



# SERVICE MANUAL

## Unitary smart series



- 4-WAY CASSETTE INDOOR UNIT
- CONVERTIBLE INDOOR UNIT
- DUCT INDOOR UNIT
- CABINET TYPE
- WALL MOUNTED TYPE
- OUTDOOR UNIT(18000~60000BTU/h)

Haier Commercial Air Conditioner  
Version: 200703

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### 1. General information


#### 1.1 Model code description

code	A	S	18		2	A			
	1	2	3, 4		5	6			
	air conditioner	product type	product specification		voltage	combination type			
code and meaning	A	cassette type	B	cooling capacity	the valid number more than thousand digital	110-115V/50-60Hz	1	single split unit or packaged unit	A
		convertible type	C	dehumidifier	(litre or pint)the first two number	220-240V/50Hz	2	two by one	B
		duct type	D	air refresh capacity	the first two number	115-220V/50-60Hz	3	three by one	C
		ceiling concealed type	E			220-240V/60Hz	4	four by one	D
		window type	F			110V/50-60Hz	6	free combination (MRV series)	F
		cabinet type	P			220V/50Hz	8	multi series	X
		wall type	S			380-400V/50Hz	N	gas heat pump	G
						380-400V/60Hz	I		
						415V/50Hz	M		
				Outdoor Unit	U				

V	E		R		A		
7	8		9		10		
appearance	refrigerant		design series number		climate type		
	heating and cooling	R22	A	fixed frequency and little appliance	A-G	T1	A
		R407C	B	AC inverter type	H-Q	T3	B
		R123	C	DC inverter type	R-Z		
		R134a	D			T1,suitable for at -15 cooling (cooling, heat pump) or at -20 heating(heat pump)	C
		R410a	E				
	cooling only and dehumifier	R22	M				
		R407C	N				
		R123	O				
		R134a	P				
	3-pipe	R410A	U				

#### 1.2 Unitary Smart series line up (\*EAA belongs to R410A On-Off, \*ERA belongs to R410A DC Inverter)

				
AU182AEEAA	AU242AGEAA	AU282AHEAA AU28NAHEAA	AU42NALEAA	AU362AIEAA AU36NAIEAA AU48NAIEAA AU60NAIEAA
AU182AFERA	AU242AGERA	AU362AHERA		

				
AB182ACEAA	AB242ACEAA AB282ACEAA AB362ACEAA	AB482ACEAA AB602ACEAA	AC182ACEAA AC242ACEAA AC182ACERA AC242ACERA	AC282AFEAA AC362AFEAA AC482AFEAA AC602AFEAA
AB182ACERA	AB242ACERA	AB362ACERA		AC362AFERA

			
AD182ALEAA AD242ALEAA	AD242AMEAA AD282AMEAA AD362AMEAA	AD482AMEAA	AD282AHEAA AD362AHEAA
AD242ALERA	AD182AMERA AD242AMERA AD362AMERA		

			
AD482AHEAA AD602AHEAA	AP422ACEAA	AP482AKEAA	AS182AVERA
AD362AHERA			

### 1.3 Operation temperature range

fixed frequency single unit, multi split unit

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

inverter single unit, super low ambient temp. cooling

			Rated	Maximum	Minimum
Cooling	Indoor	DB °C	27	32	18
		WB °C	19	23	14
	outdoor	DB °C	35	43	-5
		WB °C	24	26	--
Heating	Indoor	DB °C	20	27	15
		WB °C	14.5	--	--
	outdoor	DB °C	7	24	-7
		WB °C	6	18	--

## 1.4 Product features

### 1.4.1 Outdoor features

#### 1.4.1.1 Adopt the much friendlier refrigerant R410a

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

#### 1.4.1.2 The universal outdoor can match with multiple types indoor unit

The universal outdoor can connect the cassette type/convertible type/duct type/ceiling concealed type indoor units. Convenient to design and not affect the indoor décor.

#### 1.4.1.3 Flexible and easy installation

The outdoor can meet the higher request of installation. From the specifications, you will find for each unit, how long and how high the piping will be, which will be convenient for design and installation.

#### 1.4.1.4 Optional safety devices and much more precision control device

- a. Ambient **temperature sensor**, coil temperature sensor and compressor temperature make the temperature control and defrosting control more precise.
- b. **High/low pressure switch** can feel the discharging pipe pressure and suction pipe pressure on time and precisely. If the pressure is too high or too low, it will stop the compressor to prevent it being damaged for the sake of pressure.
- c. **Low ambient cooling kit**: It is an optional part for the system. If you want to realize cooling mode when the exterior ambient temperature is too low, you can choose it.
- d. **CT protection**: for the inverter unit, there is CT protection. If the system current is too high, the electric system will reduce the frequency or stop the unit automatically.

#### 1.4.1.5 Silent operation

In the outdoor unit, you will find, among the pipe or out of the compressor, there are the soft material to reduce the noise level. Besides, for some units, the electric control system can adjust the noise by fixing the frequency.

### 1.4.2 Indoor features

#### 1.4.2.1 Noblest cassette indoor unit

a. New designed panel 700\*700 with the 600\*600 cassette unit

New designed swing louver with the non smooth surface, which can hold back the condensant water.

New designed filter lock, which will fix the filter more firmly than before.

Adopts the stepping motor, give the louver a larger swing angel.

New fan with bigger diameter fan blade, sending out larger air flow.

Electric control box is located in the unit, convenient to maintain.

The cassette indoor unit adopts the panel whose dimension is identical to that of ceiling, after installation, the unit will be accordant with the decoration decor.

b. Free elevating panel, easy to clean

The panel can be elevated freely if the filter is necessary to be cleaned, you can make the panel go down to the admired position, then open the panel and draw out the filter to clean.

c. Fresh air outlet design

The unit is equipped with the prepared fresh air outlet (for AB09~AB36 units), so that the customer can set the fresh air function to the unit according to their own requirement. Greatly improve the room air quality.

d. Built-in high head drain water pump

Due to the internal float switch, built-in drain pump can drain water automatically when the condensation is full enough and necessary to be cleaned. The standard head height can be up to 600mm, realizing the most effective water drainage.

e. Free setting of the 4 flaps

The 4-way cassette unit has 4 swing flaps in all. You can set any of flaps according to the requirement. E.g. you can set one or two flap in switch-off position. But the noise level will be affected.

f. Quiet operation

The unit is equipped with the greatly powerful, smooth, and ultra quiet multi-blade fan, which has the irregular helix, and can run in silence.

#### 1.4.2.2 Decent convertible unit

a. Optional installation mode

The convertible unit can be installed not only on the floor but also to the ceiling, which can be determined by the host favor and the room décor. It is more convenient to service and installation.

b. Silent operation

The convertible unit is equipped with a high efficient, smooth, multi-blade centrifugal fan, which generates a powerful but gentle airflow to any corner in the room.

c. Space-saving design

An innovative fan and the ultra thin heat exchanger result in the ultra thin convertible unit. Fully adjustable mounting brackets make it possible to install the unit even in the tightest places. Less than 199mm (for AC09~AC24) of vertical direction are required for installation.

d. Automatically control of airflow direction

In order to realize the comfortable space with steady temperature, the air conditioner adopts two stepping motors to adjust the airflow automatically for sending the air to every corner of the room. When heating, it will send download large quantity of hot air in order to quickly and effectively warm up the floor, and it will send the airflow from top to bottom from the very beginning when cooling to send the cool air to every corner of the room.

e. Large angle air supplying

100° wide angle louvers and 70° wide-angle blades design to make a precise control of the airflow, it equally distributes the comfortable air to every corner of the room.

### 1.4.2.3 Elegant duct unit

#### a. Space saving design

With the minimum thickness of only 225mm, the unit almost can be installed into any ducted space. It needs not the very big space, and will not effect the exterior decoration, only leave people comfortable air not feeling its existence.

#### b. Flexible hanging kits

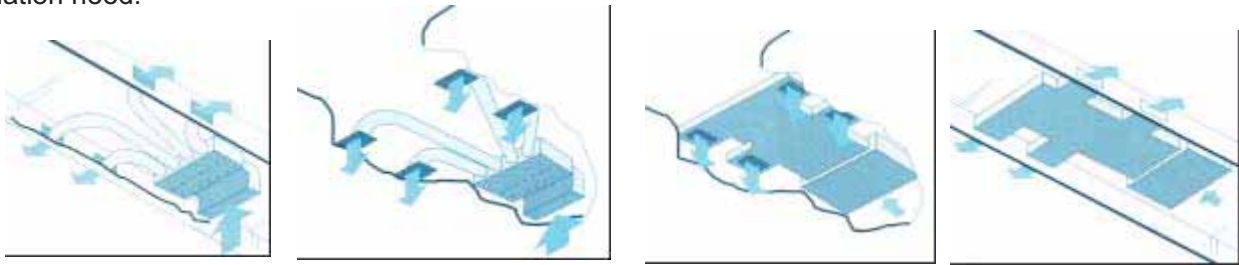
The duct units are equipped with flexible hanging kits, which can realize the free position to install it in any direction: left, right, up or down.

#### c. High efficiency filter

The unit adopts G3 grade filter, can efficiently filter the dirt etc, and improve the room air quality, at the same time, the filter can pull out from downside, convenient for maintenance and cleaning.

#### d. Multi-mode for installation

The indoor unit can be installed with an air return duct or without an air return duct according to the installation need.



#### e. Variable control mode

The indoor unit can be controlled by remote controller or wired controller. About the connection method, please refer to below figures:



#### f. Free setting of air discharging duct

The number of the airflow outlet and its installation position can be freely selected according to the environment of the room, sufficiently considering the load of the room and the uniform temperature of the room to realize more perfect comfort.

#### g. High esp design

Max. external static pressure of 196 Pa brings the quick temperature adjustment to the room. Adopts high pressure fan to provide quick speed of air blowing while keeping a low sound level and ensuring a good air circulation of the whole indoor space. The static pressure from 0 to 196 Pa can be adjusted steplessly according to the environment.

#### h. Ultra high head water drain up

The duct units with cooling capacity from 24000~42000BTU/h adopt the water pump, which can be up to 600mm.

### 1.4.2.4 Healthy wall mounted units

#### a. Newly designed V- appearance indoor unit

The wall mounted type indoor unit adopts the newly designed V appearance, more fashion, more beautiful.

b. Negative ion function

The unit can realize the negative ion generation function, releasing the healthy negative ion into the indoor room. You will feel more comfortable, just like in the nature.

c. Auto-restart function (optional)

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

d. Smart newly designed infrared remote controller

The unit can be controlled by the newly designed infrared remote controller YR-H49, which can realize many functions such as heating, cooling, fan, swing, fresh, health, etc. Furthermore, the remote controller can be fixed on the necessary places with a remote controller holder.

e. Healthy air flow

3D airflow, feel more comfortable, more healthy.

f. Low ambient cooling kit (optional).

g. Multiple control types (optional).

### 1.4.2.5 Steady Cabinet units

a. Strong air flow and visible operation display on the operation panel

The unit have strong cycle air flow, can meet the cooling and heating requirement soon, and also it have. adjust the temp. evenly and immediately and precisely and comfortably, meet the cusumer requestment.

b. Multiple control type between by hand and the remote control

c. Vertical and horizontal air blow direction can be adjusted freely as will

d. LED display

For AP482, 602AKEAA, Running status can be displayed on the screen.

e. Auto-check function

The unit can display the malfunction codes on the control board by using advanced auto-check technology, convenient for user find and dwell with the abnormal running.

f. Variable Control modes

Group control and central control if connected to a group controller or a central controller.



### 2. Specifications

#### 2.1 Specifications for inverter units

item		Model		AB182ACERA		
Function				cooling	heating	
Capacity			kW	5.0 (1.8--5.8)	5.2 (2.0--6.2)	
Sensible heat ratio				0.71	/	
Total power input			W	1660 (550---2400)	1730 (600---2300)	
Max. power input			W	2650	2650	
<b>EER or COP</b>			W/W	3.01	3.01	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	2.1		
Running /Max.Running current			A / A	7.8(3.0---10.5) /12.0	8.0 (3.2---10) /12.0	
Indoor unit	Unit model (color)			AB182ACERA(WHITE)		
	Fan	Type × Number			centrifugal*1	
		Speed(H-M-L)		r/min	760/650/520	
		Fan motor output power		kW	0.05	
		Air-flow(H-M-L)		m <sup>3</sup> /h	700/-----	
	Heat exchanger	Type / Diameter		mm	inner grooved pipe/φ7	
		Total Area		m <sup>2</sup>	1.23	
		Temp. scope		℃	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	570×570×260	
		Package	(L×W×H)	mm×mm×mm	718×680×380	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				Remote	
	Fresh air hole dimension			mm	95	
	Outlet distribution hole dimension			mm	/	
	Electricity Heater			kW	0	
Noise level (H-M-L)			dB(A)	44/-----		
Weight (Net / Shipping)			kg / kg	25/27		
Panel	Dimension	External	(L×W×H)	mm×mm×mm	700×700×60	
		Package	(L×W×H)	mm×mm×mm	740×750×115	
	Weight (Net / Shipping)			kg / kg	3.5/4.5	

item		Model		AC182ACERA		
Function				cooling	heating	
Capacity			kW	5.1(1.8--5.8)	6.0(2.0---7.1)	
Sensible heat ratio				0.71		
Total power input			W	1690(550---2650)	1650(600---2650)	
Max. power input			W	2650	2650	
<b>EER or COP</b>			W/W	3.01	3.63	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	1.8		
Running /Max.Running current			A / A	8.0(3.0--12.0) A	7.8(3.2--12.0) A	
Indoor unit	Unit model (color)			AC182ACERA(WHITE)		
	Fan	Type × Number			CENTRIFUGALX2	
		Speed(H-M-L)		r/min	1150/1050/850	
		Fan motor output power		kW	0.05	
		Air-flow(H-M-L)		m <sup>3</sup> /h	750/650/550	
	Heat exchanger	Type / Diameter		mm	inner grooved pipe/φ7	
		Total Area		m <sup>2</sup>	0.45	
		Temp. scope		℃	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1090×655×199	
		Package	(L×W×H)	mm×mm×mm	1150×750×300	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 18/20	
	Control type (Remote /wired)				Remote	
	Noise level (H-M-L)			dB(A)	50/45/40	
	Weight (Net / Shipping)			kg / kg	30/39	

item		Model		AD182AMERA		
Function				cooling	heating	
Capacity			kW	5.1 (1.8---6.0)	6.0 (2.0---7.1)	
Sensible heat ratio				0.75		
Total power input			W	1580 (550---2650)	1650 (600---2650)	
Max. power input			W	2650	2650	
<b>EER or COP</b>			W/W	3.23	3.64	
Indoor unit	Unit model (color)			AD182AMERA(WHITE)		
	Fan	Type × Number			cross flow*1	
		Speed(H-M-L)		r/min	1150/1050/860/680R/MIN	
		Fan motor output power		kW	0.05	
		Air-flow(H-M-L)		m <sup>3</sup> /h	850/770/680/600(30PA)	
	Heat exchanger	Type / Diameter		mm	inner grooved pipe/φ9.52	
		Total Area		m <sup>2</sup>	0.59	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1190*450*220	
		Package	(L×W×H)	mm×mm×mm	1281*526*305	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 16/12	
	Control type (Remote /wired)				wired	
	Electricity Heater			kW	0	
Noise level (H-M-L)			dB(A)	50/48/45		
Weight (Net / Shipping)			kg / kg	24/27		

item		Model		AS182AVERA		
Function				cooling	heating	
Capacity			kW	5.1 (1.8---6.0)	6.0 (2.0---7.1)	
Sensible heat ratio				0.75		
Total power input			W	1580 (550---2650)	1650 (600---2650)	
Max. power input			W	2650	2650	
<b>EER or COP</b>			W/W	3.23	3.64	
Running /Max.Running current			A / A	7.5 (3.0---12.0) /12.0	7.8 (3.2---12.0) /12	
Indoor unit	Unit model (color)			AS182AVERA(WHITE)		
	Fan	Type × Number			cross flow*1	
		Speed(H-M-L)		r/min	1250/1150/1050	
		Fan motor output power		kW	0.05	
		Air-flow(H-M-L)		m <sup>3</sup> /h	760/-----	
	Heat exchanger	Type / Diameter		mm	inner grooved pipe/φ7	
		Total Area		m <sup>2</sup>	0.868	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	870*305*225	
		Package	(L×W×H)	mm×mm×mm	962*312*365	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 16/12	
	Control type (Remote /wired)				Remote	
	Noise level (H-M-L)			dB(A)	44/----	
Weight (Net / Shipping)			kg / kg	12/15		

item		Model		AU182AFERA			
Power cable				3G 4.0mm <sup>2</sup>			
Power source				1, 220--230, 50			
Start Current				3A	3A		
Circuit breaker				25A	25A		
Outdoor unit	Unit model (color)				WHITE		
	Compressor	Model / Manufacture				TNB175FLBM1/MITSUBISHI ELECTRIC	
		Oil model				MEL56	
		Oil charging				670ML	
		Type				scroll type	
	Fan	Type × Number				axial×1	
		Speed		r/min	860±30		
		Fan motor output power		kW	0.08		
		Air-flow(H-M-L)		m <sup>3</sup> /h	2500		
	Heat exchanger	Type / Diameter		mm		hydrophilic finned Aluminum foil /φ7	
		Row / Fin pitch				3/1.55	
		Temp. scope		℃		43-60	
	Dimension	External (L×W×H)		mm×mm×mm		810*288*680	
		Package (L×W×H)		mm×mm×mm		960*406*760	
	Drainage pipe (material , I.D./O.D.)				mm		/
	Refrigerant control method				mm/mm		main capillary φ1.6*400mm, sub capillary φ
	Defrosting						AUTO
Volume of Accumulator				L		2.5	
Noise level				dB(A)		56	
Type of Four way valve						STF-0218G	
crankcase heater power				W		30	
Weight (Net / Shipping)				kg / kg		59/66	
PIPING	Refrigerant	Type / Charge		g		R410A/1850	
		Recharge quantity		g/m		35	
	Pipe	Liquid		mm		6.35	
		Gas		mm		12.7	
	Connecting Method						flared
	Between I.D & O.D	MAX.Drop		m		15	
MAX.Piping length		m		40			

item		Model		AB242ACERA		
Function				cooling	heating	
Capacity			kW	7.0 (2.0---8.0)	7.8 (2.5--8.5)	
Sensible heat ratio				0.72		
Total power input			W	2300(500---3250)W	2.25(500---2750)W	
Max. power input			W	3300W	3300W	
<b>EER or COP</b>			W/W	3.04	3.46	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	1.8		
Running /Max.Running current			A / A	11.0(2.5--14.5)	10.0(2.5--12.0)	
Indoor unit	Unit model (color)			AB242ACERA(black)		
	Fan	Type × Number			Centrifugal × 1	
		Speed(H-M-L)		r/min	670±40/550±50/460±50	
		Fan motor output power		kW	0.16	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1300/-/-	
	Heat exchanger	Type / Diameter		mm	Inner grooved type / φ 7	
		Total Area		m <sup>2</sup>	0.49	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	840*840*240	
		Package	(L×W×H)	mm×mm×mm	910*910*300	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				Remote or wired	
	Fresh air hole dimension			mm	130	
Noise level (H-M-L)			dB(A)	48/44/39		
Weight (Net / Shipping)			kg / kg	26.8/32.6		
Panel	Dimension	External	(L×W×H)	mm×mm×mm	950*950*80	
		Package	(L×W×H)	mm×mm×mm	980*980*100	
	Weight (Net / Shipping)			kg / kg	/	

item		Model		AC242ACERA		
Function				cooling	heating	
Capacity			kW	6.5(2.0-8.0)	7.5(2.5-8.5)	
Sensible heat ratio				0.72		
Total power input			W	2240W(500-3250)	2550(500-3250)	
Max. power input			W	3300W	3300W	
<b>EER or COP</b>			W/W	2.90 (C)	2.94 (E)	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	2.0		
Running /Max.Running current			A / A	10(2.5-14.5)A/15A	11.5(2.5-14.5)A/15A	
Indoor unit	Unit model (color)			AC242ACERA(WHITE)		
	Fan	Type × Number			Centrifugal × 2	
		Speed(H-M-L)		r/min	1220±40/1190±50/1050±50/980±50r/min	
		Fan motor output power		kW	0.10	
		Air-flow(H-M-L)		m <sup>3</sup> /h	800/-/-	
	Heat exchanger	Type / Diameter		mm	Inner grooved type / φ 7	
		Total Area		m <sup>2</sup>	0.49	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	990*665*199	
		Package	(L×W×H)	mm×mm×mm	1150*750*300	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 18/20	
	Control type (Remote /wired)				Remote or wired	
	Noise level (H-M-L)			dB(A)	48/46/44	
Weight (Net / Shipping)			kg / kg	28.3/34.3		

item		Model		AD242ALERA		
Function				cooling	heating	
Capacity			kW	7.35 (2.0--8.2)	8.15 (3.0--9.0)	
Sensible heat ratio				0.72	/	
Total power input			W	2280(600---3250)W	2250(600---3250)W	
Max. power input			W	3300W	3300W	
<b>EER or COP</b>			W/W	2.0		
Running /Max.Running current			A / A	10.0(2.5--14.5)A / 15.0A	10.0(2.5--14.5)A / 15.0A	
Indoor unit	Unit model (color)			AD242ALERA(grey)		
	Fan	Type × Number		Centrifugal × 2		
		Speed(H-M-L)		r/min	1250±40/1130±40/1000±50/850±50	
		Fan motor output power		kW	0.05	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1200/1050/850 (white port, 0Pa static)	
	Heat exchanger	Type / Diameter		mm	Inner grooved type / φ 7	
		Total Area		m <sup>2</sup>	0.51	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1090*500*220	
		Package	(L×W×H)	mm×mm×mm	1174*549*294	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 16/12	
	Control type (Remote /wired)				Remote or wired	
	Noise level (H-M-L)			dB(A)	49/45/41/37	
Weight (Net / Shipping)			kg / kg	25.2/28.4		

item		Model		AD242AMERA		
Function				cooling	heating	
Capacity			kW	7.35 (2.0--8.2)	8.15 (2.5-9.0)	
Sensible heat ratio				0.72		
Total power input			W	2280(600---3250)W	2250(600---3250)W	
Max. power input			W	3300W	3300W	
<b>EER or COP</b>			W/W	3.22	3.62	
Dehumidifying capacity			10 - <sup>3</sup> ×m <sup>3</sup> /h	2.1		
Running /Max.Running current			A / A	10.5(2.5--14.5)A / 15A	10.0(2.5--14.5)A / 15A	
Indoor unit	Unit model (color)			AD242AMERA(grey)		
	Fan	Type × Number		Centrifugal × 2		
		Speed(H-M-L)		r/min	1000±40/940±40/860±40/780±50	
		Fan motor output power		kW	0.18	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1200/1050/850	
	Heat exchanger	Type / Diameter		mm	Inner grooved type / φ 7	
		Total Area		m <sup>2</sup>	0.49	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	990*650*300	
		Package	(L×W×H)	mm×mm×mm	1170*860*340	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 32/26	
	Control type (Remote /wired)				Remote or wired	
	Fresh air hole dimension			mm	150	
Noise level (H-M-L)			dB(A)	47/43/39		
Weight (Net / Shipping)			kg / kg	39/40.4		

item		Model		AU242AGERA		
Power cable				3G 4.0mm2		
Power source			N, V, Hz	1PH,220-230VAC,50HZ		
Start Current			A	3	3	
Outdoor unit	Unit model (color)			WHITE		
	Compressor	Model / Manufacture			TNB175FLBM1 (MITSUBISHI)	
		Oil model			MEL56	
		Oil charging			670ML	
		Type			Rotary	
	Fan	Type × Number			axial×1	
		Speed		r/min	910±30	
		Fan motor output power		kW	0.06	
		Air-flow(H-M-L)		m³/h	3000	
	Heat exchanger	Type / Diameter		mm	φ 7	
		Row / Fin pitch			3/1.46	
		Temp. scope		℃	43-60	
	Dimension	External (L×W×H)		mm×mm×mm	865*335*732	
		Package (L×W×H)		mm×mm×mm	995*420*815	
	Drainage pipe (material , I.D./O.D.)			mm	/	
	Refrigerant control method			mm/mm	2.4mm EEV	
	Defrosting				AUTO	
Volume of Accumulator			L	3		
Noise level			dB(A)	56		
Type of Four way valve				SHF-4-10A		
crankcase heater power			W	37		
Weight (Net / Shipping)			kg / kg	57/60.5		
PIPING	Refrigerant	Type / Charge		g	R410A/2300	
		Recharge quantity		g/m	50	
	Pipe	Liquid		mm	9.52	
		Gas		mm	15.88	
	Connecting Method				Flare cnection	
	Between I.D &O.D	MAX.Drop		m	15	
MAX.Piping length		m	30			

item			Model	AB362ACERA		
Function				cooling	heating	
Capacity			Btu/h	33800	38200	
Capacity			kW	9.9(2.2~11.6)	11.2(2.5~12.0)	
Sensible heat ratio				0.73		
Total power input			W	3290(650---3800)	3280(650---3800)	
Max. power input			W	4300	4300	
<b>EER or COP</b>			W/W	3.01	3.09	
Energy efficiency stage				B	D	
Dehumidifying capacity			10 - <sup>3</sup> ×m <sup>3</sup> /h	3.8		
Running /Max.Running current			A / A	14.3(2.9-17.0)/19.3	14.3(2.9-17.0)/19.3	
Indoor unit	Unit model (color)			AB362ACERA (BLACK)		
	Fan	Type × Number			Centrifugal fan * 1	
		Speed(H-M-L)		r/min	620/450/390±40	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1850/1600/1350	
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 7	
		Total Area		m <sup>2</sup>	0.583	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1230/840/280	
		Package	(L×W×H)	mm×mm×mm	1325/920/370	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				remote/wired	
Noise level (H-M-L)			dB(A)	50/46/42		
Weight (Net / Shipping)			kg / kg	46/53		
Panel	Dimension	External	(L×W×H)	mm×mm×mm	1340/950/80	
		Package	(L×W×H)	mm×mm×mm	1400/995/115	
	Weight (Net / Shipping)			kg / kg	8.4/12	

item			Model	AC362AFERA		
Function				cooling	heating	
Capacity			Btu/h	35000	39000	
Capacity			kW	10.3(2.2~11.5)	11.4(2.5~12.0)	
Sensible heat ratio				0.73		
Total power input			W	3200(500---3900)	3250(500---3900)	
Max. power input			W	4300	4300	
<b>EER or COP</b>			W/W	3.22	3.51	
Energy efficiency stage				A	B	
Dehumidifying capacity			10 - <sup>3</sup> ×m <sup>3</sup> /h	4.0		
Running /Max.Running current			A / A	14.3(2.3-17.5)/19.3	14.3(2.3-17.5)/19.3	
Indoor unit	Unit model (color)			AC362AFERA (WHITE)		
	Fan	Type × Number			Centrifugal fan * 4	
		Speed(H-M-L)		r/min	1150/1100/950	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1800/1600/1400	
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 7	
		Total Area		m <sup>2</sup>	0.340	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1580/700/240	
		Package	(L×W×H)	mm×mm×mm	1710/790/315	
	Drainage pipe (material , I.D./O.D.)			mm	PP20/25	
	Control type (Remote /wired)				remote/wired	
Noise level (H-M-L)			dB(A)	51/49/47		
Weight (Net / Shipping)			kg / kg	54/61		

item		Model		AD362AMERA		
Function				cooling	heating	
Capacity			BTU/h	32400	38000	
Capacity			kW	9.5(2.2~10.8)	11.0(2.5~12.0)	
Sensible heat ratio				0.73		
Total power input			W	3280(500---3900)	3430(500---3900)	
Max. power input			W	4300	4300	
<b>EER or COP</b>			W/W	2.9	3.21	
Energy efficiency stage				C	C	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	3.6		
Running /Max.Running current			A / A	14.3(2.3-17.5)/19.3	15.0(2.3-17.5)/19.3	
Indoor unit	Unit model (color)			AD362AMERA(grey)		
	Fan	Type × Number		Centrifugal fan * 2		
		Speed(H-M-L)		r/min	1110±50/ 1060±40 / 950±40 / 790±50r/min	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1470/1300/1100/950	
	Heat exchanger	Type / Diameter		mm	inner grooved type/φ 7	
		Total Area		m <sup>2</sup>	0.328	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	990*650*300	
		Package	(L×W×H)	mm×mm×mm	1152*860*325	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				wired	
	Fresh air hole dimension			mm	150	
Noise level (H-M-L)			dB(A)	50/47/43/41		
Weight (Net / Shipping)			kg / kg	40/46.4		

item		Model		AD362AHERA		
Function				cooling	heating	
Capacity			BTU/h	36000	39000	
Capacity			kW	10.5(2.2~11.3)	11.5(2.5~12.5)	
Sensible heat ratio				0.73		
Total power input			W	3.40(0.50---4.00)	3.15(0.50---4.00)	
Max. power input			W	4300	4300	
<b>EER or COP</b>			W/W	3.09	3.65	
Energy efficiency stage				B	A	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	4.1		
Running /Max.Running current			A / A	15.2 (2.3-17.9) /19.3	14.1 (2.3-17.9) /19.3	
Indoor unit	Unit model (color)			AD362AHERA (grey)		
	Fan	Type × Number			centrifugal X2	
		Speed(H-M-L)		r/min	1090±30/-/930±50	
		Fan motor output power		kW	0.15	
		Air-flow(H-M-L)		m <sup>3</sup> /h	2580/-/1560	
	Heat exchanger	Type / Diameter		mm	TP2M/9.52	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1197×828×355	
		Package	(L×W×H)	mm×mm×mm	1430×940×420	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				wired	
	Noise level (H-M-L)			dB(A)	48/-/44	
Weight (Net / Shipping)			kg / kg	62/77		



Item		Model		AU362AHERA
Power cable				3*4.0
Power source			N, V, Hz	1, 220-230, 50
Start Current			A	3
Outdoor unit	Unit model (color)			AU362AHERA (WHITE)
	Compressor	Model / Manufacture		TNB220FLBM/MITSUBISHI
		Type		Rotary
	Fan	Type × Number		axial*1
		Speed	r/min	950r/min±50
		Fan motor output power	kW	0.06
		Air-flow(H-M-L)	m <sup>3</sup> /h	4000/-/-
	Heat exchanger	Type / Diameter		TP2M/Φ7
		Total area	m <sup>2</sup>	0.776
		Temp. scope	°C	43-60
	Dimension	External (L×W×H)	mm×mm×mm	948*340*830
		Package (L×W×H)	mm×mm×mm	1050*440*979
	Refrigerant control method		mm/mm	electrical expansion valve 2.2mm
	Defrosting			auto
	Volume of Accumulator		L	3.5
Noise level		dB(A)	60	
crankcase heater power		W	37	
Weight(Net / Shipping)		kg / kg	74/80	
PIPING	Refrigerant	Type / Charge	g	R410A 2650
		Recharge quantity	g/m	65
	Pipe	Liquid	mm	9.52
		Gas	mm	15.88
	Connecting Method			flared
	Between I.D & O.D	MAX.Drop	m	30
MAX.Piping length		m	50	
<p>Normal condition: indoor temperature (cooling): 27°CDB/19°CWB, indoor temperature (heating): 20°CDB/14.5°CWB</p> <p>Outdoor temperature(cooling): 35°CDB/24°CWB, outdoor temperature(heating): 7°CDB/6°CWB</p> <p>The noise level will be measured in the third octave band limited values, using a Real Time Analyser calibrated sound intensity meter. It is a sound pressure noise level.</p>				

### 2.2 Specifications for fix frequency unit

item		Model		AB182ACEAA		
Function				cooling	heating	
Capacity			BTU/h	17000	18000	
Capacity			kW	5.0	5.3	
Total power input			W	1780	1550	
Max. power input			W	2050	1950	
<b>EER or COP</b>			W/W	2.81	3.41	
Running /Max.Running current			A / A	cooling: 7.5A /10.5A	heating: 7.0A /10.0A	
Indoor unit	Unit model (color)			AB182ACEAA	Grey	
	Fan	Type × Number			axial fan X 1	
		Speed(H-M-L)		r/min	750±20 / 650±30/ 520±30	
		Fan motor output power		kW	50	
		Air-flow(H-M-L)		m³/h	700/640/480	
	Heat exchanger	Type / Diameter		mm	TP2M/7X0.5	
		Total Area		m²	0.441	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	570x570x260	
		Package	(L×W×H)	mm×mm×mm	718x680x380	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 14/16	
	Control type (Remote /wired /model)				remote / 0010451255	
	Fresh air hole dimension			mm	φ100	
Noise level (H-M-L)			dB(A)	45/42/40		
Weight (Net / Shipping)			kg / kg	19/23.5		
Panel	Dimension	External	(L×W×H)	mm×mm×mm	700×700×60	
		Package	(L×W×H)	mm×mm×mm	740×740×115	
	Weight (Net / Shipping)			kg / kg	3.5/4.5	

item		Model		AC182ACEAA		
Function				cooling	heating	
Capacity			BTU/h	17500	18600	
Capacity			kW	5.1	5.45	
Total power input			W	1690	1650	
Max. power input			W	2000	1950	
<b>EER or COP</b>			W/W	3.02	3.3	
Running /Max.Running current			A / A	cooling: 7.6A /10.5A	heating: 7.5A /10.0A	
Indoor unit	Unit model (color)			WHITE		
	Fan	Type × Number			centrifugal fan X 2	
		Speed(H-M-L)		r/min	1190±50 / 1050±50/980±50	
		Fan motor output power		kW	100	
		Air-flow(H-M-L)		m³/h	800	
	Heat exchanger	Type / Diameter		mm	TP2M/7X0.5	
		Total Area		m²	0.49	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	990x665x199	
		Package	(L×W×H)	mm×mm×mm	1150x750x300	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 18/20	
	Control type (Remote /wired /model)				Remote /wired	
	Noise level (H-M-L)			dB(A)	48/46/44	
Weight (Net / Shipping)			kg / kg	28.3/34.3		

item		Model		AD182ALEAA		
Function				cooling	heating	
Capacity			BTU/h	18000	18500	
Capacity			kW	5.17	5.38	
Total power input			W	1720	1580	
Max. power input			W	2000	1950	
<b>EER or COP</b>			W/W	3.01	3.41	
Running /Max.Running current			A / A	cooling: 7.8A /9.5A	heating 7.3A /9.3A	
Class of anti electric shock				Class 1		
Indoor unit	Unit model (color)			AD182ALEAA	Grey	
	Fan	Type × Number			centrifugal fan X 2	
		Speed(H-M-L)		r/min	700±30 / 540±30 / 400±30	
		Fan motor output power		kW	50	
		Air-flow(H-M-L)		m³/h	780	
	Heat exchanger	Type / Diameter		mm	TP2M/7X0.5	
		Total Area		m²	0.34	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1090×500×220	
		Package	(L×W×H)	mm×mm×mm	1174×549×294	
	Air sending angle					
	Drainage pipe (material , I.D./O.D.)			mm	PVC 16/12	
	Control type (Remote /wired /model)				wired control	
	Noise level (H-M-L)			dB(A)	45/41/37	
Weight (Net / Shipping)			kg / kg	23/26.5		

item		Model		AU182AEEAA		
Dehumidifying capacity			10 <sup>-3</sup> ×m³/h	1.8		
Signal cable			section	3	2.5	
Connecting cable			section	4	0.75	
Power source			N, V, Hz	1 PH 220-230 V 50 Hz		
Start Current			A	50		
Max. operating pressure of heat side			Mpa	4.5		
Max. operating pressure of cold side			Mpa	4.5		
Outdoor unit	Unit model (color)			AU182AEEAA (WHITE)		
	Compressor	Model / Manufacture		PA200X2CS-4KU1/Meizhi		
		Type		Rotary		
	Fan	Type × Number			Axial X 1	
		Speed		r/min	860±40	
		Fan motor output power		kW	35	
		Air-flow(H-M-L)		m³/h	2300	
	Heat exchanger	Type / Diameter		mm	TP2M/7X0.5	
		Temp. scope		°C	43-60	
	Dimension	External	(L×W×H)	mm×mm×mm	775x640x245	
		Package	(L×W×H)	mm×mm×mm	901x341x712	
	Drainage pipe (material , I.D./O.D.)			mm	/	
	Refrigerant control method			mm/mm	Capillary tube	
	Defrosting				controlled by coil temp.	
Noise level			dB(A)	56		
material of reduce noise				XPE		
Weight (Net / Shipping)			kg / kg	42/45		
PIPING	Refrigerant	Type / Charge	g	R410A/1500		
		Recharge quantity	g/m	20		
	Pipe	Liquid	mm	6.35		
		Gas	mm	12.7		
	Connecting Method			flared		
Between I.D &O.D	MAX.Drop		m	10		
	MAX.Piping length		m	20		

item		Model		AB242ACEAA		
Function				cooling	heating	
Capacity			kW	7.25	7.4	
Sensible heat ratio				0.72	/	
Total power input			W	2400	2300	
Max. power input			W	3100W	3000W	
<b>EER or COP</b>			W/W	3.02	3.22	
Dehumidifying capacity			10 <sup>-3</sup> m <sup>3</sup> /h	2.5		
Running /Max.Running current			A / A	11.0A/13.9A	10.5A/13.4A	
Indoor unit	Unit model (color)			grey		
	Fan	Type × Number			centrifugal fan*1	
		Speed(H-M-L)		r/min	670±40/550±50/460±50	
		Fan motor output power		kW	0.16	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1300/-/-	
	Heat exchanger	Type / Diameter		mm	inner grooved pipe/φ7	
		Total Area		m <sup>2</sup>	0.49	
		Temp. scope		℃	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	840*840*240	
		Package	(L×W×H)	mm×mm×mm	910*910*300	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				Remote /wired (optional)	
	Fresh air hole dimension			mm	130	
	Electricity Heater			kW	0	
Noise level (H-M-L)			dB(A)	48/44/39		
Weight (Net / Shipping)			kg / kg	26.8/32.6		
Panel	Dimension	External	(L×W×H)	mm×mm×mm	950*950*80	
		Package	(L×W×H)	mm×mm×mm	980*980*100	
	Weight (Net / Shipping)			kg / kg	/	

item		Model		AC242ACEAA		
Function				cooling	heating	
Capacity			kW	6.8	7.4	
Sensible heat ratio				0.72	/	
Total power input			W	2400	2450	
Max. power input			W	3100W	3000W	
<b>EER or COP</b>			W/W	2.83	3.02	
Dehumidifying capacity			10 <sup>-3</sup> m <sup>3</sup> /h	2.5		
Running /Max.Running current			A / A	10.5A/13.9A	11.2A/13.4A	
Indoor unit	Unit model (color)			WHITE		
	Fan	Type × Number			centrifugal fan*2	
		Speed(H-M-L)		r/min	1220±40/1190±50/1050±50/980±50r/min	
		Fan motor output power		kW	0.10	
		Air-flow(H-M-L)		m <sup>3</sup> /h	800/-/-	
	Heat exchanger	Type / Diameter		mm	inner grooved pipe/φ7	
		Total Area		m <sup>2</sup>	0.49	
		Temp. scope		℃	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	990*665*199	
		Package	(L×W×H)	mm×mm×mm	1150*750*300	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 18/20	
	Control type (Remote /wired)				Remote /wired (optional)	
	Fresh air hole dimension			mm	/	
	Noise level (H-M-L)			dB(A)	48/46/44	
Weight (Net / Shipping)			kg / kg	28.3/34.3		

item		Model		AD242ALEAA		
Function				cooling	heating	
Capacity			kW	7.25	7.6	
Sensible heat ratio				0.72	/	
Total power input			W	2400	2300	
Max. power input			W	3100W	3000W	
<b>EER or COP</b>			W/W	3.02	3.30	
Dehumidifying capacity			10 - <sup>3</sup> m <sup>3</sup> /h	1.8		
Running /Max.Running current			A / A	11.0A/13.9A	10.5A/13.4A	
Indoor unit	Unit model (color)			grey		
	Fan	Type × Number		centrifugal fan*2		
		Speed(H-M-L)		r/min	1250±40/1130±40/1000±50/850±50	
		Fan motor output power		kW	0.05	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1200/1050/850 (white port: 0Pa)	
	Heat exchanger	Type / Diameter		mm	inner grooved pipe/φ7	
		Total Area		m <sup>2</sup>	0.51	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1090*500*220	
		Package	(L×W×H)	mm×mm×mm	1174*549*294	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 16/12	
	Control type (Remote /wired)				wired control	
	Noise level (H-M-L)			dB(A)	49/45/41/37	
Weight (Net / Shipping)			kg / kg	25.2/28.4		

item		Model		AD242AMEAA		
Function				cooling	heating	
Capacity			kW	7.25	7.6	
Sensible heat ratio				0.72	/	
Total power input			W	2400	2300	
Max. power input			W	3100W	3000W	
<b>EER or COP</b>			W/W	3.02	3.30	
Dehumidifying capacity			10 - <sup>3</sup> m <sup>3</sup> /h	2.5		
Running /Max.Running current			A / A	11.0A/13.9A	10.5A/13.4A	
Indoor unit	Unit model (color)			grey		
	Fan	Type × Number		centrifugal fan*2		
		Speed(H-M-L)		r/min	1000±40/940±40/860±40/780±50	
		Fan motor output power		kW	0.18	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1200/1050/850	
	Heat exchanger	Type / Diameter		mm	inner grooved pipe/φ7	
		Total Area		m <sup>2</sup>	0.49	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	990*650*300	
		Package	(L×W×H)	mm×mm×mm	1170*860*340	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 32/26	
	Control type (Remote /wired)				wired control	
	Fresh air hole dimension			mm	150	
Noise level (H-M-L)			dB(A)	47/43/39		
Weight (Net / Shipping)			kg / kg	39/40.4		

item	Model		AU242AGEAA	
Power cable			H05RN-F 3G 4.0mm2	
Power source		N, V, Hz	1PH,220-230VAC,50HZ	
Outdoor unit	Unit model (color)		WHITE	
	Compressor	Model / Manufacture		PA290X3CS-4MU1 (TOSHIBA)
		Oil model		VG74
		Oil charging		950ML
		Type		Rotary
	Fan	Type × Number		axial×1
		Speed	r/min	1000±50
		Fan motor output power	kW	0.06
		Air-flow(H-M-L)	m³/h	3000
	Heat exchanger	Type / Diameter	mm	TP2M/φ7
		Row / Fin pitch		3/1.46
		Temp. scope	℃	43-60
	Dimension	External	(L×W×H) mm×mm×mm	865*335*732
		Package	(L×W×H) mm×mm×mm	995*420*815
	Refrigerant control method		mm/mm	Φ1.8*300 capillary
	Defrosting			AUTO
	Volume of Accumulator		L	3
Noise level		dB(A)	57	
Type of Four way valve			SHF-4-10A	
crankcase heater power		W	37	
Weight (Net / Shipping)		kg / kg	57/60.5	
PIPING	Refrigerant	Type / Charge	g	R410A/2100
		Recharge quantity	g/m	50
	Pipe	Liquid	mm	9.52
		Gas	mm	15.88
	Connecting Method			flare
	Between I.D &O.D	MAX.Drop	m	15
MAX.Piping length		m	30	

item		Model		AU282AHEAA/AB282ACEAA		
Function				cooling	heating	
Capacity			BTU/h	28000	30000	
Capacity			kW	8.2	8.8	
Sensible heat ratio				0.72	/	
Total power input			W	2700	2740	
Max. power input			W	3400W	3500W	
<b>EER or COP</b>			W/W	3.04	3.21	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	2.5		
Running /Max.Running current			A / A	12.0A/15.0A	12.2A/15.5A	
Indoor unit	Unit model (color)			AB282ACEAA(grey)		
	Fan	Type × Number		Centrifugal fan * 1		
		Speed(H-M-L)		r/min	670±40/600±50/460±50	
		Fan motor output power		kW	0.16	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1300/1100/870	
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 7	
		Total Area		m <sup>2</sup>	0.49	
		Temp. scope		℃	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	840*840*240	
		Package	(L×W×H)	mm×mm×mm	910*910*300	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				remote/wired (optional)	
	Fresh air hole dimension			mm	130	
	Electricity Heater			kW	0	
Noise level (H-M-L)			dB(A)	48/44/39		
Weight (Net / Shipping)			kg / kg	26.8/32.6		
Panel	Dimension	External	(L×W×H)	mm×mm×mm	950*950*280	
		Package	(L×W×H)	mm×mm×mm	980*980*100	
	Weight (Net / Shipping)			kg / kg	6/9	

item		Model		AU282AHEAA/AC282AFEAA		
Function				cooling	heating	
Capacity			BTU/h	28000	32500	
Capacity			kW	8.6	9.5	
Sensible heat ratio				0.72	/	
Total power input			W	2680	2630	
Max. power input			W	3400W	3500W	
<b>EER or COP</b>			W/W	3.21	3.61	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	2.5		
Running /Max.Running current			A / A	12.0A/15.0A	11.7A/15.0A	
Indoor unit	Unit model (color)			AC282AFEAA(WHITE)		
	Fan	Type × Number		Centrifugal fan*4		
		Speed(H-M-L)		r/min	950±40/850±40/750±40r/min	
		Fan motor output power		kW	0.10	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1550/1300/1000	
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 7	
		Total Area		m <sup>2</sup>	0.53	
		Temp. scope		℃	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1580*700*240	
		Package	(L×W×H)	mm×mm×mm	1710*790*315	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 18/20	
	Control type (Remote /wired)				remote/wired (optional)	
	Electricity Heater			kW	0	
	Noise level (H-M-L)			dB(A)	50/48/46	
Weight (Net / Shipping)			kg / kg	50/57		

item		Model		AU282AHEAA/AD282AMEAA		
Function				cooling	heating	
Capacity			BTU/h	28000	31000	
Capacity			kW	8.5	9.1	
Sensible heat ratio				0.72	/	
Total power input			W	2820	2800	
Max. power input			W	3500W	3500W	
<b>EER or COP</b>			W/W	3.01	3.25	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	2.5		
Running /Max.Running current			A / A	12.0A/15.5A	12.0A/15.5A	
Indoor unit	Unit model (color)			AD282AMEAA(grey)		
	Fan	Type × Number		Centrifugal fan*2		
		Speed(H-M-L)		r/min	(1070±40)/970±40/900±40/820±50r/min	
		Fan motor output power		kW	0.18	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1470/1300/1100	
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 7	
		Total Area		m <sup>2</sup>	0.49	
		Temp. scope		°C	2-7	
	Dimension	External (L×W×H)	mm×mm×mm		990*650*300	
		Package (L×W×H)	mm×mm×mm		1170*860*340	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 32/26	
	Control type (Remote /wired)				wired	
	Fresh air hole dimension			mm	150	
	Electricity Heater			kW	0	
	Noise level (H-M-L)			dB(A)	(47)43/40/38	
Static pressure			Pa	50		
Weight (Net / Shipping)			kg / kg	39/40.4		

item		Model		AU282AHEAA/AD282AHEAA		
Function				cooling	heating	
Capacity			BTU/h	28000	31000	
Capacity			kW	8.5	9.1	
Sensible heat ratio				0.72	/	
Total power input			W	2950	2830	
Max. power input			W	3500W	3500W	
<b>EER or COP</b>			W/W	2.88	3.22	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	1.8		
Running /Max.Running current			A / A	12.7A/15.5A	12.3A/15.5A	
Indoor unit	Unit model (color)			AD282AHEAA(grey)		
	Fan	Type × Number		Centrifugal fan*2		
		Speed(H-M-L)		r/min	1270+30/1130+40/970+50	
		Fan motor output power		kW	0.15	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1470/1300/1100(100 Pa Static pressure)	
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 9.52	
		Total Area		m <sup>2</sup>	0.45	
		Temp. scope		°C	2-7	
	Dimension	External (L×W×H)	mm×mm×mm		820*830*360	
		Package (L×W×H)	mm×mm×mm		940*1051*510	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 32/26	
	Control type (Remote /wired)				wired	
	Electricity Heater			kW	0	
	Noise level (H-M-L)			dB(A)	53/51/49	
	Static pressure			Pa	100	
Weight (Net / Shipping)			kg / kg	48/58		



item	Model			AU282AHEAA
color				WHITE
Power cable				H05RN-F 3G 4.0mm2
Power source			N, V, Hz	1PH,220-230VAC,50HZ
Outdoor unit	Compressor	Model / Manufacture		NN33VAAMT(MITSUBISHI)
		Oil model		FV50S
		Oil charging		1300CC.
		Type		Rotary
	Fan	Type × Number		axial×1
		Speed		r/min 920±50
		Fan motor output power		kW 0.06
		Air-flow(H-M-L)		m <sup>3</sup> /h 4000
	Heat exchanger	Type / Diameter		mm hydrophilic Al slit fin/ φ 7.94
		Row / Fin pitch		2/1.7
		Temp. scope		°C 43-60
	Dimension	External	(L×W×H)	mm×mm×mm 948*340*840
		Package	(L×W×H)	mm×mm×mm 1050*440*979
	RefrigEAAnt control method		mm/mm	Capillary
	Defrosting			Automatic
	Volume of Accumulator		L	3.5
	Noise level		dB(A)	58
Type of Four way valve			SHF-4-10A	
crankcase heater power		W	40	
Weight	(Net / Shipping)	kg / kg	74/89	
PIPING	RefrigEAAnt	Type / Charge	g	R410A/2450
		Recharge quantity	g/m	50
	Pipe	Liquid	mm	9.52
		Gas	mm	15.88
	Connecting Method			Flare connection
	Between I.D & O	MAX.Drop	m	15/10
MAX.Piping length		m	30	

item		Model		AU28NAHEAA/AB282ACEAA		
Function				cooling	heating	
Capacity			BTU/h	28000	29000	
Capacity			kW	8.2	8.4	
Sensible heat ratio				0.72		
Total power input			W	2800	2600	
Max. power input			W	3500	3500	
<b>EER or COP</b>			W/W	2.93	3.23	
Dehumidifying capacity			10 - <sup>3</sup> ×m <sup>3</sup> /h	2.5		
Running /Max.Running current			A / A	4.7A/5.6A	4.6A/5.5A	
Indoor unit	Unit model (color)			AB282ACEAA(grey)		
	Fan	Type × Number		Centrifugal fan*1		
		Speed(H-M-L)		r/min	670±40/600±50/460±50	
		Fan motor output power		kW	0.16	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1300/1100/870	
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 7	
		Total Area		m <sup>2</sup>	0.49	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	840*840*240	
		Package	(L×W×H)	mm×mm×mm	910*910*300	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				remote/wired (optional)	
	Fresh air hole dimension			mm	130	
	Electricity Heater			kW	0	
Noise level (H-M-L)			dB(A)	48/44/39		
Weight (Net / Shipping)			kg / kg	26.8/32.6		
Panel	Dimension	External	(L×W×H)	mm×mm×mm	950*950*280	
		Package	(L×W×H)	mm×mm×mm	980*980*100	
	Weight (Net / Shipping)			kg / kg	6/9	

item		Model		AU28NAHEAA/AC282AFEAA		
Function				cooling	heating	
Capacity			BTU/h	28000.00	28600.00	
Capacity			kW	8.2	8.4	
Sensible heat ratio				0.72		
Total power input			W	2800	2600	
Max. power input			W	3500	3500	
<b>EER or COP</b>			W/W	2.93	3.23	
Dehumidifying capacity			10 - <sup>3</sup> ×m <sup>3</sup> /h	2.5		
Running /Max.Running current			A / A	4.7A/5.6A	4.6A/5.5A	
Indoor unit	Unit model (color)			AC282AFEAA(WHITE)		
	Fan	Type × Number		Centrifugal fan*4		
		Speed(H-M-L)		r/min	950±40/850±40/750±40r/min	
		Fan motor output power		kW	0.10	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1550/1300/1000	
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 7	
		Total Area		m <sup>2</sup>	0.53	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1580*700*240	
		Package	(L×W×H)	mm×mm×mm	1710*790*315	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 18/20	
	Control type (Remote /wired)				remote/wired (optional)	
	Electricity Heater			kW	0	
	Noise level (H-M-L)			dB(A)	50/48/46	
Weight (Net / Shipping)			kg / kg	50/57		

item		Model		AU28NAHEAA/AD282AMEAA		
Function				cooling	heating	
Capacity			BTU/h	28000	31000	
Capacity			kW	8.5	9	
Sensible heat ratio				0.72		
Total power input			W	2800	2650	
Max. power input			W	3500	3500	
<b>EER or COP</b>			W/W	3.04	3.40	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	2.5		
Running /Max.Running current			A / A	4.7A/5.6A	4.6A/5.5A	
Indoor unit	Unit model (color)			AD282AMEAA(grey)		
	Fan	Type × Number		Centrifugal fan*2		
		Speed(H-M-L)		r/min	(1070±40)/970±40/900±40/820±50r/min	
		Fan motor output power		kW	0.18	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1470/1300/1100	
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 7	
		Total Area		m <sup>2</sup>	0.49	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	990*650*300	
		Package	(L×W×H)	mm×mm×mm	1170*860*340	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 32/26	
	Control type (Remote /wired)				wired	
	Fresh air hole dimension			mm	150	
	Electricity Heater			kW	0	
	Noise level (H-M-L)			dB(A)	(47)43/40/38	
	Static pressure		Pa	50		
Weight (Net / Shipping)			kg / kg	39/40.4		

item		Model		AU28NAHEAA/AD282AHEAA		
Function				cooling	heating	
Capacity			BTU/h	27500	29000	
Capacity			kW	8	8.5	
Sensible heat ratio				0.72		
Total power input			W	2950	2820	
Max. power input			W	3500	3500	
<b>EER or COP</b>			W/W	2.71	3.01	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	1.8		
Running /Max.Running current			A / A	4.8A/5.6A	4.8A/5.6A	
Indoor unit	Unit model (color)			AD282AHEAA(grey)		
	Fan	Type × Number		Centrifugal fan*2		
		Speed(H-M-L)		r/min	1270+30/1130+40/970+50	
		Fan motor output power		kW	0.15	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1470/1300/1100(100 Pa Static pressure)	
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 9.52	
		Total Area		m <sup>2</sup>	0.45	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	820*830*360	
		Package	(L×W×H)	mm×mm×mm	940*1051*510	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 32/26	
	Control type (Remote /wired)				wired	
	Electricity Heater			kW	0	
	Noise level (H-M-L)			dB(A)	53/51/49	
		Static pressure		Pa	100	
Weight (Net / Shipping)			kg / kg	48/58		

item				Model	AU28NAHEAA	
Power cable					H05RN-F 3G 4.0mm2	
Power source				N, V, Hz	3PH,380-400VAC,50HZ	
Start Current				A	33A/36A 33A/36A	
Outdoor unit	Unit model (color)				AU28NAHEAA(WHITE)	
	Compressor	Model / Manufacture				NN33YCAMT (MITSUBISHI)
		Oil model				FV50S
		Oil charging				1300CC.
		Type				Rotary
	Fan	Type × Number				axial×1
		Speed		r/min		920±50
		Fan motor output power		kW		0.06
		Air-flow(H-M-L)		m³/h		4000
	Heat exchanger	Type / Diameter		mm		hydrophilic Al slit fin/ φ 7.94
		Row / Fin pitch				2/1.7
		Temp. scope		℃		43-60
	Dimension	External	(L×W×H)	mm×mm×mm		948*340*840
		Package	(L×W×H)	mm×mm×mm		1050*440*979
	Refrigerant control method			mm/mm		Capillary
	Defrosting					Automatic
	Volume of Accumulator			L		3.5
Noise level			dB(A)		58	
Type of Four way valve					SHF-4-10A	
crankcase heater power			W		40	
Weight (Net / Shipping)			kg / kg		74/89	
PIPING	Refrigerant	Type / Charge		g	R410A/2450	
		Recharge quantity		g/m	50	
	Pipe	Liquid		mm		9.52
		Gas		mm		15.88
	Connecting Method					Flare connection
	Between I.D & O.D	MAX.Drop		m		15/10
MAX.Piping length			m		30	

item			Model	AU362AIEAA/AB362ACEAA	
Function				cooling	heating
Capacity			kW	10	10.5
Sensible heat ratio				0.72	
Total power input			W	3300	3500
Max. power input			W	3900	3950
<b>EER or COP</b>			W/W	3.03 (B)	3.00 (B)
Running /Max.Running current			A / A	15.8A/18.5A	16.5A/18.7A
Indoor unit	Unit model (color)			AB362ACEAA	
	Fan	Type × Number		Centrifugal fan*1	
		Speed(H-M-L)		r/min	700/600/550
		Fan motor output power		kW	0.1
		Air-flow(H-M-L)		m³/h	1600/1450/1300
	Heat exchanger	Type / Diameter		mm	inner grooved type/φ 7
		Total Area		m²	0.53
		Temp. scope		℃	2-7
	Dimension	External	(L×W×H)	mm×mm×mm	840/840/290
		Package	(L×W×H)	mm×mm×mm	910/910/370
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32
	Control type (Remote /wired)				remote/wired (optional)
	Electricity Heater			kW	0
Noise level (H-M-L)			dB(A)	51	
Weight (Net / Shipping)			kg / kg	38/45	
Panel	Dimension	External	(L×W×H)	mm×mm×mm	950×950×80
		Package	(L×W×H)	mm×mm×mm	980×980×100
	Weight (Net / Shipping)			kg / kg	6/9

item			Model	AU362AIEAA/AC362AFEAA	
Function				cooling	heating
Capacity			kW	11	12
Sensible heat ratio				0.72	
Total power input			W	3400	3500
Max. power input			W	3950	3950
<b>EER or COP</b>			W/W	3.24	3.43
Running /Max.Running current			A / A	16.0A/18.7A	16.5A/18.7A
Indoor unit	Unit model (color)			AC362AFEAA	
	Fan	Type × Number		Centrifugal fan*4	
		Speed(H-M-L)		r/min	1150/-/-
		Air-flow(H-M-L)		m³/h	1800/-/-
	Heat exchanger	Type / Diameter		mm	inner grooved type/φ 7
		Total Area		m²	0.53
		Temp. scope		℃	2-7
	Dimension	External	(L×W×H)	mm×mm×mm	1580/700/240
		Package	(L×W×H)	mm×mm×mm	1710/790/315
	Drainage pipe (material , I.D./O.D.)			mm	PVC 18/20
	Control type (Remote /wired)				remote/wired (optional)
	Electricity Heater			kW	0
	Noise level (H-M-L)			dB(A)	51
Weight (Net / Shipping)			kg / kg	54/61	

item		Model		AU362AIEAA/AB362ACEAA		
Function				cooling	heating	
Capacity			kW	10	10.5	
Sensible heat ratio				0.72		
Total power input			W	3300	3500	
Max. power input			W	3900	3950	
<b>EER or COP</b>			W/W	3.03 (B)	3.00 (B)	
Running /Max.Running current			A / A	15.8A/18.5A	16.5A/18.7A	
Indoor unit	Unit model (color)			AB362ACEAA		
	Fan	Type × Number		Centrifugal fan*1		
		Speed(H-M-L)		r/min	700/600/550	
		Fan motor output power		kW	0.1	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1600/1450/1300	
	Heat exchanger	Type / Diameter		mm	inner grooved type/φ 7	
		Total Area		m <sup>2</sup>	0.53	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	840/840/290	
		Package	(L×W×H)	mm×mm×mm	910/910/370	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				remote/wired (optional)	
	Electricity Heater			kW	0	
Noise level (H-M-L)			dB(A)	51		
Weight (Net / Shipping)			kg / kg	38/45		
Panel	Dimension	External	(L×W×H)	mm×mm×mm	950×950×80	
		Package	(L×W×H)	mm×mm×mm	980×980×100	
	Weight (Net / Shipping)			kg / kg	6/9	

item		Model		AU362AIEAA/AC362AFEAA		
Function				cooling	heating	
Capacity			kW	11	12	
Sensible heat ratio				0.72		
Total power input			W	3400	3500	
Max. power input			W	3950	3950	
<b>EER or COP</b>			W/W	3.24	3.43	
Running /Max.Running current			A / A	16.0A/18.7A	16.5A/18.7A	
Indoor unit	Unit model (color)			AC362AFEAA		
	Fan	Type × Number		Centrifugal fan*4		
		Speed(H-M-L)		r/min	1150/-/-	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1800/-/-	
	Heat exchanger	Type / Diameter		mm	inner grooved type/φ 7	
		Total Area		m <sup>2</sup>	0.53	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1580/700/240	
		Package	(L×W×H)	mm×mm×mm	1710/790/315	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 18/20	
	Control type (Remote /wired)				remote/wired (optional)	
	Electricity Heater			kW	0	
	Noise level (H-M-L)			dB(A)	51	
Weight (Net / Shipping)			kg / kg	54/61		

item		Model		AU362AIEAA/AD362AMEAA		
Function				cooling	heating	
Capacity			kW	10.5	11	
Sensible heat ratio				0.72		
Total power input			W	3400	3500	
Max. power input			W	3900	3950	
<b>EER or COP</b>			W/W	3.09	3.15	
Running /Max.Running current			A / A	16.0A/18.5A	16.5A/18.7A	
Indoor unit	Unit model (color)			AD362AMEAA		
	Fan	Type × Number		Centrifugal fan*2		
		Speed(H-M-L)		r/min	1200/1100/1000	
		Fan motor output power		kW	0.16	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1500/1350/1200	
	Heat exchanger	Type / Diameter		mm	inner grooved type/φ 7	
		Total Area		m <sup>2</sup>	0.53	
		Temp. scope		℃	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	990/650/300	
		Package	(L×W×H)	mm×mm×mm	1137/800/320	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				wired	
	Electricity Heater			kW	0	
Noise level	(H-M-L)		dB(A)	47/45/43		
Weight	(Net / Shipping)		kg / kg	40/57		

item		Model		AU362AIEAA/AD362AHEAA		
Function				cooling	heating	
Capacity			kW	10	11	
Sensible heat ratio				0.72		
Total power input			W	3550	3650	
Max. power input			W	3900	3950	
<b>EER or COP</b>			W/W	2.8	3.01	
Running /Max.Running current			A / A	16.8A/18.5A	17.5A/18.7A	
Indoor unit	Unit model (color)			AD362AHEAA		
	Fan	Type × Number		Centrifugal fan*2		
		Speed(H-M-L)		r/min	1350/1250/1050	
		Fan motor output power		kW	0.2	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1500/1350/1200	
	Heat exchanger	Type / Diameter		mm	inner grooved type/φ 7	
		Total Area		m <sup>2</sup>	0.53	
		Temp. scope		℃	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	820/830/360	
		Package	(L×W×H)	mm×mm×mm	940/1051/420	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 32/26	
	Control type (Remote /wired)				wired	
	Electricity Heater			kW	0	
Noise level	(H-M-L)		dB(A)	53		
Weight	(Net / Shipping)		kg / kg	48/58		

item		Model		AU362AIEAA		
Dehumidifying capacity			10 - <sup>3</sup> m <sup>3</sup> /h	2.5		
Power cable				H05RN-F 3G 4.0mm2		
Power source			N, V, Hz	1PH,220-230AC,50HZ		
Start Current			A	88/96	88/96	
PIPING	Compressor	Model / Manufacture		NN40VAAMT		
		Oil model		FV50S		
		Oil charging		1300cc		
		Type		Rotary		
	Fan	Type × Number		axial×2		
		Speed		r/min	860±40	
		Fan motor output power		kW	0.08	
		Air-flow(H-M-L)		m <sup>3</sup> /h	7000	
	Heat exchanger	Type / Diameter		mm	hydrophilic Al slit fin /φ 7.94	
		Row / Fin pitch			2/1.7	
		Temp. scope		°C	43-60	
	Dimension	External (L×W×H)		mm×mm×mm	948*340*1250	
		Package (L×W×H)		mm×mm×mm	1050*440*1375	
	Refrigerant control method			mm/mm	Capillary	
	Defrosting				Automatic	
	Volume of Accumulator			L	3.5	
Noise level			dB(A)	60		
Type of Four way valve				SHF-4-10A		
crankcase heater power			W	40		
Weight (Net / Shipping)			kg / kg	96/101		
PIPING	Refrigerant	Type / Charge		g	R410A/3300	
		Recharge quantity		g/m	65	
	Pipe	Liquid		mm	9.52	
		Gas		mm	19.05	
	Connecting Method				Flare connection	
	Between I.D & O.	MAX.Drop		m	30	
MAX.Piping length		m	50			



item		Model		AU36NAIEAA/AB362ACEAA	
Function				cooling	heating
Capacity			kW	11.5	12
Sensible heat ratio				0.72	
Total power input			W	3800	3900
Max. power input			W	4700	4800
<b>EER or COP</b>			W/W	3.03	3.08
Running /Max.Running current			A / A	6.4A/8.0A	6.5A/8.0A
Indoor unit	Unit model (color)			AB362ACEAA	
	Fan	Type × Number		Centrifugal fan*1	
		Speed(H-M-L)		r/min	700/600/550
		Fan motor output power		kW	0.1
		Air-flow(H-M-L)		m <sup>3</sup> /h	1600/1450/1300
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 7
		Total Area		m <sup>2</sup>	0.53
		Temp. scope		°C	2-7
	Dimension	External	(L×W×H)	mm×mm×mm	840/840/290
		Package	(L×W×H)	mm×mm×mm	910/910/370
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32
	Control type (Remote /wired)				remote/wired (optional)
	Electricity Heater			kW	0
Noise level	(H-M-L)		dB(A)	51	
Weight	(Net / Shipping)		kg / kg	38/45	
Panel	Dimension	External	(L×W×H)	mm×mm×mm	950×950×80
		Package	(L×W×H)	mm×mm×mm	980×980×100
	Weight	(Net / Shipping)		kg / kg	6/9

item		Model		AU36NAIEAA/AC362AFEAA	
Function				cooling	heating
Capacity			kW	11.5	13
Sensible heat ratio				0.72	
Total power input			W	3900	3900
Max. power input			W	4700	4500
<b>EER or COP</b>			W/W	2.95	3.33
Running /Max.Running current			A / A	6.6A/8.0A	6.5A/7.8A
Indoor unit	Unit model (color)			AC362AFEAA	
	Fan	Type × Number		Centrifugal fan*4	
		Speed(H-M-L)		r/min	1150/-/-
		Air-flow(H-M-L)		m <sup>3</sup> /h	1800/-/-
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 7
		Total Area		m <sup>2</sup>	0.53
		Temp. scope		°C	2-7
	Dimension	External	(L×W×H)	mm×mm×mm	1580/700/240
		Package	(L×W×H)	mm×mm×mm	1710/790/315
	Drainage pipe (material , I.D./O.D.)			mm	PVC 18/20
	Control type (Remote /wired)				remote/wired (optional)
	Electricity Heater			kW	0
	Noise level	(H-M-L)		dB(A)	51
Weight	(Net / Shipping)		kg / kg	54/61	

item		Model		AU36NAIEAA/AD362AMEAA		
Function				cooling	heating	
Capacity			kW	11	12.5	
Sensible heat ratio				0.72		
Total power input			W	3650	4300	
Max. power input			W	4700	4800	
<b>EER or COP</b>			W/W	3.01	2.91	
Running /Max.Running current			A / A	6.4A/8.0A	7.3A/8.0A	
Indoor unit	Unit model (color)			AD362AMEAA		
	Fan	Type × Number			Centrifugal fan*2	
		Speed(H-M-L)		r/min	1200/1100/1000	
		Fan motor output power		kW	0.16	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1500/1350/1200	
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 7	
		Total Area		m <sup>2</sup>	0.53	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	990/650/300	
		Package	(L×W×H)	mm×mm×mm	1137/800/320	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				wired	
	Electricity Heater			kW	0	
Noise level	(H-M-L)		dB(A)	47/45/43		
Weight	(Net / Shipping)		kg / kg	40/57		

item		Model		AU36NAIEAA/AD362AHEAA		
Function				cooling	heating	
Capacity			kW	10.5	12	
Sensible heat ratio				0.72		
Total power input			W	3880	4200	
Max. power input			W	4700	4800	
<b>EER or COP</b>			W/W	2.71	2.86	
Running /Max.Running current			A / A	6.7A/8.0A	6.8A/8.0A	
Indoor unit	Unit model (color)			AD362AHEAA		
	Fan	Type × Number			Centrifugal fan*2	
		Speed(H-M-L)		r/min	1350/1250/1050	
		Fan motor output power		kW	0.2	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1500/1350/1200	
	Heat exchanger	Type / Diameter		mm	inner grooved type/ φ 7	
		Total Area		m <sup>2</sup>	0.53	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	820/830/360	
		Package	(L×W×H)	mm×mm×mm	940/1051/420	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 32/26	
	Control type (Remote /wired)				wired	
	Electricity Heater			kW	0	
Noise level	(H-M-L)		dB(A)	53		
Weight	(Net / Shipping)		kg / kg	48/58		

item		Model		AU36NAIEAA				
Dehumidifying capacity		10 - <sup>3</sup> ×m <sup>3</sup> /h		2.5				
Power cable				H05RN-F 3G 4.0mm <sup>2</sup>				
Power source		N, V, Hz		3PH,380-400AC,50HZ				
Start Current		A		46.3/48.2/50.0   46.3/48.2/50.0				
Outdoor unit	Unit model (color)				AU36NAIEAA			
	Compressor	Model / Manufacture				JT125G-P8Y1		
		Oil model				DAPHNE FVC68D		
		Oil charging				1500cm <sup>3</sup>		
		Type				Scroll		
	Fan	Type × Number				axial×2		
		Speed		r/min		860±40		
		Fan motor output power		kW		0.08		
		Air-flow(H-M-L)		m <sup>3</sup> /h		7000		
	Heat exchanger	Type / Diameter		mm		hydrophilic Al slit fin/ φ 7.94		
		Row / Fin pitch				2/1.7		
		Temp. scope		℃		43-60		
	Dimension	External (L×W×H)		mm×mm×mm		948*340*1250		
		Package (L×W×H)		mm×mm×mm		1050*440*1375		
	Refrigerant control method				mm/mm		Capillary	
	Defrosting						Automatic	
	Volume of Accumulator				L		3.5	
	Noise level				dB(A)		60	
	Type of Four way valve						SHF-4-10A	
	crankcase heater power				W		40	
Weight (Net / Shipping)				kg / kg		103/108		
PIPING	Refrigerant	Type / Charge		g		R410A/3300		
		Recharge quantity		g/m		65		
	Pipe	Liquid		mm		9.52		
		Gas		mm		19.05		
	Connecting Method						Flare connection	
	Between I.D & O	MAX.Drop		m		30		
MAX.Piping length		m		50				

item		Model		AU42NALEAA/AP422ACEAA		
Function				cooling	heating	
Capacity			BTU/h	42000	47800	
Capacity			kW	12.3	14.0	
Sensible heat ratio				70%		
Total power input			W	4800	5050	
Max. power input			W	5650	6550	
<b>EER or COP</b>			W/W	2.55	2.7	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	5.0		
Power cable			section	5G×2.5mm <sup>2</sup>		
Signal cable			section	4G×0.75mm <sup>2</sup>		
Connecting cable			section			
Power source			N, V, Hz	OUTDOOR UNIT: 3N, 380-400V, 50HZ INDOOR UNIT: 1PH, 220-230AC, 50HZ		
Running /Max.Running current			A / A	Cooling 8.4A/9.9A Heating 8.8/11.5A		
Start Current			A	50		
Class of anti electric shock				CLASS I	CLASS I	
Circuit breaker			A	20		
Max. operating pressure of heat side			Mpa	4.15	4.15	
Max. operating pressure of cold side			Mpa	4.15	4.15	
Indoor unit	Unit model (color)			AP422ACEAA(WHITE)		
	Fan	Type × Number			centrifugal	
		Speed(H-M-L)		r/min	540/380/320	
		Fan motor output power		kW	0.1	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1560	
	Heat exchanger	Type / Diameter		mm	inner grooved/ φ7	
		Temp. scope		℃	2—7	
	Dimension	External	(L×W×H)	mm×mm×mm	1820× 530× 310	
		Package	(L×W×H)	mm×mm×mm	1905×625×415	
	Air sending angle				160	160
	Control type (Remote /wired /model)				Remote	
	Outlet distribution hole dimension			mm	70	
	Noise level (H-M-L)			dB(A)	56/46/40	
	Weight (Net / Shipping)			kg / kg	52/61	
	Outdoor unit	Unit model (color)			AU42NALEAA(WHITE)	
Compressor		Model / Manufacture			JT160G-P8Y1(R410A) /DAKIN	
		Oil model			DAPHNE	
		Oil type			FVC68D	
		Oil charging			1500L	
		Type			SCROLL	
		Protection type			Inner thermal protection	
		Starting method			hard startup	
Fan		Type × Number			Axial*1	
		Speed		r/min	740	
		Fan motor output power		kW	0.15*1	
		Air-flow(H-M-L)		m <sup>3</sup> /h	5500	
Heat exchanger		Type / Diameter		mm	inner grooved/ φ 9.52	
		Row / Fin pitch			2/1.6	
		Temp. scope		℃	43—60	
Dimension		External	(L×W×H)	mm×mm×mm	1008×447×830	
		Package	(L×W×H)	mm×mm×mm	1130×490×930	
Refrigerant control method			mm/mm	Capillary tube		
Defrosting				Automatic		
Volume of Accumulator			L	2.5		
Noise level			dB(A)	59		
Type of Four way valve				SHF		
crankcase heater power			W	55		
Weight (Net / Shipping)			kg / kg	91/102		
PIPING	Refrigerant	Type / Charge	g	R410A/3100		
		Recharge quantity	g/m	65		
	Pipe	Liquid		mm	φ 9.52	
		Gas		mm	φ 19.05	
	Connecting Method				Flared	
	Between I.D & O	MAX.Drop		m	30	
MAX.Piping length		m	50			

item		Model		AB482ACEAA		
Function				cooling	heating	
Capacity			kW	13.6	16.5	
Sensible heat ratio				0.72		
Total power input			W	4500	5000	
Max. power input			W	5500	6000	
<b>EER or COP</b>			W/W	3.02 (B)	3.3 (C)	
Dehumidifying capacity			10 - <sup>3</sup> m <sup>3</sup> /h	5.0		
Running /Max.Running current			A / A	8.0A/9.5A	9.0A/10.5A	
Start Current			A	65	65	
Indoor unit	Unit model (color)			AB482ACEAA (BLACK)		
	Fan	Type × Number		centrifugal fan*1		
		Air-flow(H-M-L)		m <sup>3</sup> /h	1980/-/-	
	Heat exchanger	Type / Diameter		mm	inner grooved pipe/φ7	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1230/840/280	
		Package	(L×W×H)	mm×mm×mm	1325/920/370	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 32/26	
	Control type (Remote /wired)				Remote /wired (optional)	
Noise level (H-M-L)			dB(A)	51/47/43		
Weight (Net / Shipping)			kg / kg	46/53		
Panel	Dimension	External	(L×W×H)	mm×mm×mm	1340/950/80	
		Package	(L×W×H)	mm×mm×mm	1400/995/115	
	Weight (Net / Shipping)			kg / kg	8.4/12.0	

item		Model		AC482AFEAA		
Function				cooling	heating	
Capacity			kW	14.06	17.0	
Sensible heat ratio				0.72		
Total power input			W	4600	4950	
Max. power input			W	5500	6000	
<b>EER or COP</b>			W/W	3.06 (B)	3.43 (B)	
Dehumidifying capacity			10 - <sup>3</sup> m <sup>3</sup> /h	5.3		
Running /Max.Running current			A / A	8.0A/9.5A	9.0A/10.5A	
Start Current			A	65	65	
Indoor unit	Unit model (color)			AC482AFEAA (WHITE)		
	Fan	Type × Number			centrifugal fan*4	
		Speed(H-M-L)		r/min	1250/1150/1100	
		Fan motor output power		kW	0.09	
		Air-flow(H-M-L)		m <sup>3</sup> /h	2000/1800/1400	
	Heat exchanger	Type / Diameter		mm	inner grooved pipe/φ7	
		Total Area		m <sup>2</sup>	0.10	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1580/700/240	
		Package	(L×W×H)	mm×mm×mm	1710/790/315	
	Drainage pipe (material , I.D./O.D.)			mm	PVC	
Control type (Remote /wired)				Remote		
Noise level (H-M-L)			dB(A)	53/51/49		
Weight (Net / Shipping)			kg / kg	54/61		

item		Model		AD482AMEAA		
Function				cooling	heating	
Capacity			kW	14.06	17.5	
Sensible heat ratio				0.72		
Total power input			W	4600	4800	
Max. power input			W	5500	6000	
<b>EER or COP</b>			W/W	3.06 (B)	3.65 (A)	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	4.8		
Running /Max.Running current			A / A	8.0A/9.5A	8.5A/10.5A	
Start Current			A	65	65	
Indoor unit	Unit model (color)			grey		
	Fan	Type × Number		centrifugal fanX3		
		Fan motor output power		kW	0.06	
		Air-flow(H-M-L)		m <sup>3</sup> /h	2040/1800/1600m <sup>3</sup> /h	
	Heat exchanger	Type / Diameter		mm	TP2M/9.52	
		Total Area		m <sup>2</sup>	0.10	
		Temp. scope		℃	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1410/635/350	
		Package	(L×W×H)	mm×mm×mm	1557/800/370	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				wired	
Noise level (H-M-L)			dB(A)	48/-/44		
Weight (Net / Shipping)			kg / kg	55/60		

item		Model		AD482AHEAA		
Function				cooling	heating	
Capacity			kW	13.5	17.5	
Sensible heat ratio				0.72		
Total power input			W	4600	4700	
Max. power input			W	5500	6000	
<b>EER or COP</b>			W/W	2.96 (C)	3.72 (A)	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	4.2		
Running /Max.Running current			A / A	8.0A/9.5A	8.5A/10.5A	
Start Current			A	65	65	
Indoor unit	Unit model (color)			AD482AHEAA (grey)		
	Fan	Type × Number			centrifugal fan X2	
		Speed(H-M-L)		r/min	1090+30/-/930+50	
		Fan motor output power		kW	0.06	
		Air-flow(H-M-L)		m <sup>3</sup> /h	2580/-/1560	
	Heat exchanger	Type / Diameter		mm	TP2M/9.52	
		Total Area		m <sup>2</sup>	0.10	
		Temp. scope		℃	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1197×830×350	
		Package	(L×W×H)	mm×mm×mm	1430×940×420	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
Control type (Remote /wired)				wired		
Noise level (H-M-L)			dB(A)	50/46/42		
Weight (Net / Shipping)			kg / kg	62/70		

item		Model		AP482AKEAA		
Function				cooling	heating	
Capacity			kW	13.6	16.0	
Sensible heat ratio				0.72		
Total power input			W	4500	5250	
Max. power input			W	5500	6000	
<b>EER or COP</b>			W/W	3.02 (B)	3.05 (D)	
Dehumidifying capacity			10 - <sup>3</sup> ×m <sup>3</sup> /h	5.5		
Running /Max.Running current			A / A	8.0A/9.5A	9.0A/10.5A	
Start Current			A	65	65	
Indoor unit	Unit model (color)			AP482AKEAA (white)		
	Fan	Type × Number		centrifugal fan X1		
		Speed(H-M-L)		r/min	460/430/400±40	
		Fan motor output power		kW	0.06	
		Air-flow(H-M-L)		m <sup>3</sup> /h	1750/-/m <sup>3</sup> /h	
	Heat exchanger	Type / Diameter		mm	TP2M/7.0	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1850×600×350	
		Package	(L×W×H)	mm×mm×mm	1980×660×420	
	Control type	(Remote /wired)			Remote	
Noise level	(H-M-L)		dB(A)	51/48/44		
Weight	(Net / Shipping)		kg / kg	59/70		

item		Model		AU48NAIEAA		
Power cable				H07RN-F 5G 4.0mm2		
Power source			N, V, Hz	OU:380-400V,3N,50HZ IU:1PH,220-230V,50HZ		
Outdoor unit	Unit model (color)			WHITE		
	Compressor	Model / Manufacture			JT160G-P8Y1 (DAIKIN)	
		Oil model			DAPHNE	
		Oil type			FVC68D	
		Oil charging			1500CM3	
		Type			Rotary	
	Fan	Type × Number			axial×2	
		Speed		r/min	860±40	
		Fan motor output power		kW	0.08	
		Air-flow(H-M-L)		m <sup>3</sup> /h	7000	
	Heat exchanger	Type / Diameter		mm	TP2M/9.52	
		Row / Fin pitch			3/1.55	
		Temp. scope		°C	43-60	
	Dimension	External	(L×W×H)	mm×mm×mm	948*340*1250	
		Package	(L×W×H)	mm×mm×mm	1050*440*1375	
	Refrigerant control method			mm/mm	capillary 2.4*150	
	Defrosting				AUTO	
Volume of Accumulator			L	3		
Noise level			dB(A)	60		
Type of Four way valve				SHF-4-10A		
crankcase heater power			W	55		
Weight	(Net / Shipping)		kg / kg	106/111		
PIPING	Refrigerant	Type / Charge	g	R410A/3700		
		Recharge quantity	g/m	65		
	Pipe	Liquid		mm	9.52	
		Gas		mm	19.05	
	Connecting Method				flare	
	Between I.D & O.D	MAX.Drop		m	30	
MAX.Piping length			m	50		

item		Model		AB602ACEAA		
Function				cooling	heating	
Capacity			kW	15.5	18.5	
Sensible heat ratio				0.72		
Total power input			W	5100W	5350W	
Max. power input			W	6200W	6200W	
<b>EER or COP</b>			W/W	3.02 (B)	3.44 (B)	
Dehumidifying capacity			10 - <sup>3</sup> m <sup>3</sup> /h	5.0		
Running /Max.Running current			A / A	9.0A/10.5A	9.5A/10.5A	
Start Current			A	65	65	
Indoor unit	Unit model (color)			AB602ACEAA (black)		
	Fan	Type × Number		centrifugal fan*1		
		Air-flow(H-M-L)		m <sup>3</sup> /h	1980/-/-	
	Heat exchanger	Type / Diameter		mm	inner grooved pipe/φ7	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1230/840/280	
		Package	(L×W×H)	mm×mm×mm	1325/920/370	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 32/26	
	Control type (Remote /wired)				Remote /wired (optional)	
Noise level (H-M-L)			dB(A)	51/47/43		
Weight (Net / Shipping)			kg / kg	46/53		
Panel	Dimension	External	(L×W×H)	mm×mm×mm	1340/950/80	
		Package	(L×W×H)	mm×mm×mm	1400/995/115	
	Weight (Net / Shipping)			kg / kg	8.4/12.0	

item		Model		AC602AFEAA		
Function				cooling	heating	
Capacity			kW	16.1	18.5	
Sensible heat ratio				0.72		
Total power input			W	5100W	5350W	
Max. power input			W	6200W	6200W	
<b>EER or COP</b>			W/W	3.16(B)	3.46(B)	
Dehumidifying capacity			10 - <sup>3</sup> m <sup>3</sup> /h	5.5		
Running /Max.Running current			A / A	9.0A/10.5A	9.5A/10.5A	
Start Current			A	65	65	
Indoor unit	Unit model (color)			AC602AFEAA (WHITE)		
	Fan	Type × Number			centrifugal fan*4	
		Speed(H-M-L)		r/min	1250/1150/1100	
		Fan motor output power		kW	0.09	
		Air-flow(H-M-L)		m <sup>3</sup> /h	2000/1800/1400	
	Heat exchanger	Type / Diameter		mm	inner grooved pipe/φ7	
		Total Area		m <sup>2</sup>	0.10	
		Temp. scope		°C	2-7	
	Dimension	External	(L×W×H)	mm×mm×mm	1580/700/240	
		Package	(L×W×H)	mm×mm×mm	1710/790/315	
	Drainage pipe (material , I.D./O.D.)			mm	PVC	
Control type (Remote /wired)				Remote /wired (optional)		
Noise level (H-M-L)			dB(A)	53/51/49		
Weight (Net / Shipping)			kg / kg	54/61		



item		Model		AD602AHEAA		
Function				cooling	heating	
Capacity			kW	16.1	18.7	
Sensible heat ratio				0.72		
Total power input			W	5350W	5100W	
Max. power input			W	6200W	6000W	
<b>EER or COP</b>			W/W	3.01(B)	3.67(A)	
Dehumidifying capacity			10 <sup>-3</sup> ×m <sup>3</sup> /h	4.8		
Running /Max.Running current			A / A	9.5A/10.5A	9.0A/10	
Start Current			A	65	65	
Indoor unit	Unit model (color)			AD602AHEAA (grey)		
	Fan	Type × Number		centrifugal X2		
		Speed(H-M-L)		r/min	1090±30/-/930±50	
		Fan motor output power		kW	0.06	
		Air-flow(H-M-L)		m <sup>3</sup> /h	2580/2070/1560	
	Heat exchanger	Type / Diameter		mm	TP2M/9.52	
		Total Area		m <sup>2</sup>	0.10	
		Temp. scope		°C	2-7	
	Dimension	External (L×W×H)		mm×mm×mm	1197×830×350	
		Package (L×W×H)		mm×mm×mm	1430×940×420	
	Drainage pipe (material , I.D./O.D.)			mm	PVC 26/32	
	Control type (Remote /wired)				wired control	
	Noise level (H-M-L)			dB(A)	50/46/42	
Weight (Net / Shipping)			kg / kg	62/70		

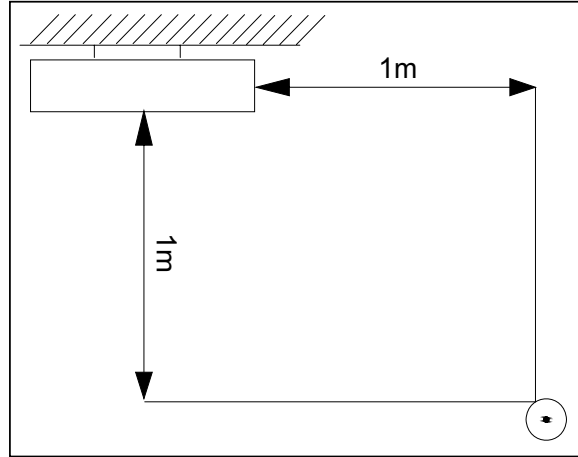
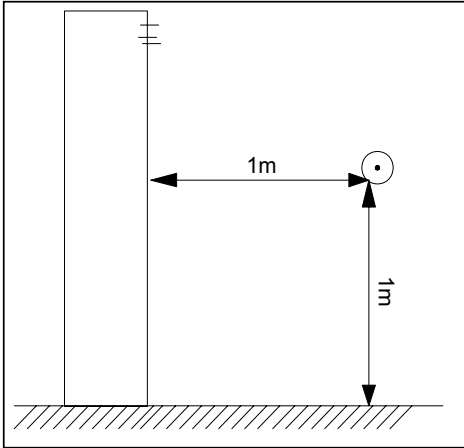
item		Model		AU60NAIEAA		
Power cable				H07RN-F 5G 4.0mm2		
connecting cable				H05RN-F 4G 0.75mm2		
Power source			N, V, Hz	OU: 380-400V, 3N, 50HZ IU:1PH, 220-230V,		
Outdoor unit	Unit model (color)			WHITE		
	Compressor	Model / Manufacture			JT170G-P8Y1 (DAIKIN)	
		Oil model			DAPHNE	
		Oil type			FVC68D	
		Oil charging			1500CM3	
	Type				Rotary	
	Fan	Type × Number			axial×2	
		Speed		r/min	860±40	
		Fan motor output power		kW	0.08	
		Air-flow(H-M-L)		m <sup>3</sup> /h	7000	
	Heat exchanger	Type / Diameter		mm	TP2M/9.52	
		Row / Fin pitch			3/1.5	
		Temp. scope		°C	43-60	
	Dimension	External (L×W×H)		mm×mm×mm	948*340*1250	
		Package (L×W×H)		mm×mm×mm	1050*440*1375	
	Drainage pipe (material , I.D./O.D.)			mm	/	
	Refrigerant control method			mm/mm	capillary Φ2.4*150	
	Defrosting				AUTO	
	Volume of Accumulator			L	3	
Noise level			dB(A)	60		
Type of Four way valve				SHF-4-10A		
crankcase heater power			W	55		
Weight (Net / Shipping)			kg / kg	106/111		
PIPING	Refrigerant	Type / Charge		g	R410A/4050	
		Recharge quantity		g/m	65	
	Pipe	Liquid		mm	9.52	
		Gas		mm	19.05	
	Connecting Method				flare	
	Between I.D &O.D	MAX.Drop		m	30	
MAX.Piping length			m	50		

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

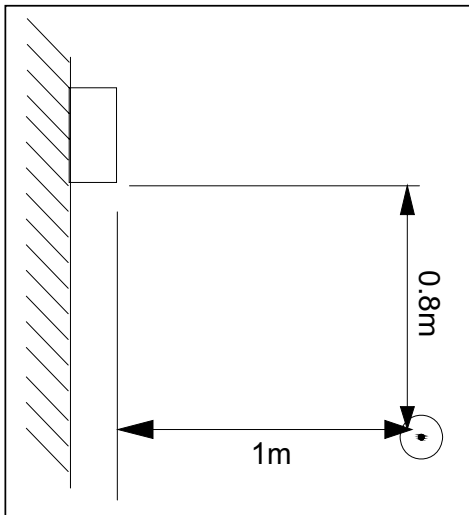
**Testing method:**

standing-on-floor unit: If the unit cooling capacity is over 28000W, the noise level should be measured at the front, left, right directions respectively.

