.68	1.68	1.68	1.68	5.60			1.92	1.92	1.92	1.92	1.92	6.40			14.00	16.00
18	18	18	18	18	56	32		1.42	1.42	1.42	1.42	1.42	4.40	2.50		1.62	1.62	1.62	1.62	1.62	5.03	2.88		14.00	16.00
18	18	18	18	18	56	25		1.47	1.47	1.47	1.47	1.47	4.58	2.07		1.68	1.68	1.68	1.68	1.68	5.24	2.34		14.00	16.00
18	18	18	18	18	56			1.73	1.73	1.73	1.73	1.73	5.35			1.97	1.97	1.97	1.97	1.97	6.14			14.00	16.00
18	18	18	18	18	50	40		1.40	1.40	1.40	1.40	1.40	3.89	3.11		1.60	1.60	1.60	1.60	1.60	4.44	3.56		14.00	16.00

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Type of INDOOR UNITS CIRCUIT (×100W)								REAL COOLING CAPACITY (OF EACH UNIT IN COMBINATION) Kw								REAL HEATING CAPACITY (OF EACH UNIT IN COMBINATION) kW								kW	
																								TOTAL COOLING CAPACITY	TOTAL HEATING CAPACITY
18	18	18	18	18	50	32		1.46	1.46	1.46	1.46	1.46	4.07	2.63		1.67	1.67	1.67	1.67	1.67	4.65	2.98		14.00	16.00
18	18	18	18	18	50	25		1.53	1.53	1.53	1.53	1.53	4.24	2.11		1.75	1.75	1.75	1.75	1.75	4.85	2.42		14.00	16.00
18	18	18	18	18	40	50		1.40	1.40	1.40	1.40	1.40	3.11	3.89		1.60	1.60	1.60	1.60	1.60	3.56	4.44		14.00	16.00
18	18	18	18	18	40	40		1.48	1.48	1.48	1.48	1.48	3.29	3.29		1.69	1.69	1.69	1.69	1.69	3.76	3.76		14.00	16.00
18	18	18	18	18	40	32		1.56	1.56	1.56	1.56	1.56	3.46	2.74		1.78	1.78	1.78	1.78	1.78	3.95	3.16		14.00	16.00
18	18	18	18	18	40	25		1.63	1.63	1.63	1.63	1.63	3.61	2.24		1.86	1.86	1.86	1.86	1.86	4.13	2.58		14.00	16.00
18	18	18	18	18	40			1.94	1.94	1.94	1.94	1.94	4.31			2.22	2.22	2.22	2.22	2.22	4.92			14.00	16.00
18	18	18	18	18	32	32		1.64	1.64	1.64	1.64	1.64	2.91	2.91		1.87	1.87	1.87	1.87	1.87	3.32	3.32		14.00	16.00
18	18	18	18	18	32	25		1.71	1.71	1.71	1.71	1.71	3.05	2.40		1.96	1.96	1.96	1.96	1.96	3.48	2.72		14.00	16.00
18	18	18	18	18	32			2.06	2.06	2.06	2.06	2.06	3.70			2.34	2.34	2.34	2.34	2.34	4.16			14.00	16.00
18	18	18	18	18	25	25		1.80	1.80	1.80	1.80	1.80	2.50	2.50		2.06	2.06	2.06	2.06	2.06	2.86	2.86		14.00	16.00
18	18	18	18	18	18			2.33	2.33	2.33	2.33	2.33	2.33			2.66	2.66	2.66	2.66	2.66	2.66			14.00	16.00
18	18	18	32	40	56			1.38	1.38	1.38	2.46	3.08	4.31			1.58	1.58	1.58	2.81	3.52	4.92			14.00	16.00
18	18	18	32	40	50			1.43	1.43	1.43	2.55	3.18	3.98			1.64	1.64	1.64	2.91	3.64	4.55			14.00	16.00
18	18	18	32	40	40			1.52	1.52	1.52	2.70	3.37	3.37			1.73	1.73	1.73	3.08	3.86	3.86			14.00	16.00
18	18	18	32	40	32			1.59	1.59	1.59	2.84	3.55	2.84			1.82	1.82	1.82	3.24	4.05	3.24			14.00	16.00
18	18	18	32	40	25			1.67	1.67	1.67	2.97	3.71	2.31			1.91	1.91	1.91	3.39	4.24	2.65			14.00	16.00
18	18	18	32	40	18			1.75	1.75	1.75	3.11	3.89	1.75			2.00	2.00	2.00	3.56	4.44	2.00			14.00	16.00
18	18	18	32	40				2.00	2.00	2.00	3.56	4.44				2.29	2.29	2.29	4.06	5.08				14.00	16.00
18	18	18	32	32	60			1.42	1.42	1.42	2.51	2.51	4.72			1.62	1.62	1.62	2.88	2.88	5.39			14.00	16.00
18	18	18	32	32	50			1.50	1.50	1.50	2.67	2.67	4.16			1.71	1.71	1.71	3.05	3.05	4.76			14.00	16.00
18	18	18	32	32	40			1.59	1.59	1.59	2.84	2.84	3.55			1.82	1.82	1.82	3.24	3.24	4.05			14.00	16.00
18	18	18	32	32	32			1.68	1.68	1.68	2.99	2.99	2.99			1.92	1.92	1.92	3.41	3.41	3.41			14.00	16.00
18	18	18	32	32	25			1.76	1.76	1.76	3.13	3.13	2.46			2.01	2.01	2.01	3.58	3.58	2.80			14.00	16.00
18	18	18	32	32	18			1.85	1.85	1.85	3.29	3.29	1.85			2.12	2.12	2.12	3.76	3.76	2.12			14.00	16.00
18	18	18	32	32				2.14	2.14	2.14	3.80	3.80				2.44	2.44	2.44	4.34	4.34				14.00	16.00
18	18	18	32	25	71			1.38	1.38	1.38	2.46	1.92	5.46			1.58	1.58	1.58	2.81	2.20	6.24			14.00	16.00
18	18	18	32	25	60			1.47	1.47	1.47	2.62	2.05	4.91			1.68	1.68	1.68	2.99	2.34	5.61			14.00	16.00

ADMISSIBLE COMBINATION EXAMPLES OF MULTIFLEX INVERTER

Type of INDOOR UNITS CIRCUIT (×100W)								REAL COOLING CAPACITY (OF EACH UNIT IN COMBINATION) Kw								REAL HEATING CAPACITY (OF EACH UNIT IN COMBINATION) kW								kW	
																								TOTAL COOLING CAPACITY	TOTAL HEATING CAPACITY
18	18	18	32	25	56			1.51	1.51	1.51	2.68	2.10	4.69			1.72	1.72	1.72	3.07	2.40	5.37			14.00	16.00
18	18	18	32	25	50			1.57	1.57	1.57	2.78	2.17	4.35			1.79	1.79	1.79	3.18	2.48	4.97			14.00	16.00
18	18	18	32	25	40			1.67	1.67	1.67	2.97	2.32	3.71			1.91	1.91	1.91	3.39	2.65	4.24			14.00	16.00
18	18	18	32	25	25			1.85	1.85	1.85	3.29	2.57	2.57			2.12	2.12	2.12	3.76	2.94	2.94			14.00	16.00
18	18	18	32	25	18			1.95	1.95	1.95	3.47	2.71	1.95			2.23	2.23	2.23	3.97	3.10	2.23			14.00	16.00
18	18	18	32	25				2.27	2.27	2.27	4.04	3.15				2.59	2.59	2.59	4.61	3.60				14.00	16.00
18	18	18	32	71	18			1.44	1.44	1.44	2.56	5.68	1.44			1.65	1.65	1.65	2.93	6.49	1.65			14.00	16.00
18	18	18	32	71				1.61	1.61	1.61	2.85	6.33				1.83	1.83	1.83	3.26	7.24				14.00	16.00
18	18	18	32	60	18			1.54	1.54	1.54	2.73	5.12	1.54			1.76	1.76	1.76	3.12	5.85	1.76			14.00	16.00
18	18	18	32	60				1.73	1.73	1.73	3.07	5.75				1.97	1.97	1.97	3.51	6.58				14.00	16.00
18	18	18	32	56	18			1.58	1.58	1.58	2.80	4.90	1.58			1.80	1.80	1.80	3.20	5.60	1.80			14.00	16.00
18	18	18	32	56				1.77	1.77	1.77	3.15	5.52				2.03	2.03	2.03	3.61	6.31				14.00	16.00
18	18	18	32	50	18			1.64	1.64	1.64	2.91	4.55	1.64			1.87	1.87	1.87	3.32	5.19	1.87			14.00	16.00
18	18	18	32	50				1.85	1.85	1.85	3.29	5.15				2.12	2.12	2.12	3.76	5.88				14.00	16.00
18	18	18	32	40	18			1.75	1.75	1.75	3.11	3.89	1.75			2.00	2.00	2.00	3.56	4.44	2.00			14.00	16.00
18	18	18	32	40				2.00	2.00	2.00	3.56	4.44				2.29	2.29	2.29	4.06	5.08				14.00	16.00
18	18	18	25	71				1.68	1.68	1.68	2.33	6.63				1.92	1.92	1.92	2.67	7.57				14.00	16.00
18	18	18	25	60				1.81	1.81	1.81	2.52	6.04				2.07	2.07	2.07	2.88	6.91				14.00	16.00
18	18	18	25	56				1.87	1.87	1.87	2.59	5.81				2.13	2.13	2.13	2.96	6.64				14.00	16.00
18	18	18	25	50				1.95	1.95	1.95	2.71	5.43				2.23	2.23	2.23	3.10	6.20				14.00	16.00
18	18	18	25	40				2.12	2.12	2.12	2.94	4.71				2.42	2.42	2.42	3.36	5.38				14.00	16.00
18	18	18	25	32				2.27	2.27	2.27	3.15	4.04				2.59	2.59	2.59	3.60	4.61				14.00	16.00
18	18	18	25	25				2.34	2.34	2.34	3.25	3.25				2.77	2.77	2.77	3.85	3.85				13.52	16.00
18	18	18	25	18				2.34	2.34	2.34	3.25	2.34				2.97	2.97	2.97	4.12	2.97				12.61	16.00
18	18	18	50					2.34	2.34	2.34	6.50					2.77	2.77	2.77	7.69					13.52	16.00
18	18	18	50	71				1.44	1.44	1.44	4.00	5.68				1.65	1.65	1.65	4.57	6.49				14.00	16.00
18	18	18	50	60				1.54	1.54	1.54	4.27	5.12				1.76	1.76	1.76	4.88	5.85				14.00	16.00
18	18	18	50	56				1.58	1.58	1.58	4.38	4.90				1.80	1.80	1.80	5.00	5.60				14.00	16.00

ADMISSIBLE COMBINATION EXAMPLES OF MULTIFLEX INVERTER

Type of INDOOR UNITS CIRCUIT (×100W)								REAL COOLING CAPACITY (OF EACH UNIT IN COMBINATION) Kw								REAL HEATING CAPACITY (OF EACH UNIT IN COMBINATION) kW								kW	
																								TOTAL COOLING CAPACITY	TOTAL HEATING CAPACITY
18	18	18	50	40				1.75	1.75	1.75	4.86	3.89				2.00	2.00	2.00	5.56	4.44				14.00	16.00
18	18	18	50	32				1.85	1.85	1.85	5.15	3.29				2.12	2.12	2.12	5.88	3.76				14.00	16.00
18	18	18	50	25				1.95	1.95	1.95	5.43	2.71				2.23	2.23	2.23	6.20	3.10				14.00	16.00
18	18	18	50	18				2.07	2.07	2.07	5.74	2.07				2.36	2.36	2.36	6.56	2.36				14.00	16.00
18	18	18	40	71				1.53	1.53	1.53	3.39	6.02				1.75	1.75	1.75	3.88	6.88				14.00	16.00
18	18	18	40	60				1.64	1.64	1.64	3.64	5.45				1.87	1.87	1.87	4.16	6.23				14.00	16.00
18	18	18	40	56				1.68	1.68	1.68	3.73	5.23				1.92	1.92	1.92	4.27	5.97				14.00	16.00
18	18	18	40	18				2.25	2.25	2.25	5.00	2.25				2.57	2.57	2.57	5.71	2.57				14.00	16.00
18	18	18	40					2.34	2.34	2.34	5.20					3.06	3.06	3.06	6.81					12.22	16.00
18	18	18	71	18				1.76	1.76	1.76	6.95	1.76				2.01	2.01	2.01	7.94	2.01				14.00	16.00
18	18	18	71					2.02	2.02	2.02	7.95					2.30	2.30	2.30	9.09					14.00	16.00
18	18	18	60	60				1.45	1.45	1.45	4.83	4.83				1.66	1.66	1.66	5.52	5.52				14.00	16.00
18	18	18	60	56				1.48	1.48	1.48	4.94	4.61				1.69	1.69	1.69	5.65	5.27				14.00	16.00
18	18	18	60	40				1.64	1.64	1.64	5.45	3.64				1.87	1.87	1.87	6.23	4.16				14.00	16.00
18	18	18	60	18				1.91	1.91	1.91	6.36	1.91				2.18	2.18	2.18	7.27	2.18				14.00	16.00
18	18	18	60					2.21	2.21	2.21	7.37					2.53	2.53	2.53	8.42					14.00	16.00
18	18	18	56	71				1.39	1.39	1.39	4.33	5.49				1.59	1.59	1.59	4.95	6.28				14.00	16.00
18	18	18	56	25				1.87	1.87	1.87	5.81	2.59				2.13	2.13	2.13	6.64	2.96				14.00	16.00
18	18	18	56	18				1.97	1.97	1.97	6.13	1.97				2.25	2.25	2.25	7.00	2.25				14.00	16.00
18	18	18	56					2.29	2.29	2.29	7.13					2.62	2.62	2.62	8.15					14.00	16.00
18	18	71	60					1.51	1.51	5.95	5.03					1.72	1.72	6.80	5.75					14.00	16.00
18	18	71	56					1.55	1.55	6.10	4.81					1.77	1.77	6.97	5.50					14.00	16.00
18	18	71	50	25				1.38	1.38	5.46	3.85	1.92				1.58	1.58	6.24	4.40	2.20				14.00	16.00
18	18	71	50					1.61	1.61	6.33	4.46					1.83	1.83	7.24	5.10					14.00	16.00
18	18	71	40	32				1.41	1.41	5.55	3.13	2.50				1.61	1.61	6.35	3.58	2.86				14.00	16.00
18	18	71	40	25				1.47	1.47	5.78	3.26	2.03				1.67	1.67	6.60	3.72	2.33				14.00	16.00
18	18	71	40					1.71	1.71	6.76	3.81					1.96	1.96	7.73	4.35					14.00	16.00
18	18	71	32	40				1.41	1.41	5.55	2.50	3.13				1.61	1.61	6.35	2.86	3.58				14.00	16.00

ADMISSIBLE COMBINATION EXAMPLES OF MULTIFLEX INVERTER

Type of INDOOR UNITS CIRCUIT (×100W)								REAL COOLING CAPACITY (OF EACH UNIT IN COMBINATION) Kw								REAL HEATING CAPACITY (OF EACH UNIT IN COMBINATION) kW								kW	
																								TOTAL COOLING CAPACITY	TOTAL HEATING CAPACITY
18	18	71	32	32				1.47	1.47	5.81	2.62	2.62				1.68	1.68	6.64	2.99	2.99				14.00	16.00
18	18	71	32	25				1.54	1.54	6.06	2.73	2.13				1.76	1.76	6.93	3.12	2.44				14.00	16.00
18	18	71	32					1.81	1.81	7.15	3.22					2.07	2.07	8.17	3.68					14.00	16.00
18	18	71	25	25				1.61	1.61	6.33	2.23	2.23				1.83	1.83	7.24	2.55	2.55				14.00	16.00
18	18	71	25					1.91	1.91	7.53	2.65					2.18	2.18	8.61	3.03					14.00	16.00
18	18	71						2.34	2.34	9.23						2.69	2.69	10.40						13.91	15.78
18	18	60	60	25				1.39	1.39	4.64	4.64	1.93				1.59	1.59	5.30	5.30	2.21				14.00	16.00
18	18	60	60					1.62	1.62	5.38	5.38					1.85	1.85	6.15	6.15					14.00	16.00
18	18	60	56	25				1.42	1.42	4.75	4.43	1.98				1.63	1.63	5.42	5.06	2.26				14.00	16.00
18	18	60	56					1.66	1.66	5.53	5.16					1.89	1.89	6.32	5.89					14.00	16.00
18	18	60	50	32				1.42	1.42	4.72	3.93	2.52				1.62	1.62	5.39	4.49	2.88				14.00	16.00
18	18	60	50	25				1.47	1.47	4.91	4.09	2.05				1.68	1.68	5.61	4.68	2.34				14.00	16.00
18	18	60	50					1.73	1.73	5.75	4.79					1.97	1.97	6.58	5.48					14.00	16.00
18	18	60	40	32				1.50	1.50	5.00	3.33	2.67				1.71	1.71	5.71	3.81	3.05				14.00	16.00
18	18	60	40	25				1.57	1.57	5.22	3.48	2.17				1.79	1.79	5.96	3.98	2.48				14.00	16.00
18	18	60	40					1.85	1.85	6.18	4.12					2.12	2.12	7.06	4.71					14.00	16.00
18	18	60	32	32				1.58	1.58	5.25	2.80	2.80				1.80	1.80	6.00	3.20	3.20				14.00	16.00
18	18	60	32	25				1.65	1.65	5.49	2.93	2.29				1.88	1.88	6.27	3.35	2.61				14.00	16.00
18	18	60	32					1.97	1.97	6.56	3.50					2.25	2.25	7.50	4.00					14.00	16.00
18	18	60	25	25				1.73	1.73	5.75	2.40	2.40				1.97	1.97	6.58	2.74	2.74				14.00	16.00
18	18	60	25					2.08	2.08	6.94	2.89					2.38	2.38	7.93	3.31					14.00	16.00
18	18	60						2.34	2.34	7.80						3.00	3.00	9.10						12.48	15.10
18	18	56	56					1.70	1.70	5.30	5.30					1.95	1.95	6.05	6.05					14.00	16.00
18	18	56	50					1.77	1.77	5.52	4.93					2.03	2.03	6.31	5.63					14.00	16.00
18	18	56	40					1.91	1.91	5.94	4.24					2.18	2.18	6.79	4.85					14.00	16.00
18	18	56	32					2.03	2.03	6.32	3.61					2.32	2.32	7.23	4.13					14.00	16.00
18	18	56	25					2.15	2.15	6.70	2.99					2.46	2.46	7.66	3.42					14.00	16.00
18	18	56						2.34	2.34	7.28						3.12	3.12	8.45						11.96	14.69

ADMISSIBLE COMBINATION EXAMPLES OF MULTIFLEX INVERTER

Type of INDOOR UNITS CIRCUIT (×100W)								REAL COOLING CAPACITY (OF EACH UNIT IN COMBINATION) Kw								REAL HEATING CAPACITY (OF EACH UNIT IN COMBINATION) kW								kW	
																								TOTAL COOLING CAPACITY	TOTAL HEATING CAPACITY
18	18	50	50					1.85	1.85	5.15	5.15					2.12	2.12	5.88	5.88					14.00	16.00
18	18	50	40					2.00	2.00	5.56	4.44					2.29	2.29	6.35	5.08					14.00	16.00
18	18	50	32					2.14	2.14	5.93	3.80					2.44	2.44	6.78	4.34					14.00	16.00
18	18	50	25					2.27	2.27	6.31	3.15					2.59	2.59	7.21	3.60					14.00	16.00
18	18	50						2.34	2.34	6.50						3.12	3.12	7.80						11.18	14.04
18	18	40	40					2.17	2.17	4.83	4.83					2.48	2.48	5.52	5.52					14.00	16.00
18	18	40	32					2.33	2.33	5.19	4.15					2.67	2.67	5.93	4.74					14.00	16.00
18	18	40	25					2.34	2.34	5.20	3.25					2.85	2.85	6.34	3.96					13.13	16.00
18	18	40						2.34	2.34	5.20						3.12	3.12	6.50						9.88	12.74
18	18	32	32					2.34	2.34	4.16	4.16					2.88	2.88	5.12	5.12					13.00	16.00
18	18	32	25					2.34	2.34	4.16	3.25					3.10	3.10	5.51	4.30					12.09	16.00
18	18	32						2.34	2.34	4.16						3.12	3.12	5.20						8.84	11.44
18	18	25	25					2.34	2.34	3.25	3.25					3.12	3.12	3.90	3.90					11.18	14.04
18	18	18	18	71	32			1.44	1.44	1.44	1.44	5.68	2.56			1.65	1.65	1.65	1.65	6.49	2.93			14.00	16.00
18	18	18	18	71	25			1.50	1.50	1.50	1.50	5.92	2.08			1.71	1.71	1.71	1.71	6.76	2.38			14.00	16.00
18	18	18	18	71				1.76	1.76	1.76	1.76	6.95				2.01	2.01	2.01	2.01	7.94				14.00	16.00
18	18	18	18	60	50			1.38	1.38	1.38	1.38	4.62	3.85			1.58	1.58	1.58	1.58	5.27	4.40			14.00	16.00
18	18	18	18	60	40			1.47	1.47	1.47	1.47	4.88	3.26			1.67	1.67	1.67	1.67	5.58	3.72			14.00	16.00
18	18	18	18	60	25			1.61	1.61	1.61	1.61	5.35	2.23			1.83	1.83	1.83	1.83	6.11	2.55			14.00	16.00
18	18	18	18	60				1.91	1.91	1.91	1.91	6.36				2.18	2.18	2.18	2.18	7.27				14.00	16.00
18	18	18	18	56	50			1.42	1.42	1.42	1.42	4.40	3.93			1.62	1.62	1.62	1.62	5.03	4.49			14.00	16.00
18	18	18	18	56	40			1.50	1.50	1.50	1.50	4.67	3.33			1.71	1.71	1.71	1.71	5.33	3.81			14.00	16.00
18	18	18	18	56	25			1.65	1.65	1.65	1.65	5.12	2.29			1.88	1.88	1.88	1.88	5.86	2.61			14.00	16.00
18	18	18	18	50	50			1.47	1.47	1.47	1.47	4.07	4.07			1.67	1.67	1.67	1.67	4.65	4.65			14.00	16.00
18	18	18	18	50				2.07	2.07	2.07	2.07	5.74				2.36	2.36	2.36	2.36	6.56				14.00	16.00
18	18	18	18	40	40			1.66	1.66	1.66	1.66	3.68	3.68			1.89	1.89	1.89	1.89	4.21	4.21			14.00	16.00
18	18	18	18	32				2.42	2.42	2.42	2.42	4.31				2.77	2.77	2.77	2.77	4.92				14.00	16.00
18	18	18	18	32	32			1.85	1.85	1.85	1.85	3.29	3.29			2.12	2.12	2.12	2.12	3.76	3.76			14.00	16.00

ADMISSIBLE COMBINATION EXAMPLES OF MULTIFLEX INVERTER

Type of INDOOR UNITS CIRCUIT (×100W)								REAL COOLING CAPACITY (OF EACH UNIT IN COMBINATION) Kw								REAL HEATING CAPACITY (OF EACH UNIT IN COMBINATION) kW								kW	
																								TOTAL COOLING CAPACITY	TOTAL HEATING CAPACITY
18	18	18	18	25	25			2.07	2.07	2.07	2.07	2.87	2.87			2.36	2.36	2.36	2.36	3.28	3.28			14.00	16.00
18	18	18	18	18				2.34	2.34	2.34	2.34	2.34				3.12	3.12	3.12	3.12	3.12				11.70	15.60
18	18	18	32					2.34	2.34	2.34	4.16					3.12	3.12	3.12	5.20					11.18	14.56
18	18	18	25					2.34	2.34	2.34	3.25					3.12	3.12	3.12	3.90					10.27	13.26
18	18	18	18					2.34	2.34	2.34	2.34					3.12	3.12	3.12	3.12					9.36	12.48
25	25	25	25	25	25	25		2.00	2.00	2.00	2.00	2.00	2.00	2.00		2.29	2.29	2.29	2.29	2.29	2.29	2.29		14.00	16.00
25	25	25	25	25	25	18		2.08	2.08	2.08	2.08	2.08	2.08	1.50		2.38	2.38	2.38	2.38	2.38	2.38	1.71		14.00	16.00
25	25	25	25	25	40	18		1.91	1.91	1.91	1.91	1.91	3.06	1.38		2.19	2.19	2.19	2.19	2.19	3.50	1.57		14.00	16.00
25	25	25	25	25	40			2.12	2.12	2.12	2.12	2.12	3.39			2.42	2.42	2.42	2.42	2.42	3.88			14.00	16.00
25	25	25	25	25	32			2.23	2.23	2.23	2.23	2.23	2.85			2.55	2.55	2.55	2.55	2.55	3.26			14.00	16.00
25	25	25	25	25	32	18		2.00	2.00	2.00	2.00	2.00	2.56	1.44		2.29	2.29	2.29	2.29	2.29	2.93	1.65		14.00	16.00
25	25	25	25	25	25			2.33	2.33	2.33	2.33	2.33	2.33			2.67	2.67	2.67	2.67	2.67	2.67			14.00	16.00
25	25	25	25	25	18	18		2.17	2.17	2.17	2.17	2.17	1.57	1.57		2.48	2.48	2.48	2.48	2.48	1.79	1.79		14.00	16.00
25	25	25	25	25	18			2.45	2.45	2.45	2.45	2.45	1.76			2.80	2.80	2.80	2.80	2.80	2.01			14.00	16.00
25	25	25	25	40	40			1.94	1.94	1.94	1.94	3.11	3.11			2.22	2.22	2.22	2.22	3.56	3.56			14.00	16.00
25	25	25	25	40	32			2.03	2.03	2.03	2.03	3.26	2.60			2.33	2.33	2.33	2.33	3.72	2.98			14.00	16.00
25	25	25	25	40	18	18		1.99	1.99	1.99	1.99	3.18	1.43	1.43		2.27	2.27	2.27	2.27	3.64	1.64	1.64		14.00	16.00
25	25	25	25	40	18			2.22	2.22	2.22	2.22	3.54	1.59			2.53	2.53	2.53	2.53	4.05	1.82			14.00	16.00
25	25	25	25	40				2.50	2.50	2.50	2.50	4.00				2.86	2.86	2.86	2.86	4.57				14.00	16.00
25	25	25	25	32	50			1.92	1.92	1.92	1.92	2.46	3.85			2.20	2.20	2.20	2.20	2.81	4.40			14.00	16.00
25	25	25	25	32	32			2.13	2.13	2.13	2.13	2.73	2.73			2.44	2.44	2.44	2.44	3.12	3.12			14.00	16.00
25	25	25	25	32	18			2.33	2.33	2.33	2.33	2.99	1.68			2.67	2.67	2.67	2.67	3.41	1.92			14.00	16.00
25	25	25	25	32				2.65	2.65	2.65	2.65	3.39				3.03	3.03	3.03	3.03	3.88				14.00	16.00
25	25	25	25	25	56			1.93	1.93	1.93	1.93	1.93	4.33			2.21	2.21	2.21	2.21	2.21	4.95			14.00	16.00
25	25	25	25	25	50			2.00	2.00	2.00	2.00	2.00	4.00			2.29	2.29	2.29	2.29	2.29	4.57			14.00	16.00
25	25	25	25	18				2.97	2.97	2.97	2.97	2.14				3.39	3.39	3.39	3.39	2.44				14.00	16.00
25	25	25	71	32				1.97	1.97	1.97	5.58	2.52				2.25	2.25	2.25	6.38	2.88				14.00	16.00
25	25	25	71	25				2.05	2.05	2.05	5.81	2.05				2.34	2.34	2.34	6.64	2.34				14.00	16.00
25	25	25	71	18	18			1.92	1.92	1.92	5.46	1.38	1.38			2.20	2.20	2.20	6.24	1.58	1.58			14.00	16.00
25	25	25	71	18				2.13	2.13	2.13	6.06	1.54				2.44	2.44	2.44	6.93	1.76				14.00	16.00
25	25	25	71					2.40	2.40	2.40	6.81					2.74	2.74	2.74	7.78					14.00	16.00
25	25	25	60	40				2.00	2.00	2.00	4.80	3.20				2.29	2.29	2.29	5.49	3.66				14.00	16.00