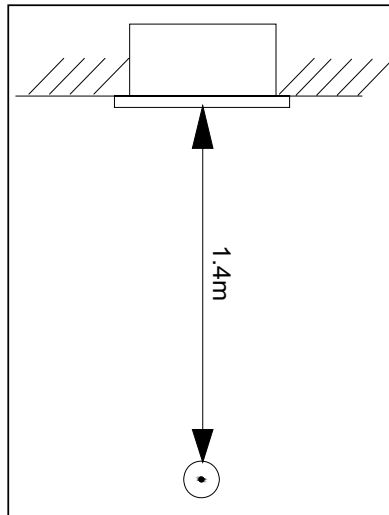
mounting-on-ceiling unit:



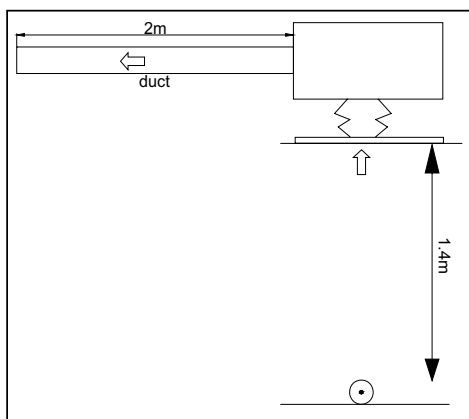
mounting-on-wall unit:



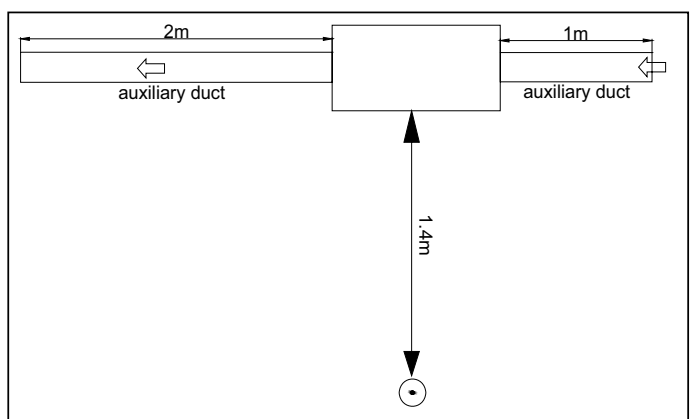
built-in-ceiling unit:



duct unit without auxiliary duct:



duct unit with auxiliary duct:



outdoor unit:

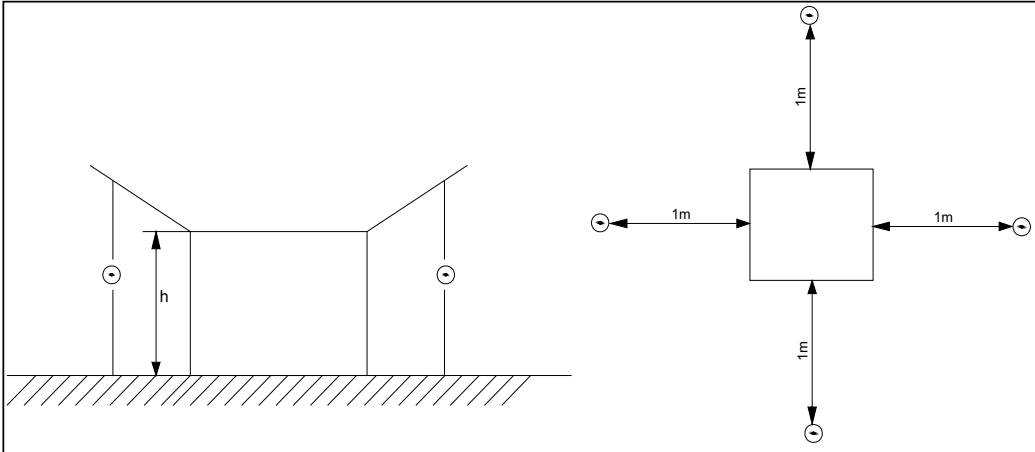
1.air outlet from side: the noise level is the average sound pressure level measured from front, left, right directions.

2.air outlet from top: the noise level is the average sound pressure level measured from front, back, left, right directions.

measured point:

$H$  ( height to the ground) =  $(h$  (unit height) + 1m) / 2

and, it is 1m to each side.



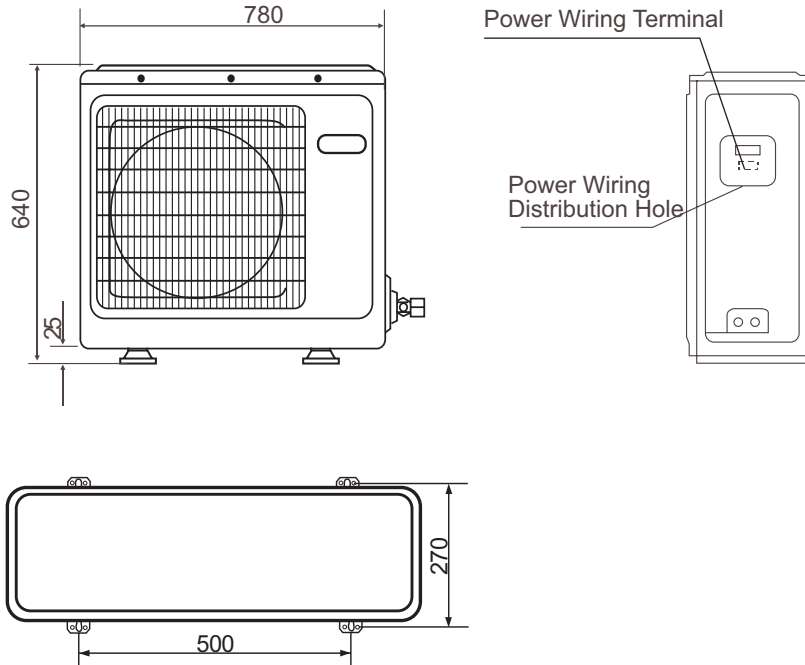
Note: ⊙ is the real time analyser position

Note: All the data in the specifications for 28, 36, 42 series is only for reference, the information is subject to change without notice.

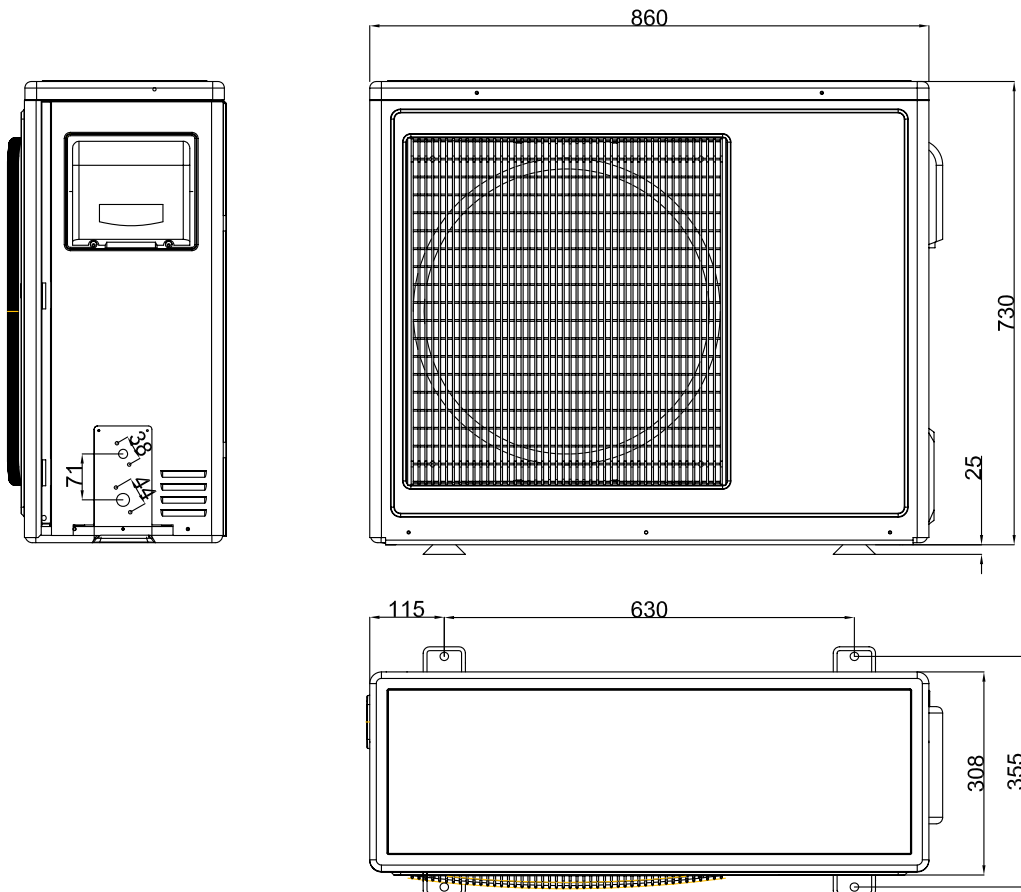
### 3. Dimension

#### 3.1 Outdoor unit dimension

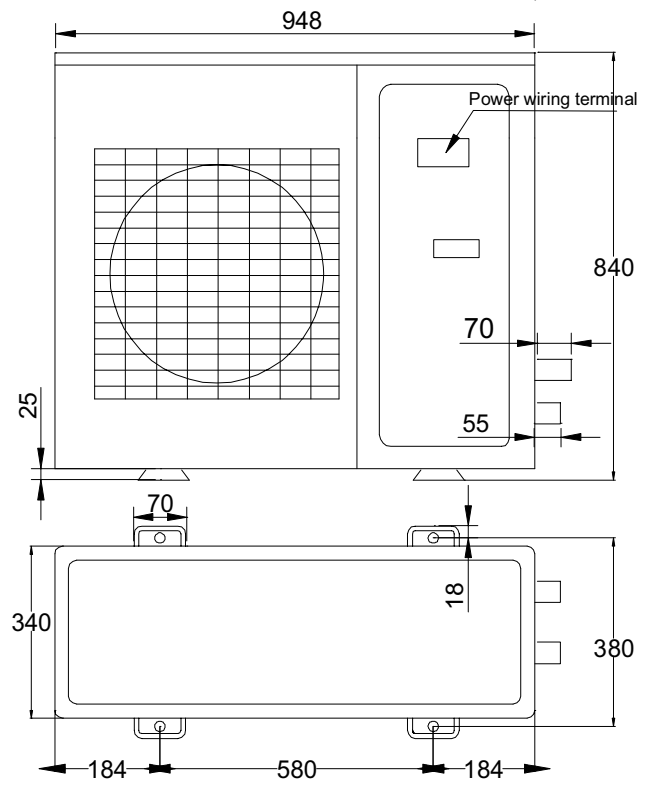
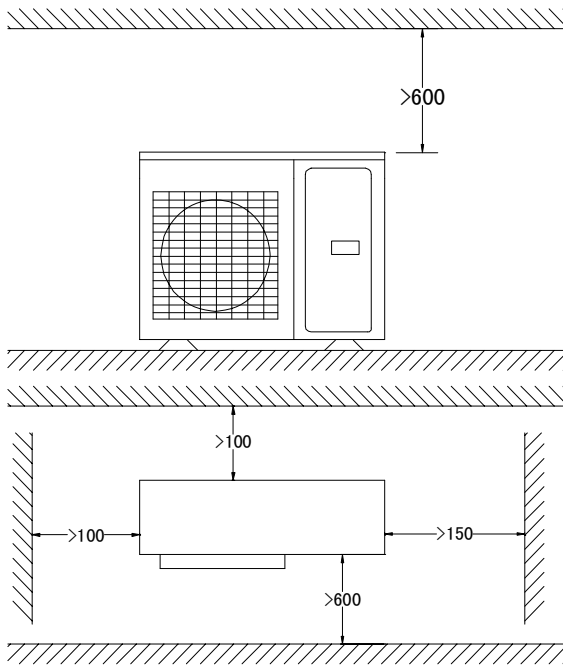
✦ AU182AEAA



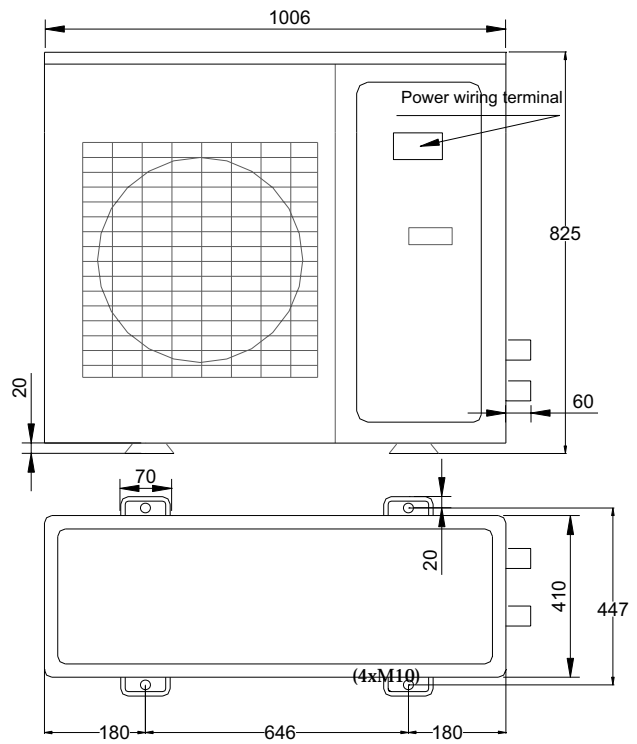
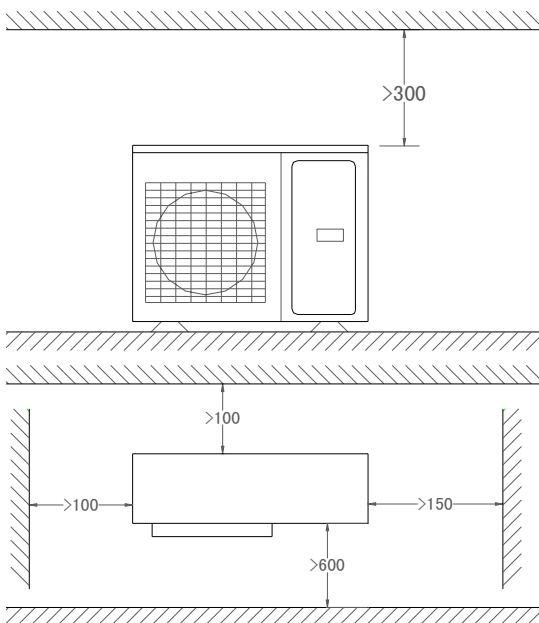
✦ AU242AGEAA, AU242AGERA



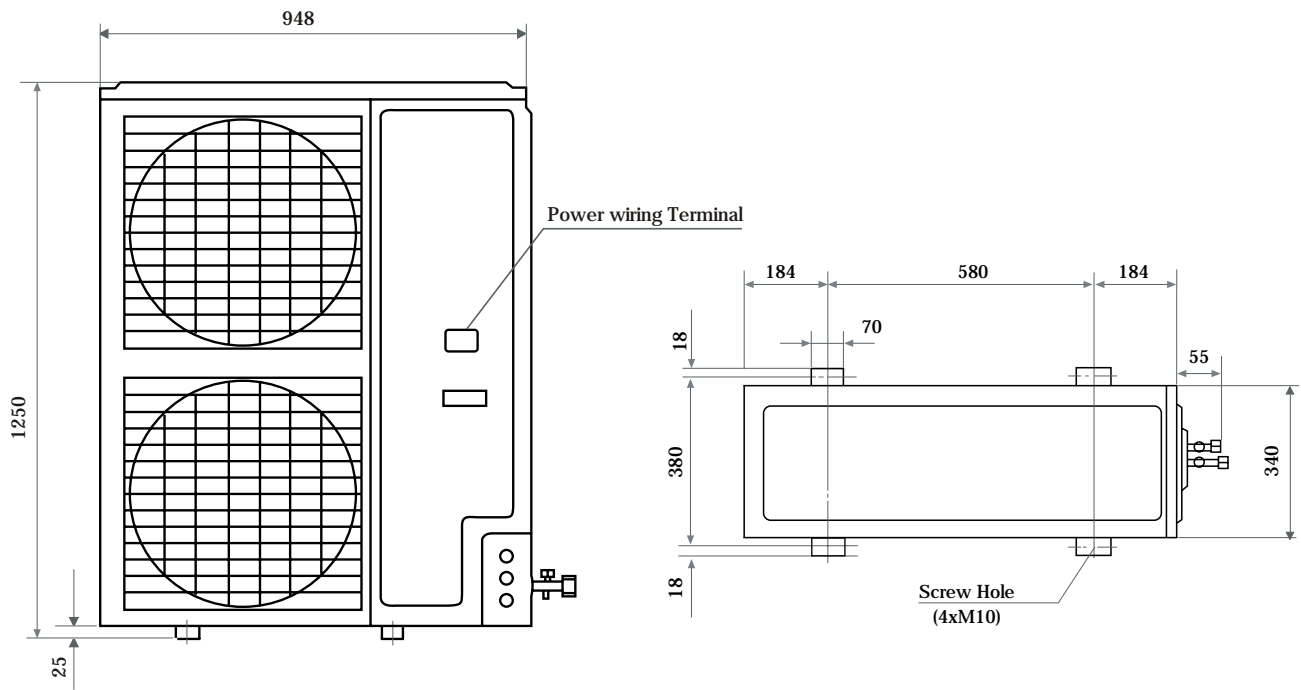
### ⊕ AU282AHEAA, AU28NAHEAA, AU362AHERA



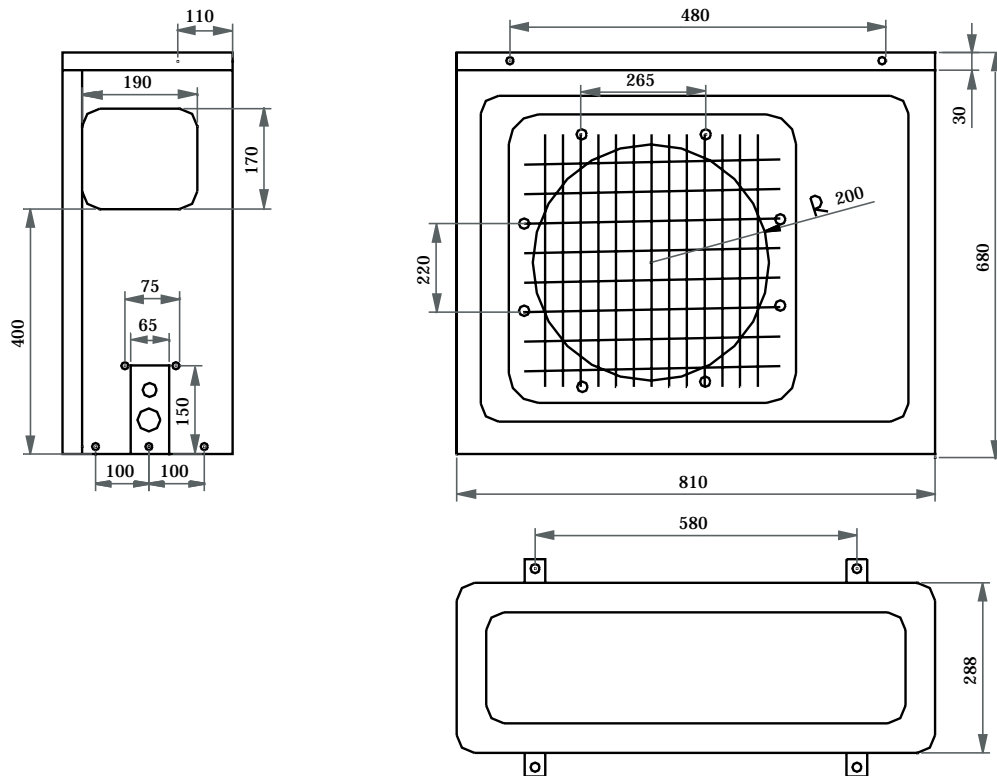
### ⊕ AU42NALEAA



⊕ AU362AIEAA, AU36NAIEAA, AU48NAIEAA, AU60NAIEAA

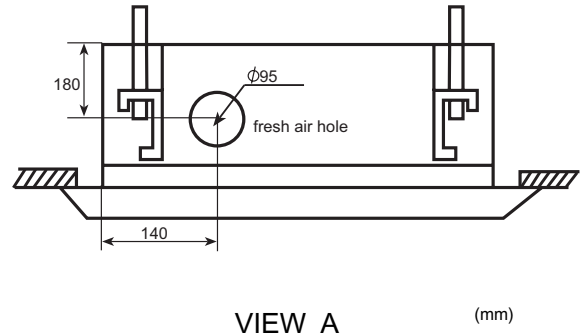
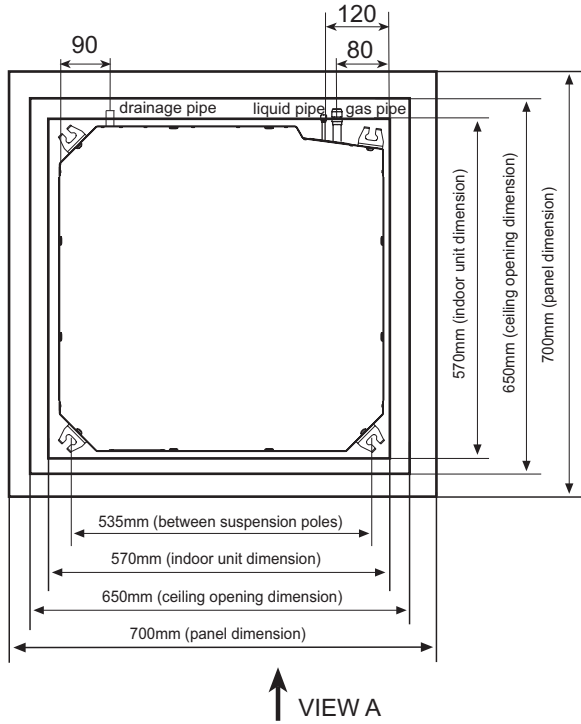


⊕ AU182AFERA

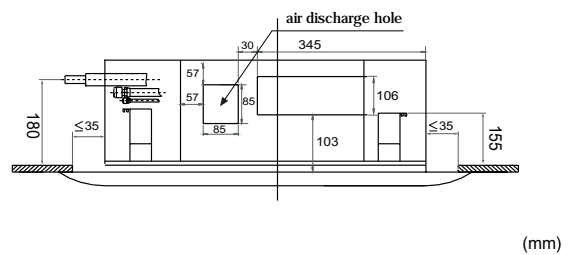
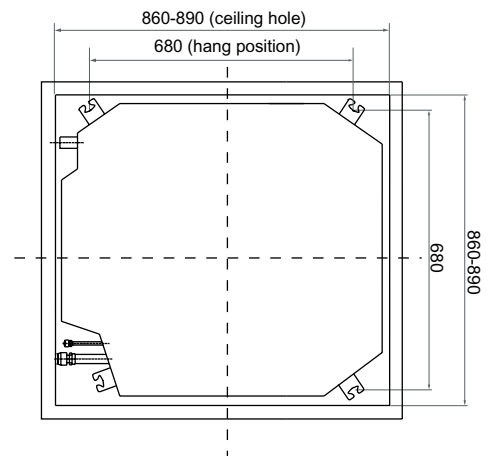
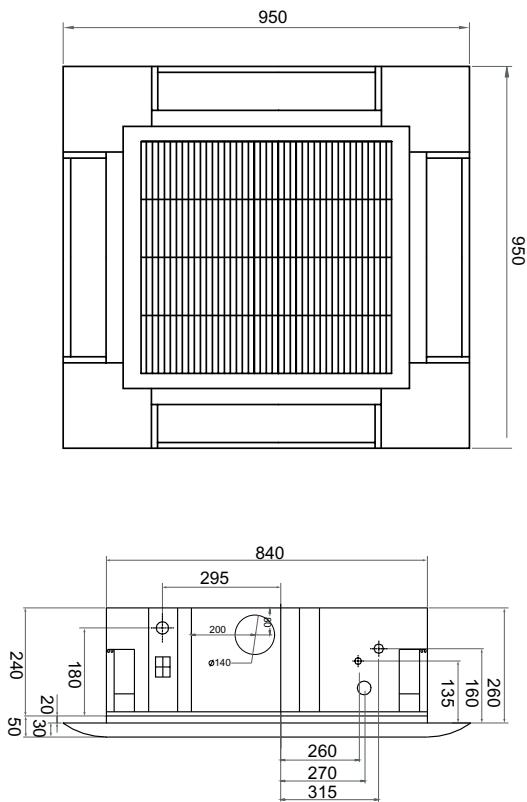


### 3.2 Indoor unit dimension

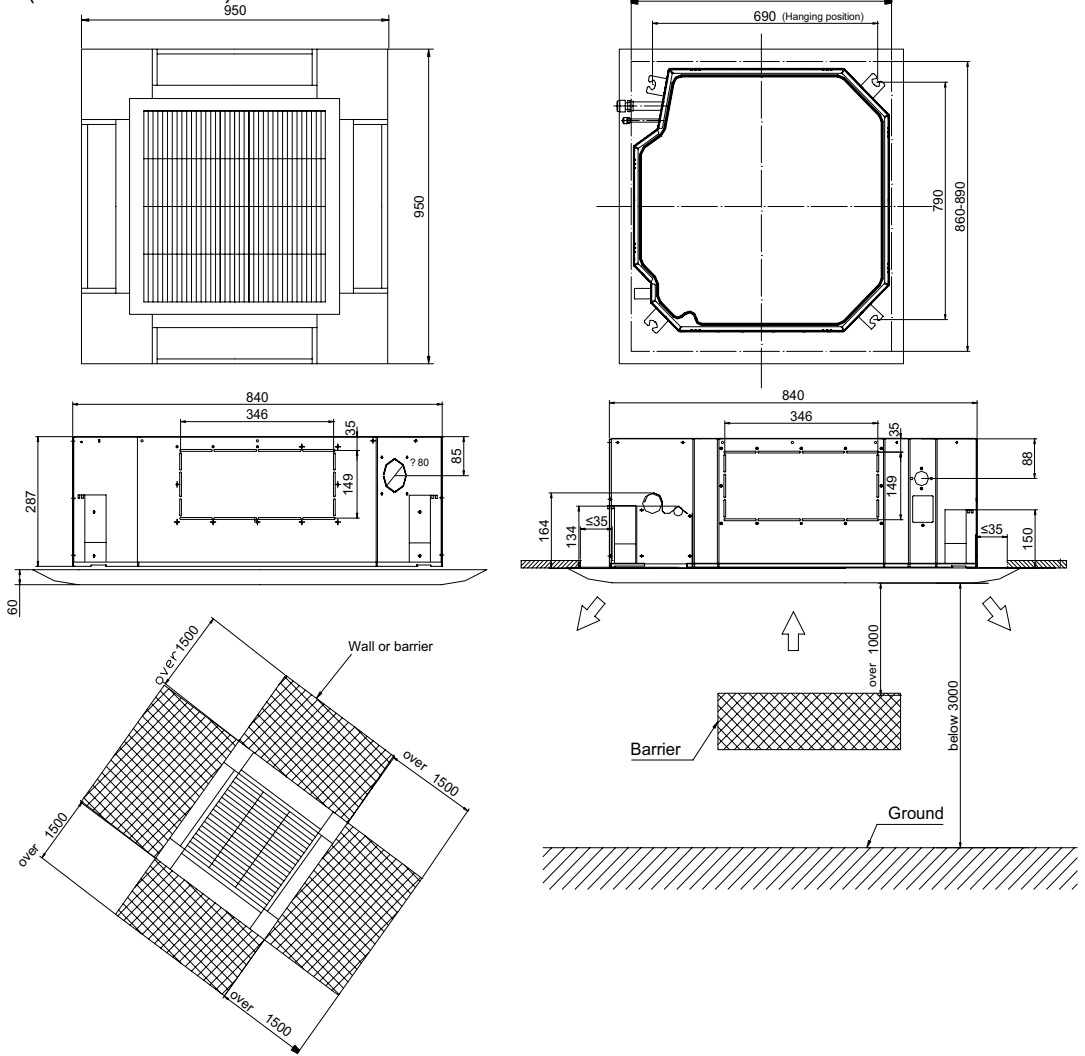
Model: AB182 (Panel: PB-700IA) (used for all 700x700 cassette type units)



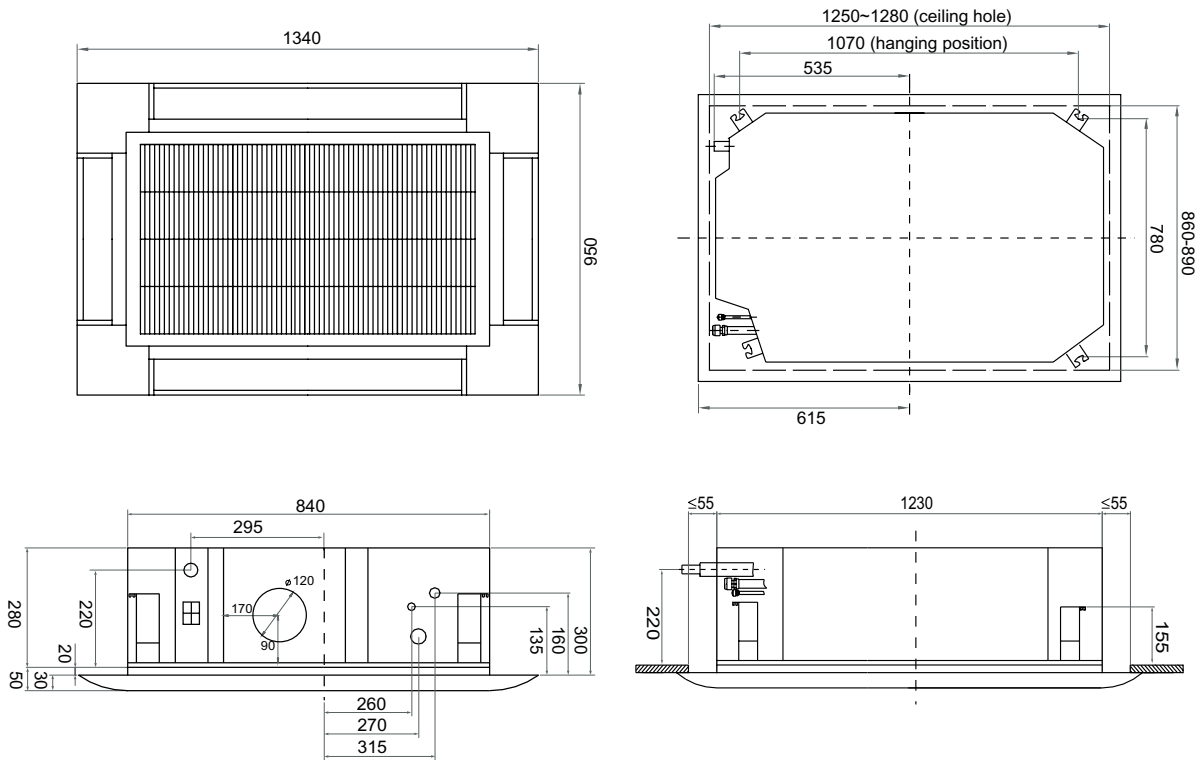
Model: AB24, AB28 (Panel: PB-950IA)



Model: AB362ACEAA (Panel: PB-950JA)



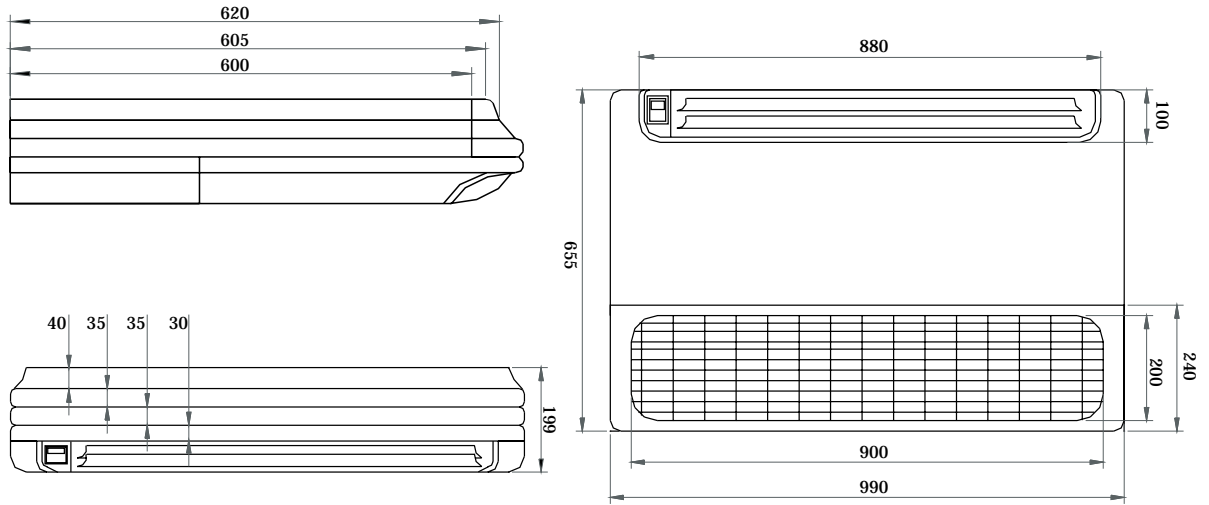
Model: AB362ACERA, AB48, AB60 (Panel: PB-1340IA)



(mm)

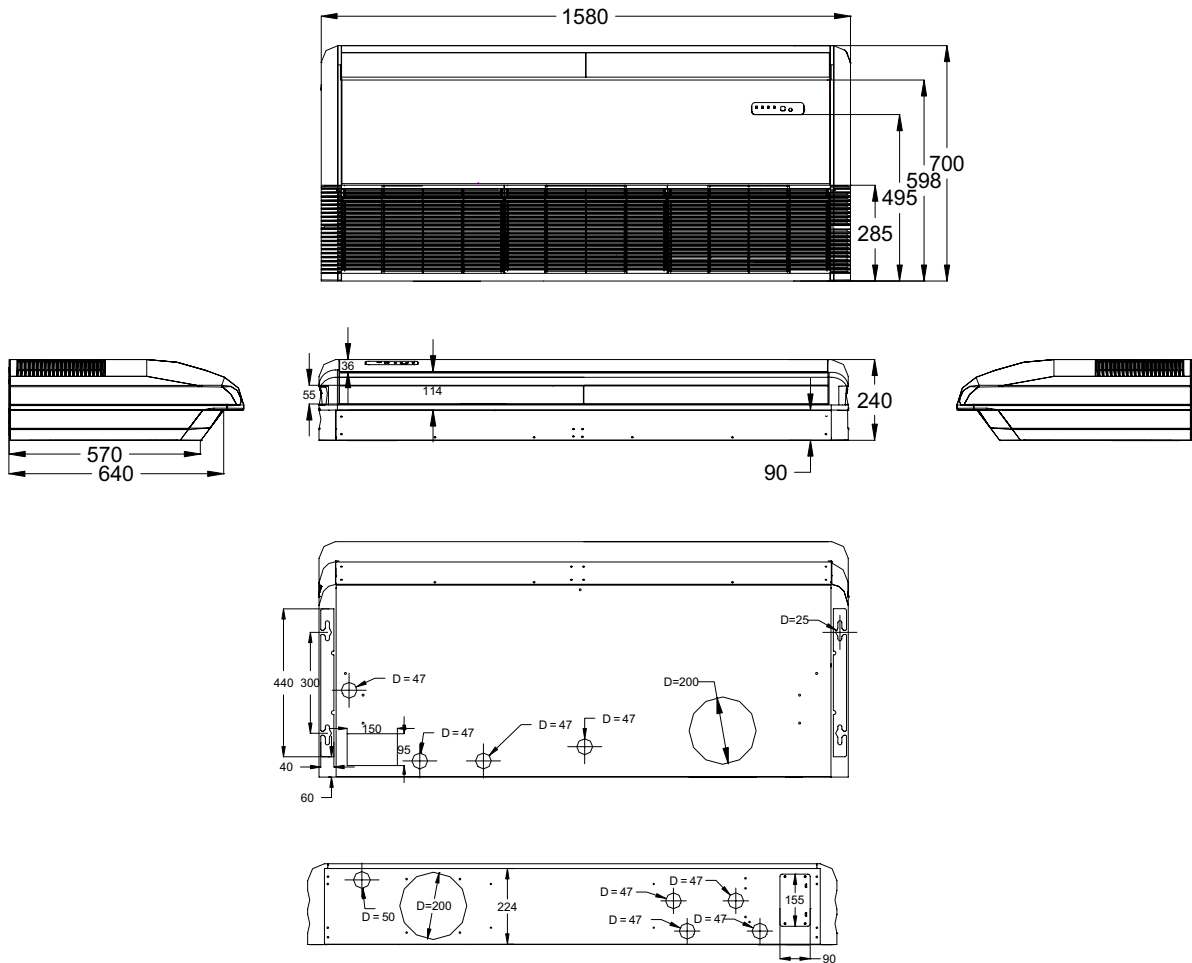


Model: AC18, AC24

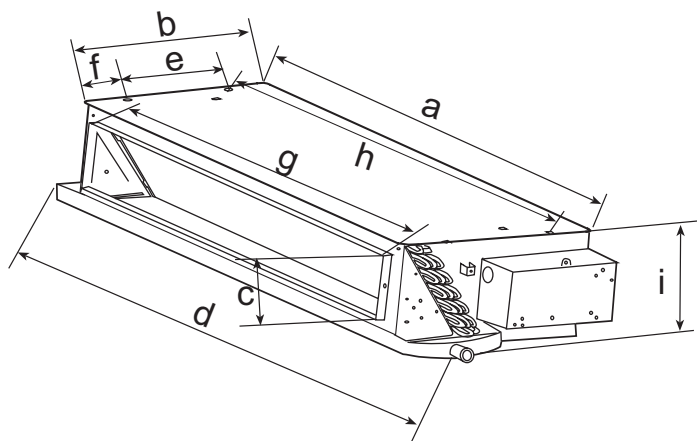


(mm)

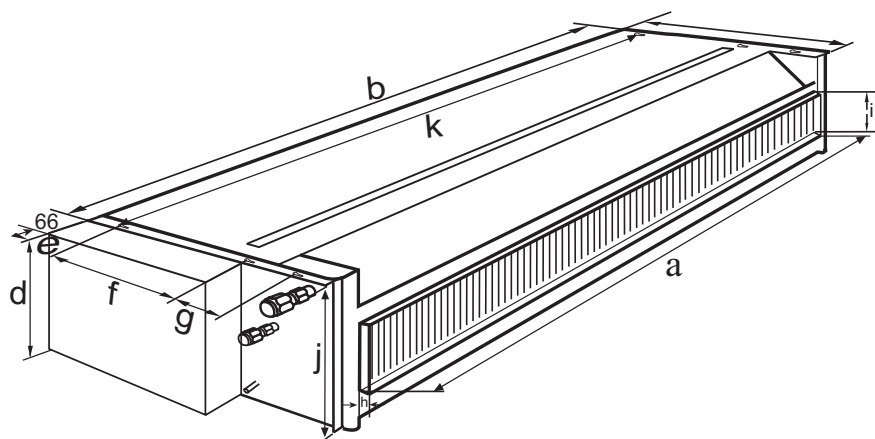
Model: AC28, AC36, AC48, AC60



(mm)



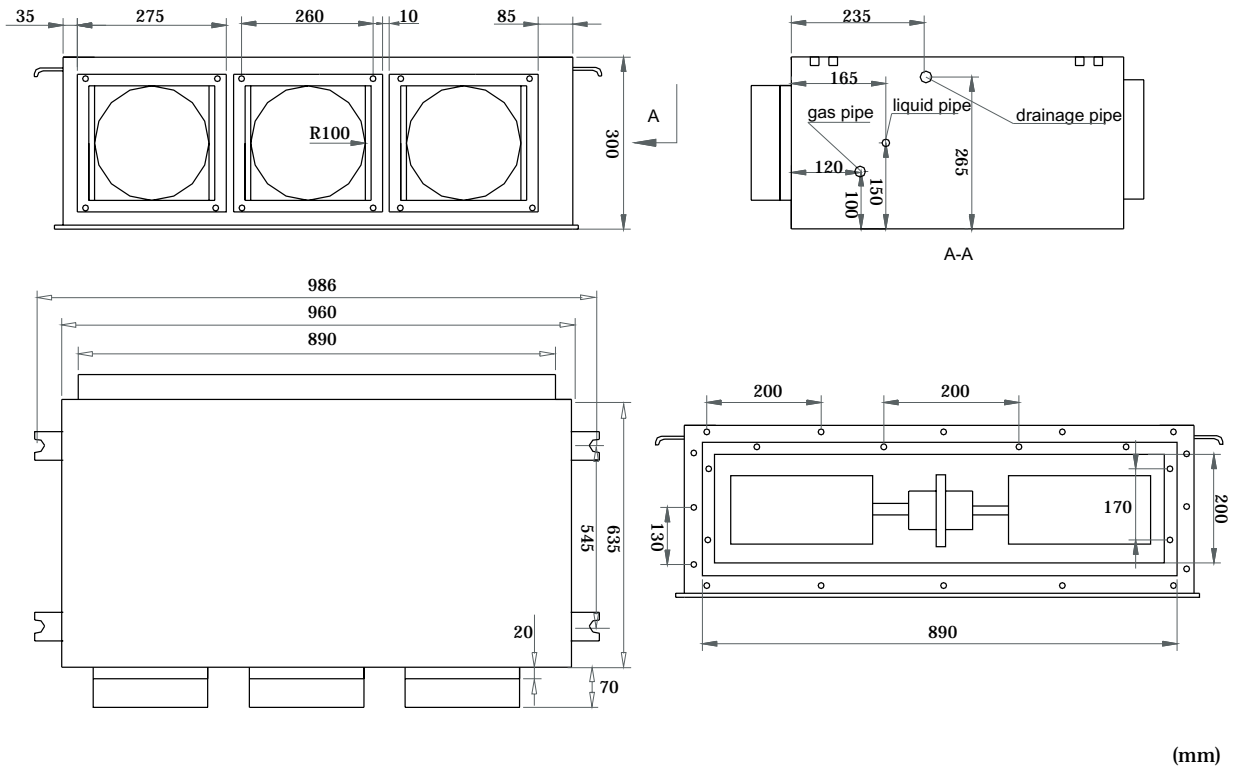
Unit model	a	b	c	d	e	f	g	h	i
AD182ALEAA AD242ALEAA AD242ALERA	1002	483.5	131	1105	255	105	880	970	220



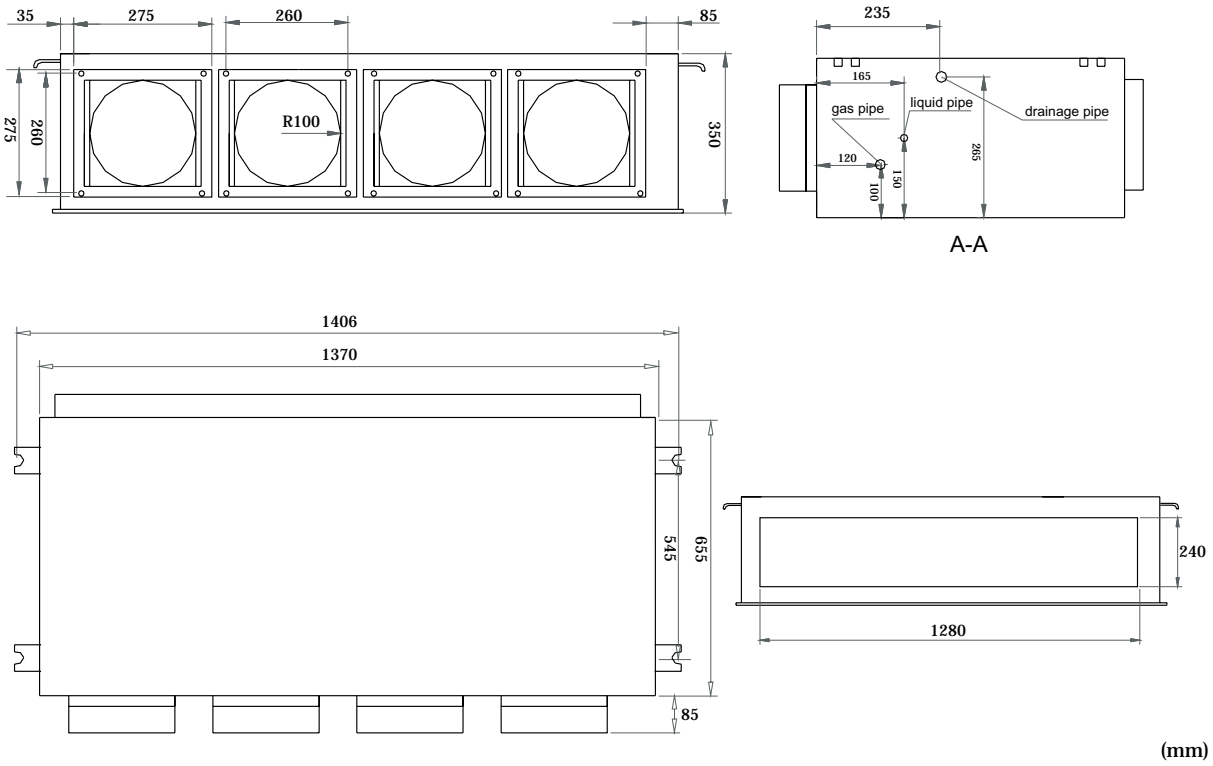
Installation dimension: (Unit: mm)

TYPE	a	b	c	d	e	f	g	h	i	j	k
AD182AMERA	1062	1124	450	218	48	227	123	22	97	220	1097

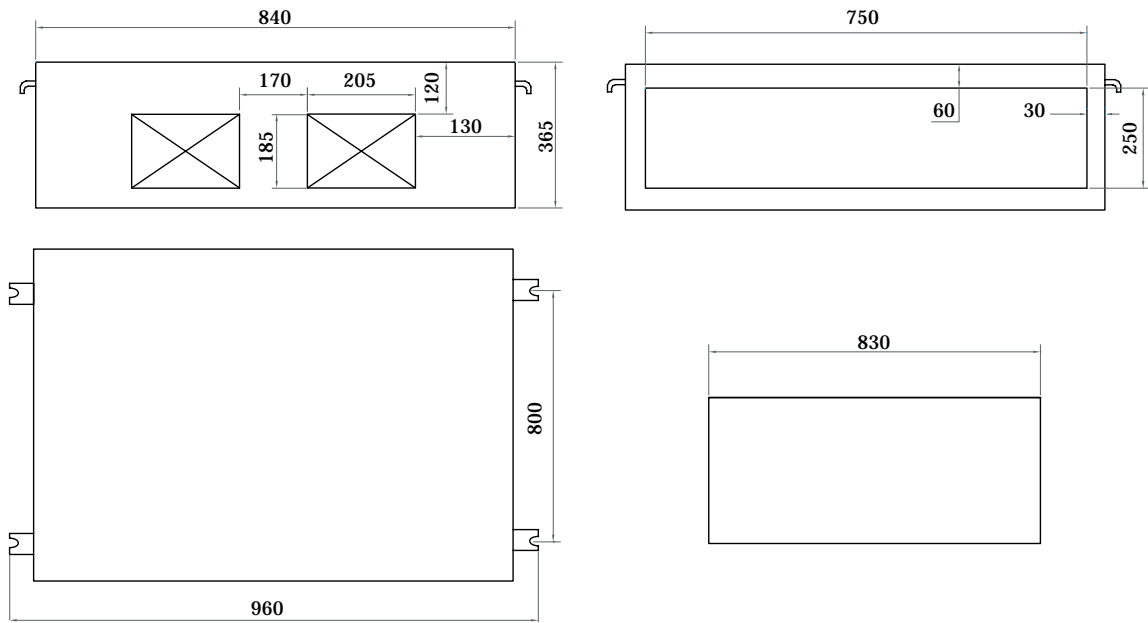
Model: AD242AMEAA, AD282AMEAA, AD362AMEAA, AD242AMERA, AD362AMERA Medium static pressure duct type



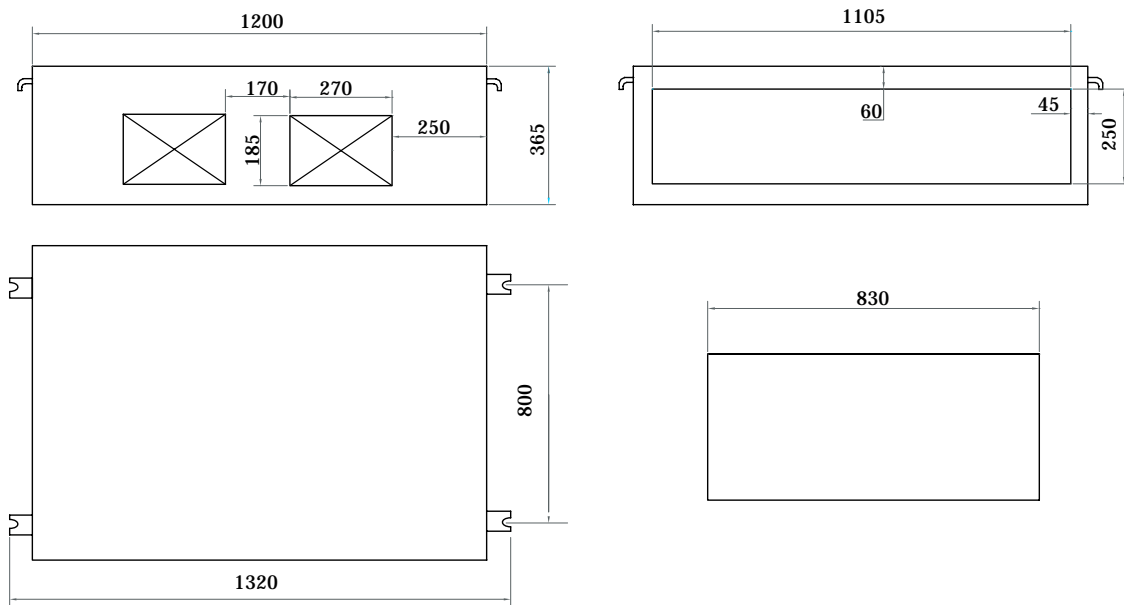
Model: AD482AMEAA Medium static pressure



Model: AD282AHEAA, AD362AHEAA High static pressure

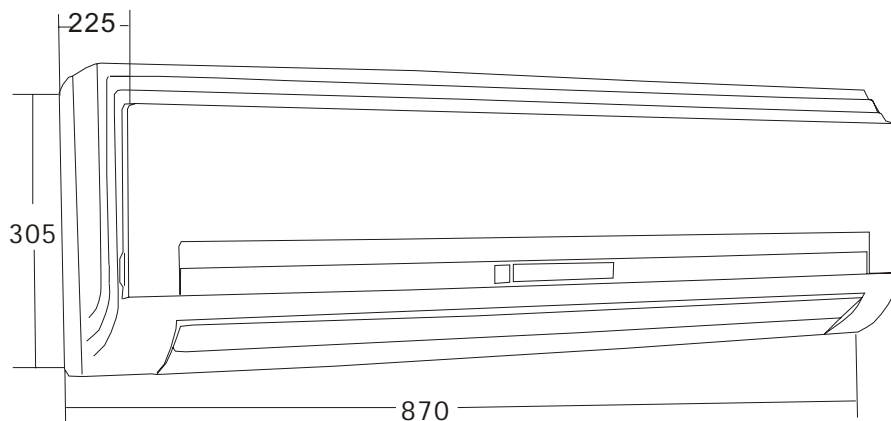


Model: AD482AHEAA, AD602AHEAA, AD362AHERA High static pressure

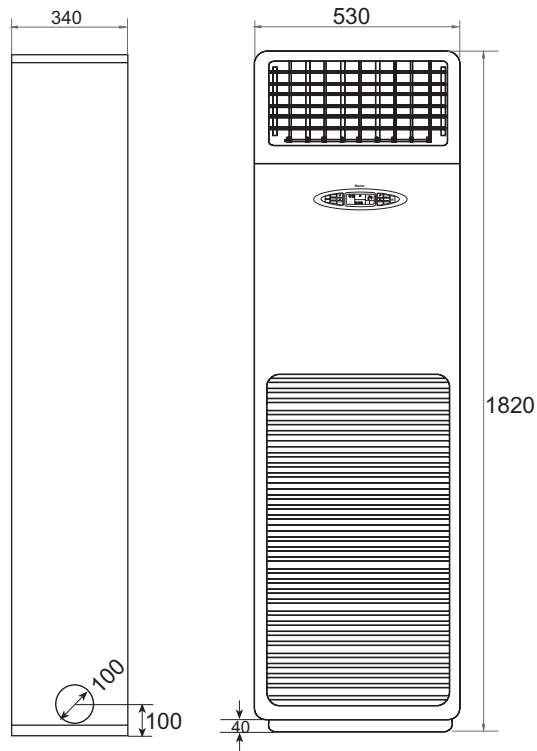


(mm)

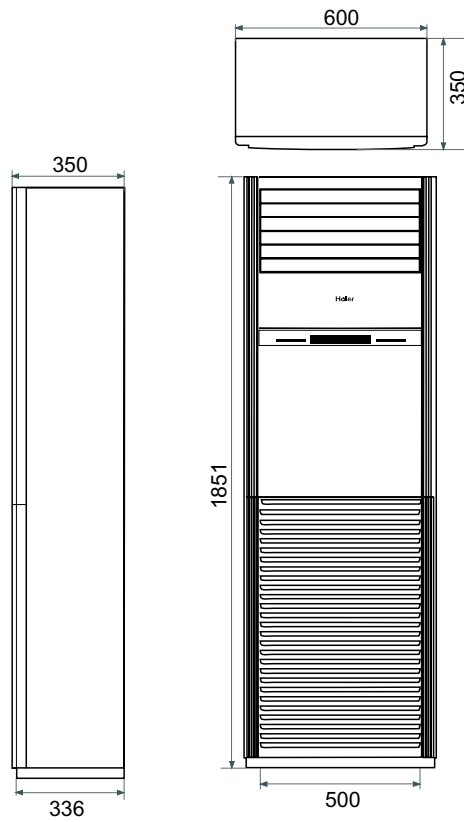
Model: AS182AVERA



Model: AP422ACEAA

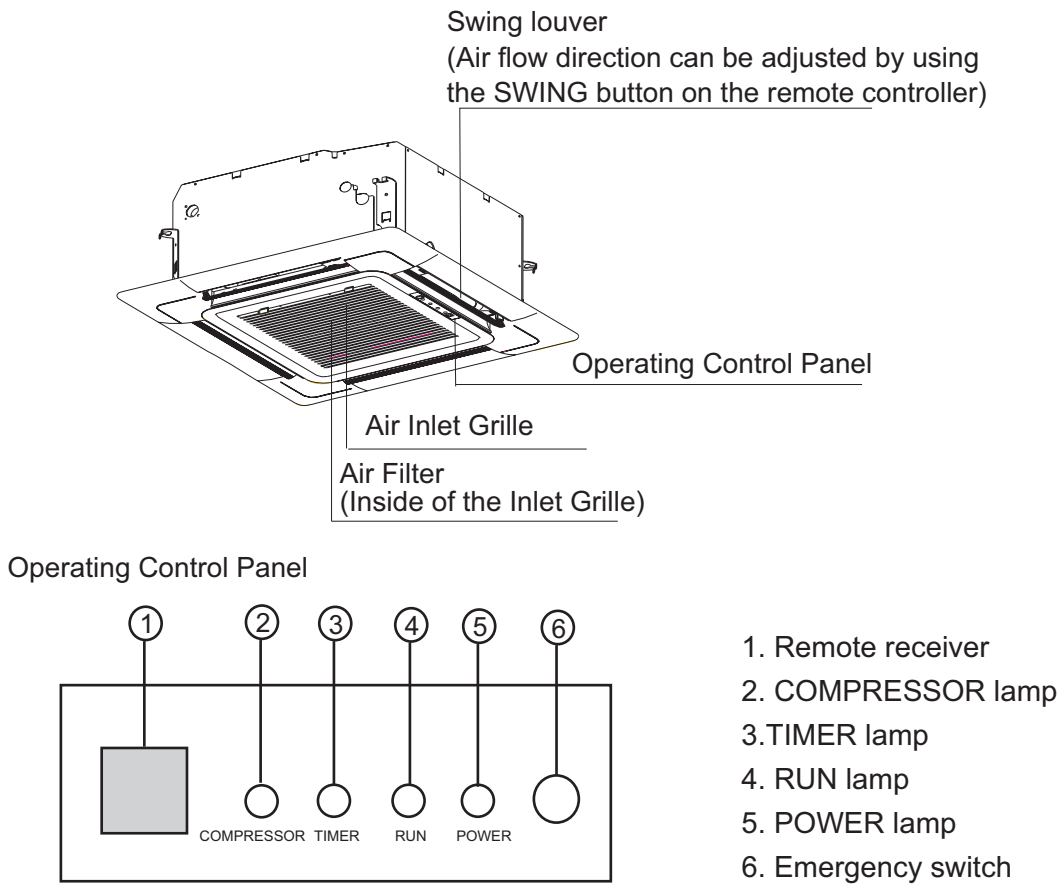


Model: AP482AKEAA

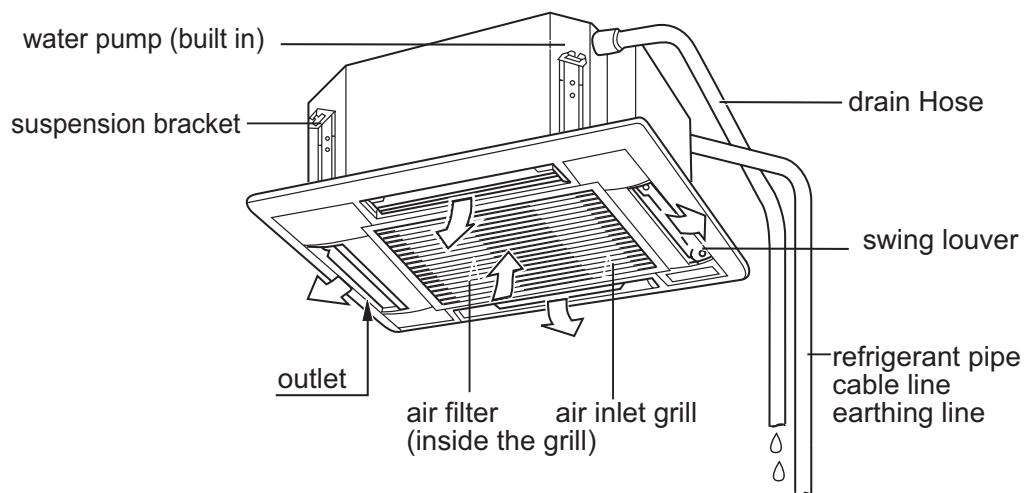


### 4.Parts name

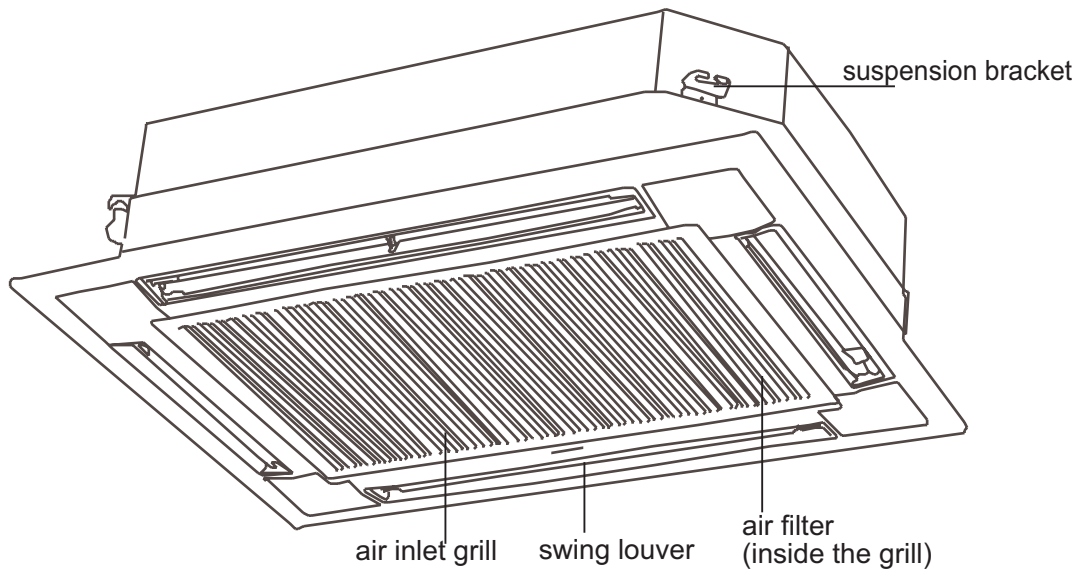
AB182ACEAA, AB362ACEAA, AB182ACERA



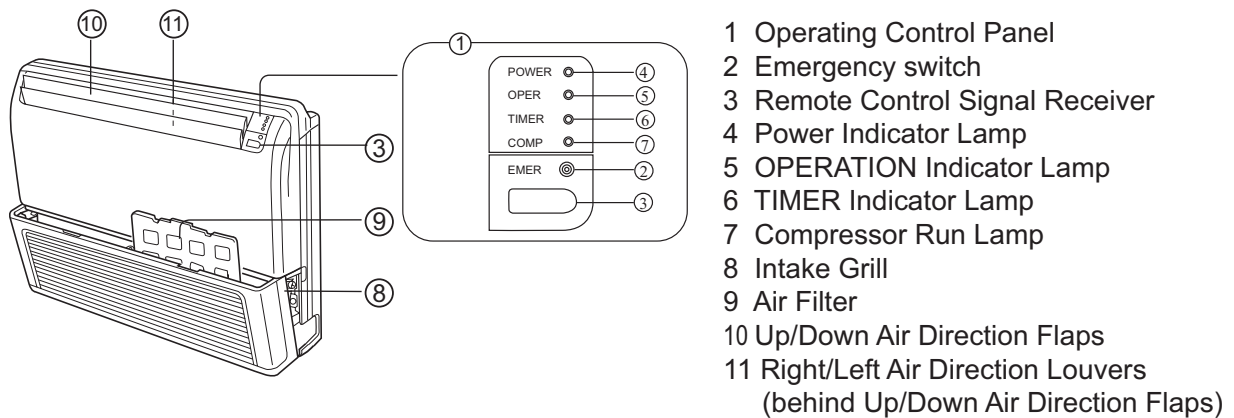
AB242ACEAA, AB282ACEAA, AB242ACERA



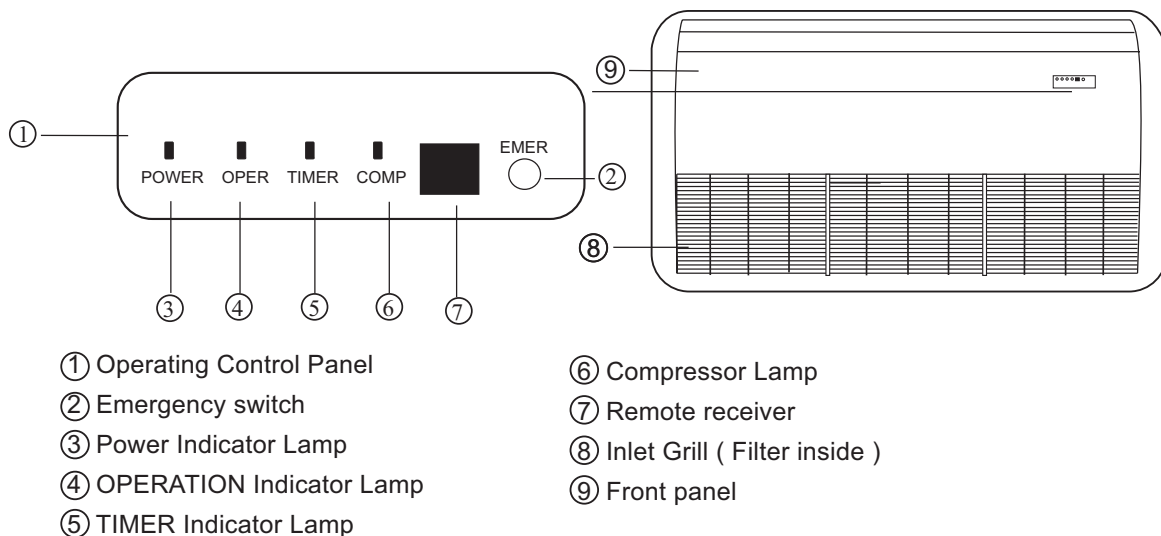
AB482ACEAA, AB602ACEAA, AB362ACERA



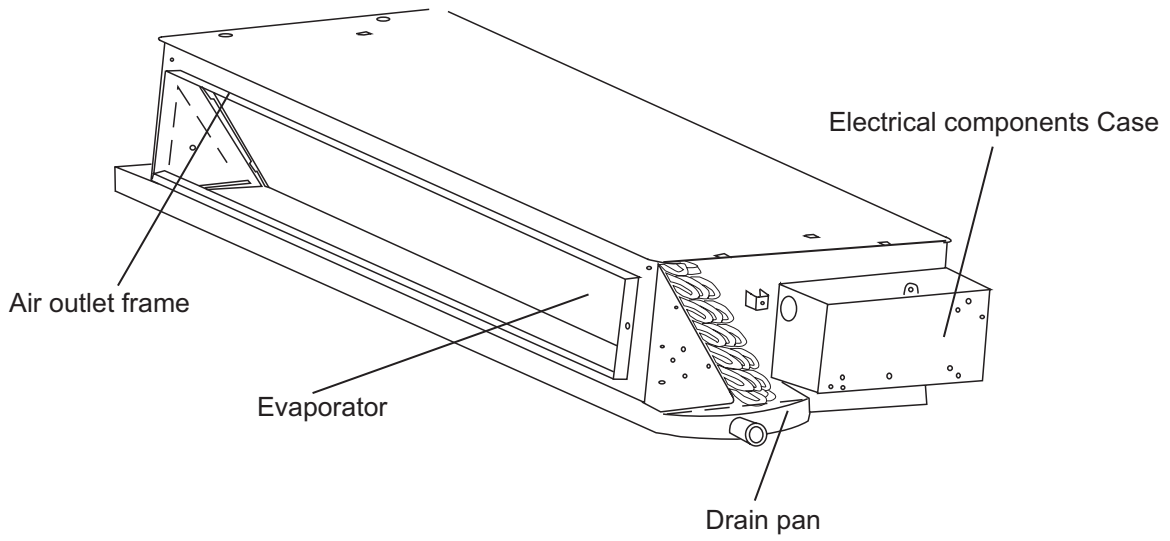
AC182ACEAA, AC242ACEAA, AC182ACERA, AC242ACERA,



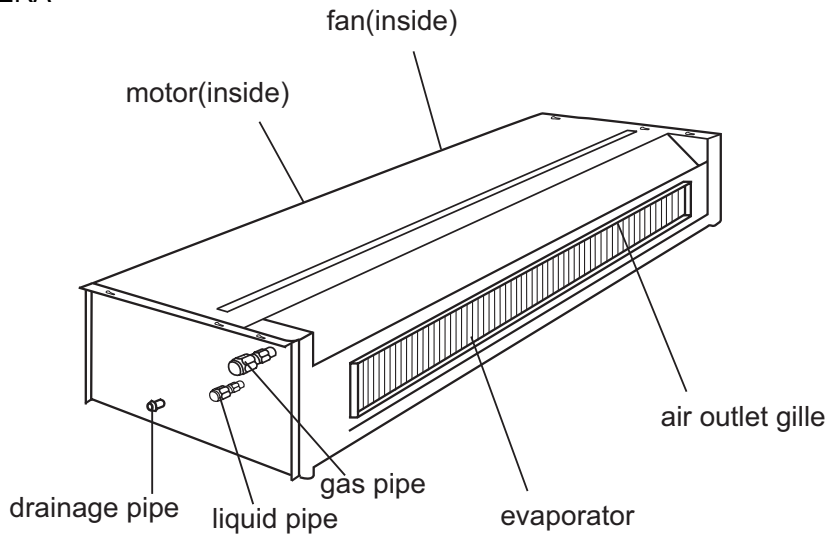
AC282AFEAA, AC362AFEAA, AC482AFEAA, AC602AFEAA, AC362AFERA



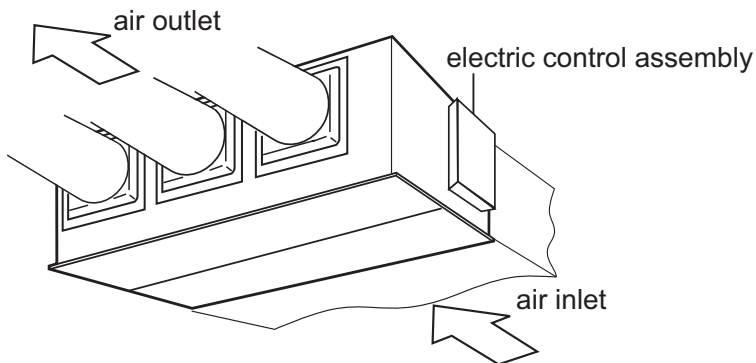
AD182ALEAA, AD242ALEAA, AD242ALERA



AD182AMERA

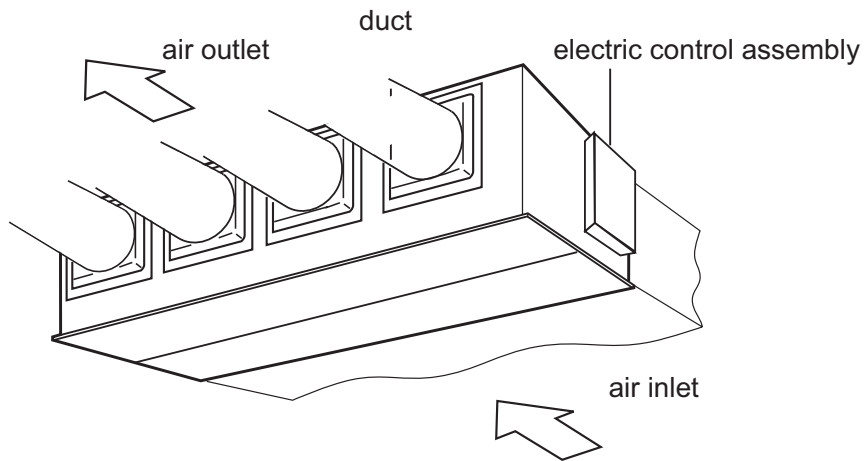


AD242AMEAA, AD282AMEAA, AD362AMEAA, AD242AMERA, AD362AMERA

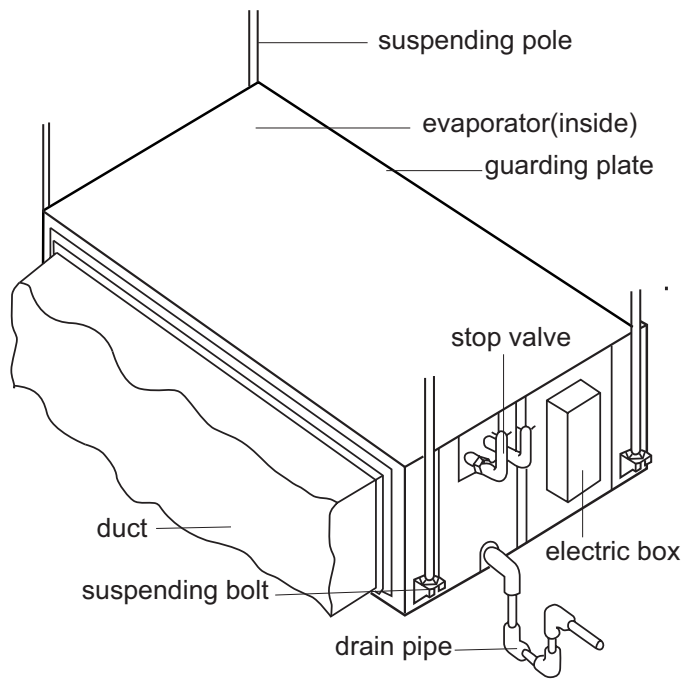




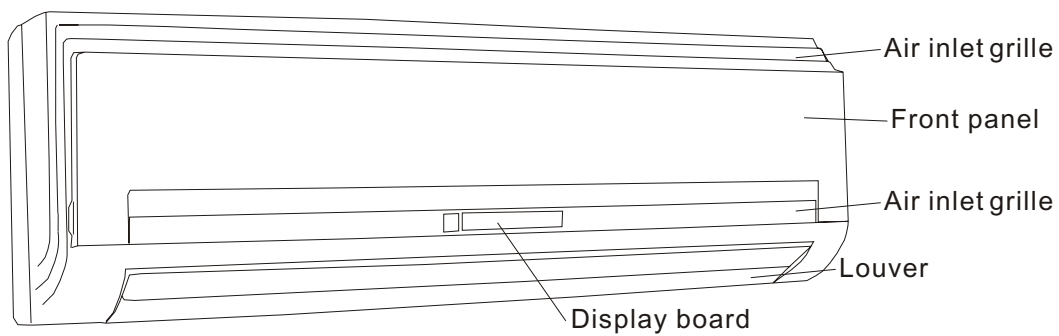
AD482AMEAA



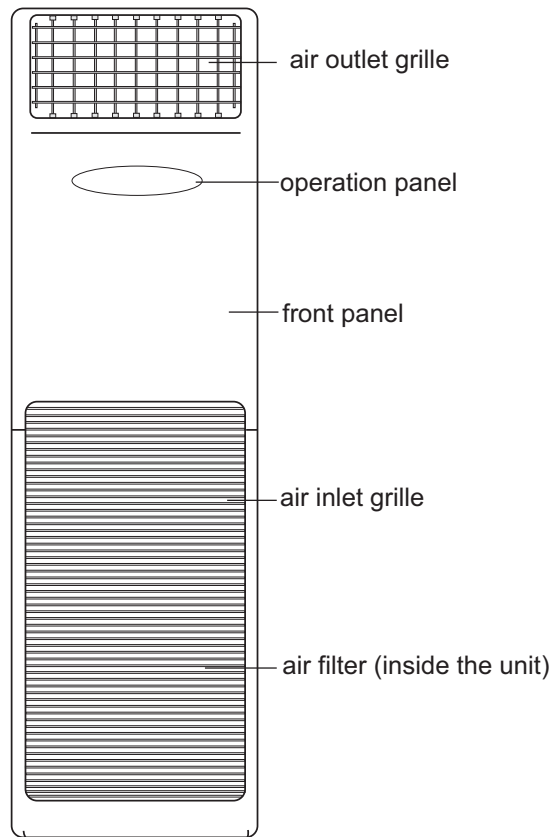
AD282AHEAA, AD362AHEAA, AD482AHEAA, AD602AHEAA, AD362AHERA



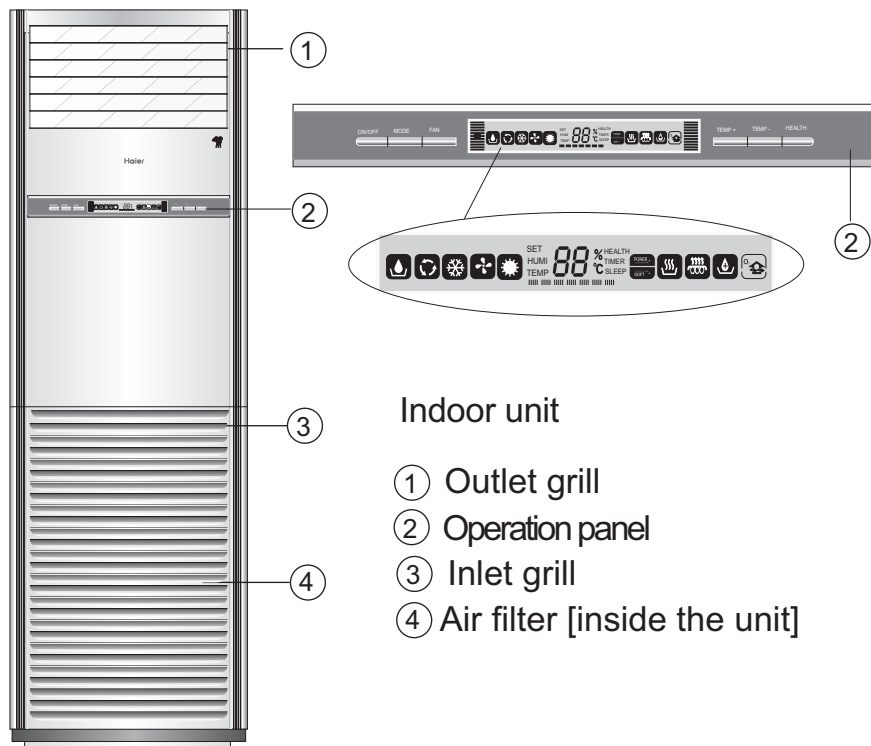
AS182AVERA



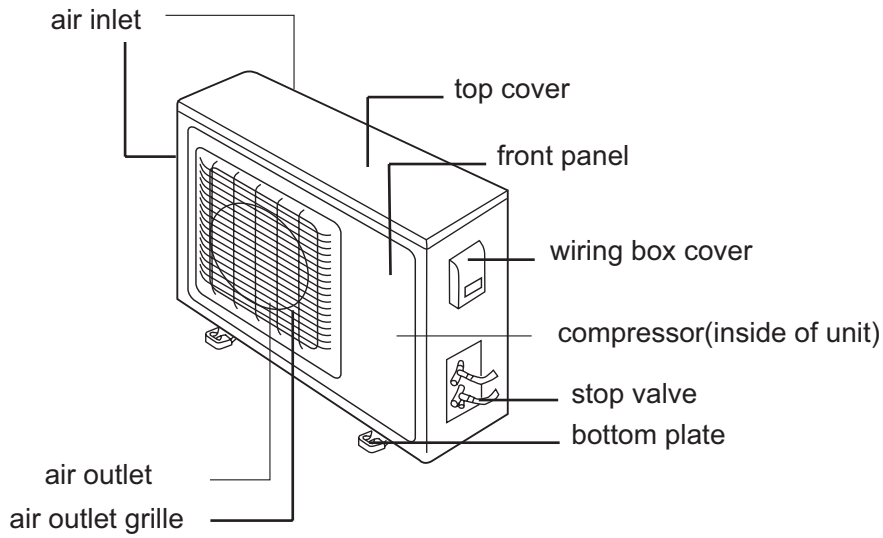
AP422ACEAA



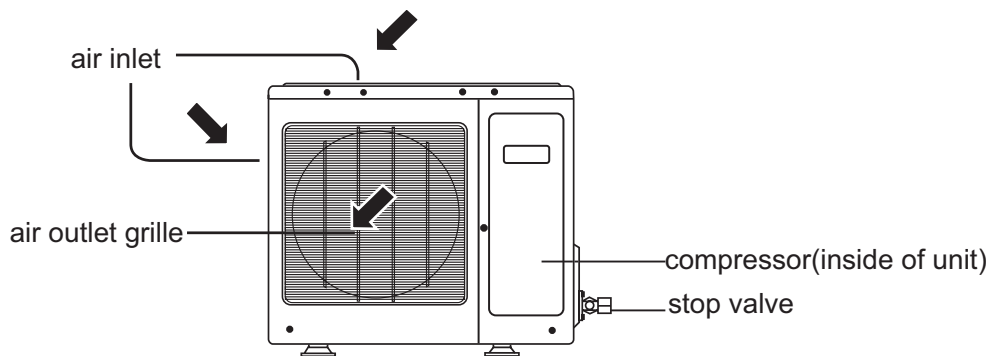
AP482AKEAA



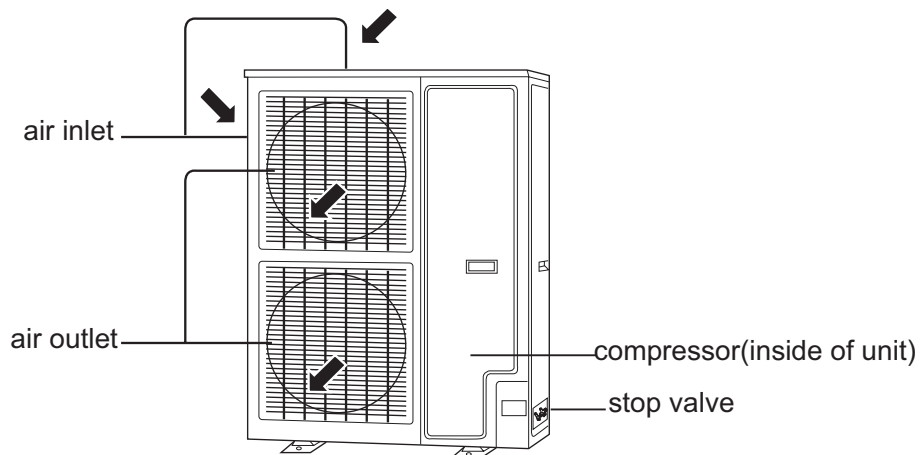
AU242AGEAA, AU182AFERA, AU242AGERA



AU182AEEAA, AU282AHEAA, AU28NAHEAA, AU42NALEAA, AU362AHERA



AU362AIEAA, AU36NAIEAA, AU48NAIEAA, AU60NAIEAA



Item	OUTDOOR UNIT	INDOOR UNIT										
		cassette type	ceiling concealed duct type	midium static pressure duct type	high static pressure duct type	cabinet type	convertible type	wall mounted type				
18	Model	AU182AEEAA	AD182ALEAA									
	PCB code	0010451870E	0010451167E							AC182ACEAA		
	Controller	/	0010451255							0010451255		
24	Model	AU242AGEAA	AD242ALEAA	AD242AMEAA								
	PCB code	0010452442E	0010451167E	0010451167E						AC242ACEAA		
	Controller	/	0010451255	0010451521E						0010451255		
28	Model	AU282AHEAA AU28NAHEAA		AD282AMEAA	AD282AHEAA							
	PCB code	0010452442E(2 PH) 0010452378E(3 PH)		0010451167E	0010451167E					0010451167E		
	Controller	/	0010451255	0010451521E	0010451521E					0010452300		
36	Model	AU362AIEAA AU36NAIEAA		AD362AMEAA	AD362AHEAA							
	PCB code	0010452442E(2 PH) 0010452378E(3 PH)		0010451167E	0010451167E					0010451167E		
	Controller	/	0010451255	0010451521E	0010451521E					0010452300		
42	Model	AU42NALEAA								AP422ACEAA		
	PCB code	0010452378E								0010451432		
	Controller	/								0010451255		
48	Model	AU48NAIEAA		AD482AMEAA	AD482AHEAA					AP482AKEAA		
	PCB code	0010452378E		0010451167E	0010451167E					0010452322		
	Controller	/	0010451255	0010451521E	0010451521E					0010451047		
60	Model	AU60NAIEAA			AD602AHEAA							
	PCB code	0010452378E		0010451167E	0010451167E							
	Controller	/	0010451255	0010451521E	0010451521E					0010452300		

R410A On-Off (fix frequency unit)

R410A DC Inverter	18	Model	AU182AFERA	AB182ACERA	AD182AMERA	AC182ACERA	AS182AVERA
		PCB code	0010452040	0010452325E	0010451690E	0010451690E	0010452042E
	Controller	/	0010451255	0010451521E	0010451255	0010451047	
	24	Model	AU242AGERA	AB242ACERA	AD242AMERA	AC242ACERA	
		PCB code	0010452040	0010451690E	0010451690E	0010451690E	
	Controller	/	0010451255	0010451521E	0010451521E	0010451255	
36	Model	AU362AHERA	AB362ACERA	AD362AMERA	AC362AFERA		
	PCB code	0010452929	0010451690E	0010451690E	0010451690E		
Controller		0010451255	0010451521E	0010451521E	0010452300		

### Controller functions

For cassette type, duct type, convertible type, single split indoor units can use YR-E12 wired controller, or remote controller (YR-H71 is used for AC09-24, while YR-H50 is used for AC28-60), for cabinet type and wall mounted type, the indoor units only can be controlled by remote controller. YR-E12 can be used as group controller, single split indoor units can be connected with central controller YCZ-A001 and weekly timer YCS-A001. Please see controller part to know operation and installation details.

Code	Type
0010451255	YR-H71 with haier logo
0010451521E	YR-E12
0010451451	YR-H71 without haier logo
0010452300	YR-H50
0010451047	YR-H49 with haier logo
0010451874	YR-H49 without haier logo

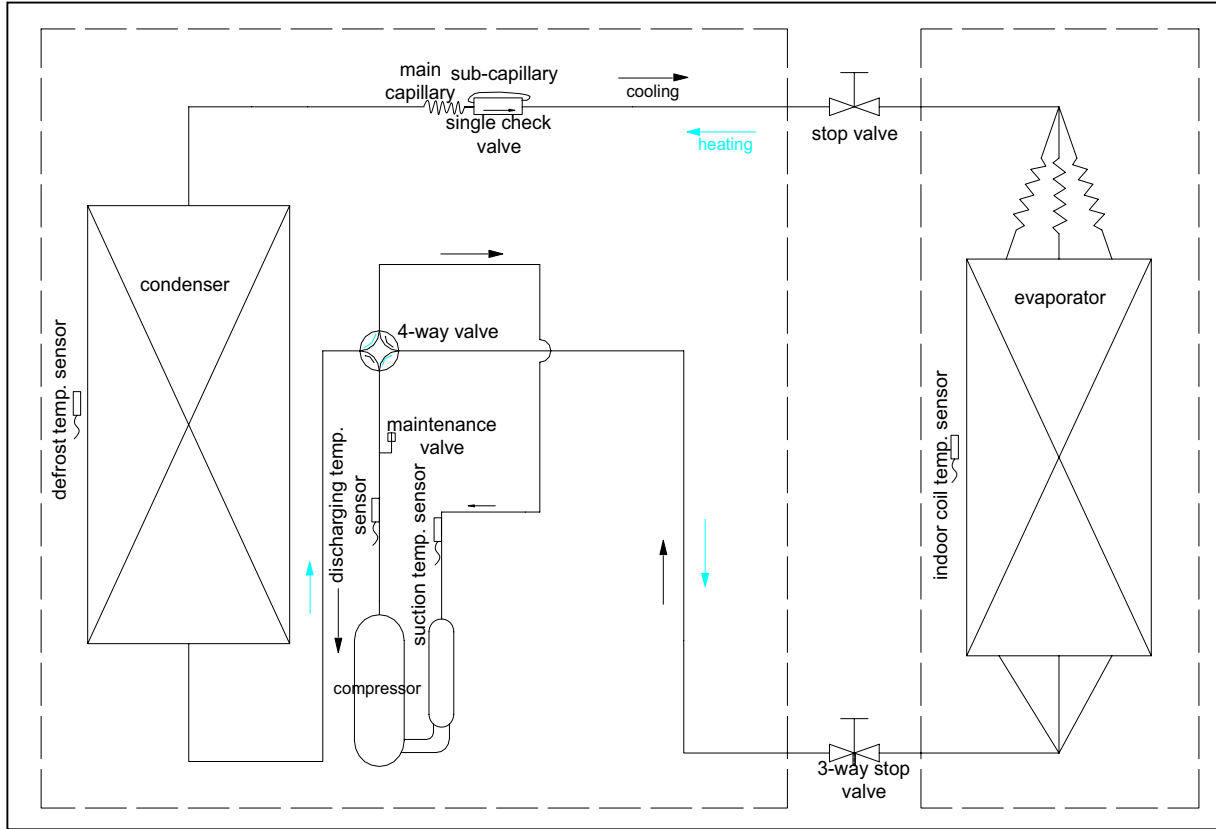
### Panel types features:

panel model	model function description	applicable unit
PB-700IA	with elevating function, for 700*700 panel	single split fixed frequency&inverter AB09~18
PB-700IB	without elevating function, for 700*700 panel	multi split& MRV AB07~18
PB-950IA	for 950*950 panel, universal for wired control type and infrared control type	single split fixed frequency&inverter AB24~28, R407C multi split 21~28, R22 multi split 21~42, R410A multi split 21, MRV 18~28
PB-950JA	for 950*950 panel, universal for wired control type and infrared control type	New design cassette unit
PB-1340IA	for 1340*1340 panel, universal for wired control type and infrared control type	single split fixed frequency AB36~60, R407C free multi 42, MRV 32~45

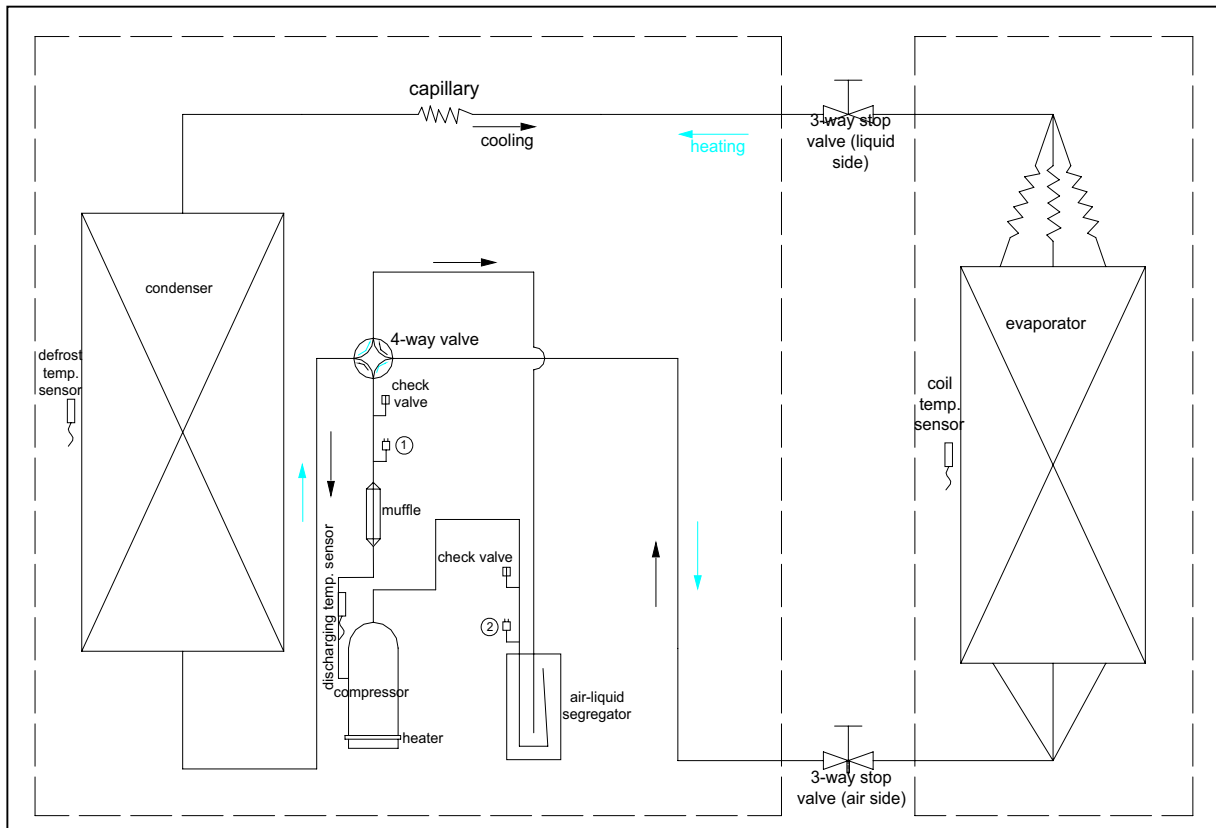
### 5. Refrigerant Diagram

✦ Fixed frequency units

For AU182AEEAA



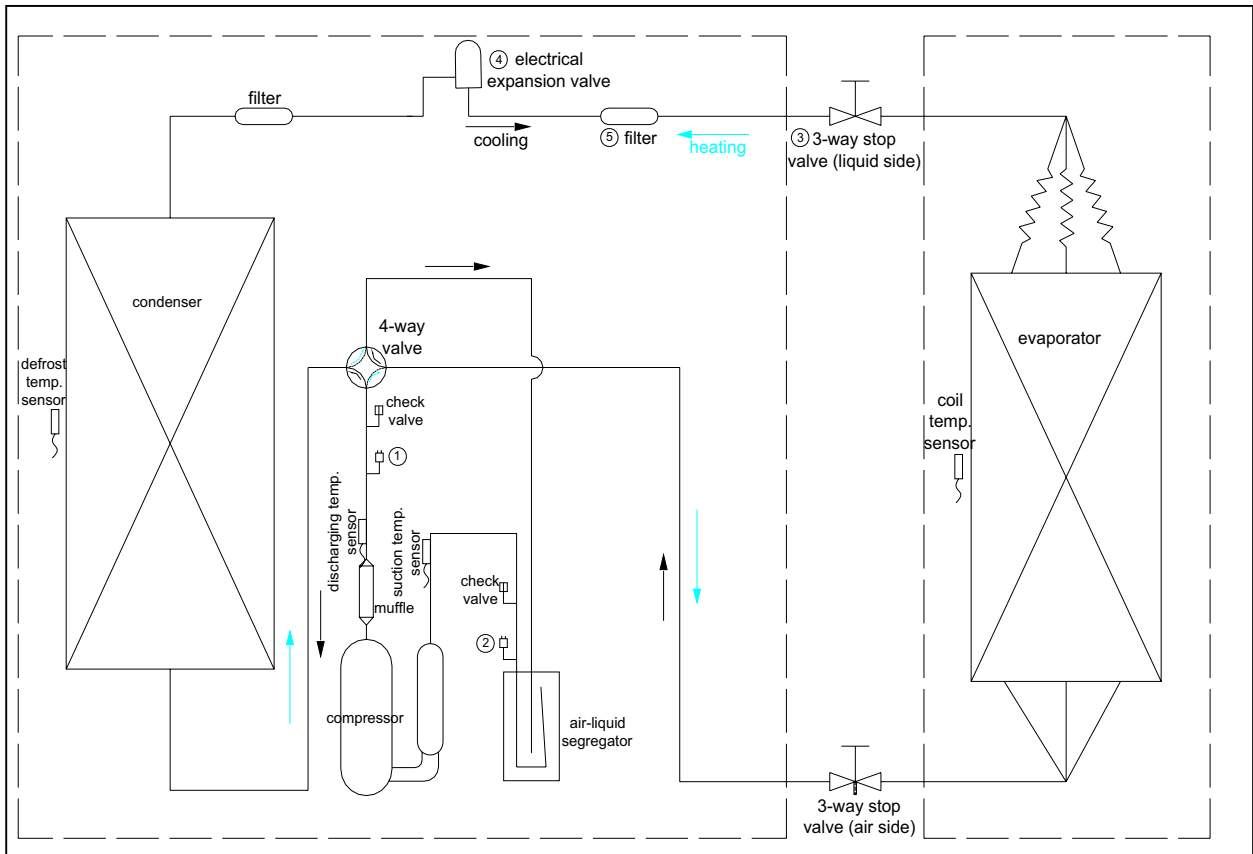
For AU242AGEAA, AU282/28NAHEAA, AU362/36NAIEAA, AU42NALEAA, AU48N/60NAIEAA



1. high pressure switch    2. low pressure switch

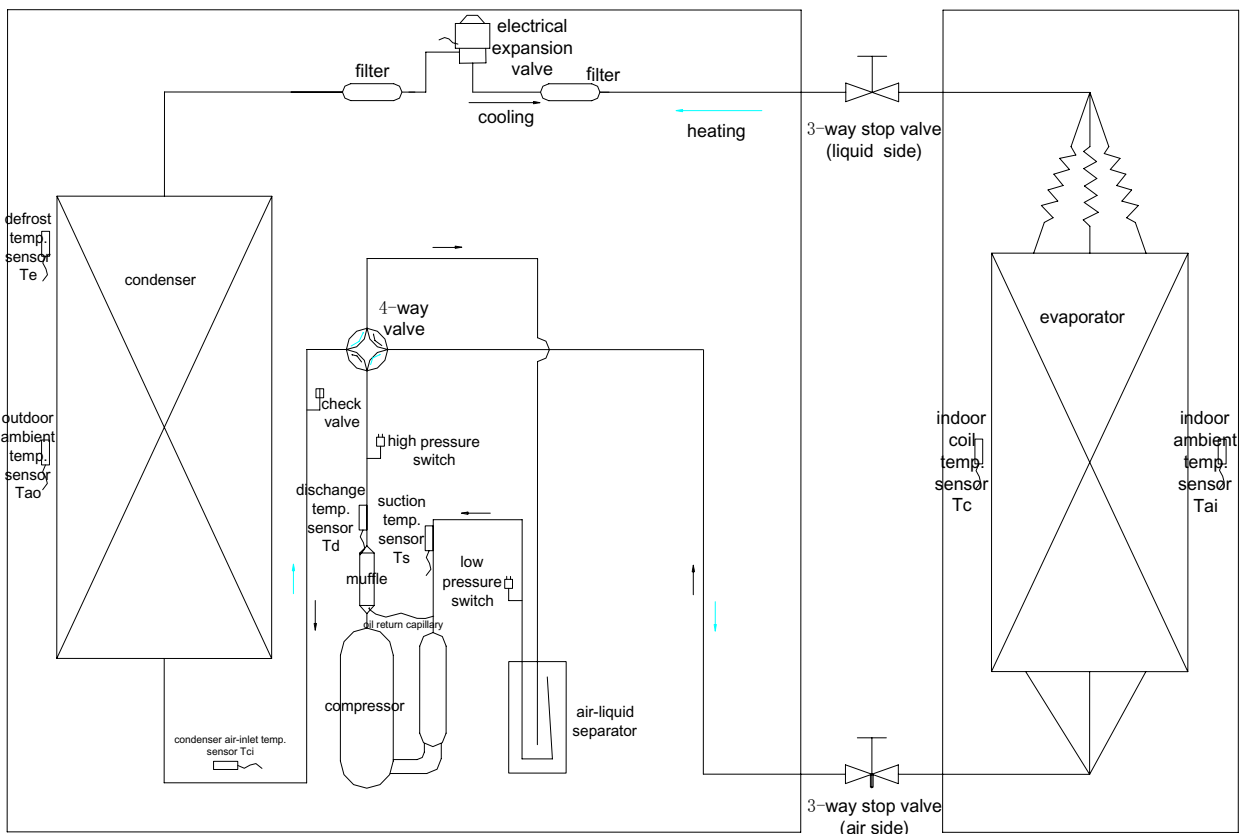
:

### ⚡ Inverter units



1. high pressure switch    2. low pressure switch    3. for AU182AFERA, is 2-way stop valve    4. for AU182AFERA, is main capillary    5. for AU182AFERA, is sub-capillary and single check valve  
for AU182AFERA, No. 1 and 2 are available

### For AU362AHERA



### 6. Installation instruction

#### 6.1 Cassette indoor unit (AB18-AB60)

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

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

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

#### Specifications

The refrigerating circuit is leak-proof.

#### The machine is adaptive in following situation

1. Applicable ambient temperature range:

For \*.EAA :

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

For \*.ERA :

			Rated	Maximum	Minimum
Cooling	Indoor	DB °C	27	32	18
		WB °C	19	23	14
	outdoor	DB °C	35	43	-5
		WB °C	24	26	--
Heating	Indoor	DB °C	20	27	15
		WB °C	14.5	--	--
	outdoor	DB °C	7	24	-7
		WB °C	6	18	--

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

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

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

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

Model	Power cable
For series 182	H05RN-F 3G 2.5mm <sup>2</sup>
For series 242	H05RN-F 3G 4.0mm <sup>2</sup>
For series 282, 362	H05RN-F 3G 6.0mm <sup>2</sup>
For series 28N, 36N	H07RN-F 5G 2.5mm <sup>2</sup>
For series 48N, 60N	H07RN-F 5G 4.0mm <sup>2</sup>

The requirement of the connecting cable:  
For series AB182ACEAA H05RN-F 3G 2.0mm<sup>2</sup>+H05RN-F 1x0.75mm<sup>2</sup>; For other series H05RN-F 4G 0.75mm<sup>2</sup>.

All the cables shall have got the European authentication certificate.

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

7. The waste battery shall be disposed properly.

8. The indoor unit installation height is at least 2.5m.

9. The air breaker and the power switch should be installed in a conveniently reachable place for user.



### Installation tools

The installation tools listed in the following sheet can be used as required.

- |                                            |                                     |
|--------------------------------------------|-------------------------------------|
| 1. Screw driver                            | 8. Knife                            |
| 2. Hacksaw                                 | 9. Pincers                          |
| 3. Drill with a diameter of 60mm           | 10. Leakage detector or soapy water |
| 4. Inner hexagon spanner, shifting spanner | 11. Band tape                       |
| 5. Spanner (14, 17, 19, 24, 27mm)          | 12. Scraper                         |
| 6. Pipe cutter                             | 13. Refrigerant oil                 |
| 7. Pipe expander                           |                                     |

### Selection of installation place

(1) Installation place shall meet the following and agreed by customers:

- Place where proper air flow can be ensured.
- No block to air flow.
- Water drainage is smooth.
- Place strong enough to support unit weight.
- Place where inclination is not evident on ceiling.
- Enough space for maintenance.
- Indoor and outdoor unit piping length is within limit. (Refer to Installation Manual for outdoor unit.)
- Indoor and outdoor unit, power cable, inter unit cable are at least 1 m away from T.V. radop. This is helpful to avoid picture disturbance and noise. (Even if 1 m is kept, noise can still appear if radio wave is strong)

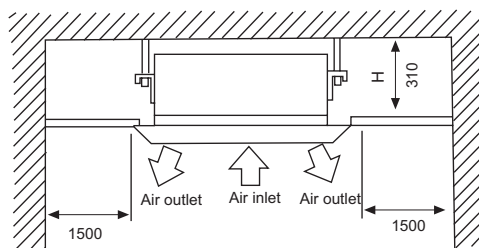
(2) Ceiling height

Indoor unit can be installed on ceiling of 2.5-3m in height. (Refer to Field setting and Installation Manual of ornament panel.)

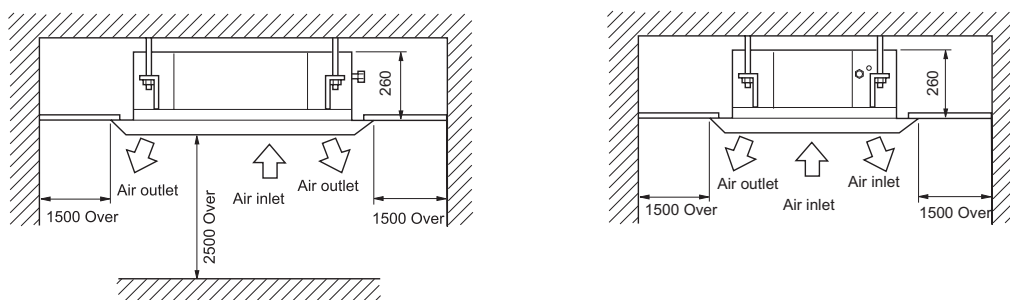
(3) Install suspending bolt. Check if the installation place is strong enough to hold weight. Take necessary measures in case it is not safe. (Distance between holes are marked on paper pattern. Refer to paper pattern for place need be reinforced)

#### Installation space

##### For series 182

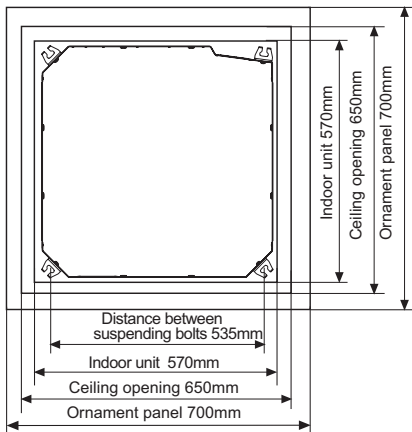


##### For series 242,282,362,482,602

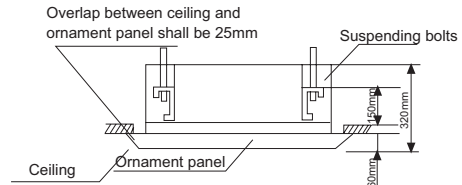


### Preparation for the installation

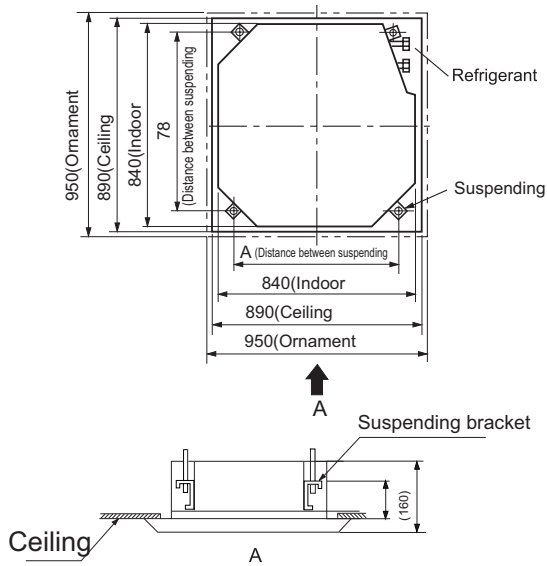
(1) Position of ceiling opening between unit and suspending bolt.



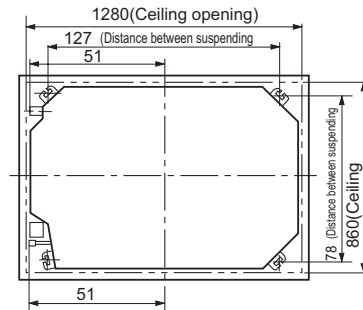
(For series 182)



(For series 242, 282 and AB362ACEAA)

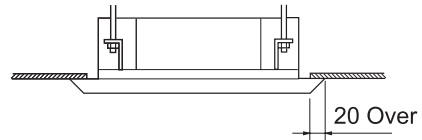


For series 482,602 and AB362ACERA



Note:

Dimension of ceiling opening marked with \* can be as large as 910mm, but the matching part of ceiling with ornament panel shall be over 20mm.



(2) Cut an opening in ceiling for installation if necessary. (when ceiling already exists.)

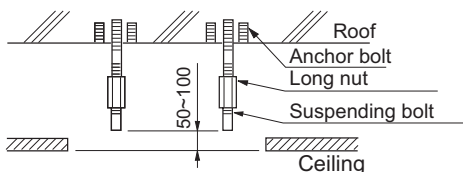
- Refer to paper pattern for dimension of ceiling hole.
- Connect all pipings (refrigerant, water drainage), wirings (inter unit cable) to indoor unit, before installation.
- Cut a hole in ceiling, may be a frame should be used to ensure a smooth surface and to prevent vibration. Contact your real estate dealer

(3) Install a suspending bolt.

(Use a M10 bolt)

To support the unit weight, anchor bolt shall be used in the case of already exists ceiling. For new ceiling, use built-in type bolt or parts prepared in the field.  
Before going on installing adjust space between ceiling.

#### <Installation example>



Note: All the above mentioned parts shall be prepared in field.

### Installation of indoor unit

#### In the case of new ceiling

(1) Install unit temporarily

- Put suspending bracket on the suspending bolt. Be sure to use nut and washer at both ends of the bracket.
- (2) ● As for the dimensions of ceiling hole, see paper pattern. Ask your real estate dealer for details.
- Center of the hole is marked on the paper pattern.
  - Center of the unit is marked on the card in the unit and on the paper pattern.
  - Mount paper pattern ⑤ onto unit using 3 screws ⑥ . Fix the corner of the drain pan at piping outlet.

#### < After installation on the ceiling >

(3) Adjust unit to its right position. (Refer to preparation for the installation-(1))

(4) Check unit's horizontal level.

- Watert pump and flating switch is installed inside indoor unit, check four corners of the unit for its level using horizontal compartor or PVC tube with water. (If unit is tilting against the direction of water drainage, problem may occur on floating switch, causing water leakage.)

(5) Remove the washer mounlting ② , and tighten the nut above.

(6) Remove the paper pattern.

#### In the case of ceiling already exists

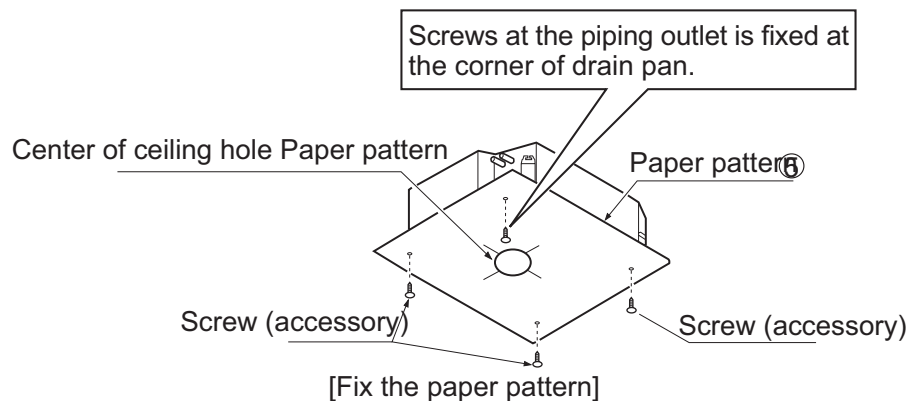
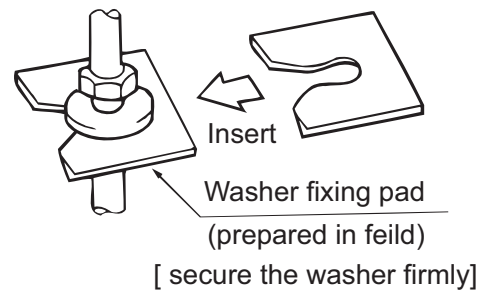
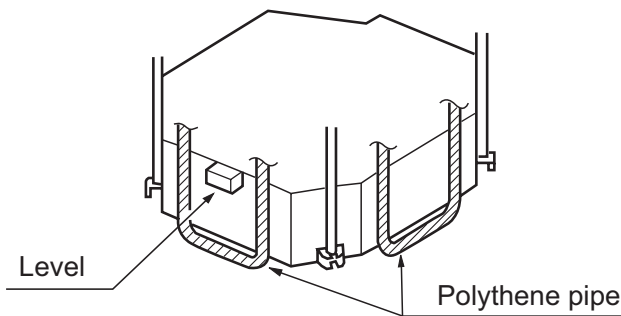
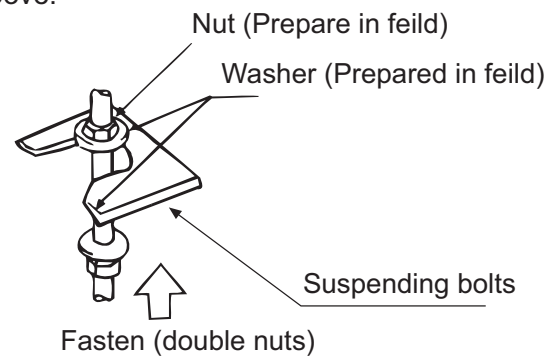
(1) Install unit temporarily

- Put suspending bracket on the suspending bolt. Be sure to use nut and washer at both ends of the bracket. Fix the bracket firmly.

(2) Adjust the height and position of the unit.

(Refer to preparation for the installation (1) ).

(3) Proceed with ③ and ④ of "In the case of new ceiling".



### Refrigerant piping (As for outdoor piping, please refer to installation Manual of outdoor unit.)

- Outdoor is precharged with refrigerant.
- Be sure to see the Fig.1, when connecting and removing piping from unit.
- For the size of the flare nut, please refer to Table 1.
- Apply refrigerant oil at both inside and outside of flare nut. Tighten it band tight 3-4 turns then tighten it.
- Use torque specified in Table 1. (Too much force may damage flare nut, causing gas leakage).
- Check piping joints for gas leakage. Insulate piping as shown in Fig. below.
- Cover joint of gas piping and insulator ⑦ with seal.

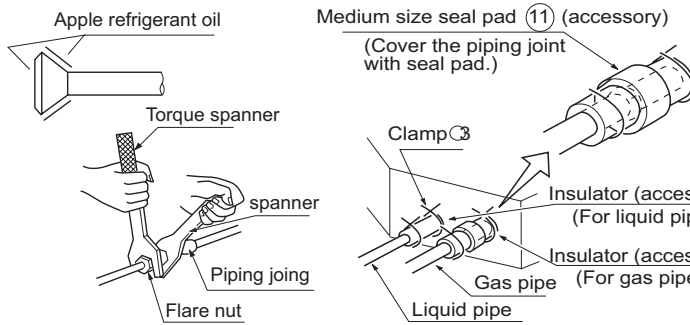


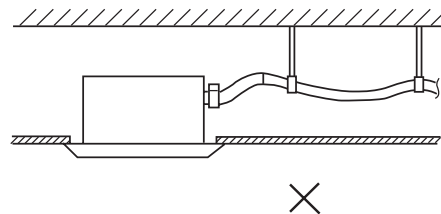
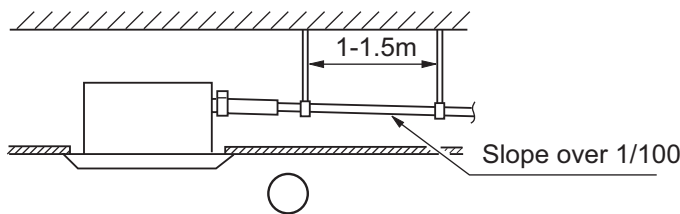
Table 1

Pipe size	Tighten torque	A(mm)	Flare shape
φ 6.35	1420~1720N·cm (144~176kgf·cm)	8.3~8.7	
φ 9.52	3270~3990N·cm (333~407kgf·cm)	12.0~12.4	
φ 15.88	6180~7540N·cm (630~770kgf·cm)	18.6~19.0	
φ 19.05	9720~11860N·cm (990~1210kgf·cm)	22.9~23.3	

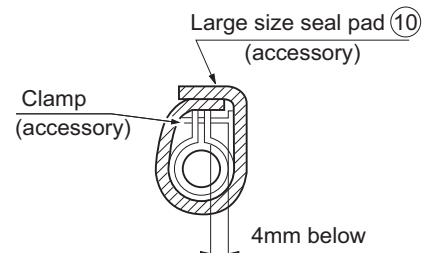
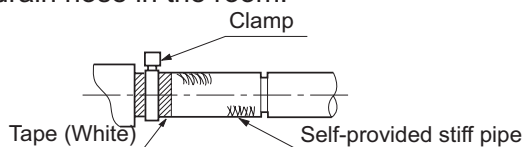
### Installation of water drainage pipe

#### (1) Install water drainage pipe

- Pipe dia. shall be equal or larger than that of unit piping. (pipe of polyethylene; size: 25mm; O.D:32mm)
- Drain pipe should be short, with a downward slope at least 1/100 to prevent air bag from happening.
- If downward slope can't be made, take other measures to lift it up.
- Keep a distance of 1-1.5m between suspending brackets, to make water hose straight.

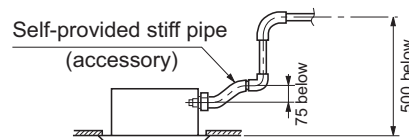
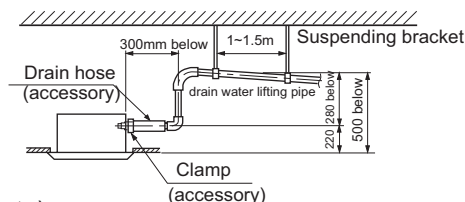


- Use the self-provided stiff pipe and clamp ① with unit. Insert water pipe into water plug until it reaches the white tape. Tighten the clip until head of the screw is less than 4mm from hose.
- Wind the drain hose to the clip using seal pad ⑨. Insulate drain hose in the room.



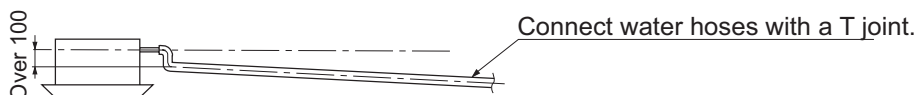
#### <Cautions for the drain water lifting pipe>

- Installation height shall be less than 280mm.
- There should be a right angle with unit, 300mm from unit.



(Note)

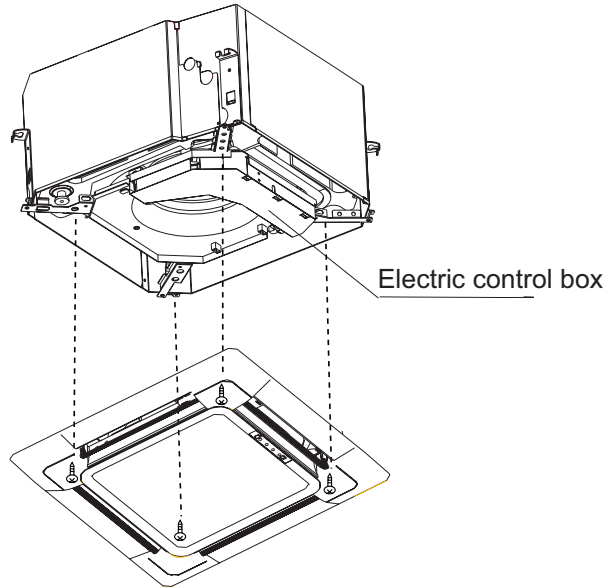
- The slope of water drain hose (1) shall be within 75mm, don't apply too much force on it.
- If several water hoses join together, do as per following procedures.



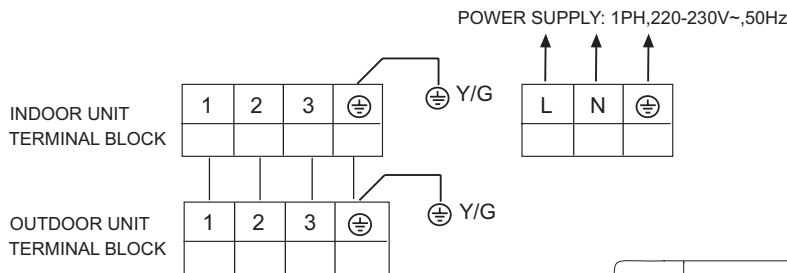
Specifications of the water hoses shall meet the requirements for the unit running.

For series 182

- Check whether indoor unit is horizontal with leveler or polythene pipe filled with water , and check that the dimension of the ceiling opening is correct. Take off the lever gauge before install the ornament panel.
- Fasten the screws to make the height difference between the two sides of indoor unit less than 5mm.
- First fix it with screws temporarily.
- Fasten the two temporarily fixing screws and other two, and tighten the four screws.
- Connect the wires of synchro-motor.
- Connect the wire of signal.
- If no response of remote controller, check whether the wiring is correct, restart remote controller 10 seconds after shut off power supply.

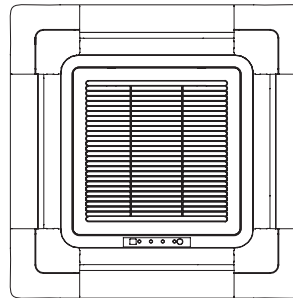


For AB182ACEAA



### <Limits of panel board installation>

- Install the panel board in the direction shown in the figure. The incorrect direction will result in water leakage, meanwhile swing and signal receiving are displayed that cannot be connected.



(2) Check if water drainage is smooth after installation.

For series 242, 282, 362, 482, 602

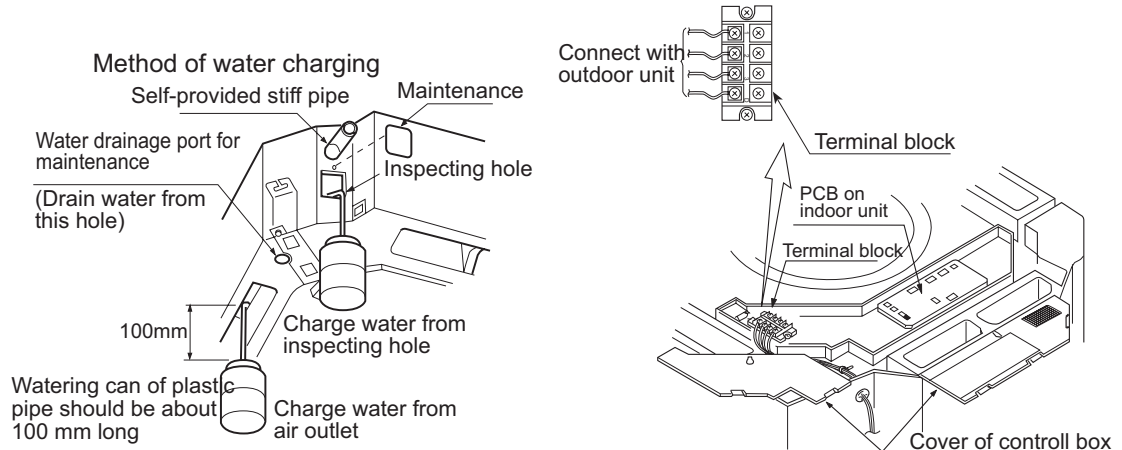
- Charge, through air outlet or inspecting hole, 1200ccd water to see water drainage.

### After wiring

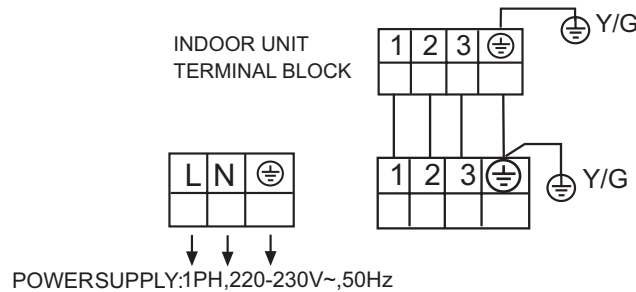
Check water drainage in cooling operation.

### When wiring is not complete

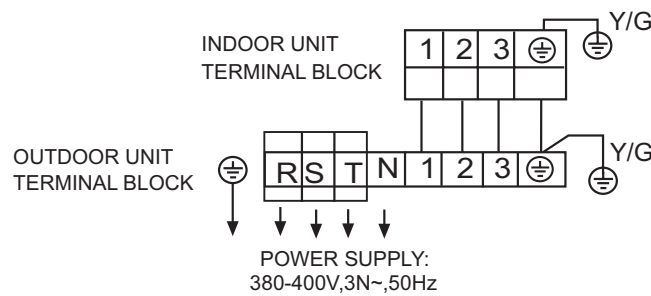
- Remove cover of control box, connect 1PH power to terminal 1 and 2 on terminal block.,use remote controller to operate the unit.
- Note, in this operation, fan will be running.
- Upon confirmation of a smooth water drainage, be sure to cut off power supply.



(For series 242, 282,362 and AB182ACERA )

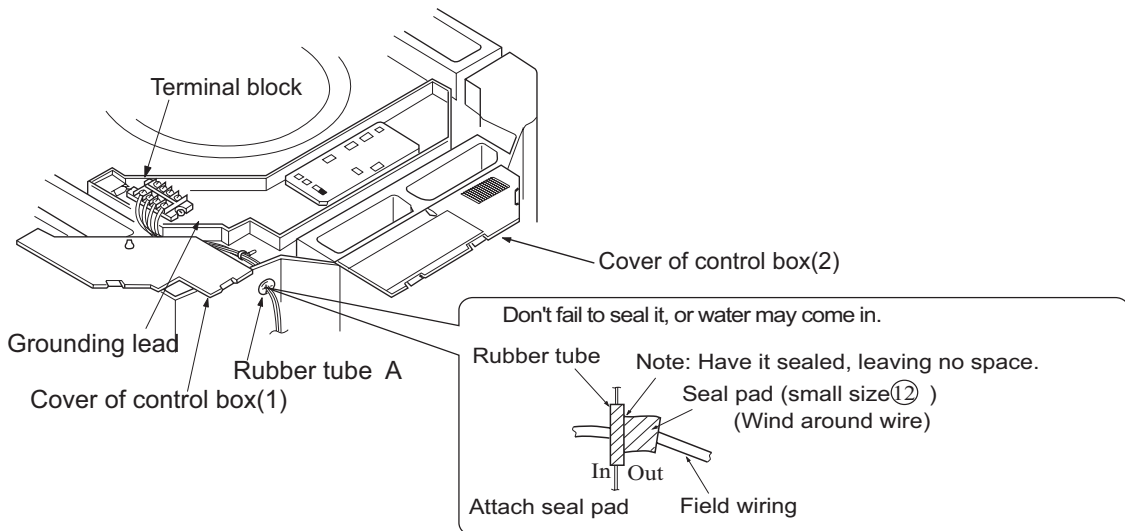


(For series 362, 482, 602 )



### Wiring

- All supplied parts, materials and wiring operation must in appliance with local code and regulations.
- Use copper wire only.
- When make wiring, please refer to wiring diagram also.
- All wiring work must be done by qualified electricians.
- A circuit breaker must be installed, which can cut power supply to all system.
- See Installation Manual of outdoor unit for specifications of wires, circuit breaker, switches and wiring etc.
- Connecting of unit  
Remove cover of switch box (1), drag wires into rubber tube A, then, after proper wiring with other wires, tighten clamp A. Connect wires of correct pole to the terminal block inside.
- Wind seal ⑫ around wires. (Be sure to do that, or dew may occur).
- Upon connecting, replace control box cover (1) and (2).



### Inatallation of ornament panel

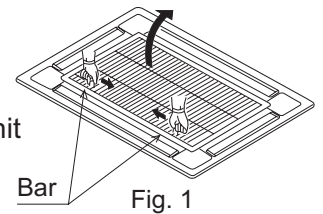
#### Cautions for the installation

- Be sure to show customers Operation Manual and guide them how to operate unit correctly. Before installation, read also the Installation Manual of indoor unit.
- With this ornament, 2 or 3 air flow direction is not available. Suitable height is 3 m.

Accessory Pad



Pad



Bar Fig. 1

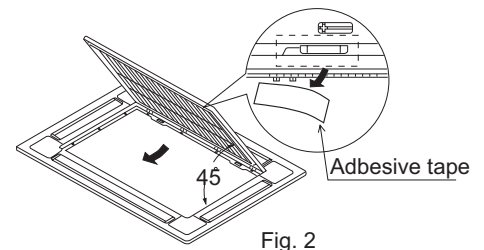


Fig. 2

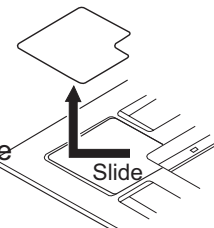


Fig. 3

#### 1. Prepare ornament panel Handling of ornament panel

- Ornament panel shall not be placed face down or against wall, neither on an uneven object.
- Don't bend carelessly the swing flap, or, problem may occur.

##### (1) Remove air inlet grill from ornament panel \*

- ① Push in the bar on inlet grill and lift it up. (Refer to Fig. 1)
- ② Lift it up for about 45 degree and remove it from ornament. Tear off adhesive tape fixing air filter on the back of the air inlet grill. (Refer to Fig. 2)

##### (2) Remove cover plate at corner

Tear off the adhesive tape, and slide it off. (Refer to Fig. 3)

### 2. Mounting on high ceiling

- (1) Ornament panel can be mounted on ceiling as high as 3 m.
- (2) Please install pad as accessory.
  - ① Cut open the pad along cutting line. Use part (a) only and discard part (b). (Refer to Fig. 4)
  - ② Install part a of the pad on the place shown in Fig. 5. Refer to Fig. 6.

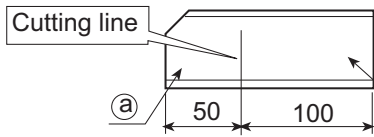


Fig. 4

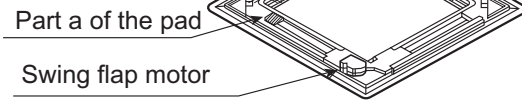


Fig. 5

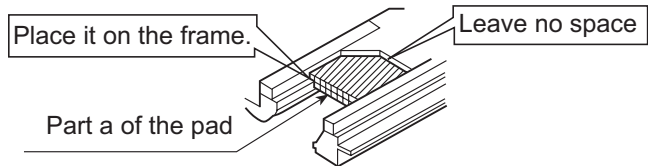


Fig. 6

- (3) Wiring on ornament panel  
Connecting of wiring of the swing flap motor on ornament panel. (2 places)  
(Refer to Fig. 10)

**If connecting is not made, error code (A7) appears on remote controller. So, make proper connecting.**

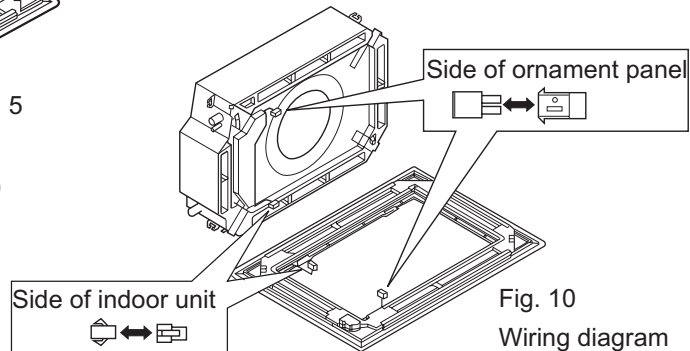


Fig. 10  
Wiring diagram

### 3. Install ornament panel on indoor unit.

For indoor unit installation, please refer to Installation Manual.

- (1) As shown in Fig. 7, match the position of swing flap motor with that of the indoor unit piping hole, so that ornament panel can be placed on to indoor unit.
- (2) Installation of ornament panel
  - ① Place the holding ring on swing flap motor side temporarily on hooks of the indoor unit. (2 pcs)
  - ② Put the other two holding rings on the hooks at both side of the indoor unit. (Care should be taken not to push wiring of swing flap motor into seals).
  - ③ Screw in all 4 screws under holding ring for about 15mm. (Panel will rise).
  - ④ Adjust the ornament panel as per Fig. 7 to cover opening on the ceiling.
  - ⑤ Tighten screws to reduce the thickness of seals between ornament and indoor unit to 5-8mm.

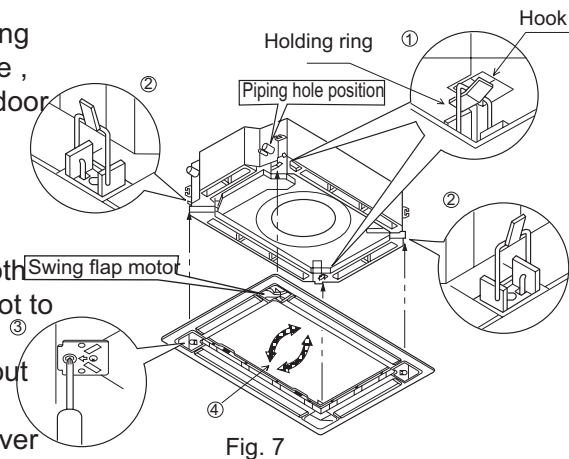
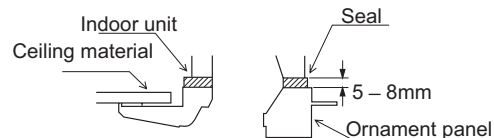


Fig. 7



#### Caution

If screws are not tightened properly, problems in Fig. 8 might occur. Tighten screws properly.

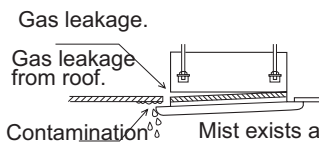
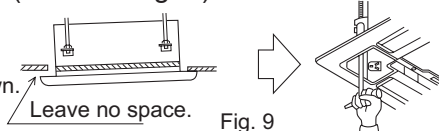


Fig. 8

If there are still space after tightening of screws, please readjust the height of indoor unit. (Refer to Fig. 9)



If indoor unit is at horizontal level and water drainage is smooth, then, indoor unit height can be adjusted through holes at corners of ornament panel.



### 4. Installation of inlet grill and cover plate

#### (1) Installation of inlet grill

Install in reversed order of "Prepare ornament panel".

Inlet grill can be adjusted into four directions by turning inlet grill. Inlet grill position can be adjusted as per customers request.

**When installing inlet grill, take care not to twist wiring of swing flap motor.**

#### (2) Install cover plate on the corner

① As shown in Fig. 11 tie the cover plate onto the bolt on ornament plate.

② Install cover plate onto ornament plate.  
(Refer to Fig. 12)

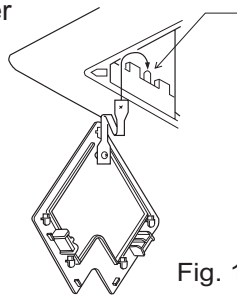
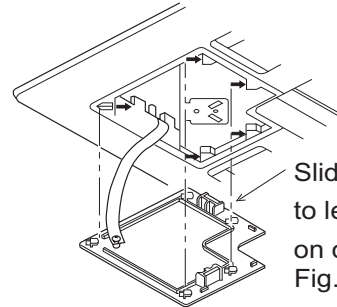


Fig. 11



Slide all five hold rings to let them drop in holes on ornament plate, Fig. 12








### Pay special care to the following and check after installation

Item to the checked	Unproper installation may cause	Check
Is indoor unit firmly installed?	Unit might fall down, make vibration or noise.	
Is gas leakage check performed?	This may lead to gas shortage.	
Is unit properly insulated?	Dew or water drop may occur.	
Is water drainage smooth?	Dew or water drop may occur.	
Is power voltage meet that stipulated on the nameplate?	Problem may occur or parts got burned.	
Is wiring and piping correctly arranged?	Problem may occur or parts got burned.	
Is unit safely grounded?	There might be a danger of electric shock.	
Is wire size correct?	Problem may occur or parts got burned.	
Are there any obstacles on air inlet and outlet grill of indoor and outdoor unit?	This may cause poor cooling.	
Is record made for piping length and refrigerant charging amount?	It is hard to control refrigerant charging amount.	

### 6.2 Convertible indoor unit (AC18-AC24)

Standard accessories:

The following installation parts are furnished.  
Use them as required.

No.	Accessory parts	Qty.
①	 Remote controller	1
②	 Battery	2
③	 Wire clamp	4
④	 Heat insulation sheathing	1+1
⑤	 Screw	2+2
⑥	 Screw cap	1+1
⑦	 Remote controller bracket	1

#### Pipe connection requirement

Please refer to the specification to confirm the stop valve diameter and the permitted pipe drop and pipe length.

#### INSTALLATION PROCEDURE

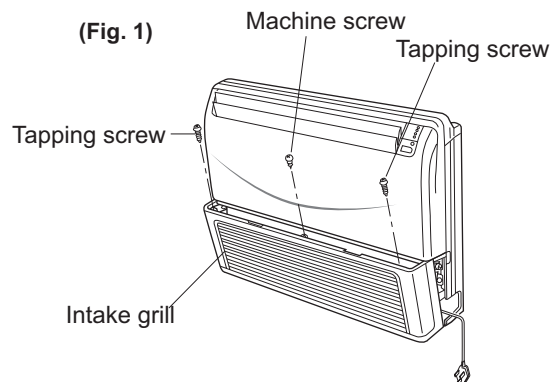
Install the room air conditioner as follows:

#### PREPARING INDOOR UNIT INSTALLATION

##### 1. REMOVE THE INTAKE GRILL

Open the intake grill and remove the three or four or six screws.(Fig. 1)

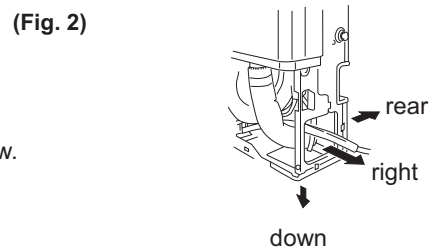
**Remark: The main unit can be wired before the indoor unit is installed. Select the most appropriate installation order.**



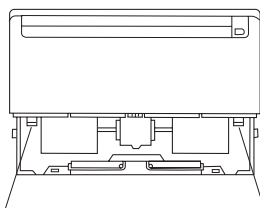
#### A. FLOOR CONSOLE TYPE

##### 1. DRILLING FOR PIPING

Select piping and drain directions.(Fig.2) (Series14,18,24)  
The piping and drain can be made in three directions as shown below.



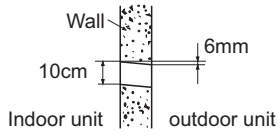
(Fig.3)



Drain hose (Left side)      Drain hose (Right side)

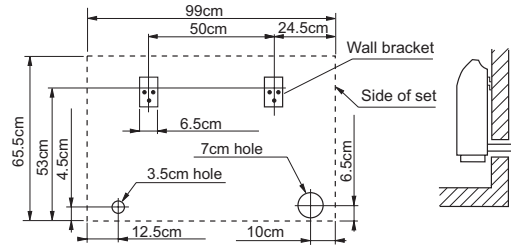
When the directions are selected, drill a 7 cm dia. hole on the wall so that the hole is tilted downward toward the outdoor for smooth water flow. When the pipe is led out from the rear, make a hole in Fig.6, at the position shown.

(Fig. 4)



For series 14,18,24 when installing set to wall, install the accessory wall bracket at the position shown in Fig.5, and mount the set to it.

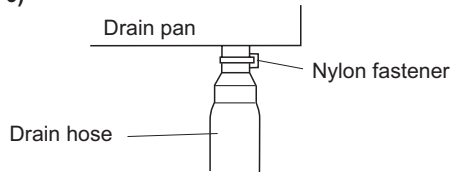
(Fig. 5)



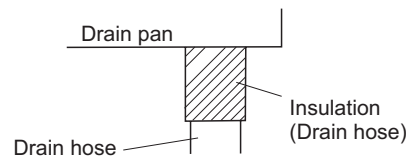
## 2. INSTALLING DRAIN HOSE

drain hose with a nylon fastener. (Fig.6)

(Fig. 6)



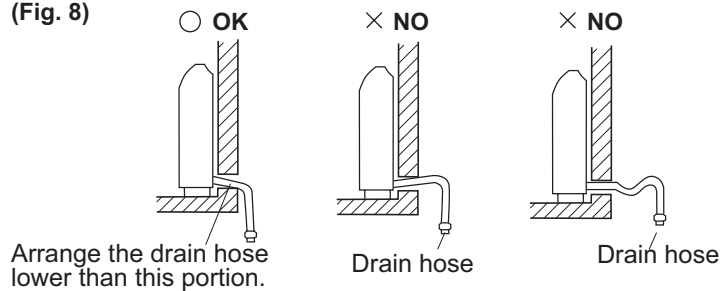
(Fig. 7)



Wrap the insulation (drain hose) around the drain hose connection. (Fig.7)

Be sure to arrange the drain hose correctly so that it is leveled lower than the drain hose connecting port of the indoor unit.

(Fig. 8)

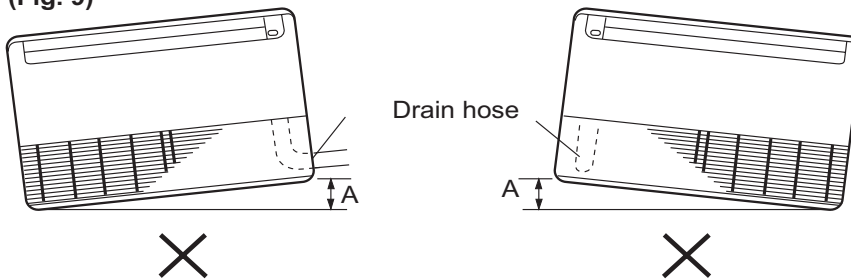


Arrange the drain hose lower than this portion.

### ⚠ CAUTION

Do not install the unit drain hose side is too high. Height A should be less than 5 mm. (Fig.9)

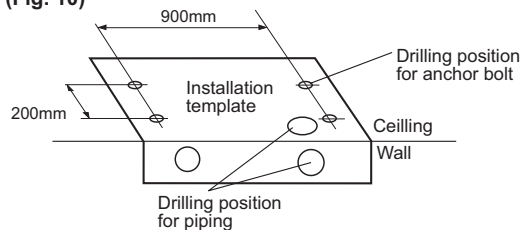
(Fig. 9)



## B. UNDER CEILING TYPE

Using the installation template, drill holes for piping and anchor bolts. (Fig.10)

(Fig. 10)

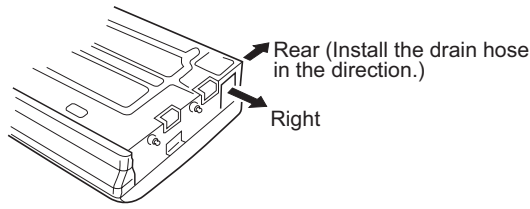


For series 18,24

### 1. DRILLING FOR PIPING

Select piping and drain directions. (Fig.11)

(Fig. 11)



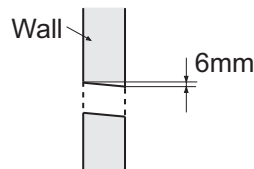
### ⚠ CAUTION

Install the drain hose at the rear; it should not be installed on the top or right side.

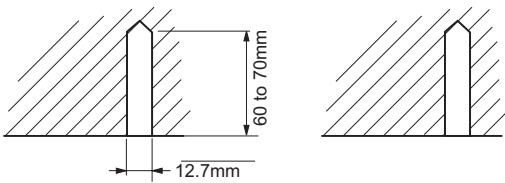
### 2. DRILLING HOLES FOR ANCHOR BOLTS AND INSTALLING THE ANCHOR BOLTS

When the directions are selected, drill 80mm and 50mm or 150mm dia. hole on the wall so that the hole is tilted downward toward the outdoor for smooth water flow.

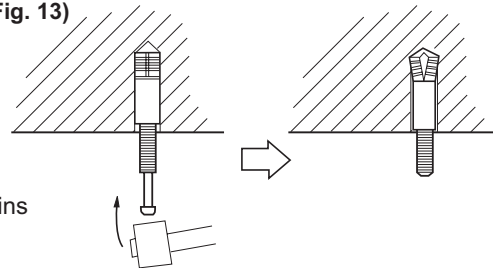
(Fig. 12)



With a concrete drill, drill four 12.7 mm dia. Holes.(Fig.12)



(Fig. 13)

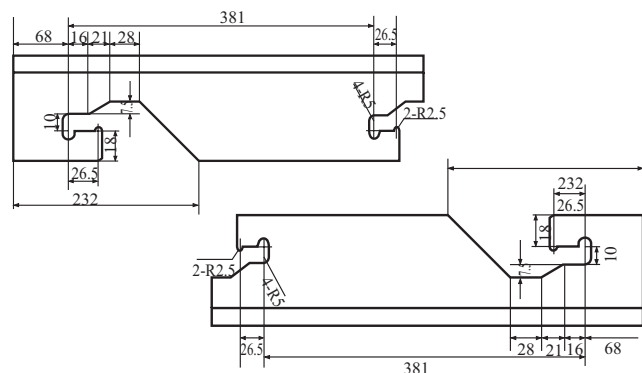
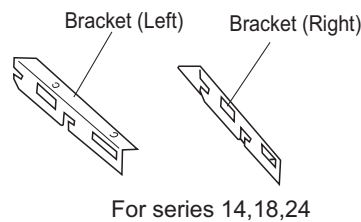
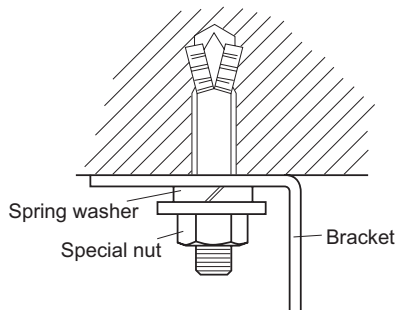


Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer. (Fig. 13)

### 3. INSTALLING BRACKETS

Install the brackets with nuts, washers and spring washers.(Fig. 14)

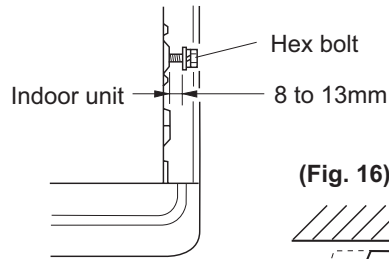
(Fig. 14)



### 4. INSTALLING INDOOR UNIT

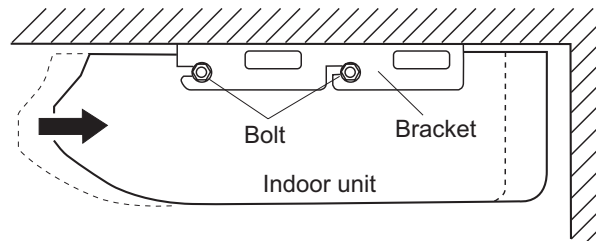
Reset the hex bolts as shown in Fig.15.

(Fig. 15)



Apply the indoor unit to the brackets.(Fig.16)

(Fig. 16)



Now, securely tighten the hex bolts in both sides.

### 5. INSTALL THE DRAIN HOSE

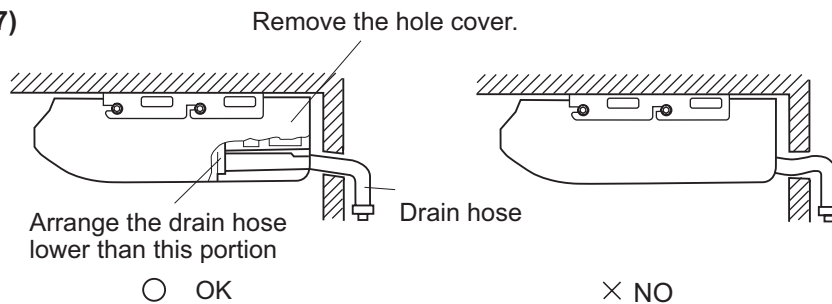
Select whether the drain hose will be connected to the left or right side.(Fig.3)

Insert the drain hose into the drain pan, then secure the drain hose with a nylon fastener.(Fig.6)

Wrap the insulation (drain hose)around the drain hose connection.(Fig.7)

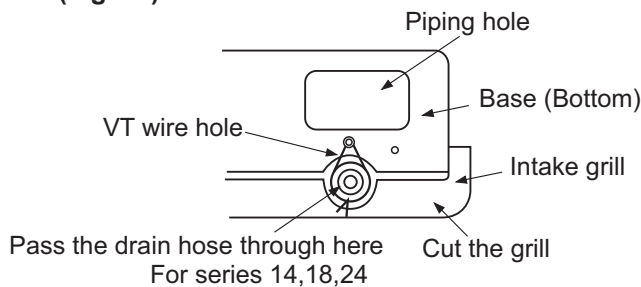
Be sure to arrange the drain hose correctly so that it is leveled lower than the drain hose connecting port of the indoor unit.(Fig.8)

(Fig. 17)



When drain hose is arranged backward. Secure the drain hose with the VT wire. (Fig. 18)

(Fig. 18)



### GAS LEAKAGE INSPECTION

#### ⚠ CAUTION

After connecting the piping, check the joints for gas leakage with leakage detector.

### HOW TO CONNECT WIRING TO THE TERMINALS

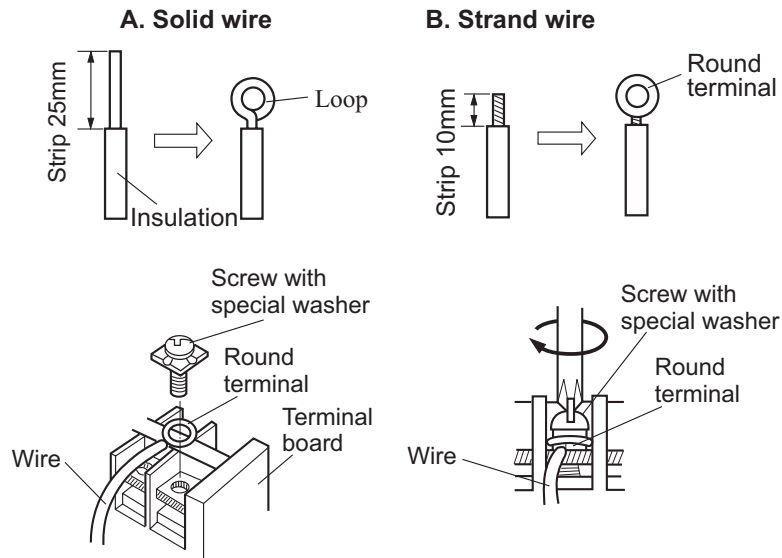
#### A. For solid core wiring (or F-cable)(Fig.19A)

- (1) Cut the wire with a wire cutter or wire-cutting pliers, then strip the insulation to about 25mm of the exposed solid wire.
- (2) Using a screwdriver, remove the terminal screw(s) on the terminal board.
- (3) Using pliers, bend the solid wire to form a loop suitable for the terminal screw.
- (4) Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screw driver.

### B. For strand wiring(Fig.19B)

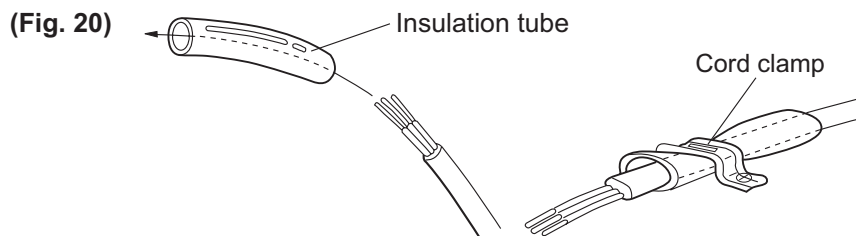
- (1) Cut the wire with a wire cutter or wire-cutting pliers, then strip the insulation to about 10mm of the exposed strand wiring.
- (2) Using a screwdriver, remove the terminal screw(s)on the terminal board.
- (3) Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
- (4) Position the round terminal wire, and replace and tighten the terminal screw using a screw driver.

(Fig. 19)



### HOW TO FIXED CONNECTION CORD AND POWER CABLE AT THE CORD CLAMP

After passing the connection cord and power cable through the insulation tube, fasten it with the cord clamp, as shown in Fig.20



Use VW-1, 0.5 to 1.0 mm thick, PVC tube as the insulation tube.

### ELECTRICAL WIRING

#### ⚠ CAUTION

- (1) Match the terminal block numbers and connection cord colors with those of the outdoor unit.  
Erroneous wiring may cause burning of the electric parts.
- (2) Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
- (3) Always fasten the outside covering of the connection cord with the cord clamp.  
(If the insulator is chafed, electric leakage may occur.)
- (4) Always connect the ground wire.

### ELECTRICAL REQUIREMENT

- Electric wire size and fuse capacity:

Type	For series 182	For series 242
Connection cord (mm <sup>2</sup> )	0.75	0.75
Power supply cord (mm <sup>2</sup> )	2.5	4.0
Fuse capacity(A)	30	40

### 1. INDOOR UNIT SIDE

- (1) Remove the electric component box.

Fig. 21

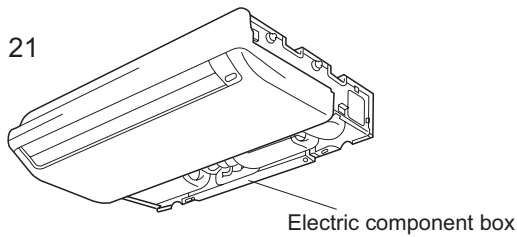
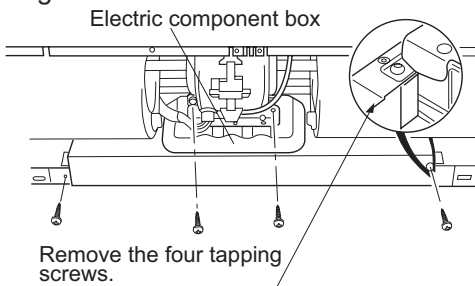


Fig. 22

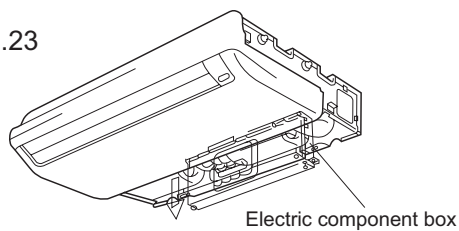


#### CAUTION

Do not remove the screws. If the screws are removed, the electric component box will fall.

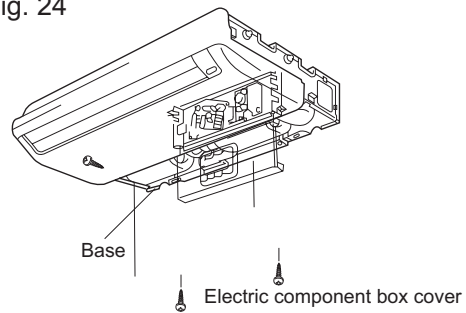
- (2) Pull out the electric component box.

Fig.23



- (3) Remove the electric component box cover.

Fig. 24



Remove the three tapping screws.

#### CAUTION

Be careful not to pinch the lead wires between the electric component box and base.

### (4) Wiring

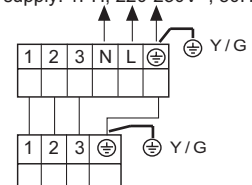
- (1) Remove the cord clamp.
- (2) Process the end of the connection cords to the dimensions shown in Fig.34.
- (3) Connect the end of the connection cord fully into the terminal block.
- (4) Fasten the connection cord with a cord clamp.
- (5) Fasten the end of the connection cord with the screw.

AC182ACEAA

Power supply: 1PH, 220-230V~, 50Hz

INDOOR UNIT  
TERMINAL BLOCK

OUTDOOR UNIT  
TERMINAL BLOCK

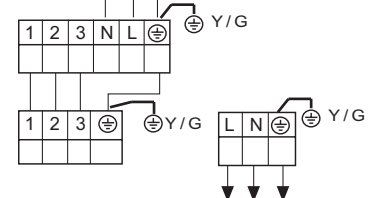


AC182ACERA AC242ACEAA AC242ACERA

Power supply: 1PH, 220-230V~, 50Hz

INDOOR UNIT  
TERMINAL BLOCK

OUTDOOR UNIT  
TERMINAL BLOCK



### ELECTRICAL WIRING

#### **⚠ WARNING**

- (1) Always use a special branch circuit and install a special receptacle to supply power to the room air conditioner.
- (2) Use a circuit breaker and receptacle matched to the capacity of the room air conditioner.
- (3) The circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3mm between the contacts of each pole.
- (4) Perform wiring work in accordance with standards so that the room air conditioner can be operated safely and positively.
- (5) Install a leakage circuit breaker in accordance with the related laws and regulations and electric company standards.

#### **⚠ CAUTION**

- (1) The power source capacity must be the sum of the room air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.
- (2) When the voltage is too low and the air conditioner is difficult to start, contact the power company the voltage raised.

### TEST RUNNING

#### 1. CHECK ITEMS

##### (1) INDOOR UNIT

- (1) Is operation of each button on the remote control unit normal?
- (2) Does each lamp light normally?
- (3) Do not air flow direction louvers operate normally?
- (4) Is the drain normal?

##### (2) OUTDOOR UNIT

- (1) Is there any abnormal noise and vibration during operation?
- (2) Will noise, wind, or drain water from the unit disturb the neighbors?
- (3) Is there any gas leakage?

### CUSTOMER GUIDANCE

Explain the following to the customer in accordance with the operating manual:

- (1) Starting and stopping method, operation switching, temperature adjustment, timer, air flow switching, and other remote control unit operations.

- (2) Air filter removal and cleaning, and how to use air louvers.
- (3) Give the operating and installation manuals to the customer.

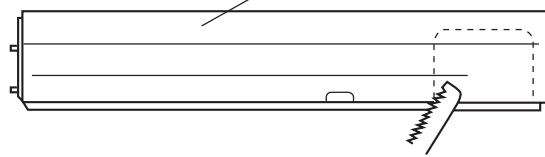
### MOUNT THE COVER PLATE AND THE INTAKE GRILL

#### 1. Mount the cover plate. (Right)

- (1) Cut a pipe exit hole in the right plate. This is only when the pipe exits from the right side. (This operation is not required when the protrusion is on the top or rear.)