ADMISSIBLE COMBINATION EXAMPLES OF MULTIFLEX INVERTER

Type of INDOOR UNITS CIRCUIT (×100W)								REAL COOLING CAPACITY (OF EACH UNIT IN COMBINATION) Kw								REAL HEATING CAPACITY (OF EACH UNIT IN COMBINATION) kW								kW	
																								TOTAL COOLING CAPACITY	TOTAL HEATING CAPACITY
25	25	25	60	32				2.10	2.10	2.10	5.03	2.68				2.40	2.40	2.40	5.75	3.07				14.00	16.00
25	25	25	60	25	18			1.97	1.97	1.97	4.72	1.97	1.42			2.25	2.25	2.25	5.39	2.25	1.62			14.00	16.00
25	25	25	60	25				2.19	2.19	2.19	5.25	2.19				2.50	2.50	2.50	6.00	2.50				14.00	16.00
25	25	25	60	18				2.29	2.29	2.29	5.49	1.65				2.61	2.61	2.61	6.27	1.88				14.00	16.00
25	25	25	60					2.59	2.59	2.59	6.22					2.96	2.96	2.96	7.11					14.00	16.00
25	25	25	56	50				1.93	1.93	1.93	4.33	3.87				2.21	2.21	2.21	4.95	4.42				14.00	16.00
25	25	25	56	40				2.05	2.05	2.05	4.58	3.27				2.34	2.34	2.34	5.24	3.74				14.00	16.00
25	25	25	56	32	18			1.93	1.93	1.93	4.33	2.48	1.39			2.21	2.21	2.21	4.95	2.83	1.59			14.00	16.00
25	25	25	56	32				2.15	2.15	2.15	4.81	2.75				2.45	2.45	2.45	5.50	3.14				14.00	16.00
25	25	25	56	25	18			2.01	2.01	2.01	4.51	2.01	1.45			2.30	2.30	2.30	5.15	2.30	1.66			14.00	16.00
25	25	25	56	18	18			2.10	2.10	2.10	4.69	1.51	1.51			2.40	2.40	2.40	5.37	1.72	1.72			14.00	16.00
25	25	25	56	18				2.35	2.35	2.35	5.26	1.69				2.68	2.68	2.68	6.01	1.93				14.00	16.00
25	25	25	56					2.67	2.67	2.67	5.98					3.05	3.05	3.05	6.84					14.00	16.00
25	25	25	50	50				2.00	2.00	2.00	4.00	4.00				2.29	2.29	2.29	4.57	4.57				14.00	16.00
25	25	25	50	40				2.12	2.12	2.12	4.24	3.39				2.42	2.42	2.42	4.85	3.88				14.00	16.00
25	25	25	50	32	18			2.00	2.00	2.00	4.00	2.56	1.44			2.29	2.29	2.29	4.57	2.93	1.65			14.00	16.00
25	25	25	50	32				2.23	2.23	2.23	4.46	2.85				2.55	2.55	2.55	5.10	3.26				14.00	16.00
25	25	25	50	25				2.33	2.33	2.33	4.67	2.33				2.67	2.67	2.67	5.33	2.67				14.00	16.00
25	25	25	50	18				2.45	2.45	2.45	4.90	1.76				2.80	2.80	2.80	5.59	2.01				14.00	16.00
25	25	25	50					2.80	2.80	2.80	5.60					3.20	3.20	3.20	6.40					14.00	16.00
25	25	25	40	40				2.26	2.26	2.26	3.61	3.61				2.58	2.58	2.58	4.13	4.13				14.00	16.00
25	25	25	40	32				2.38	2.38	2.38	3.81	3.05				2.72	2.72	2.72	4.35	3.48				14.00	16.00
25	25	25	40	25				2.50	2.50	2.50	4.00	2.50				2.86	2.86	2.86	4.57	2.86				14.00	16.00
25	25	25	40					3.04	3.04	3.04	4.87					3.48	3.48	3.48	5.57					14.00	16.00
25	25	25	32	32				2.52	2.52	2.52	3.22	3.22				2.88	2.88	2.88	3.68	3.68				14.00	16.00
25	25	25	32	18				2.80	2.80	2.80	3.58	2.02				3.20	3.20	3.20	4.10	2.30				14.00	16.00
25	25	25	32					3.25	3.25	3.25	4.16					3.74	3.74	3.74	4.79					13.91	16.00
25	25	25	25					3.25	3.25	3.25	3.25					3.90	3.90	3.90	3.90					13.00	15.60
25	25	25	18					3.25	3.25	3.25	2.34					3.90	3.90	3.90	3.10					12.09	14.80
25	25	40						3.25	3.25	5.20						3.90	3.90	6.50						11.70	14.30
25	25	32						3.25	3.25	4.16						3.90	3.90	5.20						10.66	13.00
25	25	25						3.25	3.25	3.25						3.90	3.90	3.90						9.75	11.70
32	32	32	32	32	18			2.52	2.52	2.52	2.52	2.52	1.42			2.88	2.88	2.88	2.88	2.88	1.62			14.00	16.00

ADMISSIBLE COMBINATION EXAMPLES OF MULTIFLEX INVERTER

Type of INDOOR UNITS CIRCUIT (×100W)								REAL COOLING CAPACITY (OF EACH UNIT IN COMBINATION) Kw								REAL HEATING CAPACITY (OF EACH UNIT IN COMBINATION) kW								kW	
																								TOTAL COOLING CAPACITY	TOTAL HEATING CAPACITY
32	32	32	32	50				2.52	2.52	2.52	2.52	3.93				2.88	2.88	2.88	2.88	4.49				14.00	16.00
32	32	32	32	40				2.67	2.67	2.67	2.67	3.33				3.05	3.05	3.05	3.05	3.81				14.00	16.00
32	32	32	32	32				2.80	2.80	2.80	2.80	2.80				3.20	3.20	3.20	3.20	3.20				14.00	16.00
32	32	32	32	25				2.93	2.93	2.93	2.93	2.29				3.35	3.35	3.35	3.35	2.61				14.00	16.00
32	32	32	32	18				3.07	3.07	3.07	3.07	1.73				3.51	3.51	3.51	3.51	1.97				14.00	16.00
32	32	32	50					3.07	3.07	3.07	4.79					3.51	3.51	3.51	5.48					14.00	16.00
32	32	32	40					3.29	3.29	3.29	4.12					3.76	3.76	3.76	4.71					14.00	16.00
32	32	32	32					3.50	3.50	3.50	3.50					4.00	4.00	4.00	4.00					14.00	16.00
32	32	32	25					3.70	3.70	3.70	2.89					4.23	4.23	4.23	3.31					14.00	16.00
32	32	32	18					3.93	3.93	3.93	2.21					4.49	4.49	4.49	2.53					14.00	16.00
32	32	50						3.93	3.93	6.14						4.49	4.49	7.02						14.00	16.00
32	32	40						4.16	4.16	5.20						4.92	4.92	6.15						13.52	16.00
32	32	32						4.16	4.16	4.16						5.20	5.20	5.20						12.48	15.60
32	32	25						4.16	4.16	3.25						5.20	5.20	3.90						11.57	14.30
32	32	18						4.16	4.16	2.34						5.20	5.20	3.12						10.66	13.52
40	40	40	40	18				3.15	3.15	3.15	3.15	1.42				3.60	3.60	3.60	3.60	1.62				14.00	16.00
40	40	40	56					3.18	3.18	3.18	4.45					3.64	3.64	3.64	5.09					14.00	16.00
40	40	40	50					3.29	3.29	3.29	4.12					3.76	3.76	3.76	4.71					14.00	16.00
40	40	40	40					3.50	3.50	3.50	3.50					4.00	4.00	4.00	4.00					14.00	16.00
40	40	40	32					3.68	3.68	3.68	2.95					4.21	4.21	4.21	3.37					14.00	16.00
40	40	40	25					3.86	3.86	3.86	2.41					4.41	4.41	4.41	2.76					14.00	16.00
40	40	40	18					4.06	4.06	4.06	1.83					4.64	4.64	4.64	2.09					14.00	16.00
40	40	56						4.12	4.12	5.76						4.71	4.71	6.59						14.00	16.00
40	40	50						4.31	4.31	5.38						4.92	4.92	6.15						14.00	16.00
40	40	40						4.67	4.67	4.67						5.33	5.33	5.33						14.00	16.00
40	40	32						5.00	5.00	4.00						5.71	5.71	4.57						14.00	16.00
40	40	25						5.20	5.20	3.25						6.10	6.10	3.81						13.65	16.00
40	40	18						5.20	5.20	2.34						6.50	6.50	2.94						12.74	15.94
40	56							5.20	7.28							6.50	8.45							12.48	14.95
40	50							5.20	6.50							6.50	7.80							11.70	14.30
40	40							5.20	5.20							6.50	6.50							10.40	13.00
40	32							5.20	4.16							6.50	5.20							9.36	11.70
50	50	50	25					4.00	4.00	4.00	2.00					4.57	4.57	4.57	2.29					14.00	16.00

ADMISSIBLE COMBINATION EXAMPLES OF MULTIFLEX INVERTER

Type of INDOOR UNITS CIRCUIT (×100W)								REAL COOLING CAPACITY (OF EACH UNIT IN COMBINATION) Kw								REAL HEATING CAPACITY (OF EACH UNIT IN COMBINATION) kW								kW	
																								TOTAL COOLING CAPACITY	TOTAL HEATING CAPACITY
50	50	50	18					4.17	4.17	4.17	1.50					4.76	4.76	4.76	1.71					14.00	16.00
50	50	60						4.38	4.38	5.25						5.00	5.00	6.00						14.00	16.00
50	50	56						4.49	4.49	5.03						5.13	5.13	5.74						14.00	16.00
50	50	50						4.67	4.67	4.67						5.33	5.33	5.33						14.00	16.00
50	50	40						5.00	5.00	4.00						5.71	5.71	4.57						14.00	16.00
50	50	32						5.30	5.30	3.39						6.06	6.06	3.88						14.00	16.00
50	50	25						5.60	5.60	2.80						6.40	6.40	3.20						14.00	16.00
50	50	18						5.93	5.93	2.14						6.78	6.78	2.44						14.00	16.00
50	60							6.36	7.64							7.27	8.73							14.00	16.00
50	56							6.50	7.28							7.55	8.45							13.78	16.00
50	50							6.50	6.50							7.80	7.80							13.00	15.60
50	40							6.50	5.20							7.80	6.50							11.70	14.30
50	32							6.50	4.16							7.80	5.20							10.66	13.00
50	25							6.50	3.25							7.80	3.90							9.75	11.70
56	56	56						4.67	4.67	4.67						5.33	5.33	5.33						14.00	16.00
56	56	50						4.84	4.84	4.32						5.53	5.53	4.94						14.00	16.00
56	56	40						5.16	5.16	3.68						5.89	5.89	4.21						14.00	16.00
56	56	32						5.44	5.44	3.11						6.22	6.22	3.56						14.00	16.00
56	56	25						5.72	5.72	2.55						6.54	6.54	2.92						14.00	16.00
56	56	18						6.03	6.03	1.94						6.89	6.89	2.22						14.00	16.00
56	71							6.17	7.83							7.06	8.94							14.00	16.00
56	60							6.76	7.24							7.72	8.28							14.00	16.00
56	56							7.00	7.00							8.00	8.00							14.00	16.00
56	50							7.28	6.50							8.45	7.55							13.78	16.00
56	40							7.28	5.20							8.45	6.50							12.48	14.95
56	32							7.28	4.16							8.45	5.20							11.44	13.65
56	25							7.28	3.25							8.45	3.90							10.53	12.35
56	18							7.28	2.34							8.45	3.12							9.62	11.57
60	60	60						4.67	4.67	4.67						5.33	5.33	5.33						14.00	16.00
60	60	56						4.77	4.77	4.45						5.45	5.45	5.09						14.00	16.00
60	60	50						4.94	4.94	4.12						5.65	5.65	4.71						14.00	16.00
60	60	40						5.25	5.25	3.50						6.00	6.00	4.00						14.00	16.00
60	60	32						5.53	5.53	2.95						6.32	6.32	3.37						14.00	16.00

ADMISSIBLE COMBINATION EXAMPLES OF MULTIFLEX INVERTER

Type of INDOOR UNITS CIRCUIT (×100W)								REAL COOLING CAPACITY (OF EACH UNIT IN COMBINATION) Kw								REAL HEATING CAPACITY (OF EACH UNIT IN COMBINATION) kW								kW	
																								TOTAL COOLING CAPACITY	TOTAL HEATING CAPACITY
60	60	25						5.79	5.79	2.41						6.62	6.62	2.76						14.00	16.00
60	60	18						6.09	6.09	1.83						6.96	6.96	2.09						14.00	16.00
60	71							6.41	7.59							7.33	8.67							14.00	16.00
60	60							7.00	7.00							8.00	8.00							14.00	16.00
60	56							7.24	6.76							8.28	7.72							14.00	16.00
60	50							7.64	6.36							8.73	7.27							14.00	16.00
60	40							7.80	5.20							9.10	6.40							13.00	15.50
60	32							7.80	4.16							9.10	5.57							11.96	14.67
60	25							7.80	3.25							9.10	3.90							11.05	13.00
60	18							7.80	2.34							9.10	3.12							10.14	12.22
71	71	40						5.46	5.46	3.08						6.24	6.24	3.52						14.00	16.00
71	71	32						5.71	5.71	2.57						6.53	6.53	2.94						14.00	16.00
71	71	25						5.95	5.95	2.10						6.80	6.80	2.40						14.00	16.00
71	71	18						6.21	6.21	1.58						7.10	7.10	1.80						14.00	16.00
71	71							7.00	7.00							8.00	8.00							14.00	16.00
71	60	50						5.49	4.64	3.87						6.28	5.30	4.42						14.00	16.00
71	60	40						5.81	4.91	3.27						6.64	5.61	3.74						14.00	16.00
71	60	32						6.10	5.15	2.75						6.97	5.89	3.14						14.00	16.00
71	60	25						6.37	5.38	2.24						7.28	6.15	2.56						14.00	16.00
71	60	18						6.67	5.64	1.69						7.62	6.44	1.93						14.00	16.00
71	60							7.59	6.41							8.67	7.33							14.00	16.00
71	56	50						5.62	4.43	3.95						6.42	5.06	4.52						14.00	16.00
71	56	40						5.95	4.69	3.35						6.80	5.37	3.83						14.00	16.00
71	56	32						6.25	4.93	2.82						7.14	5.64	3.22						14.00	16.00
71	56	25						6.54	5.16	2.30						7.47	5.89	2.63						14.00	16.00
71	56	18						6.86	5.41	1.74						7.83	6.18	1.99						14.00	16.00
71	56							7.83	6.17							8.94	7.06							14.00	16.00
71	50	50						5.81	4.09	4.09						6.64	4.68	4.68						14.00	16.00
71	50	40						6.17	4.35	3.48						7.06	4.97	3.98						14.00	16.00
71	50	32						6.50	4.58	2.93						7.42	5.23	3.35						14.00	16.00
71	50	25						6.81	4.79	2.40						7.78	5.48	2.74						14.00	16.00
71	50	18						7.15	5.04	1.81						8.17	5.76	2.07						14.00	16.00
71	50							8.21	5.79							9.39	6.61							14.00	16.00

ADMISSIBLE COMBINATION EXAMPLES OF MULTIFLEX INVERTER

Type of INDOOR UNITS CIRCUIT (×100W)								REAL COOLING CAPACITY (OF EACH UNIT IN COMBINATION) Kw								REAL HEATING CAPACITY (OF EACH UNIT IN COMBINATION) kW								kW	
																								TOTAL COOLING CAPACITY	TOTAL HEATING CAPACITY
71	40	40						6.58	3.71	3.71						7.52	4.24	4.24						14.00	16.00
71	40	32						6.95	3.92	3.13						7.94	4.48	3.58						14.00	16.00
71	40	25						7.31	4.12	2.57						8.35	4.71	2.94						14.00	16.00
71	40	18						7.71	4.34	1.95						8.81	4.96	2.23						14.00	16.00
71	40							8.95	5.05							10.23	5.77							14.00	16.00
71	32	32						7.36	3.32	3.32						8.41	3.79	3.79						14.00	16.00
71	32	25						7.77	3.50	2.73						8.88	4.00	3.13						14.00	16.00
71	32	18						8.21	3.70	2.08						9.39	4.23	2.38						14.00	16.00
71	32							9.23	4.16							10.40	4.97							13.39	15.37
71	25	25						8.21	2.89	2.89						9.39	3.31	3.31						14.00	16.00
71	25	18						8.72	3.07	2.21						9.96	3.51	2.53						14.00	16.00
71	25							9.23	3.25							10.40	3.90							12.48	14.30
71	18	18						9.23	2.34	2.34						10.40	2.69	2.69						13.91	15.78
71	18							9.23	2.34							10.40	3.12							11.57	13.52
71								9.23								10.40								9.23	10.40

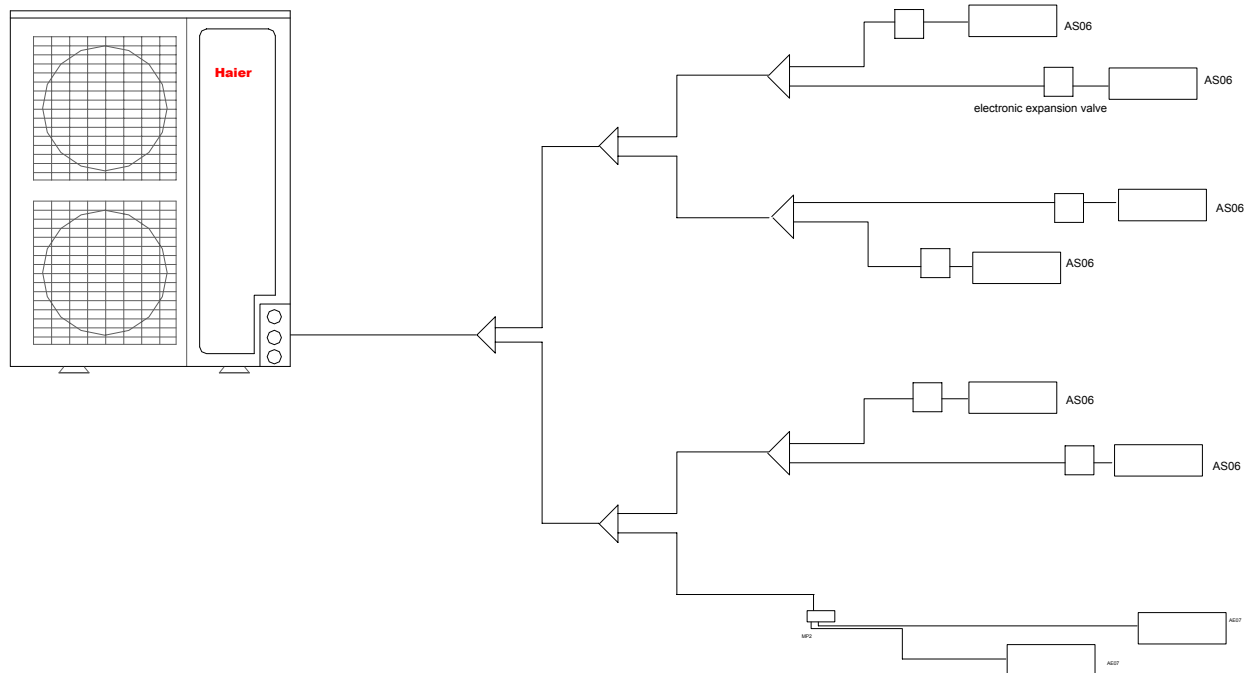
5.3 Piping length and drop between units



- 1) When connected with 8 units, indoor units refer to <admissible combination examples>
- 2) Total length = $l_1 + l_2 \times 2 + l_3 \times 4 + l_4 \times 4 + l_5 \times 4 \leq 100\text{m}$
- 3) Max. piping length = $(l_1 + l_2 + l_3 + l_5) \leq 70\text{m}$
- 4) Max. piping length between the indoor unit and the first branch pipe $\leq 30\text{m}$
- 5) Max. drop between outdoor unit and indoor unit: $H \leq 30\text{m}$ (indoor above outdoor); $H \leq 20\text{m}$ (indoor below outdoor)
- 6) Max. drop between the two indoor units : $h \leq 10\text{m}$
- 7) Expansion valve is less than 15m to its corresponding indoor unit
- 8) Only wall mounted types are connected with expansion valves.
- 9) The expansion valves of different indoor models are different.
- 10) The first branch pipe must use FQG-180, the others use less than it.

Combination example:

8 by 1:

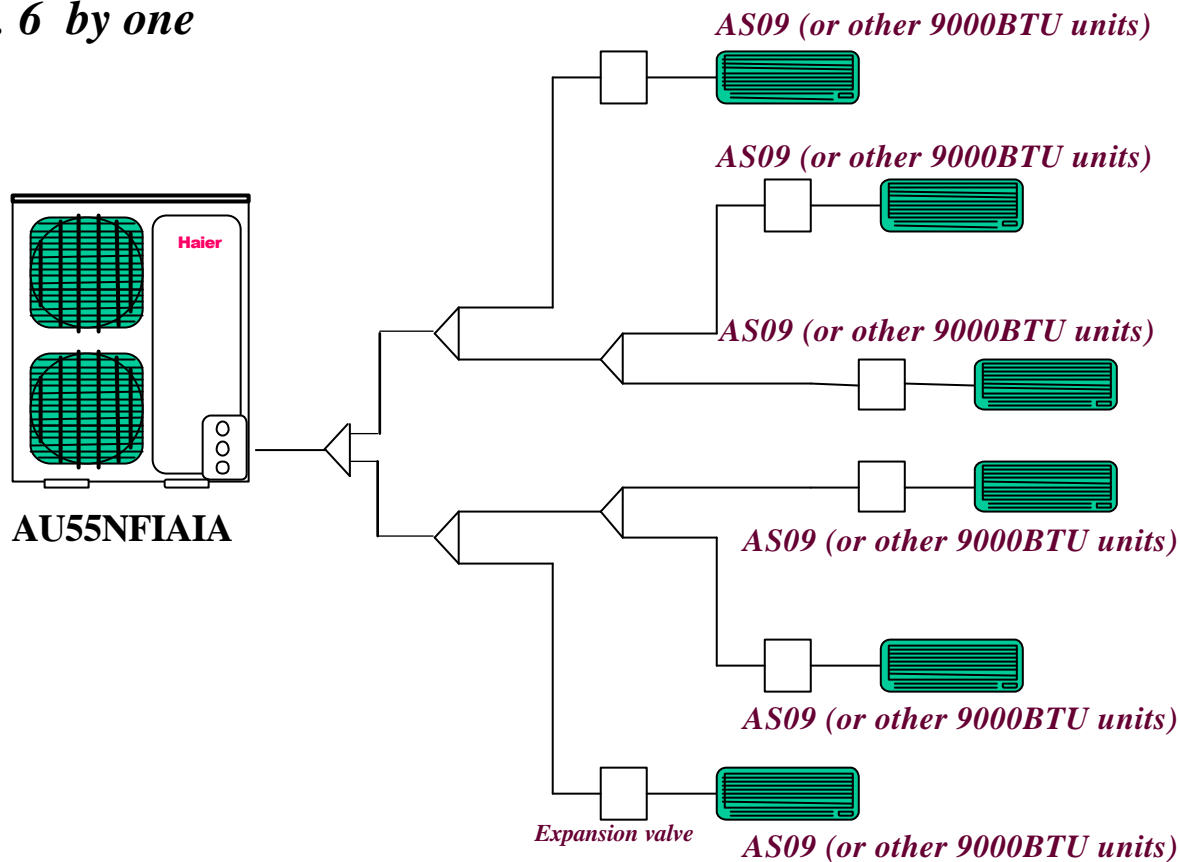


NOTE:

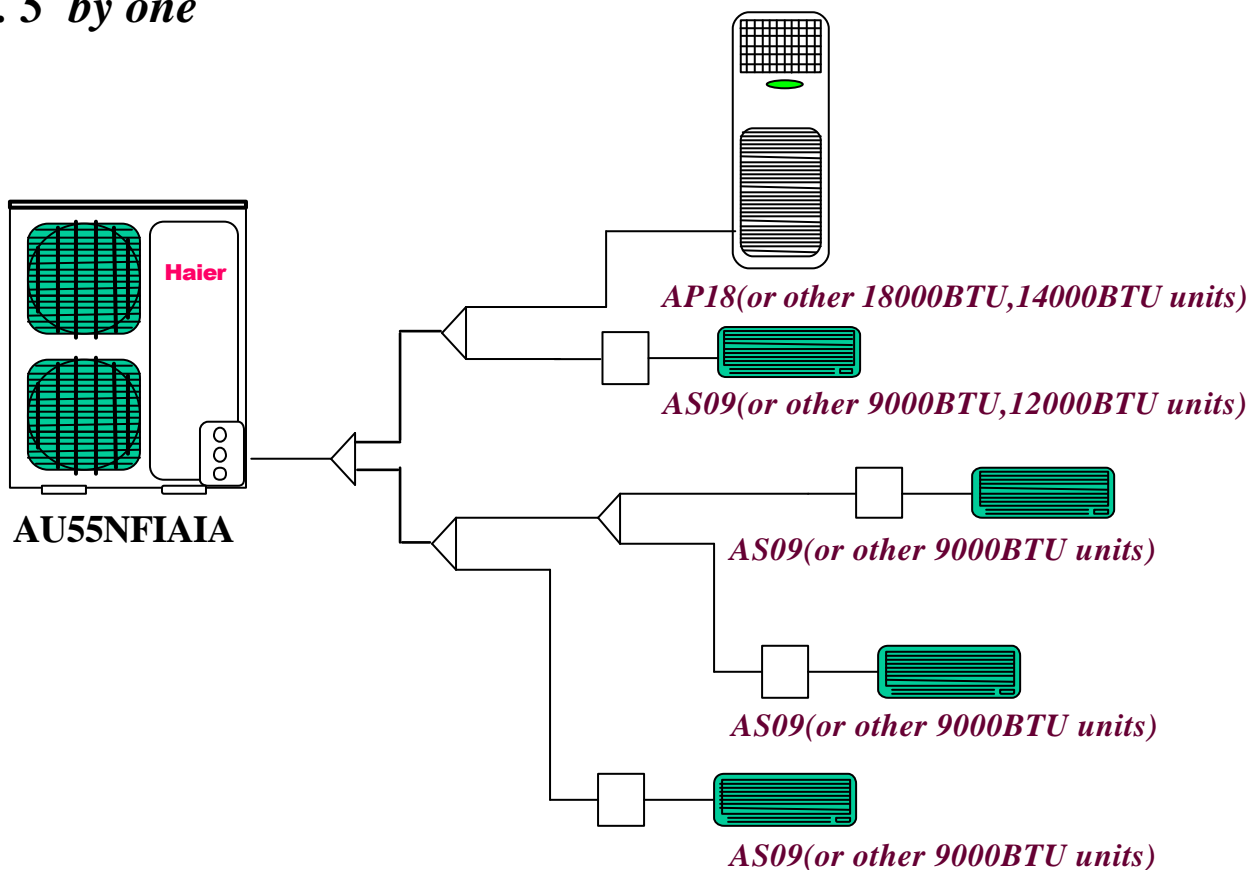
1. When AU55NFIAIA unit is connected with 8 indoor units, pay attention that the total capacity of indoor units must not exceed 130% of outdoor cooling capacity.
2. Wall-mounted type can not be connected with 8 units by the outdoor unit. But you can refer to the above combination example.
3. when outdoor unit connects with 6 wall-mounted units and 2 ceiling concealed units, please set address of wall-mounted type with the address-setting remote controller, and their address numbers are from 1 to 6, then please set address of ceiling concealed type with dialing switches, address number 7 and 8.
4. when outdoor unit connects with 8 units according to <admissible combination example>(except for the No.3 example), please set address of the anterior 6 indoor units with the address-setting remote controller, and then set address of the latter 2 indoor units with dialing switches.