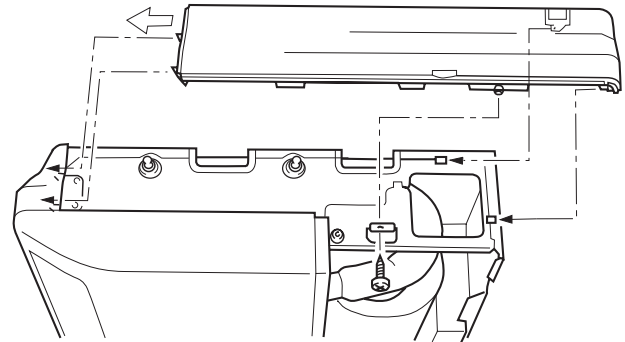
Fig. 25

Cover plate (Right)



- (2) Join the cover plates (right) and mount with screws.

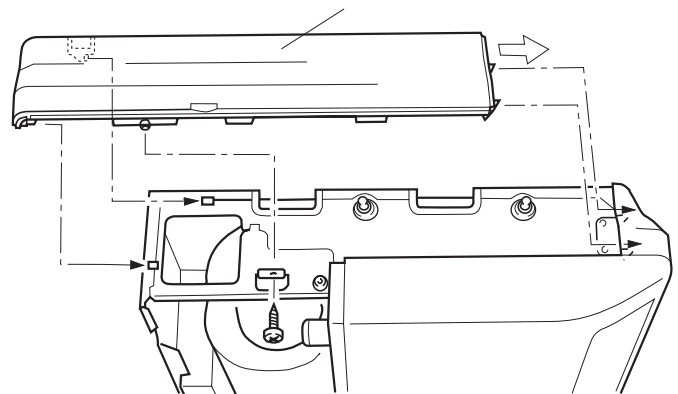
Fig. 26



#### 2. Mount the cover plate.(Left)

- (1) Join the cover plate (left) and mount with screws.

Fig. 27





### 6.3 Convertible indoor unit (AC28-AC60)

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

#### WARNING !

- **Please call dealer to install the air-conditioner.**

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

#### CAUTION !

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

- **Connect earthing wire.**

Earthing wire should not be connected to the gas pipe, water pipe, lightning rod or phone line, incorrect earthing may cause



Earthing

- **Installed electrical-leaking circuit breaker.**  
It easily cause electrical shock without circuit breaker.

- **Use discharge pipe correctly to ensure efficient discharge.**

Incorrect pipe use may cause water leaking.

#### [Location]

- Air-conditioner should be located in well-vented and easily-accessible place.
- Air-conditioner should not be located in the following places:
  - (a) Places with machine oils or other oil vapours.
  - (b) Seaside with high salt content in the air.
  - (c) Near to hot spring with high content of sulfide gases.
  - (d) Area with frequent fluctuation of voltage e.g. factory, etc.
  - (e) In vehicles or ships.
  - (f) Kitchen with heavy oil vapour or humidity.
  - (g) Near to the machine emitting electric-magnetic waves.
  - (h) Places with acid, alkali vapour.
- TV, radio, acoustic appliances etc are at least

supply wire, connecting wire, pipes, otherwise images may be disturbed or noises be created.

- As required, take measures against heavy snow.

#### [Wiring]

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

#### [Operating noise]

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

#### For authorized service personnel only

#### ⚠ WARNING

- (1) For the room air conditioner to operate satisfactorily, install it as outlined in this installation manual.
- (2) Connect the indoor unit and outdoor unit with the room air conditioner piping and cords available from our standard parts. This installation manual describes for the correct connections so that the installation set available from our standard parts should be used.
- (3) Installation work must be performed in accordance with national wiring standards by authorized personnel only.
- (4) Never cut the power cord, lengthen or shorten the cord, or change the plug.

- (5) Also, do not use an extension cord.
- (6) Plug in the power cord plug firmly. If the receptacle is loose, repair it before using the air conditioner.
- (7) Do not turn on the power until all installation work is done.
  - Be careful not to scratch the room air conditioner when handing it.
  - After installation, explain correct operation to the customer, according to the operating manual.
  - Let the customer keep this installation manual because it will be used when the room air conditioner is serviced or moved.

### SELECTING THE MOUNTING POSITION

#### **⚠ WARNING**

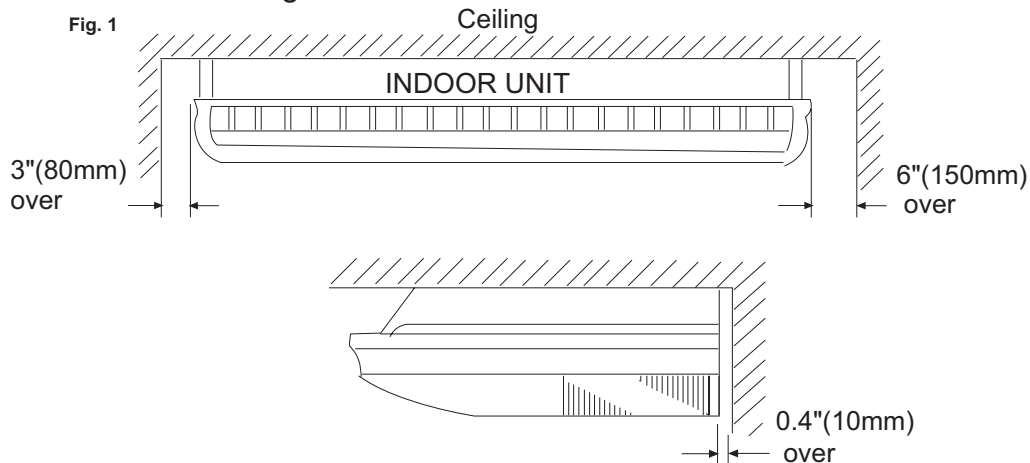
- Install at a place that can withstand the weight of the indoor units and install positively so that the units will not topple or fall.

#### **⚠ CAUTION**

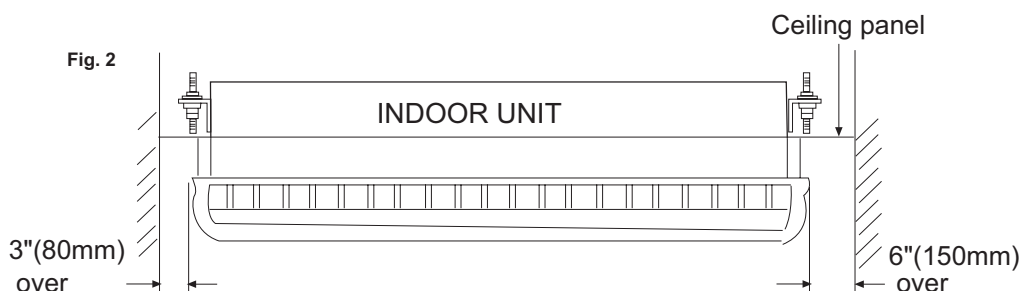
- Do not install where there is the danger of combustible gas leakage.
- Do not install near heat sources.
- If children under 10 years old may approach the unit, take preventive measures so that they cannot reach the unit.

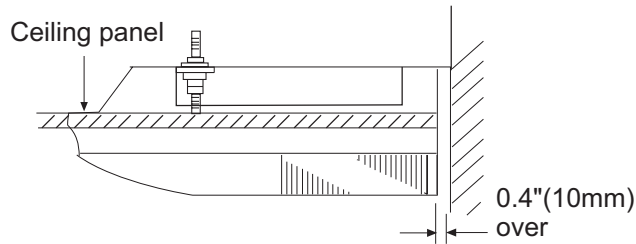
- (1) Install the indoor unit level on a strong wall which is not subject to vibration.
  - (2) The inlet and outlet ports should not be obstructed : the air should be able to blow all over the room.
  - (3) Do not install the unit where it will be exposed to direct sunlight ,
  - (4) Install the unit where connection to the outdoor unit is easy.
  - (5) Install the unit where the drain pipe can be easily installed.
  - (6) Take servicing , etc.into consideration and leave the spaces shown in (Fig.1 or 2) .
- Also install the unit where the filter can be removed .

For mounted on the ceiling:












For half concealed installation:





### ACCESSORIES

Standard accessories:

No.	Accessory parts	Qty.	Remarks
①	 Remote controller	1	—
②	 Battery	2	—
③	 Wire clamp	4	—
④	 Heat insulation sheathing	1+1	—
⑤	 Screw	2+2	—
⑥	 Drain hose	1	—
⑦	 Screw cap	1+1	—
⑧	 Flat washer	8	—
⑨	 Remote controller bracket	1	—

Optional parts

Ceiling panel

Mark	Parts name
Ⓐ	Adhesive tape
Ⓑ	Saddle (L.S) with screws
Ⓒ	Drain hose
Ⓓ	Heat insulation material
Ⓔ	Piping hole cover
Ⓕ	Putty
Ⓖ	Plastic clamp

### CONNECTION PIPE REQUIREMENT

Table 1

Model	Diameter		Maximum length	Maximum height (between indoor and outdoor)
	Liquid side	Gas side		
For series 362, 482 602	9.52 mm	19.05mm	50 m	30 m
For series 282	9.52 mm	15.88mm	30 m	20 m

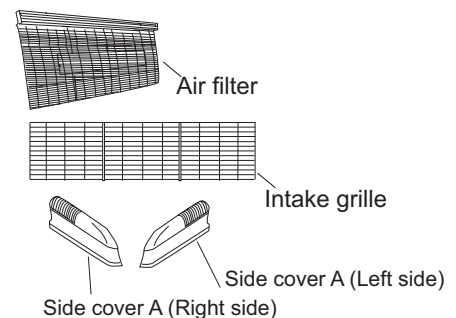
### INSTALLATION PROCEDURE

Install the room air conditioner as follows:

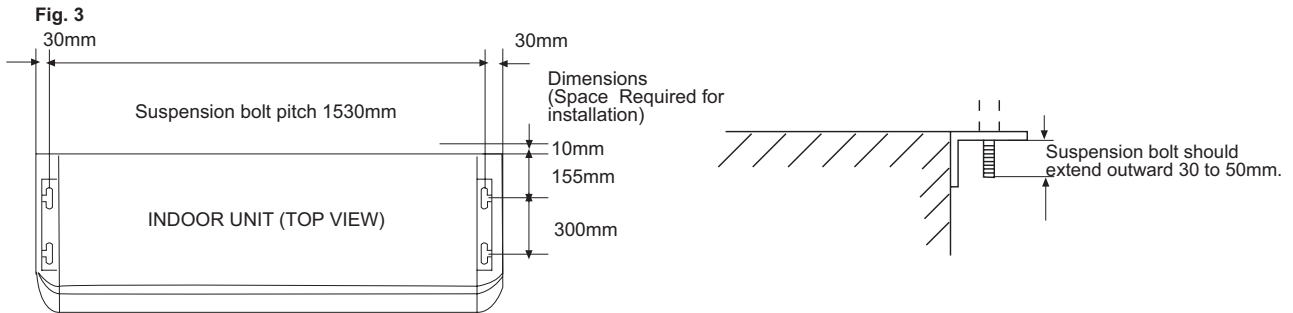
#### 1) REMOVE THE INTAKE GRILL AND SIDE COVER

- (1) Remove the two Air filters
- (2) Remove the two intake grilles
- (3) Remove the Side cover A (Right and left side)
- (4) This air conditioner can be set up to intake fresh air .

For information about how to install for fresh-air intake, refer to page 22 "FRESH-AIR INTAKE".

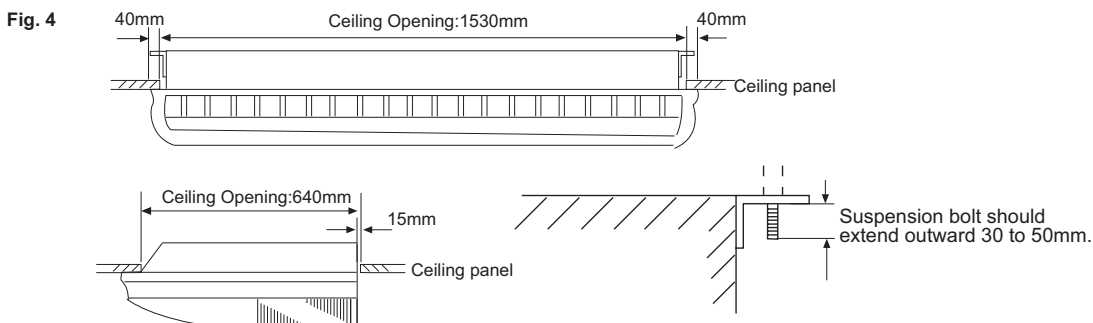


### 2) LOCATION OF CEILING SUSPENSION BOLTS



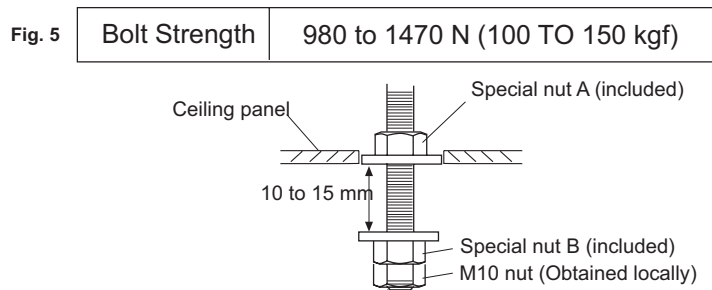
#### For half-concealed installation

Suspension-bolt pitch should be as shown in Fig.4.



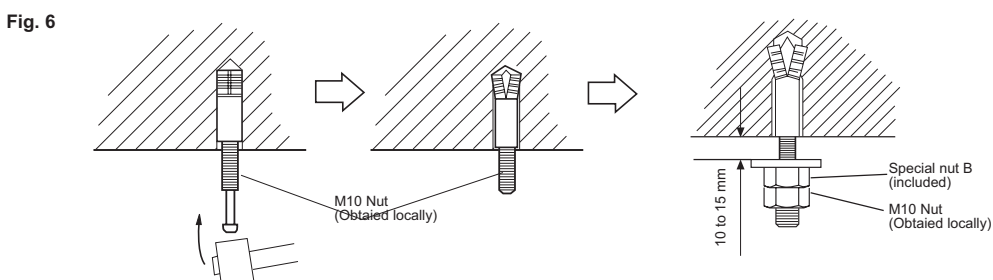
### DRILLING THE HOLES AND ATTACHING THE SUAPENSION BOLTS

- (1) Drill 25mm-diameter holes at the suspension-bolt locations.  
(The two special nuts are provided with the unit. The M10 nut must be obtained locally.) Refer to Fig.5.
- (2) Install the bolts, then temporarily attach Special nuts A and B and a normal M10 nut to each bolt.



#### IF USING ANCHOR BOLTS

- (1) Drill holes for anchor bolts at the locations at which you will set the suspension bolts. Note that anchor bolts (to be obtained locally).
- (2) Install the anchor bolts, then temporarily attach special nut "B" (included) and a locally-procurde M10 nut to each of the bolts. (See Fig.6.)



### INSTALLING THE INDOOR UNIT

(1) Lift unit so that suspension bolts pass through suspension fittings at the sides (four places), and slide the unit back. (See Fig. 8.)

Fig. 7

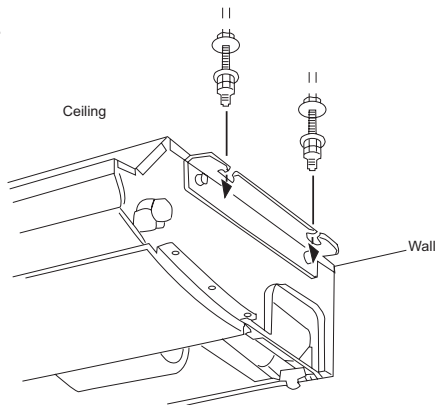
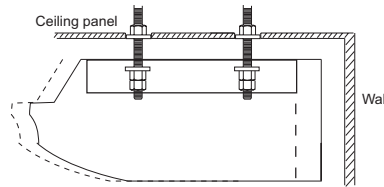


Fig. 8

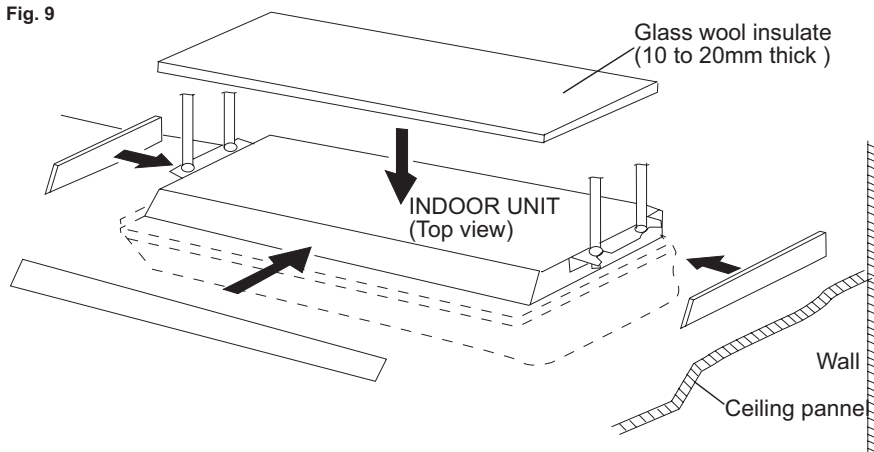


(2) Fasten the indoor unit into place by tightening-up the special "B", bolts and the M10 nuts. Make sure that unit is secure and will not shift back and forth.

### FOR HALF-CONCEALED INSTALLATION

When installing the indoor unit in a semi-concealed orientation, make sure to reinforce the insulation of the unit on all sides. Drops of water may fall from the unit if it is not thoroughly insulated.

Fig. 9



### **⚠ CAUTION**

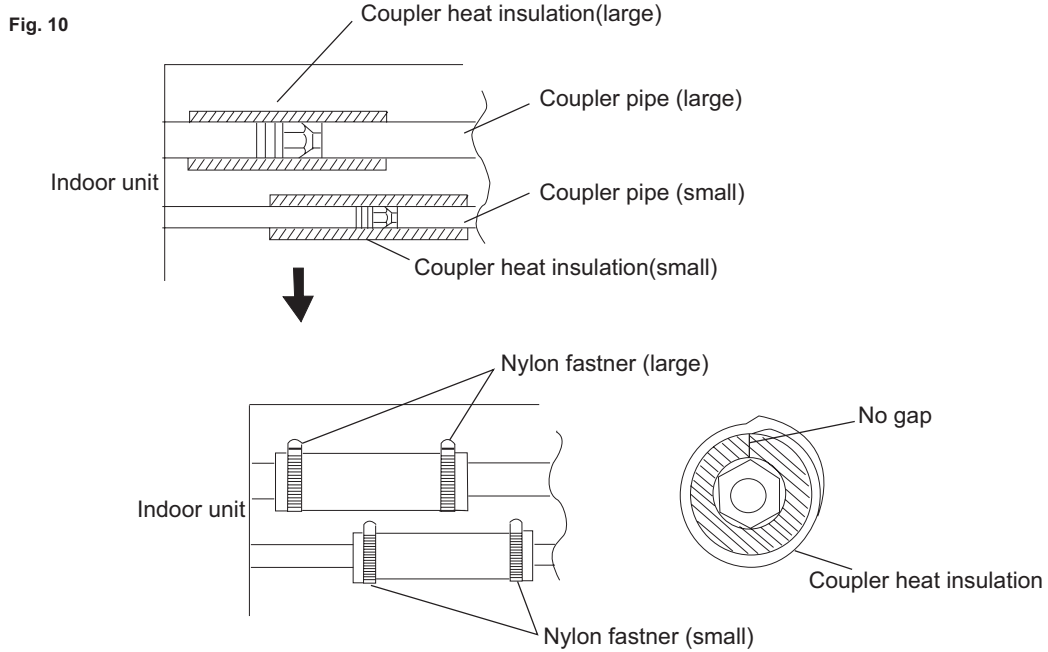
**In order to check the drainage, be sure to use a level during installation of the indoor unit. If the installation site of the indoor unit is not level, water leakage may occur**

### INSTALLING THE COUPLER HEAT INSULATION

After checking for gas leaks, insulate by wrapping insulation around the two parts (large and small) of the indoor unit coupler, using the coupler heat insulation.

After installing the coupler heat insulation, wrap both ends with vinyl tape so that there is no gap.

Secure both ends of the heat insulation material using nylon fasteners.



When using an auxiliary pipe, make sure that the fastener used is insulated in the same way.

### DRAIN PIPING

Install the drain pipe with downward gradient (1/50 to 1/100) and so there are no rises or traps in the pipe.

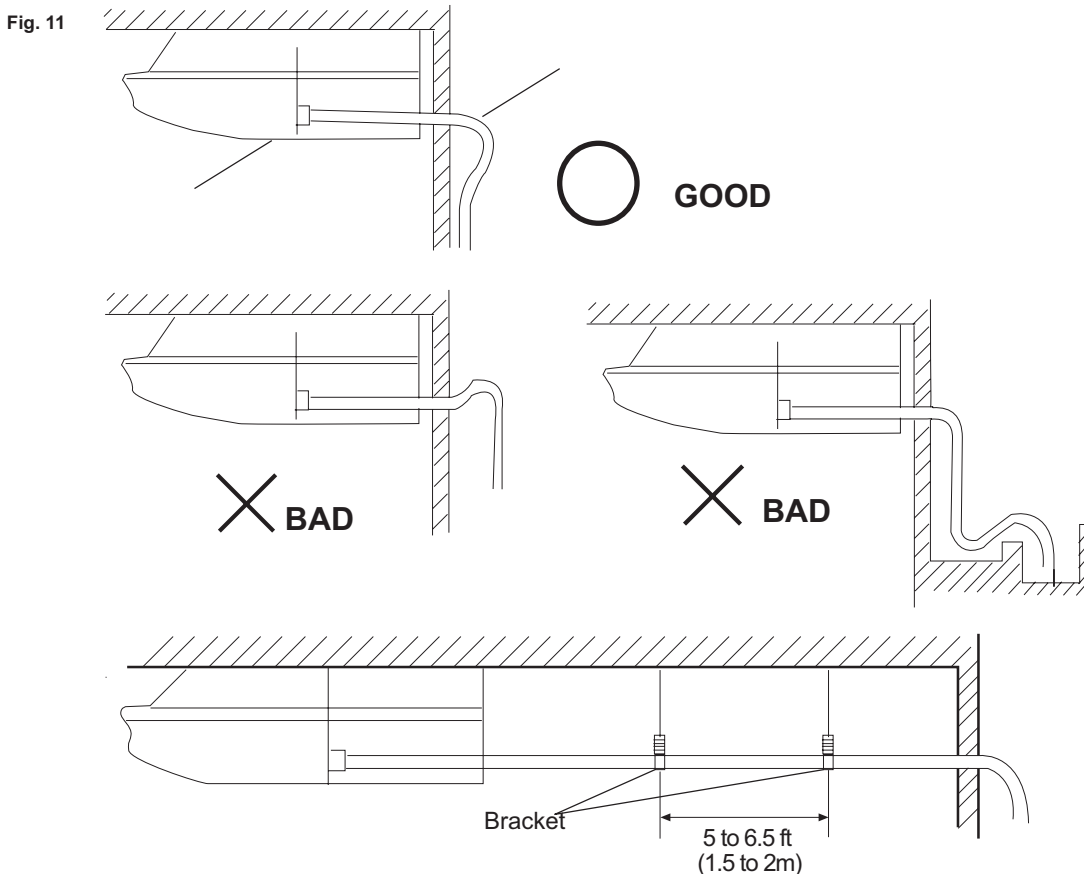
Use general hard polyvinyl chloride pipe (VP25)[outside diameter 38 mm.]

During installation of the drain pipe, be careful to avoid applying pressure to the drain point of the unit.

When the pipe is long, install supporters (Fig 11).

Do not perform air bleeding.

Always heat insulate (8mm or over thick) the indoor side of the drain pipe.



(1) Install insulation for the drain pipe.(See Fig.12 and 13)

Cut the included insulation material to an appropriate size and adhere it to the pipe.

Fig. 12

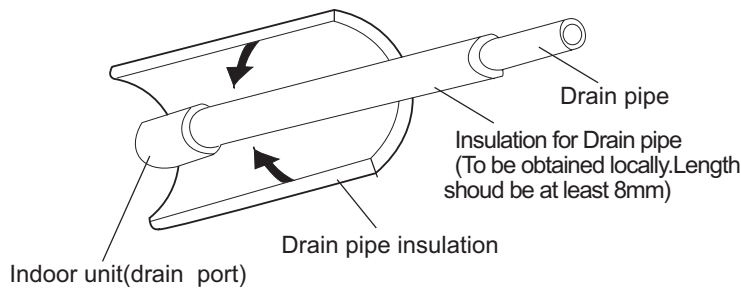
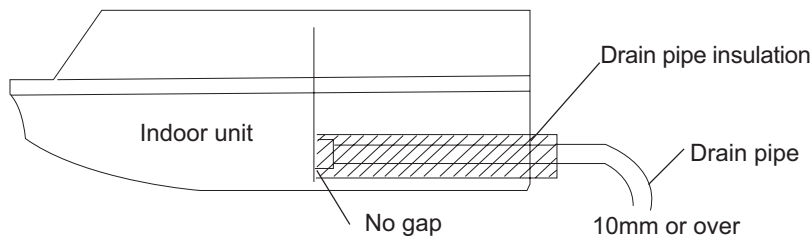
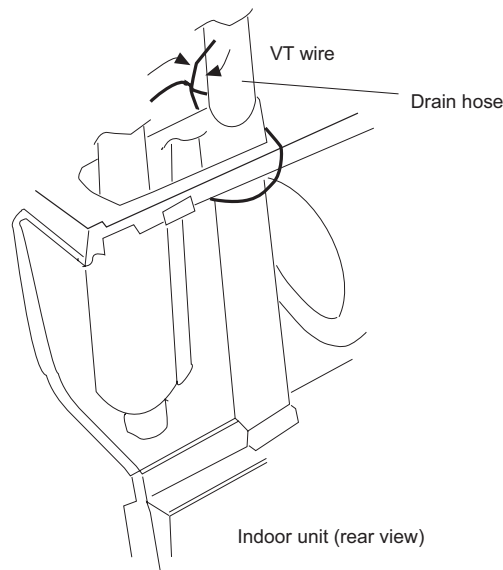


Fig. 13



(2) If "Right rear piping ":fasten the drain pipe with VT wires so that the pipe slopes correctly within the indoor unit.

Fig. 14



## ELECTRICAL WIRING

### HOW TO CONNECT WIRING TO THE TERMINALS

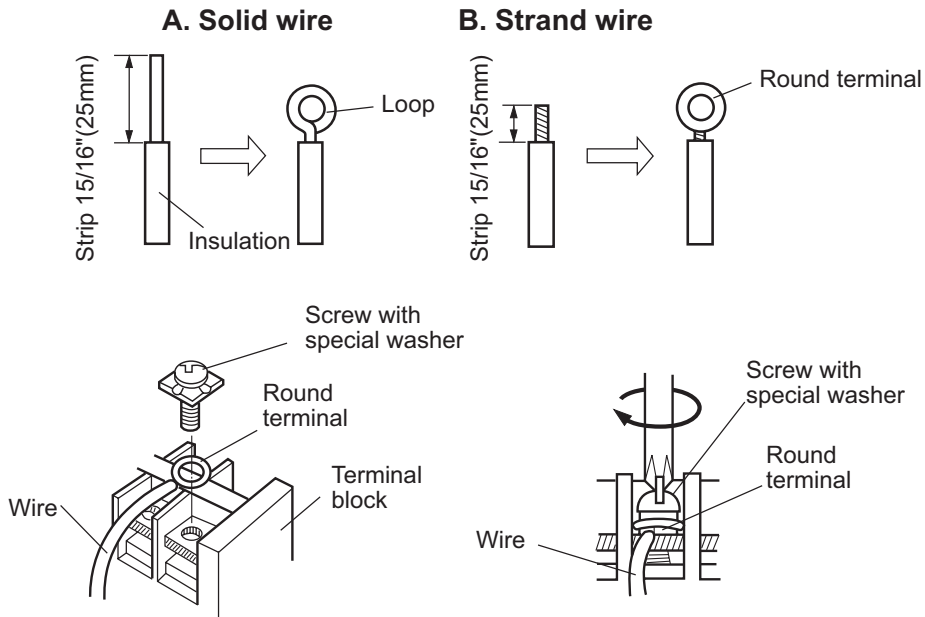
#### A.For solid core wiring (or F-cable)

- (1)Cut the wire and with a wire cutter or wire-cutting pliers,then strip the insulation to about 15/16"(25mm) of expose the solid wire.
- (2)Using a screwdriver ,remove the terminal screw(s) on the terminal board.
- (3)Using pliers,bend the solid wire to form a loop suitable for the terminal screw.

#### B.For strand wiring

- (1)Cut the wire and with a wire cutter or wire-cutting pliers,then strip the insulation to about 3/8"(10mm) of expose the solid wire.
- (2)Using a screwdriver ,remove the terminal screw(s) on the terminal board.

Fig. 15



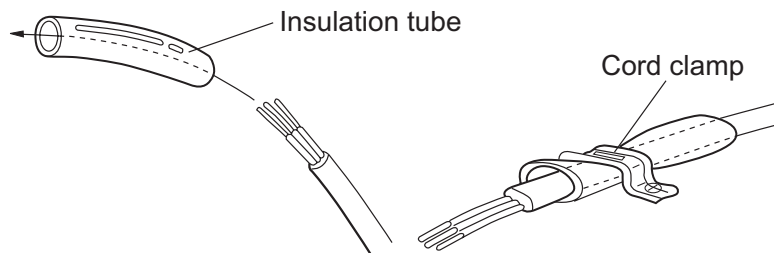
### HOW TO FIX CONNECTION CORD AND POWER CABLE AT THE CORD CLAMP

After passing the connection cord and power cable through the insulation tube, fasten it with the cord clamp, as shown in Fig.16

### ELECTRICAL REQUIREMENT

- Electric wire size and fuse capacity:

Fig. 16



Use VW-1, 0.5 to 1.0 mm thick, PVC tube as the insulation tube.

### ⚠ CAUTION

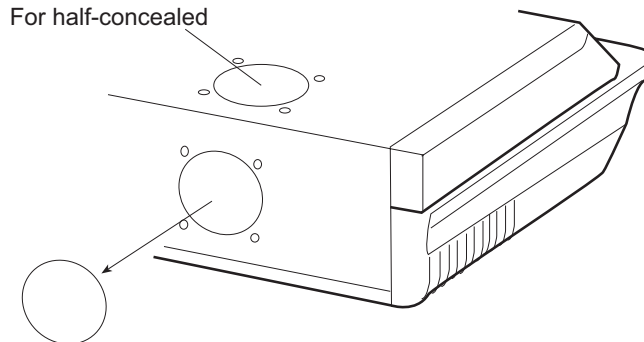
- (1) Match the terminal block numbers and connection cord colors with those of the outdoor unit. Erroneous wiring may cause burning of the electric parts.
- (2) Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire.
- (3) Always fasten the outside covering of the connection cord with the cord clamp. (If the insulator is chafed, electric leakage may occur.)
- (4) Always connect the ground wire.



### FRESH-AIR INTAKE

(1) Take away the knockout hole for the fresh-air intake, as shown in Fig.17. (If using half-concealed installation, take down the top knockout hole instead)

Fig. 17



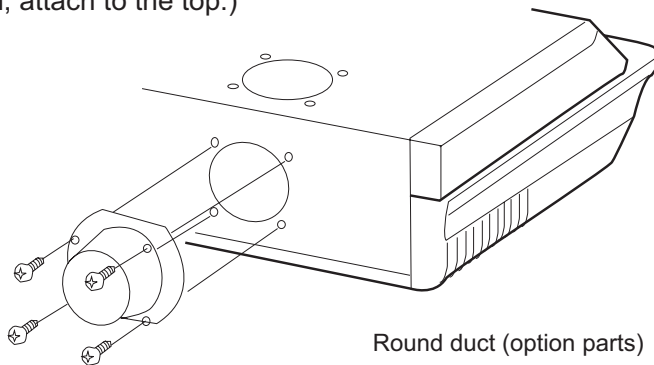
#### **CAUTION**

(1) When removing the cabinet (iron plate), be careful not to damage the indoor unit internal parts and surrounding area (outer case).

(2) When processing the cabinet (iron plate), be careful not to injure yourself with burrs, etc.

(2) Fasten the round flange (optional) to the fresh air intake, as shown in Fig.18. (If using half-concealed installation, attach to the top.)

Fig. 18

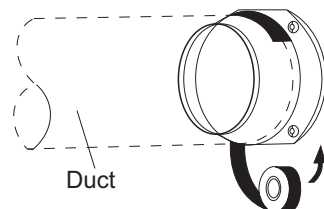


#### **[After completing "INDOOR UNIT INSTALLATION"....]**

(3) Connect the duct to the round flange.

(4) Seal with a band and vinyl tape, etc. so that air does not leak from the connection.

Fig. 19



### CONNECTION CORDS

(1) Remove the cord clamp.

(2) Put the end of the connection cords to the positions shown in Fig.20.

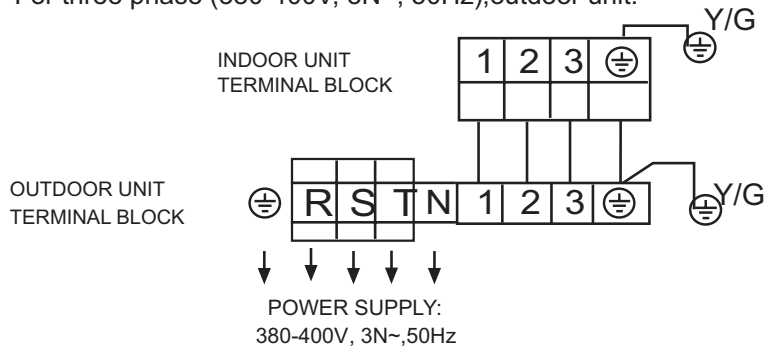
(3) Connect the end of the connection cord fully into the terminal block.

(4) Fasten the connection cord with a cord clamp.

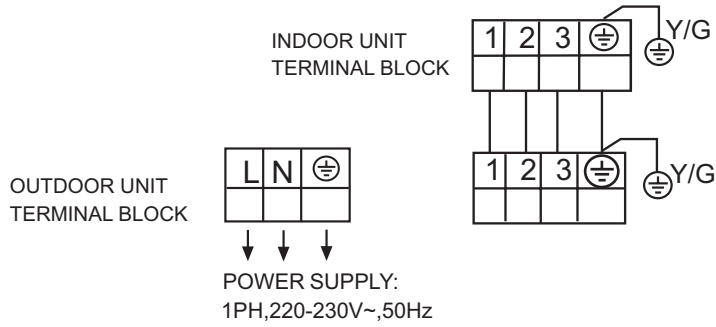
(5) Fasten the end of the connection cord with the screw.

(6) For series 28,36,42,52, the power cable and connecting cable are self-provided.

Fig. 20 For three phase (380-400V, 3N~, 50Hz), outdoor unit.



For single phase (1PH, 220-230V~, 50Hz), outdoor unit.



## 6.4 Ceiling concealed duct indoor unit (AD18-AD24)

### Installation space

The indoor unit shall be installed at locations where cold and hot air could evenly circulated.

The following locations should be avoided:

Places with rich salt (seaside area).

Places with plenty of gas sulfides (mainly in warm spring areas where the copper tube and braze weld is easy to corrosion).

Locations with much oil (including mechanical oil) and steam.

Locations using organic solvents.

Places where there are machines generating HF electromagnetic waves.

Positions adjacent to door or window in contact with high-humidity external air. (Easy to generate dew).

Locations frequently using special aerosols.

### The following points should be taken care of:

1. Select suitable places the outlet air can be sent to the entire room, and convenient to lay out the connection pipe, connection wire and the drainage pipe to outdoor.
2. The ceiling structure must be strong enough to support the unit weight.
3. The connecting pipe, drain pipe and connection wire shall be able to go through the building wall to connect between the indoor and outdoor units.
4. The connecting pipe between the indoor and outdoor units as well as the drain pipe shall be as short as possible. (See Figure 1)
5. If its necessary to adjust the filling amount of the refrigerant, please refer to the installation manual attached with the outdoor unit.
6. The connecting flange should be provided by the user himself.
7. The indoor unit has two water outlets one of which is obstructed at the factory (with a rubber cap). Only the outlet not obstructed (liquid inlet and outlet side) will be generally used during installation. If applicable, both the outlets should be used together.

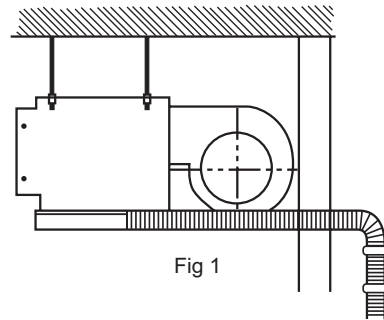


Fig 1

Note: The access hole must be provided during installation of indoor unit for maintenance.

### After selecting the installation space, proceed the following steps:

1. Drill a hole in the wall and insert the connecting pipe and wire through a PVC wall-through tube purchased locally. The wall hole shall be with a outward down slope of at least 1/100. (See Figure 2)
2. Before drilling check that there is no pipe or reinforcing bar just behind the drilling position. Drilling shall avoid at positions with electric wire or pipe.
3. Mount the unit on a strong and horizontal building roof. If the base is not firm, it will cause noise, vibration or leakage.
4. Support the unit firmly.
5. Change the form of the connection pipe, connection wire and drain pipe so that they can go through the wall hole easily.

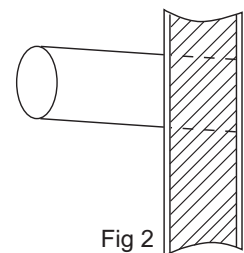
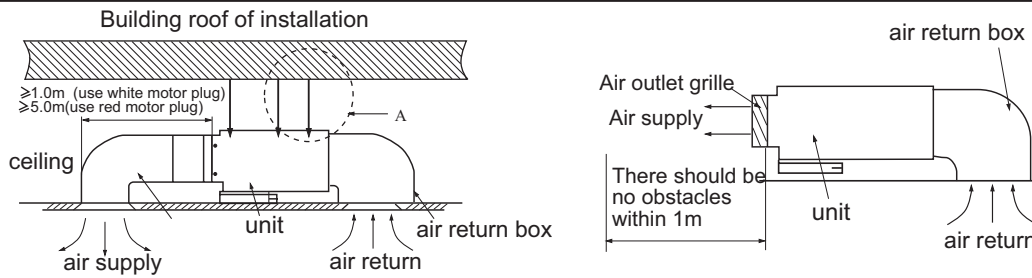
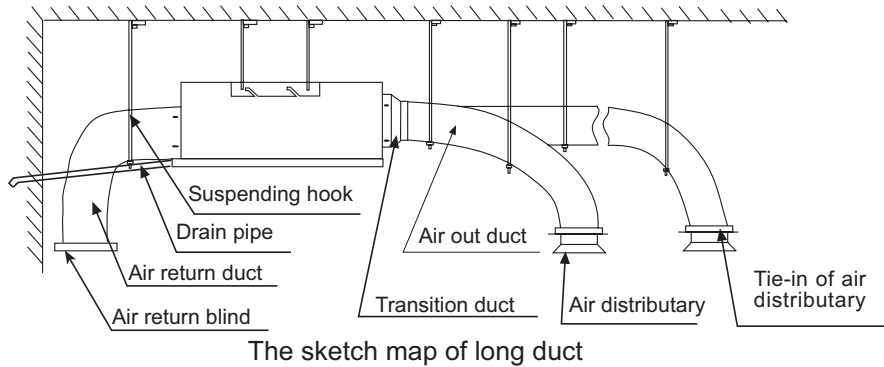


Fig 2

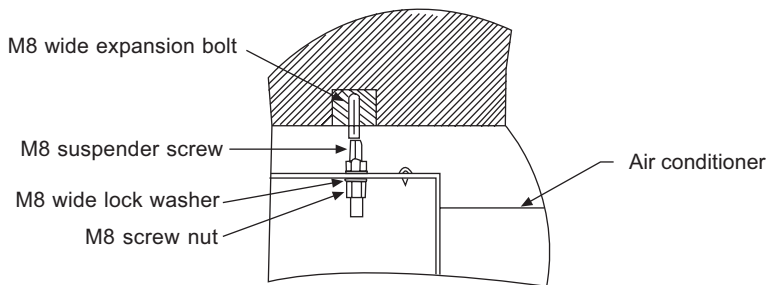
- Each of the air sending duct and air return duct shall be fixed on the prefabricated panel of the floor by the iron bracket.
- The recommended distance between the edge of the air return duct and the wall is over 150mm.
- The gradient of the condensate water pipe shall keep over 1%.
- The condensate water pipe shall be thermal insulated.
- When installing the ceiling Concealed type indoor unit, the air return duct must be designed and installed (as figure shown).



Note: When connecting the short ducts, use the low static terminals, which color is white.  
The distance L from the air outlet of the duct to the air outlet of the air conditioner shall be no more than 1 m.



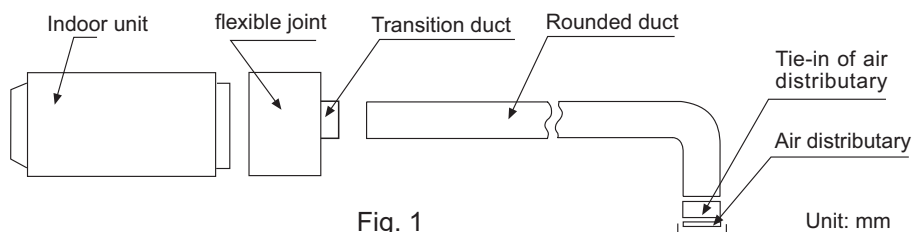
Note: When connecting the long ducts, use the middle static terminals, which color is red.  
The distance L from the air outlet of the duct to the air outlet of the air conditioner shall be no more than 5 m.



### Installation of indoor unit duct

#### 1. Installation of air sending duct

- This unit uses rounded duct, the diameter of the duct is 180mm.
- The round duct needs to add a transition duct to connect with the air-sending duct of indoor unit, then connect with respective separator. As Fig. 1 shown, all the fan speed of any of the separator's air outlet shall be adjusted approximately the same to meet the requirement for the room air conditioner.



#### 2. Installation of air return duct

- Use rivet to connect the air return duct on the air return inlet of the indoor unit, then connect the other end with the air return blind. As Fig. 2 shown.

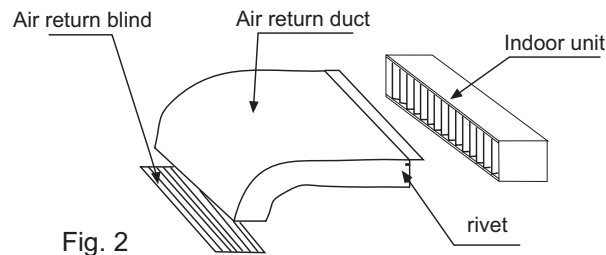


Fig. 2

### 3 Thermal insulation of duct

- Air-sending duct and air return duct shall be thermally insulated. First stick the gluey nail on the duct, then attach the heat preservation cotton with a layer of tinfoil paper and use the gluey nail cap to fix. Finally use the tinfoil adhesive tape to seal the connected part. As Fig. 3 shown.

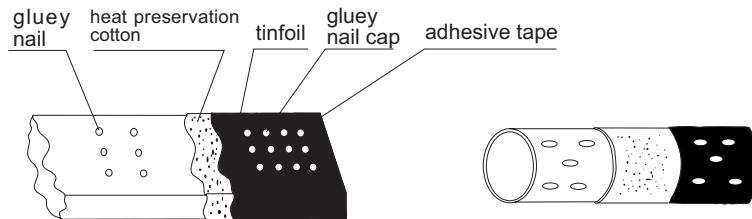


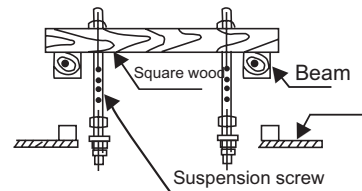
Fig. 3

#### Installing the suspension screw:

Use M8 or M10 suspension screws (4, prepared in the field) (when the suspension screw height exceeds 0.9m, M10 size is the only choice). These screws shall be installed as follows with space adapting to air conditioner overall dimensions according to the original building structures.

#### Wooden structure

A square wood shall be supported by the beams and then set the suspension screws.



#### New concrete slab

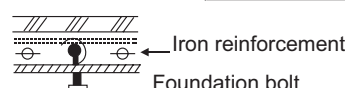
To set with embedded parts, foundation bolts etc.



Knife embedded part



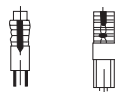
Guide plate embedded part



Pipe suspension foundation bolt

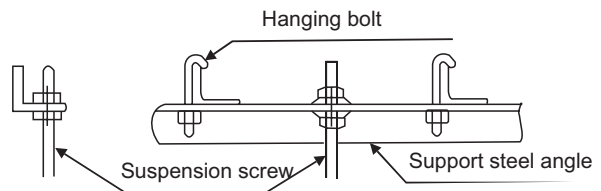
#### Original concrete slab

Use hole hinge, hole plunger or hole bolt.



#### Steel reinforcement structure

Use steel angle or new support steel angle directly.



#### Hanging of the indoor unit

Fasten the nut on the suspension screw and then hang the suspension screw in the T slot of the suspension part of the unit. Aided with a level meter, adjust level of the unit within 5mm.

#### ⚠ Caution

In order to drain water normally, the drain pipe shall be processed as specified in the installation manual and shall be heat insulated to avoid dew generation. Improper hose connection may cause indoor water leakage.

### Pipe material and size

Type	Pipe material	Phosphorus deoxidized copper seamless pipe (TP2M) for air conditioner	
For series 182	Pipe size (mm)	Gas side	12.70
		Liquid side	6.35
For series 242	Pipe size (mm)	Gas side	15.88
		Liquid side	9.52

### Supplementary refrigerant

The refrigerant supplementation shall be as specified in the installation instructions attached with the outdoor unit.

The adding procedure shall be aided with a measuring meter for a specified amount of supplemented refrigerant.

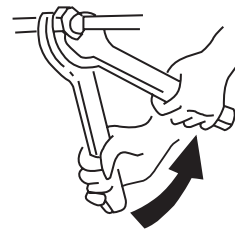
### Requirement

- Overfilling or underfilling of refrigerant will cause compressor fault. The amount of the added refrigerant shall be as specified in the instructions.

### Connection of refrigerant pipe

Conduct flared connection work to connect all refrigerant pipes.

- The connection of indoor unit pipes must use double spanners.
- The installing torque shall be as given in the following table.
- Wall thickness of connection pipe \* 0.8mm



Double-spanner operation

Connecting pipe O.D.(mm)	Installing torque (N-m)
6.35	11.8 (1.2kgf-m)
9.52	24.5 (2.5 kgf-m)
12.70	49.0 (5.0 kgf-m)
15.88	78.4 (8.0 kgf-m)

### Vacuum pumping

With a vacuum pump, create vacuum from the stop valve of the outdoor unit.

Emptying with refrigerant sealed in the outdoor unit is absolutely forbidden.

### Open all valves

Open all the valves on the outdoor unit.

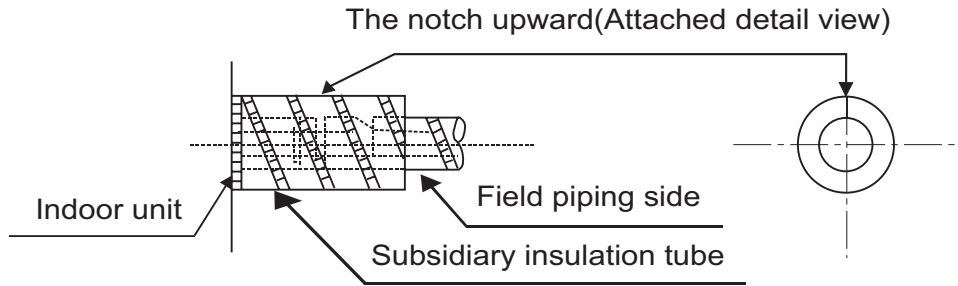
### Gas leakage detection

Check with a leakage detector or soap water that if there is gas leakage at the pipe connections and bonnets.

### Insulation treatment

Conduct insulation treatment on both the gas side and liquid side of pipes respectively. During cooling operation, both the liquid and gas sides are cold and thus shall be insulated so as to avoid dew generation.

- The insulating material at gas side shall be resistant to a temperature above 120 C
- The indoor unit pipe connection part shall be insulated.



### Electric wiring

#### ⚠ WARNING

**DANGER OF BODILY INJURY OR DEATH**  
 TURN OFF ELECTRIC POWER AT CIRCUIT BREAKER OR POWER SOURCE BEFORE MAKING ANY ELECTRIC CONNECTIONS. GROUND CONNECTIONS MUST BE COMPLETED BEFORE MAKING LINE VOLTAGE CONNECTIONS.

#### (1) Selection of size of power supply and interconnecting

##### Precautions for Electric wiring

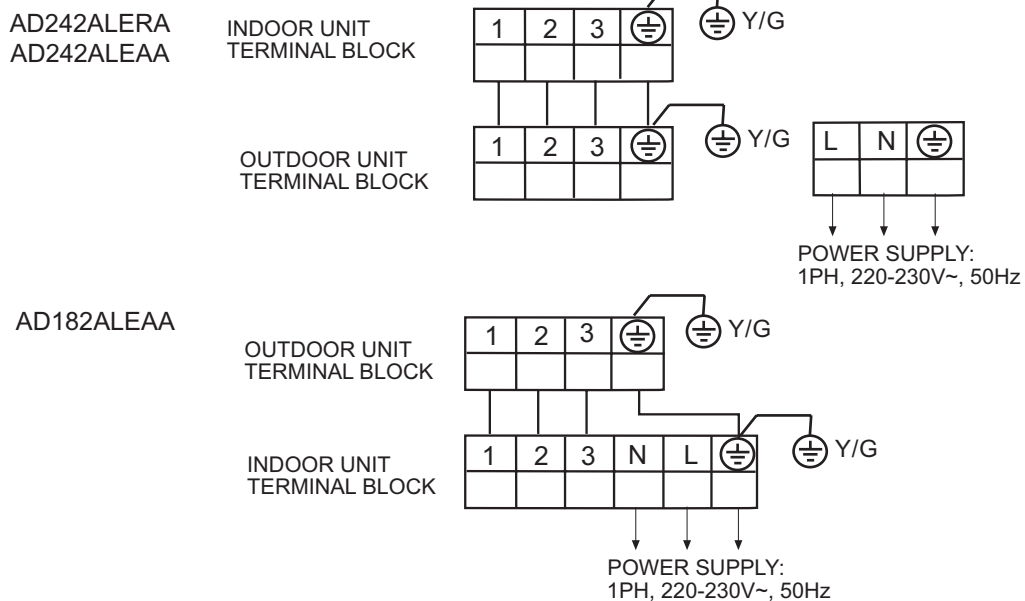
- Electric wiring work should be conducted only by authorized personnel.
- Do not connect more than three wires to the terminal block. Always use round type crimped terminal lugs with insulated grip on the ends of the wires.
- Use copper conductor only.

Select wire sizes and circuit protection from table below. (This table shows 20 m length wires with less than 2% voltage drop.)

Item	Phase	Circuit breaker		Power source wire size	Earth leakage breaker	
		Switch breaker (A)	Overcurrent protector		Switch break	Leak curren
For series 182	1	40	26	2.5mm <sup>2</sup>	40A	30mA
For series 242	1	40	26	4.0mm <sup>2</sup>	40A	30mA

#### (2) Wiring connection

Make wiring to supply power to the outdoor unit, so that the power for the indoor unit is supplied by terminals.



## 6.5 Med ESP duct indoor unit (AD18-AD48)

### Safety precautions of indoor unit

- Please read these "Safety Precautions" firstly when performing the installation work.
- Though the precautionary points indicated herein are divided under two headings, 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 **⚠ CAUTION** section. However, there is also a possibility of serious consequences in relationship to the points listed in the **⚠ WARNING** 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 as 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 installation 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.
- When setting up or moving the location of the air conditioner, do not mix air etc. or anything other than the designated refrigerant (R407C) 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.

### ⚠ CAUTION

- Execute proper grounding. Do not connect the ground wire to a gas pipe, water pipe, lightning 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.



### Installation instruction of indoor unit

#### ⚠ NOTICE

All Wiring of this installation must comply with NATIONAL, STATE AND LOCAL REGULATIONS. These instructions do not cover all variations for every kind of installation circumstance. Should further

#### ⚠ WARNING

BE SURE TO READ THESE INSTRUCTIONS CAREFULLY BEFORE BEGINNING INSTALLATION. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD CAUSE SERIOUS INJURY OR DEATH, EQUIPMENT

#### (1) Preparation of indoor

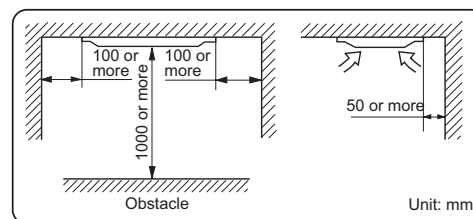
Before or during the installation of the unit, assemble necessary optional panel etc. depending on the specific type.

#### (2) Select places for installation satisfying following conditions and at the same time obtain the consent on the part of your client user.

- (a) Places where chilled or heated air circulates freely.  
When the installation height exceeds 3m warmed air stays close to the ceiling. In such cases, suggest your client users to install air circulators.
- (b) Places where perfect drainage can be prepared and sufficient drainage.
- (c) Places free from air disturbances to the suction port and blowout hole of the indoor unit, places where the fire alarm may not malfunction or short-circuit.
- (d) Places with the environmental dew-point temperature is lower than 28°C and the relative humidity is less than 80 %. (When installing at a place under a high humidity environment, pay sufficient attention to the prevention of dewing such as thermal insulation of the unit. )
- (e) Ceiling height shall have the following height.

	AD48**	AD18** AD36** AD24** AD28**
Combination with silent panel	416mm	366mm

#### • Installation space



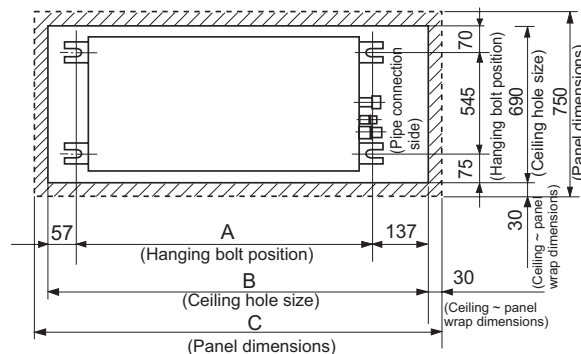
#### (3) Avoid installation and use at those places

- (a) Places exposed to oil splashes or steam (e.g. kitchens and machine plants).  
Installation and use at such places incur deteriorations in the performance or corrosion with the heat exchanger or damage in molded synthetic resin parts.
- (b) Places where corrosive gas (such as sulfurous acid gas) or inflammable gas (thinner, gasoline, etc) in generated or remains. Installation and use at such places cause corrosion in the heat exchanger and damage in molded synthetic resin parts.
- (c) Places adjacent to equipment generating electromagnetic waves or high-frequency waves such as in hospitals.  
Generated noise may cause malfunctioning of the controller.

#### (4) Preparation for suspending the

##### (a) Size of hole at ceiling and position of

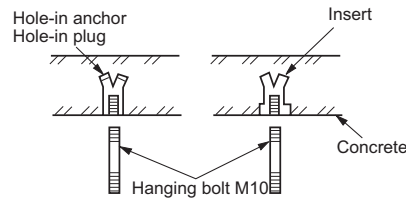
<Combination with silent panel>



Model \ Dimensions	A	B	C
For series 182 242 282 362	1000	1180	1240
For series 482	1406	1600	1660

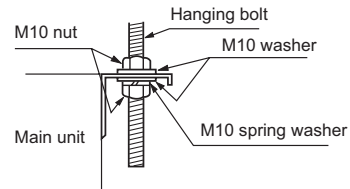
### (b) Hanger bolts installation

- Use care of the piping direction when the unit is installed.



### (5) Installation of indoor unit

- Fix the indoor unit to the hanger bolts.



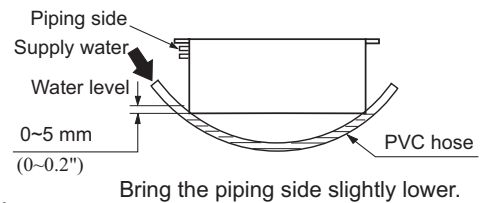
#### Note

When the dimensions of main unit and ceiling holes does not match, it can be adjusted with the slot holes of hanging bracket.

#### Adjusting to the levelness

(a) Adjust the out-of levelness using a level or by the following method.

- Make adjustment so that the relation between the lower surface of the unit proper and water level in the hose becomes as given below.



(b) Unless the adjustment to the levelness is made properly, malfunctioning or failure of the float switch may occur.

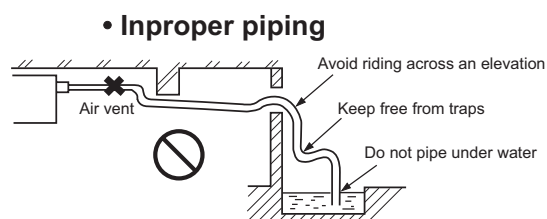
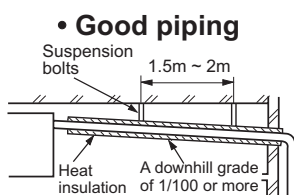
#### Tap selection on blower (When the high performance filter is used.)

Taps of blower unit are set at the standard selection at the shipping from factory. Where the static pressure is raised by employing such option as the high performance filter, etc., change the connection of connectors provided at the flank of control box as shown below.

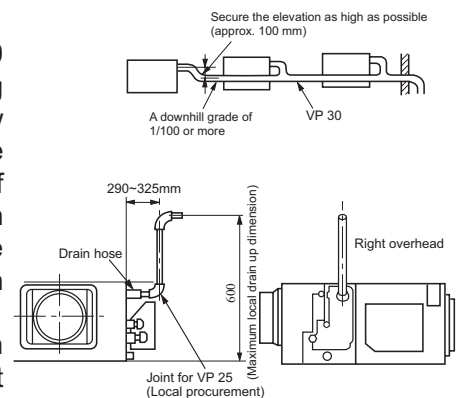
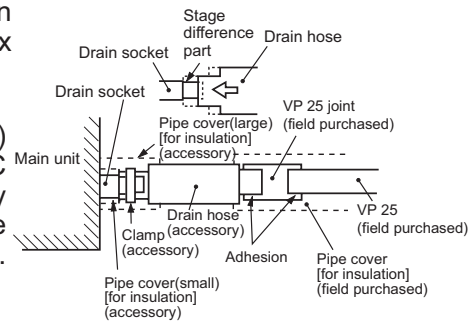
Standard tap (at shipping)				High speed tap				
Control box side	White	Connector white	White	White	Red	Black	Motor side	
	Blue			Blue				White
	Yellow			Yellow				Blue
	Red			Red				Red

### (6) Drain

(a) Drain piping should always be in a downhill grade (1/50~1/100) and avoid riding across an elevation



- (b) When connecting the drain pipe to unit, pay sufficient attention not to apply excess force to the piping on the unit side. Also, fix the piping at a point as close as possible to the unit.
- (c) For drain pipe, use hard PVC general purpose pipe VP-25(1.1D.1") which can be purchased locally. When connecting, insert a PVC pipe end securely into the drain socket before tightening securely using the attached drain hose and clamp. Adhesive must not be used connection of the drain socket and drain hose (accessory).
- (d) When constructing drain piping for several units, position the common pipe about 100 mm below the drain outlet of each unit as shown in the sketch. Use VP-30(1 1/4") or thicker pipe for this purpose.
- (e) Be sure to provide heat insulation to hard PVC pipes of indoor placement.
- (f) Do not ever provide an air vent.
- (g) The height of the drain head can be elevated up to a point 500 mm above the ceiling, and when an obstacle exists in the ceiling space, elevate the piping to avoid the obstacle using an elbow or corresponding gadget. When doing this, if the stretch for the needed height is higher than 500 mm, the back-flow quantity of drain at the event of interruption of the operation gets too much and it may cause overflow at the drain pan. Therefore, make the height of the drain pipe within the distance given in the sketch below.
- (h) Avoid positioning the drain piping outlet at a place where generation of odor may be stimulated. Do not lead the drain piping direct into a sewer from where sulfur gas may generate.

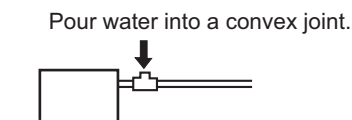
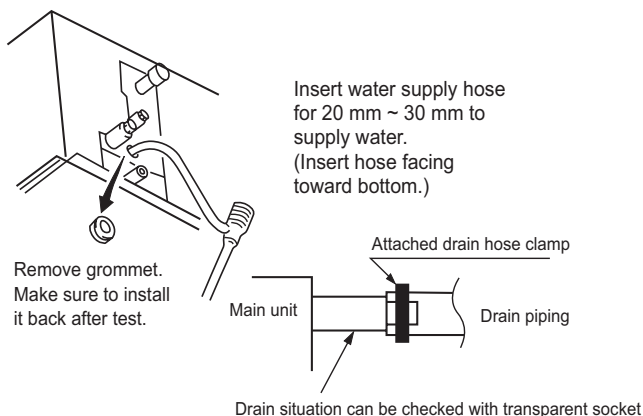


### Drainage

- ① Conduct a drainage test after completion of the electrical work.
- ② During the trial, make sure that drain flows properly through the piping and that no water leaks from connections.
- ③ In case of a new building, conduct the test before it is furnished with the ceiling.
- ④ Be sure to conduct this test even when the unit is installed in the heating season.

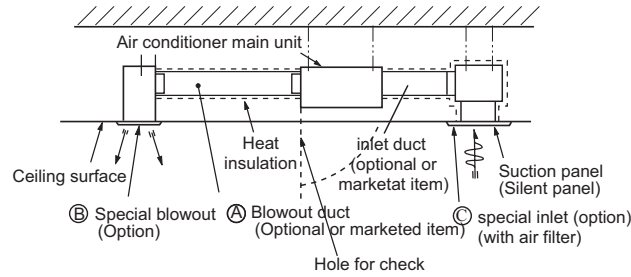
### Procedures

- ① Supply about 1000 cc of water to the unit through the air outlet using a feed water pump.
- ② Check the drain while cooling operation.



(In the electrical work has not been completed, connect a convex joint in the drain pipe connection to provide a water inlet. Then, check if water leaks from the piping system and that drain flows through the drain pipe normally.)

### (7) Installation work for air outlet ducts



Calculate the draft and external static pressure and select the length, shape and blowout.

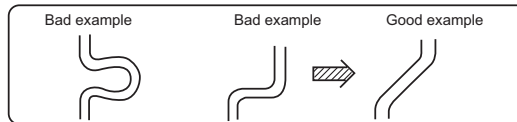
#### (A) Blowout duct

- 2-spot, 3-spot and 4-spot with  $\phi$  200 type duct are the standard specifications. Determine the number of spots based on following table.

Note (1) Shield the central blowout hole for 2-spot.

(2) Shield the blowout hole around the center for 3-spot.

- Limit the difference in length between spots at less than 2:1.
- Reduce the length of duct as much as possible.
- Reduce the number of bends as much as possible. (Corner R should be as larger as possible.)



- Use a band, etc. to connect the main unit and the blowout duct flange.
- Conduct the duct installation work before finishing the ceiling.

### (8) Connection of suction, exhaust ducts

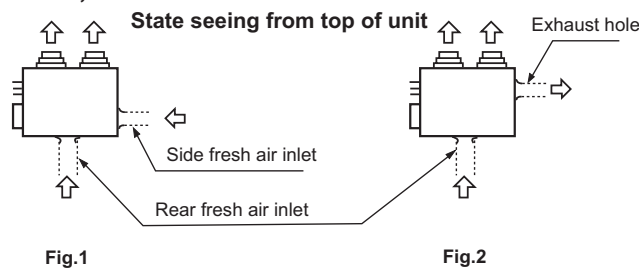


Fig.1

Fig.2

#### (a) Duct connection position

##### i) Fresh air inlet

- Inlet can be selected from the side or rear faces depending on the working conditions.
- Use the rear fresh air inlet when the simultaneous intake and exhaust is conducted. (Side inlet cannot be used.)

##### ii) Exhaust (Make sure to use also the suction.)

Use the side exhaust port.

### Electric wiring

#### ⚠ WARNING

DANGER OF BODILY INJURY OR DEATH  
TURN OFF ELECTRIC POWER AT CIRCUIT BREAKER OR POWER SOURCE BEFORE MAKING ANY ELECTRIC CONNECTIONS. GROUND CONNECTIONS MUST BE COMPLETED BEFORE MAKING LINE VOLTAGE CONNECTIONS.

#### (1) Selection of size of power supply and interconnecting

##### Precautions for Electric wiring

- Electric wiring work should be conducted only by authorized personnel.
- Do not connect more than three wires to the terminal block. Always use round type crimped terminal lugs with insulated grip on the ends of the wires.
- Use copper conductor only.

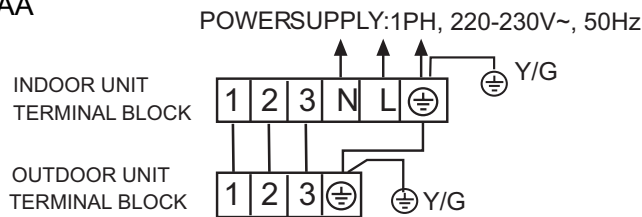
Select wire sizes and circuit protection from table below. (This table shows 20 m length wires with less than 2% voltage drop.)

Item Model	Phase	Circuit breaker		Power source wire size (minimum)	Earth leakage breaker	
		Switch breaker (A)	Overcurrent protector		Switch breaker(A)	Leak current(mA)
For series 182	1	40	26	2.5	40	30
For series 242	1	40	26	4.0	40	30
For series 282 362	1	40	26	6.0	40	30
For series 282 362 482	3	30	20	2.5	30	30

### (2) Wiring connection

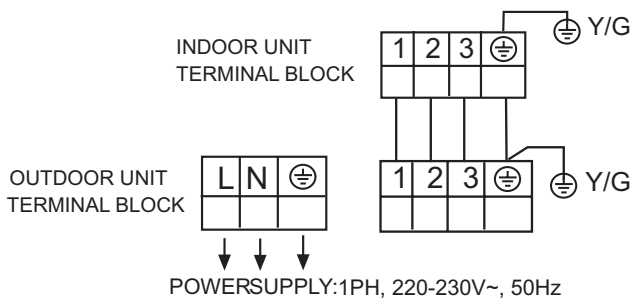
Make wiring to supply power to the indoor unit, so that the power for the outdoor unit is supplied by terminals.

For AD182AMEAA

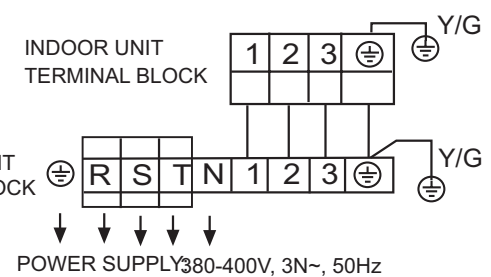


Make wiring to supply power to the outdoor unit, so that the power for the indoor unit is supplied by terminals.

For series 242 282 362 and AD182AMERA



For series 282 362 422 482



### 6.6 High ESP duct indoor unit (AD28-AD60)

#### 1. Before installation [Before finishing installation, do not throw the attached parts installation needs]

- Confirm the way to move the unit to the installation place.
- Before moving the unit to the installation place, do not remove their packages.  
When have to remove the package, use a soft material or protection board with rope to lift the unit assembly to avoid unit damage or bumping a scrape.

#### 2. Choose installation place

##### (1) The chosen installation place should meet the following requirements and get the user's consent.

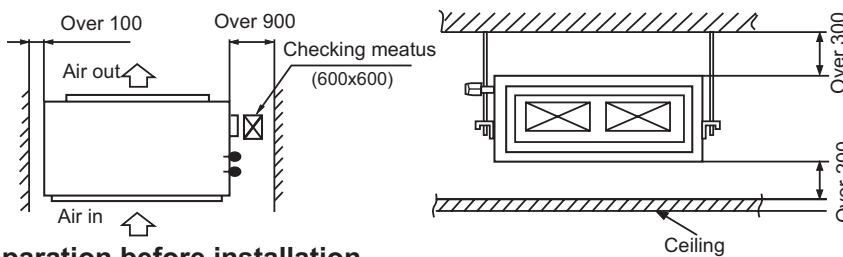
- Place ensures ideal airflow distribution.
- The passage of airflow has no obstacles.
- When importing outside air, it should be imported directly from outdoors. (if the pipe can not be extended, it also can not be imported from top)
- Place ensures enough space for maintenance.
- The pipe length between indoor and outdoor unit is in the permitted limit (referring to outdoor unit installation part).
- The indoor unit, outdoor unit, electric wire and connection wire is at least 1m away from television and radio. This is to avoid the image disturbance and noise caused by the above-mentioned home appliance. (Even if 1m away, if the electromagnetic wave is too strong, it can also cause noise.)

##### (2) The height of ceiling

- The indoor unit can install on the ceiling, which height is no more than 3m.

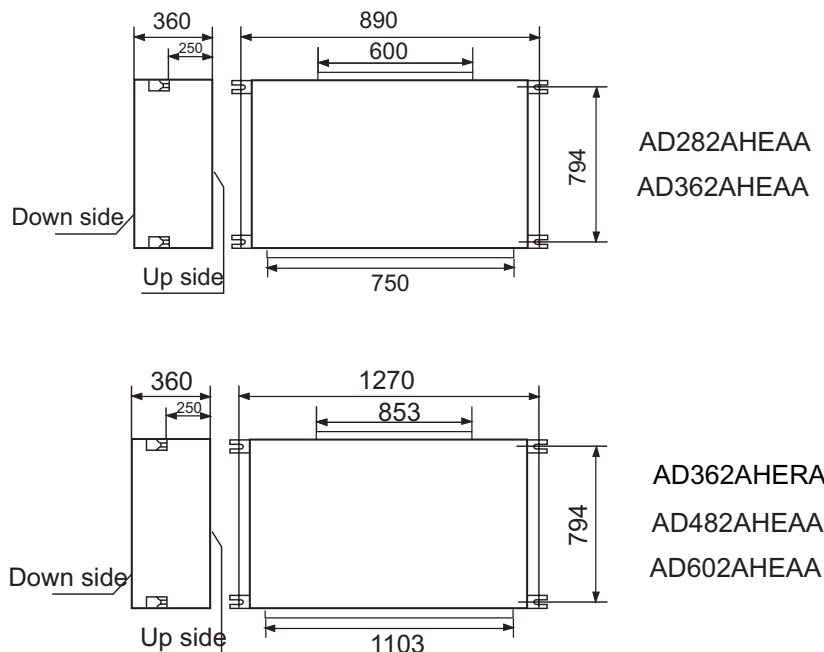
##### (3) Install and use the hoisting screw. Check if the installation place can bear the weight of unit assembly.

- If not certain, strengthen it before install the unit.



#### 3. Preparation before installation

##### (1) The position relation among hoisting screw (unit: mm)



### (2) If necessary, cut the opening installation and checking needed on the ceiling. (If has ceiling)

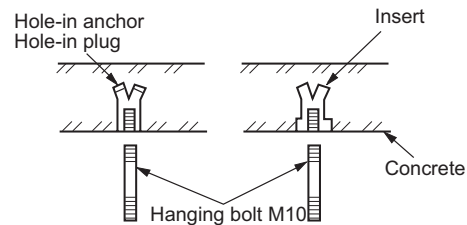
- Before installation, finish the preparation work of all the pipes (refrigerant, drainage) and wire (wire controller connection wire, indoor and outdoor unit connection wire) of indoor unit, so that after installation, they can be immediately connected with outdoor unit.
- Cut the opening on the ceiling. Maybe it needs to strengthen the ceiling to keep the ceiling even and flat and prevent the ceiling from vibration. For details, please consult to the builder.

### (3) Hanger bolts installation

- Use care of the piping direction when the unit is installed.  
(Use M10 screw bolt)

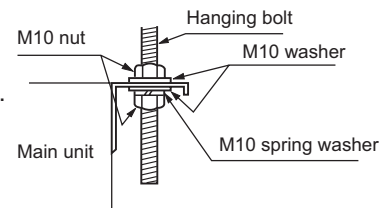
In order to bear the weight of the unit, for existed ceiling, using foundation screw bolt, for new ceiling, using burying embedded screw bolt, burying screw bolt or spot supplied other parts.

Before going on installation, adjust the gaps with ceiling.



### 4. Installation of indoor unit

- Fix the indoor unit to the hanger bolts.  
If required, it is possible to suspend the unit to the beam, etc.  
Directly by use of the bolts without using the hanger bolts.

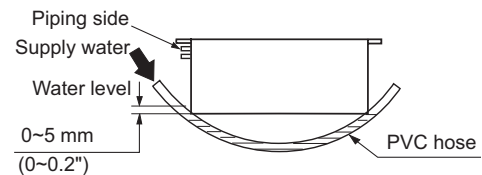


#### Note

When the dimensions of main unit and ceiling holes does not match, it can be adjusted with the slot holes of hanging bracket.

#### Adjusting to the levelness

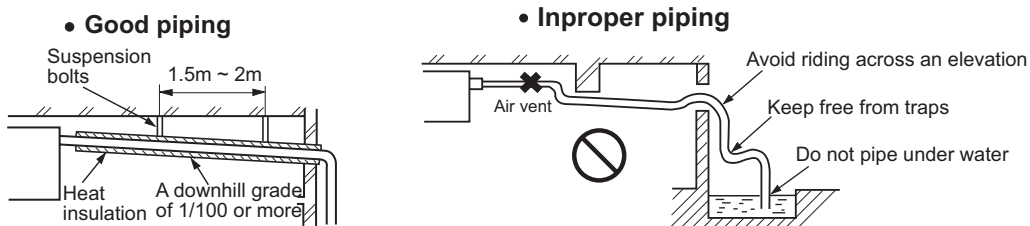
- Adjust the out-of levelness using a level or by the following method.
- Make adjustment so that the relation between the lower surface of the unit proper and water level in the hose becomes as given below.



- Unless the adjustment to the levelness is made properly, malfunctioning or failure of the float switch may occur.

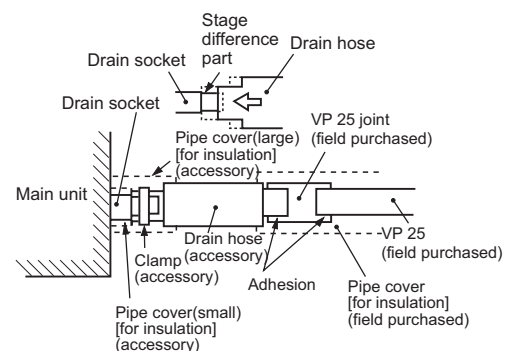
### 5. Drain Piping

- Drain piping should always be in a downhill grade (1/50~1/100) and avoid riding across an elevation or making traps.

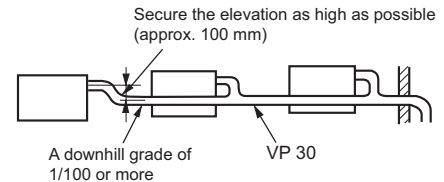


- When connecting the drain pipe to unit, pay sufficient attention not to apply excess force to the piping on the unit side. Also, fix the piping at a point as close as possible to the unit.

- For drain pipe, use hard PVC general purpose pipe VP-25(I.D.1") which can be purchased locally. When connecting, insert a PVC pipe end securely into the drain socket before tightening securely using the attached drain hose and clamp. Adhesive must not be used connection of the drain socket and drain hose (accessory).



(d) When constructing drain piping for several units, position the common pipe about 100 mm below the drain outlet of each unit as shown in the sketch. Use VP-30(1 1/4") or thicker pipe for this purpose.



(e) The stiff PVC pipe put indoor side should be heat insulated.

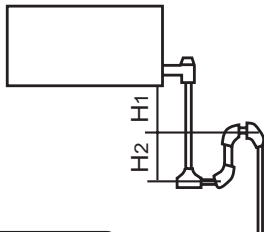
(f) Avoid putting the outlet of drain hose in the places with irritant gas generated. Do not insert the drain hose directly into drainage, where the gas with sulfur may be generated.

(g) Backwater bend

Because the drain spout is at the position, which negative pressure may occur. So with the rise of water level in the drain pan, water leakage may occur. In order to prevent water leakage, we designed a backwater bend.

The structure of backwater bend should be able to be cleaned. As the below figure shown, use T type joint. The backwater bend is set near the air conditioner.

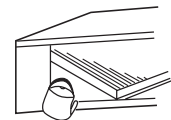
- As figure shown, set a backwater bend in the middle of drain hose.



H1=100mm or the static pressure of air sending motor  
H2=1/2H1 (or between 50~100mm)

### Drainage Test

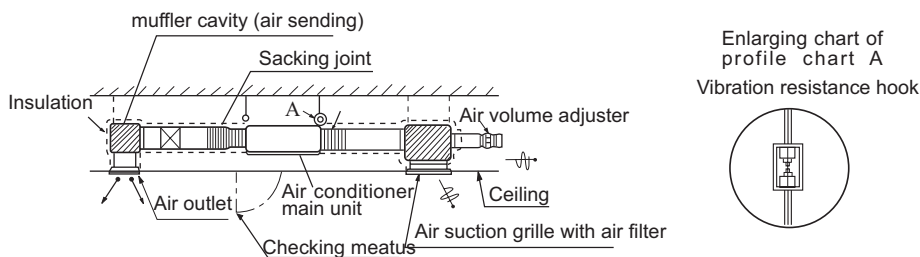
- ① Conduct a drainage test after completion of the electrical work.
- ② During the trial, make sure that drain flows properly through the piping and that no water leaks from connections.
- ③ In case of a new building, conduct the test before it is furnished with the ceiling.
- ④ Be sure to conduct this test even when the unit is installed in the heating season.



### Procedures

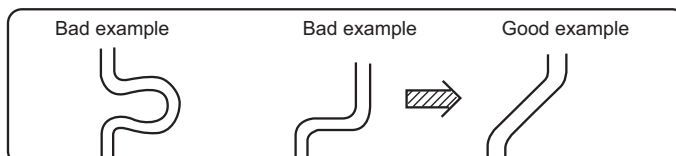
- ① Supply about 1000 cc of water to the unit through the air outlet using a feed water pump.
- ② Check the drain while cooling operation.

## 6. Installation of air suction and discharging duct



Please consult the after-sales service worker of Haier Air Conditioner for the choosing and installation of suction inlet, suction duct, discharging outlet and discharging duct. Calculating the design drawing and outer static pressure, and choose the discharging duct with proper length and shape.

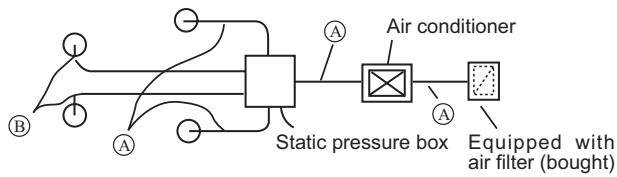
- The length difference among every duct is limited below 2:1.
- Reduce the length of duct as possible as can.
- Reduce the amount of bend as possible as can.
- Use heat insulation material to bind and seal the part connecting main unit and the flare part of air discharging duct. Perform duct installation work, before the ceiling fit.





### 7. Calculation method of the dimension of the simple quadrate air duct

Presuming the unit length friction impedance of the duct is 1Pa/m, when the dimension of one side of the air duct is fixed as 250mm, as shown below:



	AD362AHEAA AD482AHEAA AD602AHEAA		AD282AHEAA	
	Air volume	Duct(mmxmm)	Air volume	Duct(mmxmm)
(A)	2400m <sup>3</sup> /h (40m <sup>3</sup> /min)	250x560	1200m <sup>3</sup> /h (20m <sup>3</sup> /min)	250x310
(B)	600m <sup>3</sup> /h (10m <sup>3</sup> /min)	250x190	300m <sup>3</sup> /h (5m <sup>3</sup> /min)	250x120

#### • The calculation of duct resistance (the simple calculation is as follow table)

Straight part	Calculate as per 1m length 1Pa, 1Pa/m
Bend part	Each bend takes as a3~4m long straight duct
Air out part	Calculate as 25Pa
Static pressure box	Calculate as 50Pa/each
Air inlet grille (with air filter)	Calculate as 40Pa/each

#### • The chosen chart of simple duct

Note: 1Pa/m=0.1mmAg/m

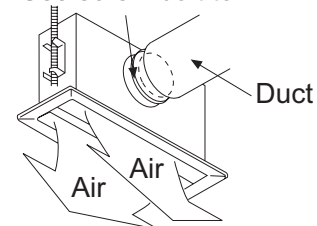
Shape Item Air volume	Square duct Dimension
m <sup>3</sup> /h(m <sup>3</sup> /n)	(mmxmm)
100	250 x 60
200	250 x 90
300	250 x 120
400	250 x 140
500	250 x 170
600(10)	250 x 190
800	250 x 230
1,000	250 x 270
1,200(20)	250 x 310
1,400	250 x 350
1,600	250 x 390

Shape Item Air volume	Square duct Dimension
m <sup>3</sup> /h(m <sup>3</sup> /n)	(mmxmm)
1,800(30)	250 x 430
2000	250 x 470
2400	250 x 560
3,000(50)	250 x 650
3,500	250 x 740
4,000	250 x 830
4,500	250 x 920
5,000	250 x 1000
5,500	250 x 1090
6,000(100)	250 x 1180

### 8. The attentive matters in installation of air suction and discharging duct

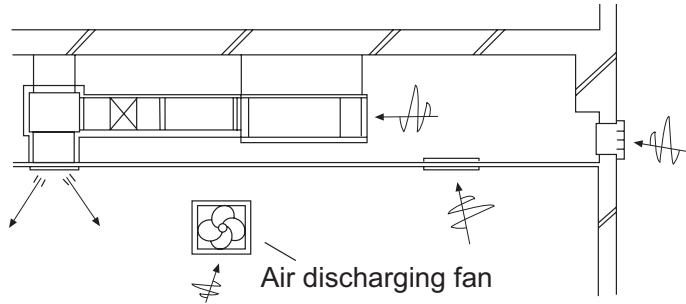
- Recommend to use anti-frost and sound-absorbing duct. (locally bought)
- The duct installation work should be finished before the fitment of ceiling.
- The duct must be heat insulated.
- The specific air-discharging outlet should be installed at the place where the airflow can be reasonably distributed.
- The surface should leave a checking meatus for checking and maintenance.