5.4 Combination examples

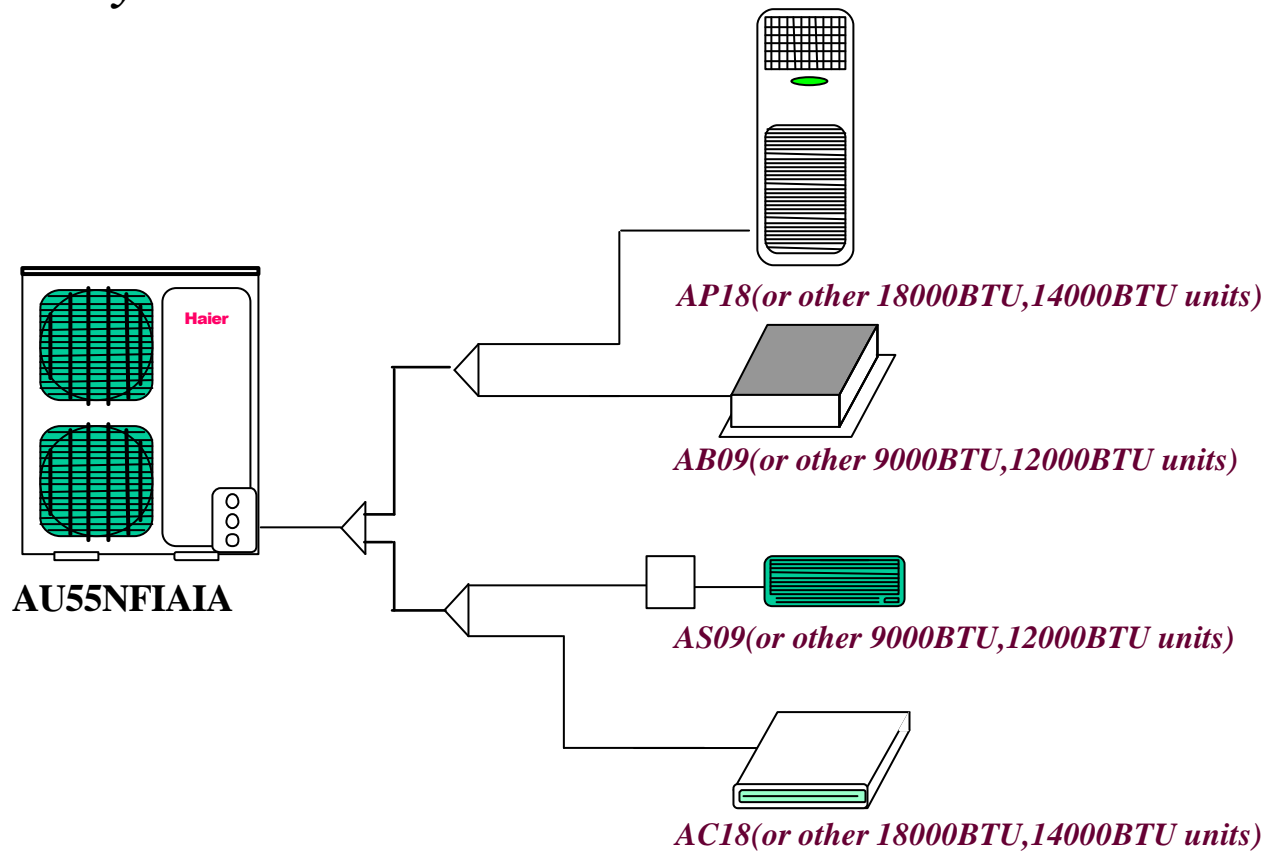
A. 6 by one



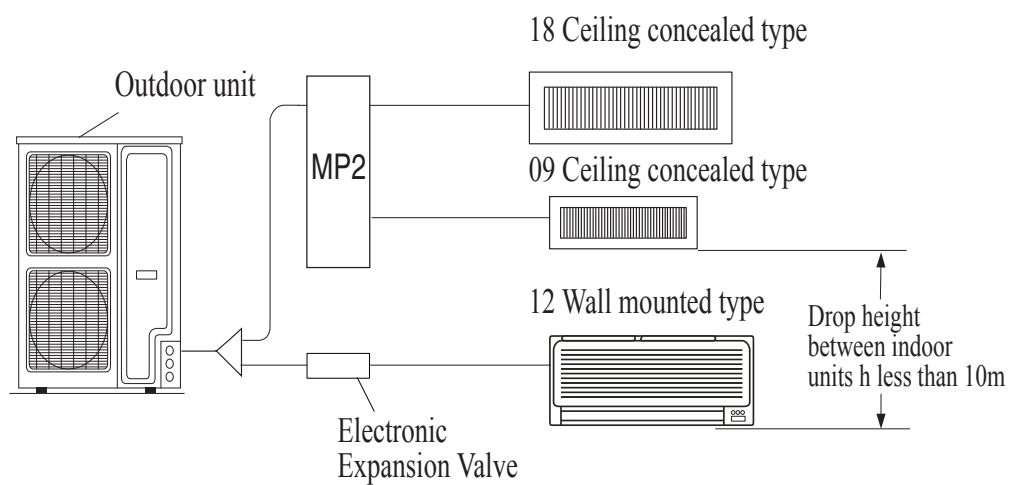
B. 5 by one



C. 4 by one



D. 3 by one



5.6 The Order of Installation Work

Item	Work	Main points
Before installation	Work division	-to ascertain the person responsible for installation of pipes and wiring
	Make installation diagram	-to ascertain the pipe installation dimension and position of electronic expansion valve, to make control wiring system diagram
Work	Installation of indoor and outdoor unit	-to prevent the ventilation from short circuit and guarantee repair space
	Refrigerant pipe work	-Pay attention to dry, clean and seal
	Drain pipe work	-Slant downward
	Heat insulation work	-No gaps in the joint of heat insulation material
	Wiring work (control wire, power cord)	-Choose the proper wire and cord
	Set every set switch	-Should be complied with control wiring system diagram
	Airtight test	-Close all the gas, liquid valves
	Vacuum drying	-Should the vacuum pump that can reach 200Pa vacuity
	Additional refrigerant	-Write down the additional refrigerant amount on the outdoor unit body and record table
	Test run adjustment	-Do test run to indoor unit one by one to verify if there is wrong pipes
	Training of use and maintenance	-Explain to user, simultaneously provide all the documents

The above work order is general knowledge, they may be changed to be complied with the specific work site.

5.7 Attentive matters of safety

- Before installing, do read this [Attentive matters of safety] carefully to guarantee the proper installation.
- The below attentive matters are divided into [warning] and [note] two parts. When the wrong installation occur, it is very possible death and severe injury and other serious accidents will happen. For those items are listed in [warning] part. But even the items listed in [note] part can also cause serious accidents. Above all, both the two parts are very important contents related to safety, so they must be obeyed.
- After installation, do test run to verify everything is normal, after that please explains the use method and maintenance method to the user according to the operation manual. Additionally, give the installation manual together with operation manual to the user and ask them to keep them properly.

Warning

- The distributing shop, where you bought the air conditioner, or the specified shops shall do the installation work. If you do the installation work by yourself, the improper installation will cause water leakage, electric shock fire and other accidents.
- The installation work shall be in line with what the installation manual specified. If installation is not proper, water leakage, electric shock, fire and other accidents will occur.
- Install the air conditioner to a place where can definitely stand its weight. Places not firm enough will cause drop down of unit resulting in body hurt.
- The installation work shall be preventive to typhoon and earthquake. If the installation

work is not met with the requirements, overturn of the unit will occur resulting in accidents.

- The wiring work shall be done by a qualified person and referred to the “technical standard of electric equipment”, “indoor wiring regulation” and what the manual specified. Do use special circuit. If the capacity of the circuit is not enough or bad work, electric shock, fire and other accidents will happen.
- Using the specified cable to do wiring work and connecting firmly and properly. Fix the connecting part of the terminals to prevent it from the external force. Improper connection and fixing will cause heating and fire etc. accidents.
- Wiring shall be kept in correct shape avoiding extrusion. After installation, the electric box cover and the external panel shall not nip the wire. Improper installation will cause heating and fire etc. accidents.
- When setting or moving the air conditioner do not let the air and things alike get into the refrigeration system except the specified refrigerant (R22). If air and other things enter, abnormal high pressure will occur, which easily cause break and body injuries etc. accidents.
- When installing, do use the accessories or specified parts. If not using the parts specified by our company, water leakage, electric shock, fire and refrigerant leakage will occur.
- Do not lead the drainpipe to drain where the sulfur gas may be involved. Otherwise, the poisonous gas will enter into the indoor.
- During installation, if refrigerant leakage occurs, do the ventilation work immediately. As soon as the refrigerant gas meets fire, poisonous gas will be produce. If the refrigerant gas enters into room and meet the air blowing heater, heater or stove etc. fire source, the poisonous gas may be produced. After installation, confirm there is no leakage of refrigerant.
- Do not install the unit in a place where the combustible gas may be leaked. In any case the combustible gas leaks and accumulated around the unit, fire accident will occur.
- Do heat insulation work to the refrigerant gas pipes and liquid pipes to reach the purpose of heat preservation. If the heat insulation measure is not sufficient, water generated by condensing dew will drip leading to wet the floor and indoor articles.
- Do not damage the power line or change it arbitrarily to avoid occurrence of fire or electric shock.
- Do not extend the power line or using other electric appliance in the same power receptacle to avoid fire or electric shock.

Note

- Do grounding work. Do not connect the grounding wire to gas pipe, tap, lighting rod or telephone line. Improper grounding will cause electric shock.
- In some places the electric leakage breaker shall be installed. If do not install the breaker, electric shock may occur.
- After installation, power on to do electric leakage detecting test.

5.8 Special Work and Main Points in Installation

Warning

- | | |
|---|---|
| <ul style="list-style-type: none"> ● During installation, if refrigerant leakage occurs, take ventilation measurement immediately. ● As soon as the leaked refrigerant gas meets fire, poisonous gas will generate. | <ul style="list-style-type: none"> ● After finishing installation, confirm the refrigerant gas does not leak. ● If the refrigerant gas leaks in the room, once it meets heater, burner and gas stove etc. fire source, the poisonous gas will generate. |
|---|---|

A. Choosing of pipes

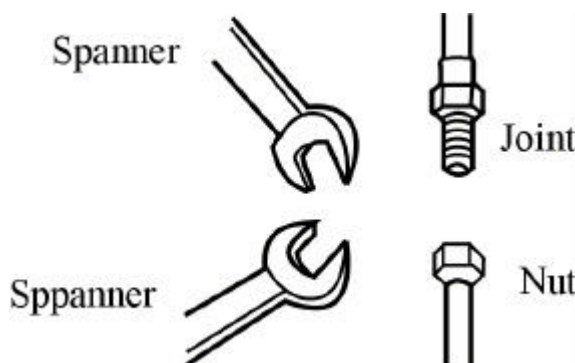
According to the following indoor unit and outdoor unit installation diagram to choose the material and size of pipes and branch pipes.

B. Connection of pipes

1 Method of pipe connection

- The pipe shall be as short as possible to guarantee efficiency.
- Daub the refrigerant oil on the connection and flare nut.
- When bending the pipes, give the roundness as large as possible, to avoid crashing the pipes.
- To connect the pipe, fit the center and screw the nut with hand, then use spanner or torque wrench to tighten it. The fastening torque as shown in below table. As shown in figure.
- Be careful alien matters, such as sands, water etc. shall not enter the pipes.

Forced fastening without careful centering may damage the threads and cause gas



2. Welding of pipes

- In welding, the nitrogen shall be used to avoid oxidation of the pipe inner part.
- The refrigerating pipe shall use clean new pipes. When working, it shall take steps to prevent water and dust from entering.
- When loosening and tightening the nuts, two spanners shall be used. If using one spanner, it can not reach the desired degree of tightness.

Using the specified fastening torque to fasten nuts.

Pipe diameter (mm)	Installation torque (N.M.)	Fastening torque (N.M.)
6.35	11.8 (1.2kgf.m)	13.7 (1.4kgf.m)
9.52	24.5 (2.5kgf.m)	29.4 (3.0kgf.m)
12.7	49.0 (5.0kgf.m)	53.9 (5.5kgf.m)
15.88	78.4 (8.0kgf.m)	98.0 (10.0kgf.m)

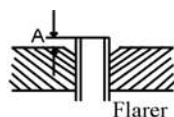
3.Method of cutting and flaring pipe

Cutting and flaring pipe

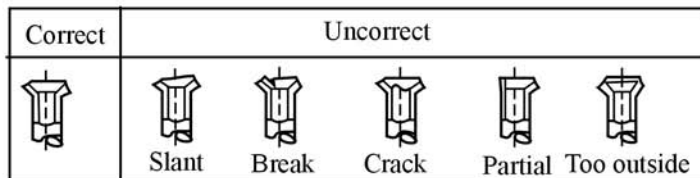
If using pipe cutter, the burs must be removed.

After inserting flaring machine, flare pipe nozzle to be bell-mouthed.

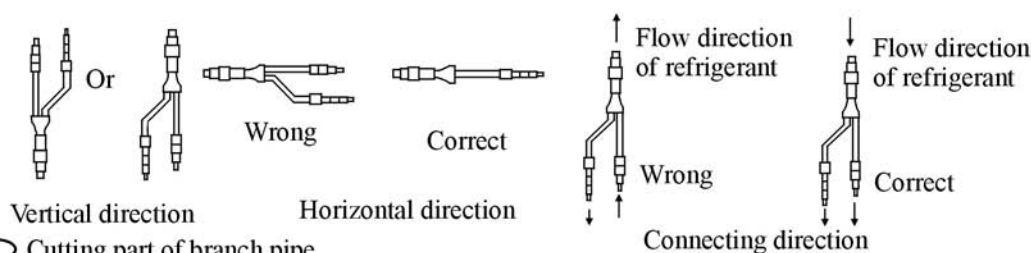
When using branch pipes, do installation work in the directions shown in the below figures.



Diameter of pipe	Dimension A (mm)
Ø 6.35mm(1/4")	0.8~1.5
Ø 9.52mm(3/8")	
Ø 12.70mm(1/2")	2.2~2.6
Ø 15.88mm(3/4")	

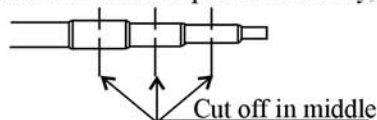


○ When using branch pipe, please install it as shown in the following Fig.



○ Cutting part of branch pipe

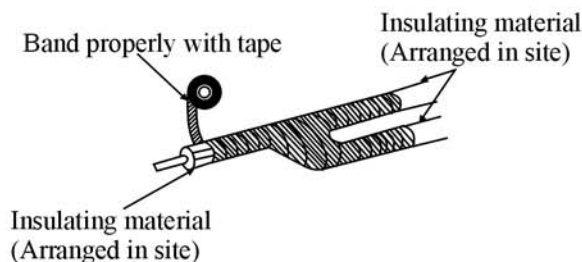
Cut the connection part off centrally, and remove the burs.



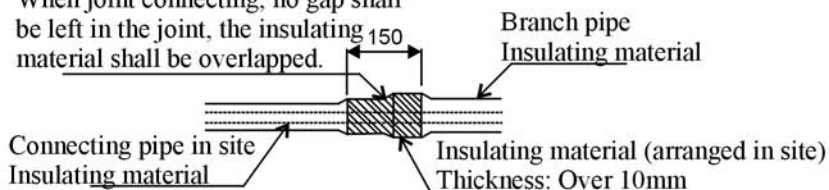
For the cutting of branch pipes, it is necessary to use micro-cutter.

Heating insulation of pipes

Insulation of branch pipe part:after connection the attached heat insulation materials of the branch pipe with the site pipes, bind them properly.



When joint connecting, no gap shall be left in the joint, the insulating material shall be overlapped.



(4) Pipe connection of the outdoor unit

Referring to the installation diagram in page 4, connect the indoor unit, outdoor unit, branch pipe and electronic expansion valve together by using the pipe connection method and welding method.

(5) Test of airtight quality

After connection of the refrigerant pipes, carry out airtight quality test. In this test,

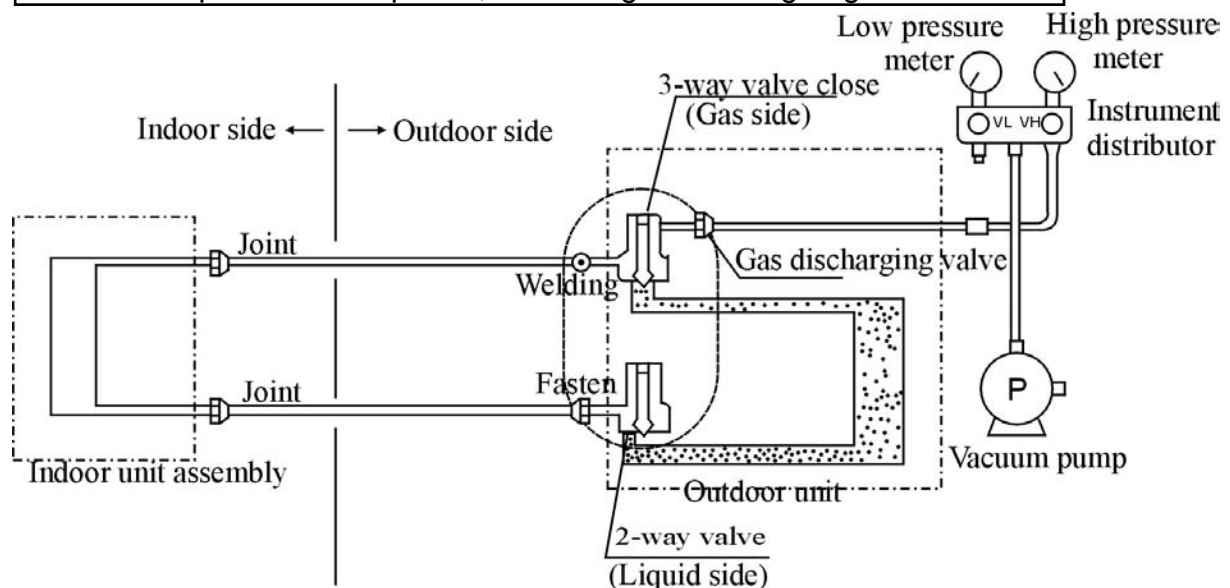
5.9 Test of leakage after wiring work is finished

After connection of the refrigerant pipes, carry out leakage test. In this test, pressurize to the pipes as shown in the below figure by using nitrogen tank. Close the valves of the gas side and liquid side totally.

The nitrogen may enter the cycle system of the outdoor unit, so that, before pressurizing, the valve rods must be fastened. (Both the gas side and liquid side). For each of the refrigerant system, pressurize from the discharge valve of gas side in procedure.

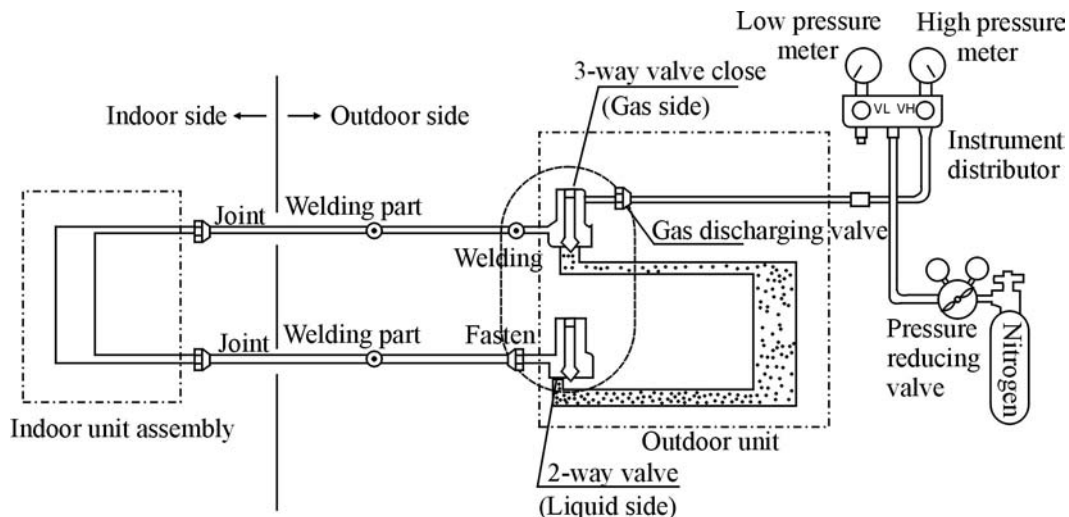
When doing leakage test, it is absolutely forbidden to use oxygen, flammable gas and poisonous gas. **The indoor unit expansion valve must be open.**

After wiring work and setting the address, switch on the indoor units and after 25-30s put down the power, then charge the nitrogen gas.



5 vacuuming of the pipes and indoor unit (using vacuum pump to vacuums, it is strictly forbidden to use refrigerant purging)

- a. Choose of vacuum pump: it shall choose those that can reach a good vacuity (over 200Pa) and have a large air discharge amount (over 40L/min).
- b. After finishing the airtight quality test and the nitrogen discharging, connect the instrumental diverter to the 3-way discharge valve, then connect the vacuum pump according to the below figure.



- c. Vacuumize 2~3 hours according to the length of the pipe. When vacuuming, confirm the gas side and liquid side of the 2-way valve and 3-way valve shall be in full close state.
- d. When it is not lower than 200Pa after 2 hours or more vacuuming, vacuums for another 1 hour. If after more than 3 hours vacuuming it is still not lower than 200Pa, the leak part shall be found.
- e. When it is lower than 200Pa after more than 2 hours vacuuming, close both the valve VL and VH of the diverter, then close the vacuum pump. Place it there to observe if the vacuity changes. If it changes, it indicates leakage exists, so the leak part shall be found.
- f. After finishing the above vacuuming work, replace the vacuum pump with refrigerant tank and turn to the refrigerant charging procedure.

5.10 Charging of refrigerant

1. Calculation of additional charging amount of refrigerant

After finishing vacuuming work, replace the vacuum pump with refrigerant tank and turn to the refrigerant additional charging procedure.

Calculation of additional charging amount of refrigerant

Before the air conditioner leaving factory, the refrigerant-charging amount does not include the refrigerant in the site pipe part. Calculate the refrigerant amount for the site pipe first, then do the additional refrigerant charging work.

Refrigerant charging amount when air conditioner leaves factory R22: 2x1.6Kg; R407C: 2x2.0Kg.
Calculation method:

According to the liquid pipe dimension of site pipe and actual length to calculate the additional refrigerant-charging amount.

Calculation formula:

Site refrigerant charging amount = Length of liquid pipe x additional refrigerant charging amount/m

For example: additional charging amount

$R \text{ (kg)} = (L1 \times 0.030 \text{ kg/m}) + (L2 \times 0.065 \text{ kg/m})$

L1: Total length of liquid pipe diameter 6.35mm;

L2: Total length of liquid pipe diameter 9.52mm.

2. Charging of refrigerant

Close all valves of outdoor unit, and charge refrigerant from air discharge valve of **gas side**.

When can not charge the specified amount, firstly, open all the valves, both liquid side and gas side, of outdoor unit, then switch the valve of gas side to close state a little. Under this condition, do cooling operation and charge refrigerant from the discharge valve of gas side. At this time, adjust the valve of the refrigerant tank to make the refrigerant in Gas State when it is absorbed by system.

When refrigerant leakage making refrigerant lack in system occurs, the intrinsic refrigerant of the system shall be recovered and recharge it according to specified amount.

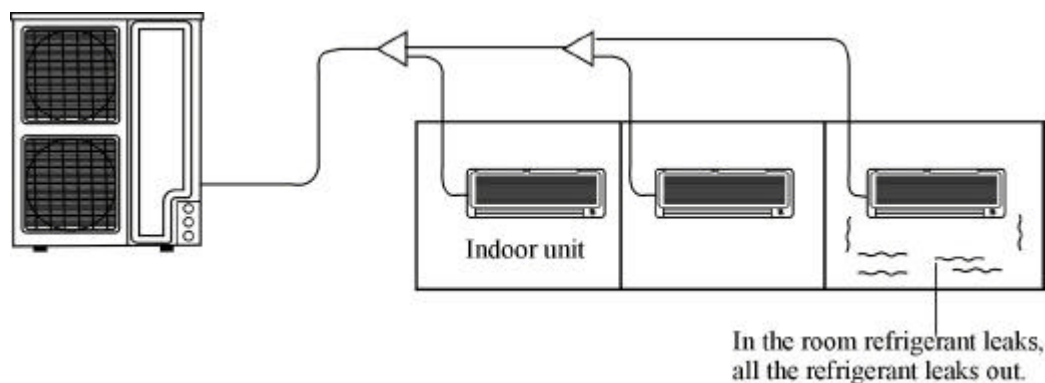
3. Opening of the refrigerant pipe

Open all the valves of outdoor unit

5.11 Refrigerant

MRV central air conditioner uses refrigerant “R22”. This refrigerant itself is innocuous, non-combustible safety refrigerant. But then, when arranging the air conditioner equipment, it is necessary to take some steps to take precautions against in case of the indoors refrigerant leakage. Such as, the room size shall be taken into account to avoid making the concentration of the refrigerant not exceed the concentration limit and other relevant steps. The concentration limit is the concentration that is not harmful to human body and can take emergency steps to treat the concentration of Freon.

Concentration limit of R22: 0.3kg/m³



1. Sequence of refrigerant concentration affirmation

Calculate the refrigerant concentration according to the following sequence.

(1) Calculate the total refrigerant-charging amount of each of the refrigerating system (kg).

- Refrigerant charging amount of outdoor system + Additional refrigerant charging amount = Total refrigerant charging amount of the refrigerating equipment (kg).
- Refrigerant charging amount of outdoor system: Refrigerant charging amount when air conditioner leaves factory.
- Additional refrigerant charging amount: Additional refrigerant charging amount according to the site pipe length and pipe diameter.

(2) Calculate the minimum size of the room suitable for the indoor unit assembly (m³).

(3) Calculate the concentration of refrigerant:

Total refrigerant charging amount of refrigerating equipment/the minimum room size suitable for indoor unit assembly (m³) Refrigerant concentration limit: 0.3kg/ m³

2. Countermeasure when exceeding the concentration limit

(1) Set an effective opening for ventilation and fresh air.

- Cut an intake respectively on the upper and lower part of the door which areas are equivalent to 0.15% grounding area, or cut an intake in other part of the room.

(2) Reduce the total refrigerant charging amount of the refrigerating equipment

- Shorten the refrigerant pipe length. Reduce the installation place distance between the outdoor unit and the indoor unit to shorten the refrigerant pipe length, so that reduce the total refrigerant charging amount of the refrigerating equipment.

(3) Establish ventilation and fresh air system

- Establish a mechanical equipment for fresh air to keep the refrigerant concentration below the concentration limit (normal ventilation)\
- When can not ventilate the normally, please set an alarm apparatus linked with the mechanical ventilation equipment.

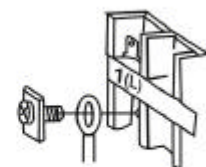
5.12 Electric wiring

Note:

- The air conditioner must use special circuit (over 13A), 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: 3PH, 380V~, 50Hz, the power supply connects from the outdoor side.
- 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.
- Specification of wire and short circuit protector in site wiring:

Type Contents	Power line	Connection wire	Connection signal wire	Short circuit protector
Specification	YZW	YZW	YZW	----
Parameter	5x 4mm ²	3 x (1~1.5mm ²)	2 x (0.5~1.5mm ²)	20A

Note: The signal wire using shielded wire is recommended.

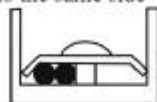


Wiring method of ring-type terminals

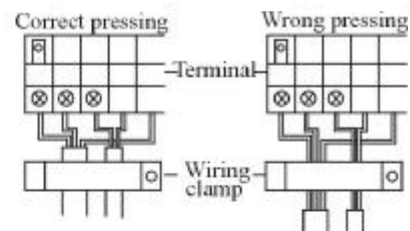
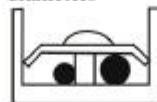
Connect the wire with same diameter to the two sides of the terminal



Do not connect the wire with same diameter to the same side

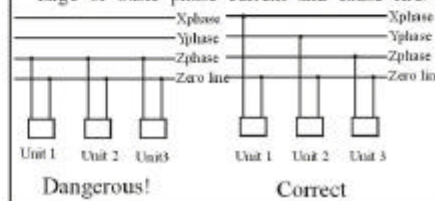


Do not connect the wire with different diameters



Wiring pressing method of connecting wire

When installing multiple sets of air conditioner, the power line of the unit shall be connected to different phases of the 3-phase power, and distributed equally. Otherwise, it will cause too large of basic phase current and cause fire.



Wiring method

1. Wiring method of orbicular terminals

For the connection wire with orbicular 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.

2. 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.

3. 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. The terminals with same number and color connect with a same wire. Incorrect wiring will damage the controller of air conditioner or the unit can not operate.

Wiring method of outdoor unit:

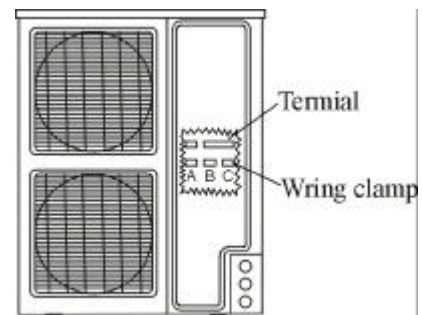
● Power line (connects from outdoor unit)

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 A, and connect them to terminal block correspondingly. After connection, fasten wire cover A to its previous state.

● Power line and communication wire of indoor unit

Loosen wire cover B and C, put the power line and communication wire connected with A, B system indoor unit through the wire cover B and C, and connect them to terminal block correspondingly. After connection, fasten wire cover B and C to its previous state.

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



Wiring method of indoor unit

● Power line and communication wire of indoor unit

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

● Drive wire of electronic expansion valve

Air-connect the drive wire of electronic expansion valve with the down-lead from the control base board of indoor unit.