Special air discharging outlet  
Use screw bolt to fix



### 9. The examples of improper installation

- Do not use air in duct and take the ceiling inner side instead. The result is because of the irregular outer air mass, strong wind and sunshine, the humidity is increased.
- There may be water drop on the outside of duct. For cement and other new constructions, even if not taking ceiling inner side as duct, the humidity will also be so high. At this time, use glass fiber to perform heat preservation to the whole. (use iron net to bind the glass fiber)
- Maybe exceeding the unit operation limit (for example: when indoor dry bulb temperature is 35degree, web bulb temperature is 24degree), it may lead to overload of compressor.
- Affected by the capacity of air discharging fan, the strong wind in the outer duct and wind direction, when unit air sending volume exceeds the limit, the discharged water of heat exchanger will overflow, leading to water leakage.



Improper example

### 10. The operation method of fan controller

Through the fan controller switch in the electric box, the air volume of this unit can be continuously adjusted. It is unnecessary to adjust air volume through the duct side wind level (unit outside static adjustment). The air volume set should be in the operation air volume range.

Figure I shows the position of fan controller in the electric box and operation method.

After finishing the electric work, perform test run. According to the main points in Figure II making the chosen switch No. accordant. And confirm if it reaches the needed air volume.

#### Note:

- 1) When operating the fan controller, it is possible to touch the electric charging part, so do cut off the power supply.
- 2) Do not set the dial at the position less than 1.
- 3) The figure circled in Figure II indicate the capacity number of fan controller. The non-listed capacity number may exceed the permitted operation capacity range, so it is impossible to operate.
- 4) When delivering from factory, the capacity number of fan controller is set at □No.5□.

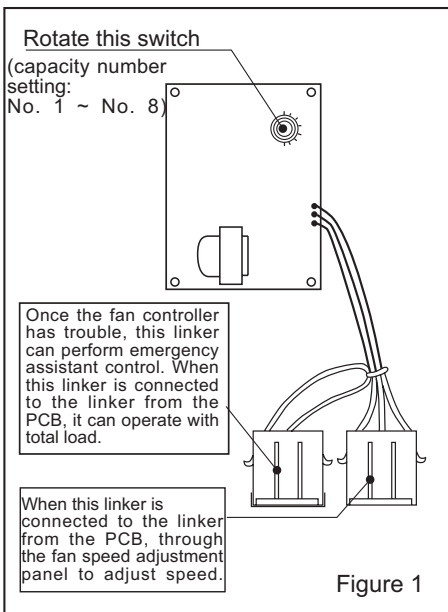


Figure 1

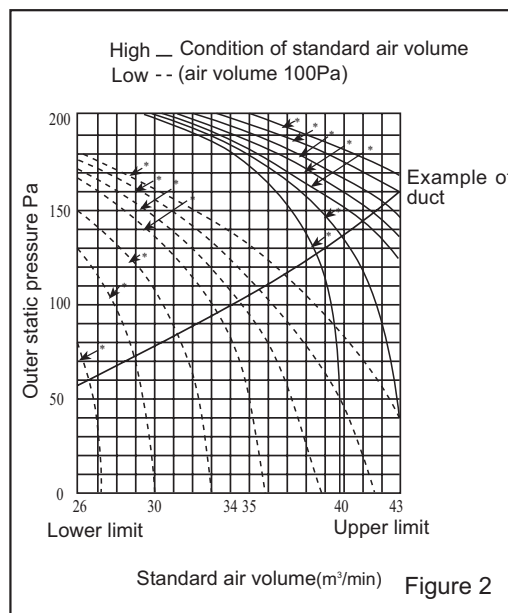


Figure 2

#### ● The example of the method of choosing capacity number:

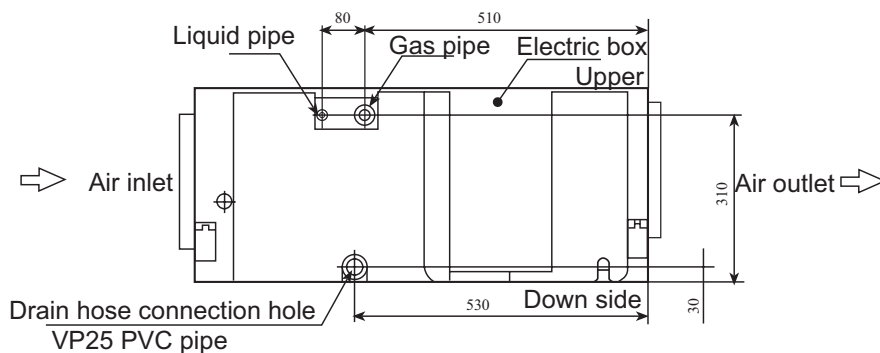
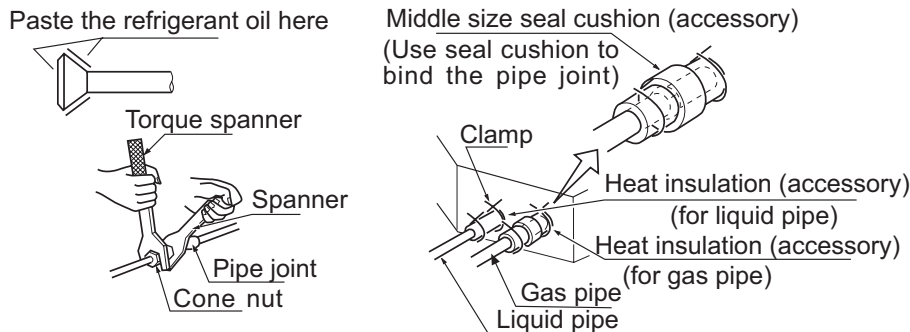
- 1) If the unit is in high-speed operation, needing take outer static pressure is 180Pa in capacity air volume 34m<sup>3</sup>/min as working condition point, according to Figure II □The characteristic chart of air volume□, the capacity number of fan controller is No. 2.
- 2) If the unit is in low speed operation, needing take outer static pressure is 60Pa in capacity air volume 32m<sup>3</sup>/min as working condition point, according to Figure II □The characteristic chart of air volume□, the capacity number of fan controller is No. 4.

### 11. Refrigerant pipe

[The air side pipe, liquid side pipe must be faithfully heat insulated, if no heat insulation, it may cause water leakage.]

- The outdoor unit has been charged with refrigerant.

- When connect the pipe to the unit or dismantling the pipe from the unit, please follow the figure shown, use spanner and torque spanner together.
- When connect cone nut, the inner side and outside of cone nut should paste with refrigerant oil. Use hand to twist 3-4 rings, then fasten with spanner.
- Referring to Table I to confirm the fasten torque. (too tight may damage nut leading to leakage)
- Check if the connection pipe leaks, then do heat insulation treatment, as below figure shown.
- Only use seal cushion to bind the joint part of air pipe and heat insulation parts.



Specification of pipe (mm)	Tighten torque	Cone dimension A (mm)	Cone
$\phi 9.52$	3270~3990 N·cm (333~407 kgf·cm)	12.0~12.4	
$\phi 15.88$	6180~7540 N·cm (630~770 kgf·cm)	18.6~19.0	
$\phi 19.05$	9720~11860 N·cm (990~1210 kgf·cm)	22.9~23.3	

### 5. Electric wiring

#### ⚠ WARNING

**DANGER OF BODILY INJURY OR DEATH**  
 TURN OFF ELECTRIC POWER AT CIRCUIT BREAKER OR POWER SOURCE BEFORE MAKING ANY ELECTRIC CONNECTIONS. GROUND CONNECTIONS MUST BE COMPLETED BEFORE MAKING LINE VOLTAGE CONNECTIONS.

- (1) Selection of size of power supply and interconnecting wires.

#### Precautions for Electric wiring

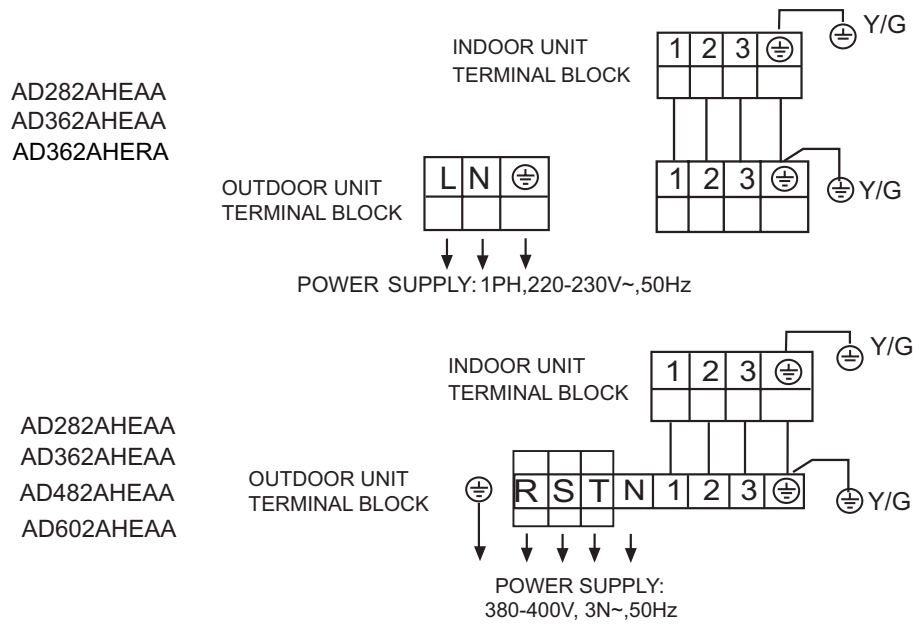
- Electric wiring work should be conducted only by authorized personnel.
- Do not connect more than three wires to the terminal block. Always use round type crimped terminal lugs with insulated grip on the ends of the wires.
- Use copper conductor only.

Select wire sizes and circuit protection from table below. (This table shows 20 m length wires with less than 2% voltage drop.)

Item Model	Phase	Circuit breaker		Power source wire size (minimum) (mm <sup>2</sup> )	Earth leakage breaker	
		Switch breaker (A)	Overcurrent protector		Switch breaker(A)	Leak current(mA)
AD282AHEAA AD362AHEAA	3	30	20	2.5	30	30
AD482AHEAA AD602AHEAA	3	30	20	4.0	30	30
AD282AHEAA AD362AHEAA	1	40	30	6.0	40	30

### (2) Wiring connection

Make wiring to supply power to the outdoor unit, so that the power for the indoor unit is supplied by terminals.

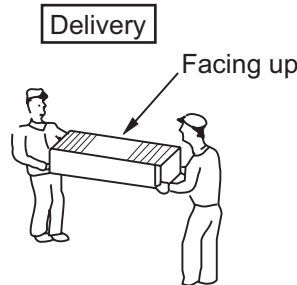


### 6.7 Cabinet indoor unit (AP42-AP60)

#### Display of whole unit

- Try to bring the packed unit to the installation place.
- When it is necessary to unpack the unit, be careful not to damage the unit. Wrap it with nylon etc.
- After unpacking, be sure to place the unit with the front side to be up.

Note: When delivering, don't hold plastic parts such as inlet or outlet grill etc.



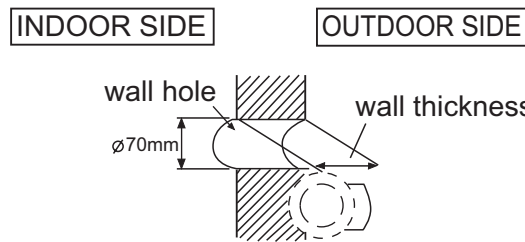
#### Fixing of the unit

##### Position of the wall hole

- Wall hole should be decided according to installation place and piping direction. (refer to installation drawings)

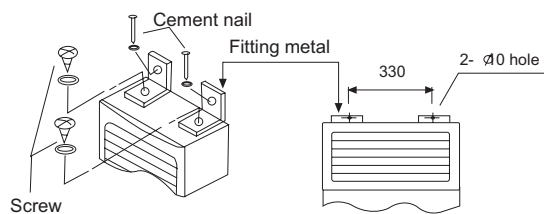
##### Making a hole

- Drill a hole of 70mm dia. with a little slope towards outside.
- Install piping hole cover and seal it with putty after installation.

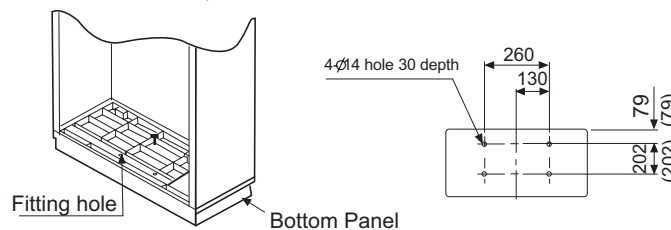


( Cross section of wall hole )

With the unit set up vertically, fix the fitting metal to the unit with screws, then fix the fitting metal to the wall with cement nail and washer, as shown below:



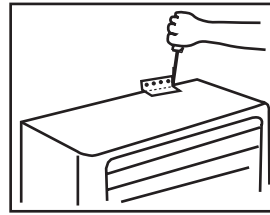
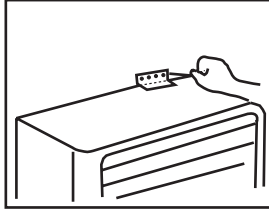
Moreover, if want to fix the unit more firmly, you should fix the bottom panel to the ground with concrete bolts, as shown below:



#### Installation of anti-fall plate:

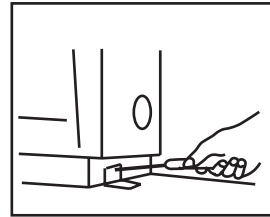
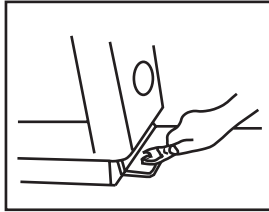
Fix the anti-fall plate to the wall with screws so that there is no clearance between them. With the unit set up vertically, fix the anti-fall plate to the unit with screws while making an adjustment at the long portion of the hole so that there is no clearance between the upper

surface and the anti-fall plate.



### Installation of L-shaped metal

Fix to the unit with screws so that there is no clearance between the anti-fall plate and the unit.  
After confirming that the unit has been set up vertically to the floor, fix it to the floor with bolt.



### Piping connection

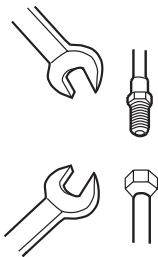
#### 1. Connecting method

Apply refrigerant oil at half union and flare nut.

To bend a pipe, give the roundness as large as possible not to crash the pipe.

When connecting pipe, hold the pipe centre to centre then screw nut on by hand, refer to Fig.

Be careful not to let sundries, such as sands enter the pipe.



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

Pipe dia	Fastening torque
Liquid pipe 9.52mm(3/8")	29.4N·m
Gas pipe 15.88mm(5/8")	98.0N·m
Gas pipe 19.05mm(3/4")	117.7N·m

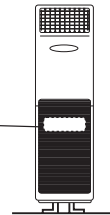
#### 2. Piping connection of indoor unit

Arrangement of piping and drainage pipe

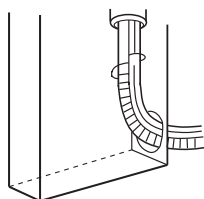


After opening inlet grill, you will see a control box as shown in the Fig.

Remove the cover before wiring work.

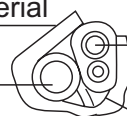


Cut away, with a hammer or a saw, the lid for piping according to piping direction.



Insulation material

Copper tube



Drain hose

Connecting electric cable for indoor and outdoor unit

According to the piping method, connect the piping on indoor unit with union of connecting pipe.

Arrange the piping as per the wall hole and bind drain hose connecting electric cable and piping together with polyethylene tape.

Insert the bound piping connecting electric cable and drain hose through wall hole to connect with outdoor unit.

Arrangement of drain hose

- Drain hose shall be placed in under place.
- There should be a slope when arrange drain hose. Avoid up and down waves in drain hose.



If humidity is high, drain pipe( especially in room and indoor unit ) must be covered with insulation material.

### 3. Piping connection of outdoor unit

Connect the connecting pipe and inlet and outlet liquid pipe according to the piping method.

### 4. Purging method

Discharge the air out of the indoor unit and the refrigerant pipe by vacuumizing

- (1) Fasten all the nuts of the indoor and outdoor pipes to make these parts out of leakage.
- (2) Under the condition of the complete close of the indoor and outdoor valve center (both liquid and gas side),dismount the repair valve cap.Vacuumizing through the charge mouth of the repair valve.
- (3) After vacuumizing fasten the repair valve,and dismount the cap of the big and small stop valve,then loosen the stop valve center completely and fasten the big and small stop valve.

### 5. Extra charging amount of the refrigerant

When piping is longer than 5 m, charge additional refrigerant as per 65g/m.

### Electric wiring

Note:

Electric wiring must be done by qualified person.

Use copper wire only, the parameter of connecting cable is H07RN-F 4G 0.75mm<sup>2</sup>.

The power cable should be over 5G2.5mm<sup>2</sup>, the power cable is self-provided.

The power supply connects from the outdoor unit.

Wiring of indoor unit

Insert the cable from outside the wall hole where piping already exist.

Pull it out from front.

Loosen terminal screws and insert cable end fully into terminal block, then tighten it.

Pull the cable gently to make sure it is tight.

Replace cover after wiring.

Wiring of outdoor unit

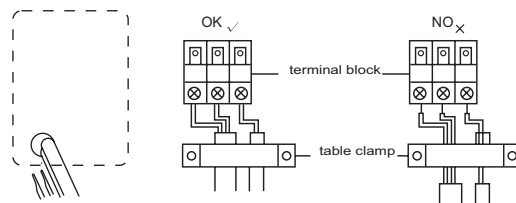
Insert the cable from inside the wall hole where piping already exists.

Pull it out from front.

Loose terminal screw and insert cable end fully into terminal block, then tighten it.

Pull the cable gently to make sure it is tight.

Replace cover after wiring.



Note:

- When connecting indoor and outdoor wire, check the number on indoor and outdoor terminal blocks. Terminals of same number and same color shall be connected by the same wire.
- Incorrect wiring may damage air conditioner's controller or cause operation failure.

## 6.8 Wall mounted indoor unit (AS182AVERA)

### INSTRUCTIONS TO INSTALLATION

- Please read these "Safety Precautions" first then accurately execute the installation work.
- 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 of this equipment, based on the owner's manual.  
Moreover, ask the customer to keep this sheet together with the owner's manual.

WARNING
---------

- 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.
- Please install your air conditioner on a wall or any place which can holder the weight of the air conditioner. And it cannot be installed on a non-professional metal structure (such as a burglary-resisting net). Otherwise injury would occur due to a falling of the unit.
- Execute the prescribed installation construction to prepare for earthquakes and the strong airs of typhoons and hurricanes, etc. Improper installations can result in accidents due to a violent falling over of the unit.
- Wiring shall be done with the specified cable and the connection shall be firm and reliable. And the terminal connector shall be fixed firmly and reliably not to let external force exercise on the cables. Any improper connection or fixing would cause heat, fire, and other accidents.
- Wiring shall be done in a correct shape not to make any section rise upward, and accurately install the air conditioner. The cable shall not be clamped by the lid or outer plate. Any improper installation would lead to fire, heat, or other accidents.
- When setting up or moving the location of the air conditioner, do not mix air etc, or anything other than the designated refrigerant (R407C) within the refrigeration cycle, for such mixing would result in rupture and injury caused by abnormal high pressure.
- 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 drain pipe must not be placed or connected into the sewage tank where harmful gas such as sulphurous gas and etc would exist, otherwise the harmful gas would enter the room.
- During installation, if the refrigerant is leaked, please immediately take measures of ventilation, otherwise a harmful gas would be generated whenever the refrigerant meets fire.
- After installation, please ensure that the refrigerant is not leaked, because the leakage of refrigerant would produce a harmful gas if it meets fire or heating stoves.
- Don't install the air conditioner where a flammable gas would be probably produced, otherwise in case the flammable gas is leaked and exists around the unit, fire would be caused.
- 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.
- The refrigerant gas pipe and liquid pipe shall all be thermally insulated to preserve the temperature. Any improper insulation would make the unit moist and the water would drop onto the floor or wet the indoor items.



### INSTRUCTIONS TO INSTALLATION

#### PRECAUTION

- Execute proper grounding. Do not connect the earth wire to a gas pipe, water pipe, lightning rod, or a telephone ground wire. Improper placement of earth wires can result in electric shock.
- An electric leakage breaker must be installed, otherwise electric shock or other accidents would occur.
- After completion of the installation, the air conditioner shall be electrified to check for electric leakage.

#### Preparation for installation

##### Installation Tools

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

#### Self-contained Accessories

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

#### Electrical Requirements

- Power supply voltage: Single Phase 1PH, 220-230V~, 50Hz.
- A specialized power supply wire, which shall be installed by a competent person as per the rules of the national standard.
- Power supply must be grounded effectively.
- An electric leakage breaker shall be installed.
- Layout of power supply wiring shall be Y connection. If the power supply wire is damaged, it must be replaced by the manufacturer or its service center or professional person (the power supply wire shall be self-contained).
- For connection of the power supply plug, L shall be connected with the live wire, N shall be connected with neutral line, ⊕ shall be connected with earth wire.
- Power supply wire parameters: H05RN-F, 3G(1.0-1.5)mm<sup>2</sup>;  
Signal wire parameters: H05RN-F, 2x(0.75-1.5)mm<sup>2</sup>. (User shall self-provide signal wire)

Note: The signal wire and connection wire should be provided by oneself.

The signal wire must be shielded wire

### INSTRUCTIONS TO INSTALLATION

#### ⚠ WARNING



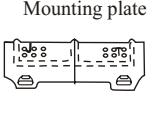


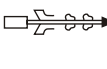




BE SURE TO READ THESE INSTRUCTIONS CAREFULLY BEFORE BEGINNING INSTALLATION. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD CAUSE SERIOUS INJURY OR DEATH, EQUIPMENT MALFUNCTION AND/OR PROPERTY DAMAGE.  
BE SURE TO READ INSTALLATION MANUAL FOR INDOOR UNIT WITH THIS MANUAL.

#### 1. Accessories

Confirm accessories shown below are attached in the bag with this Installation manual.

Accessories Delivered with Your Air Conditioner

Please check if your unit is delivered with the following accessories.

No.	1	2	3	4	5	6	7	8	9	10
Name and shape	Remote controller 	Batteries 	Mounting plate 	Drain hose 	4x25 screw 	Expansion bushing 	Cement steel nail 	Piping hole cover 	Screw 	Plastic supporting plate 
Qty	1	2	1	1	6	6	8	1	2	1

#### Indoor Unit

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

Method for Cutting and Expanding Pipes.

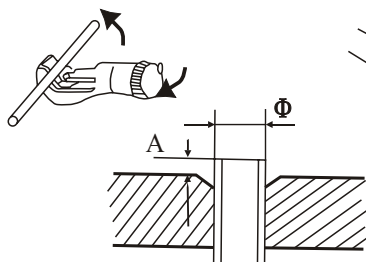
When the pipe is too long or the mouth is damaged, the pipe needs to cut or expanded.

1. cutting hose

2. Removing burr

3. Put on nut

4. Expand Hose









Hose Expander



Expansion Size

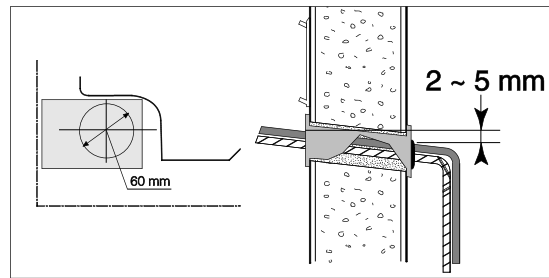
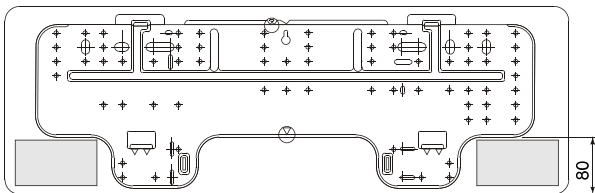
Hose dia $\phi$	Size (mm)A
6.35 mm(1/4)	0.8-1.5
12.7 mm(1/2)	1.0-2.0

Correct	Not Correct				
					
	Tilting	cracks on expanded mouth	burr	incomplete	too long

### INSTALLATION PROCEDURE

When the mounting plate is first fixed

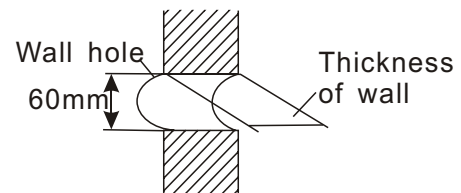
1. Carry out, based on the neighboring pillars or lintels, a proper leveling for the plate to be fixed against the wall, then temporarily fasten the plate with one steel nail.
2. Make sure once more the proper level of the plate, by hanging a thread with a weight from the central top of the plate, then fasten securely the plate with the attachment steel nail.



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

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

Indoor side Outdoor side



(Section of wall hole) Piping hole pipe

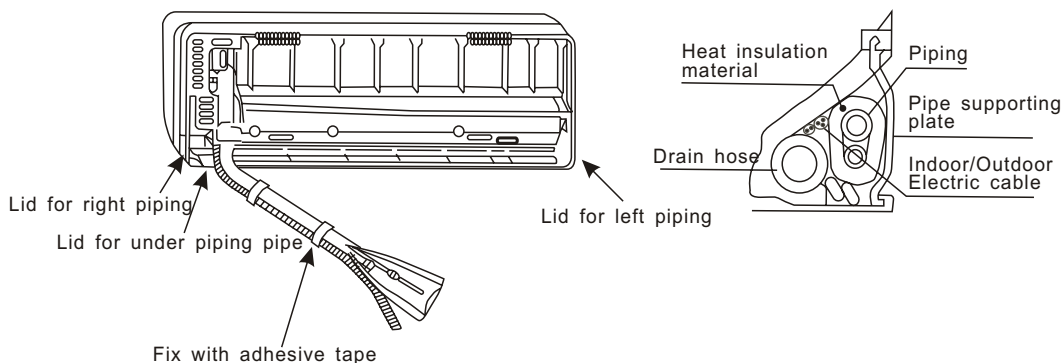
### 4. Drawing of pipe

#### Rear piping

Draw pipes and the drain hose, then fasten them with the adhesive tape.

#### Left Left-rear, piping

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



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

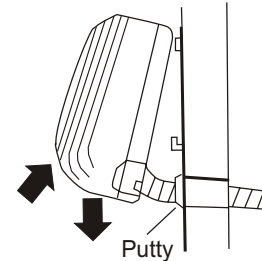
### INSTALLATION PROCEDURE

#### Other direction piping

- Cut away, with a nipper, the lid for piping according to the piping direction and then bend the pipe according to the position of wall hole. When bending, be careful not to crash pipes.
- Connect beforehand the indoor/outdoor electric cable, and then pull out the connected to the heat insulation of connecting part specially.

#### 5. Fixing the indoor unit body

- Hang surely the unit body onto the upper notches of the mounting plate. Move the body from side to verify its secure fixing.
- In order to fix the body onto the mounting plate, hold up the body aslant from the underside and then put it down perpendicularly.

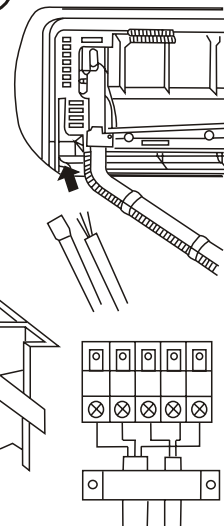


### ELECTRICAL WIRING

When connecting the cord before installing the indoor unit

- Insert the cord from the back side of the unit, then pull it out on the front side.
- Loosen the screws and insert the cord ends fully into terminal block, then tighten the screws.
- Pull the cord slightly to make sure the cords have been properly inserted and tightened.
- After the cord connection, never fail to fasten the connected cord with the wiring cover.

Note: when connecting the cord, confirm the terminal number of indoor and outdoor units carefully. If wiring is not correct, proper operation can not be carried out and will cause defect.



#### CAUTION

After connecting the piping, check the joints for gas leakage with gas leakage detector.

#### HOW TO CONNECT WIRING TO THE TERMINALS

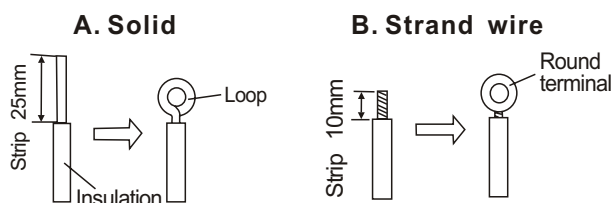
##### A. For solid core wiring (or F-cable)(Fig.17A)

- (1) Cut the wire with a wire cutter or wire-cutting pliers, then strip the insulation to about 25mm of the exposed solid wire.
- (2) Using a screwdriver, remove the terminal screw (s) on the terminal board.
- (3) Using pliers, bend the solid wire to form a loop suitable for the terminal screw.
- (4) Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screw driver.

##### B. For strand wiring (Fig.17B)

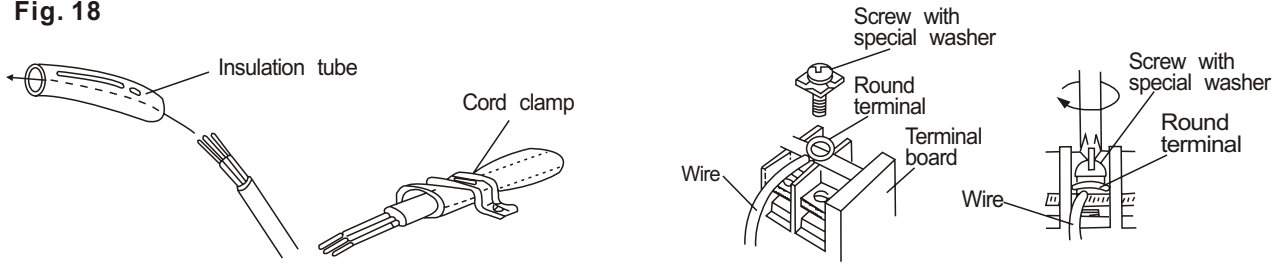
- (1) Cut the wire with a wire cutter or wire-cutting pliers, then strip the insulation to about 10mm of the exposed strand wiring.
- (2) Using a screwdriver, remove the terminal screw (s) on the terminal board.
- (3) Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
- (4) Position the round terminal wire, and replace and tighten the terminal screw using a screw driver.

Fig. 17



After passing the connection cord and power cable through the insulation tube, fasten it with the cord clamp, as shown in Fig.18

**Fig. 18**



Use VW-1, 0.5 to 1.0 mm thick, PVC tube as the insulation tube.

### INSTALLATION CHECK AND TRIAL OPERATION

#### Check the Layout of the Drain Pipe and Connection Wires

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

#### Installation check

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

#### Trial Operation

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

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

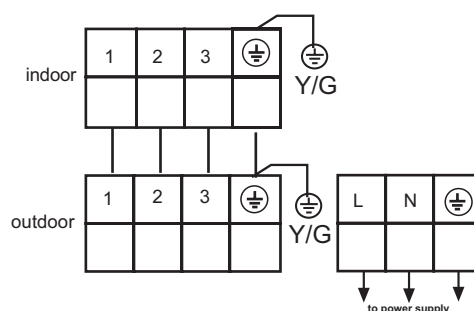
#### Winding up with Protective Plastic Tape

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

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

#### Wiring diagram between I.U.&O.U.

AU182AFERA/AS182AVERA



### 6.9 Outdoor unit (AU18-AU60)

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

Below are listed three kinds of Safety Cautions and Suggestions.

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

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

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

Be sure to conform with the following important Safety Cautions.

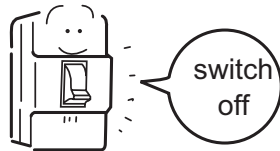
**The Safety Cautions should be at hand so that they can be checked at any time when needed.**

If the conditioner is transferred to the new user, this manual should be as well transferred to the new user.

## WARNING!

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

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



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

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



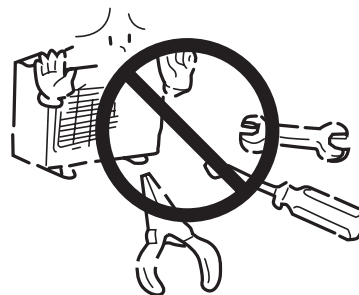
- Don't dismantle the outlet of the outdoor unit.

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



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

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



### WARNING!

- **Installed electrical-leaking circuit breaker.**

It easily cause electrical shock without circuit breaker.

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

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

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

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

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

- **When conditioner is deinstalled or reinstalled dealer should be responsible for them.**

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

- **Connect earthing wire.**

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



Earthing

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

The falling of goods and people may cause accidents.



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

Otherwise will be shocked.



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

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

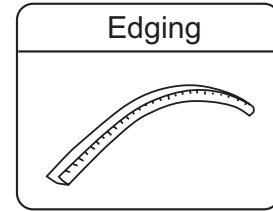


- **Use discharge pipe correctly to ensure efficient discharge.**

Incorrect pipe use may cause water leaking.

### 1. Accessories

"Edging" for protection of electric wires from an opening edge.

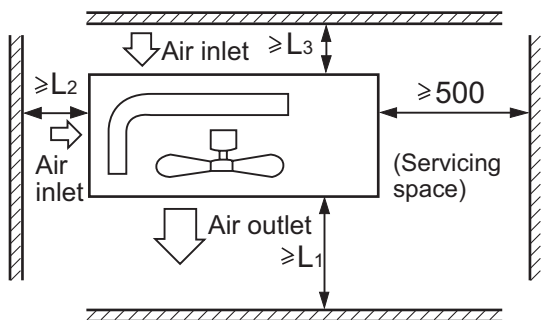


### 2. Selection of the place of installation

Select the place of installation satisfying the following conditions and, at the same time, obtain a consent from the client or user.

- Place where air circulates.
- Place free from heat radiation from other heat sources.
- Place where drain water may be discharged.
- Place where noise and hot air may not disturb the neighborhood.
- Place where there is not heavy snowfall in the winter time.
- Place where obstacles do not exist near the air inlet and air outlet .
- Place where the air outlet may not be exposed to a strong wind.
- Place surrounded at four sides are not suitable for installation. A 1m or more of overhead space is needed for the unit.
- Mount guide-louvers to place where short-circuit is a possibility.
- When installing several units, secure sufficient suction space to avoid short circuiting.

#### (1) Open space requirement around the unit

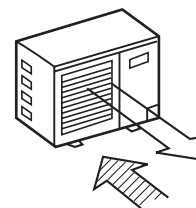


Note :

- (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

Unit: mm

Case	I	II	III
Distance			
L <sub>1</sub>	open	open	500
L <sub>2</sub>	300	0	open
L <sub>3</sub>	150	300	150



Wind direction

#### (2) Installation where the area with strong winds.

Install the unit so that the air outlet section of the unit must NOT be faced toward wind direction.



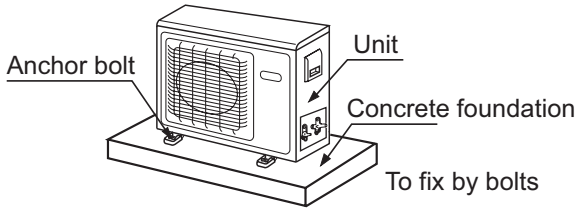
### 3. Installation of outdoor unit

#### (1) Installation

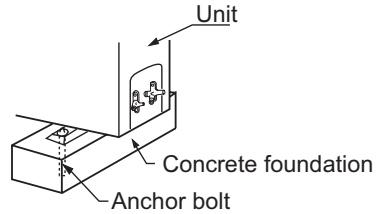
Fix the unit in a proper way according to the condition of a place where it is installed by referring to the following .

AU182AEEAA, AU182AFERA

#### (a) Concrete foundation

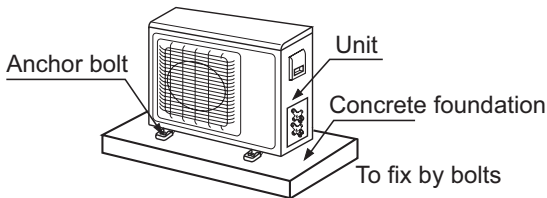


#### (b) Foundation anchor

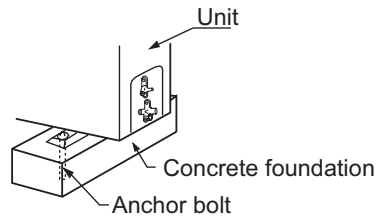


AU242AGEAA, AU242AGERA, AU42NALEAA

#### (a) Concrete foundation

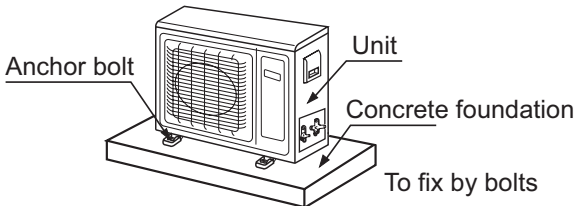


#### (b) Foundation anchor

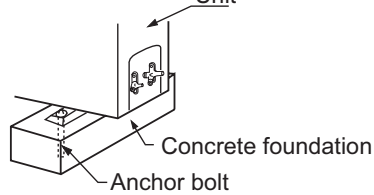


AU282AHEAA AU28NAHEAA AU362AHERA

#### (a) Concrete foundation

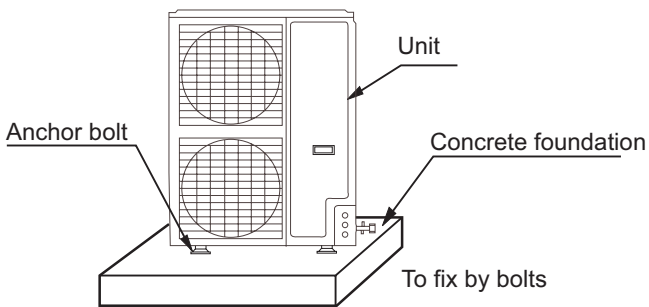


#### (b) Foundation anchor

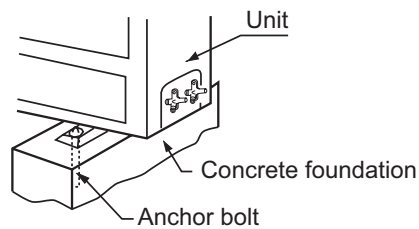


AU362AIEAA, AU36NAIEAA, AU48NAIEAA, AU60NAIEAA

#### (a) Concrete foundation



#### (b) Foundation anchor



Note: (1) Give enough room for the concrete foundation to fix by anchor bolts.

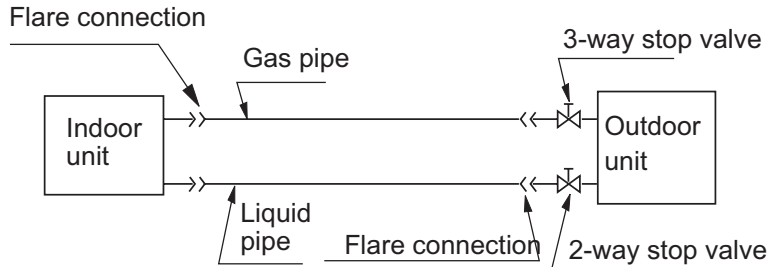
(2) Place the concrete foundation deep enough.

- Install the unit so that the angle of inclination must be less than 3 degrees.

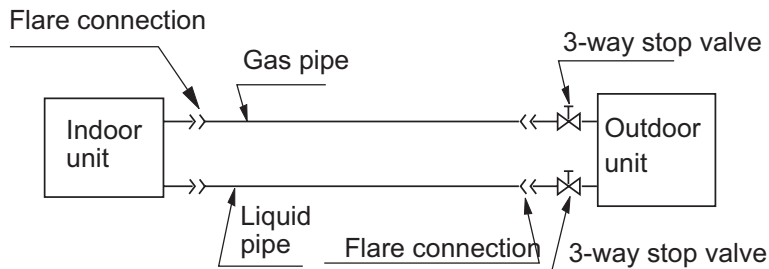
### 4. Refrigerant piping

#### (1) Outline piping

AU182AEEAA, AU182AFERA

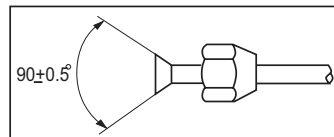


AU242AGEAA, AU282AHEAA, AU28NAHEAA, AU362AIEAA, AU36NAIEAA, AU42NALEAA, AU48NAIEAA, AU60NAIEAA, AU242AGERA, AU362AHERA



#### (2) Piping size

AU182AEEAA AU182AFERA	Liquid pipe	$\phi$ 6.35x0.8mm
	Gas pipe	$\phi$ 12.7x1.0mm
AU242AGEAA AU282AHEAA AU28NAHEAA AU242AGERA AU362AHERA	Liquid pipe	$\phi$ 9.52x0.8mm
	Gas pipe	$\phi$ 15.88x1.0mm
AU362AIEAA AU36NAIEAA AU42NALEAA AU48NAIEAA AU60NAIEAA	Liquid pipe	$\phi$ 9.52x0.8mm
	Gas pipe	$\phi$ 19.05x1.0mm



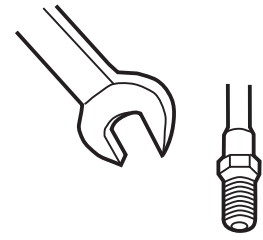
- Install the removed flare nuts to the pipes to be connected, then flare the pipes.

#### (3) Limitations for one way piping length and vertical height difference.

Model	One way piping length	Vertical height difference (between indoor and outdoor)
AU182AEEAA	less than 20 m	less than 10 m
AU242AGEAA AU282AHEAA AU28NAHEAA AU182AFERA AU242AGERA	less than 30 m	less than 15 m
AU362AIEAA AU36NAIEAA AU42NALEAA AU48NAIEAA AU60NAIEAA AU362AHERA	less than 50 m	less than 30 m

### Precautions for refrigerant piping

- Do not twist or crush piping.
- Be sure that no dust is mixed in piping.
- Bend piping with as wide angle as possible.
- Keep insulating both gas and liquid piping.
- Check flare-connected area for gas leakage.



### Piping connection

- Connecting method (indoor unit)  
Apply refrigerant oil at half union as large and flare nut.  
To bend a pipe, give the roundness as possible not to crush the pipe.  
When connecting pipe, hold the pipe centre to centre then screw nut on by hand, refer to Fig.  
Be careful not to let foreign matters, such as sands enter the pipe.

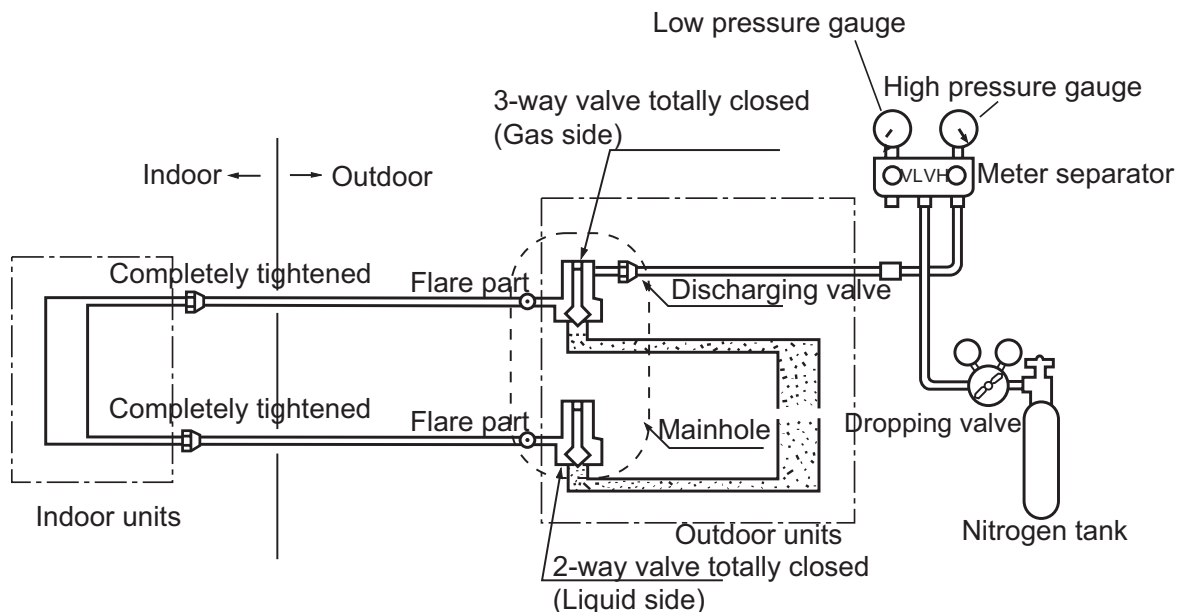


Forced fastening without centering may damage the threads and cause a gas leakage.

Pipe dia	Fastening torque
Liquid pipe 6.35mm	14.2-17.2N·m
Liquid pipe 9.52mm	32.7-39.9N·m
Gas pipe 12.7mm	49.5-60.3N·m
Gas pipe 15.88mm	61.8-75.4N·m
Gas pipe 19.05mm	97.2-118.6N·m

### Air discharging method

- After finishing connection of refrigerant pipe, it shall perform air tightness test.  
The air tightness test adopts nitrogen tank to give pressure according to the pipe connection mode as the following figure shown.  
The gas and liquid valve are all in close state. In order to prevent the nitrogen entering the circulation system of outdoor unit, tighten the valve rod before giving pressure (both gas and liquid valve rods).



First step: 0.3MPa (3.0kg/cm<sup>2</sup>g) pressurize over 3 minutes.

Second step: 1.5Mpa (15kg/cm<sup>2</sup>g) pressurize over 3 minutes. Large leakage will be found.

Third step: 3.0 MPa (30kg/cm<sup>2</sup>g) pressurize about 24 hours. Little leakage will be found.

- Check if the pressure drops

If the pressure does not drop, the unit is passed

If the pressure drops, please check the leaking point.

After pressurizing for 24 hours, each 1 C difference of ambient temperature will result in 0.01MPa(0.1kg/cm<sup>2</sup>g) pressure change. It shall be corrected during test.

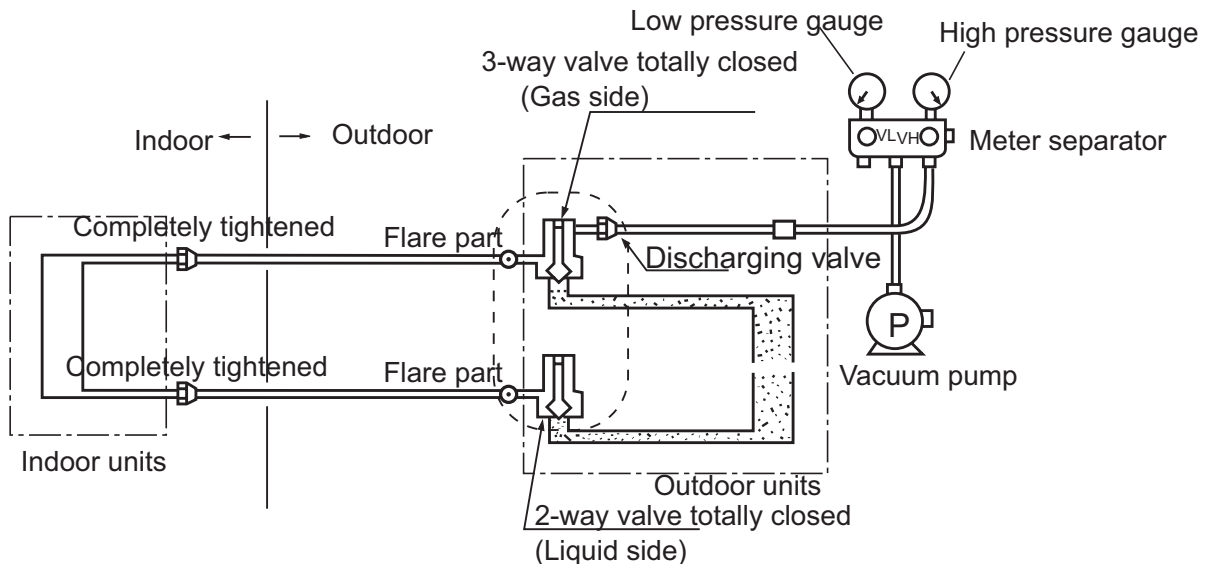
- Checking the leaking point

From the first to third steps, if the pressure drops, check the leakage in each joint by the sense of hearing, feeling or soap water, etc. to find the leaking point.

After confirming the leaking point, welding it again or tighten the nut tightly again.

### Piping and indoor unit vacuumizing

- Use vacuum pump to perform vacuumizing. It is strictly forbidden to use the refrigerant to remove the air inside the system.
- After air tightness test and discharging all the nitrogen, connect the vacuum pump as the following figure shown.



- It shall use the vacuum pump of (lower than -755mmHg)high vacuum degree and large air discharging (over 40l/min).
- The vacuumizing time depends on the length of the connecting pipe, generally is 1~2 hours. When vacuumizing, it shall be confirmed both gas and liquid side valves are closed.
- If after 2 hours vacuumizing, it cannot reach the vacuum degree below -755mmHg, it can be vacuumized for other 1 hour.
- If after 3 hours vacuumizing, it still cannot reach the vacuum degree below -755mmHg, check if there is any leaking point and repair the them.
- If after over 2 hours vacuumizing, the vacuum degree is below -755mmHg, close the VL and VH on the meter separator and stop vacuumizing. 1 hour later to confirm if the vacuum degree changes. If changes,it indicates there is leaking point in the system. Check the leaking point and repair.
- After finishing the above vacuumizing, change the vacuum pump into refrigerant pump to charge the refrigerant.

### Charging amount of refrigerant

When the total length (L) of the two indoor units' connecting pipe is less than 5m, it is unnecessary to charge additional refrigerant.

If the connecting pipe (L) exceeds 5m, it shall charge Mg additional refrigerant per meter.

That is: Refrigerant charging amount = (L-5) x M (g)

For the unit with liquid pipe 6.35mm, M=30

For the unit with liquid pipe 9.52mm, M=50 -

- Only in COOLING operation can charge the additional refrigerant.
- When charging, the refrigerant shall be charged from the charging nozzle of low pressure vavle. Be carefull when charging refrigerant, do not let the air mix into the system,and must charge the additional refrigerant in liquid condition.

### Electric wiring

#### ⚠ WARNING

DANGER OF BODILY INJURY OR DEATH

TURN OFF ELECTRIC POWER AT CIRCUIT BREAKER OR POWER SOURCE BEFORE MAKING ANY ELECTRIC CONNECTIONS.GROUND CONNECTIONS MUST BE COMPLETED BEFORE MAKING LINE VOLTAGE CONNECTIONS.

### (1) Selection of size of power supply and interconnecting

#### Precautions for Electric wiring

- Electric wiring work should be conducted only by authorized personnel.
- Do not connect more than three wires to the terminal block. Always use round type crimped terminal lugs with insulated grip on the ends of the wires.
- Use copper conductor only.

Select wire sizes and circuit protection from table below. (This table shows 20 m length wires with less than 2% voltage drop.)

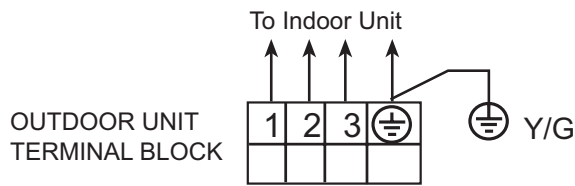
Item Model	Phase	Circuit breaker		Power source wire size (mm <sup>2</sup> )	Earth leakage breaker	
		Switch breaker (A)	Overcurrent protector		Switch breaker	Leak current(mA)
AU182AEEAA AU182AFERA	1	40	26	2.5	40	30
AU242AGEAA	1	40	26	4.0	40	30
AU282AHEAA AU362AIEAA	1	40	26	6.0	40	30
AU28NAHEAA AU36NAIEAA	3	30	20	2.5	30	30
AU48NAIEAA AU60NAIEAA	3	30	20	4.0	30	30
AU242AGERA AU362AHERA	1	60	40	4.0	60	30

### (2) Wiring connection

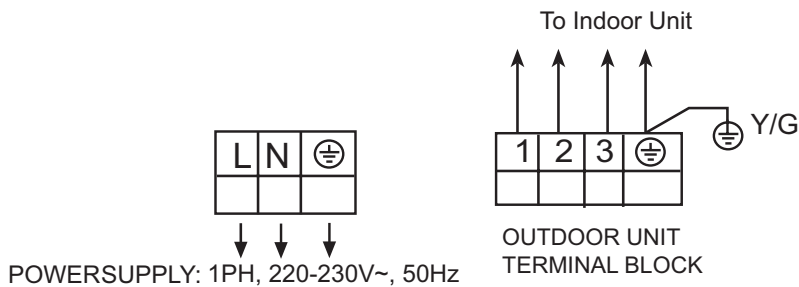
Make wiring to supply power to the outdoor unit, so that the power for the indoor unit is supplied by terminals.

**For the detailed wiring connection with the indoor units, see the corresponding indoor operation and instruction manual.**

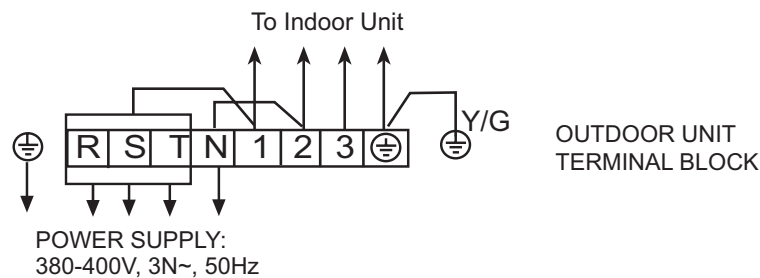
For: AU182AEEAA



For: AU242AGEAA, AU282AHEAA, AU182AFERA, AU242AGERA



For: AU28NAHEAA, AU36NAIEAA, AU48NAIEAA, AU60NAIEAA



### (3) Wiring procedure

- 1) Remove the screws on the side before taking off the front panel toward the direction shown in figure.
- 2) Connect wires to the terminal block correctly and fix the wires with a wire clamp equipped nearby the terminal block.
- 3) Route the wires in a proper way and penetrate the wires through the opening for electric wiring on the side plate.

#### Test run

#### ⚠ CAUTION

THIS UNIT WILL BE STARTED INSTANTLY WITHOUT "ON" OPERATION WHEN ELECTRIC POWER IS SUPPLIED. BE SURE TO EXECUTE "OFF" OPERATION BEFORE ELECTRIC POWER IS DISCONNECTED FOR SERVICING.

- This unit has a function of automatic restart system after recovering power stoppage.

Run the unit continuously for about 30 minutes, and check the following.

- Suction pressure at check joint of service valve for gas pipe.
- Discharge pressure at check joint on the compressor discharge pipe.
- Temperature difference between return air and supply air for indoor unit.

### 7 Electric control functions

#### 7.1 Fixed frequency unit

##### 7.1.1 Control Features

The brief introduction includes those for each item of various types of air conditioners and their electric control functions.

1) Brief introduction of electric control

(1) Automatic run

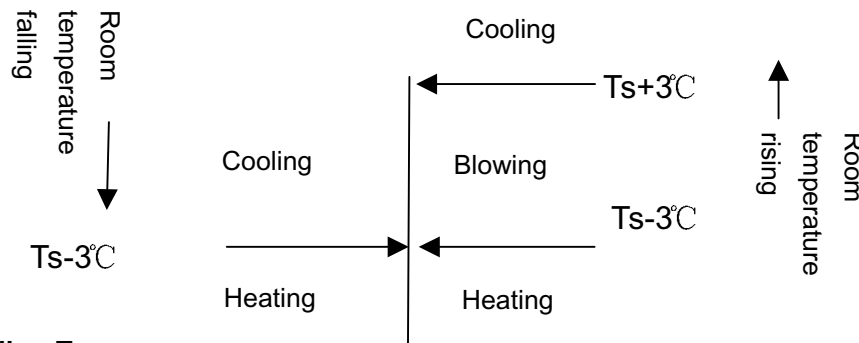
##### a. Cooling-heating type

After the machine being started and running mode changes to AUTO, the system will decide running mode according to difference between the present room temperature and setting temperature, then runs as the decided mode. In the following selections,  $T_r$  means room temperature and  $T_s$  means setting temperature.

Select running mode according to the following conditions at the first time to enter Auto mode:

- $T_r \geq T_s - 3^\circ\text{C}$  to select cooling mode (with setting temperature being  $T_s + 3$ )
- $T_r < T_s - 3^\circ\text{C}$  to select heating mode (with setting temperature being  $T_s$ )

After the system entering auto run mode, the running mode can convert automatically according to variation of room temperature between cooling, blowing and heating in the way shown as the chart below:

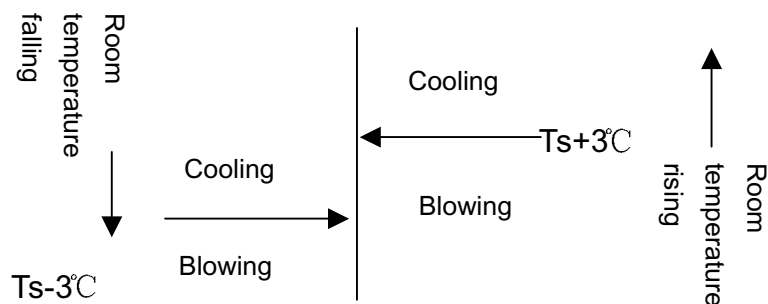


##### b. Single Cooling Type

Select running mode according to the following conditions at the first time to enter Auto mode:

- $T_r \geq T_s + 3^\circ\text{C}$  to select cooling mode
- $T_r < T_s + 3^\circ\text{C}$  to select blowing mode

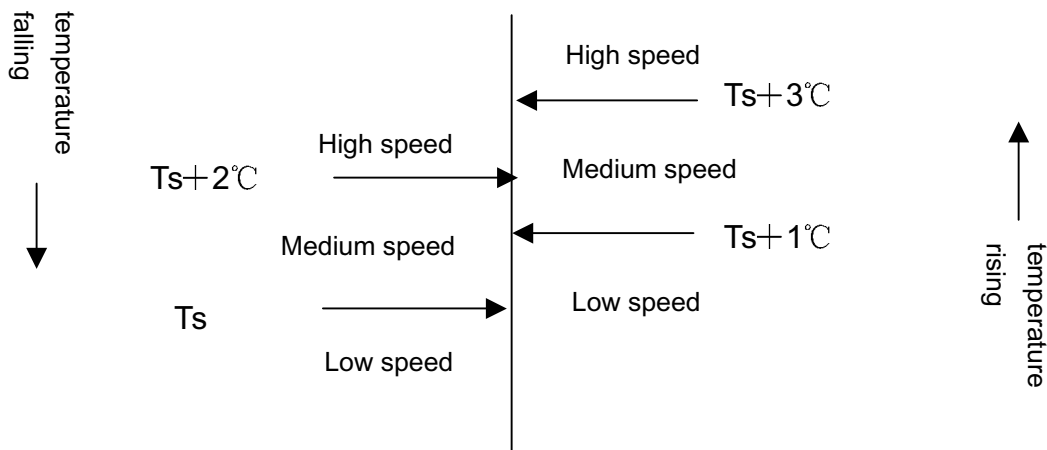
After the system entering auto run, the running mode can convert automatically according to variation of room temperature between cooling and blowing functions in the way shown as the chart below:



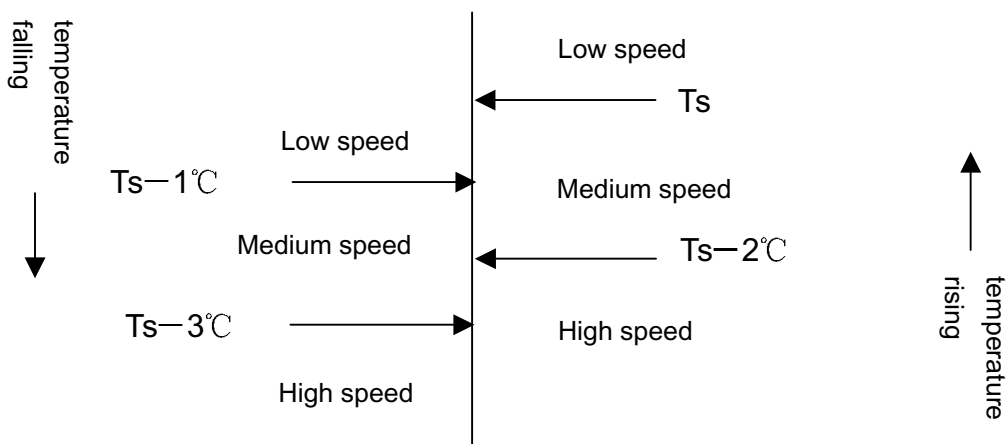
### (2) Auto Selection of Wind Speed

In the following,  $T_r$  means room temperature while  $T_s$  means setting temperature.

**a. During cooling program**, conversion of wind speed from the low to high won't work until the present speed has continued for 3 minutes while conversion from the high to low needs no time delay. The chart below is the sketch map of conversion:



**b. During heating program** (applicable for cooling-heating type), conversion of wind speed from the low to high won't work until the present speed has continued for 3 minutes while conversion from the high to low needs no time delay. The chart below is the sketch map of conversion:



### (3) Dehumidifying program

In the following,  $T_r$  means room temperature while  $T_s$  means setting temperature.

a. After the system entering dehumidifying program, the compressor, outdoor and indoor blowing fans run according to the following rules:

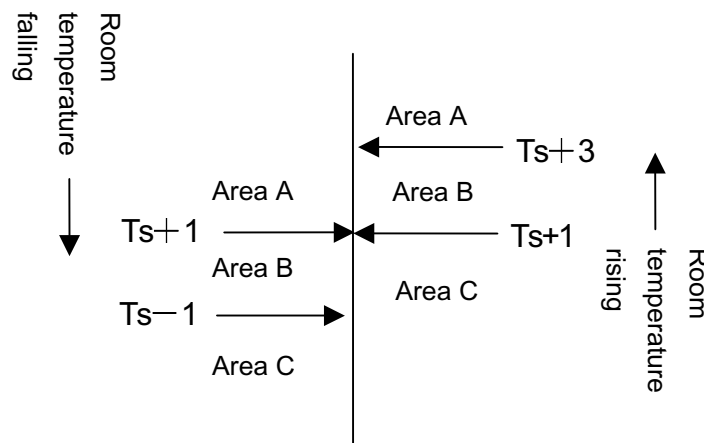
(1)  $T_r > T_s + 2^\circ\text{C}$ , the compressor and outdoor blowing fan run continuously while indoor



blowing fan runs at setting wind speed. This working area is defined as area A.

- (2)  $T_s \leq T_r \leq T_s + 2^\circ\text{C}$ , the compressor and outdoor blowing fan run for 10 minutes then pause for 6 minutes, while indoor blowing fan runs at low wind speed. This working area is defined as area B.
- (3)  $T_r < T_s$ , the compressor and outdoor blowing fan stop working while indoor blowing fan runs at low wind speed. This working area is defined as area C.

a. After dehumidifying program starting, the system converts between A, B and C areas according to variations of room temperature with running mode being shown as the chart below:



#### (4) Cutoff protection against overload and overheat

During heating program, if the indoor blowing fan has been started and the compressor has been running more than 2 minutes, and the **temperature of indoor coil pipe (Ticp)**  $> 64^\circ\text{C}$ , the outdoor blowing fan will stop running; If  $T_{icp} \leq 50^\circ\text{C}$  and the outdoor blowing fan has kept stop state for 45 seconds, then it will restore rotation; If  $T_{icp} > 67^\circ\text{C}$  and such temperature has last for 10 seconds, the compressor will stop running and indoor blowing fan run according to conditions as it reaches setting temperature. When  $T_{icp} < 58^\circ\text{C}$ , and the compressor has kept stop state over 3 minutes, then the compressor and outdoor blowing fan will restore normal running.

#### Cutoff protection for heating current

After 60 seconds from the compressor being started, if CT current exceeds I1 (9.2A) and such case has kept 5 seconds, the outdoor blowing fan will stop. If 45 seconds has passed after the outdoor blowing stops and the current of the compressor is less than I2 (7.5A), the blowing fan will restore running. If CT current exceeds I3 (14.3A) and such case lasts for 3 seconds, the compressor and outdoor blowing fan will stop. The compressor will not restore running until 3 minutes passes with CT current less than 12A.

#### (5) Cool wind prevention during heating program

At the first time entering heating program or after ending the latest frost removal, if the **temperature of indoor coil pipe (Ticp)**  $< 28^\circ\text{C}$ , the indoor blowing fan will stop running;  $28^\circ\text{C} \leq T_{icp} < 38^\circ\text{C}$ , the indoor blowing fan will run at low speed; If  $T_{icp} > 38^\circ\text{C}$  or the compressor has been running for more than 4 minutes, the indoor blowing fan will run at

setting wind speed.

(6) Afterheat blowing during heating program

During heating program, the compressor will stop running (except overheat protection or frost removal) while the indoor blowing fan will firstly run for 50 seconds at low speed then stop.

(7) Frost removal control (applicable for cooling-heating type)

(1) Starting conditions for frost removal:

- A. The indoor unit is in overload protection and outdoor blowing fan stops. The outdoor blowing fan does not enter overheat mode in 10 minutes after it is restarted, the compressor has run over 45 minutes totally while 20 minutes continuously, and the temperature of indoor coil pipe is lower than 43°C;
- B. After the compressor continuously running for 20 minutes, the temperature of indoor coil pipe falls 1°C every 6 minutes and such case continuously appears three times, and the temperature of indoor coil pipe is less than 40°C, and 5 minutes have passed after the compressor is restarted;
- C. The compressor has run totally over 3 hours while 20 minutes continuously, and the temperature of indoor coil pipe is less than 40°C;
- D. The difference between room temperature and the one of indoor coil pipe is less than 16°C and the compressor has totally run over 45 minutes while 20 minutes continuously;

Frost removal will start if any one of the above conditions is satisfied.

(2) Ending conditions for frost removal:

- 1) Time of frost removal has exceeded 9 minutes;
- 2) CT current exceeds I4(8.2A);

(3) Actions of each load after the frost removal starts:

The compressor and outdoor blowing fan stop, and indoor blowing fan also stops. 55 seconds later the reversal valve is closed and next 5 seconds later the compressor is started.

(4) Actions of each load after the frost removal ends:

The compressor stops running while outdoor blowing fan immediately runs at high speed, 55 seconds later the reversal valve is opened and next 5 seconds later the compressor restores running and indoor blowing fan runs as conditions for cool wind prevention.

(8) Freeze protection

After the compressor has run for 9 minutes, the system will check **temperature of indoor coil pipe (Ticp)**. If Ticp is less than -1°C, the compressor and outdoor blowing fan will stop. They will run again after the compressor stops if both the following conditions are satisfied:

- 1) 3 minutes have passed since compressor stops.
- 2) Ticp exceeds 7°C.

(9) 3 minutes protection for compressor

After compressor stops, it cannot be started until 3 minutes later. During the machine's running, if time after losing power not exceeds 3 minutes, the compressor cannot be

restarted until 3 minutes later after it is reenergized.

### (10) Power breakdown memory

If the machine suddenly loses power while running, or stops for maintenance or trouble shooting, it will restart running as the status when it stops after the power is restored.

Note: 1. Function setting: Continuously press sleep button on the remote controller 10 times in 5 seconds and buzzer on control panel shall beep 4 times.

2. Memory content: Running mode, wind speed setting, temperature setting, swing status.

3. Cancel: Press sleep button on the remote controller 10 times and buzzer on control panel beeps 2 times.

### (11) Control of water pump

a. In cooling (including automatic cooling mode) and dehumidifying modes, the water pump works if the compressor runs while stops 5 minutes later after the compressor stops.

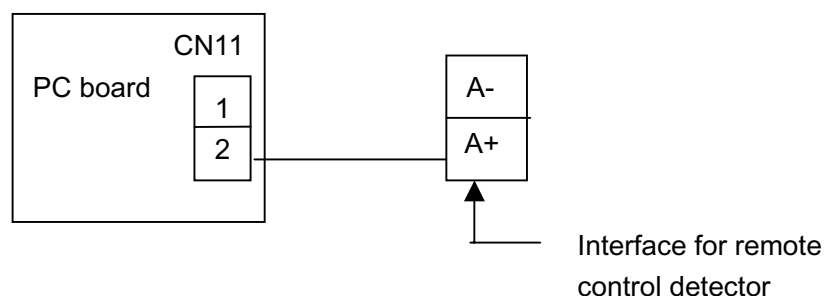
b. When water tank is fully filled, the float switch will be off. The water pump will start to work after a controller has detected this signal and it will continue working for 5 minutes after the float restores to normal state.

c. If the full water signal is detected continuously over 5 minutes, the water pump indicator lamp will flash to alarm and compressor stops running. The water pump will run 5 minutes, then pause for 5 seconds before next 5 minutes' running, ... until the float restores to normal state, after which the pump will run for 5 minutes then stop.

### (12) Monitoring of remote network

Through preset interface, the air conditioner is connected to remote control detector (made by Haier) with 2-core cables for wire communication, to execute instructions sent from computer or centralized controller via remote control detector and meanwhile send present running status and trouble information of the machine to remote control detector.

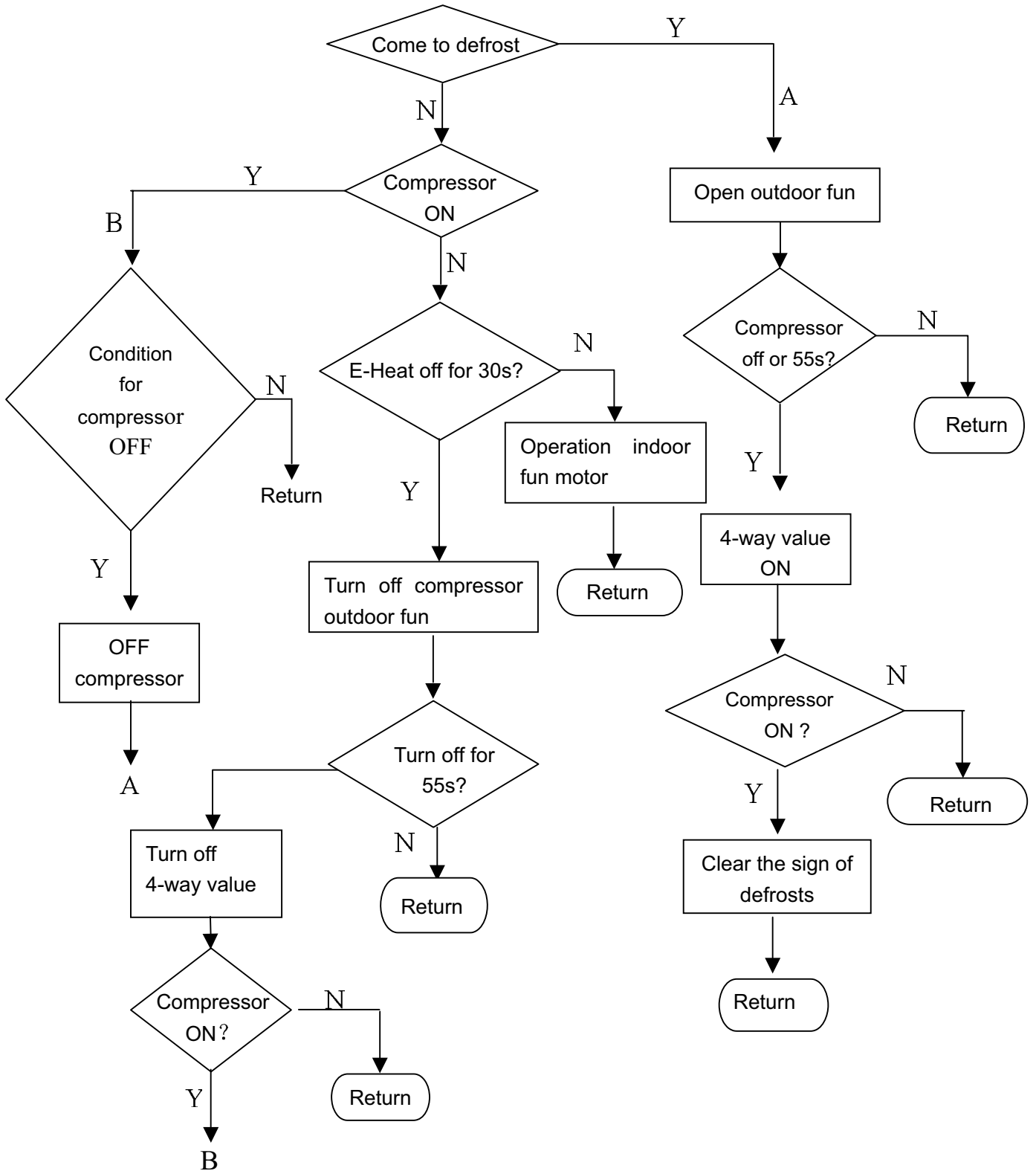
Connection between air conditioner and remote control detector:



### (13) Trial run

Under shut-down state, hold pressing mandatory button. The buzzer will beep once, then twice after 5 seconds. Release the button to enter mandatory cooling mode, under which the indoor blowing fan runs at high speed with both the compressor and outdoor blowing fan working. Press the mandatory button again can end the mandatory mode.

### 7.1.2 Defrost operation flow chart



### 7.2 Inverter unit

#### 7.2.1 Outdoor running frequency and the control procedure

##### 7.2.1.1 Compressor startup

Compressor running frequency range:

Outdoor temp.	~0℃		0℃~	
Heat	20RPS	92RPS	20RPS	83RPS
Cool	20RPS	85RPM	20RPS	85RPS
Defrost	85rpm			

Every time compressor is from OFF to ON, no matter how is the indoor target frequency, compressor running frequency must be stay at 40Hz and 60Hz for 1 minutes (At outdoor discharging temp. overhigh protection and compressor overcurrent protection, the frequency will be reduced), and then rise up to the target frequency. After the unit is in normal, the above procedure is not available.

Note: If the startup frequency for the first time is over 40Hz or 60Hz, it will stay at 40Hz and 60Hz for 1 minute. If the frequency is not over 60Hz, it will only stay at 40Hz for 1 minute. The other conditions will not be limited.

##### 7.2.1.2 Heating mode, cooling mode and dehumidification

After performing the compressor startup procedure, the unit will run according to the indoor frequency.

2 minutes later, the unit will compensate the running frequency due to the relative condition.

##### 7.2.1.3 Compressor frequency rising/reducing speed

Rapid rising/reducing frequency speed 1----1Hz/second

Slow rising/reducing frequency speed 1----1Hz/10 seconds

### 7.2.2 Outdoor motor control

Note: When the outdoor motor needs to change the class, there will be 20-second interval to avoid the fan speed changing frequently.

7.2.2.1 Fan motor speed class has 7 steps, the rotation and class is as follow:

Class-0	Class-1	Class-2	Class-3	Class-4	Class-5	Class-6	Class-7
stop	160	260	360	460	560	760	860

##### 7.2.2.2 Blowing remain heat after compressor shuts off

In cooling mode, when compressor shuts off, outdoor motor will enter speed Class-5 automatically, and will shut off after blowing remaining heat for 30 seconds.

##### 7.2.2.3 Outdoor motor control in cooling/dry mode

- Speed range: class 1-7
- Fan motor locked rotor: When fan motor is requested to work, if fan speed is measured to be below 50RPM and keep for 15 seconds, the compressor will stop, but 3 minutes later, it will re-start up again. If within 20 minutes, the condition occurs 3 times, the unit will stop and alarm.
- When compressor starts up, the unit will adjust automatically in 3 minutes according to the outdoor air inlet temperature, and 3 minutes later, the unit will adjust according to the outdoor ambient temperature and compressor running frequency.

Fan speed chart in 3 minutes after compressor starts up:

Ambient temp.	~10	10~25	25~
Cool, dry	Class-3	Class-5	Class-7
heat	Class-7	Class-5	Class-3

Fan speed chart in 3 minutes after compressor starts up due to the ambient temp. and running

frequency:

Compressor frequency in cooling		F<25Hz	25Hz≤F<45Hz	45≤F
Tao	Over 28℃	Class-3	Class-5	Class-7
	Below 28℃	Class-1	Class-3	Class-5

Compressor frequency in heating		F<25Hz	25Hz≤F<45Hz	45≤F
Tao	Over 15℃	Class-2	Class-4	Class-5
	Below 15℃	Class-3	Class-5	Class-7

### 7.2.2.4 Outdoor fan speed control when selecting AC motor

- Selecting AC motor or DC motor depends on EEPROM.
- Blowing remaining heat: compressor shuts off, fan motor will run at low speed for 30 seconds and then stop.
- Fan speed chart in 3 minutes after compressor starts up:

Ambient temp.	~10	10~25	25~
Cool, dry	Low speed	High speed	High speed
heat	High speed	High speed	Low speed

- Fan speed chart in 3 minutes after compressor starts up due to the ambient temp. and running frequency:

Compressor frequency in cooling		F<25Hz	25Hz≤F<45Hz	45≤F
Tao	Over 28℃	Low speed	High speed	High speed
	Below 28℃	Low speed	Low speed	High speed

Compressor frequency in heating		F<25Hz	25Hz≤F<45Hz	45Hz≤F
Tao	Over 15℃	Low speed	Low speed	High speed
	Below 15℃	Low speed	High speed	High speed

### 7.2.3 Outdoor electronic expansion valve(EEV) control

#### 7.2.3.1 Movement of EEV

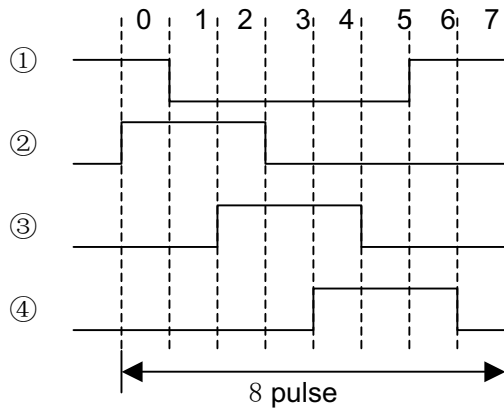
Full-close: after 500 pulse close for 10 times(60 pulse close, 5 pulse open, stop at 5 at last)

Full-open: 480 pulse open

Adjustable upper limitation of open angle: 480 pulse, Adjustable lower limitation of open angle: 5 pulse

Driving speed: open direction: 30.3MS; close direction: 83.3MS

- Drive wave of EEV:



### 7.2.3.2 Retentive open angle in 2 minutes after compressor starts up:

- Cool, dry

Outdoor temp.	~22°C			22°C~		
Compressor frequency	~30	30~60	60~	~30	30~60	60~
PMV open angle	230	220	240	260	250	280

- Heat

Outdoor temp.	~6°C			6°C~		
Compressor frequency	~30	30~60	60~	~30	30~60	60~
PMV open angle	200	180	220	240	230	260

### 7.2.3.3 Standard open angle in 2 minutes after compressor starts up:

- Cool, dry

Outdoor temp.	~22°C			22°C~		
Compressor frequency	~30	30~60	60~	~30	30~60	60~
PMV open angle	250	240	250	220	200	240

- Heat

Outdoor temp.	~6°C			6°C~		
Compressor frequency	~30	30~60	60~	~30	30~60	60~
PMV open angle	150	140	170	180	150	210

### 7.2.3.4 confirmation of over-heat degree

- Standardized over-heat degree

Actual running Hz	~20	~30	~40	~50	~60	~70	~80	~90	90~	
TSH0 (°C)	Cool, dry	2	2	2	4	4	6	6	4	2
	heat	2	2	2	1	1	1	1	0	0

- When discharging temp. Td is too high or too low, modify the EEV angle.

Act after compressor has started up for 4 minutes

Mode	modification angle	Max. modification
Cooling	Td > 95°C, -1 degree / 2 minutes 55°C < Td < 95°C, keep the angle TD < 55°C, +1 degree / 2 minutes, and plus to 0 degree gradually	Max. -5
Cooling	Td < 35°C, +1 degree / 2 minutes 35°C < Td < 40°C, keep the angle TD > 40°C, -1 degree / 2 minutes, and reduce to 0 degree gradually	Max. +5
Heating	Td > 95°C, -1 degree / 2 minutes 55°C < Td < 95°C, keep the angle	Max. -5

	TD<55℃, +1 degree / 2 minutes, and plus to 0 degree gradually	
Heating	Td<35℃, +1 degree / 2 minutes 35℃< Td<40℃, keep the angle TD>40℃, -1 degree / 2 minutes, and reduce to 0 degree gradually	Max. +5

### 7.2.4 4-way valve control

- The 4-way valve control in defrosting: refer to the defrosting procedure.
- 4-way valve control in other modes:  
In heating mode, 4-way valve will open in 10 seconds before compressor starts up. When compressor not startup or in non-heating mode, 4-way valve will close to ensure the compressor has stopped for at least 2 minutes.