After the above connection, fasten the wire cover to its previous state.

Wiring method of electronic expansion drive

Open the box cover of the drive and put the drive wire of electronic expansion valve through the rubber ring, then correspondingly connect the connection wire with the terminal of control base board of the drive. Use nut to connect the grounding wire on the drive box and use wire clamp to fasten the wire. Put on the cover, the wiring connection is finished.

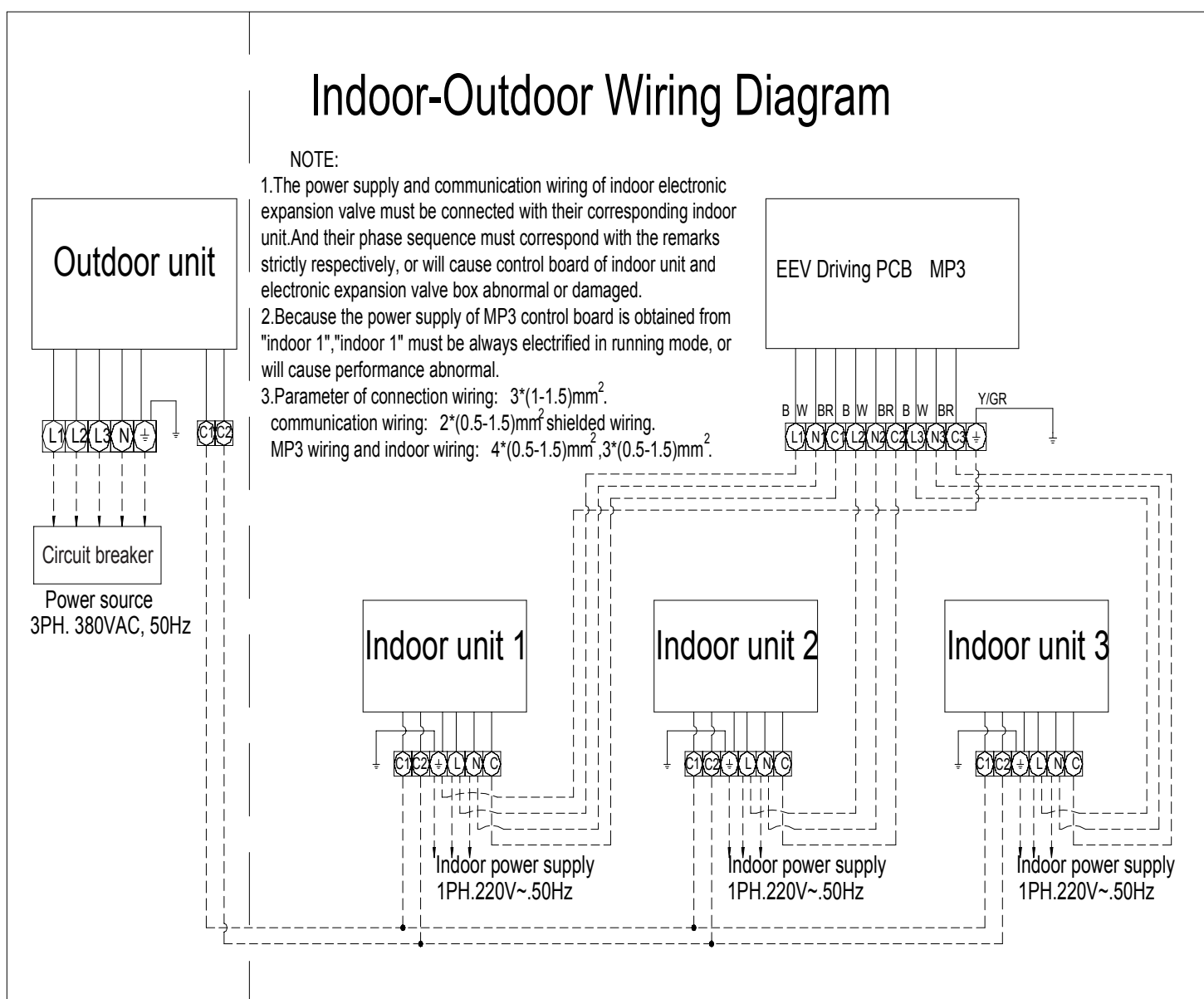
Note:

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

1. Do not connect the power line with different dimensions to the same connection wire end. Improper contact will cause heat generation.

2. Do not connect the power line with different dimensions to the same grounding wire end. Improper contact will affect protection.
3. Keep a proper distance between the communication wire and the power line. Otherwise, abnormal communication will occur because of disturbance.
4. Do not connect the power line to the connecting end of communication wire. Incorrect connection will cause damage of connected unit.
5. **The communication wire must be shielding wire.**

Wiring example diagram:



5.14 Checks after the installation

After installation, please fill in the following form for easy daily maintenance:

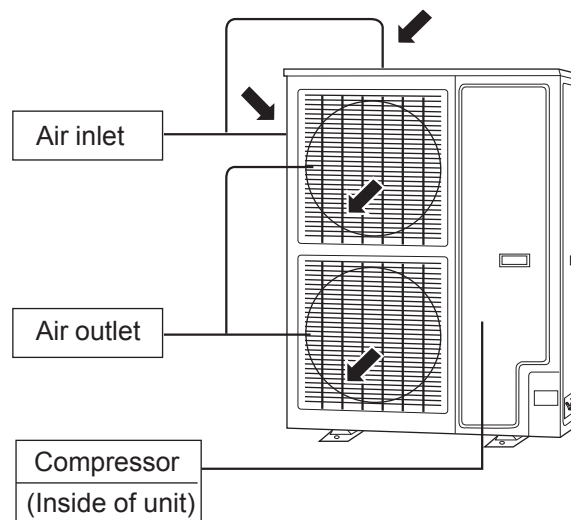
No.	Model of indoor unit	Factory No. of unit	Site setting No.	System belonged
1				
2				
3				
4				
5				
6				

Check for installation and test run

- Please operate the air conditioner according to the operation manual.
- Check items for test run, put mark in ☐
- Gas leakage from pipe connection ?
Heat insulation treatment of pipe connection?
- Is 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?

6 PARTS AND FUNCTIONS

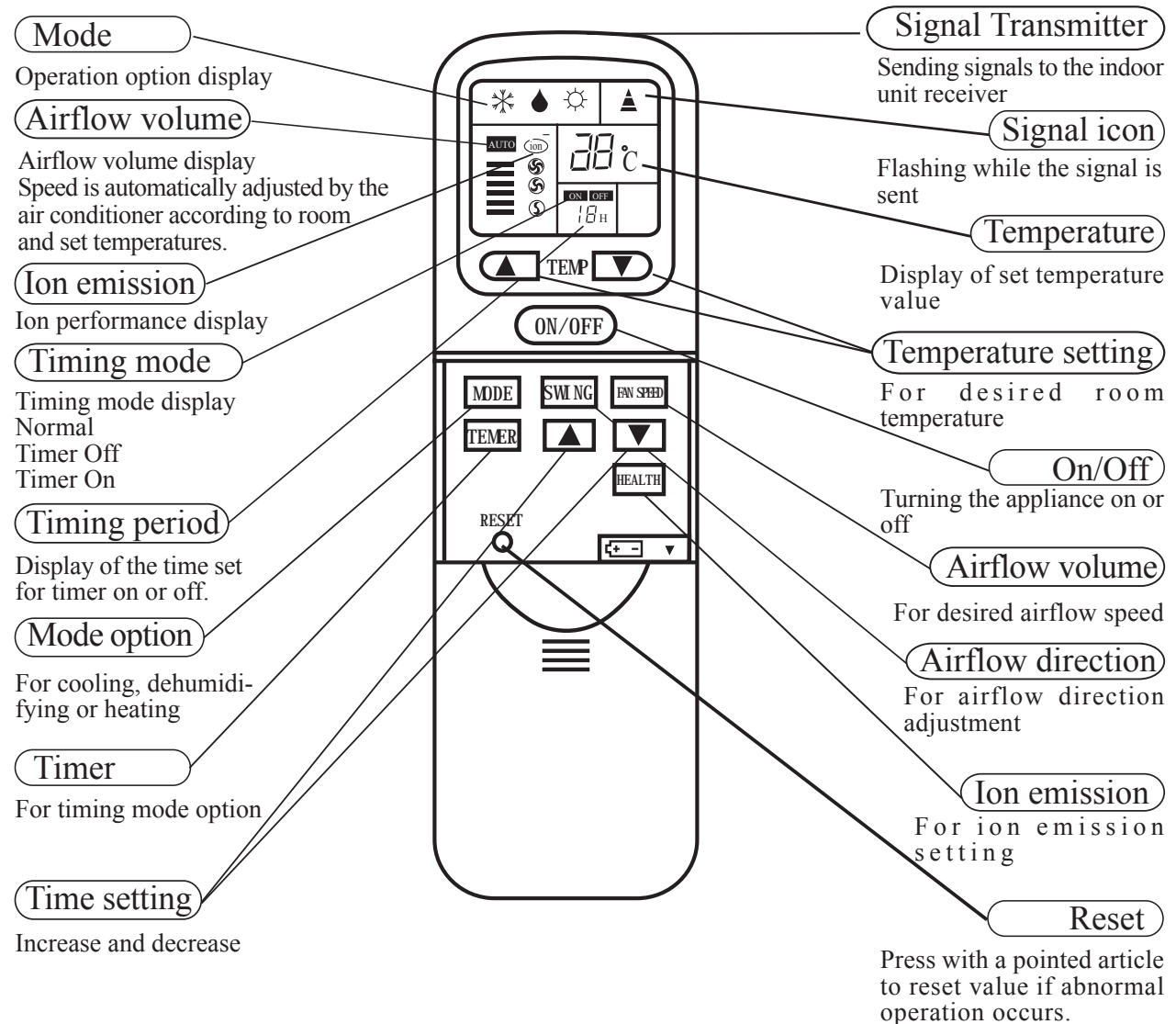
Outdoor unit



7 REMOTE CONTROLLER FUNCTIONS

7.1 Controllers

7.1.1 Wireless remote controller



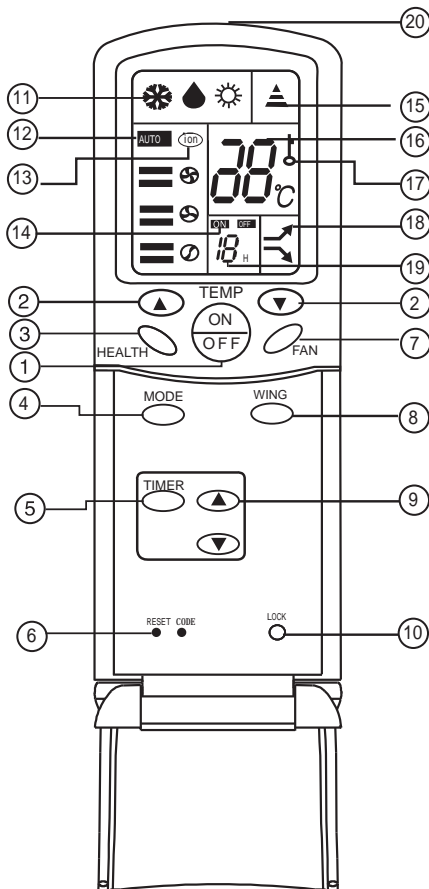
Cautions:

- Default mode of the air conditioner will resume if the battery in the remote controller is replaced:
 Mode: Cooling; Temperature: 26° C;
 Timing: Normal; Airflow speed: Auto

7.1.3 Remote controller (new type)

Remote controller

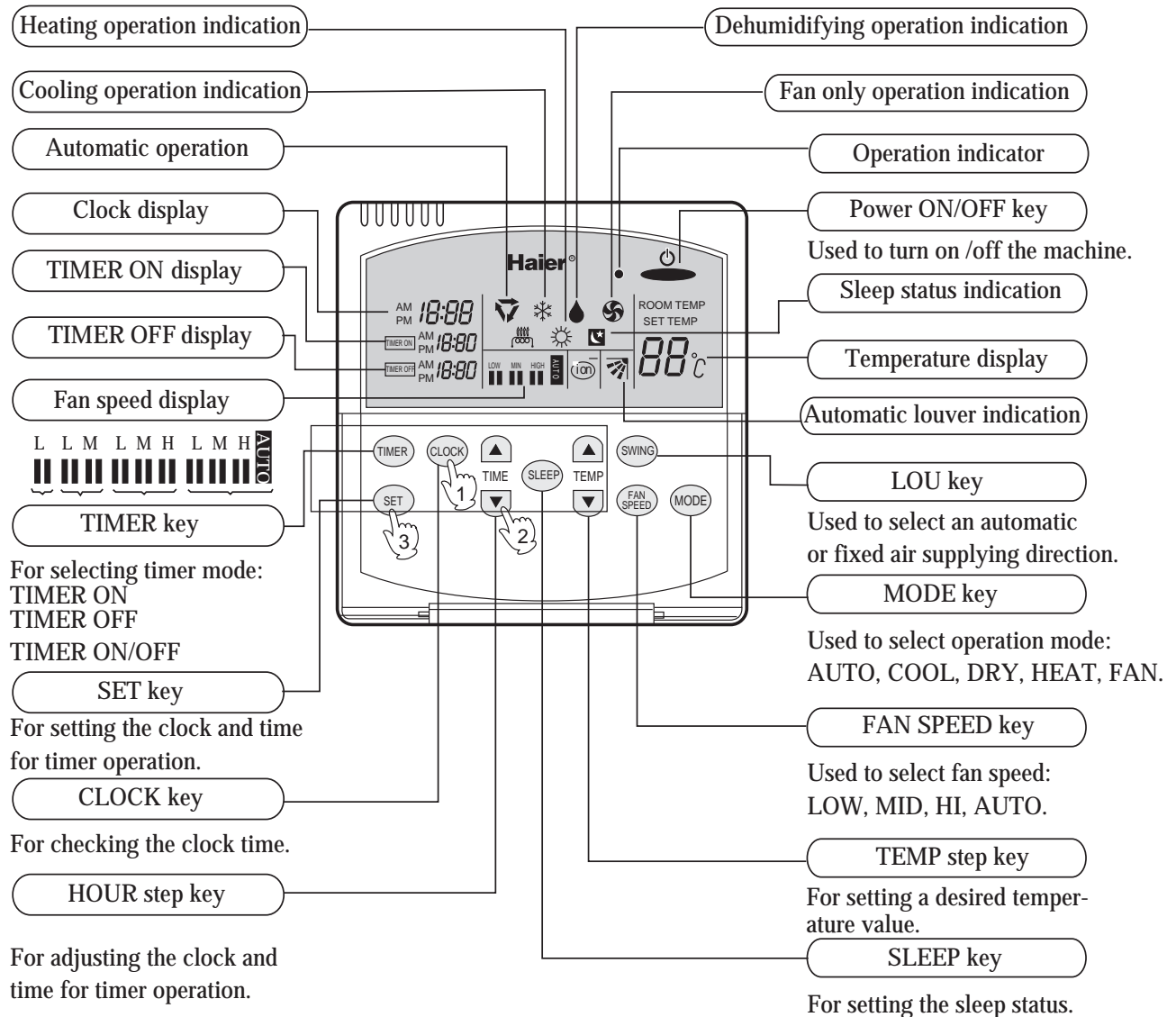
Buttons and display of the remote controller



1. POWER ON/OFF
used for unit start and stop
2. TEMPERATURE
used to select your desired temp.
3. HEALTH
used to control the function of oxygen-making and ion-adding (when oxygen device and ion-generator are both acquirable "health" button can control them, whether oxygen device is acquirable lies on the function of its outdoor.)
4. MODE
used to select cooling d ehumidity heating
5. TIMER
used to select: TIMER ON, TIMER OFF
6. RESET
press it with a needle to normal condition
7. FAN
used to select your desired fan speed
8. SWING
used to set fan direction
9. SET TIMER
10. LOCK
press it to lock buttons and press again to cancel lock
11. DISPLAY MODE
display the selected mode
12. DISPLAY FAN SPEED
used to display difference between indoor temp, and enacted temp.
13. HEALTH DISPLAY
used to show health state
14. TIMER DISPLAY
display the timer state:
"normal": no timer
"off": set time to shut off
"on": set time to start
15. SIGNAL
it flashes when you emit sign to indoor unit
16. TEMP. DISPLAY
display the temp. enacted.
17. LOCK DISPLAY
show that buttons have been locked
18. MIGHT/QUIET DISPLAY
19. TIME DISPLAY
display the time of "TIMER ON" and "TIMER OFF"
20. EMITTING PART
used to emit the sign to indoor receiver

NOTE: After replacing the batteries, press the "ON/OFF", remote controller will display as follows:
 MODE: cooling, TEMP.: 26
 TIMER: normal, FAN: auto

7.1.3 Wired remote controller (old type)



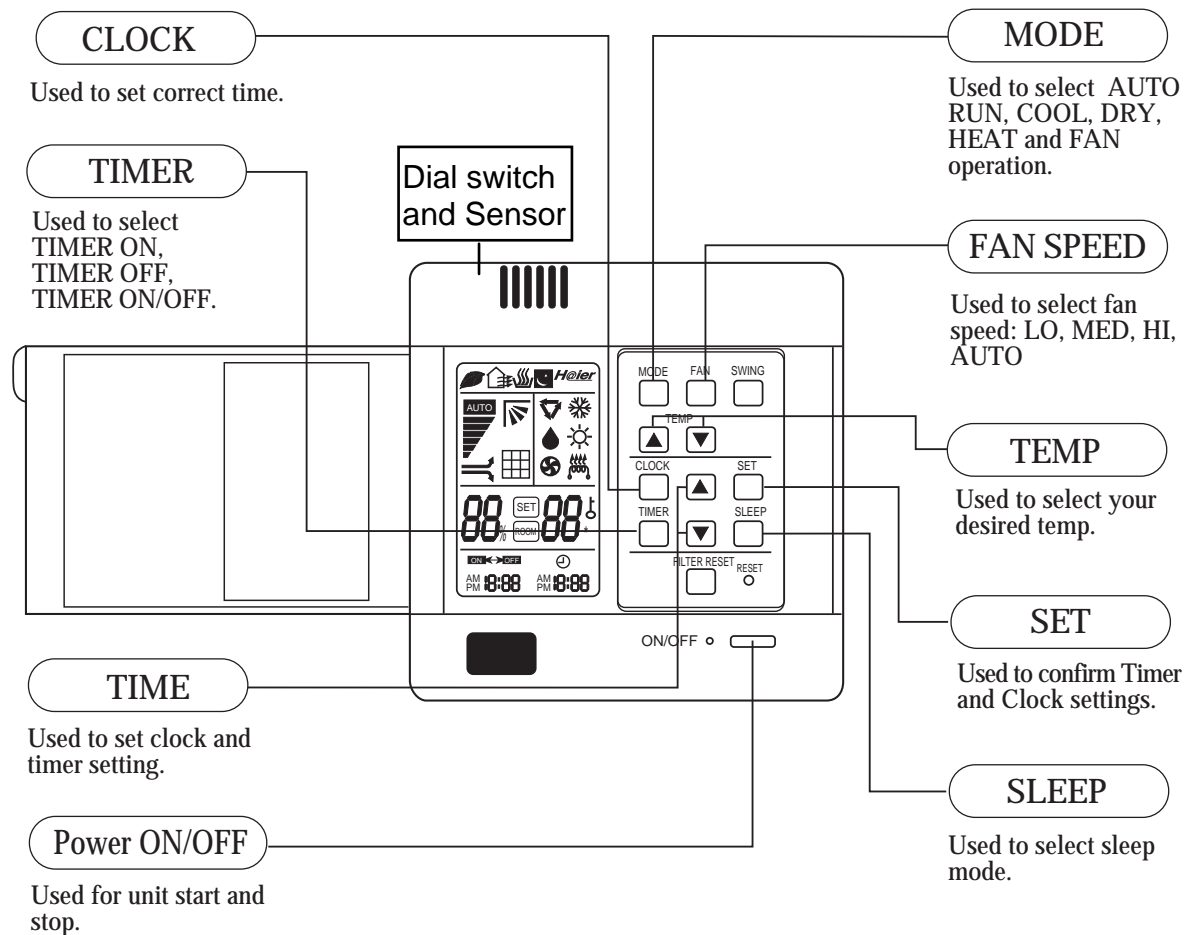
Note: This model of air conditioner doesn't provide the air sending direction adjustment function and thus the "LOU" key is disengaged while the automatic air direction indication may be displayed.
This remote controller hasn't electric-aided heating indication as well as anion generation function and indication.

Clock Set

When unit is started for the first time, clock should be adjusted as follows:

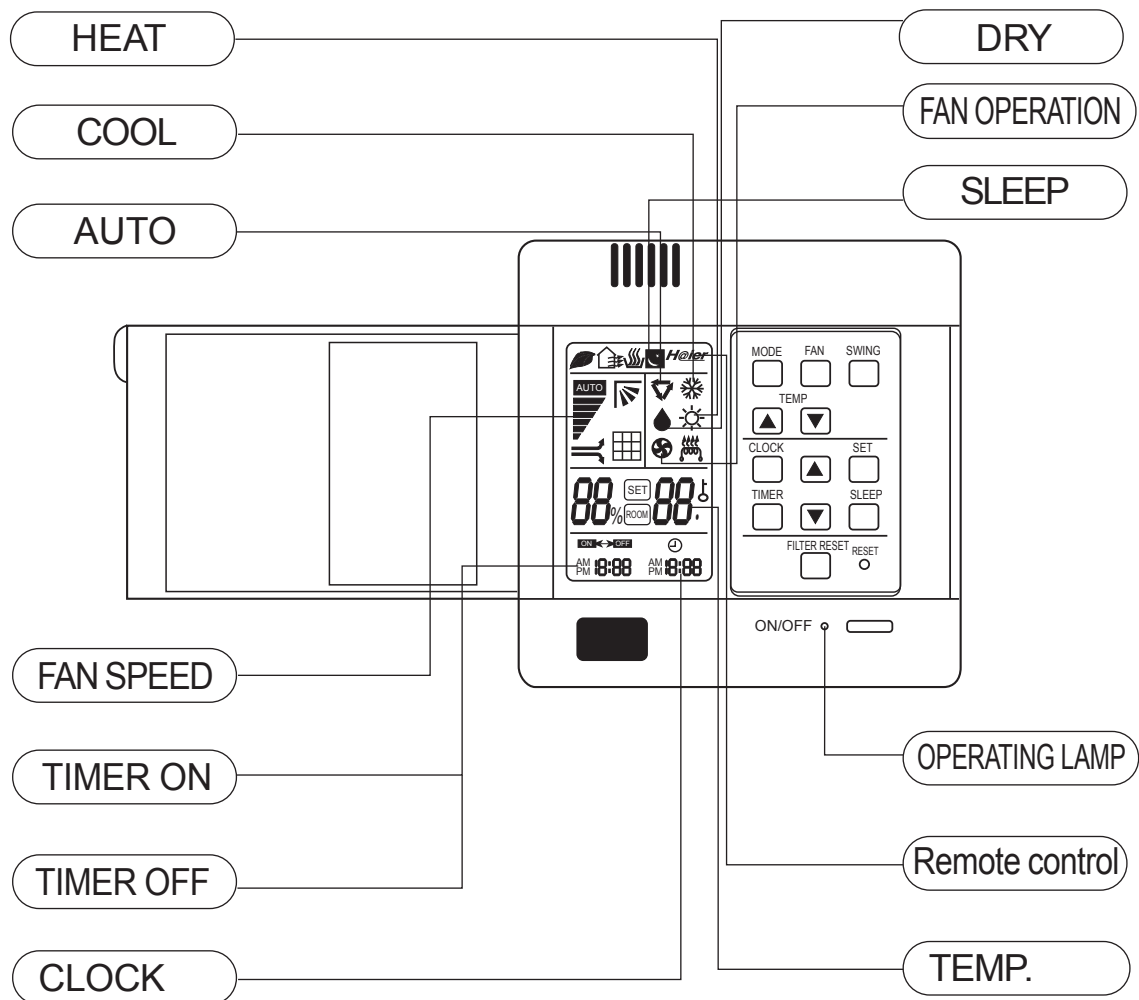
1. Press "CLOCK" key, "AM" or "PM" flashes at the clock display area.
2. Press the HOUR "▲" or "▼" key to set correct time. Each press will increase or decrease the time by 1 min. If the key is kept depressed, time will change quickly.
3. After time setting is confirmed, press "SET" key, "AM" or "PM" stop flashing, while clock starts working.

7.1.4 Wired remote controller (new type)



Note:

The above information is the explanation of the displayed information therefore varies with those displayed in actual operation.



Clock set

When unit is started for the first time, clock should be adjusted as follows:

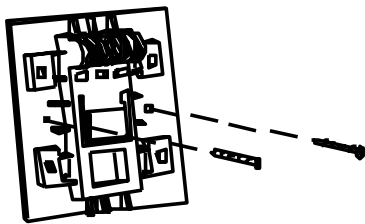
- Press CLOCK button, "AM" or "PM" flashes.
- Press ▲ or ▼ to set correct time. Each press will increase or decrease 1min. If the button is kept depressed, time will change quickly.
- After time setting is confirmed, press SET, "AM" and "PM" stop flashing, while clock starts working.

Installation of receive display

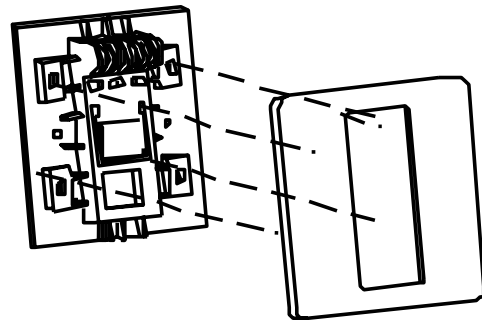
Because of the temperature sensitive device, do not install the receive display at straight sunlight place, either in front of air outlet grill, for it is effected greatly from cool air and heat air, the receive display is at least 20mm distance to the air outlet grill.

Since there is light sensitive device which receives wireless remote signal, so do not installed behind the window curtain or other obstacles, in order not to obstruct the signal.

Must fix the remote control wire far from strong electricity (such as the wiring of electric light, air conditioner, etc.) and weak electricity (such as the wiring of telephone, interphone, etc.).



- A Fix the receive display with screws
on the selected place.



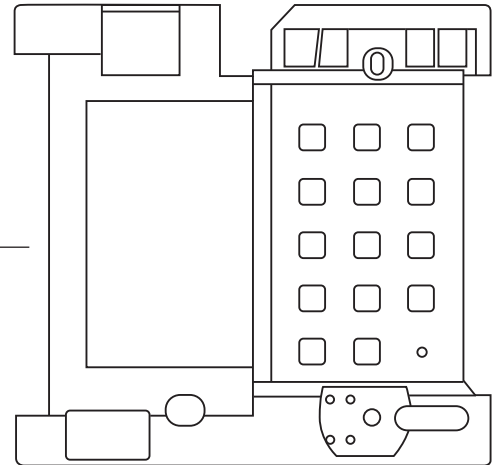
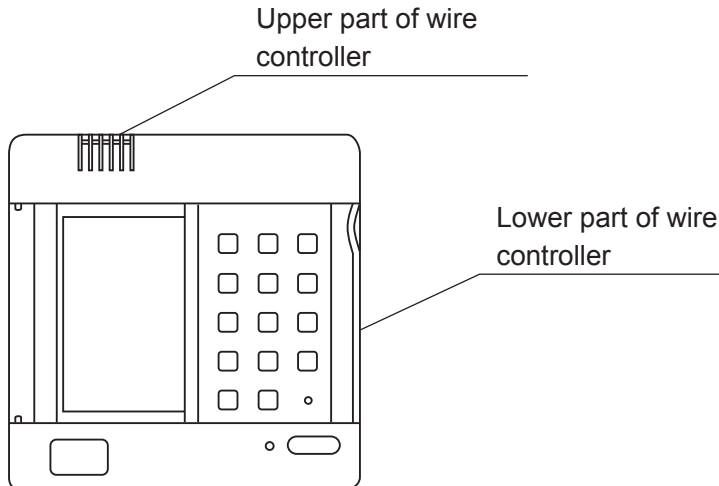
- B Place the panel onto the fixed frame, pay attention
that the four claws must be placed into the
corresponding
four poles on the frame.

Installation of the wired remote controller

a. Remove upper part of wire

Remove upper part of wire controller

PCB is mounted on lower part of wire controller, be careful not to damage



b. Install wire

(1) For exposed installation, use 2 wood screws(accessory).

(2) For recessed installation, use 2 wood screws(accessory).

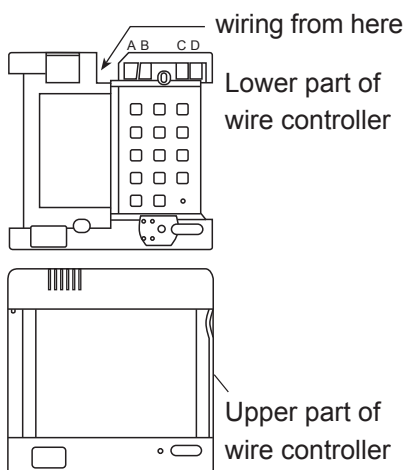
Note: Try as far as possible a flat surface for installation. Don't use excessive

c. Indoor unit wiring

Connect terminals (A,B,C,D) on lower part of wire controller to terminals (A, B,C,D) on PCB of indoor unit.

Hint:

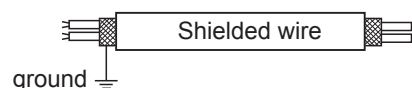
When make wiring, please keep a distance between wires and power supply cord.



Wire size

Cord kind	Shield wire (4 core) (refer to Hint 3,4)
Size	0.33mm ²

- Use shielded wires for telecommunication between wire controller and indoor unit; indoor unit and outdoor unit. Ground the shield on one side. Otherwise misoperation because of noise may occur.
- Signal wire is self-provided.



Hint: Tread surface of the terminal well so that shielding may not contact other part.

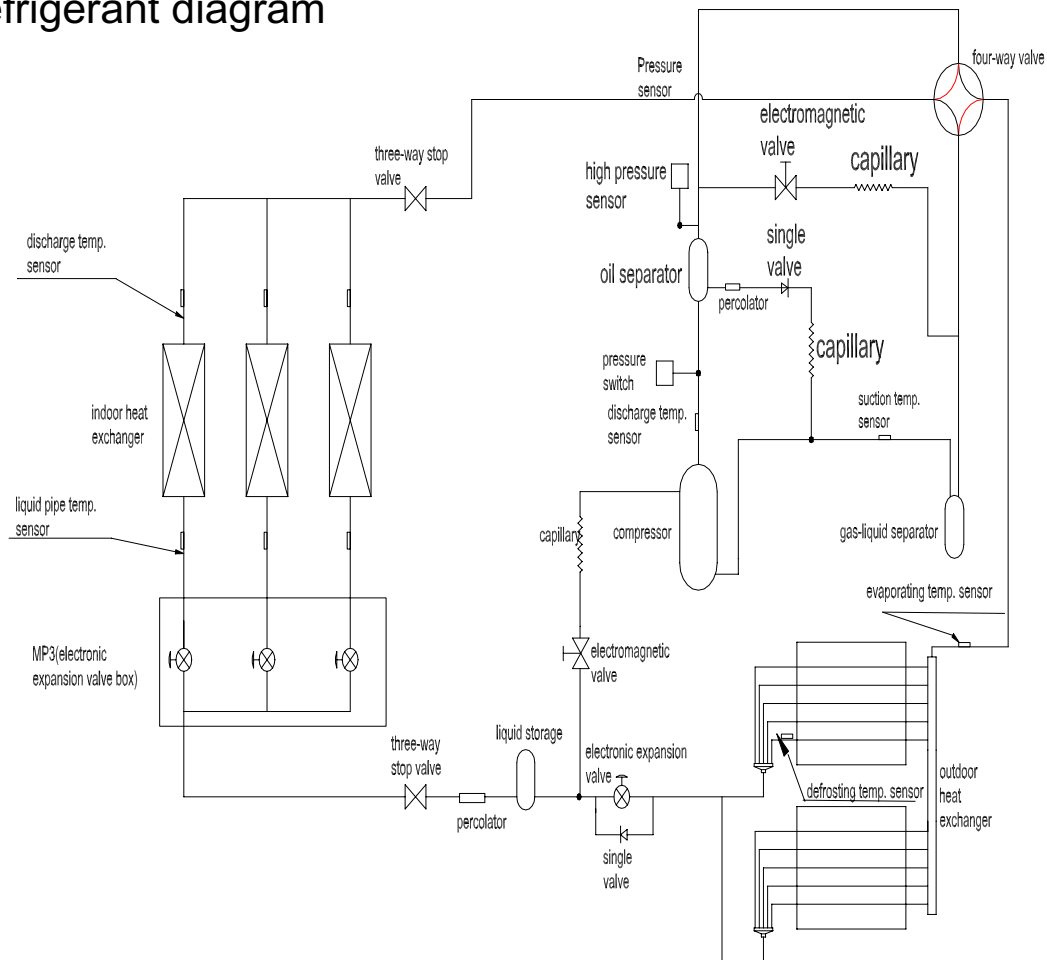
d. Replace the upper part of wire controller

Be careful not to press the wiring.

Hint: 1. Switch box and cord for wiring are not supplied.

2. Don't touch PCB with hand.

8. Refrigerant diagram



9 ELECTRICAL CONTROL FUNCTIONS

9.1 Function of special remote controller (Address setting)

1. Read function symbol

Press “read” button , “1” flashes 1 time

2. Signal emitting symbol

when “2” flashes ,it shows that remote controller is giving signal to indoor unit.

3. Indoor unit number

press “8”button to select indoor unit number (1,2,3,4,5or6), then “3” flashes continuously ,press “7” to set indoor unit number

4. Button locked symbol

When “9” is on the state of “↗”,press “10”button ,“4” appears to show other buttons are locked .press “10”again to cancel

5 Code symbol

press “9”button to select code type , When “5” is on the state of “↘” ,the emitting code to indoor unit is for product made in 1998.

6 Read button

Press this button to give indoor unit signal , the power LED flashes to show indoor unit number.

7 Indoor unit number setting button

When “3” is continuously flashes ,Press this button and give signal to indoor unit to set the number selected.

8 Indoor unit number selection button

use these 6 buttons to select indoor unit number to be set

9 Code selection button

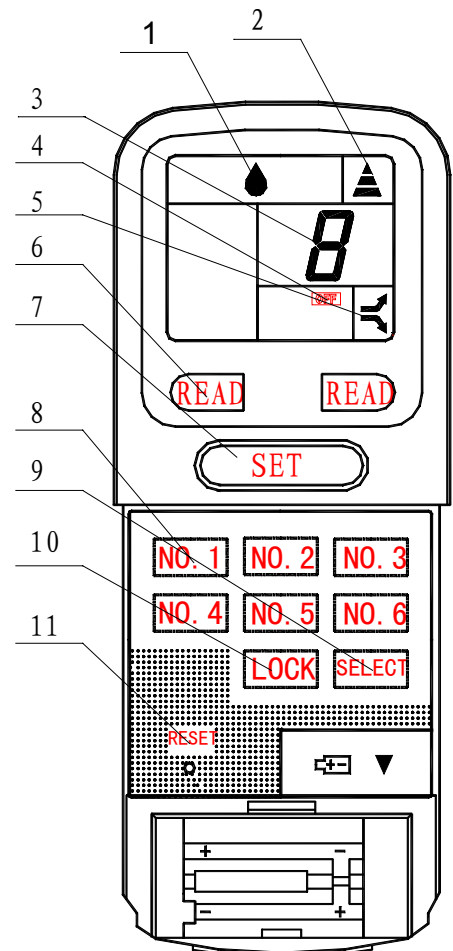
Use this button to select emitting code type
Normally “5” is on the state of “↗”.

10 Lock button

Press this button , “4”appears ,the other buttons will be locked

11 Reset Button

When the remote controller is abnormal , press this button with pointed things to reset.



Function table for address setting controller

power on	After dehumidification sign, emission sign, 8 sign, OFF sign, up arrow, down arrow display for 3 minutes, the controller will only display up arrow and down arrow	
power on	partial signs display	dehumidification sign, emission sign, 8 sign, OFF sign, up arrow, down arrow
Selection of emission code	press "select" button	new code selection: press "select" button once, there is up arrow in the LCD, which shows the new code will be selected. We always use new code. Old code selection: press "select" button again, there is down arrow in the LCD, which shows the old code will be selected.
operation of new code setting	read unit code	Press "read" button once, emission sign and dehumidification sign will keep for 1 second, read the indoor unit number, and observe that the flash time of power lamp of indoor unit should correspond with the data in the LCD.
	set No. 1 unit	Press "No. 1" button, 1 will flash, then press "SET" button at indoor unit. When a sound "du" of indoor unit is heard, unit 1 is set, then press "READ" to confirm if the unit number is right.
	set No. 2 unit	Press "No. 2" button, 2 will flash, then press "SET" button at indoor unit. When a sound "du" of indoor unit is heard, unit 2 is set, then press "READ" to confirm if the unit number is right.
	set No. 3 unit	Press "No. 3" button, 3 will flash, then press "SET" button at indoor unit. When a sound "du" of indoor unit is heard, unit 3 is set, then press "READ" to confirm if the unit number is right.
	set No. 4 unit	Press "No. 4" button, 4 will flash, then press "SET" button at indoor unit. When a sound "du" of indoor unit is heard, unit 4 is set, then press "READ" to confirm if the unit number is right.
	set No. 5 unit	Press "No. 5" button, 5 will flash, then press "SET" button at indoor unit. When a sound "du" of indoor unit is heard, unit 5 is set, then press "READ" to confirm if the unit number is right.
	set No. 6 unit	Press "No. 6" button, 6 will flash, then press "SET" button at indoor unit. When a sound "du" of indoor unit is heard, unit 6 is set, then press "READ" to confirm if the unit number is right.
	set No. 7 unit	Press button 6 and at the same time in 2 seconds press button 1, then loosen them simultaneously. The LCD will display "7", which stands for selecting unit 7. And then press button "set", you can set unit 7. Then press "READ" to confirm if the unit number is right.
	set No. 8 unit	Press button 6 and at the same time in 2 seconds press button 2, then loosen them simultaneously. The LCD will display "8", which stands for selecting unit 8. And then press button "set", you can set unit 8. Then press "READ" to confirm if the unit number is right.
	lock unit number	Confirm the whole air conditioner work normally, then lock all indoor unit number by "LOCK". The locked unit numbers will not change if without the address setting controller.
Note: When setting unit number, if indoor unit sounds "du du", which shows this number has existed in the system, you should set another unit number.		
operation of old code setting	press "select" button	new code selection: press "select" button once, there is up arrow in the LCD, which shows the new code will be selected. We always use new code. Old code selection: press "select" button again, there is down arrow in the LCD, which shows the old code will be selected.
	read unit code	Press "read" button once, emission sign and dehumidification sign will keep for 1 second, read the indoor unit number, and observe that the flash time of power lamp of indoor unit should correspond with the data in the LCD.
	set No. 1 unit	Press "No. 1" button, 1 will flash, then press "SET" button at indoor unit. When a sound "du" of indoor unit is heard, unit 1 is set, then press "READ" to confirm if the unit number is right.
	set No. 2 unit	Press "No. 2" button, 2 will flash, then press "SET" button at indoor unit. When a sound "du" of indoor unit is heard, unit 2 is set, then press "READ" to confirm if the unit number is right.
	set No. 3 unit	Press "No. 3" button, 3 will flash, then press "SET" button at indoor unit. When a sound "du" of indoor unit is heard, unit 3 is set, then press "READ" to confirm if the unit number is right.
	set No. 4 unit	Press "No. 4" button, 4 will flash, then press "SET" button at indoor unit. When a sound "du" of indoor unit is heard, unit 4 is set, then press "READ" to confirm if the unit number is right.
	set No. 5 unit	Press "No. 5" button, 5 will flash, then press "SET" button at indoor unit. When a sound "du" of indoor unit is heard, unit 5 is set, then press "READ" to confirm if the unit number is right.

set No. 6 unit	Press "No. 6" button, 6 will flash, then press "SET" button at indoor unit. When a sound "du" of indoor unit is heard, unit 6 is set, then press "READ" to confirm if the unit number is right.
set No. 7 unit	Press button 6 and at the same time in 2 seconds press button 1, then loosen them simultaneously. The LCD will display "7", which stands for selecting unit 7. And then press button "set", you can set unit 7. Then press "READ" to confirm if the unit number is right.
set No. 8 unit	Press button 6 and at the same time in 2 seconds press button 2, then loosen them simultaneously. The LCD will display "8", which stands for selecting unit 8. And then press button "set", you can set unit 8. Then press "READ" to confirm if the unit number is right.
lock unit number	no function
Note: When setting unit number, if indoor unit sounds "du du", which shows this number has existed in the system, you should set another unit number.	

Some information for the colorful screen wall mounted type unit:

1. For the unit produced before May, 04, the address setting method has been changed to use dial switch, which is as the same as that of the duct unit and ceiling concealed type unit. The address-setting controller is invalid. When out of factory, the address is set as No. 3. There are maximum 8 indoor units according to the communication method.

But please pay attention that PCB of this unit produced after May, 04 has been changed back to the state whose address will be set by address-setting controller.

2. The infrared controller is YR-H71, and the emission code should be code B. Some buttons will be useless; the whole function is as the same as YR-C04. The detailed information please refers to the operation manual.

3. The unit has auto restart function. Press "SWING" button 10 times within 5 seconds, after the buzzer sounds 4 times, auto restart function will be activated. Press "SWING" button 10 times within 5 seconds again, after the buzzer sounds 2 times, this function will be cancelled.

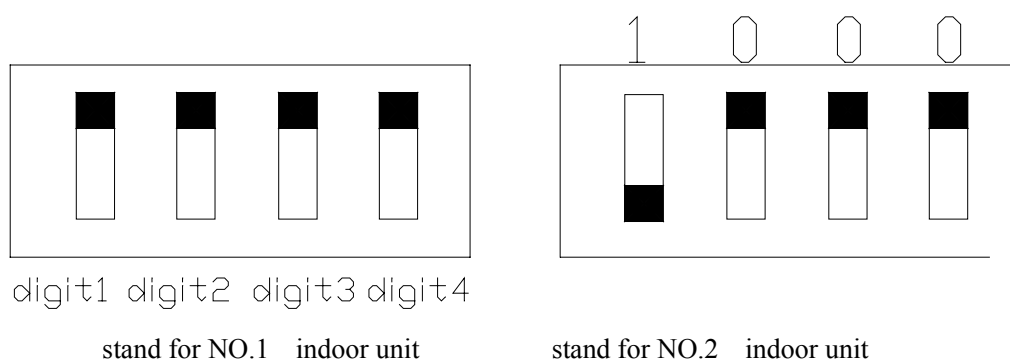
4. This unit has manual defrosting function. In heating mode with high fan speed, at 30 degrees, press "SWING" button 8 times in 5 seconds, after the buzzer sounds 3 times, this function is activated. (used in debugging)

5. The unit has temperature compensation function in heating mode. When out of factory, temperature compensation is set as 4 degrees. Cut off the wire of CN4, the compensation will be cancelled.

6. CN3 is short wire for short time function. CN4 is short wire for temperature compensation. CN6 is testing port for serial communication.

9.1.1 Number setting dialing switch using method(wired remoted control type)

The dialing switch is on indoor unit PCB. The indoor unit number setting method is as follows:



Correspondence table between dialing switch and indoor unit numbers

(Note: Bit 4 is useless for setting indoor unit numbers)

Bit 1	Bit 2	Bit 3	Bit 4	Indoor number
0	0	0		1
1	0	0		2
0	1	0		3
1	1	0		4
0	0	1		5
1	0	1		6
0	1	1		7
1	1	1		8

After installation or addition of new indoor unit, it's necessary to set the unit numbers upon initially electrified. For Ceiling concealed duct type indoor unit series, The unit number setting shall be completed with the unit number setting toggle switch on the indoor PC board, see the indoor unit user's manual for setting method. For wall-mounted models series, Cabinet series, Cassette series, Convertible series, unit number setting shall be conducted by installation technicians with the special unit number setting remote controller. (For new-developed indoor unit, number setting method refers to the indoor unit user's manual .The detailed operation procedure is as follows:

(The special remote controller for setting unit number shall be carried by Haier air conditioner installation technicians.)

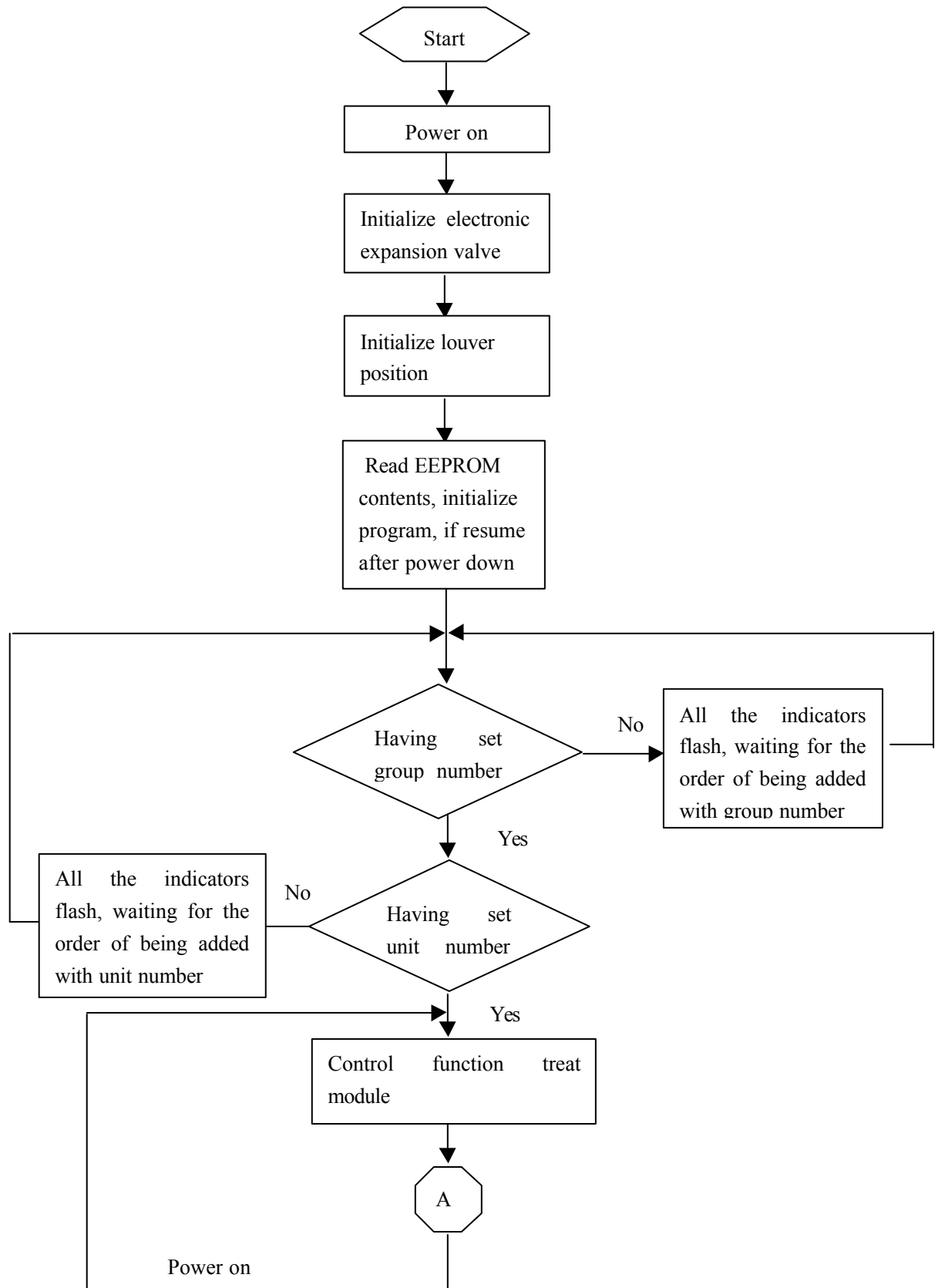
Installation procedure

Setting in site

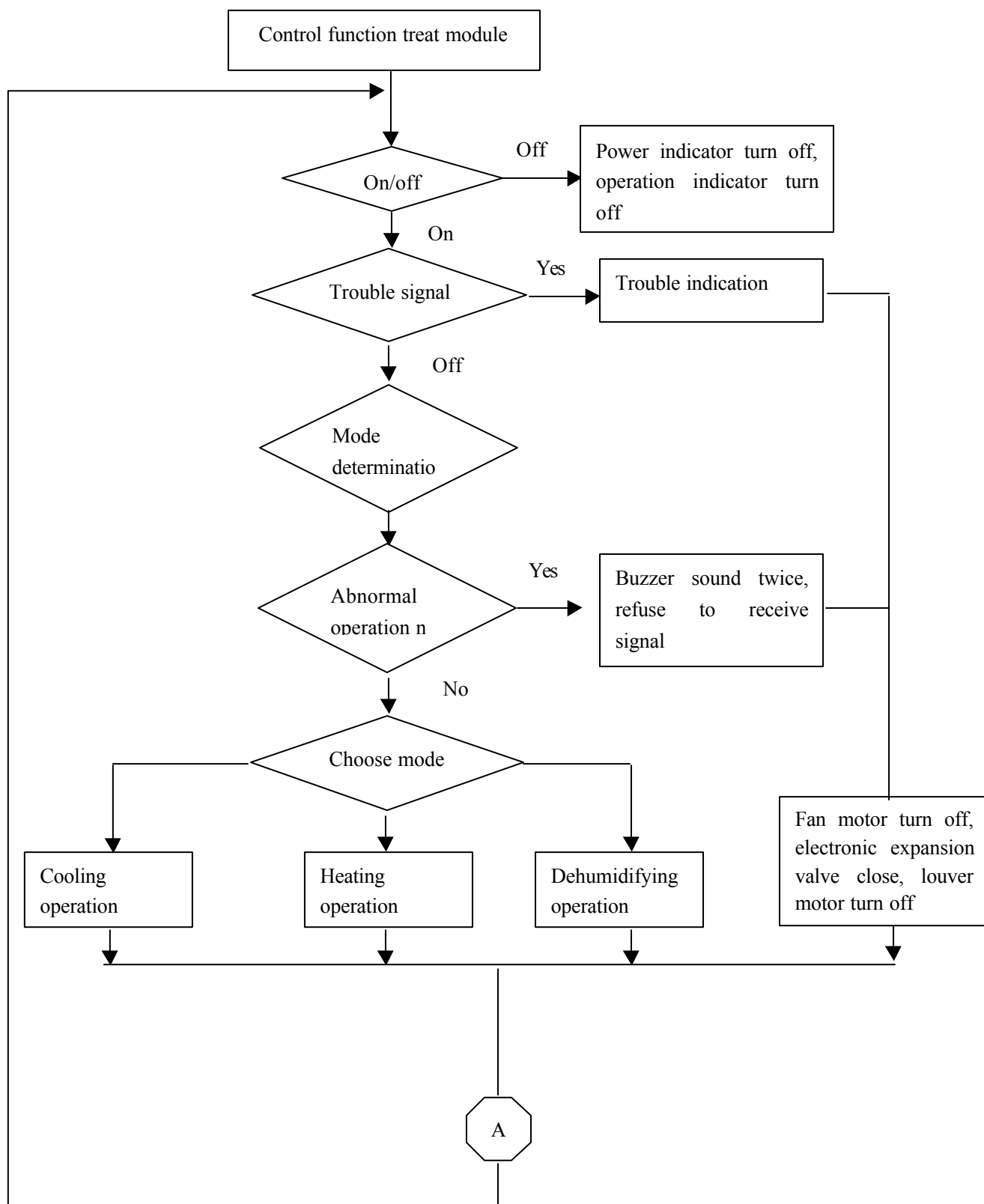
- The whole machine has been completely installed and is initially energized.
- Set with the special remote controller within 1 m from the infrared ray receiver on the indoor unit in the following way: press numeric keys on the remote controller according to the desired unit number, the remote controller LCD displays the corresponding number, then press the "UNIT SET" key to send signals.
- When the indoor unit receives the unit number setting signal sent by the special remote controller, the buzzer beeps once indicating the indoor unit has received the unit number setting signal. Set all unit numbers in turn, and confirm all unit numbers after setting with the remote controller "READ" function in the following way: with the remote controller aiming at the indoor unit signal receiver, press the "READ" key on the remote controller, the indoor unit power indicator will flash. The flashing time is just the indoor unit number. (e.g. for a unit number setting of 2, when pressing "READ" key, the power indicator will flash twice.)
- During unit number setting, if duplicate unit numbers are found, the indoor unit buzzer will beep twice to indicate refusal of the unit number setting.
- When setting the unit numbers, in order to avoid setting the same numbers, every two units shall be set with an interval of 10 s so as to allow the indoor unit to automatically identify the repeatedly number setting.
- Please set the unit numbers in sequence and make records so as to avoid repeatedly number setting.
- If the indoor unit shows flashing of power, timer and operation indicators at the same time, it indicates conflict of original addresses between indoor unit and outdoor unit and the necessity to reset the unit number. Upon initially installation, whether the power, indicator and operation indicators flash or not, the indoor unit number shall be set.
- The code selecting function of the unit number setting remote controller may change the emitting code. The up arrow means new emitting code while the down arrow indicates original emitting code. Please select according to necessity.