### 7.2.5 Outdoor defrosting control

#### A. Enter condition

In heating mode, compressor is running for 10 minutes contineously, or has run for 45 minutes in all (when defrosting is over or entering the cooling mode, the counter will be cleared), by measuring the defrosting sensor TE and outdoor ambient temp. sensor TA, if for 2 minutes the below conditions can be met contineously, system will enter defrosting mode:

$$TE \leq C \times TA - \alpha$$

Here in: C: TA<0℃, C=0.8

$$TA \geq 0℃, C=0.6$$

Select  $\alpha$  as follow according to the data of EEPROM:

Connection choosing	L	M	H
$\alpha$ (℃)	10	7	6

Easy to deforst: select H, uneasy to deforst: select L, set in M when out of the factory.

Entering defrost temperature:  $-15℃ \leq C \times TA - \alpha \leq -5℃$

#### B. Defrost interval time

- When the value of  $C \times TA - \alpha$  is in the range of  $-15℃ \leq C \times TA - \alpha$ , two defrosting interval is 45 minutes.
- When the value of  $C \times TA - \alpha$  is in the range of  $C \times TA - \alpha < -15℃$ , two defrosting interval is 65 minutes.

#### C. Defrost procedure

✧ At the beginning of defrost, compressor will firstly stop for 1 mintue, outdoor fan runs, and 50 seconds later, 4-way valve is OFF.

✧ When compressor starts up, outdoor motor stops, compressor stay at 60Hz for 60 seconds, then compressor frequency will go up to the target frequency 88Hz.

✧ In defrosting, the compressor current, compressor discharging protections are valid. If in defrosting, compressor stops because of the protection or the failure, 3 minutes later, it will resume, and if it still in defrosting time, the unit will still defrost. The compressor will start up due to the principle of startup in defrosting. If contineously the compressor can not start up for 3 times, the unit will deal with the malfunction and quit the defrosting. If in defrosting there is failure, the failure time will not be included in the defrosting time.

✧ In defrosting, only after the compressor min. running time is over 2 minutes, the system can quit the defrosting.

#### D. Quit condition

In any of the below conditions can be met, the defrosting mode will turn into heating operation.

- (1): Outdoor heat exchanger temperature is over 10℃ for 80 seconds contineously.
- (2): Outdoor heat exchanger temperature is over 14℃ for 20 seconds contineously.



(3): Defrost operation for 9 minutes continuously.

E. If the quit condition can be met, the unit will perform:

Compressor stops, and outdoor motor runs. 50 seconds later the 4-way valve is close, then 60 seconds later, compressor will perform as startup procedure.

F. In defrosting period and in 6 minutes after defrosting, the low pressure is shielded.

### 7.2.6 PTC output control

- When outdoor unit is electrified, PTC output is 0, 10 seconds later, it is 1.
- After compressor stops for 10 minutes continuously, PTC output is 0.
- When getting the compressor-start signal, firstly PTC output is 1, 5 seconds later, compressor will start up.

### 7.2.7 Electric heater control

When shutoff, the electric heater will be controlled by the ambient temperature: below 20°C, working; over 26°C, stop.

When the unit switched on, electric heater will not work.

### 7.2.8 Time shorting function, auto-checking function

Time shorting function: If the time shorting port is in short circuit, the unit will perform a 1/60 time shorting control.

Auto-checking function: When first short-circuit then electrified, enter auto-checking, steps: failure LED 1-5, EEV, electric heater, oxygen bar, 4-way valve, low speed –high speed wind.

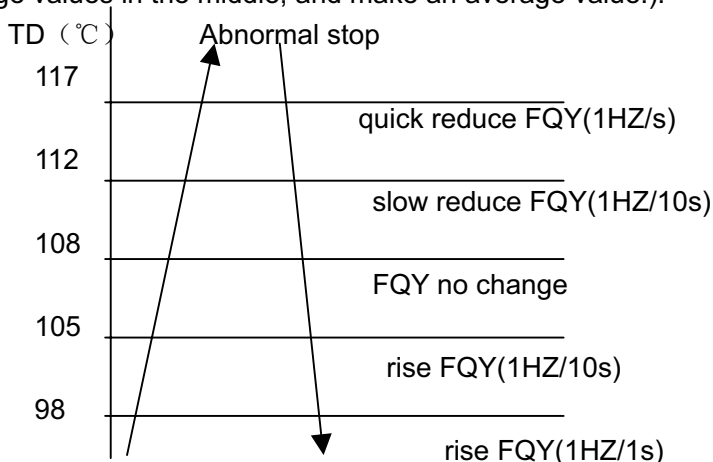
### 7.2.9 Additional functions

7.2.9.1 The interval between compressor stop to startup again is 3 minutes, which can protection compressor. If being electrified for the first time, compressor will start up only when the valve opens to the normal operation angle.

7.2.9.2 TD high temperature protection

As long as the unit is running, the TD discharging overheat protection will work, but the discharging sensor failure will alarm 4 minutes later after compressor starts up.

Measure sensor value: measure for 100 times (The program performs for one period needs 5 ms, every time the system will take samples for 8 times, and make an order for them, taking out 2 average values in the middle, and make an average value.).

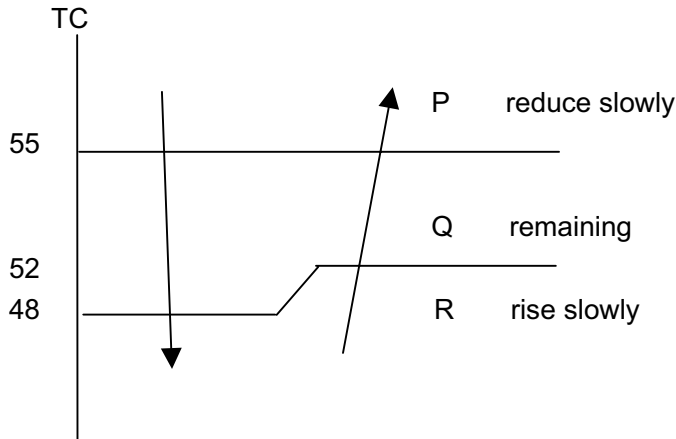


TD > 117°C and keeps for 20 seconds, discharging temperature over high protection will work, the unit will stop and alarm (outdoor indicates, not sending to indoor). the TD overhigh protection occurs 3 times, the unit will stop and alarm (sending to indoor), it can not resume automatically.

7.2.9.3 In heating indoor TC high temperature protection

Indoor heat exchanger temperature will check the indoor coil temperature, if it is over 55°C, the unit will reduce the compressor motor speed to perform the indoor heat exchanger temperature

overhigh protection. If it is below 48°C, the unit will resume to be normal.



P: reduce at the speed of 1Hz/10s

Q: remain the previous value

R: rise at the speed of 1Hz/10s

### 7.2.9.4 Overcurrent protection(realised by power module)

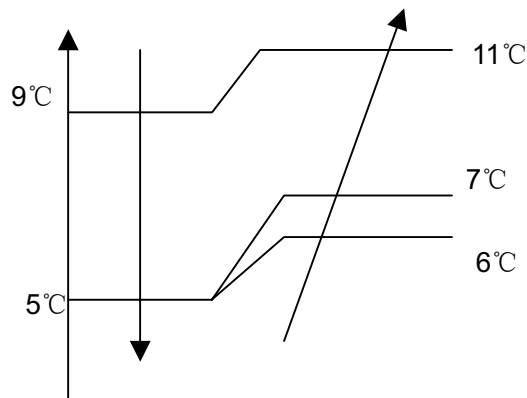
● In the course of compressor startup, if current is over 13A and keeps for 3 seconds, compressor will stop and the unit alarms. 3 minutes later, compressor will re-start up, if in 10 minutes, it occurs for 3 times, the unit will stop and alarm.

### ● Overcurrent reducing frequency protection

When current is over (B)A, compressor will reduce frequency at 1HZ/s, and will stop when it is below (B)A and over (B-1)A, then rise frequency at 1HZ/10s; when current is below (B-1)A, it will resume the target frequency.

Remarks: Power module frequency limited point: 88°C, if the frequency reduces down to 86°C, but if it is up to 90°C, the unit will stop and alarm.

### 7.2.9.5 Indoor heat exchanger anti-freezed protection



When  $T_c < 5^\circ\text{C}$ , compressor frequency will reduce at 1HZ/10s

When  $T_c$  begins to rise up, and  $6^\circ\text{C} \leq T_c \leq 7^\circ\text{C}$ , compressor frequency will remain

### 7.2.9.6 Outdoor temperature limitation

Cool: When outdoor temperature is below 15°C, in cooling, compressor frequency will be limited below 50Hz, and outdoor fan speed is compusorily Class-1.

Heat: When outdoor temperature is over 20°C, in heating, compressor frequency will be limited below 50Hz, and outdoor fan speed is compusorily Class-1.

If the above is AC motor, the compulsory fan speed will be low speed.

### 7.2.9.7 Rated operation

- Rated cooling:

When receiving the indoor rated operation command, the unit will enter rated cooling operation.

- Rated heating:

When receiving the indoor rated operation command, the unit will enter rated cooling operation.

When receiving the indoor min. heating operation command, the unit will enter min. heating operation.

In rated operation period, the frequency can be adjusted by manual. Once being adjusted by manual, the unit will not receive the indoor frequency.

### 7.2.9.8 Outdoor compulsory operation

- Compulsory cooling operation

Put the first bit of dip switch on the indicator board at OFF, the unit will enter compulsory cooling operation, as follow:

Compressor startup	Current, discharging protection and failure treatment	Operation before the base open angle	3 minutes later after compressor is running	Manual adjustment
normal	normal	Normal	1: fixed base open angle 2: fixed running frequency 60HZ 3: fixed outdoor motor speed: class-7	1: angle adjusted by hand 2: frequency adjusted by hand 3: fan speed adjusted by hand

- Compulsory heating operation

Put the second bit of dip switch on the indicator board at OFF, the unit will enter compulsory heating operation, as follow:

Compressor startup	Current, discharging protection and failure treatment	Operation before the base open angle	3 minutes later after compressor is running	Manual adjustment
normal	normal	Normal	1: fixed base open angle 2: fixed running frequency 50HZ 3: fixed outdoor motor speed: class-7	1: angle adjusted by hand 2: frequency adjusted by hand 3: fan speed adjusted by hand

### 7.2.9.9 High pressure switch

3 minutes later after compressor starts up, the system will check the pipe pressure. If the pipe pressure is over high and high pressure switch acts for over 30 seconds, the compressor and outdoor motor will stop, 3 minutes later, the unit will resume. If in 30 minutes the unit stops for 3 times because of overhigh pressure, the system will alarm, then compressor will not start up again; when being electrified after being powered off, the protection will be cancelled.

### 9.10 Low pressure switch

When compressor stops, if low pressure switch acts for 30 seconds contineously, the unti will alarm.

When compressor starts up, in 3 minutes, low pressure switch will be shielded.

In defrosting or in 6 minutes after defrosting is over, low pressure switch will be shielded.

### 7.2.9.11 Failure code and troubleshooting

- Alarm lamp is off when no failure

**Ensure that alarm indicating time is over 2 minutes and 50 seconds.**

(1): Resumable alarm, and will be sent to indoor unit.

(2): Resumable alarm, but if in 30 minutes it occurs 3 times, it can be resumed only when being electrified after being powered off.

Failure code	Emission code	Outdoor indicator display	Failure description	Corresponding outdoor PCB failure
01	01	00001	Power module	IPM protection
02	02	00010	DC fan motor failure	DC fan motor failure
03	no	00011	Communication failure	Outdoor alarms, not sends to indoor. If no communication in 4 minutes, outdoor shuts off and alarm, the failure can be resumable.
04	04	00100	Compressor discharging temperature too high	Discharging temp. over 117°C, it will confirm 3 times in 30 minutes and then send signal to indoor.
05	05	00101	Over current	AC current overhigh protection or current transducer broken down.
06	06	00110	Outdoor ambient temp. sensor failure	Resumable, if sensor is disconnected, alarm will occur and keeps for 3 minutes, then resumes due to signal.
07	07	00111	Outdoor coil temp. sensor failure	Outdoor defrosting sensor, discharging sensor abnormal
08	08	01000	High pressure switch failure	Acts 3 times in 30 minutes
09	09	01001	Discharging temp. sensor failure	Alarm 4 minutes later after starting up, discharging temperature abnormal
10	10	01010	Power supply over high/low voltage	Pre-set for 50Hz
11	No	No	Overload in heating	No send signal to indoor
12	No	No	No	No send signal to indoor
13	No	No	No	No send signal to indoor
14	14	01110	Outdoor EEPROM failure	Outdoor EEPROM failure
15	1	01111	Power module failure	Compressor blocked
16	1	10000	Power module failure	Compressor heavy vibration
17	1	10001	Power module failure	Abnormal compressor startup
18	18	10010	Power module failure	Compressor running faulty
19	19	10011	Power module failure	Detecting circuit abnormal
20	1	10100	Power module failure	Compressor broken down
21	No	10101	Compressor suction temp. too high—for the unit with EEV	10 minutes later after startup, measure TS over 40°C for 5 minutes
22	No	10110	Communication failure between outdoor PCB and the module	Not communicate for 4 minutes contineously, it will alarm

23	1	10111	Module malfunction	Module temp. over high
24	24	11000	Low pressure switch failure	Low pressure switch acts for 30 seconds contineously
No	No	No	Temperature cutoff protection	

- 1) Indoor pipe temp. is abnormal, outdoor default cooling temp. : 5°C, heating temp.: 40°C. The above temperatures are normal.
- 2) In defrosting, and in 3 minutes after defrosting is over, if sensor is abnormal, there will not alarm.
- 3) Outdoor defrosting temp. sensor: when ambient temp. is below -5°C, detect after having start for 3 minutes.

### 7.2.9.12 Backup operation

Outdoor TC failure treatment: outdoor LED alarms, but the failure code will not be sent to other place, the outdoor default TC is as follow: cooling temperature, 5°C; heating temperature, 40°C.

### 7.2.9.13 Special functions

#### 1) Power operation

When receiving the Power operation signal from indoor, the unit will operate as the set frequency by EEPROM. Fan speed will depend on the ambient temperature and the frequency. When the Power signal is cancelled by indoor, the Power operation will stop.

#### 2) Soft operation

When receiving the Soft operation signal from indoor, the unit will operate as the set frequency by EEPROM. Fan speed will depend on the ambient temperature and the frequency. When the Soft signal is cancelled by indoor, the Soft operation will stop.

#### 3) Time shorting operation

When receiving the time shorting signal, the unit will perform the 1/60 time shorting operation.

#### 4) Compulsory cooling operation

When receiving the compulsory cooling signal from indoor unit, the unit will execute the compulsory cooling operation at the frequency sent from indoor. Only discharging temperature protection and current protection are valid, all the other protections are invalid.

5) Oxygen bar: start after receive indoor oxygen bar signal, the outdoor motor should run at 1-class speed when compressor stop.

#### 6) Manual defrosting

When receiving the manual defrosting signal from indoor, the unit will enter the defrosting operation immediately. The interval between two manual defrosts is at least 3 minutes. If the communication protoco has not the set, this function is not available.

#### 7) Rated, Middle, Minimal operation

When receiving the rated/middle/minimal operation signal from indoor, the unit will operate at the frequency and fan speed set by EEPROM, meanwhile, all the protections are valid.

### 7.2.9.14 Outdoor indicator

Five-indicator combination shows the failure code.

4-bit dip switch: the normal position is ON.

First bit: OFF, compulsory cooling.

Second bit: OFF, compulsory heating.

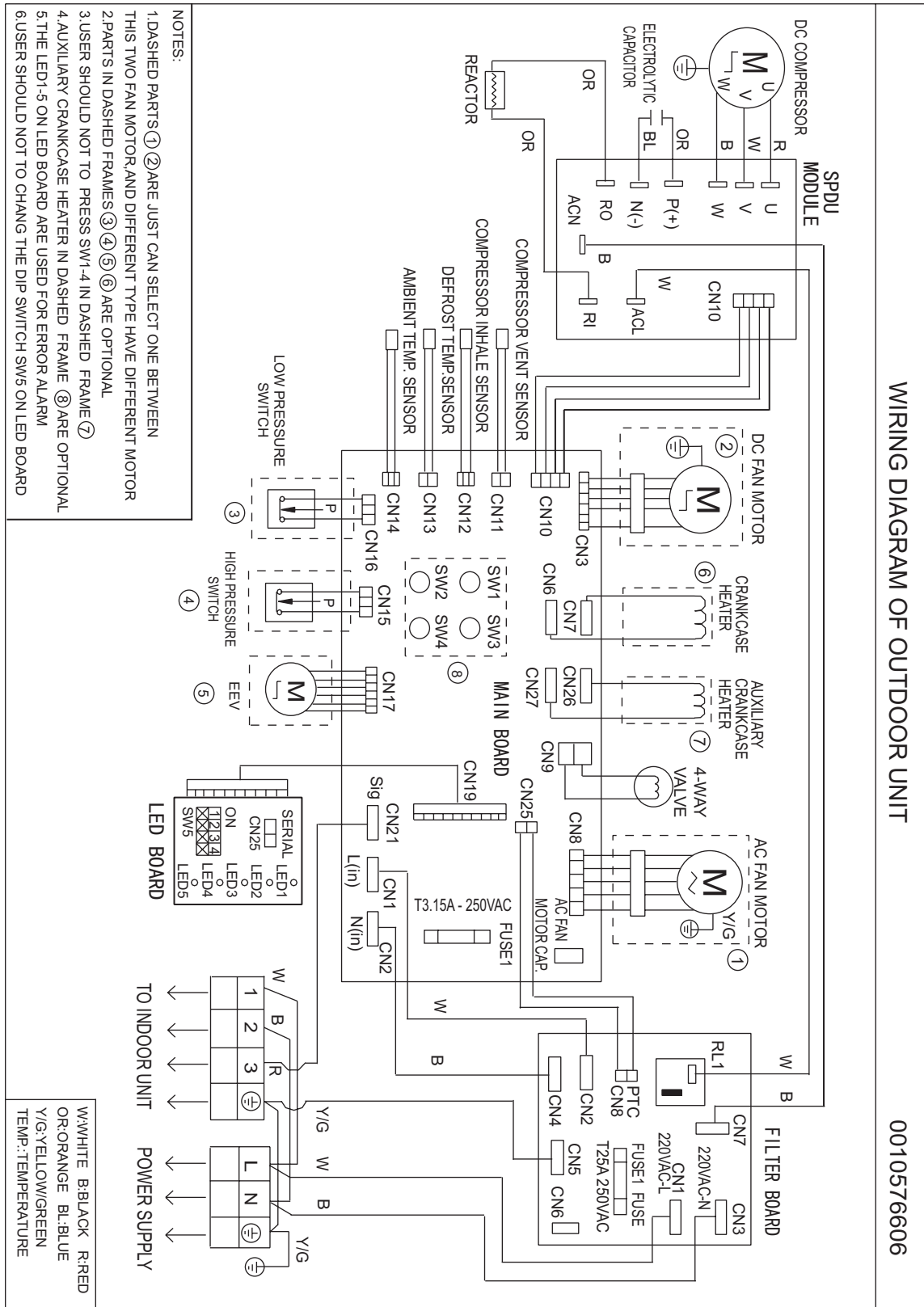
Third bit: OFF, backup operation (outdoor ambient temp.).

Fourth bit: OFF, DC fan motor (ON, AC fan motor).

### 8 Electrical wiring diagram and PCB photo

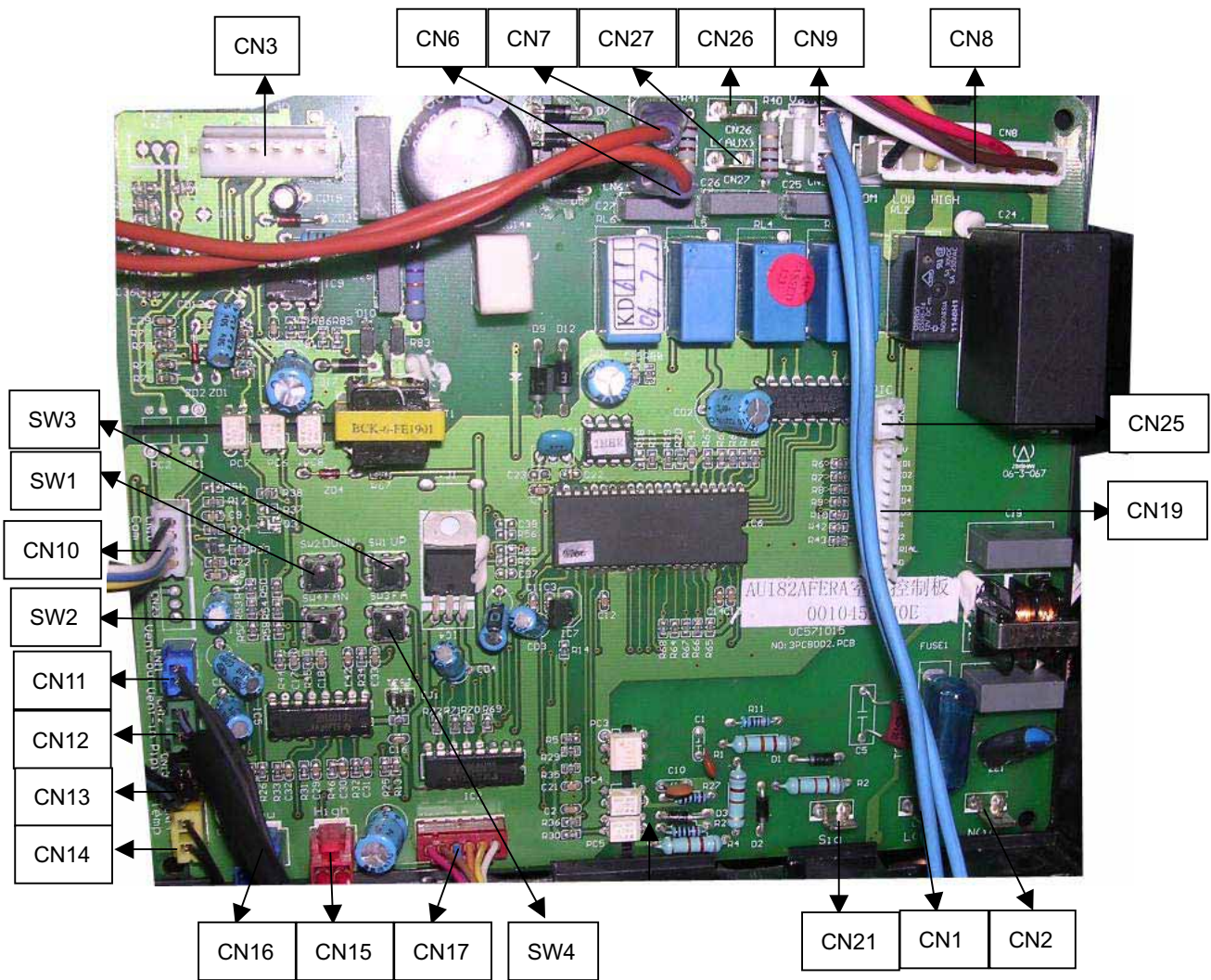
#### 8.1 Inverter outdoor unit

AU182AFERA, AU242AGERA

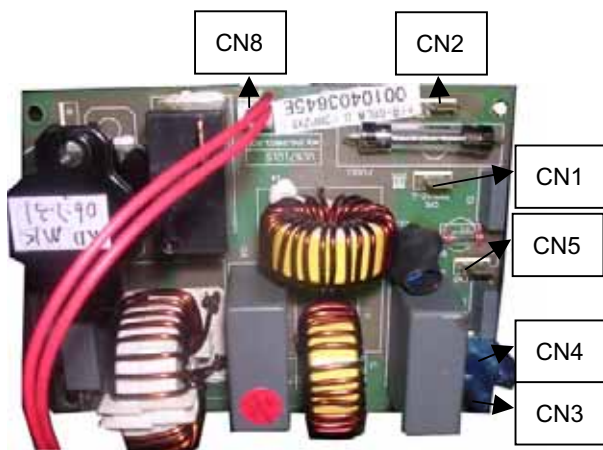


Note: the PCB code for AU182AFERA and AU242AGERA is 0010452040.

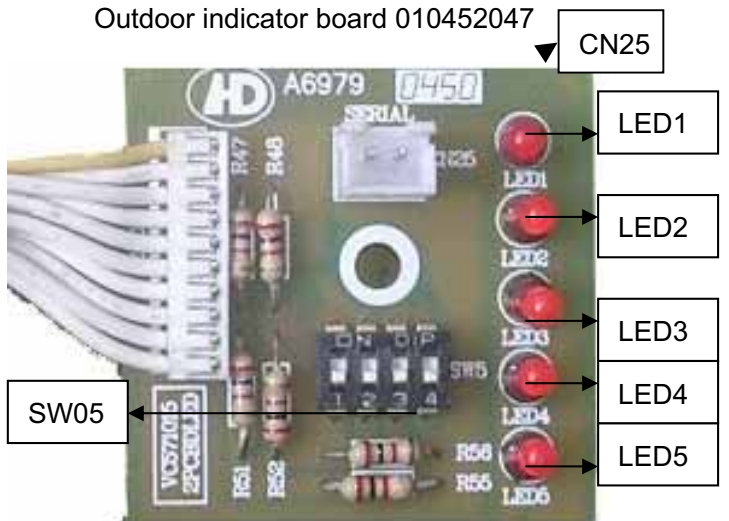
Outdoor main control board 0010452040



Outdoor filter board 0010403645

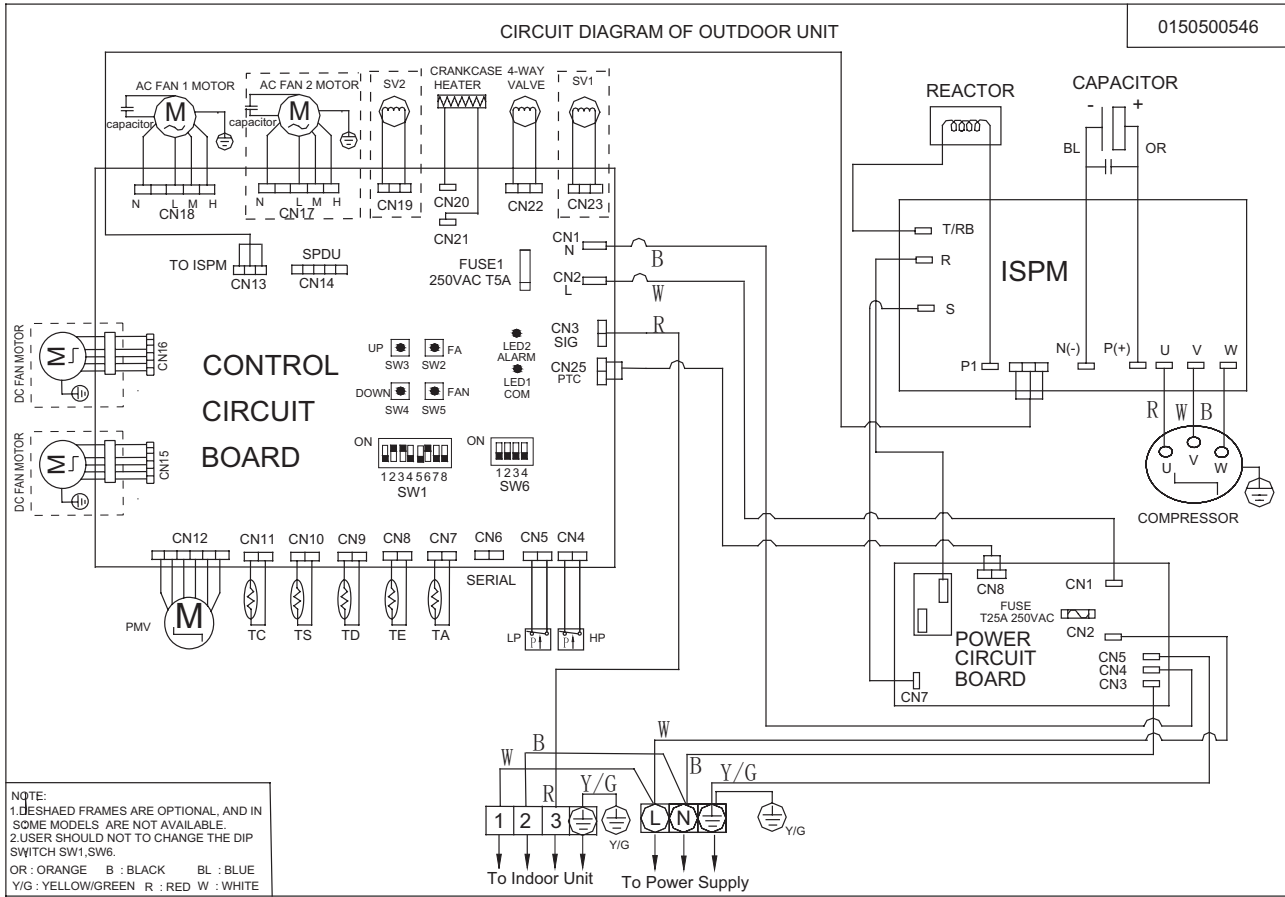


Outdoor indicator board 010452047

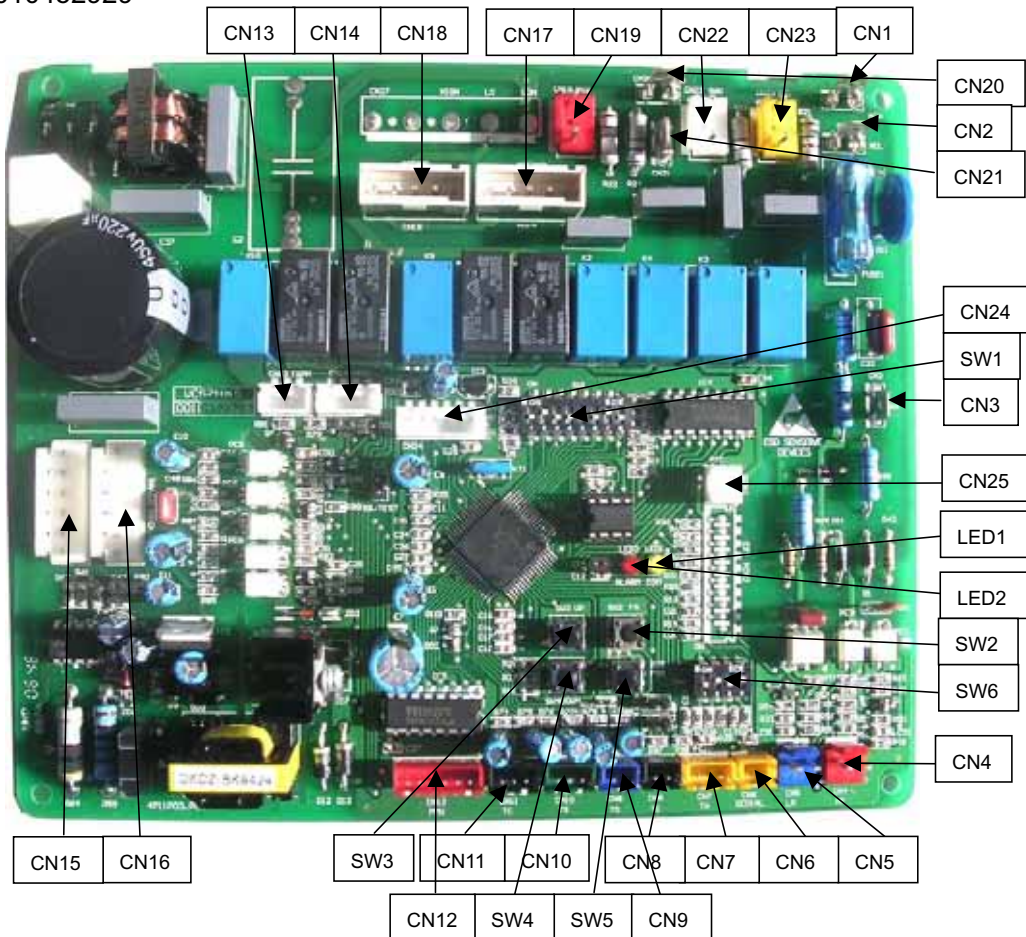


SW05 is used for factory quality control engineers, the default position is: OFF OFF OFF ON for AU182AFERA, as for AU242AGERA, the default position is: OFF OFF OFF OFF, for the above models, there are also module board 0010403555.

### AU362AHERA



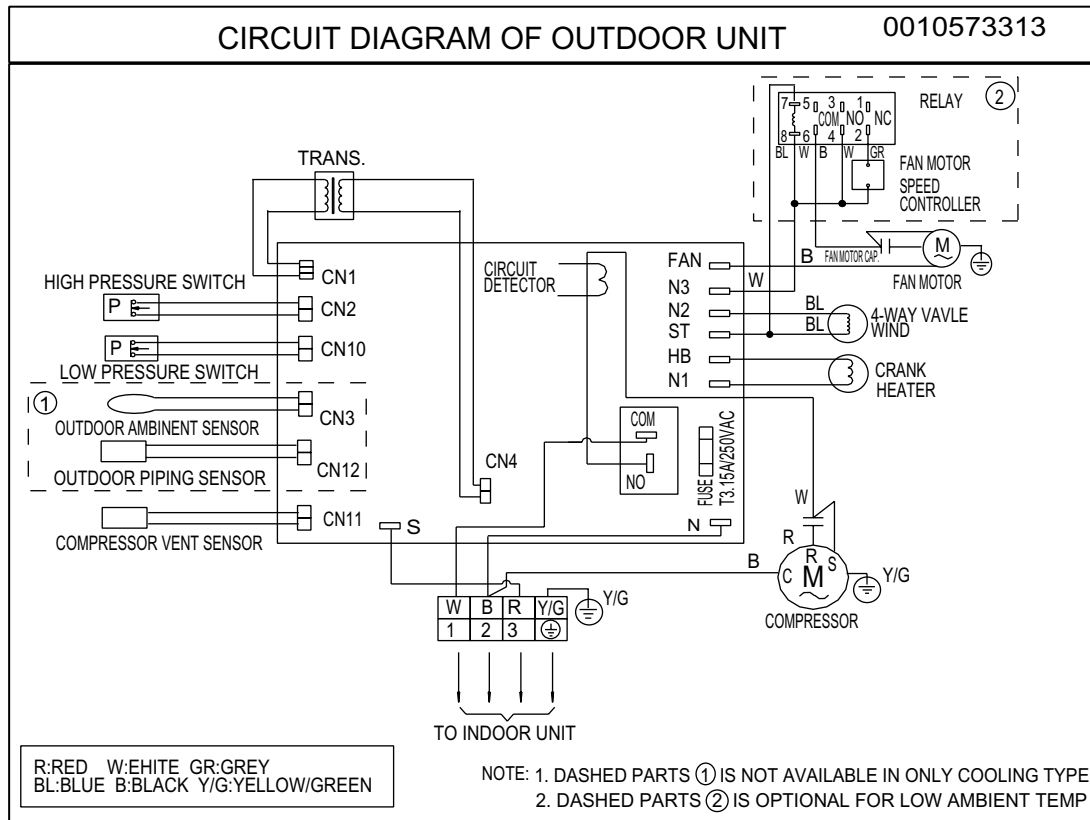
### Outdoor PCB 0010452929



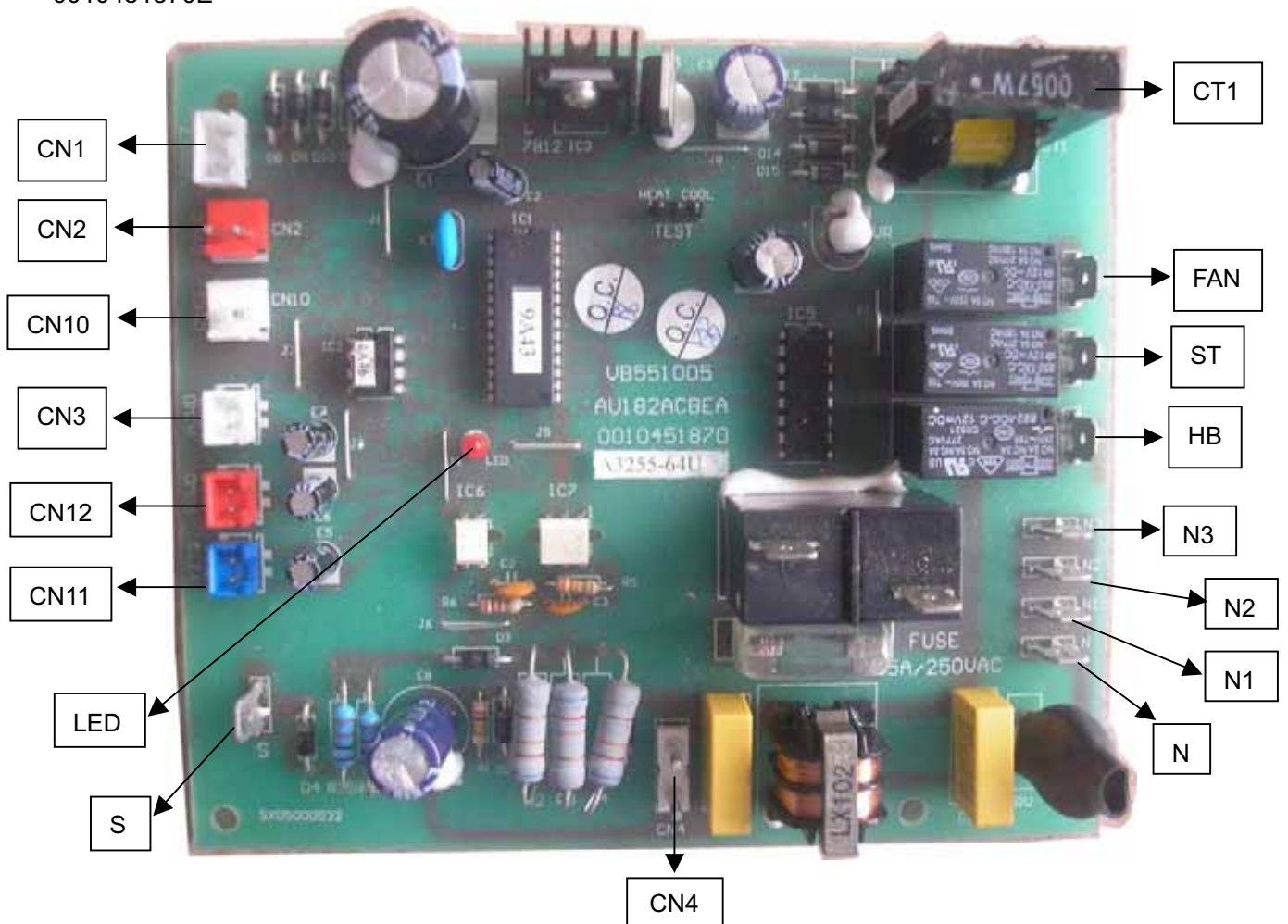


### 8.2 Fixed frequency outdoor unit

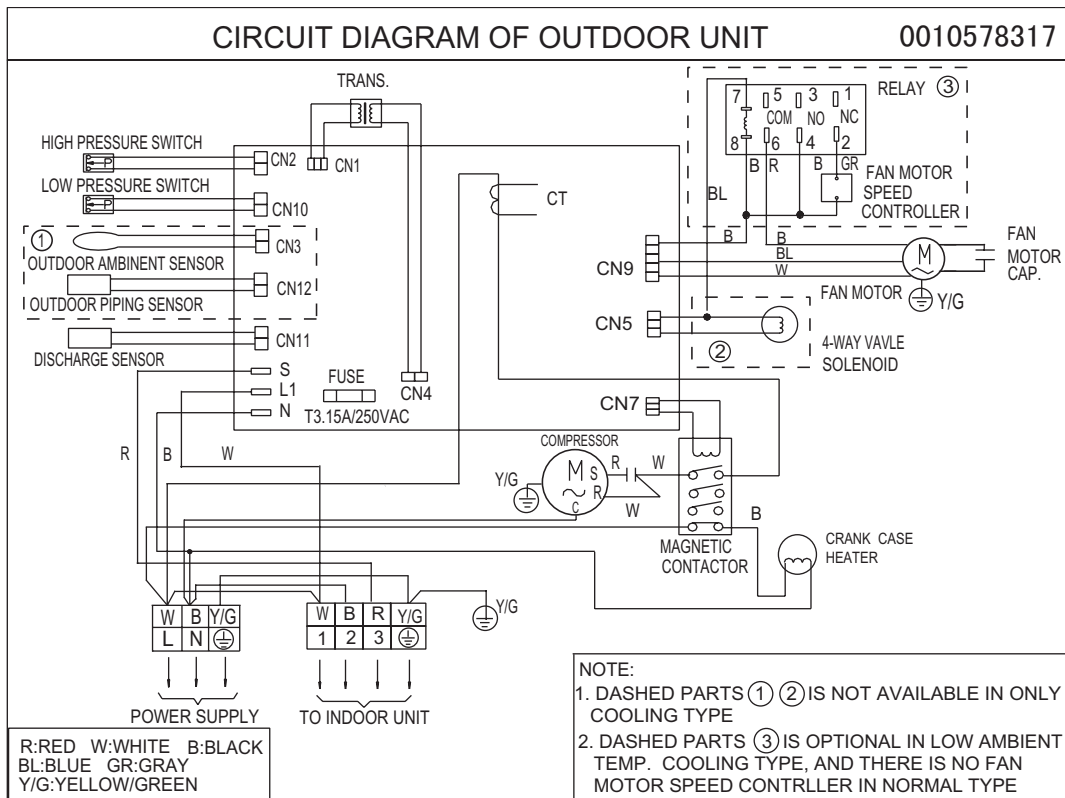
AU182AEEAA



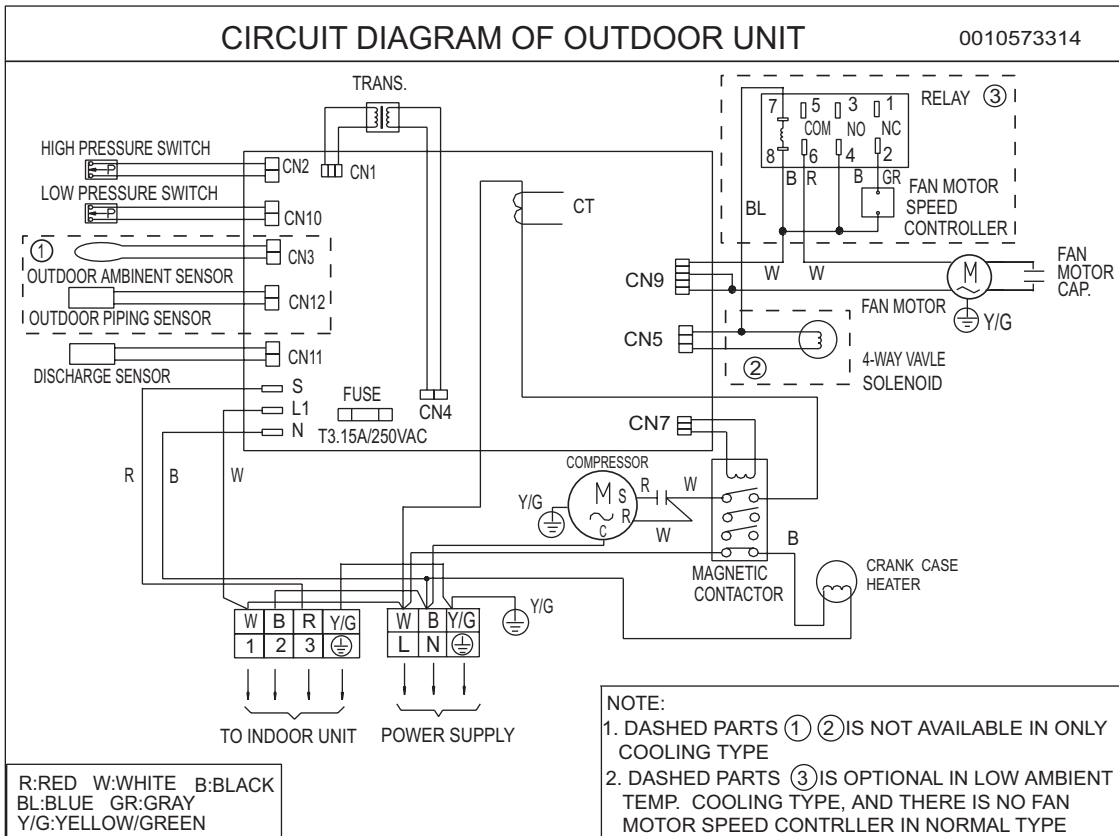
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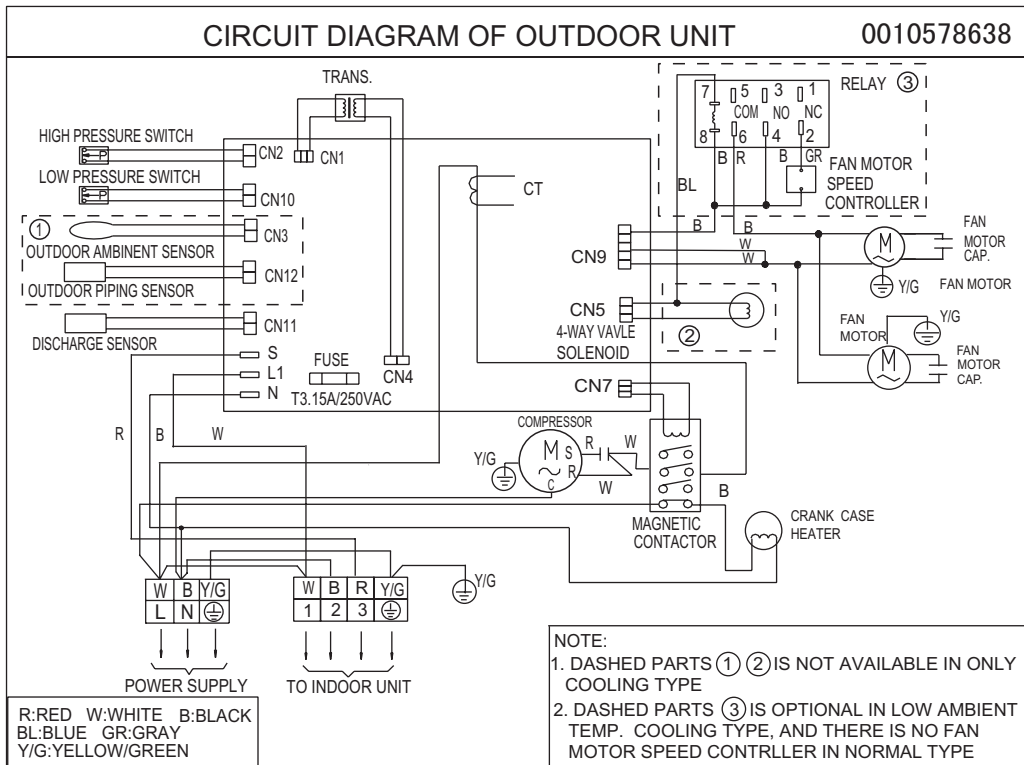
AU242AGEAA



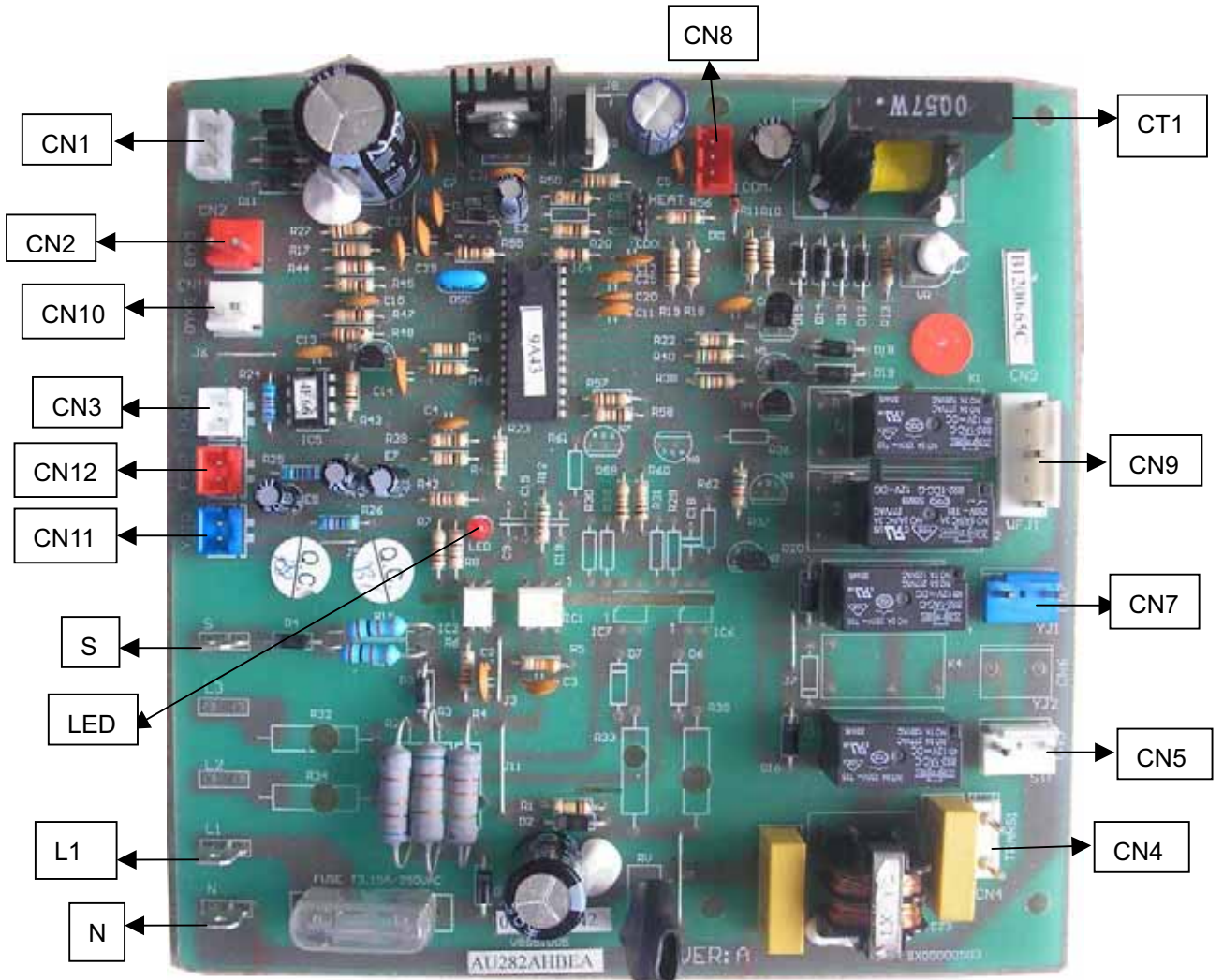
AU282AHEAA



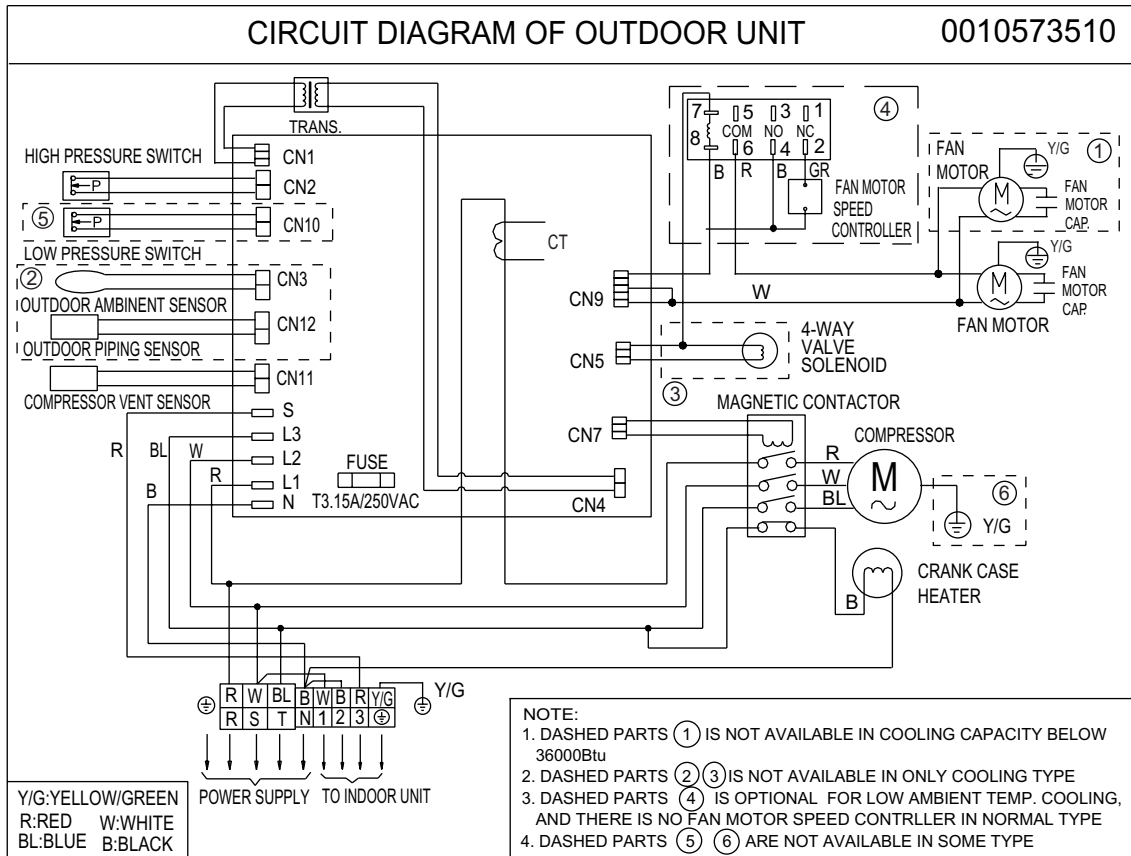
AU362AIEAA



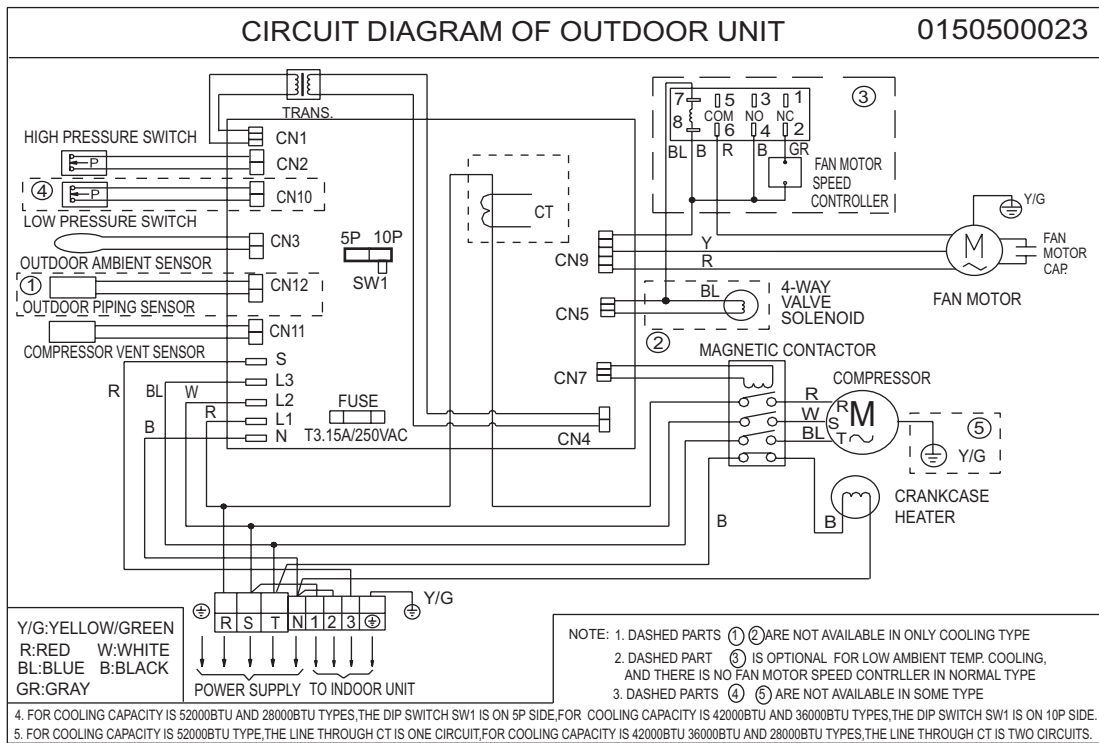
0010452442E



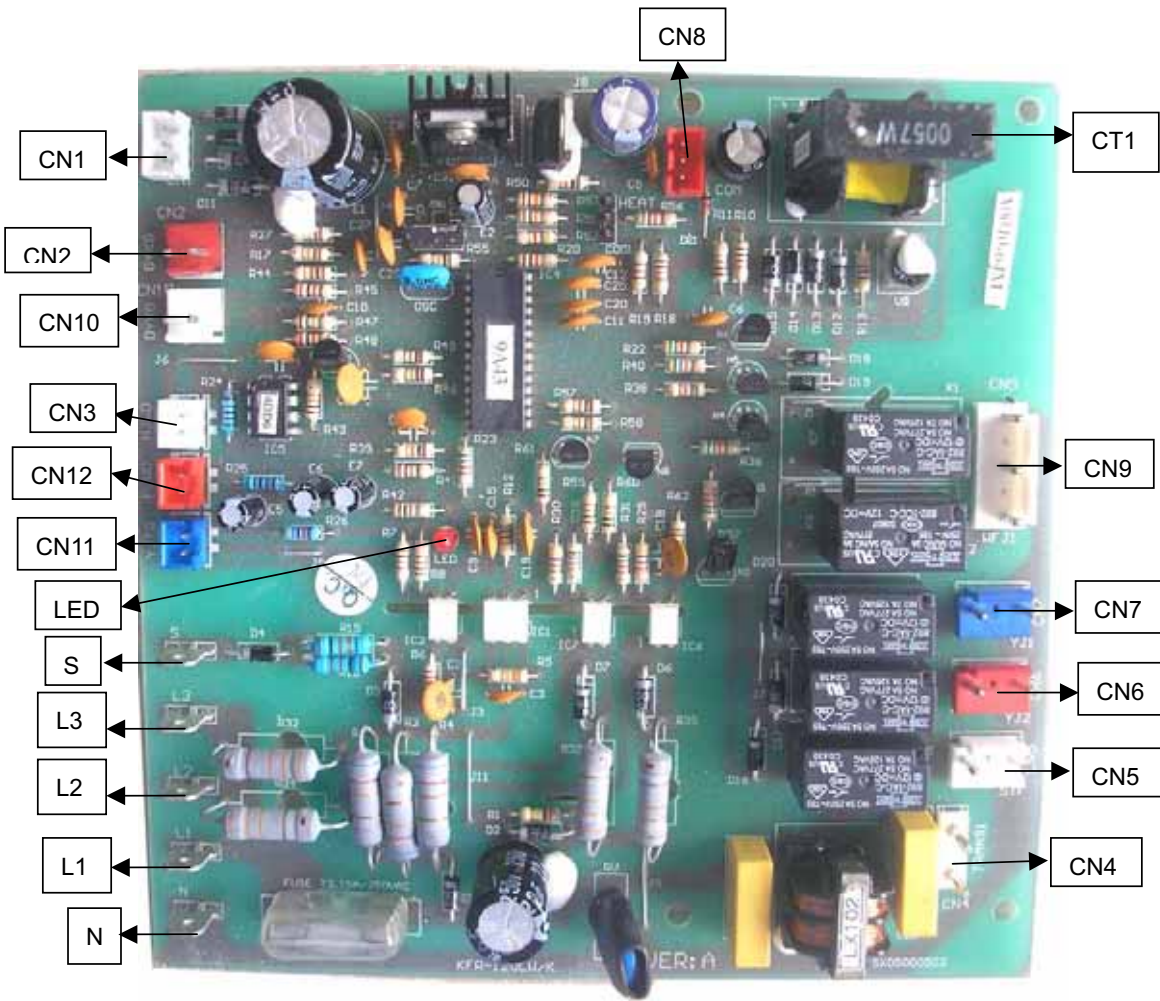
AU28NAHEAA, AU36NAIEAA, AU48NAIEAA, AU60NAIEAA



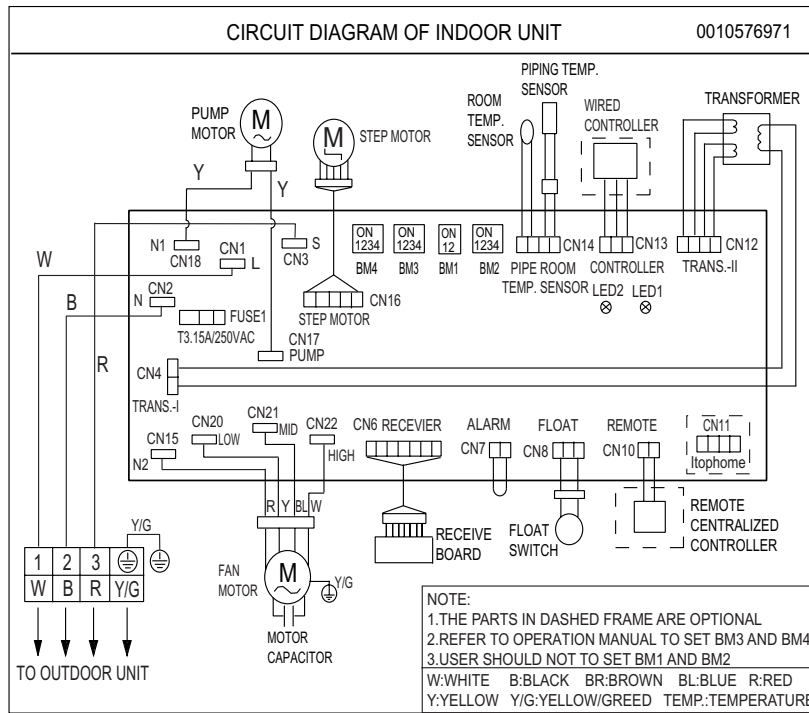
AU42NALEAA



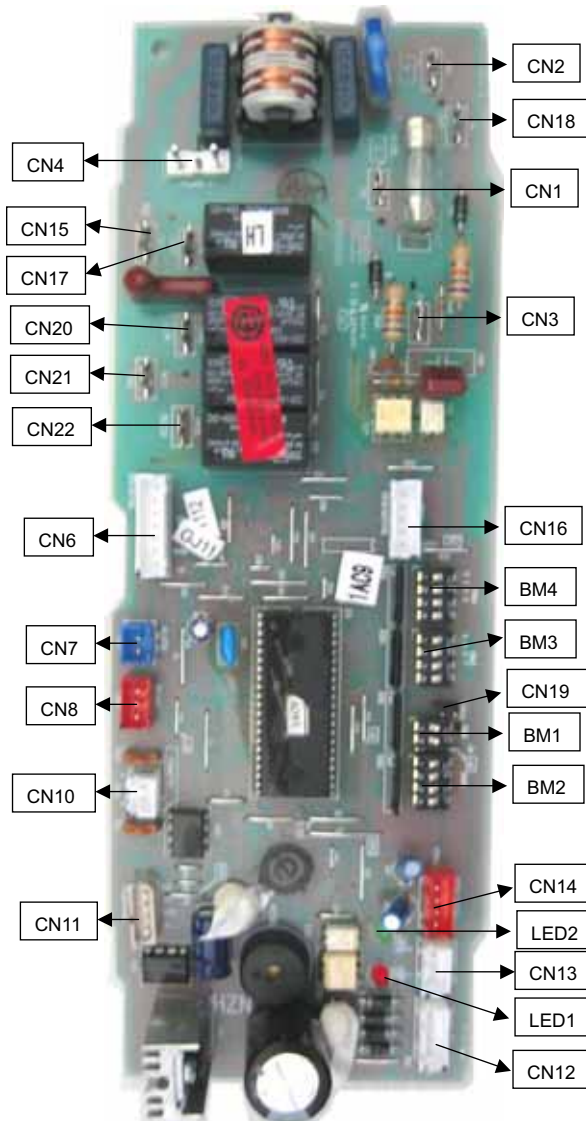
0010452378E



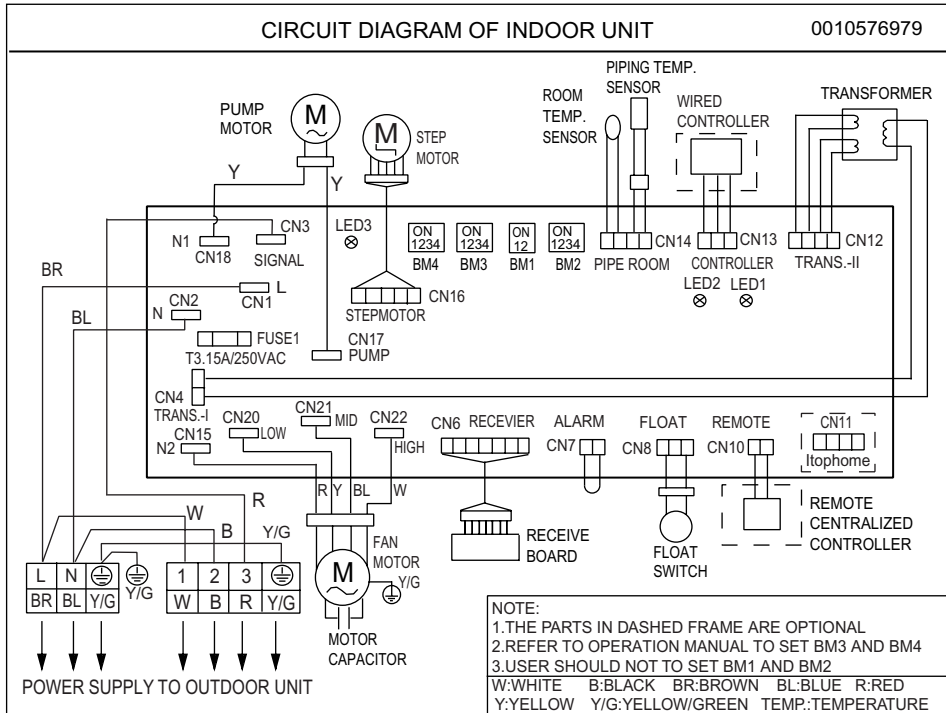
### 8.3 Indoor unit AB182ACERA



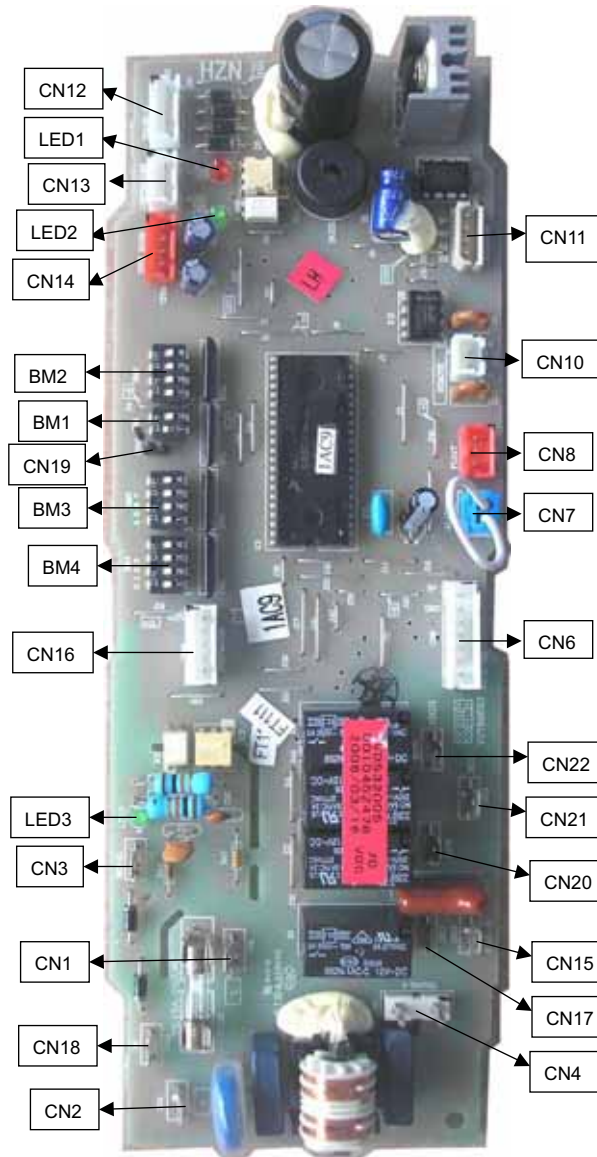
0010452325E



AB182ACEAA



0010452478E



## 0010452325E / 0010452478E information - function selection

**Jumper selection** ( ✓ shows jumper connected, ON; ✕ shows jumper disconnected, OFF; \* shows no limitation)

	Time shorting switch	Emergency switch	No outdoor PCB	With outdoor PCB, fixed speed single split unit	With outdoor PCB, fixed speed multi split unit	With outdoor PCB, inverter single split unit	Inverter unit selection	Temp. compensation 4 °C available/not available	Wired control/ infrared control	Cooling only/heatpump	Master/slave wired controller	Time shorting switch CN7	Emergency switch SW1 (receiver)	BM1(1)	BM1(2)
														*	*
	*	*	*	*	*	*	BM2(1)	✓/✕	*	*	*		*	*	*
	*	*	*	*	*	*								✕	✕
	*	*	*	*	*	*							✓	✓	✓
	*	*	*	*	*	*							✕	✕	✓
	*	*	*	*	*	*							✓	✓	✓
							BM2(1)	✓/✕	*	*	*			BM2(3)	BM2(4)
														*	*
														*	*
														✓/✕	*
														*	✓/✕

**Network address selection** ( ✓ shows jumper connected, ON; ✕ shows jumper disconnected, OFF)

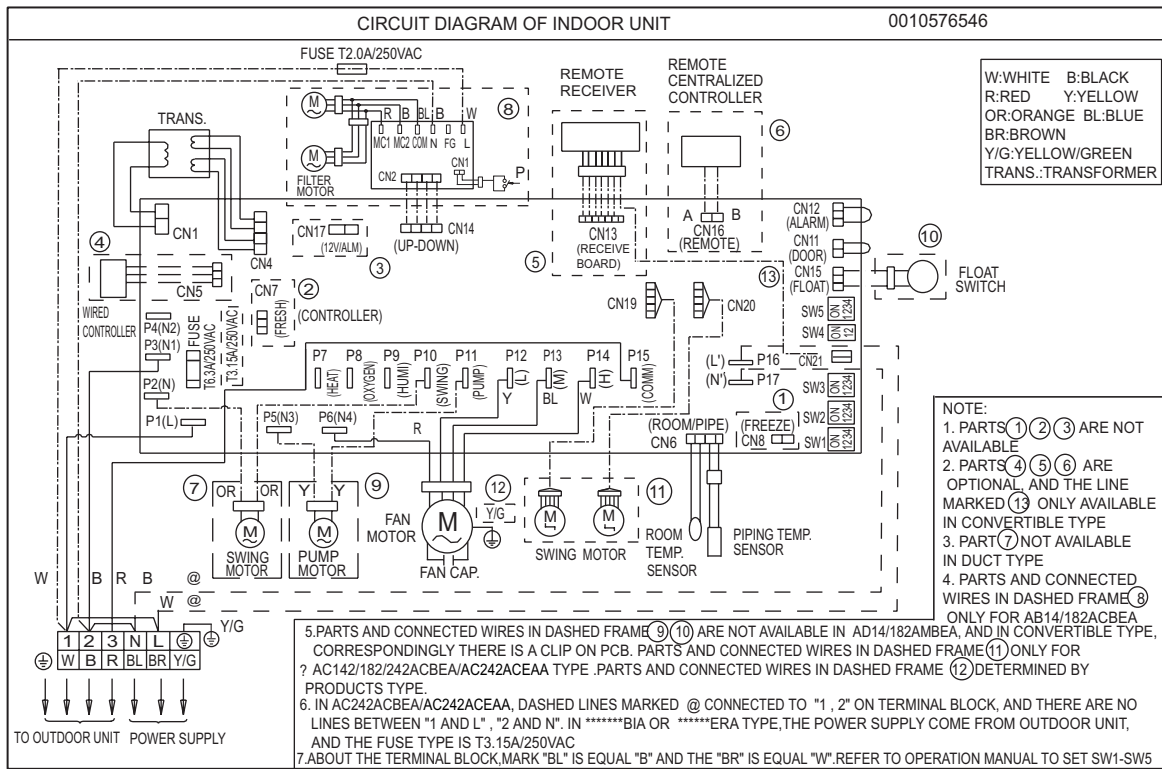
address	BM4				BM3			
	1	2	3	4	1	2	3	4
1	✕	✕	✕	✕	✕	✕	✕	✕
2	✓	✕	✕	✕	✕	✕	✕	✕
3	✕	✓	✕	✕	✕	✕	✕	✕
4	✓	✓	✕	✕	✕	✕	✕	✕
5	✕	✕	✓	✕	✕	✕	✕	✕
6	✓	✕	✓	✕	✕	✕	✕	✕
.....		.....	.....	.....	.....	.....	.....	.....
126	✓	✕	✓	✓	✓	✓	✓	✓
127	✕	✓	✓	✓	✓	✓	✓	✓
128	✓	✓	✓	✓	✓	✓	✓	✓

✕ shows no network home appliance

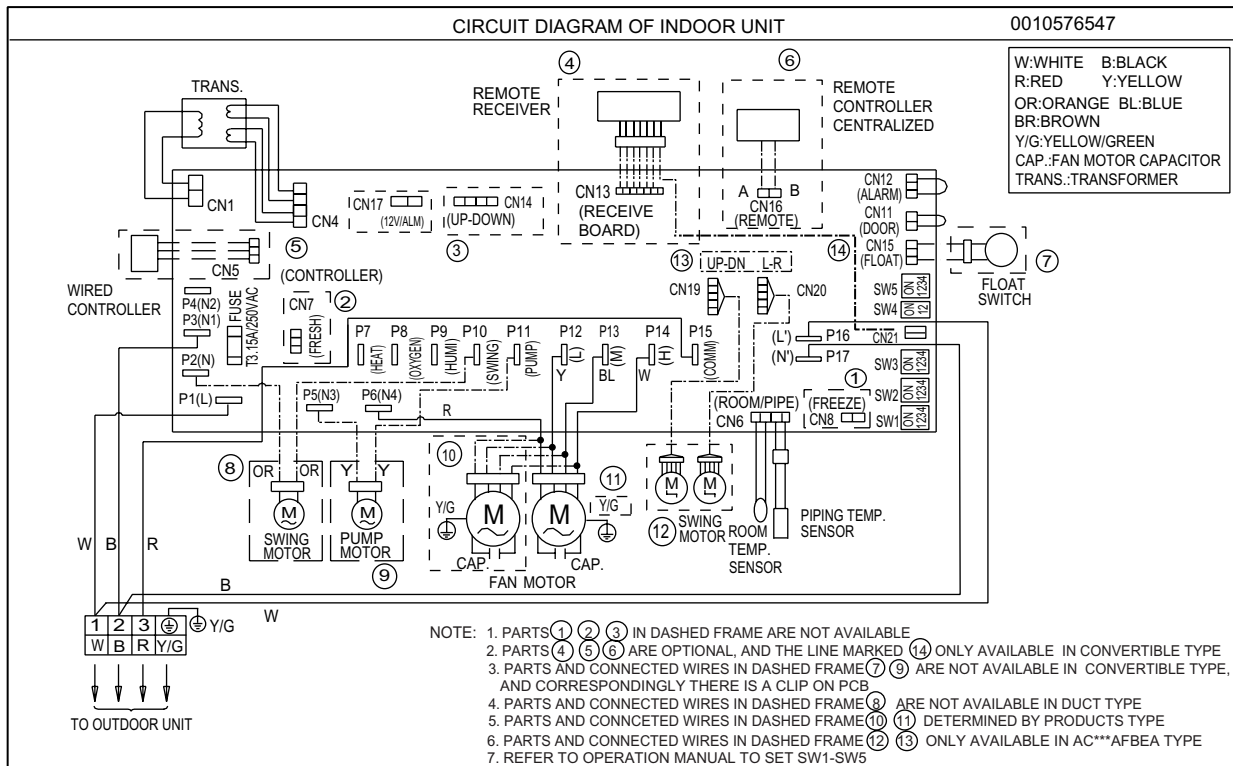
✓ with network home appliance



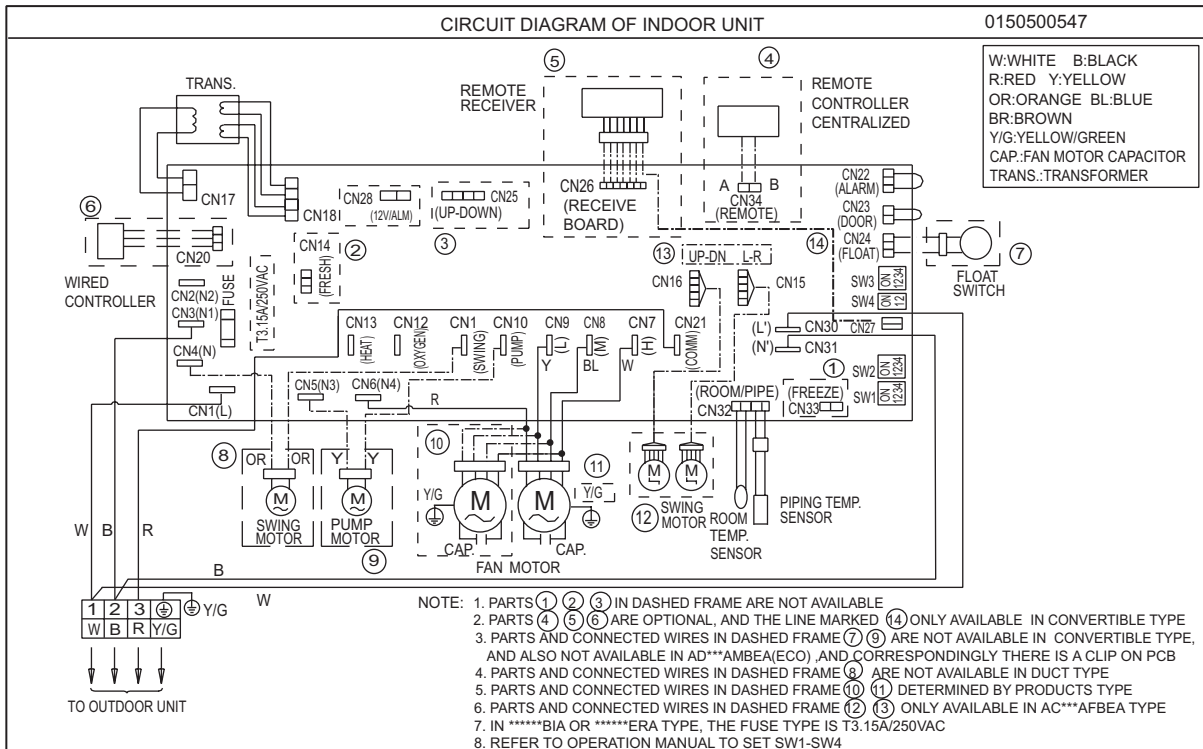
AC182/242ACERA, AC182/242ACEAA, AD182AMERA, AD182ALEAA



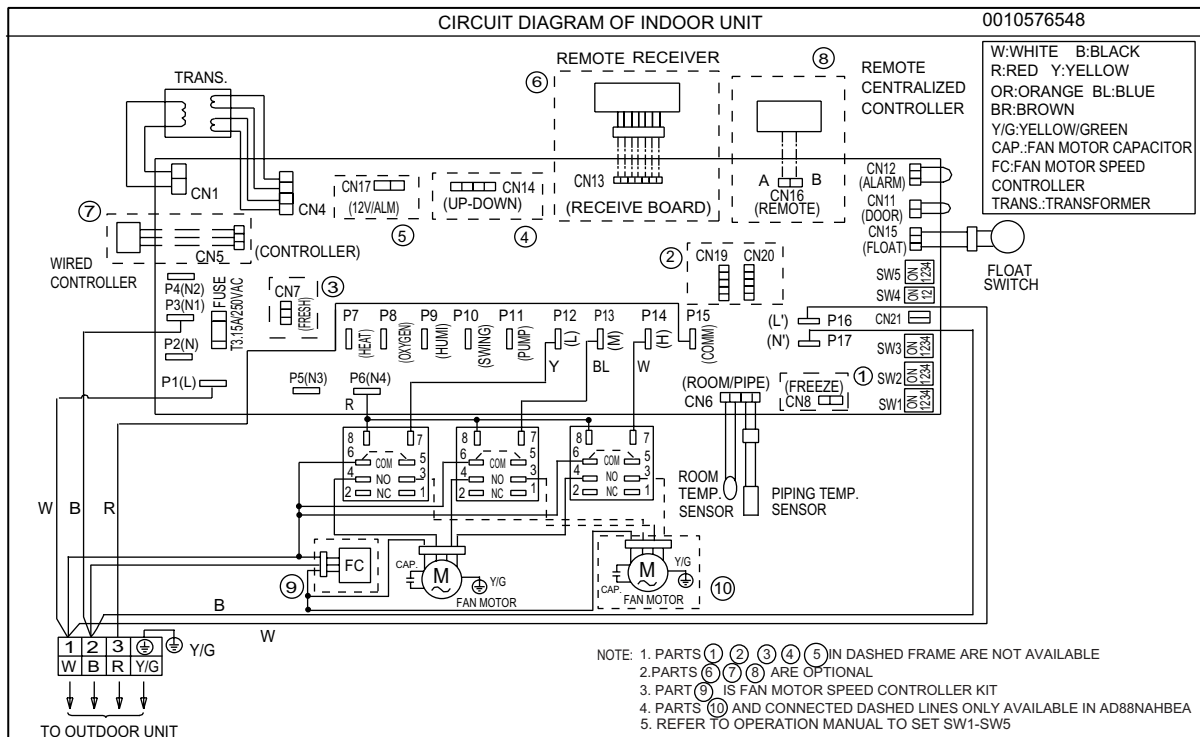
AB242/362ACERA, AB242/282/482/602ACEAA, AC282/362/482/602AFEEA, AD242ALERA, AD242ALEAA, AD242/282/362/482AMEAA, AD242/362AMERA, AB362ACERA



### AC362AFERA

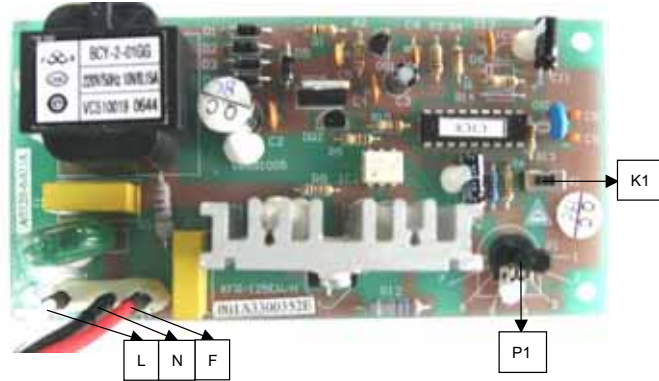


### AD282/362/482/602AHEAA



Note: for the above indoor units, the PCB code is 0010451690E / 0010451167E, the detail information please refers to page 53 and page 54.