9.2 Flow Chart for Operation

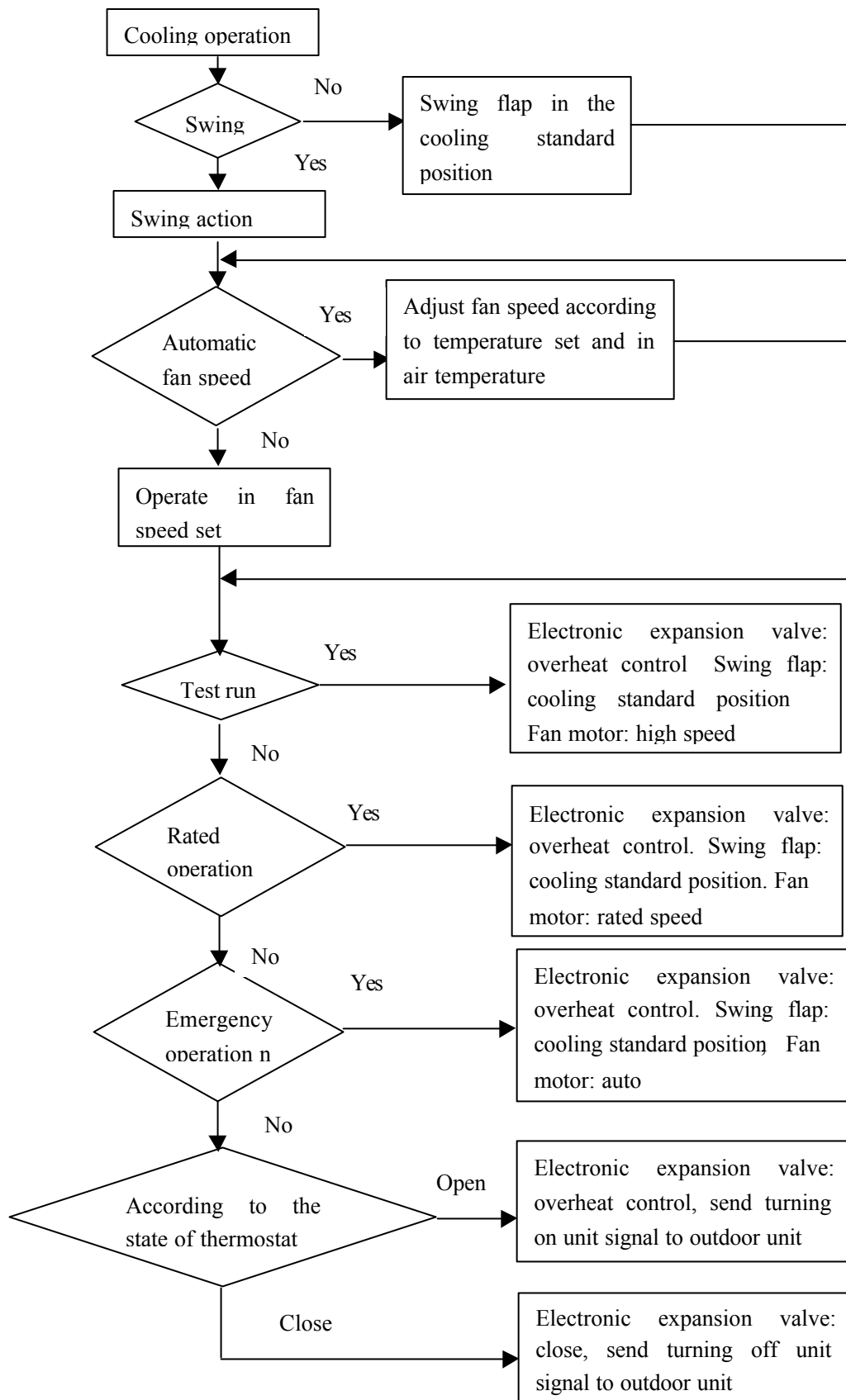
(1) Unit number setting



(2) Turn on/off unit



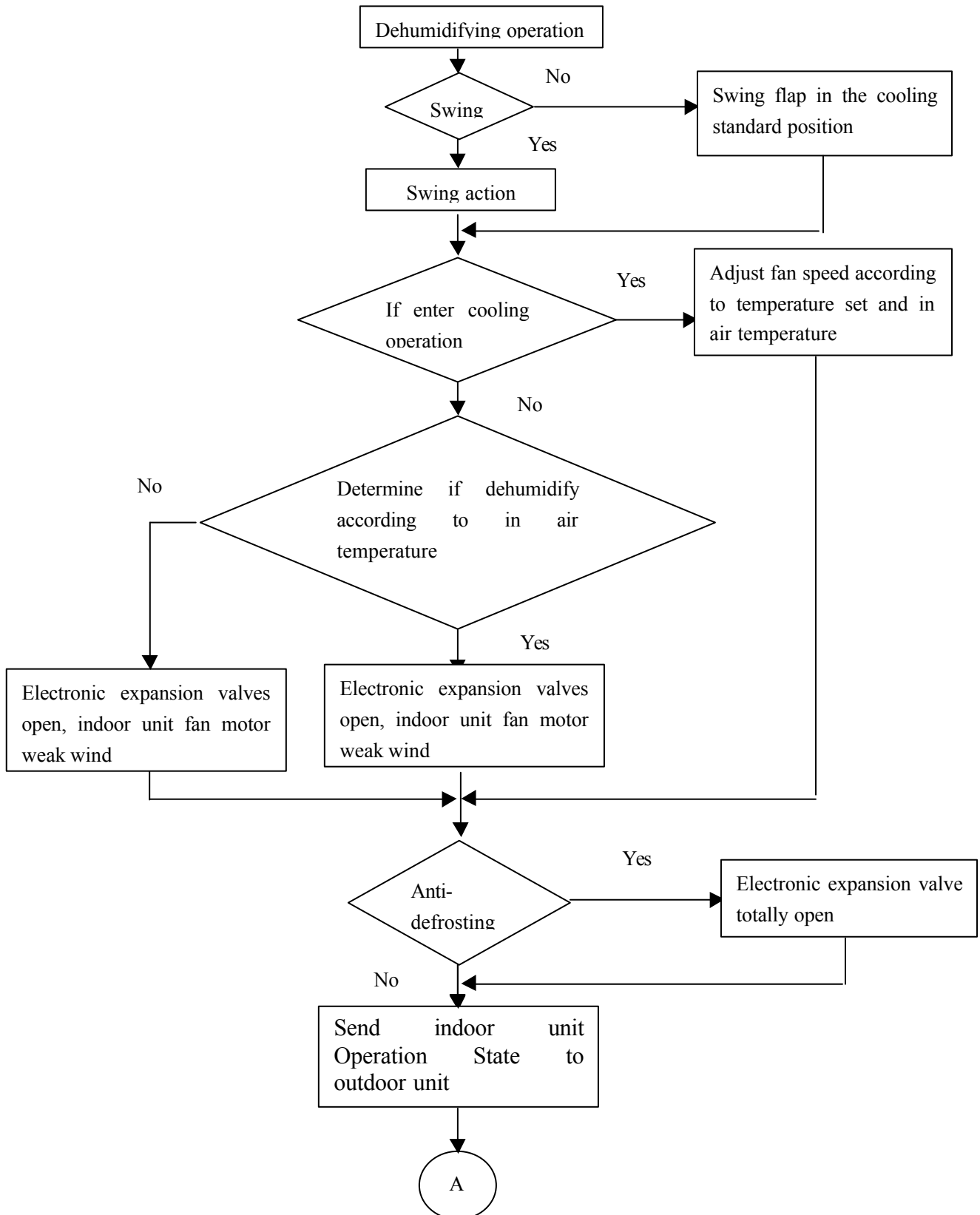
(3) Cooling operation



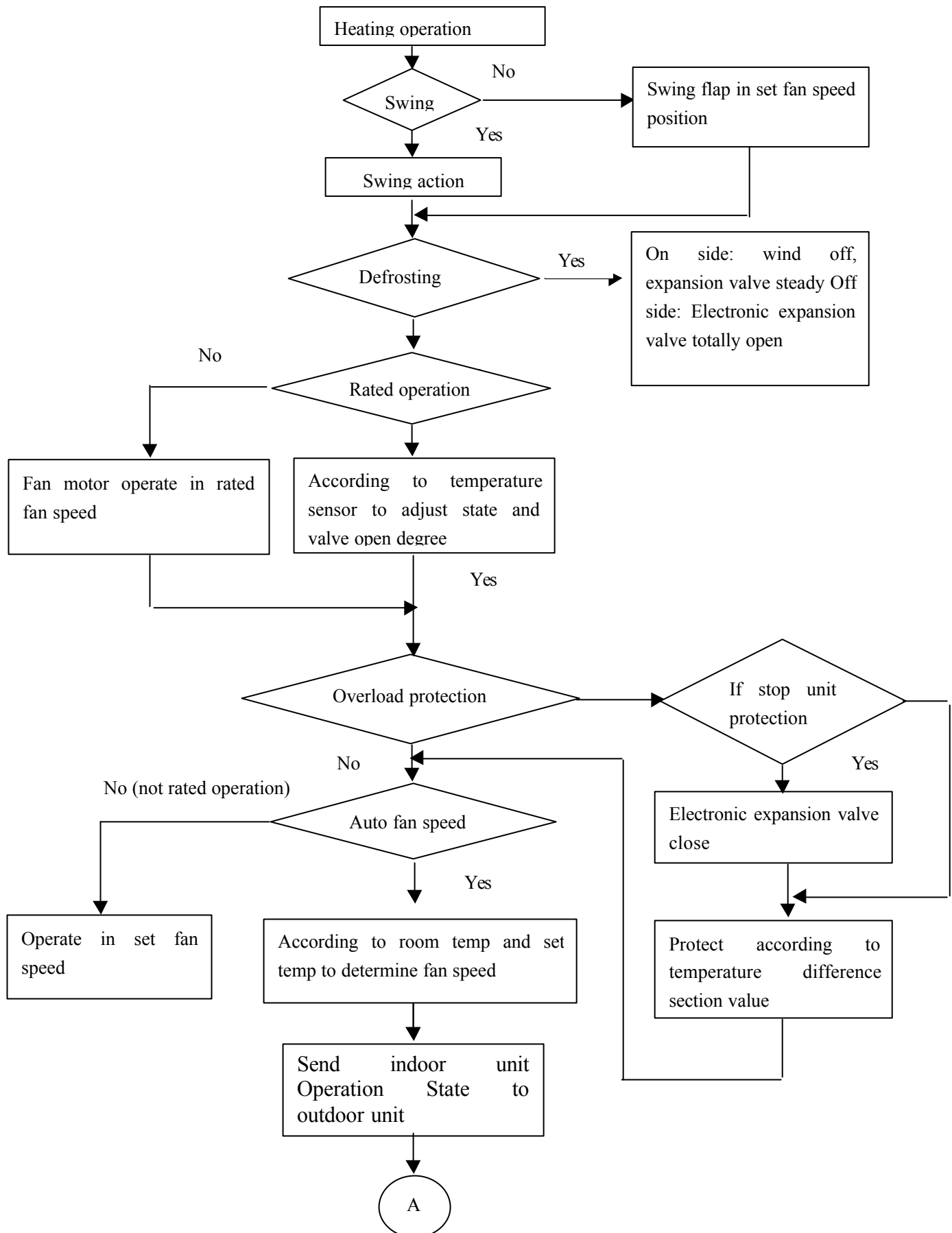
Note: 1. When abnormal phenomenon occur, the indoor unit indicator will indicate abnormality according to the abnormal parts.

2. When temperature of the evaporator inlet is lower than 0 and keeps for 5 minutes, unit will operate in anti-icing mode.

(4) Dehumidifying operation



(5) Heating operation



9.3 Defrost operation Flow Chart

1. The compressor operates heating over 25 minutes, after meeting the defrosting condition, it is permitted to enter defrosting. Defrosting process is unit-stop defrosting mode. Determining condition of defrosting is as follows:

Unit-stop defrosting:

- (1) When outdoor ambient temperature T_a is less than 2°C , $T_a - T_e$ (defrosting sensor temperature) is more than 9°C , and keeping over 2 minutes, enter unit-stop defrosting.
- (2) Outdoor ambient temperature $>2^\circ\text{C}$, pipe coil temperature $<15^\circ\text{C}$ enter unit-stop defrosting.
- (3) If meeting the above condition, enter unit-stop defrosting.
- (4) First the outdoor unit sends defrosting signal to indoor unit, after receiving signal, the indoor unit acts according to the following condition:
 - a. The running fan motor of indoor unit for heating stops; the electronic expansion valve does not change.
 - b. The running fan motor of indoor unit for turning off unit stops; the electronic expansion valves of indoor unit are totally open.
- (5) The defrosting action of outdoor unit:
 - a. The electronic expansion valves are totally open; compressor stops; 4-way valve keeps in heating state; fan motor of outdoor unit is turned off.
 - b. After 45 seconds, 4-way valve is closed; compressor operates in 58Hz frequency.
 - c. After the compressor has operated in 58Hz for 30 seconds, it will operate in 120Hz. Only after 3 minutes have elapsed in defrosting state can it quit from this operation.
- (6) The condition of quitting from defrosting:
 - a. After entering defrosting for 3 minutes, test the temperature of defrosting sensor, continue for 1 minute over 12°C , then quit from defrosting.
 - b. Or after continuously defrosting for over 9 minutes, then quit from defrosting.
 - c. Discharging air pressure over 2MPaG (G stands for this pressure is piezometer pressure), defrosting over 1 minute.
- (7) Actions of indoor & outdoor unit when quitting from defrosting:
 - a. Compressor stops 43 seconds, fan motor of outdoor unit enter set fan speed according to the state before entering defrosting.
 - b. After stop 45 seconds, compressor starts, simultaneously 4-way valve enters heating.
 - c. The open state of outdoors electronic expansion valve enters the state before entering defrosting.
 - d. Indoor fan speed works in anti-cool Air State.
 - e. The open state of indoors electronic expansion valve is controlled to start adjusting after defrosting 4 minutes.
- (8) The protective treatment in defrosting:
 - a. Pressure switch not protected
 - b. The protective function of any temperature sensors is cancelled.
 - c. After finishing defrosting, discharging air temperature and adjustment of expansion valve open state, current protection etc. work should be carried out according to the state when compressor is just turned on.

2. Compressor control

The compressor will start at 10Hz and running between 30Hz to 120Hz. In operation the compressor running frequency is determined by three elements : the number of indoor units in operation , the temperature difference of each indoor units between setting temperature and room temperature , the size of each indoor unit.

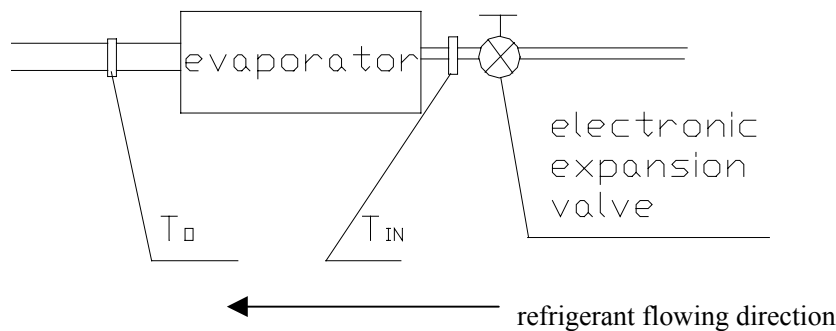
3. Outdoor fan motor speed control

(Ta: ambient temperature , Tp: outdoor unit pipe temperature)

ITEM	MODE	Ta	Tp	FAN SPEED
1	cooling	$\geq 32^{\circ}\text{C}$		H
2	cooling	$< 32^{\circ}\text{C}$	$\geq 45^{\circ}\text{C}$	H
3	cooling	$< 32^{\circ}\text{C}$	$40^{\circ}\text{C} \leq T_p < 45^{\circ}\text{C}$	M
4	cooling	$< 32^{\circ}\text{C}$	$T_p < 40^{\circ}\text{C}$	L
5	heating	$\geq 15^{\circ}\text{C}$		L
6	heating	$10^{\circ}\text{C} \leq T_a < 15^{\circ}\text{C}$		M
7	heating	$< 10^{\circ}\text{C}$		H

4 Electronic expansion valve control

Each indoor unit has a electronic expansion valve to control refrigerant volume. For split type indoor unit, the valve is designed in a electronic expansion valve box. Indoor unit PCB communicates with the electronic valve box PCB. For other type , the valve is in the indoor unit itself. The electronic expansion valve is controlled as follows:



Tin: stands for the liquid refrigerant temperature ; To: stands for the gas refrigerant temperature

Tov: overheat temperature

Overheat temperature is preset in indoor unit PCB. In cooling mode operation ,indoor unit PCB can detect the current overheat temperature by calculating To-Tin.If the To-Tin temperature is higher than Tov, the valve volume will become larger until To-Tin= Tov. In heating operating ,outdoor PCB will control outdoor electronic valve accordingly.

- All indoor units must operate in the same mode. If the compressor is in heating mode, the indoor unit is not allowed to be set in cooling mode, the outdoor unit will not accept different running mode from indoor unit.

We have changed the program of PCB. We call it as shut-off single fan motor control. In low temperature cooling mode, we can realize low pressure of compressor in a high range by start/stop fan motor, but the compressor pressure will change greatly in the two states of start/stop fan motor, so we design the shut-off single fan motor function to reduce the pressure difference.

The following is how to control single fan motor operation:

Control the neutral wire of FAN1 with a single probe relay, it is open when fan motor is on. In below conditions it will shut off to realize single fan motor control.

P25 PMV2---B2 single fan motor control

In cooling mode: after compressor runs for 3 minutes, it will adjust, if $T_c < 25$ degree, the relay cuts off, if not, ($T_c > 27$ degree, there is 2 degree difference), fan motor works while relay is close.

In heating mode: after compressor runs for 3 minutes, it will adjust, if $T_c > 15$ degree, the relay cuts off, if not, ($T_c < 13$ degree, there is 2 degree difference), fan motor works while relay is close.

10 DIAGNOSTIC INFORMATION (TROUBLE SHOOTING)

10.1 Fault Codes

In order to make repair and maintenance convenient, we set “Automatic troubleshooting” function in indoor unit and centralized controller. If any abnormal phenomenon occurs in operation, you can determine the trouble part and condition from the display on the LED of outdoor PCB, or the trouble code on the wired controller.

Remote controller Timer and Operation indicator malfunction code

When the unit running, Timer indicator flash stand for indoor unit malfunction
operation indicator flashing stand for outdoor unit malfunction:

Indoor unit malfunction

Timer indicator Flashing times	Indoor unit malfunction
Flashing once	The liquid tube temperature sensor is abnormal
Flashing twice	The gas tube temperature sensor is abnormal
Flashing 3 times	The environment temperature sensor is abnormal
Flashing 4 times	The communication with outdoor unit is abnormal
Flashing 5 times	The communication with the electronic expansion valve control board is abnormal
Flashing 6 times	The communication between indoor 846 and communication chip is abnormal
Flashing 8 times	PMV strong electricity board is abnormal
Flashing 10 times	Indoor unit PG fan motor is abnormal
Flashing 11 times	Indoor unit water overflow or float switch is abnormal
Flashing 12 times	Indoor unit EEPROM data is abnormal
Flashing 13 times	Indoor unit is overload
Flashing 14 times	The communication between indoor unit and wire remote controller is abnormal

Wired controller and malfunction code

Indoor unit malfunction display code

Indoor unit malfunction	Display code
Float switch or water motor abnormal	E0
Outdoor unit abnormal	E1
Setting running mode is different with outdoor running mode	E2
Liquid temperature sensor is abnormal	E3
Gas temperature sensor is abnormal	E4
The communication between indoor 846 chip and communication chip is abnormal	E5
The communication with electronic expansion box is abnormal	E7
The communication between the wire remote controller and indoor unit control board is abnormal	E8
The communication between indoor and outdoor unit is abnormal	E9
Water temp. sensor is abnormal	EB

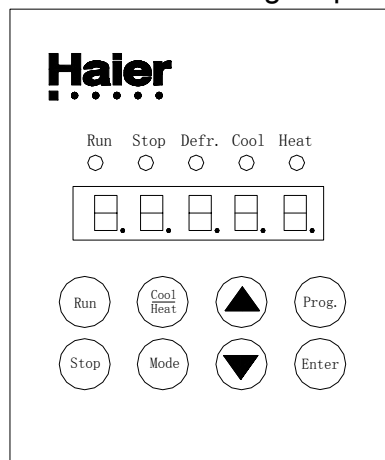
Malfunction code:

Malfunction description	Code	LED display on the testing board	If sent to indoor unit?	Remarks
Normal 0		Normal	Yes	
Defrosting temperature sensor abnormal	1	E.4.	Yes	Resumable
Ambient temperature sensor abnormal	2	E.1.	Yes	Resumable
Suction temperature sensor abnormal	3	E.3.	Yes	Resumable
Discharging temperature sensor abnormal	4	E.2.	Yes	Resumable
Coil temperature sensor abnormal	5	E.5.	Yes	Resumable
Over current protection	6	O.C.	Yes	After there are current malfunction for 3 times in 1 hour, the testing board will display the last abnormal reason P X.X. Need powered off and restart
		P O.C.	no	
Current sensor abnormal	7	C.T.	Yes	After trouble shooting, need powered off and restart
Overload protection	8	O.L	Yes	After there are current malfunction for 3 times in 1 hour, the testing board will display the last abnormal reason P X.X. Need powered off and restart
		P O.L.	no	
IPM protection	9	E.P.	Yes	
		P E.P.	no	
Read EEPROM value wrongly	10	P E.E.	no	Need reset and restart
Discharging temperature over high abnormal	11	O.D	Yes	After there are current malfunction for 3 times in half an hour, the testing board will display the last abnormal reason P X.X. Need powered off and restart
		P O.D.	no	
High pressure switch abnormal	12	O.P	Yes	Resumable
Voltage over low protection	13	L.U.	Yes	After there are voltage malfunction for 3 times in 1 hour, the testing board will display the last abnormal reason P X.X. Need powered off and restart
		P L.U.		
Voltage over high protection	14	O.U.	Yes	
		P O.U.		
Low pressure switch abnormal	15	O.H.	Yes	Resumable
Recover the parameter set when out of factory	16	P I.A.	no	Need reset and restart
Clear the malfunction memory	17	P C.T.	no	Need reset and restart
Need reset	18	P R.E.	no	Need reset and restart
Radiator temperature sensor abnormal	-- --		Not used temporarily	

Testing board

Press button “mode”, the display will change over in the following sequence:

State	Display
Frequency	Fxx.xx
Current output	A xx.x
Voltage on DC side	U xxx
Ambient temp	1 xx
Discharging temp	2 xx
Suction temp	3 xx
Defrosting temp	4 xx
Coil temp	5 xx
Indoor unit quantity	6 xx
Open degree of EEV	7 xxx



Note: Please connect the wire on power off. Insert the testing board on the CN302 of the outdoor PCB. The part number is 0010451601.

In addition, we set a testing port CN303 which can be connected to the computer through another testing device (part number: 0010451800). The distributor can get the testing device and the testing software from us.

Testing procedure:

1. After the unit powered off, connect the wire of testing board to CN302 port, and then pull down the communication wire between outdoor and indoor unit.
2. Check if the wiring is right. If yes, power on the outdoor unit.
3. On the operation panel of the testing board, the relative data can be modified.
4. Press “Prog.”, enter data editing mode.
5. Set data “Pr-00” as “0”, then data can be edited. Press “Enter” to confirm.
6. The other data can be set according to the requirement like this way.
7. After all the data be modified, set “Pr-00” as “1”.
8. Press “Prog.”, quit out of data editing mode.
9. Note: Data of the chip is very important, the improper modification will cause the main parts damaged such as compressor. So before modification, please contact with us.
10. After quitting from data editing mode, operation board will display “P r.E” which will flash. After 3 minutes, it will display “b.P.160”. At this time, pressing the ▲ ▼ to reset the program.
11. After reset, power off the outdoor. For 1~2 minutes, the outdoor release all the electricity, plug the communication wire between outdoor and indoor to the original position, the modification is over.

10.3 Troubleshooting

(1) Indoor unit trouble indication: timer indicator flashes (once, twice, 3 times, 7 times)

Abnormal reasons:

Heat sensitive resistor is short circuit or open circuit

The treatment to sensor output part in PC board is improper, such as poor contact of package part, the electrolytic capacitor for filtering is failed, etc.

Treatment:

Remove the heat sensitive resistor, test and measure its numerical value. According to the resistor temperature character table to evaluate if it is heat sensitive resistor abnormal. If numerical value of resistor is normal, check if it is poor contact. If contact is good, replace the indoor unit PC board.

(2) Outdoor unit trouble indication: timer indicator flashes (4 times)

Abnormal reasons:

Communication wire is open circuit or short circuit

There is powerful electromagnetic disturbing source near the air conditioner

The indoor & outdoor unit are not correctly set with unit number

The PC board is improper

Treatments: use the ohm grade of multimeter to check the numerical value of resistor between communication wire to determine if it is short circuit or open circuit. If normal, examine if there is powerful electromagnetic disturbing source near the air conditioner, such as radio wave sending devices. After verifying there is no powerful disturbance near air conditioner, reset the unit number of indoor unit and outdoor unit. If there is still abnormal, change the PC board of the trouble indoor & outdoor unit. Please note that after changing the PC board of indoor & outdoor unit, they both should be reset their unit number.

(2) Indoor unit trouble indication: timer indicator flashes (5 times)

Abnormal reasons:

Communication wire is open circuit or short circuit

There is powerful electromagnetic disturbing source near the air conditioner

PC board is improper

Treatments: use the ohm grade of multimeter to check the numerical value of resistor between communication wire to determine if it is short circuit or open circuit. If normal, examine if there is powerful electromagnetic disturbing source near the air conditioner, such as radio wave sending devices. After verifying there is no powerful disturbance near air conditioner, change the PC board of abnormal indoor unit or electronic expansion valve driver.

(3) Indoor unit trouble indication: timer indicator flashes (6 times)

Abnormal reasons:

PC board is improper

Treatment: change the improper PC board of indoor unit.

(4) Indoor unit trouble indication: timer indicator flashes (8 times)

Abnormal reasons:

The PC board of electronic expansion valve driver is improper

Treatment: change the PC board of electronic expansion valve driver.

(5) Indoor unit trouble indication: timer indicator flashes (10 times)

Abnormal reasons:

Plastic sealed motor is improper

PC board is improper

Treatment: use the DC voltage grade of multimeter to test the plastic sealed motor to find if there is any feedback signal, determine if the plastic sealed motor is abnormal. If normal, change the indoor unit PC board.

(6) Indoor unit trouble indication: Timer indicator flashes (12 times)

Abnormal reason:

Indoor unit PC board is improper

Treatment: change the improper indoor unit PC board.

(7) Indoor unit trouble indication: operation indicator flashes (once, twice, 3 times, 4 times, 5 times)

Abnormal reasons:

Heat sensitive resistor is short circuit or open circuit

The treatment to sensor output part in PC board is improper, such as poor contact of package part, the electrolytic capacitor for filtering is failed, etc.

Treatment:

Remove the heat sensitive resistor, test and measure its numerical value. According to the resistor temperature character table to evaluate if it is heat sensitive resistor abnormal. If numerical value of resistor is normal, check if it is poor contact. If contact is good, replace the indoor unit PC board.

(8) Indoor unit trouble indication: operation indicator flashes (6 times)

Abnormal reasons:

Power voltage is low

Power is instantaneously stopped

Compressor is locked

Treatment: power on again to operate unit, check power voltage (Is the over 40A power used?)

(9) Indoor unit trouble indication: operation indicator flashes (7 times)

Abnormal reasons:

Power voltage is low

Power is instantaneously stopped

Treatment: Treatment: power on again to operate unit, check power voltage (Is the over 40A power used?), check if the power cord is too thin.

(11) Indoor unit trouble indication: operation indicator flashes (8 times)

Abnormal reasons:

The current mutual inductor on the outdoor unit PC board is failed

The driving circuit of compressor is disconnected

Treatment: power on again to operate unit. Test if there is current through the compressor driving circuit. If there is, change the PC board.

(12) Indoor unit trouble indication: operation indicator flashes (9 times)

Abnormal reasons:

High load compelling operation

Power voltage is low

Power is instantaneously lowered or power cut

The driving circuit of compressor is short circuit

Compressor is locked

Treatment: power on again to operate unit. Check if there is too much refrigerant in the cooling system? Check power voltage (Is over 40A power used?) check if there are parts in compressor driving circuit short-circuited? Check if there is any parts damage, poor contact, pull out the connection wire of power module UVW end, test if there is the same voltage between U-V, V-W, W-U? (AC80V-280V)

(13) Indoor unit trouble indication: operation indicator flashes (10 times)

Abnormal reason: PC board of outdoor unit is improper.

Treatment: change PC board of outdoor unit.

(14) Indoor unit trouble indication: operation indicator flashes (11 times)

Abnormal reasons:

System is high load compelling operated

Refrigerant leaks

Discharging air temperature heat sensitive resistor is improper

Electronic expansion valve or 2-way valve is closed

Treatment: check if there is leakage part, test system pressure in rated operation state to

determine if there is leakage? Check the state of electronic expansion valve and 2-way valve.

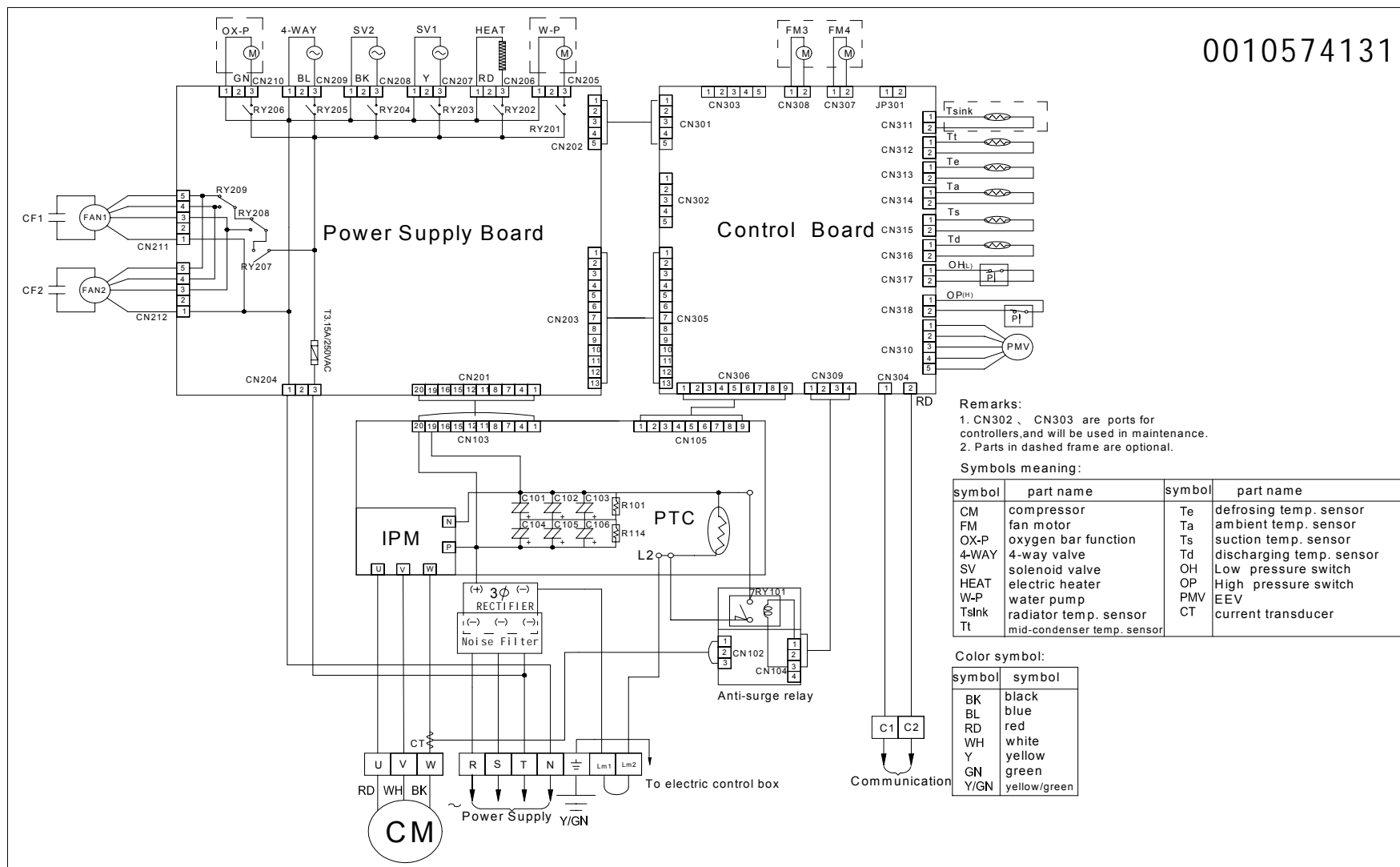
Test and measure the numerical value of discharging air temperature heat sensitive resistor.