Fan speed control board 001A3300352E



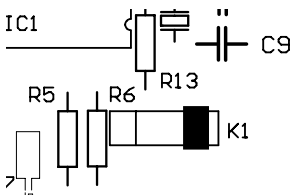
### Fan speed adjusting board test method

Connect the test device with fan speed adjusting board, dial power switch ON, then revolve P1 slowly to place 1, place 2, place 3... until place 8, the indicate lamp of port F(voltage output controlled by fan motor) will change from dark to light, revolve P1 slowly from place 8 to place 1, the indicate lamp of port F will change from light to dark.

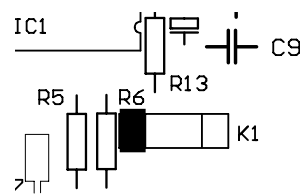
Place	Port F voltage output (VAC)
1	132-139
2	151-158
3	168-175
4	184-190
5	196-203
6	205-211
7	212-218
8	220

Note: the voltage in each place is tested in the condition of power voltage is 220V and frequency is 50Hz. When power characteristics (voltage, frequency) change and load characteristic is different, the port F voltage output will change.

Test K1 according to the following method:

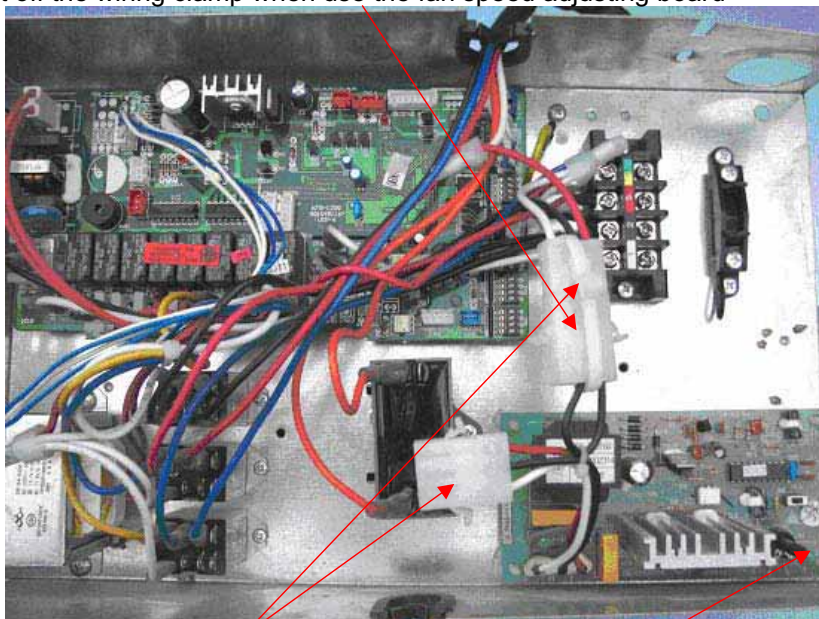


50Hz is selected if dial K1 to the right



60Hz is selected if dial K1 to the left

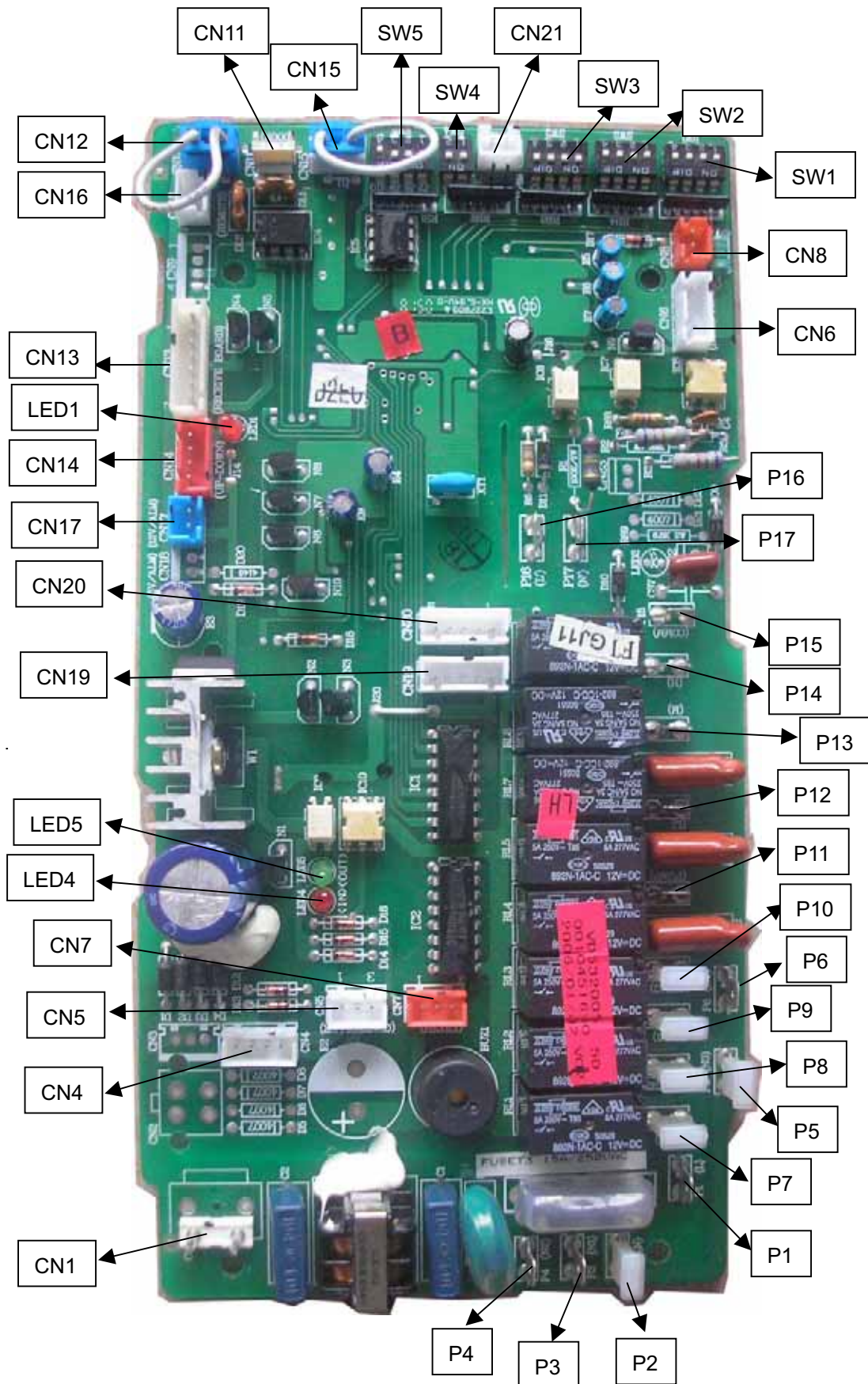
cut off the wiring clamp when use the fan speed adjusting board



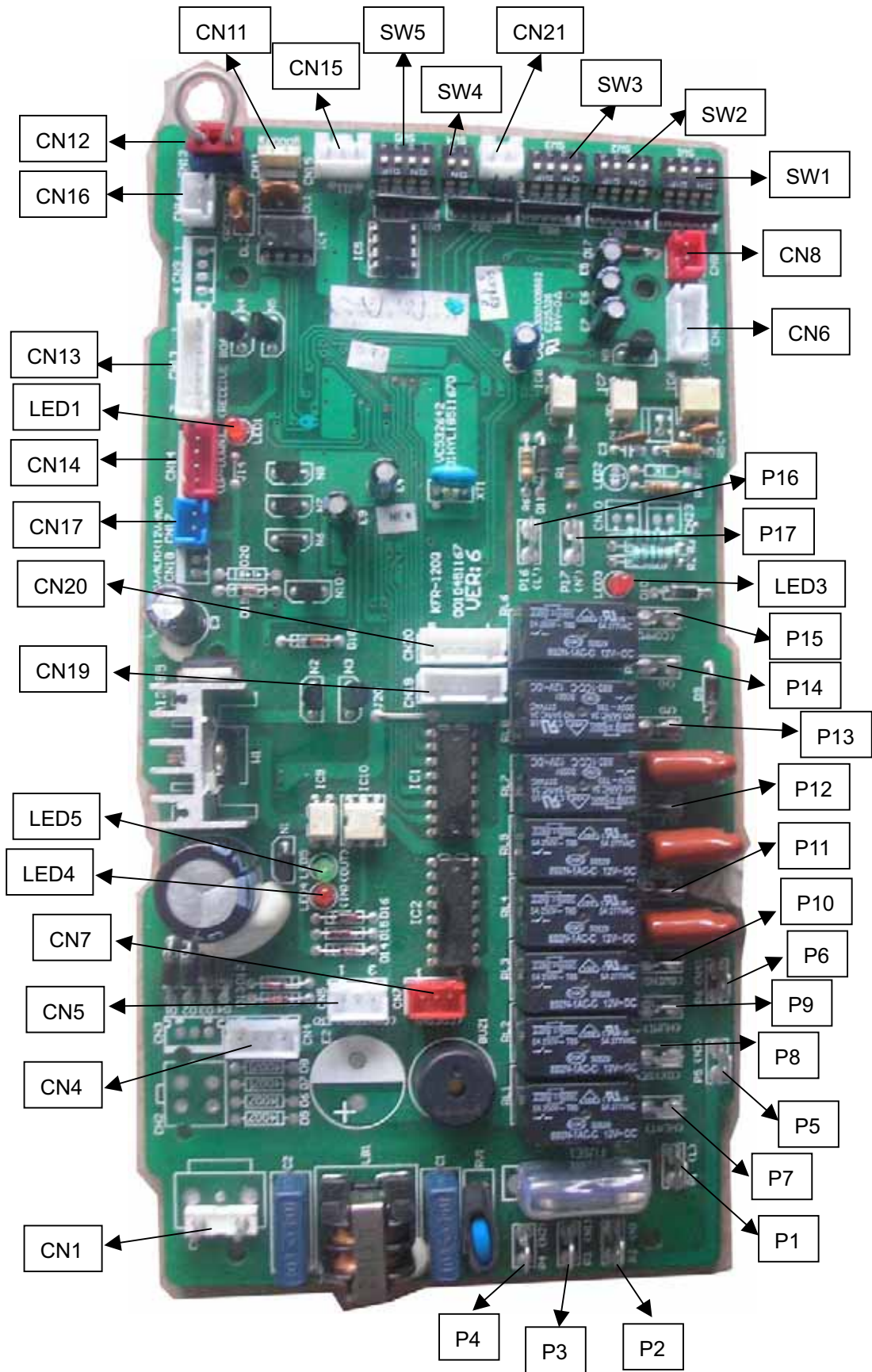
Connect the two port

Dial P1 to realize fan speed adjusting

0010451690E



0010451167E



**Condition for the PCB data:**

1. Working ambient temperature:  $-10^{\circ}\text{C} \sim 70^{\circ}\text{C}$ , relative humidity: 30%~95%
2. Preserved ambient temperature:  $-20^{\circ}\text{C} \sim 80^{\circ}\text{C}$ , relative humidity: 30%~95%
3. Power supply: 220VAC、50/60Hz, voltage range: 160V~250V
4. Precise of temperature control:  $\pm 1^{\circ}\text{C}$

**0010451167E PCB information – port and definition**

- P1—connect to external power supply, live line: L (220VAC)  
 P2—connect to external power supply, neutral line: N (0VAC)  
 P3、4、5、6—control external load, neutral line: N1、N2、N3、N4(0VAC)  
 P7—control external load, electrical heat: HEAT (control output 220VAC)  
 P8—control external load, health function: OXYGEN (control output 220VAC)  
 P9—control external load, humidification: HUMI (control output 220VAC)  
 P10—control external load, SWING(control output 220VAC)  
 P11—control external load, WATER PUMP(control output 220VAC)  
 P12—control external load, indoor fan motor low speed: L(control output 220VAC)  
 P13—control external load, indoor fan motor mid speed: M(control output 220VAC)  
 P14—control external load, indoor fan motor high speed: H(control output 220VAC)  
 P15—communication with fixed frequency single outdoor unit: COMM(0~220VAC)  
 P16—input control, signal live line: L'(220VAC)  
 P17—input control, signal neutral line: N'(0VAC)  
 CN1—input port of transformer (220VAC)  
 CN2—input port 1 of transformer (no use)  
 CN3—input port 2 of transformer (no use)  
 CN4—input port 3 of transformer (1-2、14VAC, 3-4、12VAC)  
 CN5—input control, connecting port to wired controller: CONTROLLER (three bits: 1. power supply: 12VAC, 2. power supply: 0VAC, 3. communication: COMM.) .  
 CN6—input control, ambient temp.-coil temp. sensor connecting port: ROOM/PIPE (1-2、ROOM, 3-4、PIPE.)  
 Indoor ambient temp. sensor:  $R_{25}=23\text{K}\Omega \pm 2.5\%$ ,  $B_{25/50}=4200\text{K} \pm 3\%$ , range: (-40, 80)  
 Indoor coil temp. sensor:  $R_{25}=10\text{K}\Omega \pm 3\%$ ,  $B_{25/50}=3700\text{K} \pm 3\%$ , range: (-20, 90)  
 CN7—control external load, fresh air control: FRESH (1. blank, 2. power supply 0VDC, 3. control output: 12VDC.)  
 CN8—input signal: FREEZE (no use)  
 CN9—input control (no use)  
 CN10—communication with fixed frequency single outdoor unit: (0~12VDC)  
 CN11—input signal, door switch: DOOR (1-2 short circuit is normal, cut off P8 output)  
 CN12—input signal, external alarm input: ALARM (1-3 short circuit is normal, if cut off, air conditioner stops work.)  
**Note: For convertible type, cassette type, duct type units, CN11 and CN12 must be in short circuit, or PCB will display failure information.**  
 CN13—input signal, wiring port of remote receiver board: RECEIVE BOARD (1. power supply 5VDC, 2. power supply 0VDC, 3. remote signal, 4. signal output of running lamp 0VDC, 5. signal output of timer lamp 0VDC, 6. signal output of power lamp 0VDC, 7. signal output of water pump running lamp 0VDC)  
 CN14—control external load, auto elevating function (1. signal of door switch close, 2. output of elevating direction control 0VDC, 3. output of elevating power control 0VDC, 4. power supply 12VDC)

CN15—input signal, detecting water level of float switch (1-3 short circuit is normal, cut off shows that level exceeds the limitation) .If float switch cuts off or occurs other failure, LED1 will flash 10 times.

CN16—input control, wiring port of central controller: REMOTE (1、RS485-B, 2、RS485-A.)

CN17—output signal, output signal of failure alarm, control external load, 12V/ALM (1. control output 0VDC, 2. power supply 12VDC)

CN18—output signal (no use)

CN19—control external load, swing 1 (1、16VDC, 2、0VDC, 3、0VDC, 4、0VDC, 5、0VDC.) .

CN20—control external load, swing 2 (1、16VDC, 2、0VDC, 3、0VDC, 4、0VDC, 5、0VDC.) .

CN21—input signal, spring switch, CHECK (1、input signal of earthing, 2. power supply 0VDC)

CN22—short circuit means selecting single split communication type.(no use)

CN23—short circuit means selecting multi split communication type.(no use)

### 0010451167E PCB information – function selection (ON is 1, OFF is 0)

The standard condition for PCB in factory

SW1: 4 bits are OFF

SW2: 4 bits are OFF

SW3: 4 bits are ON

SW4: 2 bits are ON

SW5: 4 bits are ON

SW1-SW2: used for indoor unit to set unit address from 1 to 128'

SW3-SW5: used for indoor unit to select different functions.(every dip switches are corresponding to J1-J10.

SW2-4—logistic relationship of control function (door card control and remote/ wired control) 0 means logistic relationship is “and”, 1 means the later coming is preferential.

J1, SW3-1—function selection-control type: 1 means remote control, 0 means wired control.

J2, SW3-2—function selection-temperature compensation in heating mode: 1means “yes”, 0means “no”.

J3, SW3-3—function selection-outdoor communication: 1means “yes”, 0means “no”. This PCB must be 1.

J4, SW3-4—function selection-heat pump unit: 1means “heat pump”, 0means “cooling only”.

1/60—test in short circuit, but in operation short circuit mustn't be permitted.

CHECK—short spring switch control, it also can be used as switch of convertible type except for testing.

J5, SW4-1—function selection-elevating function: 1means “yes”, 0 means “no”.

J6, SW4-2—function selection –health function: 1means common (indoor fan motor running); 0 means special (indoor, outdoor running).

J7, SW5-1—function selection –swing mode: 1 means common (simultaneous motor) , 0 means special (swing motor).

J8, SW5-2—function selection – system combination: 1means fixed frequency single unit, 0 means fixed frequency multi split.

J9, SW5-3—function selection –group control: 1 stands for the master unit (its address in wired controller is 0), 0 stands for the slave units (the address should be set by the dip switch, their addresses only can be in the range: 1~15)

J10, SW5-4—function selection –preset.

### 0010451167E PCB information- control type

Control type selection between remote and wired: select by dip switch J1, SW3-1 (1 means remote control; 0 means wired control.)

For remote control type, please use remote controller YR-H71, and a remote receiver is equipped with indoor unit. For wired control type, wired controller YR-E12 will be used, 3-core shielded wire is equipped with

indoor unit.

Door card control: controls ON/OFF, the start up setting will comply with last time request memorized according to condition memorize function. Its difference with emergency switch of convertible type unit lies: the emergency switch control will perform in the condition: 24degrees, auto fan speed in auto mode.

The function combination between door card and remote/wired control type: select by dip switch: SW2-4 (0 means "and", 1 means later coming is preferential.)

Dip switch position in wired control type: Only one indoor unit of all indoor units connected with wired controller is the master unit, whose address is 0, function selection switch (J9, SW5-3) is 1. The others are slave units, and the quantity can be 0~15, whose addresses are (SW1:1~4) from 1 ~15, and cannot repeat.

Wiring request in wired control type: the wired controller ports A-B-C are connected with indoor port CN5 (1-2-3) through 3-core shield wire. Requirements:

1. Port A only connects with either of indoor port CN5 (1)
2. Port B connects with port CN5 (2) of all indoor units.
3. Port C connects with port CN5 (3) of all indoor units.

Dip switch position in central control type: the addresses (SW1:1~4; SW2:1~4) of indoor units connected with central controller can not repeat. In principle, they should be in the order from small to big.

Wiring request in central control type: port A-B is connected with indoor port CN16 (A-B) through 2-core shield wire. Requirements:

1. Port A connects with port CN16 (A) of all indoor units.
2. Port B connects with port CN16 (B) of all indoor units.

When only use remote control type, please select remote control unit, and install according to installation manual, there is no other special request.

When only use wired control type, please select wired control unit, and install according to installation manual. When control multi indoor units, take care the requirements of dip switch and wiring, there is no other special request.

When only use central control type, please firstly install according to air conditioner requests and set the dipswitch, there is no other special request.

When central control type (128×) and remote control type are used simultaneously, set the dip switch according to central control type, there is no other special request.

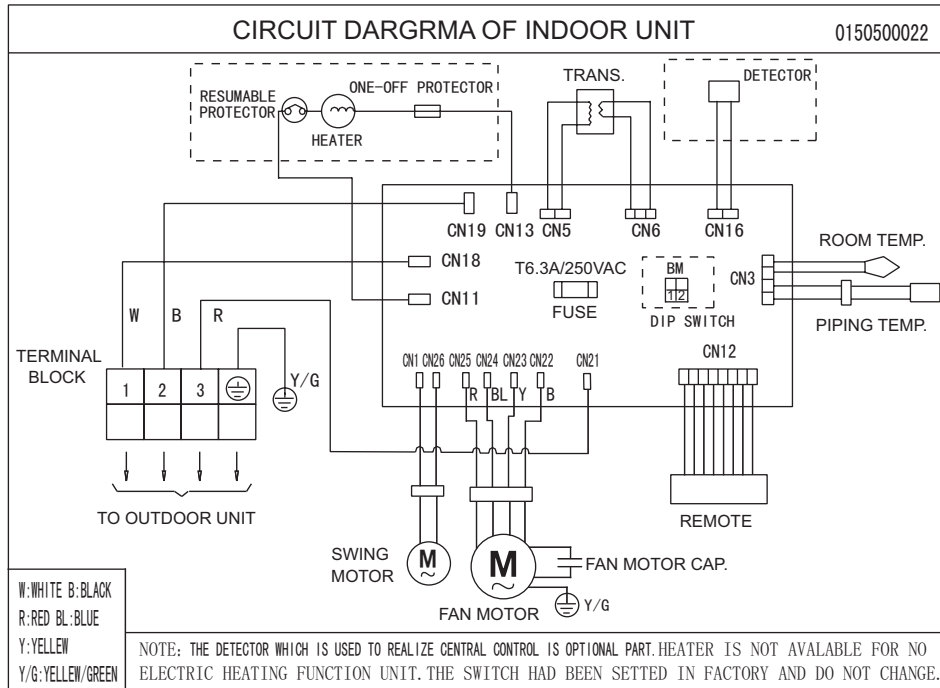
When central control type (128×) and wired control type (16×) are used simultaneously, max. indoor units sets: 128×16 can be controller. Address setting of central controller can be met firstly, and then modulate the address setting of slave unit wired controlled.

#### **LED in indoor PCB:**

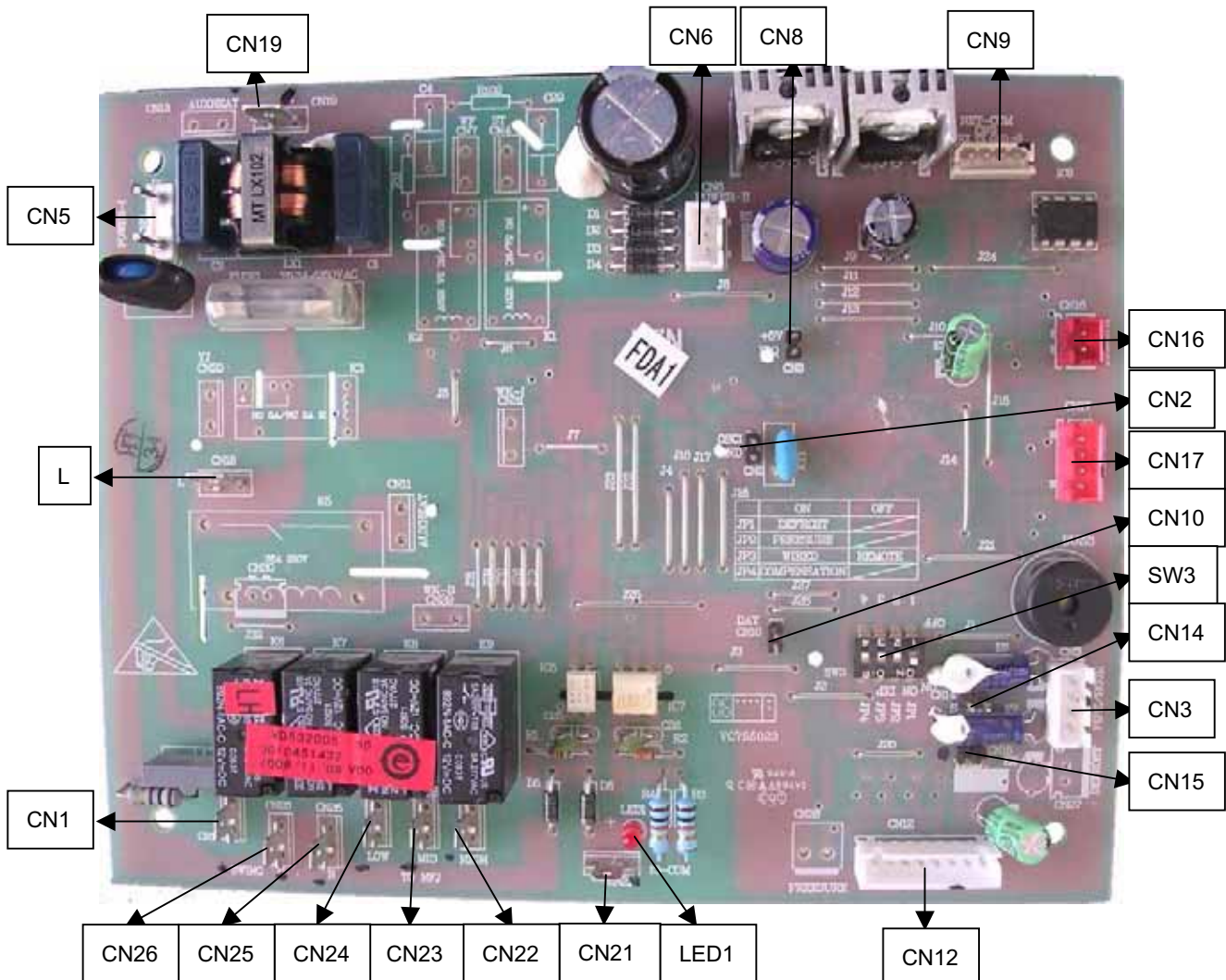
1. LED1: is the state lamp for remote receiver as well as failure lamp. If indoor unit is normal, LED1 is on, or if failure occurs, LED1 flashes regularly, and you can adjust failure type according to the flash times.
2. LED2: is used for multi split units as communication lamp. If communication between indoor and outdoor is normal, LED2 will be on.
3. LED3: is used for single split units as communication lamp. If communication between indoor and outdoor is normal, LED3 will be on.
4. LED4、LED5: is the lamp that shows the data receiving or sending between wired controller and PCB, If LED4、LED5 be on in turn, communication between wired controller and PCB is normal.



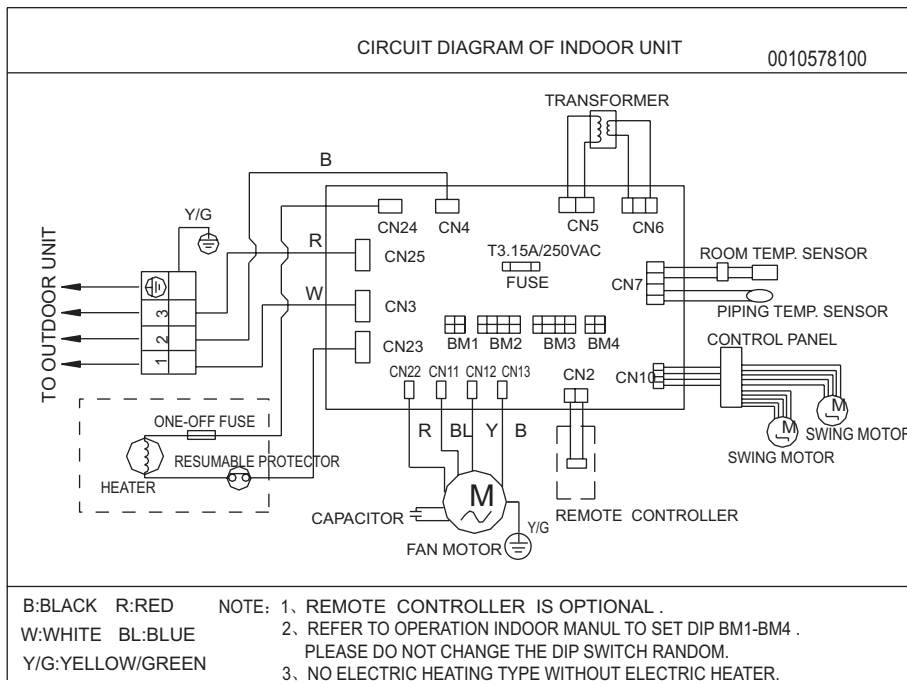
AP422ACEAA



0010451432



AP482AKEAA



### BM1 Function selection

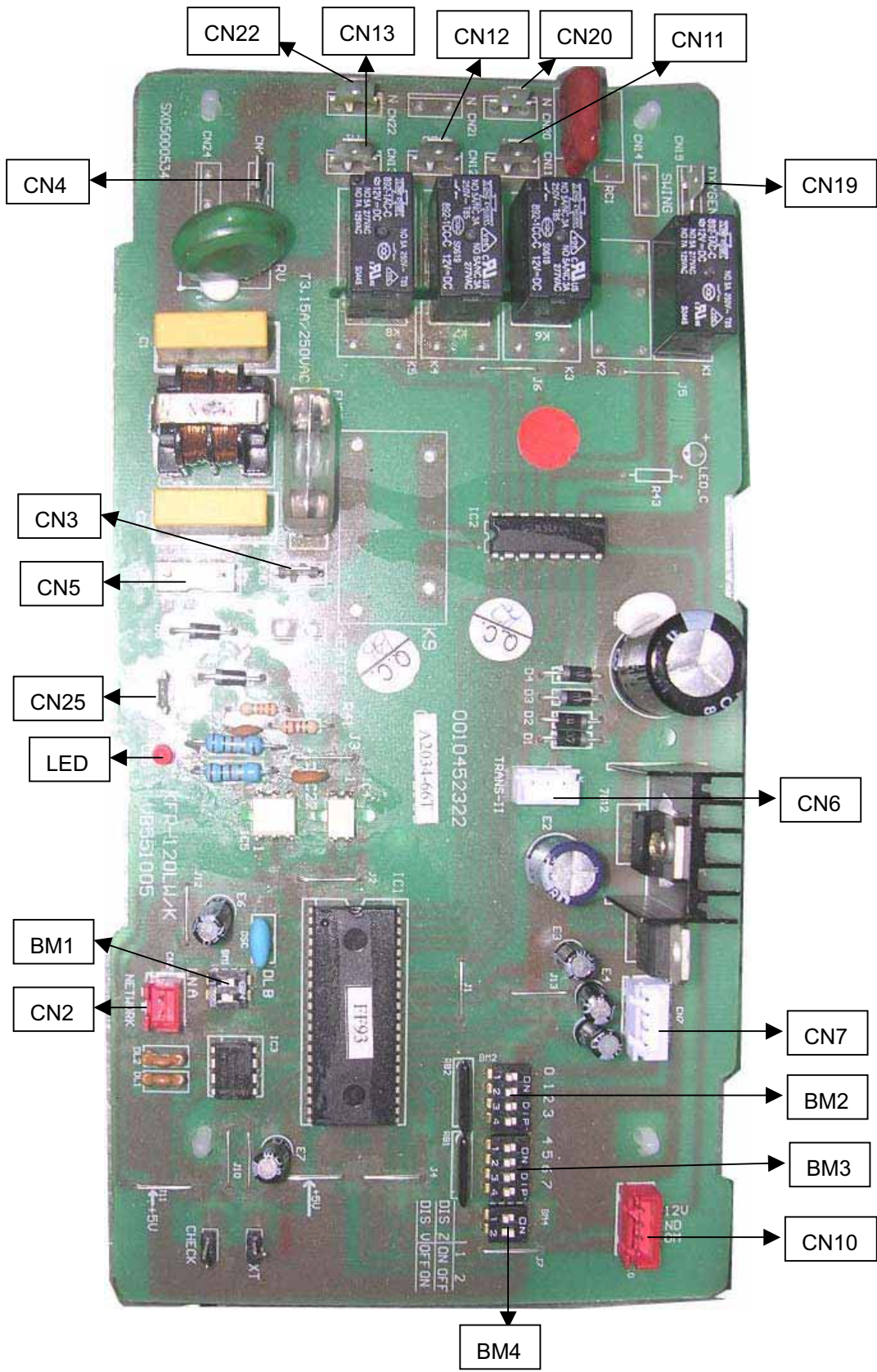
- BM1-1 ON/OFF cooling only / heat pump
- BM1-2 ON/OFF Automatic run A / B mode

**BM2 and BM3:** used for indoor unit to set unit address from 1 to 128'

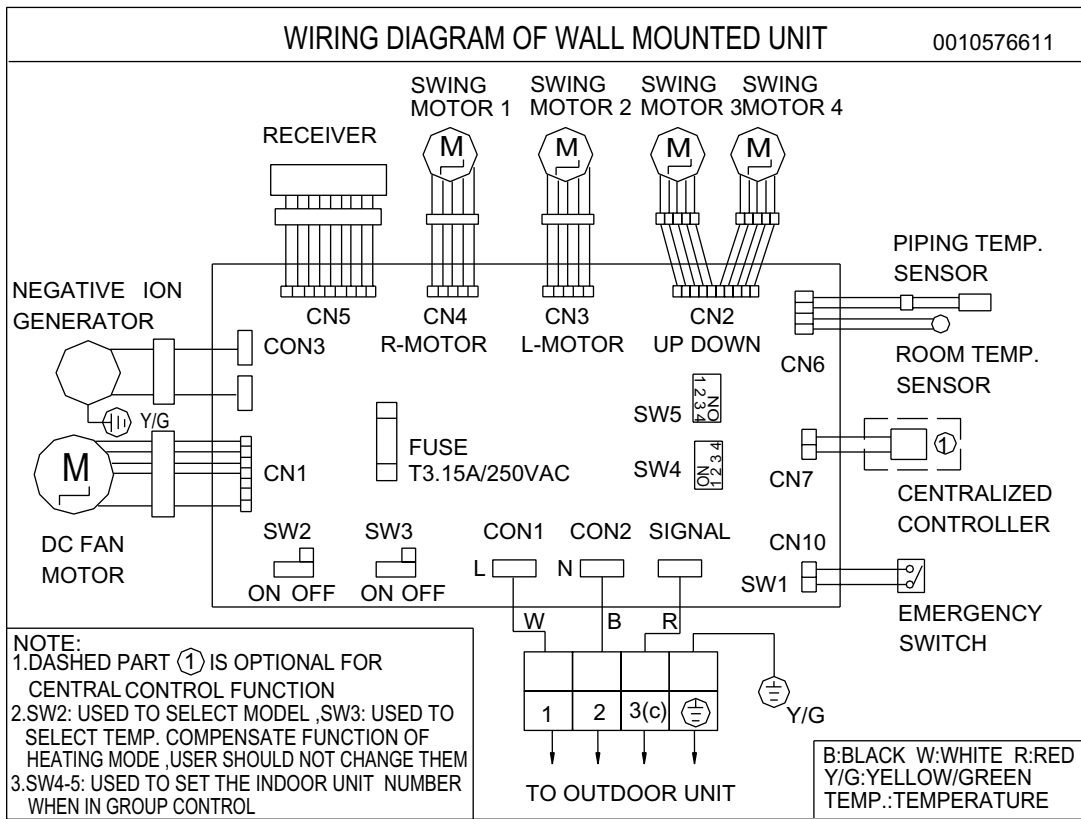
**BM4 Panel selection** Select the panel according to the 2 dip switch

Style of panel	1	2
Cabinet V panel	OFF	ON
Cabinet Z panel	ON	OFF
Wired controller	ON	ON

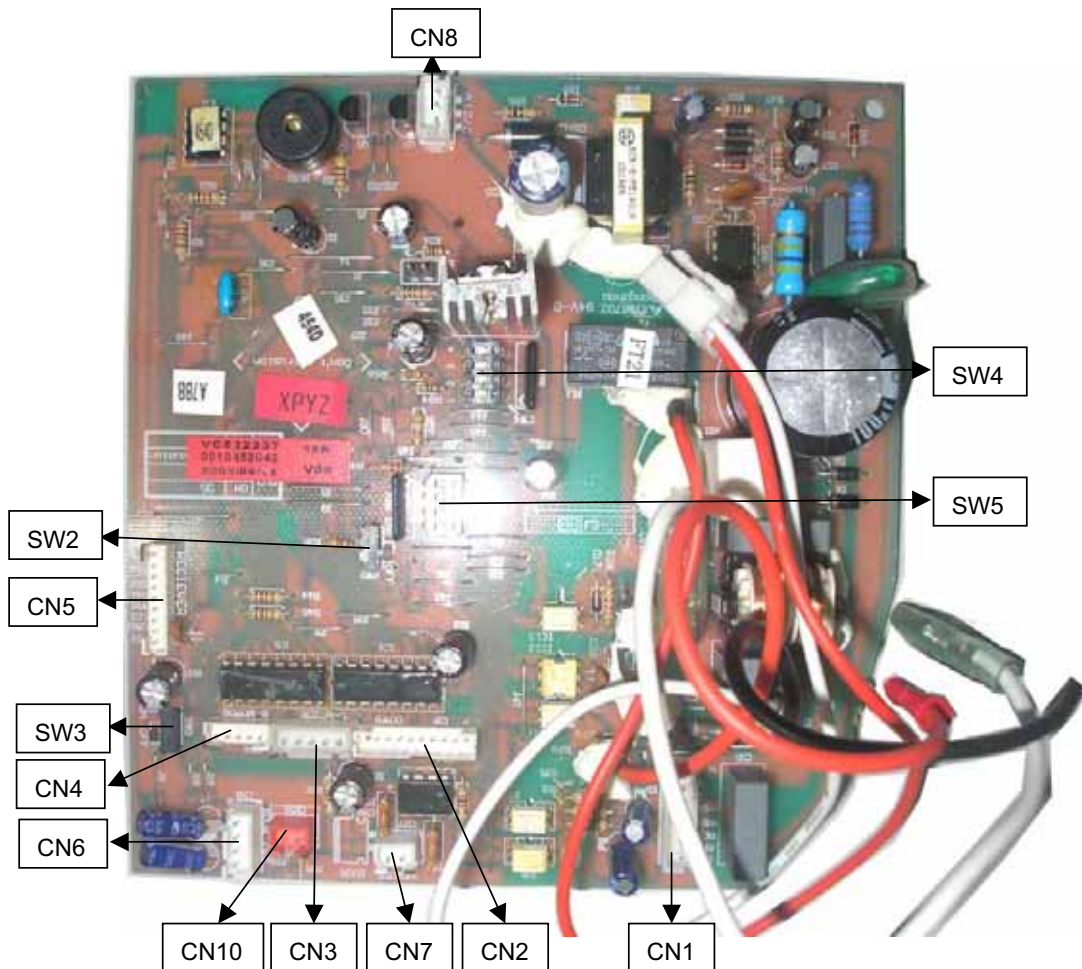
0010452322



AS182AVERA



0010452042



### 8.4 sensor characteristic

model	name	code	sub-part code	characteristic
AU242AGERA	outdoor ambient temperature sensor	0010450192	001A3800082	R25=10KΩ±3% B25/50=3700K±3%
	mid-condenser temperature sensor	0010450195	001A3800093	R25=10KΩ±3% B25/50=3700K±3%
	oil temperature sensor	0010451305	001A3800093	R25=10KΩ±3% B25/50=3700K±3%
	discharging temperature sensor	0010451313	001A3800096	R80=50KΩ±3% B25/80=4450K±3%
AB242ACERA AB282ACEAA AB482ACEAA AB602ACEAA	ambient temperature sensor	001A3900159	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	coil temperature sensor	001A3900006	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
AD242ALERA AD182ALEAA AC242ACEAA	ambient temperature sensor	0010451323	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	coil temperature sensor	001A3900006	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
AD242AMERA	ambient temperature sensor	0010451323	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	coil temperature sensor	001A3800128	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
AB182ACERA AC242ACERA AB182ACEAA AC182ACEAA AB242ACEAA AD242ALEAA AD242AMEAA AD282AMEAA AB362ACEAA AC362AFEAA AD362AMEAA AD482AHEAA AD602AHEAA	ambient temperature sensor	001A3900005	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	coil temperature sensor	001A3900006	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
AU182AEAAA	outdoor ambient temperature sensor	001A3900110	001A3800090	R25=5KΩ±3% B25/50=3450K±3%
	coil temperature sensor	0010451312	001A3800091	R25=5KΩ±3% B25/50=3450K±3%
	discharging temperature sensor	0010451313	001A3800096	R80=50KΩ±3% B25/80=4450K±3%
AU242AGEAA	outdoor ambient temperature sensor	001A3900110	001A3800090	R25=5KΩ±3% B25/50=3450K±3%
	coil temperature sensor	0010451314	001A3800091	R25=5KΩ±3% B25/50=3450K±3%
	discharging temperature sensor	0010450398	001A3800096	R80=50KΩ±3% B25/80=4450K±3%

AU282AHEAA AU362AIEAA AU36NAIEAA AU48NAIEAA AU60NAIEAA	outdoor ambient temperature sensor	001A3900110	001A3800090	R25=5KΩ±3% B25/50=3450K±3%
	coil temperature sensor	0010451314	001A3800091	R25=5KΩ±3%, B25/50=3450K±3%
	discharging temperature sensor	0010450398	001A3800096	R80=50KΩ±3% B25/80=4450K±3%
AC482AFEAA AC602AFEAA	ambient temperature sensor	001A3900005	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	coil temperature sensor	001A3800128	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
AD482AMEAA	ambient temperature sensor	001A3900159	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	coil temperature sensor	001A3800128	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
AP482AKEAA	coil temperature sensor	0010401922	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
	temperature sensor	001A3900159	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
AU182AFERA	outdoor ambient temperature sensor	0010450192	001A3800082	R25=10KΩ±3% B25/50=3700K±3%
	mid-condenser temperature sensor	0010450195	001A3800082	R25=10KΩ±3% B25/50=3700K±3%
	oil temperature sensor	0010451305	001A3800093	R25=10KΩ±3% B25/50=3700K±3%
	discharging temperature sensor	0010451313	001A3800096	R80=50KΩ±3% B25/80=4450K±3%
AC182ACERA AD182AMERA	temperature sensor	001A3900005	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	coil temperature sensor	001A3900006	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
AS182AVERA	coil temperature sensor	001A3900059		1.R25=10KΩ±3% B25/50=3700K±3% 2.R25=23KΩ±2.5% B25/50=4200K±3%
AP422ACEAA	ambient temperature sensor	001A3800127	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	coil temperature sensor	0010401922	001A3900004	R25=10KΩ±3% B25/50=3700K±3%
AD282AHEAA AD362AHEAA	ambient temperature sensor	001A3900005	001A3900003	R25=23KΩ±2.5% B25/50=4200K±3%
	coil temperature sensor	001A3800128	001A3900004	R25=10KΩ±3% B25/50=3700K±3%

## 9. Failure code and troubleshooting

### 9.1 Failure code

For the inverter unit with new wired controller YR-E12 (0010451521E)

Number of flashes of remote control and indoor lights	Wire control readout	Centralized control readout	Fault description	Possible cause	Remedy	Purpose	Items to be checked
10	08	21	Fault in drain system	Float switch is disconnected 25min or longer.	Restorable when given corrective signal.	To prevent condensate spilling out of drain pan	Water line, water pump, float switch, I/O voltage
1	01	01	Fault in indoor ambient temperature sensor	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.	To test input signal of system.	Hardware connection, I/O voltage division
2	02	02	Fault in indoor coil temperature sensor	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.	To test input signal of system.	Hardware connection, I/O voltage division
3	4A	11	Fault in outdoor ambient temperature sensor	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.	To test input signal of system.	Hardware connection, I/O voltage division
4	49	12	Fault in outdoor coil temperature sensor	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.	To test input signal of system.	Hardware connection, I/O voltage division
5	48	10	Overcurrent	Detected CT current is above the limit three times within 30min.	Restorable after repair.	To prevent overload (electric parameter).	Power supply, wiring, compressor, pressure
6	53	14	Fault with high pressure	High pressure switch is activated three times within 30min.	Restorable after repair.	To prevent overload (pressure parameter).	Wiring, circuit, pressure switch, refrigeration system
7	47	22	Power failure	Wrong phase, phase failure or phase loss.	Restorable after repair.	To ensure power supply.	Wiring, control board, power supply
8	07	06	Communication error between wire control and indoor unit	Communication error lasts 4min or longer.	Restorable when given corrective signal.	To ensure transmission to and from control board.	Wiring, circuit, transmission voltage
9	06	05	Communication error between indoor and outdoor units	Communication error lasts 4min or longer.	Restorable when given corrective signal.	To ensure transmission to and from control board.	Wiring, circuit, transmission voltage
11	0B	30	External alarm signal input	External signal is cut out for 10s or longer.	Restorable when given corrective signal.	To control external connection provided for building.	External signal, wiring, control board
12	03	20	Fault in outdoor coil/suction line sensor	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.	To test input signal of system.	Hardware connection, I/O voltage division
13	0D	31	Temperature shut-off	Directional valve malfunction repeats three times.	Restorable after repair.	To prevent malfunction of four-way valve.	Sensor, four-way valve, system, control board

14	4C	15	Fault in discharging temperature sensor	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.	To test input signal of system.	Hardware connection, I/O voltage division
15	05	17	EEPROM error	EEPROM data loss	Default operation/reset restoration.	To set data/control parameter.	EEPROM, data match, control board
16	54	26	Fault with low pressure	Low pressure switch is activated.	Restorable after repair.	To prevent refrigerant leak.	Wiring, circuit, pressure switch, refrigeration system
17	50	15	Compressor overheat	Detected temperature of discharge line is higher than 120°C.	Restorable when lower than 100°C.	To prevent overload (temperature parameter).	Temperature, fan motor, pressure, system
18	12	23	Fault in operation mode	Indoor units operate in different modes.	Restorable in same operation mode.	To ensure same operation mode.	User setting
19	4B	0C	Outdoor coil B	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.	To test input signal of system.	Hardware connection, I/O voltage division
20	4D	15	Outdoor discharging B	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.	To test input signal of system.	Hardware connection, I/O voltage division
21	20	07	Module error	Module overheat, overcurrent, lack of current, short-circuit.	Restorable when given corrective signal.	To prevent overload (ultimate state).	Power supply, feedback, compressor, control board

Note: As for the fixed frequency units, remote control and indoor lights flash times 12 and 21 (Module error) is not available. While 7 (Power failure) 14 (fault in discharging temperature sensor) and 16 (Fault with low pressure) is shown as following:

5	48	10	Overcurrent	Detected CT current is above the limit three times within 30min.	Restorable after repair.	To prevent overload (electric parameter).	Power supply, wiring, compressor, pressure
			Power failure	Wrong phase, phase failure or phase loss.	Restorable after repair.	To ensure power supply.	Wiring, control board, power supply
4	49	12	Fault in outdoor coil temperature sensor	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.	To test input signal of system.	Hardware connection, I/O voltage division
			Fault in discharging temperature sensor	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.	To test input signal of system.	Hardware connection, I/O voltage division
6	53	14	Fault with high pressure	High pressure switch is activated three times within 30min.	Restorable after repair.	To prevent overload (pressure parameter).	Wiring, circuit, pressure switch, refrigeration system
			Fault with low pressure	Low pressure switch is activated.	Restorable after repair.	To prevent refrigerant leak.	Wiring, circuit, pressure switch, refrigeration system

The others are the same as inverter unit.



Functions and notes for dip switch ( ✓ shows ON, ✕ shows OFF ) (for 0010451690E)

		Short-circuit -ON- ✓	Open-circuit -OFF- ✕	Function description	Note
SW1-1	Bit0	Address code "1"	Address code "0"	Central control indoor address Bit0/wired control indoor address Bit0	
2	Bit1	Address code "1"	Address code "0"	Central control indoor address Bit1/wired control indoor address Bit1	
3	Bit2	Address code "1"	Address code "0"	Central control indoor address Bit2/wired control indoor address Bit2	
4	Bit3	Address code "1"	Address code "0"	Central control indoor address Bit3/wired control indoor address Bit3	
SW2-1	Bit4	Address code "1"	Address code "0"	Central control indoor address Bit4	
2	Bit5	Address code "1"	Address code "0"	Central control indoor address Bit5	
3	Bit6	Address code "1"	Address code "0"	Central control indoor address Bit6	
4	SLCT	Control combination: AND	Control combination: the later entering in priority	Control mode: remotr or wired control and passive port control	
SW3-1	J1	Control type: remote control	Control type: wired control	Select control type, communication port and protocol selection	
2	J2	Heating temp. compensation 4℃	Heating temp. compensation 0℃	Select temp. compensation	
3	J3	Control type: with outdoor PCB	Control type: without outdoor PCB	Select control type, control board	
4	J4	Heat pump type	Colling only type		
1/60		In time shorting state	Normal state		
CHECK	CHECK	Use compulsory switch	Normal state		
SW4-1	J5		Ornament or not	✕/✓	
2	J6		Oxygen or not	✕/✓	
SW5-1	J7		Other/2P convertible type	✓/✕	
2	J8		Single split/multi split	✓/✕	
3	J9	Indoor address 0	Setting indoor address by SW1	Select the address of wired control type multi indoor unit	
4	J10	Fixed frequency	Inverter		

Central control indoor address: the indoor unit should be connected by the different uniquely address when select central control type, or will influence the control. For example, if the address repeat, the control information will conflict or communication system will breakdown. Central control address = dip switch value+1.

Wired control indoor address: the indoor unit should be connected by the different uniquely address when select wired control type, or will influence the control. For example, if J9=ON, the wired controller can only indicate 1 indoor unit no matter how many indoor units its connected. Wired control address = dip switch value.

Failure code for wall mounted unit(AS182AVERA) ---- displayed on the indoor LCD:

Failure code	description	Remark
E1	Indoor room temperature sensor failure	Indoor room temp. sensor in short circuit, or open circuit, it can resume due to the signal.
E2	Indoor coil temperature sensor failure	Indoor coil temp. sensor in short circuit, or open circuit, it can resume due to the signal.
E4	EEPROM wrong	Being electrified to test E2 check sum, or E2 is broken down.
E7	Communication failure between indoor and outdoor	Communication failure alarms for 4 minutes contineously, it can resume due to the signal.
E14	Indoor fan motor failure	Indoor fan motor wrong wiring or indoor fan motor abnormal.
E18	Temperature cutoff protection	Outdoor 4-way valve response abnormal.
F1	Module failure	Outdoor module abnormal
F2	Outdoor DC motor failure	Outdoor DC motor abnormal
F4	Compressor overheat / discharging temperature protection	Compressor discharging temperature over high protection
F5	Module over current / current transducer failure	
F6	Outdoor ambient temp. sensor abnormal	Outdoor ambient temp. sensor in short current or open circuit
F7	Outdoor suction/defrosting temp. sensor abnormal	Outdoor suction/defrosting temp. sensor in short circuit or open circuit
F8	High pressure abnormal	High pressure too high
F9	Low pressure abnormal	Low pressure abnormal
F10	No AC power supply	
F11	Outdoor PCB EEPROM abnormal	Being electrified to test if the E2 check sum is correct or failure
F13	Communication failure between outdoor PCB and module	
F14	Compressor discharging temp. sensor failure	Outdoor compressor discharging temp. sensor in short circuit or open circuit
F15	Compressor running faulty	Resumable
F16	Running state-detecting circuit failure	Outdoor DC compressor running state-detecting circuit failure, or compressor abnormal, resumable

Failure code for AP482AKEAA

No.	Fault description	Operation panel display
1	Indoor ambient temp. sensor failure	E1
2	Indoor coil temp. sensor failure	E2
3	Outdoor ambient temp. sensor failure	E3
4	Outdoor coil temp. sensor failure	E4
5	CT current failure	E5
6	Pressure protection	E6
7	Communication failure between indoor units and panel	E8
8	Communication failure between indoor and outdoor PCB	E9

### Failure code for AP422ACEAA

Number of flashes	Central-ized control readout	Panel display	Fault description	Possible cause	Remedy
1	01D	E1	Fault in indoor ambient temperature sensor	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.
2	02D	E2	Fault in indoor coil temperature sensor	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.
3	11D	E3	Fault in outdoor ambient temperature sensor	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.
4	12D	E4	Fault in outdoor coil temperature sensor	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.
5	10D	E5	Overcurrent/ Power failure	Detected CT current is above the limit three times within 30min.	Restorable after repair.
6	14D	E6	Fault with high pressure	High pressure switch is activated three times within 30min.	Restorable after repair.
9	05D	E9	Communication error between indoor and outdoor units	Communication error lasts 4min or longer.	Restorable when given corrective signal.
14	15D	E4	Fault in discharging temperature sensor	Sensor is open-circuit or short-circuit for 2min or longer.	Restorable when given corrective signal.
6	26D	E6	Fault with low pressure	Low pressure switch is activated over 30s.	Restorable after repair.

### Failure code for fix frequency outdoor unit unit(AU\*EAA):

Failure description	Code on wired controller	Flash times of indoor receiver board
Room temp. sensor abnormal	01	Power LED flashes 1 time
Indoor coil temp. sensor abnormal	02	Power LED flashes 2 times
Outdoor temp. sensor abnormal	4A	Power LED flashes 3 times
Outdoor coil temp. sensor abnormal	49	Power LED flashes 4 times
Over-current malfunction/Power failure	48	Power LED flashes 5 times
High / Low pressure abnormal	53	Power LED flashes 6 times
Communication malfunction between indoor and wired controller	07	Power LED flashes 8 times
Communication malfunction between indoor and outdoor abnormal	06	Power LED flashes 9 times
Drainage system malfunction	08	Power LED flashes 10 times
Alarm of exterior annunciator	0B	Power LED flashes 11 times
Coil gas pipe temp. Sensor abnormal	03	Power LED flashes 12 times
Temperature protection malfunction	0D	Power LED flashes 13 times

### Diagnostic code for the inverter outdoor unit

Please refers to PCB function part, page 133 and page 134.

### 9.2 Troubleshooting for inverter units

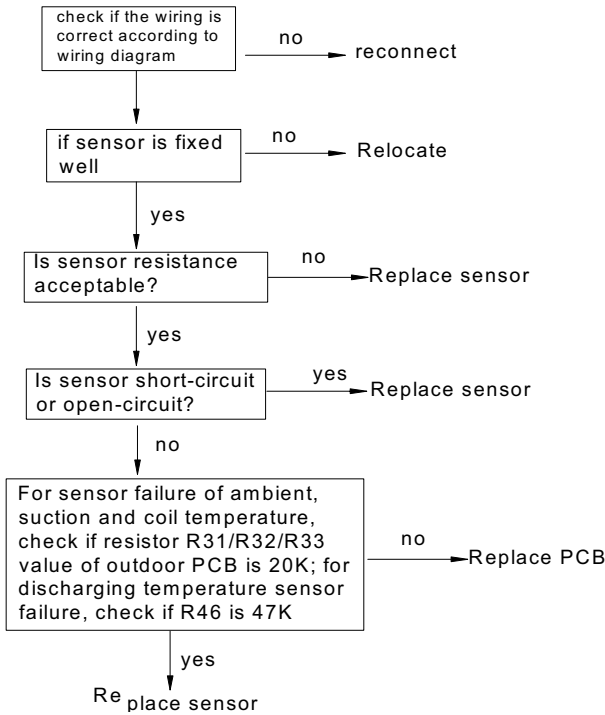
#### Outdoor troubleshooting:

Below the indication on indicator board sequence is LED5-LED4-LED3-LED2-LED1, 0: OFF; 1: ON

##### 1) Sensor failure

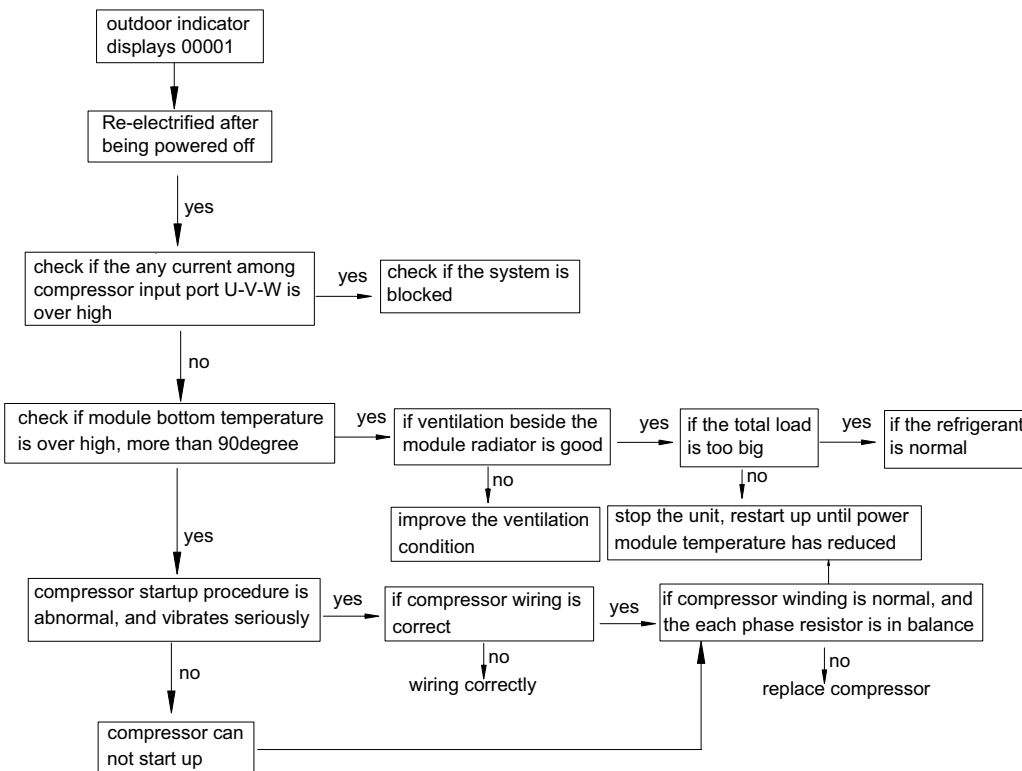
Alarm condition: ambient temperature sensor is in short circuit or open circuit for 3 seconds continuously.

Outdoor indicator displays 00110 or 00111, or 01001



##### 2) Outdoor power module failure

Alarm condition: outdoor indicator displays 10111, 00001, or 01111, 10000, 100001, or 10100

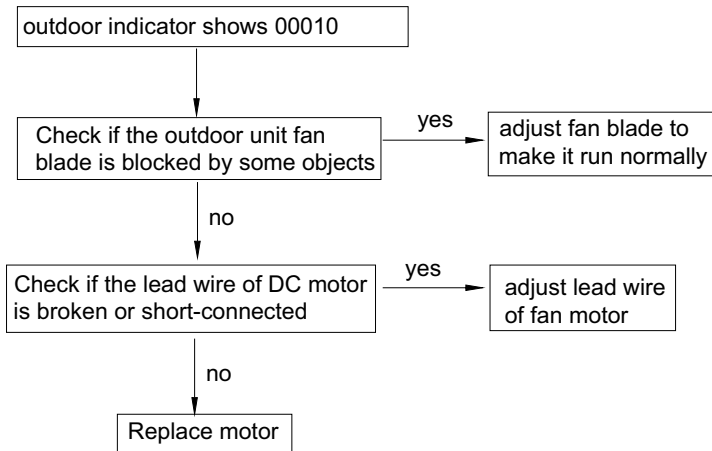


### 3) Outdoor DC motor abnormal

Outdoor indicator displays 00010.

Alarm condition: outdoor DC motor is blocked rotor or broken, abnormal.

This fault is only used when indoor unit is with DC fan motor.

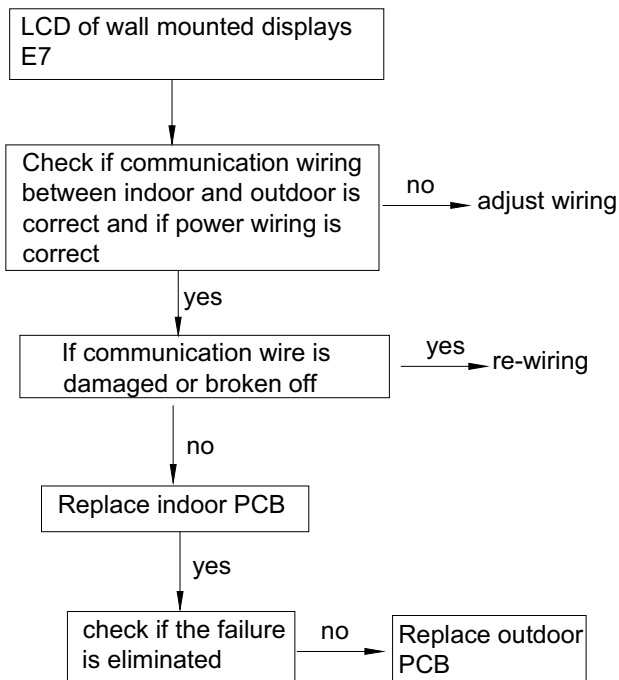


Warning: For outdoor DC fan motor, forbidden to pull off the plug when being electrified.

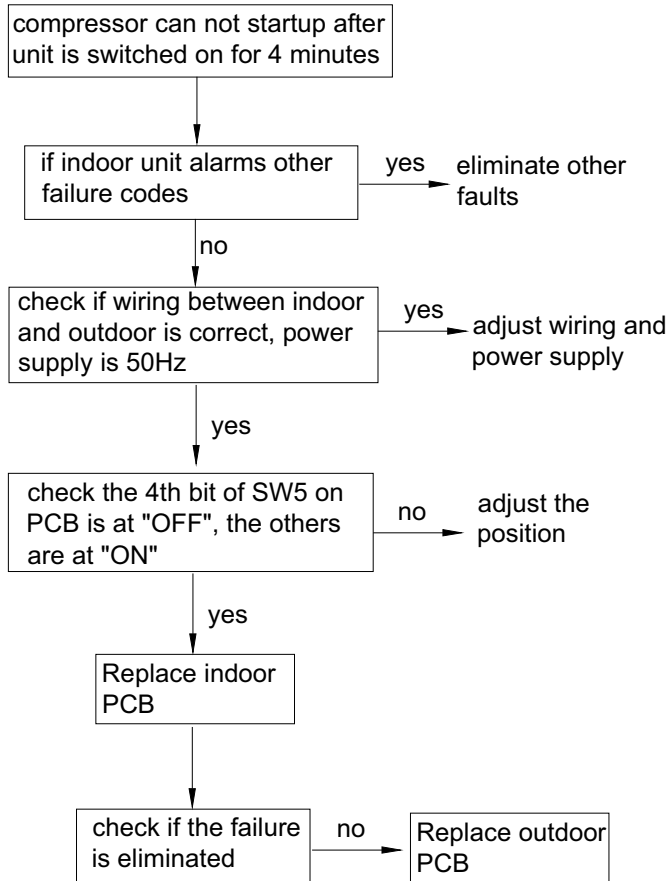
### 4) Communication error between indoor and outdoor units

Outdoor indicator shows 00011

For wall mounted unit:



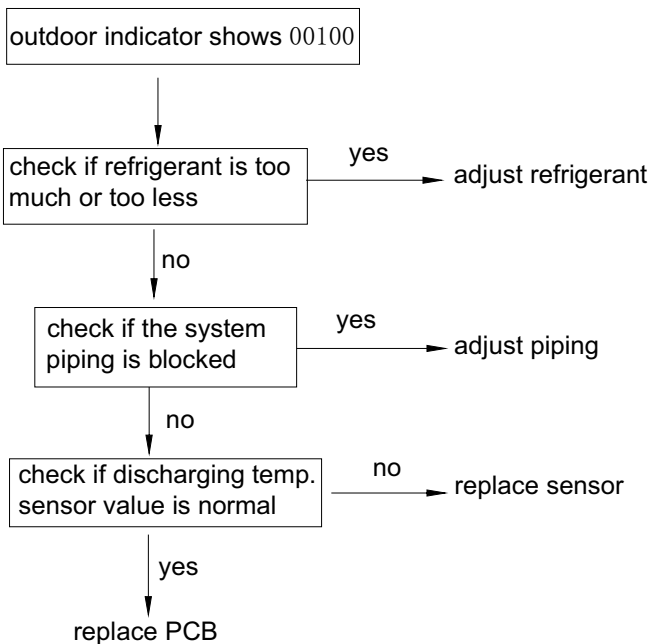
For convertible unit and ceiling concealed unit:



### 5) Compressor discharging temperature protection

Outdoor indicator shows 00100.

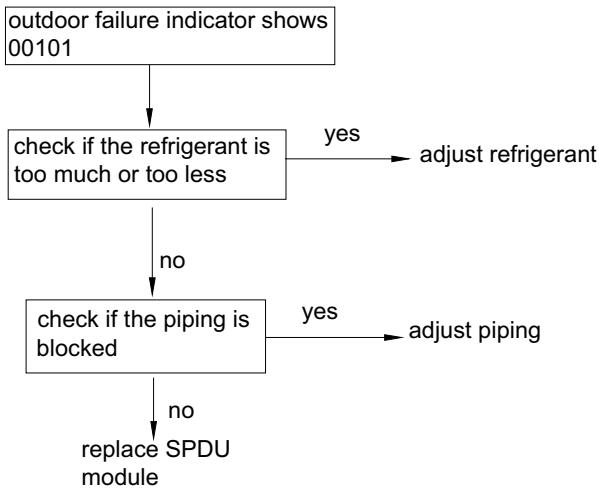
Alarm condition: Within half an hour after compressor is running, compressor discharging temperature is over 120degree for 3 times continuously.



### 6) Outdoor SPDU module over current protection

Outdoor indicator shows 00101.

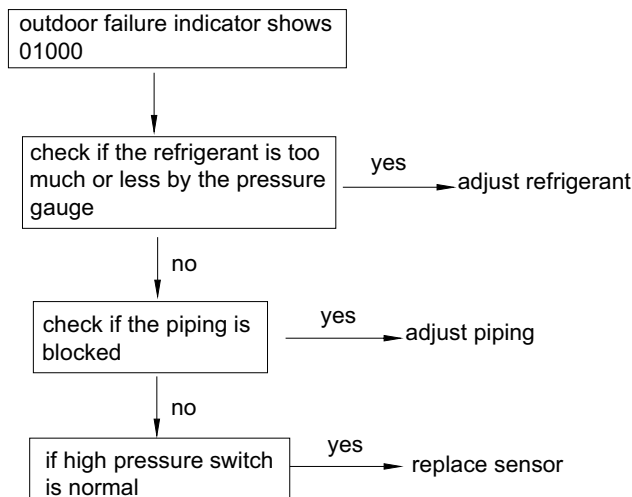
Alarm condition: When compressor running, the module current is over 21A.



### 7) Outdoor high pressure protection

Outdoor indicator shows 01000

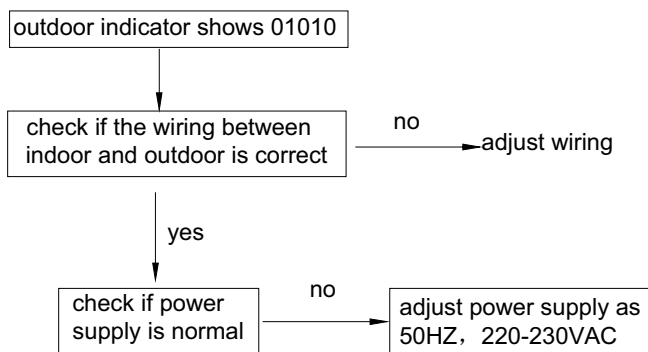
Alarm condition: When compressor running, high pressure is over 4.5 MPa for 30 seconds continuously.



### 8) Outdoor power supply is abnormal

Outdoor indicator shows 01010

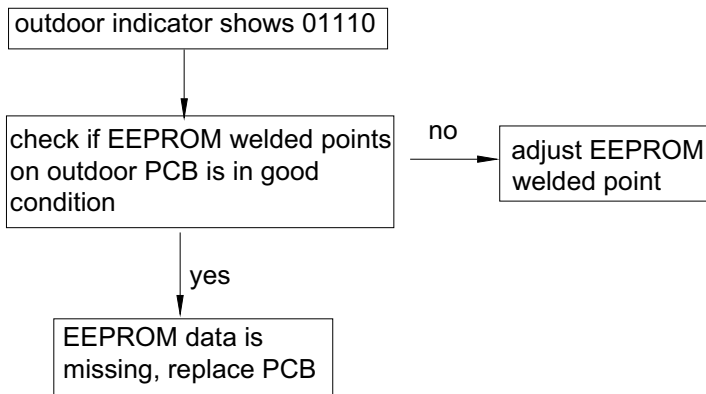
Alarm condition: if power supply is not 50Hz as standard, which will affect the normal communication and cause air conditioner bad operation.



### 9) EEPROM is abnormal

Outdoor indicator shows 01110.

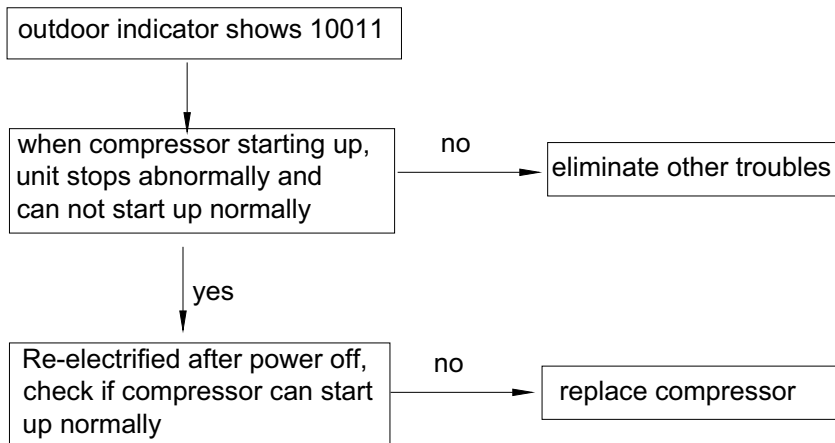
Alarm condition: EEPROM is fault or data is missing.



### 10) Running state detecting abnormal

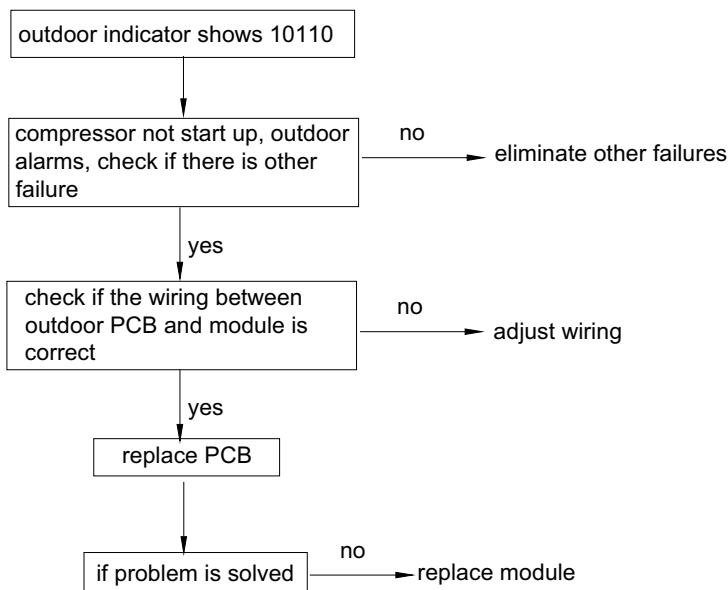
Outdoor indicator shows 10011.

Alarm condition: when compressor is running, the unit will be abnormal or stop.



### 11) Communication failure between outdoor PCB and module

Outdoor indicator shows 10110

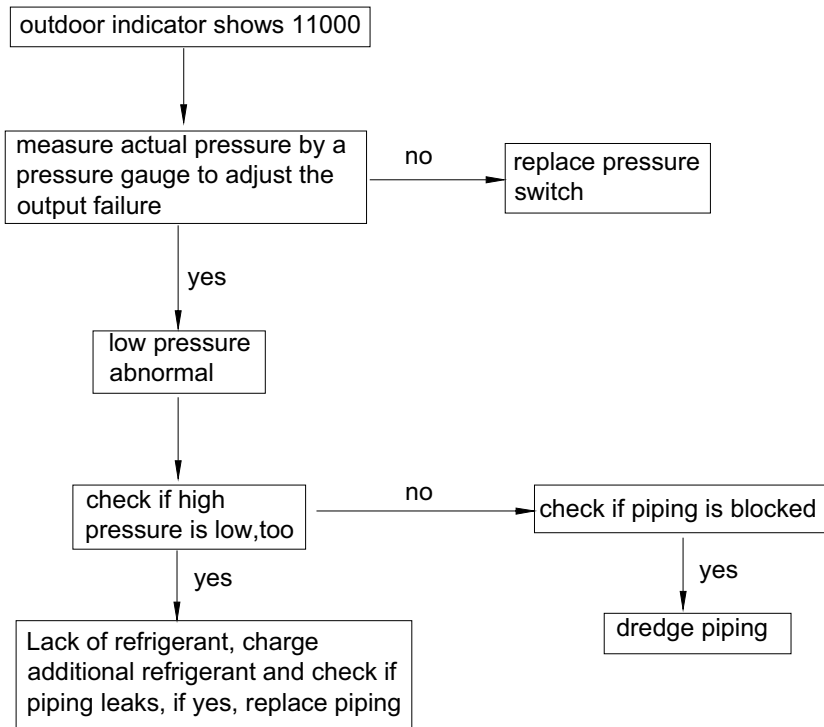




### 12) Outdoor low pressure abnormal

Outdoor indicator shows 11000.

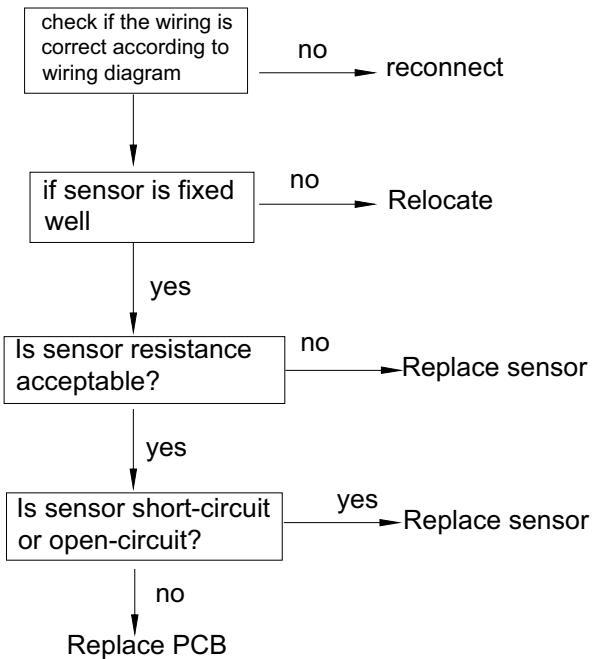
Alarm condition: outdoor system pressure is lower than 0.05MPa.



### Indoor troubleshooting:

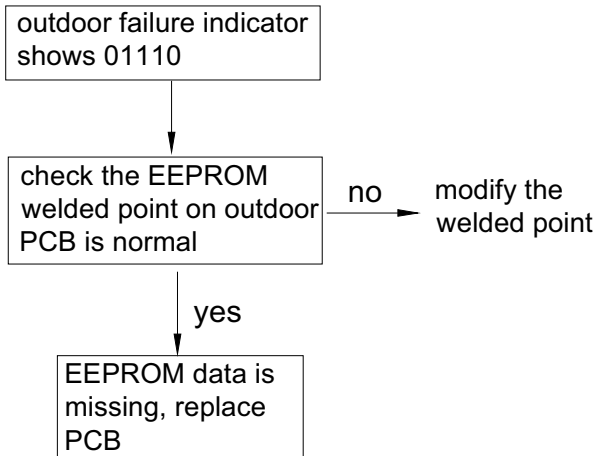
#### 1) Sensor failure

Alarm condition: ambient temperature sensor is in short circuit or open circuit for 2 seconds continuously.



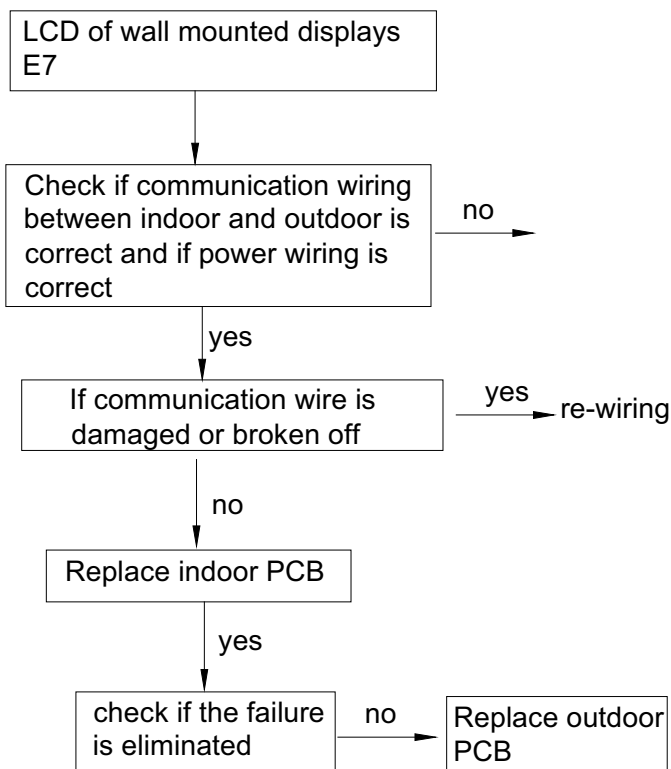
### 2) EEPROM failure

Alarm condition: before being electrified, EEPROM is faulty or the data is missing.



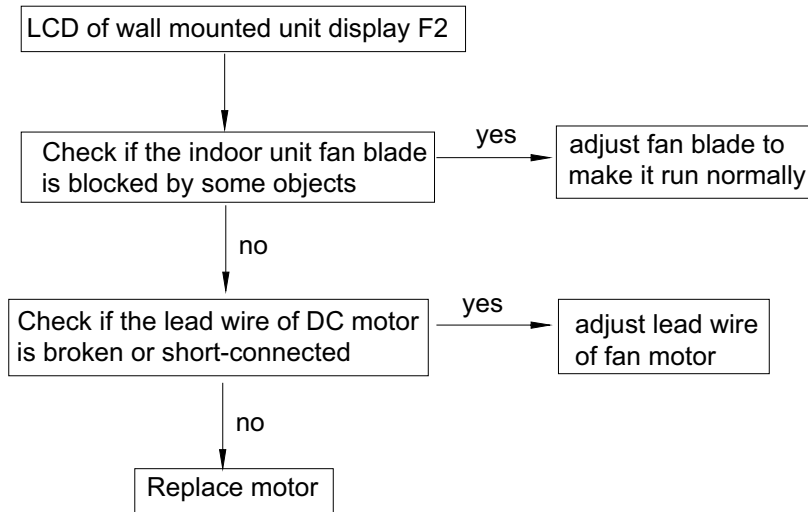
The indication on indicator board sequence is LED5-LED4-LED3-LED2-LED1, 0: OFF; 1: ON

### 3) Communication error between indoor and outdoor units



### 4) Indoor DC motor abnormal

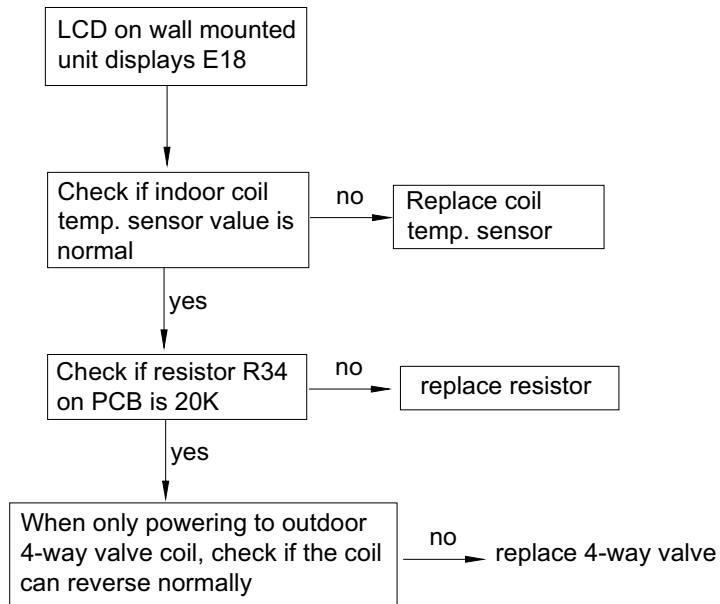
Alarm condition: outdoor DC motor is blocked rotor or broken, abnormal.  
This fault is only used when indoor unit is with DC fan motor.



Warning: For outdoor DC fan motor, forbidden to pull off the plug when being electrified.