11.ELECTRICAL DATA

AU55NFIAIA

ELECTRICAL WIRING DIAGRAM

0010574131



Ports	Ports name	Wiring method
R, S, T	Power supply ports	To power of 3 PH, 380V, 50Hz
U, V, W	Compressor ports	To motor (pay attention to phase sequence)
E	Grounded port	Grounding (less than 10 ;more than 1.6mm)
N	Neutral wire port	It is connected to neutral wire
L1, L2		Shorted now
CN102	Current transducer port	To current transducer
CN211, CN212	Fan motor port	To fan motor
CN205	Water pump port	To water pump (be spare)
CN206	Electric heater port	To electrical heater
CN207	Solenoid valve port	To solenoid valve
CN208	Solenoid valve port	To solenoid valve
CN209	Four-way valve port	To four-way valve
CN210	Oxygen generator port	To oxygen generator (optional)
CN302	Testing board port	To testing board. Used to modify, check data for after sale personnel.
CN303	Testing software port	To testing computer. Used to modify, check data for after sale personnel.
CN304	Communication port	To C1, C2 of communication block
CN307, CN308	Fan motor port for dispersing heat	To fan motor for dispersing heat (be spare)
CN310	EEV port	To outdoor electronic expansion valve
CN311	Radiator temp. sensor port	To radiator temp. sensor (blank temporarily)
CN312	Mid-condenser temp. sensor port	To mid-condenser temp. sensor
CN313	Defrosting temp. sensor port	To defrosting temp. sensor
CN314	Ambient temp. sensor port	To ambient temp. sensor
CN315	Suction temp. sensor port	To compressor suction temp. sensor
CN316	Discharging temp. sensor port	To discharging temp. sensor
CN317	Low pressure switch port	To low pressure switch port
CN318	High pressure switch port	To high pressure switch

Below we will comment for the functions of some ports and some changes of PCB 0010451971 and 0010451531:

1. Control Board 0010451971

Herein, the control board we are concerned is the board without CPU. Functions for every port are as follows:

CN301: port for power supply, connected with CN202 of the power board.

CN302: connected to testing board.

CN303: connected to the computer serial port through the testing device.

CN304: HBUS communication port.

CN305: the driving port for relay, connected to CN203 of the power board.

CN306: the driving port for IPM, connected to CN105 of the power board.

CN307, CN308: port for the heat-emitting fan. No used at present.

CN309: port for the main relay and for testing current, connected to CN104 of the power board.

CN310: the driving port for electronic expansion valve.

CN311: testing port for the radiator temperature. No used at present.

CN312: testing port for the coil temperature Tt.

CN313: testing port for the defrosting temperature Te.

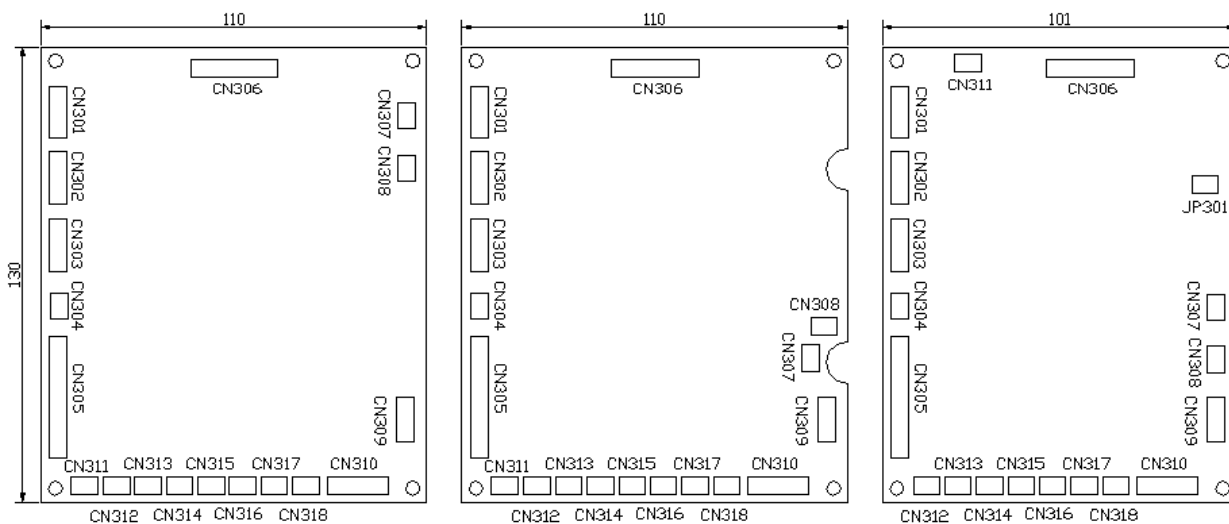
CN314: testing port for the outdoor ambient temperature Ta.

CN315: testing port for the suction temperature Ts.

CN316: testing port for the discharging temperature Td.

CN317: port for low pressure switch.

CN318: port for high pressure switch.



Control board 1

Control board 2

Control board 3

Totally there are 3 types of control board, because they have different appearance, you will distinguish them much easier.

Control board 1 is the earliest edition, because this board is rather big and it will cover the fixing screw which supports the electric control box, also taken into consideration the convenient installation and service, we modified and designed the Control board 2.

Control board 2 is the second edition, because there are electric parts on both sides of this board, and

hard to be installed, we designed the Control board 3.
Control board 3: the current edition.

2. Power board 0010451531

There are two types of power board, and they have the same dimensions, but have the different voltage testing parts. That is easy to distinguish.

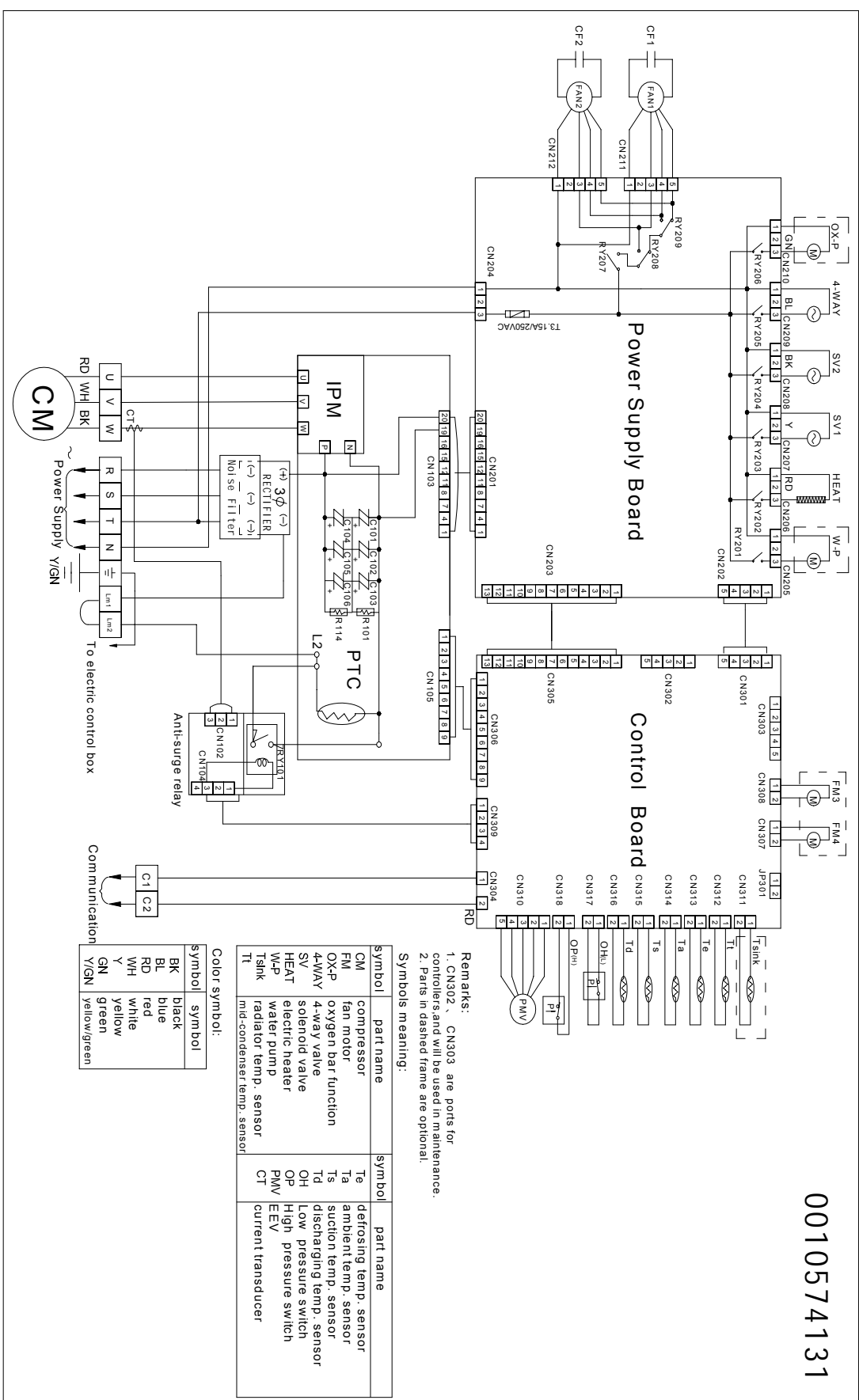
The newly power board adopts the voltage sensor to test the voltage. On the board there is a black square type voltage sensor. The old board adopted the LM331 to test the voltage, which is an inserted part IC with 8 feet.

However both the new or old power boards can match any of the control board, but the CPU diagrams are different.

3. Filter board 0010451536

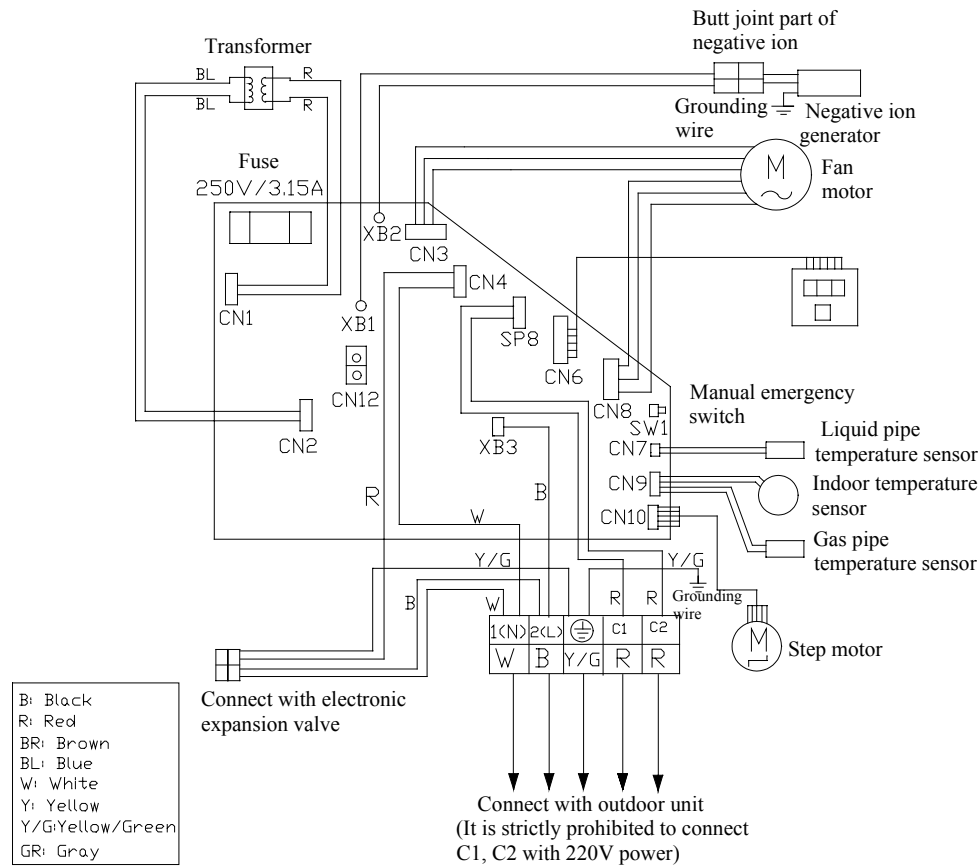
Originally, the electric control box has not any filter board. In order to avoid the exterior interference and result in the bad communication, the second edition (current edition) are all added the filter board.

AU55NFIAIA ELECTRICAL WIRING DIAGRAM

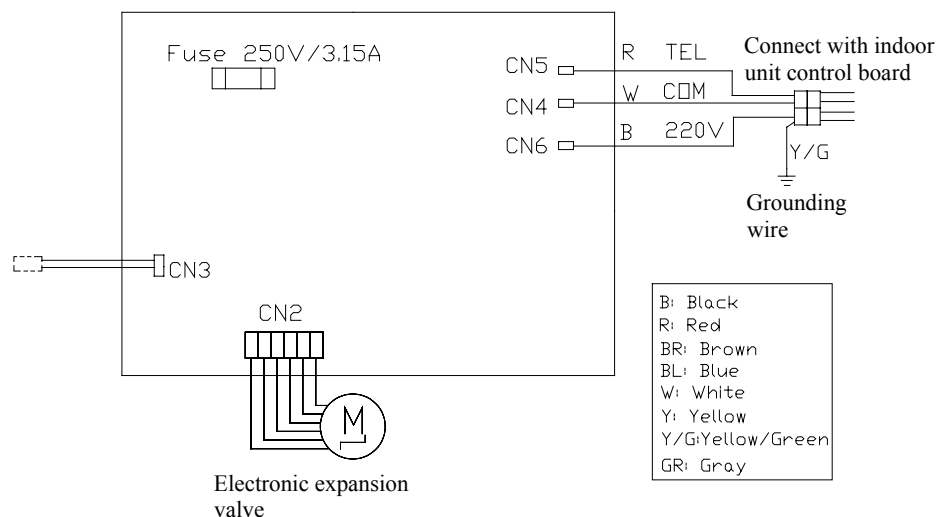
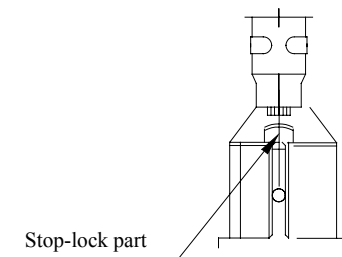


4.1.2 Indoor unit

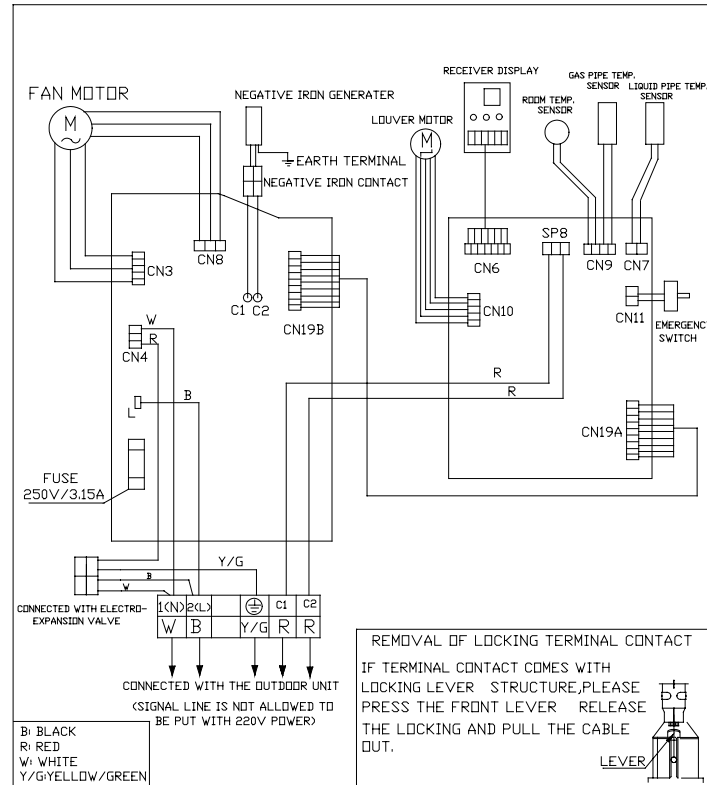
1) Model: AS062FMAHA AS072FMAHA AS092FMAHA AS122FMAHA



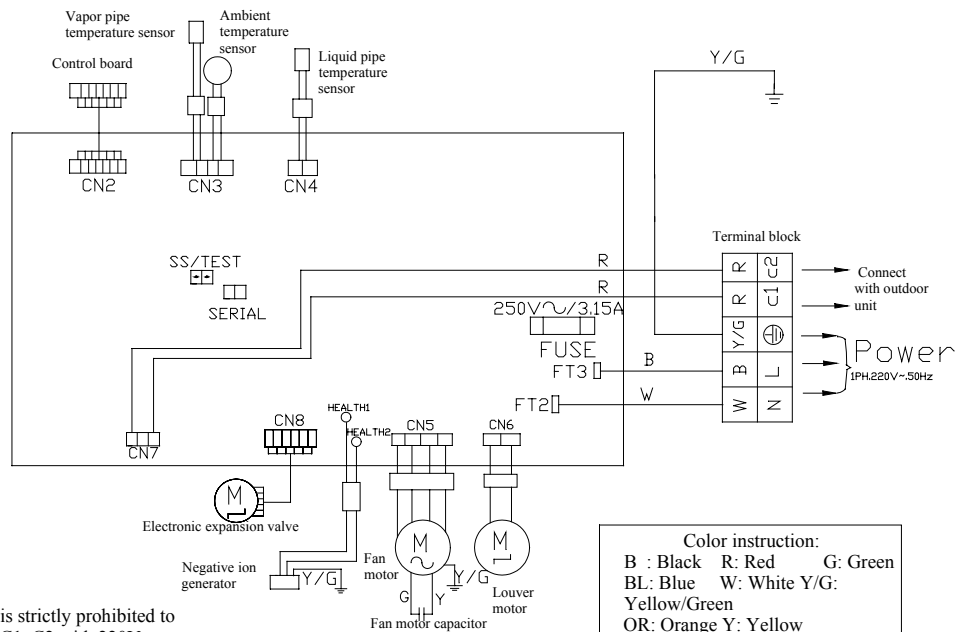
Pull-out method of package part: if the package part is self-lock terminal as shown in Fig., press the stop-lock part, then pull outward



2) Model: AS182FTHA

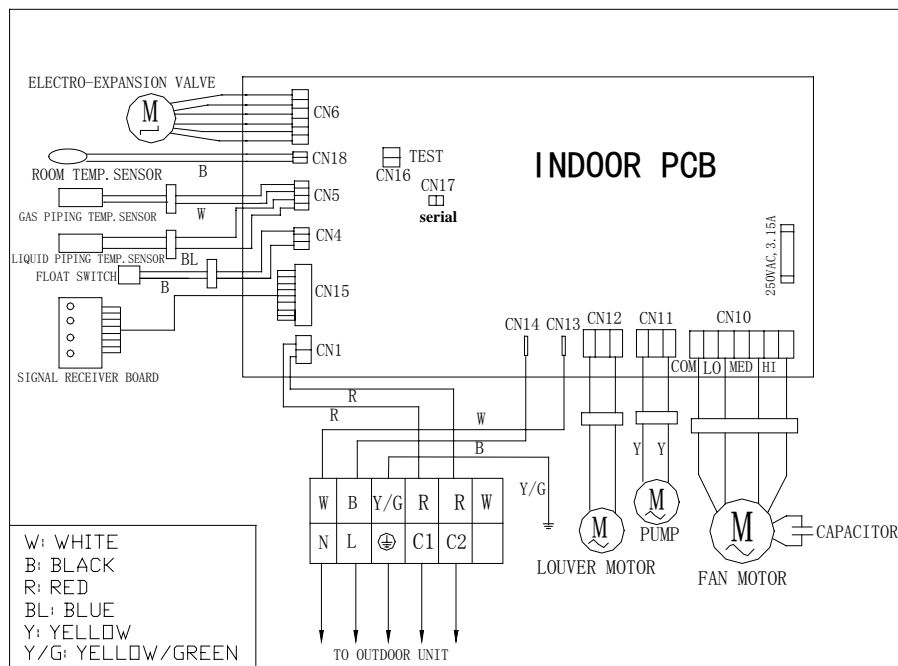


3) Model: AP182FAAHA

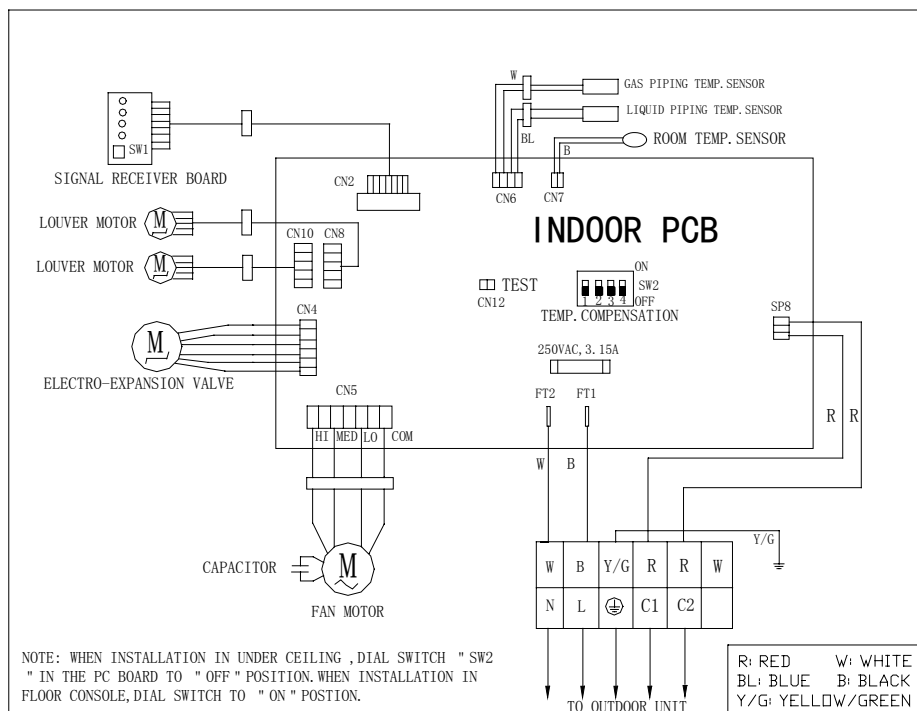


Note: It is strictly prohibited to connect C1, C2 with 220V power

4) Model: AB092FCAHA AB142FCAHA AB182FCAHA

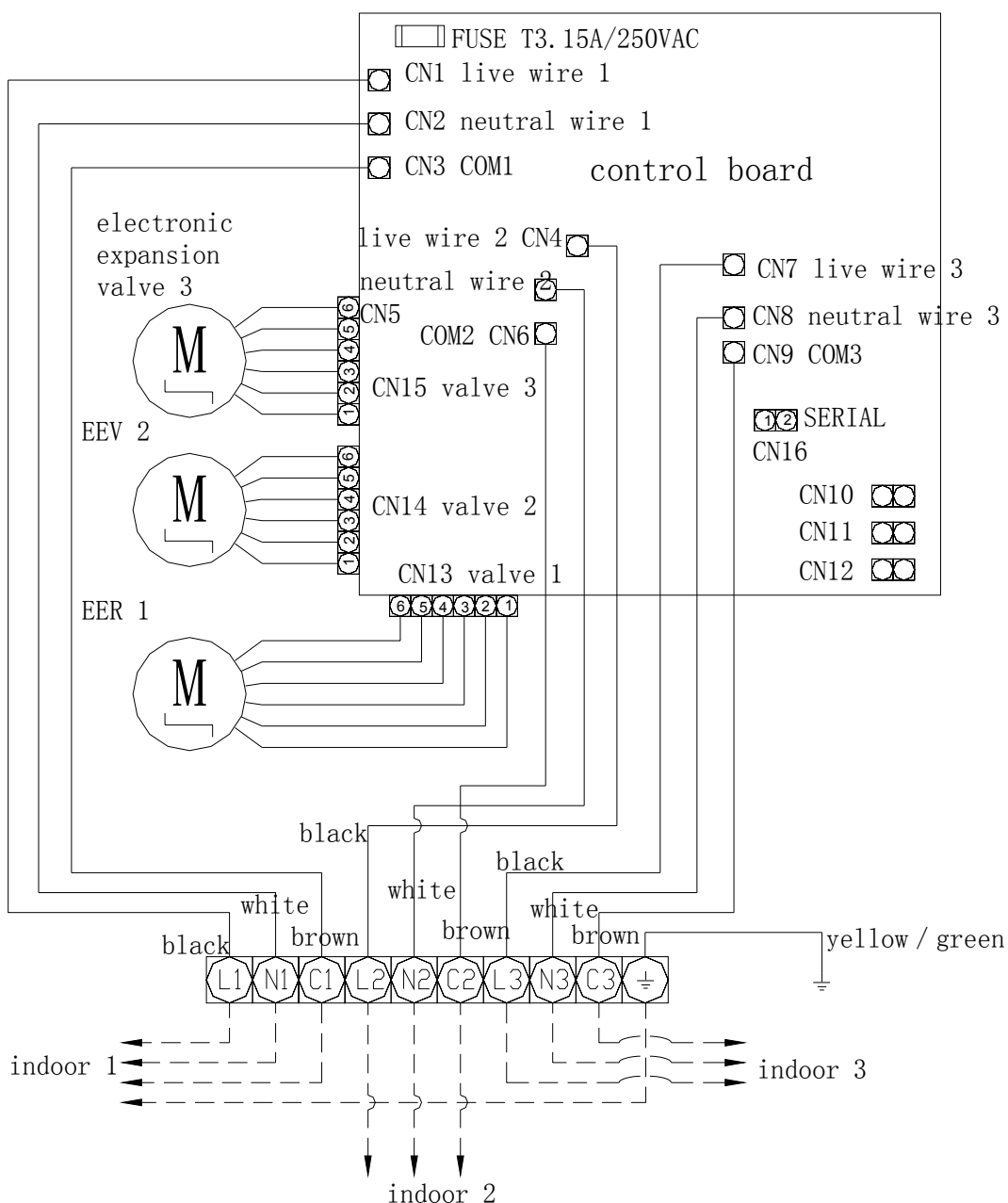


5) Model: AC182FCAHA



Electronic expansion valve wiring diagram

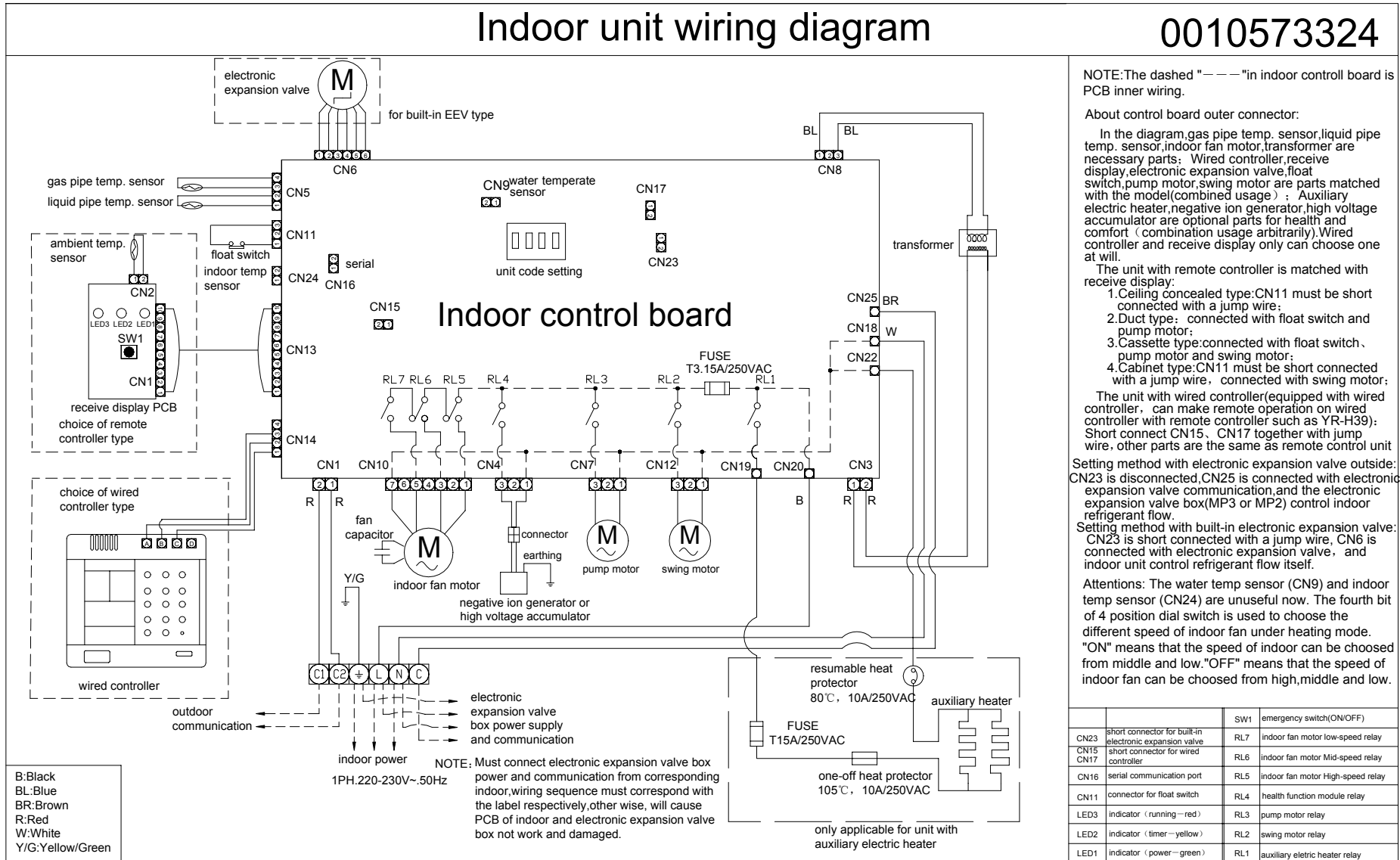
MP3 wiring diagram:



NOTE: Valve box power supply and communication wire must be connected with the corresponding indoor, wiring sequence must be correspondent respectively, L and N must not be connected reversely, otherwise will cause the unit not work and damaged.
On running, "indoor 1" must be electrified always, or air conditioner does not work normally.

Indoor unit wiring diagram

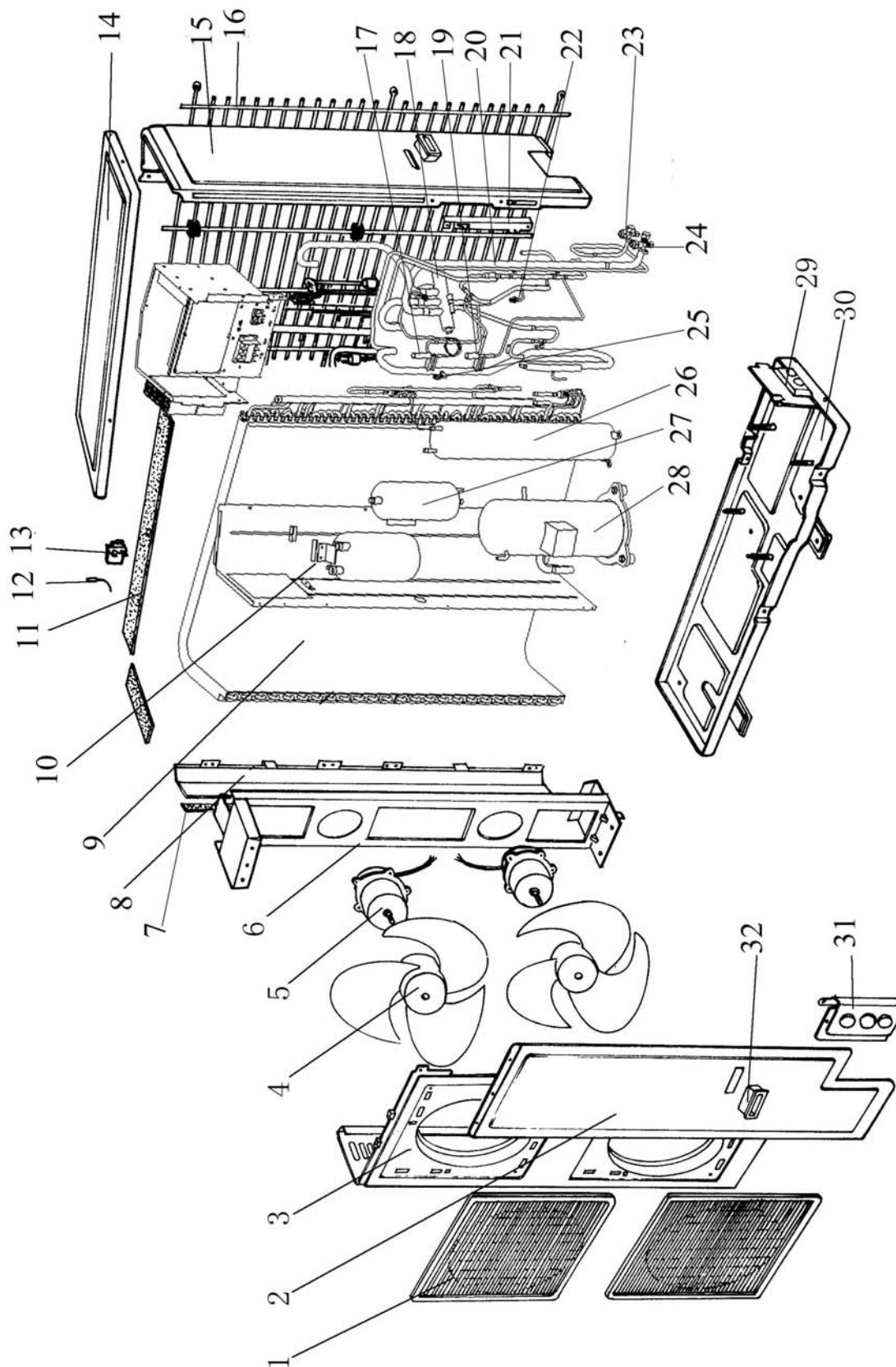
0010573324



AE072FCAKA, AE092FCAKA, AE122FCAKA, AE142FCAKA, AE182FCAKA, AE212FCAKA, AE242FCAKA

12 EXPLODED VIEWS & PART LISTS

12.1 Model: AU55NFIAIA



No. in exploded view	Spare parts number	Spare parts description in English	Qty.	Model	Failure rate	the proportion of the spare-part stock	Remark
1	001A0100122	Front guard assy	2	AU55NFIAIA	0.00%	0.000%	x
2	001A1301707	Plate for maintain	1	AU55NFIAIA	0.00%	0.000%	x
3	001A1301640	Front panel(left)	1	AU55NFIAIA	0.00%	0.000%	x
4	001A5402022	Axial Fan	2	AU55NFIAIA	0.02%	0.024%	*
5	0010451931	Motor	2	AU55NFIAIA	0.02%	0.024%	*
6	001A0100498	Motor mounting plate	1	AU55NFIAIA	0.00%	0.000%	x
7	001A17421215	Standing EPS	1	AU55NFIAIA	0.00%	0.000%	x
8	0010150076	Vertical plate	1	AU55NFIAIA	0.00%	0.000%	x
9	0010751389	Outdoor heat exchanger	1	AU55NFIAIA	0.01%	0.012%	
10	0010750761	Gas-liquid separator	1	AU55NFIAIA	0.00%	0.000%	x
11	001A1754686	sealed pad	1	AU55NFIAIA	0.00%	0.000%	x
12	0010451514	Outdoor ambient thermistor	1	AU55NFIAIA	0.01%	0.012%	x
	0010451513	Suction thermistor	1	AU55NFIAIA	0.01%	0.012%	x
	0010450194	Defrosting thermistor	1	AU55NFIAIA	0.01%	0.012%	x
	0010451328	middle condense thermistor	1	AU55NFIAIA	0.01%	0.012%	x
	0010451511	Discharging thermistor	1	AU55NFIAIA	0.01%	0.012%	x
13	001A5736055	clip for sensor	1	AU55NFIAIA	0.00%	0.000%	x
14	001A0100827	Top cover	1	AU55NFIAIA	0.00%	0.000%	x
15	001A1101197	right side plate	1	AU55NFIAIA	0.00%	0.000%	x
16	001A0100767	guard for heat exchanger	1	AU55NFIAIA	0.00%	0.000%	x
17	001A2500127	electromagnetic valve body	2	AU55NFIAIA	0.00%	0.000%	x
18	001A2500151	4-way valve	1	AU55NFIAIA	0.01%	0.012%	x
19	001A2500085	electronic expansion valve	1	AU55NFIAIA	0.00%	0.000%	x
20	/	/	/	/	/		x
21	001A1301465	fixing plate	1	AU55NFIAIA	0.00%	0.000%	x
22	/	/	/	AU55NFIAIA			
23	0010750476	3-way stop valve 1	1	AU55NFIAIA	0.00%	0.000%	x
24	001A2500116	3-way stop valve 2	1	AU55NFIAIA	0.00%	0.000%	x
25	/	/	/	AU55NFIAIA			
26	0010756055	high pressure storage	1	AU55NFIAIA	0.00%	0.000%	x
27	/	/	/	/	/		x
28	0010756162	compressor	1	AU55NFIAIA	0.02%	0.024%	*
29	001A1301762	valve support plate	1	AU55NFIAIA	0.00%	0.000%	x
30	0010152015	bottom plate	1	AU55NFIAIA	0.00%	0.000%	x
31	001A1301464	support plate	1	AU55NFIAIA	0.00%	0.000%	x
32	001A1436160	handle	1	AU55NFIAIA	0.00%	0.000%	x

1,The failer rate and the proportion of the spare-part stock are regarded as the reference of the stock for spare-parts;The first time should be stocked accroded with the proportion of the spare-parts,and it should be adjusted with the actual quantity 3 months later.

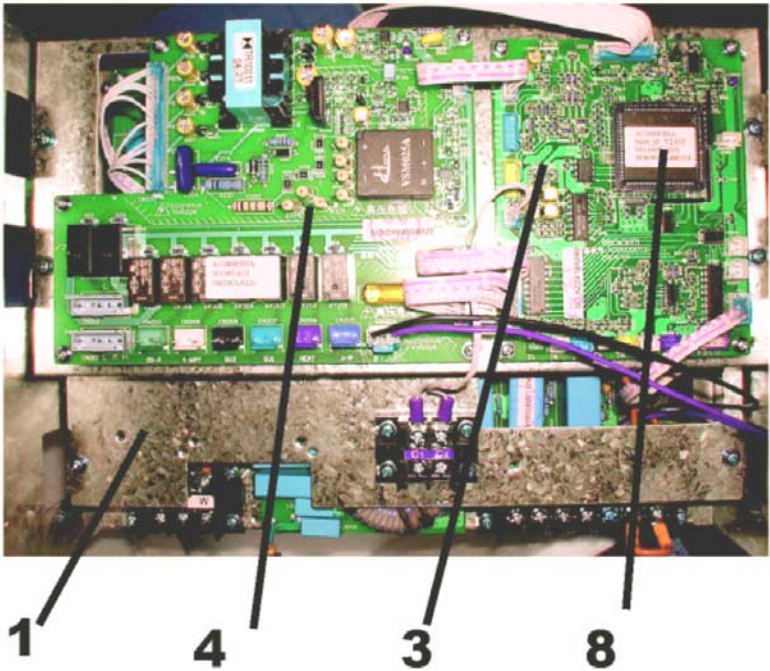
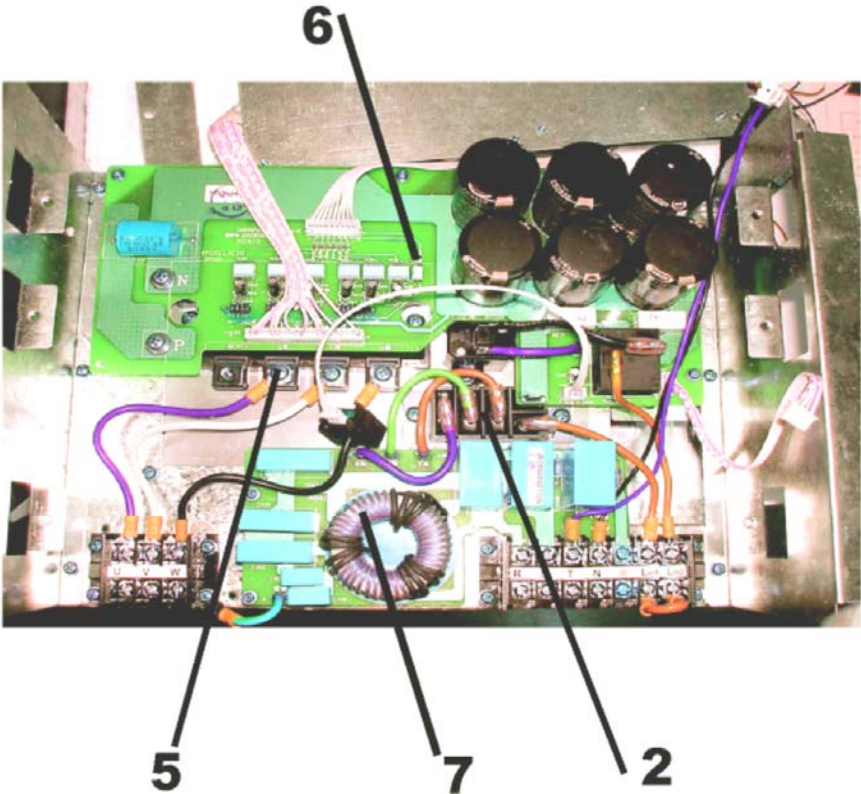
2,easy-damaged;The spare-part which is often damaged and the customer must stock in the spare-parts warehouse,and should be marked with"***"

3,possible damaged:The spare-part which is not often damaged like the easy damaged one and the customer may stock in the spare-part warehouse accord with the actual case,should be marked with " " .

4,not need provided :The spare-part which is seldom damaged or the maintenance man could not maitmains.The spare parts may be air freighted by the factory if they were damaged.The customer nees not stock in the spare-part warehouse,should be marked with " x " .

5,Above should be improved accord with the reply of the market half a year per time.

6.The spare parts price on net is FOB Qingdao term.



No. in exploded view	Spare parts number	Spare parts description in English	Qty.	Model	Failure rate	the proportion of the spare-part stock	Remark
1	0010152259	Electrical box assembly	1	AU55NFIAIA	0.02%	0.024%	*
2	0010450676	3 phase rectifier	1	AU55NFIAIA	0.01%	0.012%	×
3	0010451971	Control board	1	AU55NFIAIA	0.02%	0.024%	*
4	0010451531	Power supply and driving board	1	AU55NFIAIA	0.02%	0.024%	*
5	0010451559	Power module	1	AU55NFIAIA	0.02%	0.024%	*
6	0010451532	Power module drive PCB	1	AU55NFIAIA	0.02%	0.024%	×
7	0010451536	Noise filter board	1	AU55NFIAIA	0.02%	0.024%	×
8	0010451934	IC Chip(CPU)	1	AU55NFIAIA	0.01%	0.012%	×
9	001A3600134	Capacitor for fan motor	2	AU55NFIAIA	0.02%	0.024%	*
10	0010400127	High pressure switch	1	AU55NFIAIA	0.01%	0.012%	×
11	0010451924	Low pressure switch	1	AU55NFIAIA	0.01%	0.012%	×
12	001A2500121	Coil for 4-way valve	1	AU55NFIAIA	0.02%	0.024%	×
13	001A2500087	Coil for EEV	1	AU55NFIAIA	0.00%	0.000%	×
14	001A2500094	Coil for oil return solenoid valve with yellow PVC tube.	1	AU55NFIAIA	0.01%	0.012%	×
15	0010450755	Coil for unloading solenoid valve with black PVC tube.	1	AU55NFIAIA	0.01%	0.012%	×

1,The failer rate and the proportion of the spare-part stock are regarded as the reference of the stock for spare-parts;The first time should be stocked accroded with the proportion of the spare-parts,and it should be adjusted with the actual quantity 3 months later.

2,easy-damaged;The spare-part which is often damaged and the customer must stock in the spare-parts warehouse,and should be marked with""

3,possible damaged:The spare-part which is not often damaged like the easy damaged one and the customer may stock in the spare-part warehouse accord with the actual case,should be marked with " ".

4,not need provided :The spare-part which is seldom damaged or the maintenance man could not maitmains.The spare parts may be air freighted by the factory if they were damaged.The customer nees not stock in the spare-part warehouse,should be marked with " x ".

5,Above should be improved accord with the reply of the market half a year per time.

6.The spare parts price on net is FOB Qingdao term.

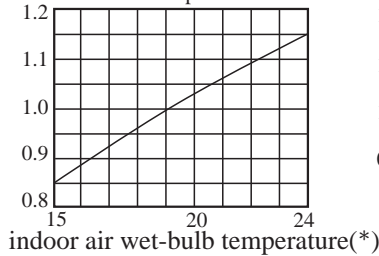
Note: Parts from NO.9 to NO. 15 listed above are not shown on the pictures here.

AU55- Characteristics of refrigerating and heating capacity

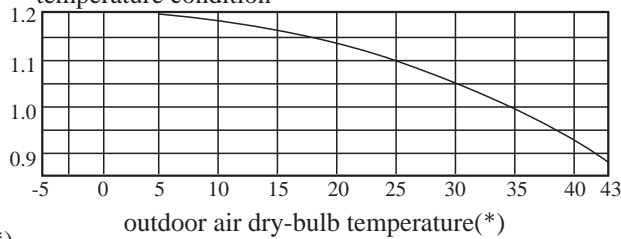
1) Calculation method

Calculation method of refrigerating capacity-Refrigerating capacity to be known = Refrigerating capacity x (1) x (2) x (3) x (4) x (5) W

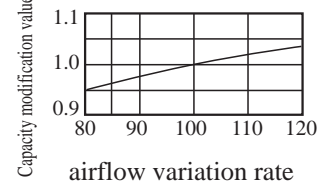
(1) Capacity compensation value of indoor air wet-bulb temperature condition



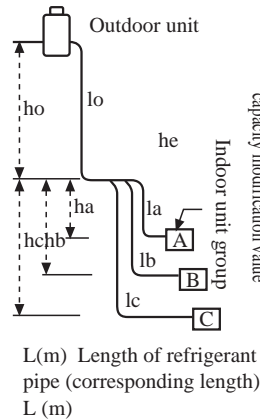
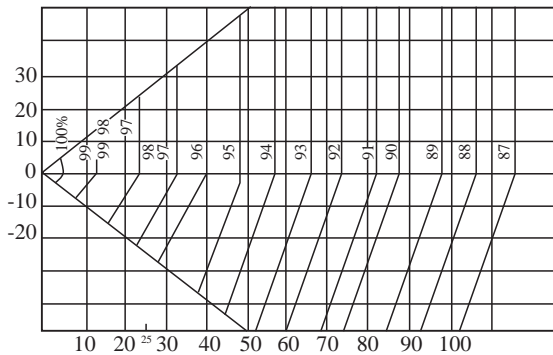
Capacity compensation value of outdoor air dry-bulb temperature condition



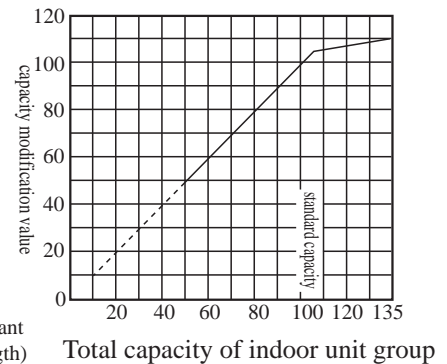
(3) Capacity modification value under airflow variation rate of indoor unit group (only for airflow type unit)



(4) Fall of refrigerant pipe of indoor and outdoor unit, capacity compensation value of pipe length

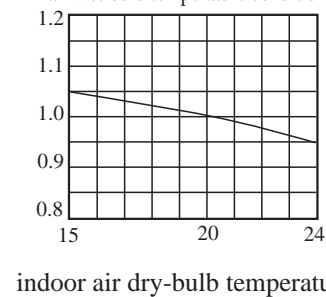


(5) Capacity compensation suitable for total capability of indoor unit group (cooling)

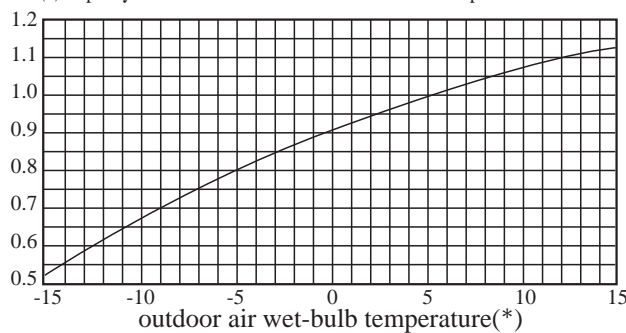


2) Calculation method of heating capacity—Heating capacity to be known = Heating capacity ((1) x (2) x (3) x (4) x (5) x (6)) W

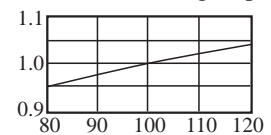
(1) Capacity modification under indoor air wet-bulb temperature condition



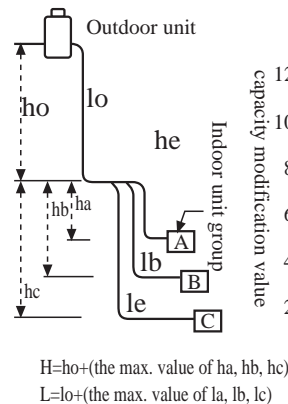
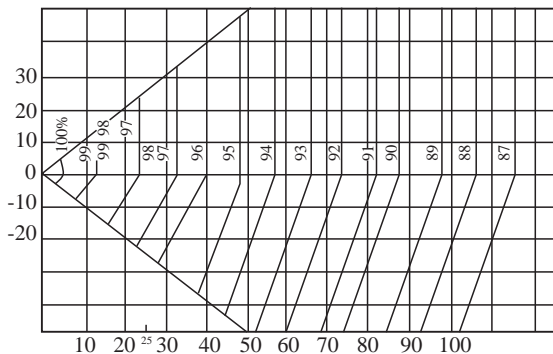
(2) Capacity modification under outdoor air wet-bulb temperature condition



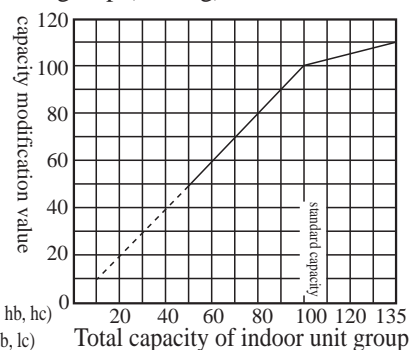
(3) Capacity modification value under airflow variation rate of indoor unit group



(4) Fall of refrigerant pipe of indoor and outdoor unit, capacity compensation value of pipe length



(5) Capacity compensation suitable for total capability of indoor unit group (heating)



Noise level curve for model AU55NFIAIA

1. The data are based on the following conditions:

- (1) The data are measured in half- elimination laboratory;
- (2) The running frequency of outdoor unit is 90Hz.
- (3) Working mode: cooling
- (4) Indoor temperature: 27°CDB,19°CWB;

Outdoor temperature: 35°CDB,24°CWB

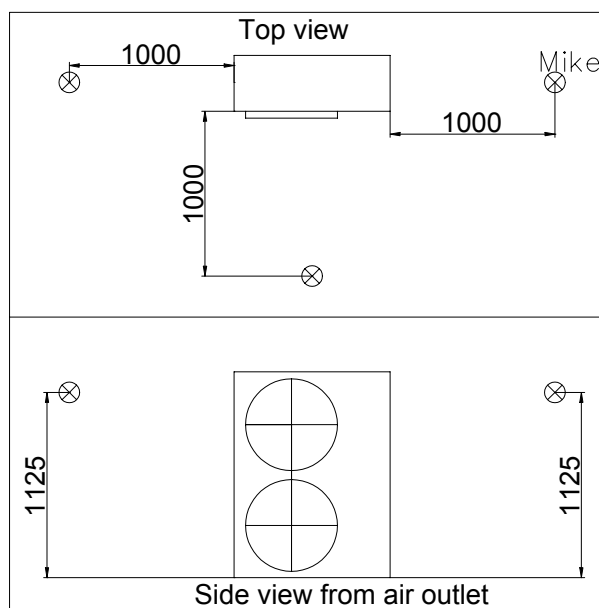
Power supply: 380VAC, 3N, 50Hz

(5) Noise level in dB (A)

Outdoor fan speed	Noise level(dB (A))
H	58
M	/
L	/

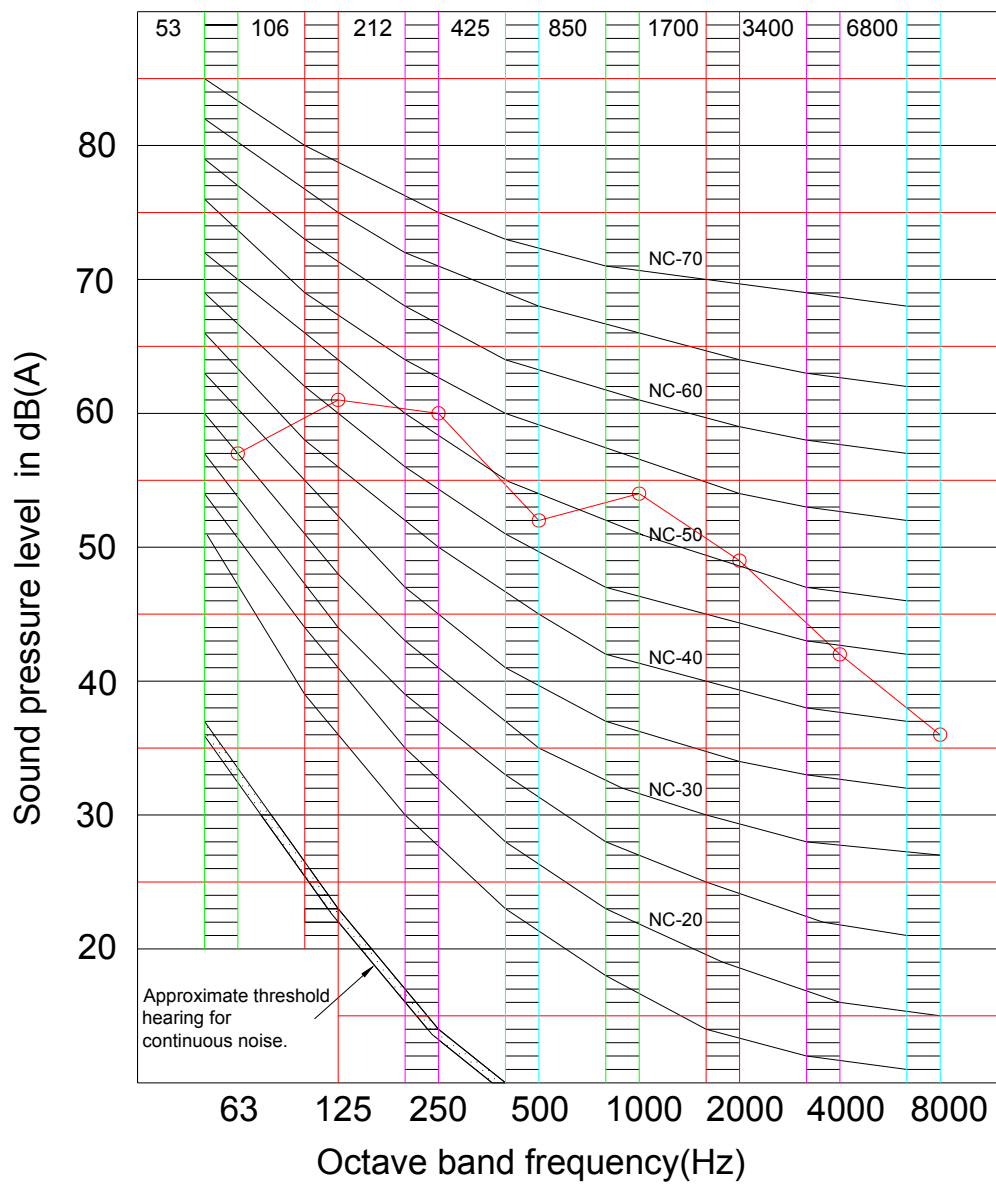
(6) Sound sensor(mike) quantity: 3

Measure positions are as below,and the height of 3 mikes is equal to half of the sum of outdoor unit height and1000mm.



Note: The noise levels measured in the field are usually higher than the data because of reflection.

2. Noise level curve



Noise level curve for model AU55NFIAIA

Sincere Forever

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