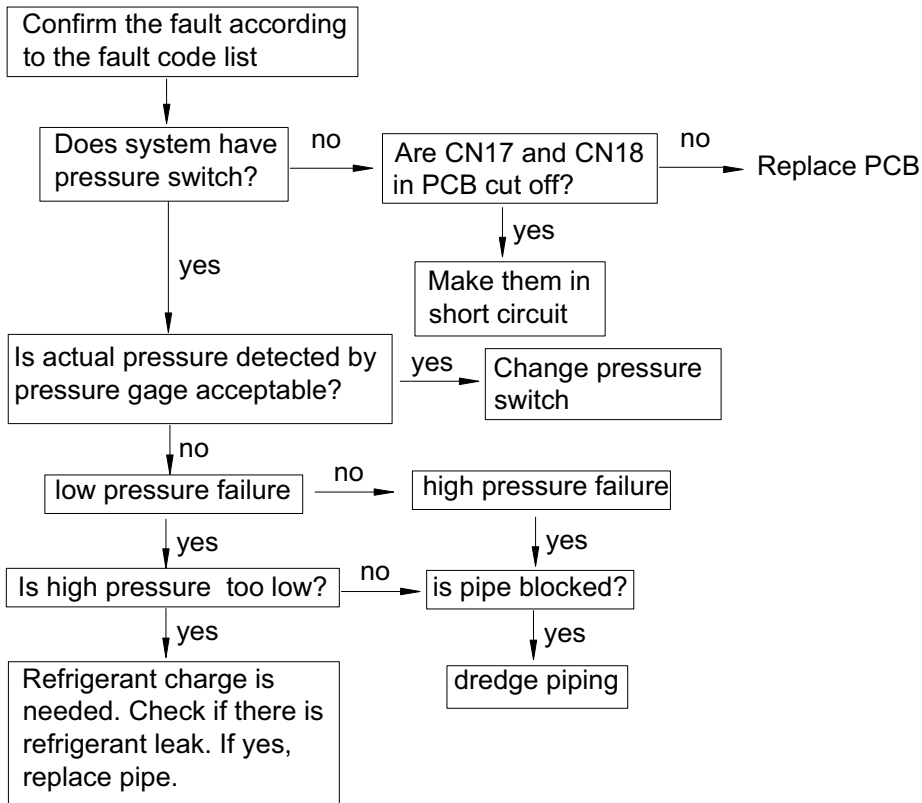
### 5) Temperature cutoff protection

Alarm condition: indoor coil temperature sensor value is abnormal;  
or outdoor 4-way valve coil is invalid



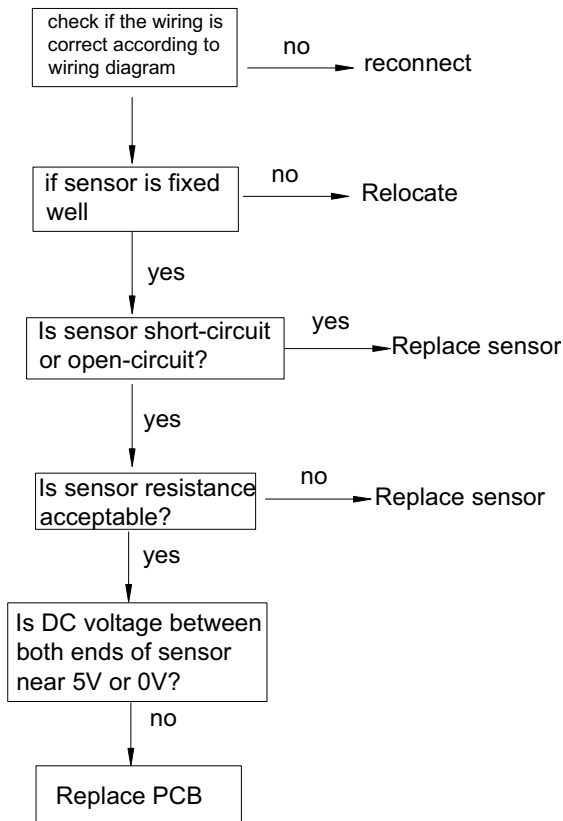
### 9.3 Troubleshooting for fixed frequency units

#### 1) Pressure protection

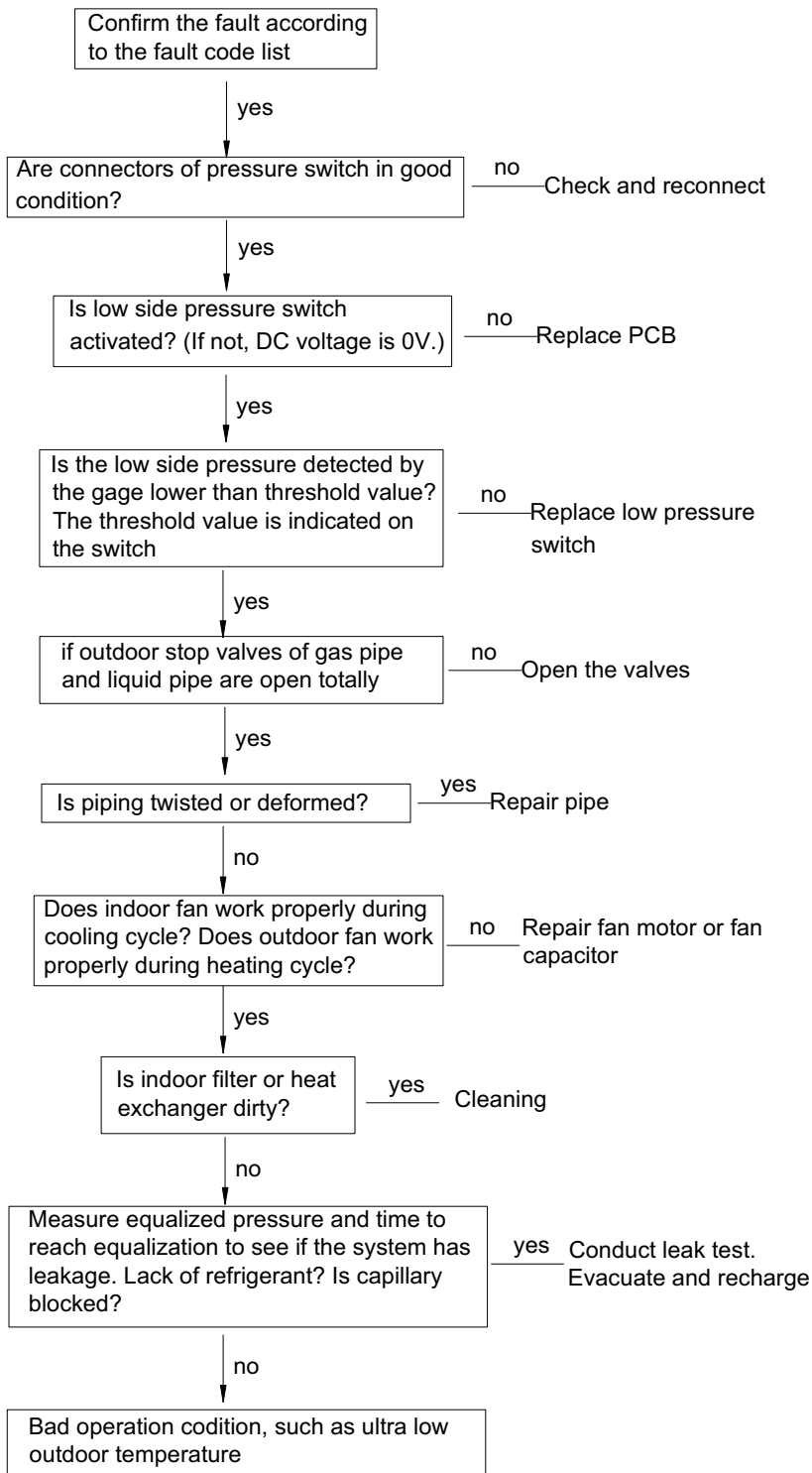


Note: The confirmation time of low pressure failure may be shorter, but high pressure failure confirmation time is at least 1 hour. Besides, take the ambient temperature into consideration.

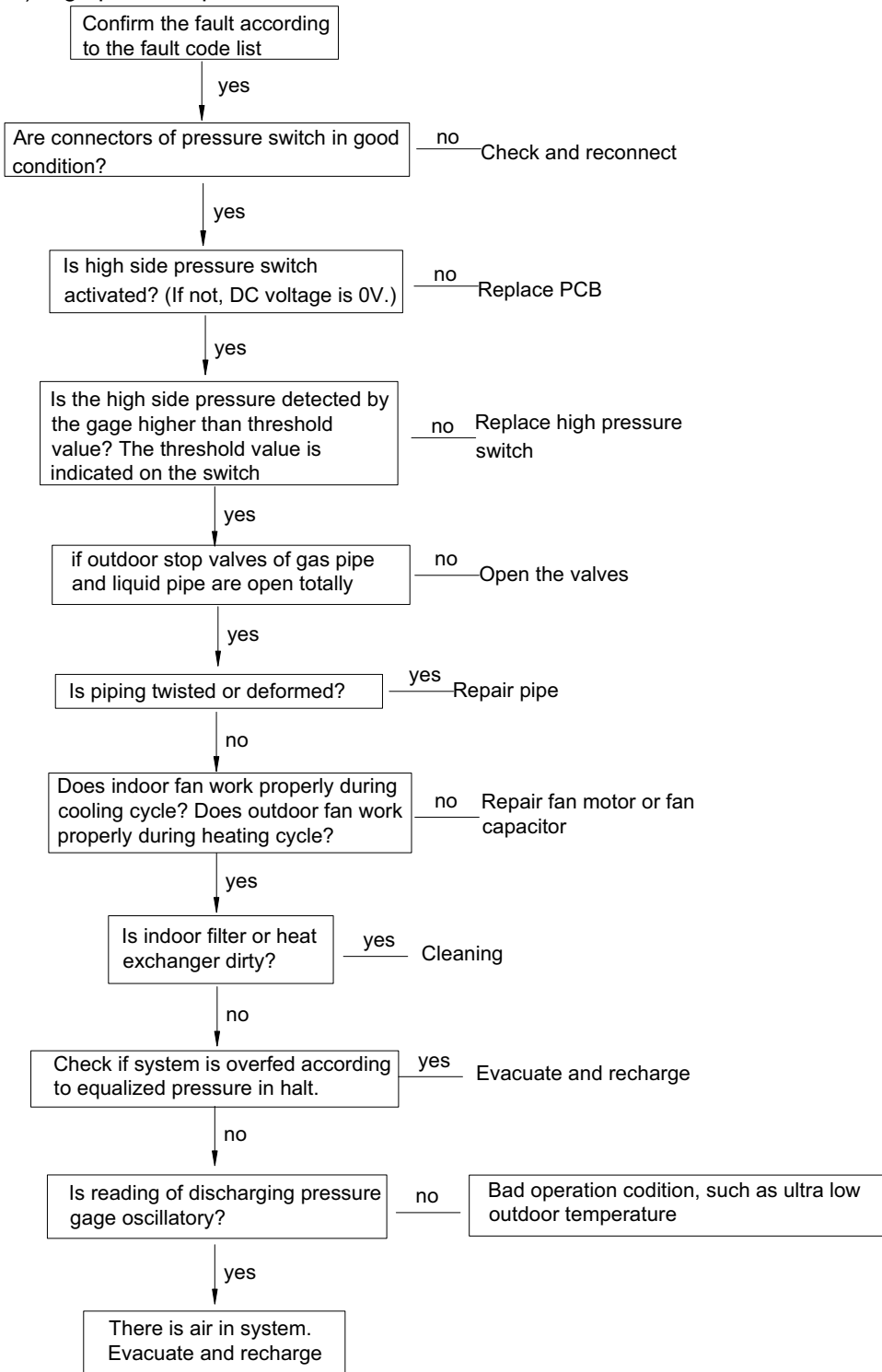
#### 2) Sensor failure



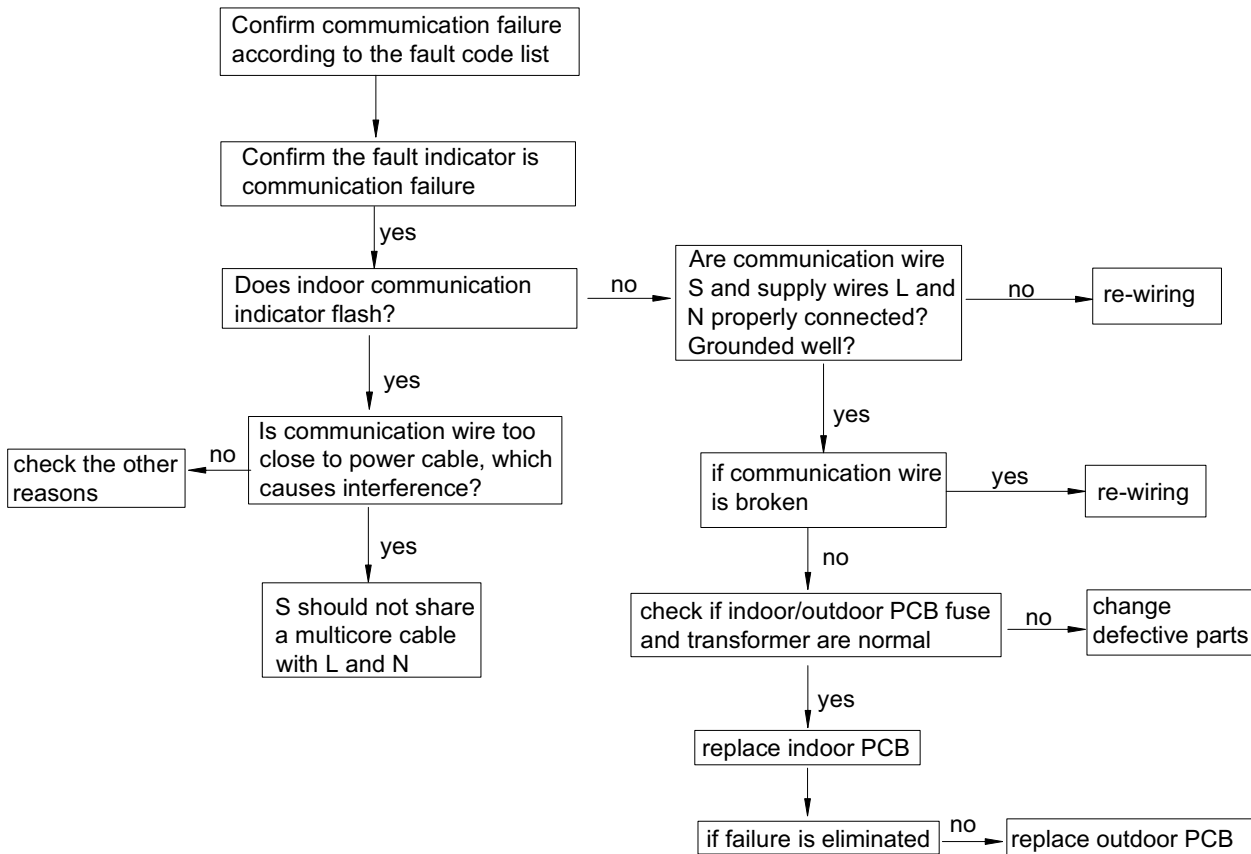
### 3) Low pressure protection - Wired controller shows 53



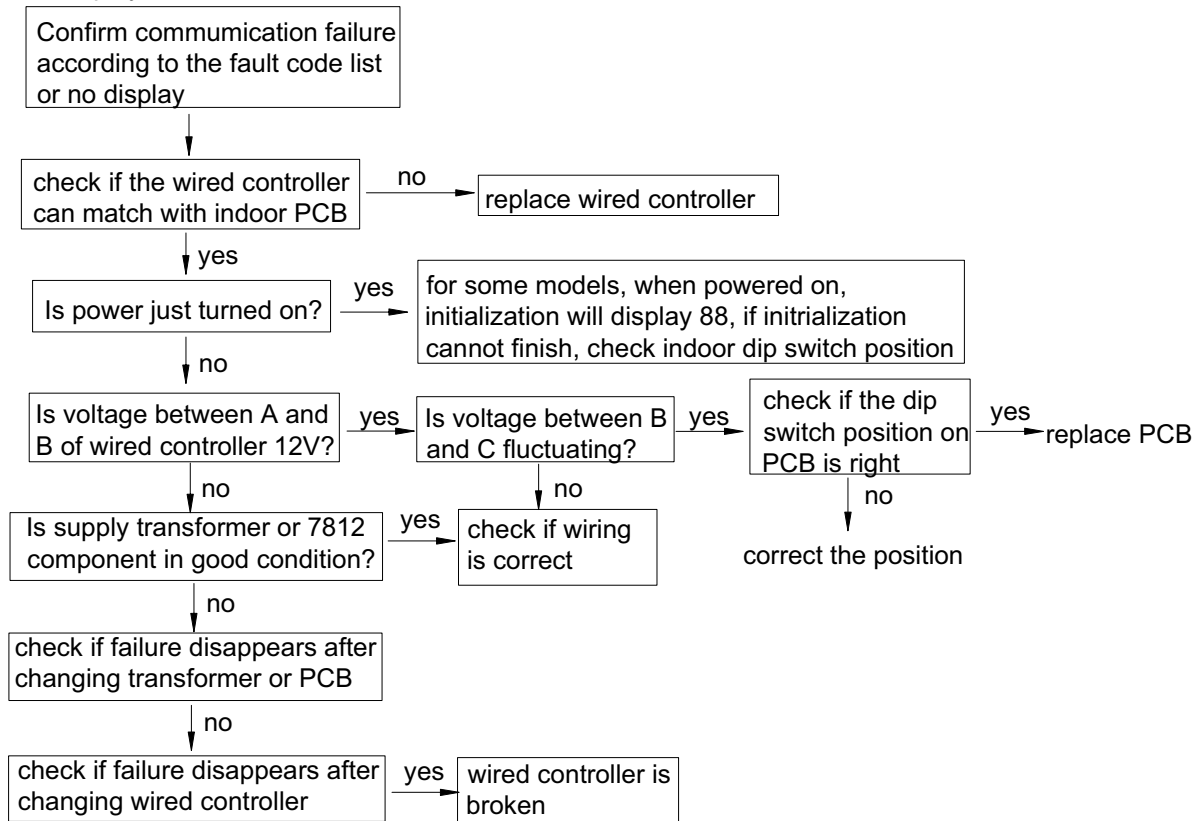
### 4) High pressure protection - Wired controller shows 53



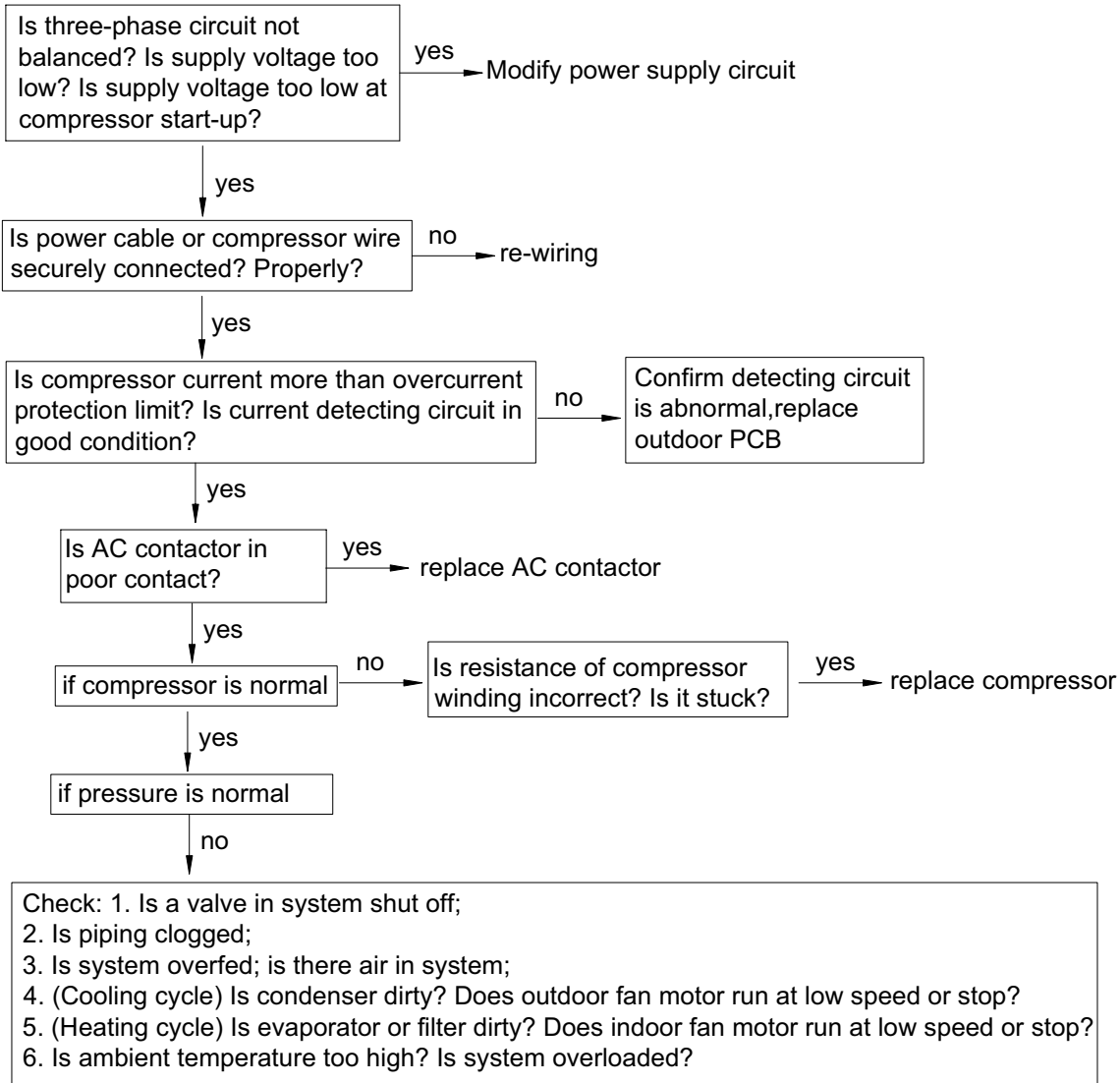
### 5) Communication error between indoor and outdoor units - Wired controller shows 06



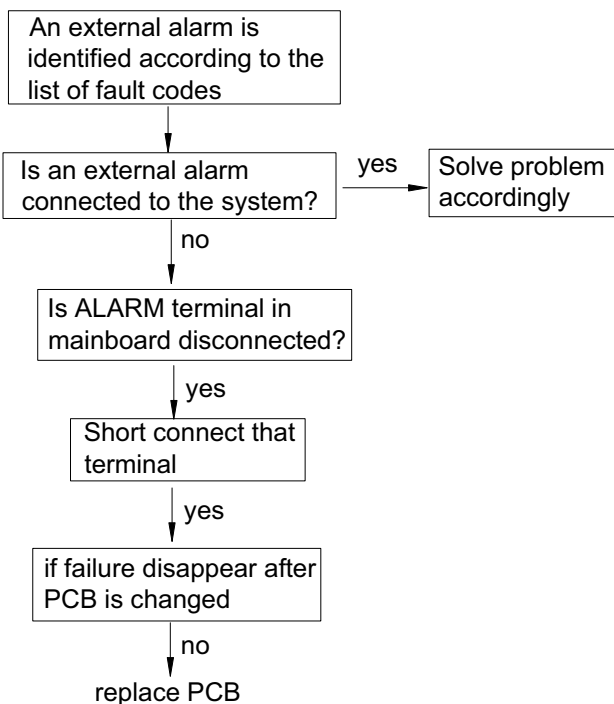
### 6) Communication failure between wired controller and indoor PCB - Wired controller shows 07 or no display on wired controller



### 7) High current protection in 3-phase fixed frequency models - Wired controller shows 48

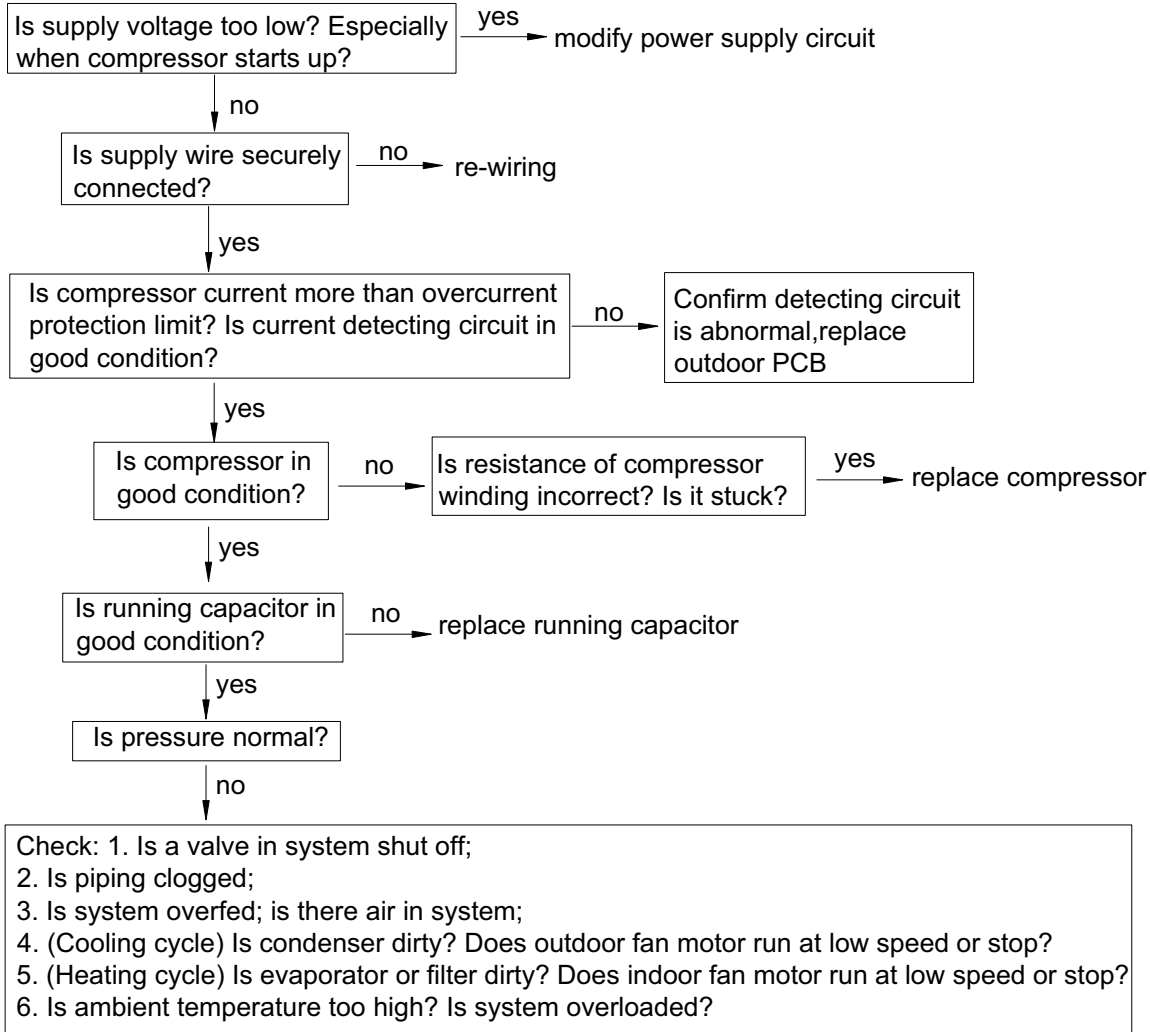


### 8) External alarm- Wired controller shows 0B

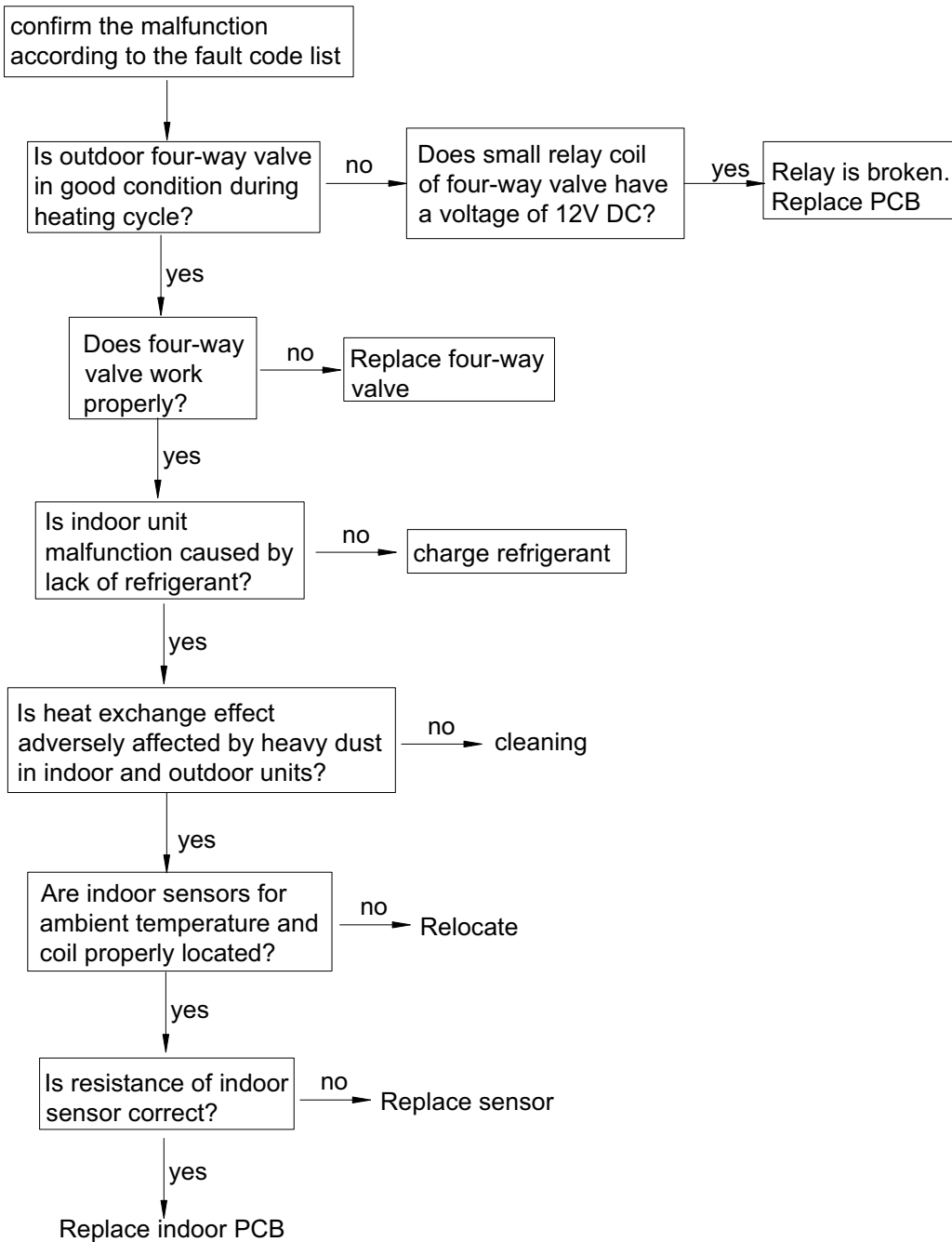




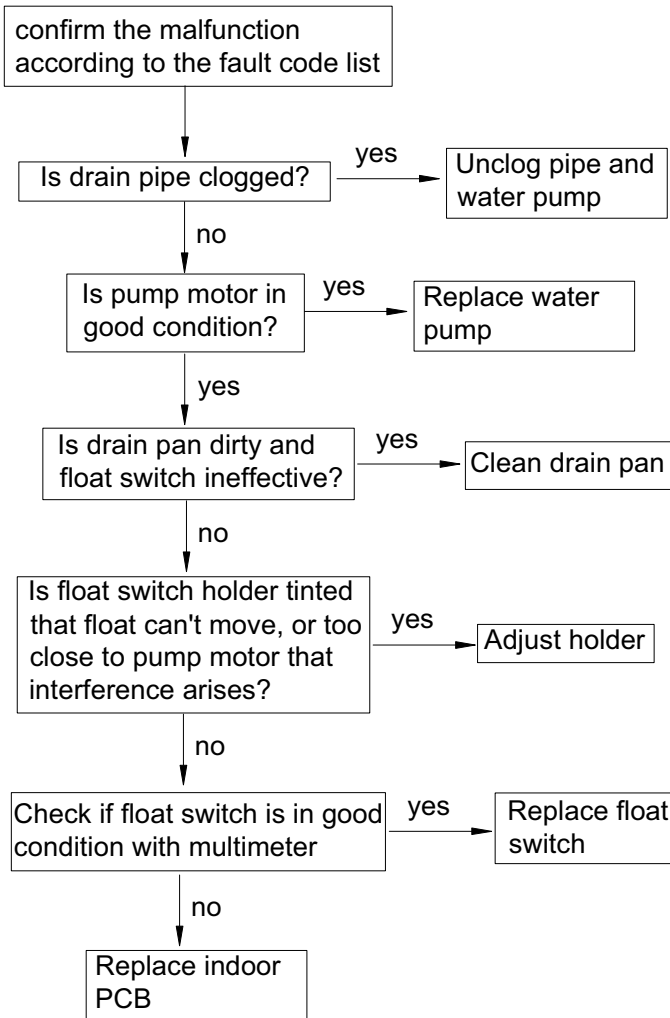
### 9) Overcurrent protection for single-phase fixed frequency models- Wired controller shows 48



### 10) Temperature cutoff protection- Wired controller shows OD

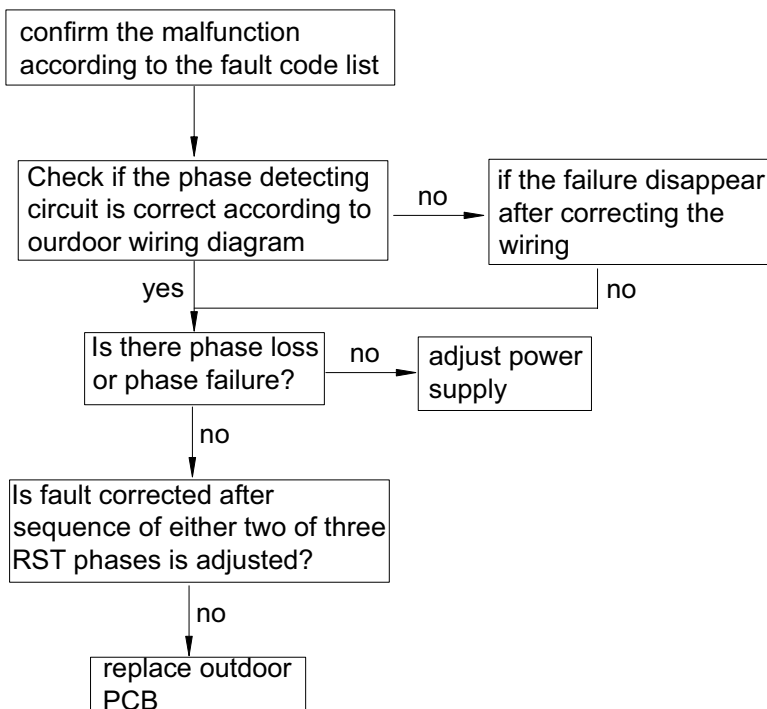


### 11) Fault in drain system- Wired controller shows 08

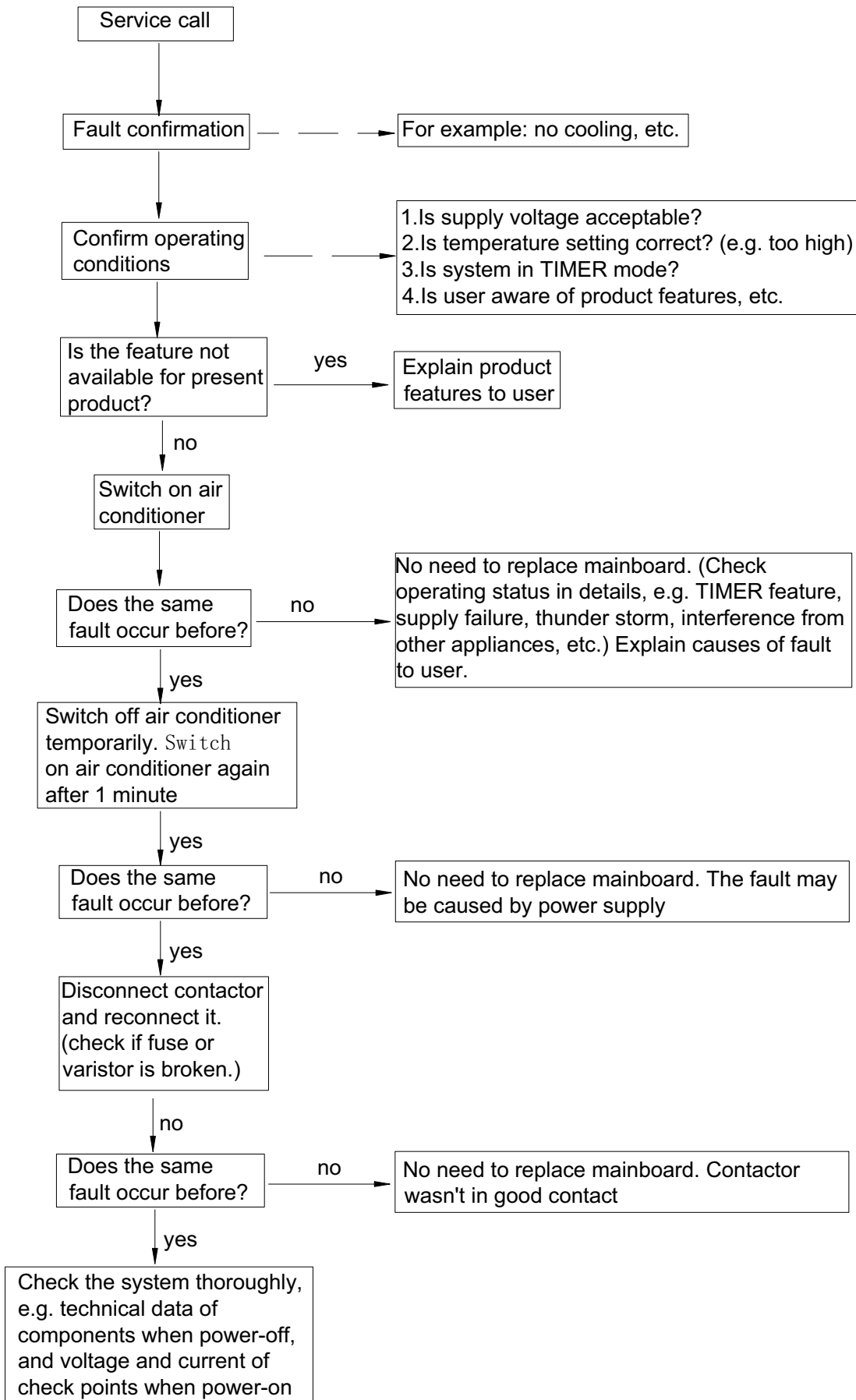


Note: Float switch is close in normal state, when being activated, it is open. Voltage between both ends is 0V when close, approximately 5V when open.

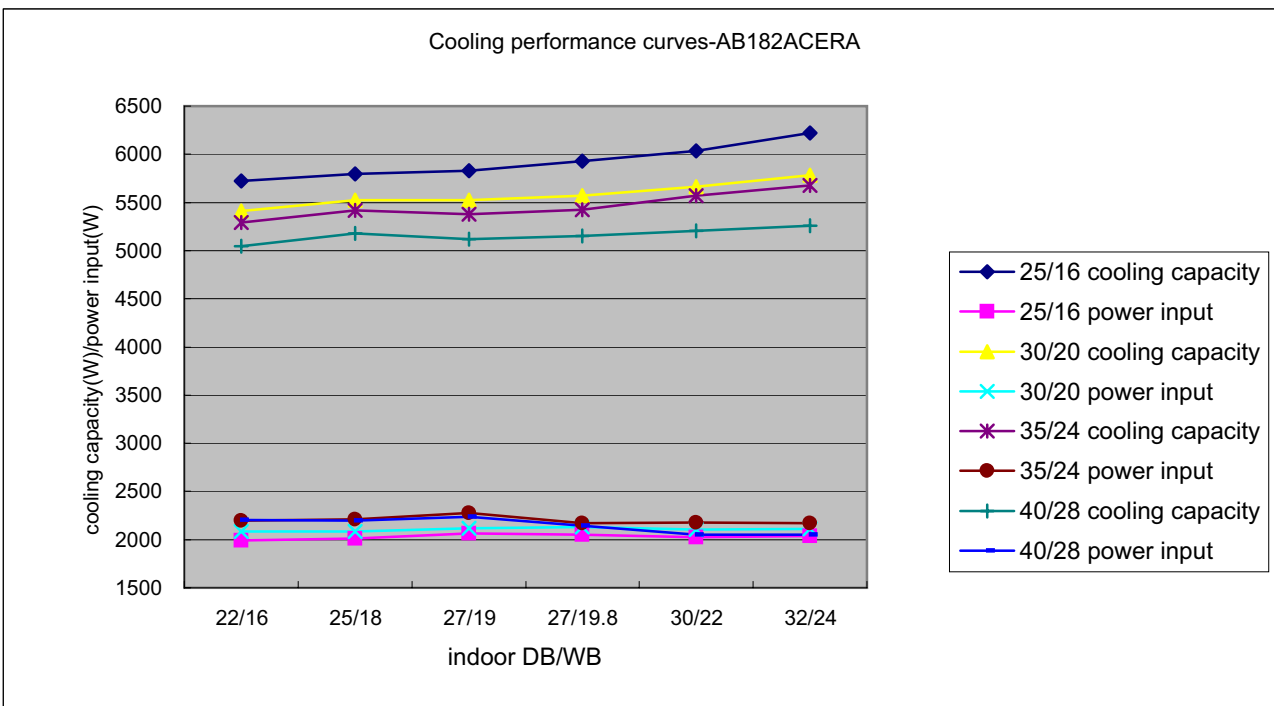
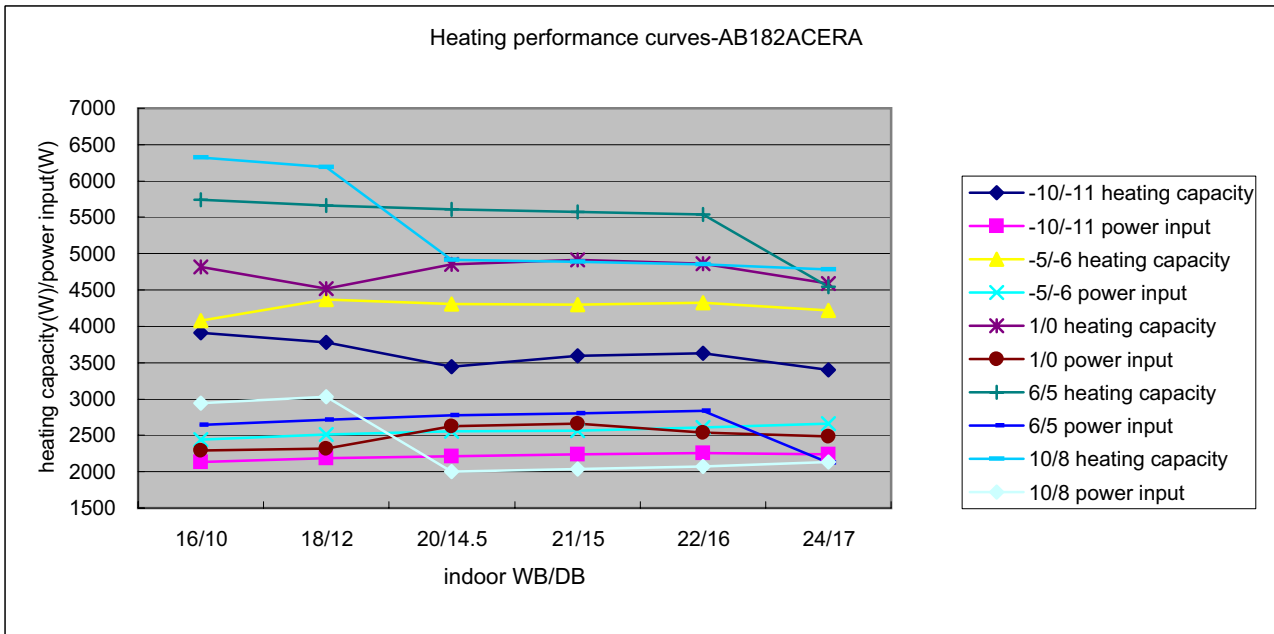
### 12) Phase loss or phase failure- Wired controller shows 48

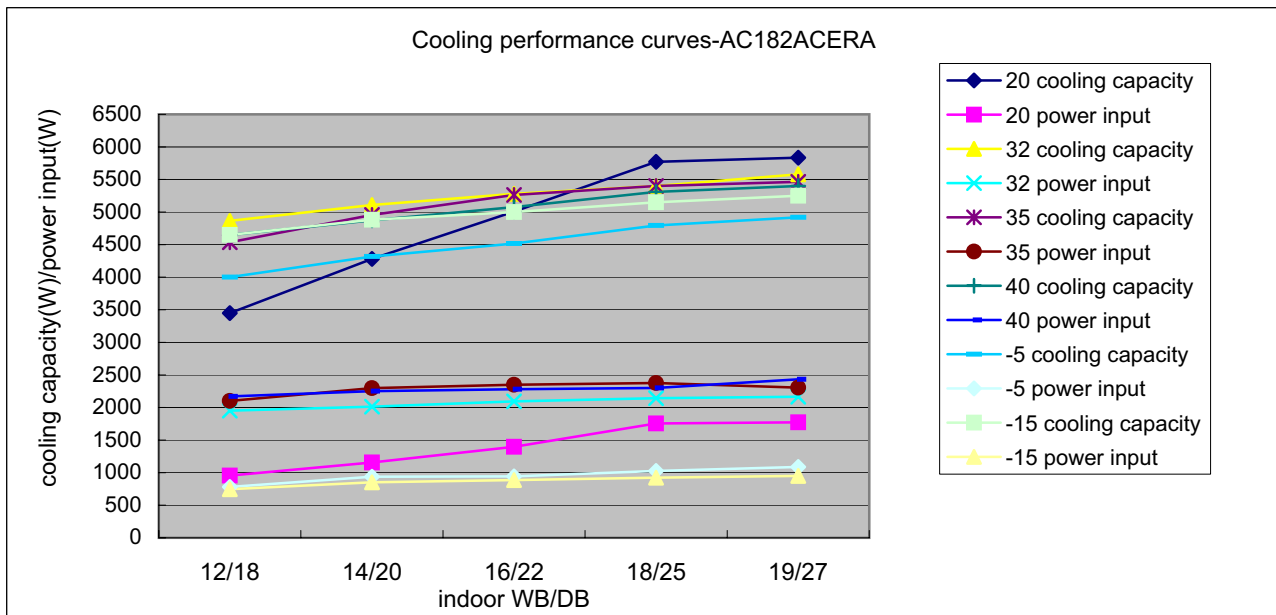
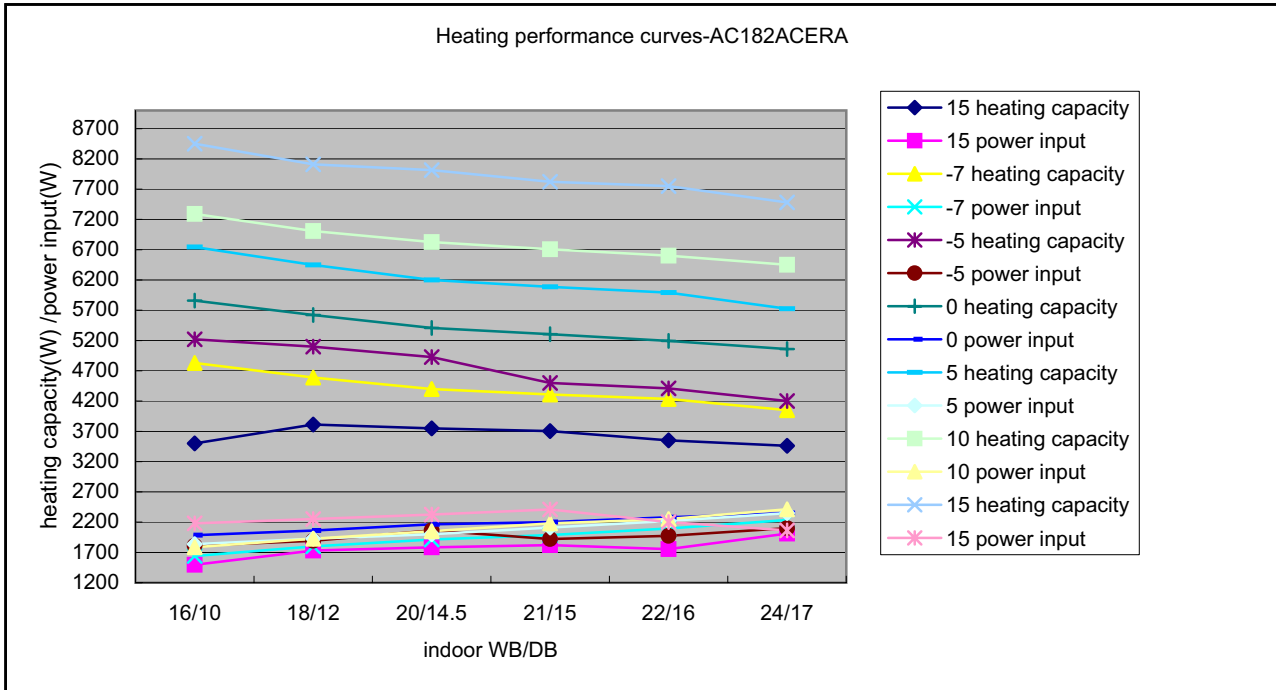


### 13) Troubleshooting (before replacement of PCB)

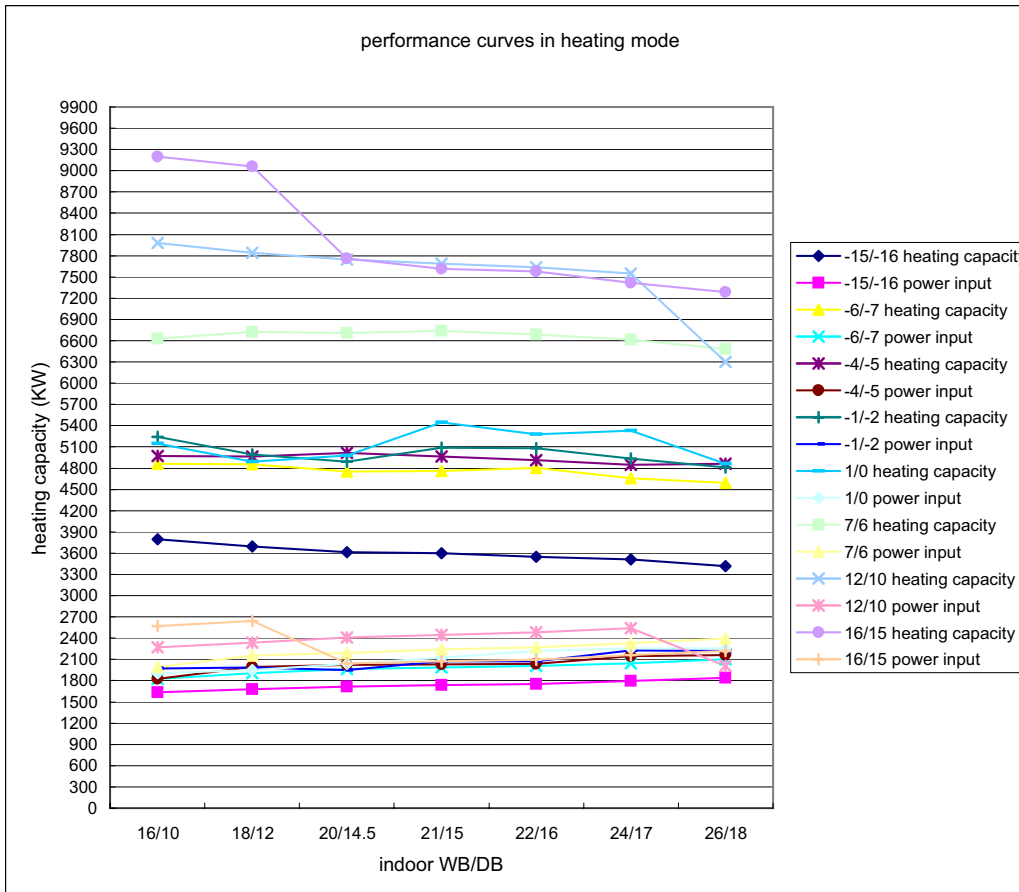
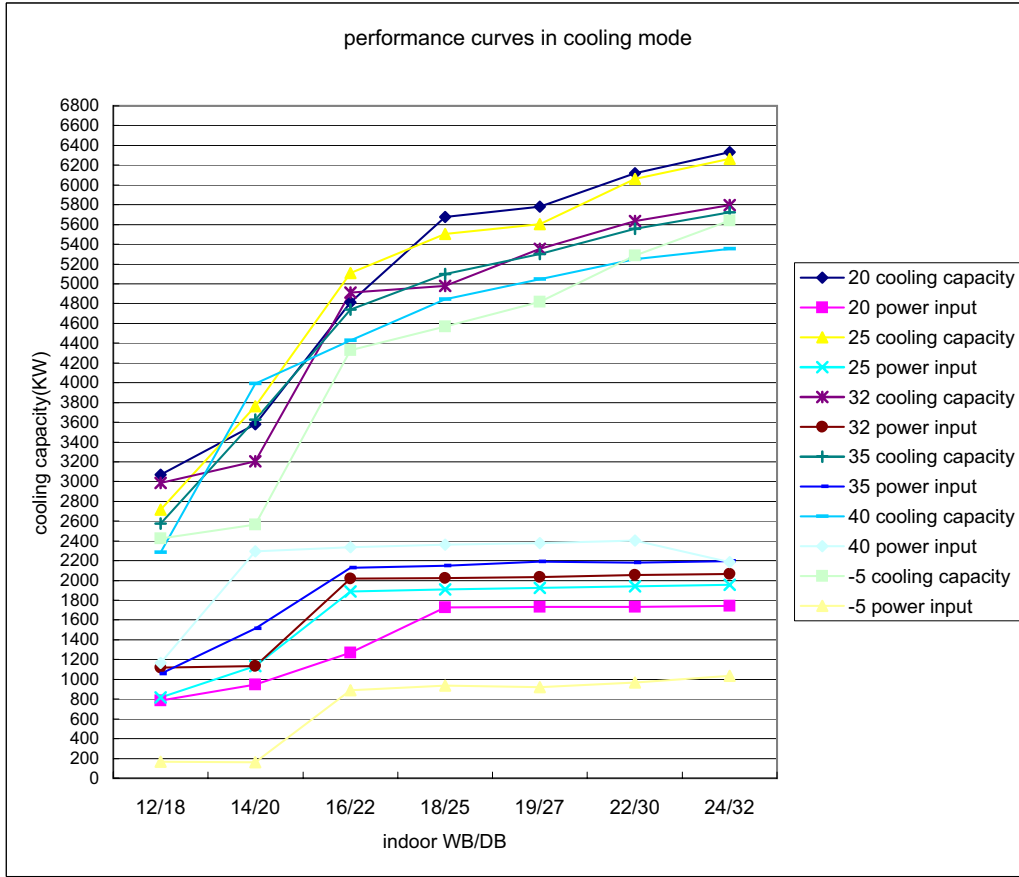


### 12. Performance curves

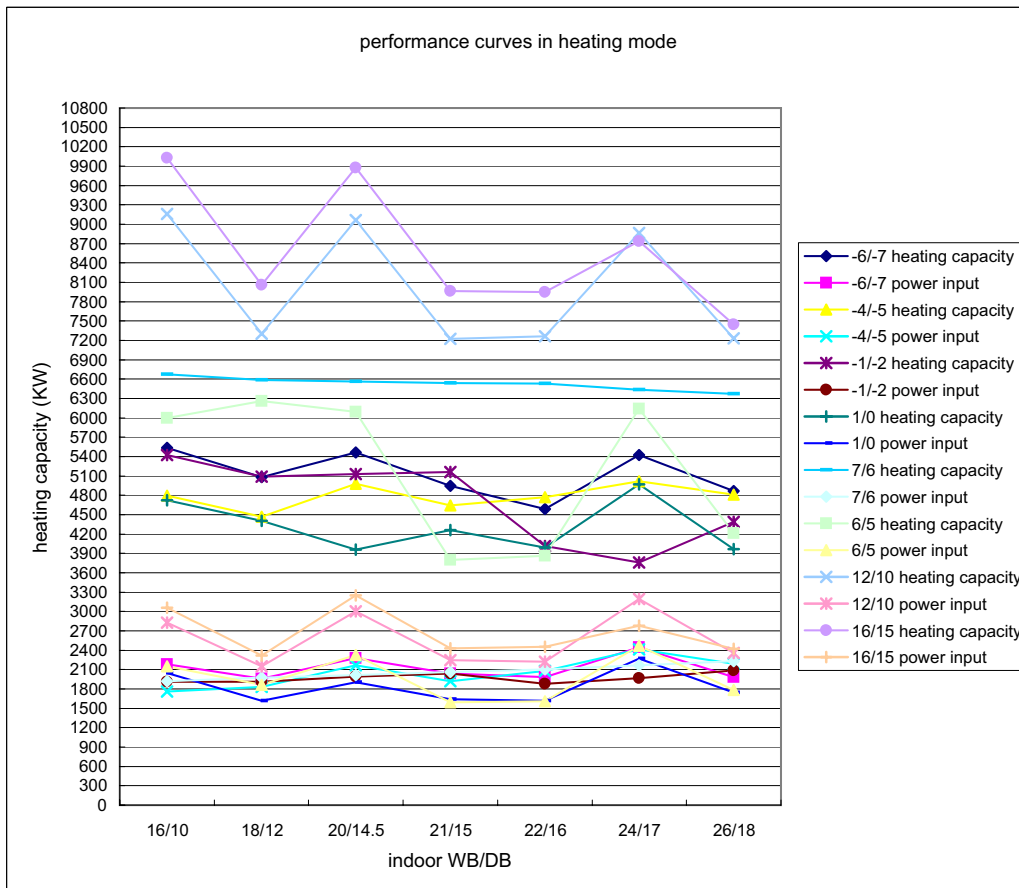
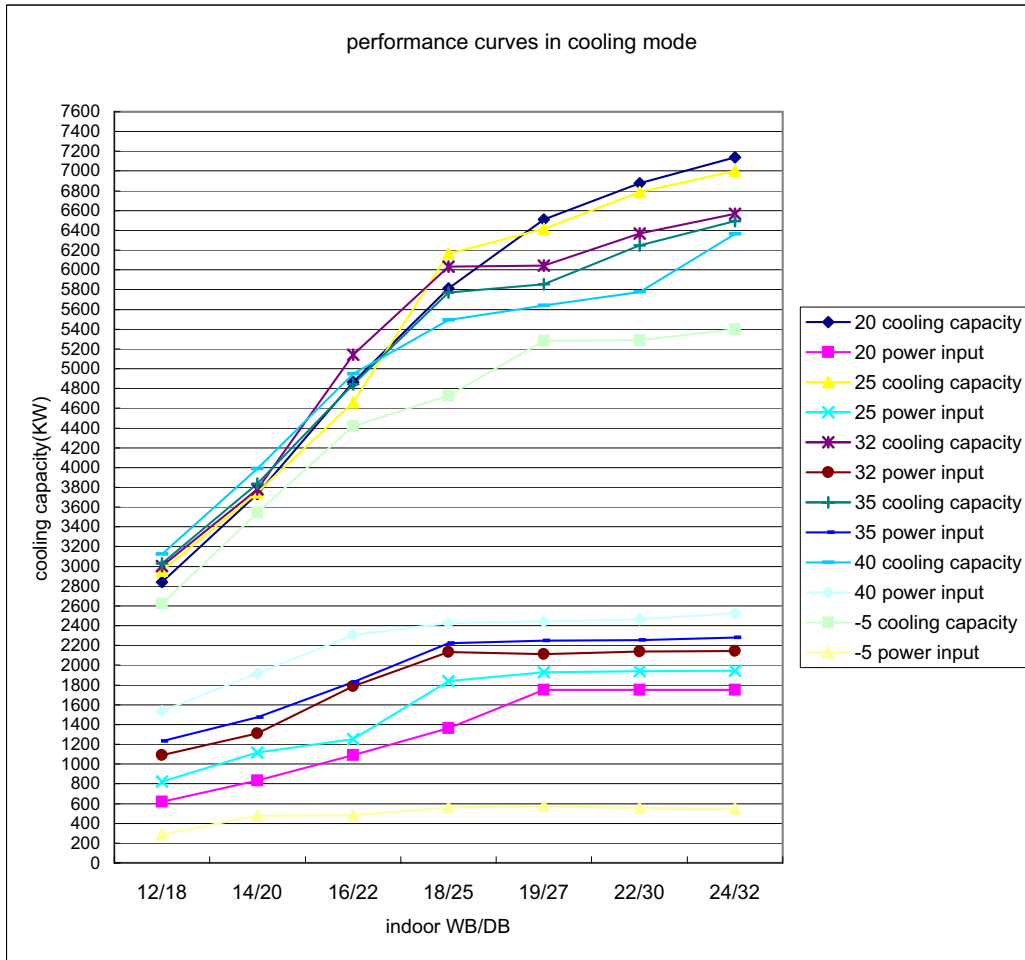




AU182AFERA+AS182AVERA:

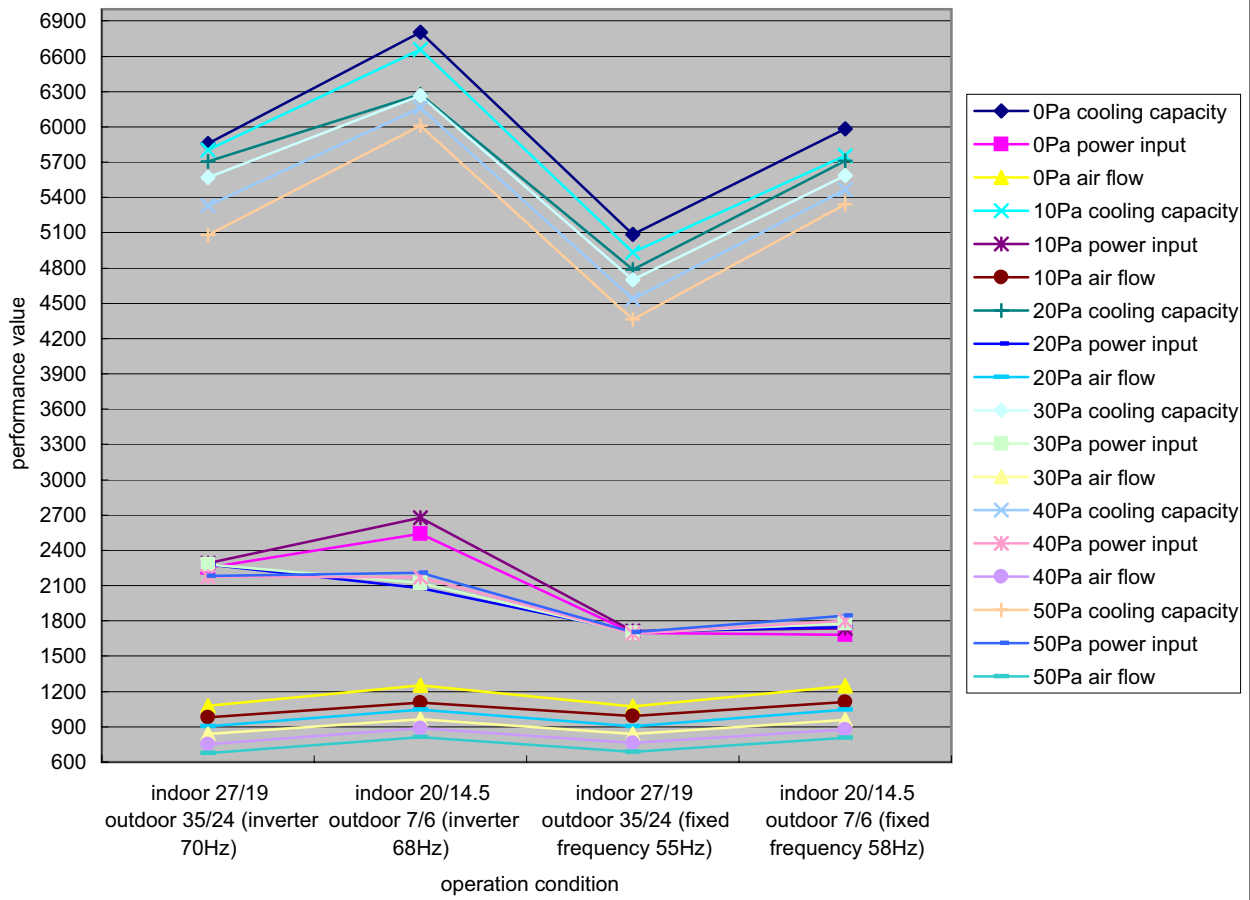


### AU182AFERA+AD182AMERA:

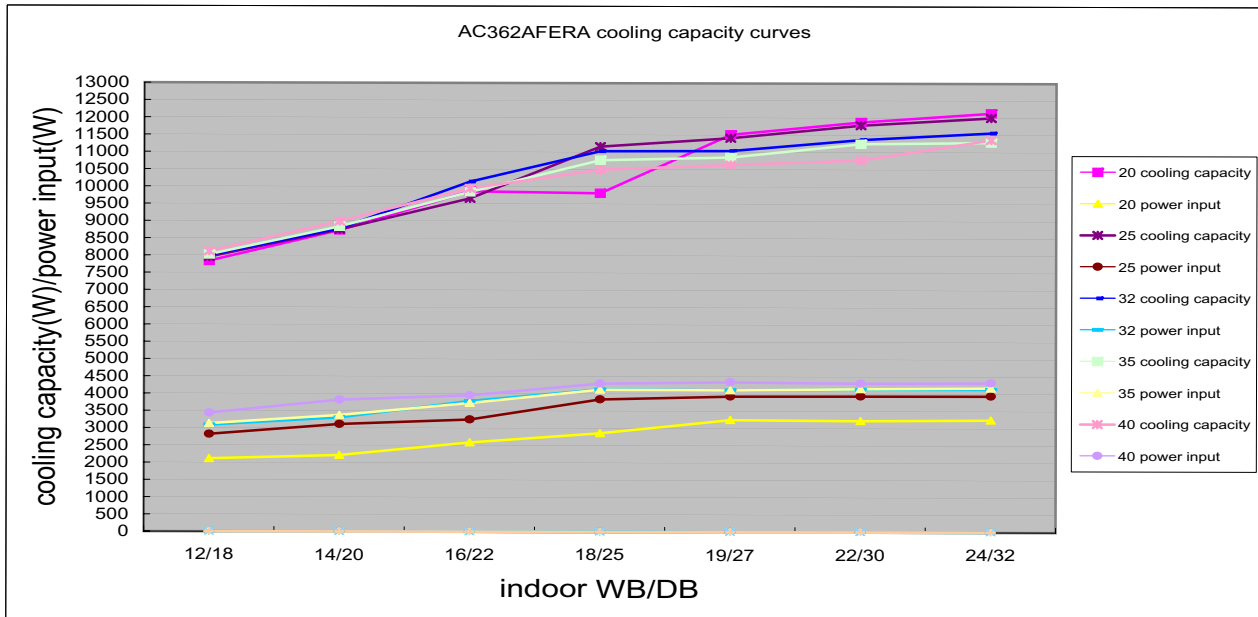
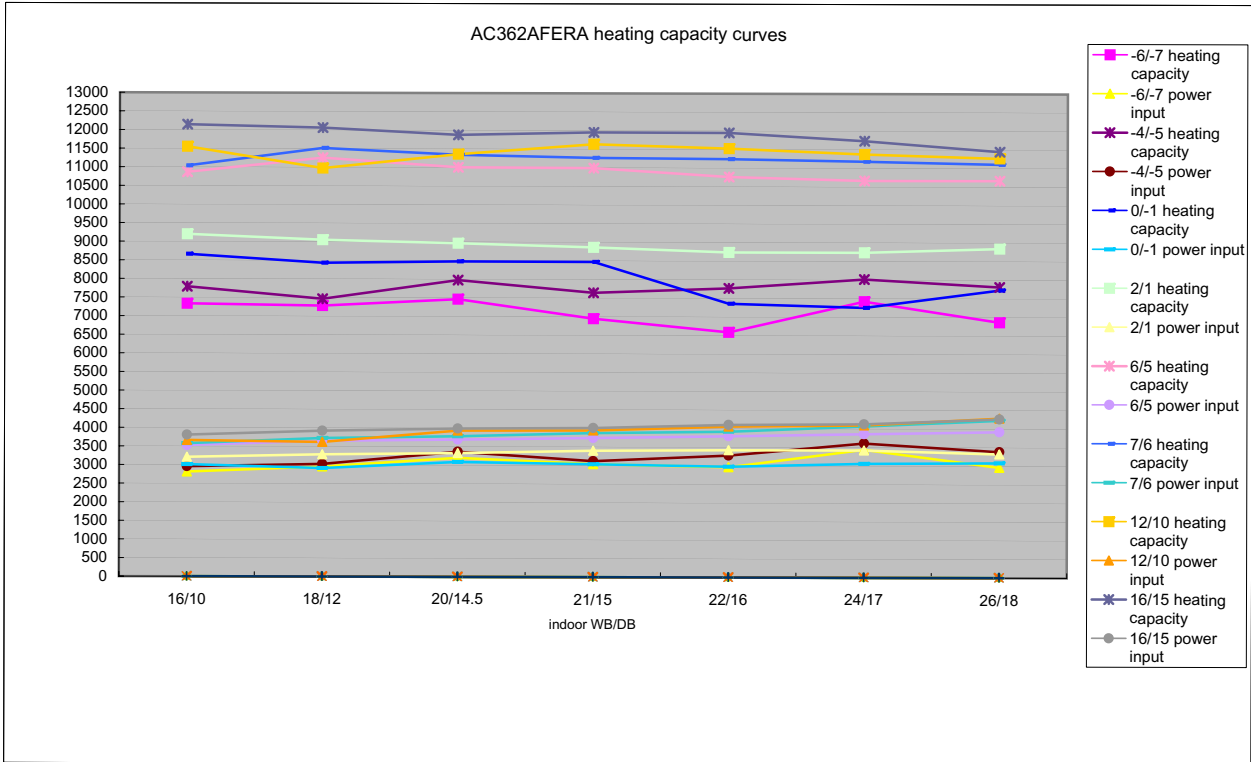




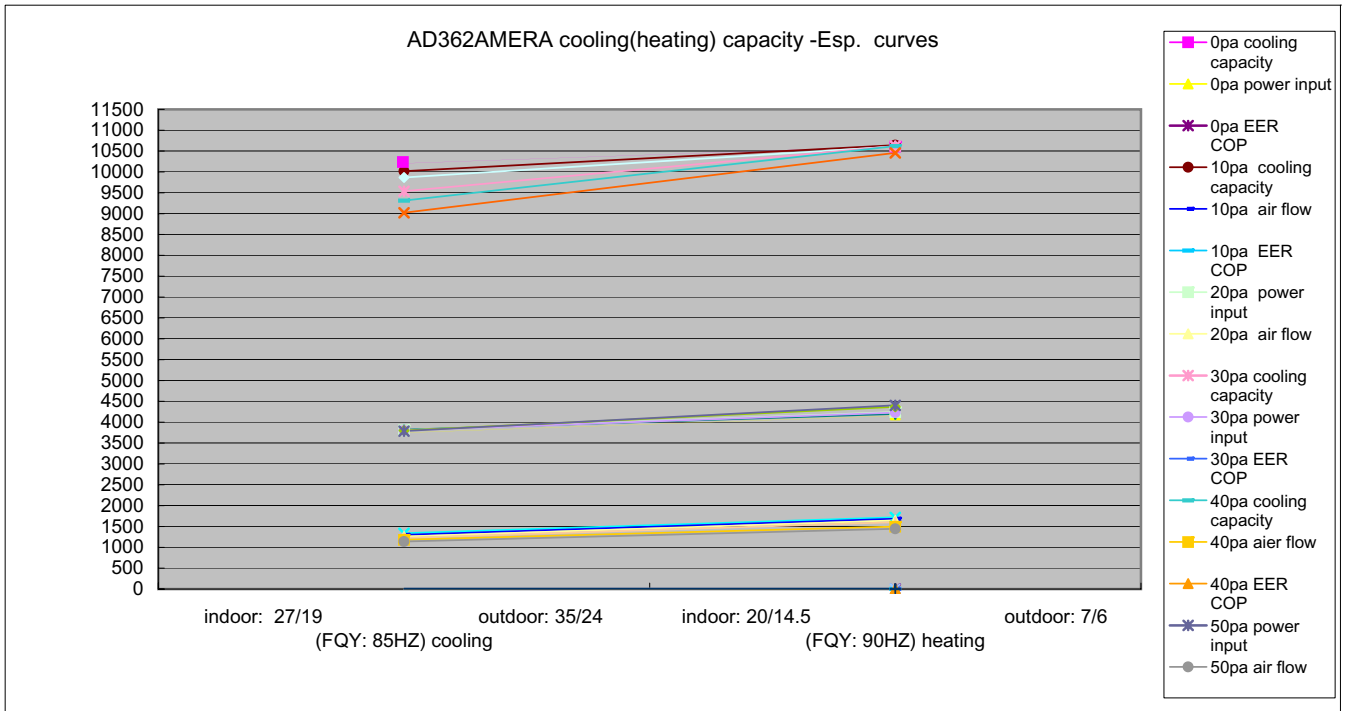
cooling capacity/power input/air flow and external static pressure curves



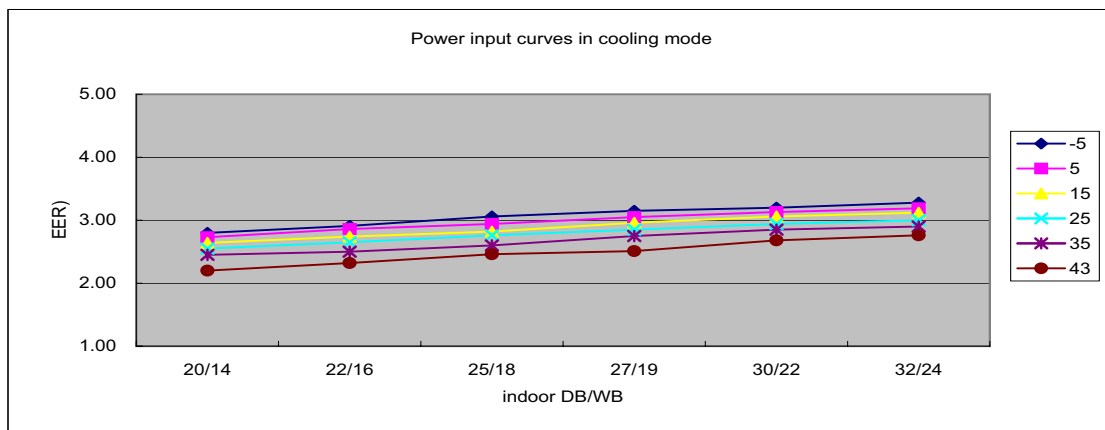
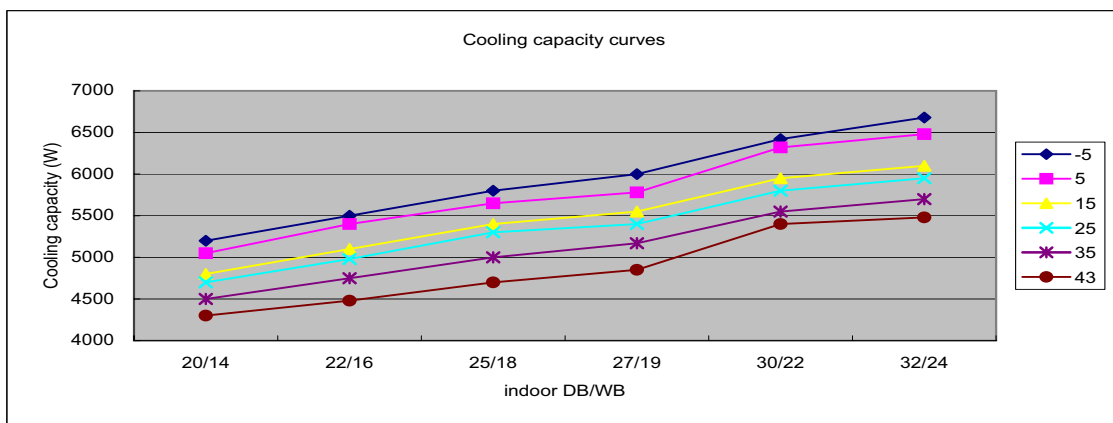
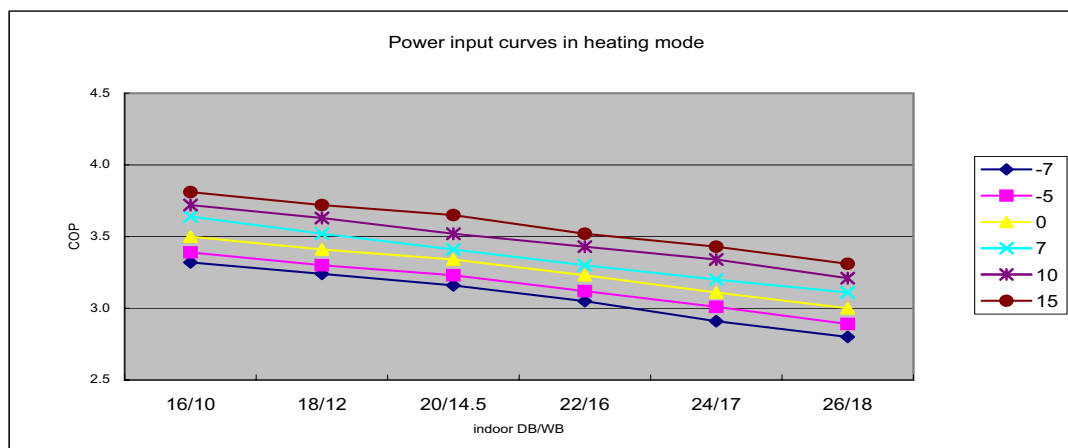
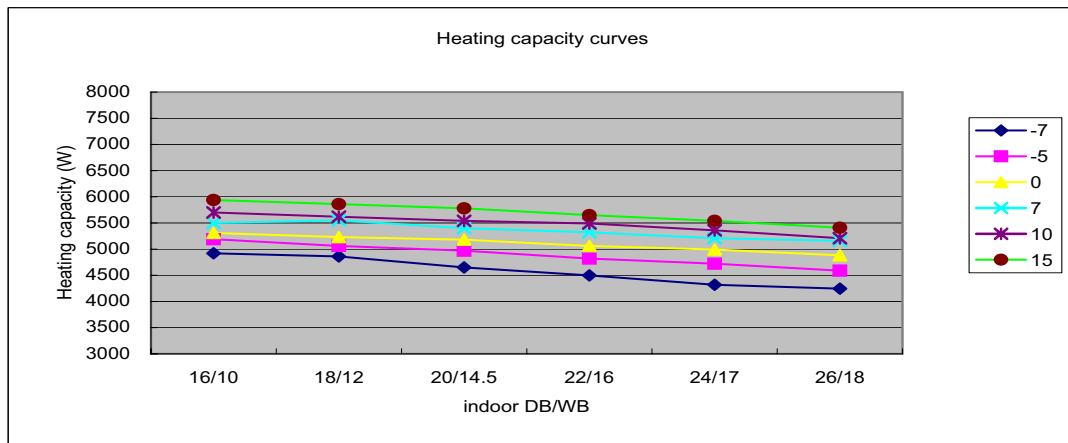
### AC362AFERA



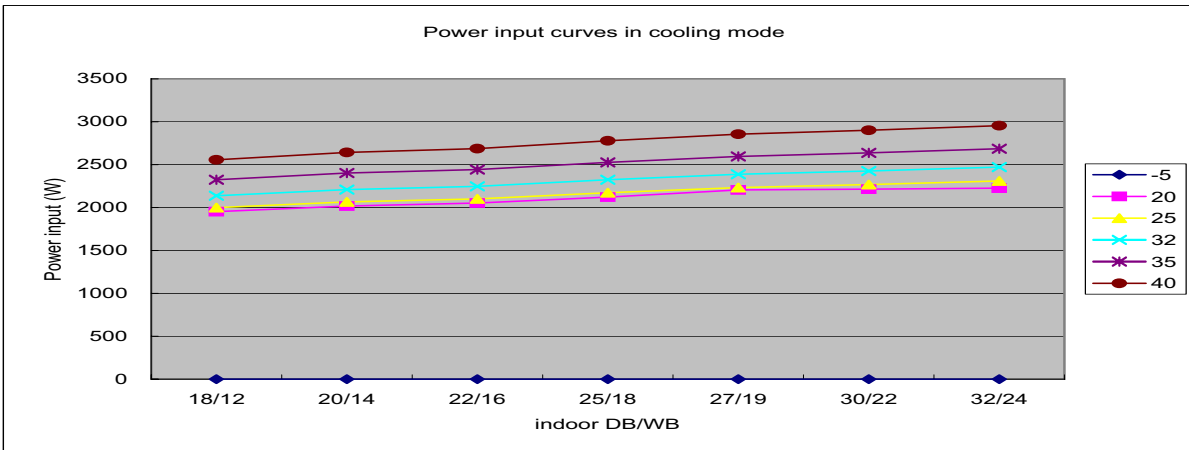
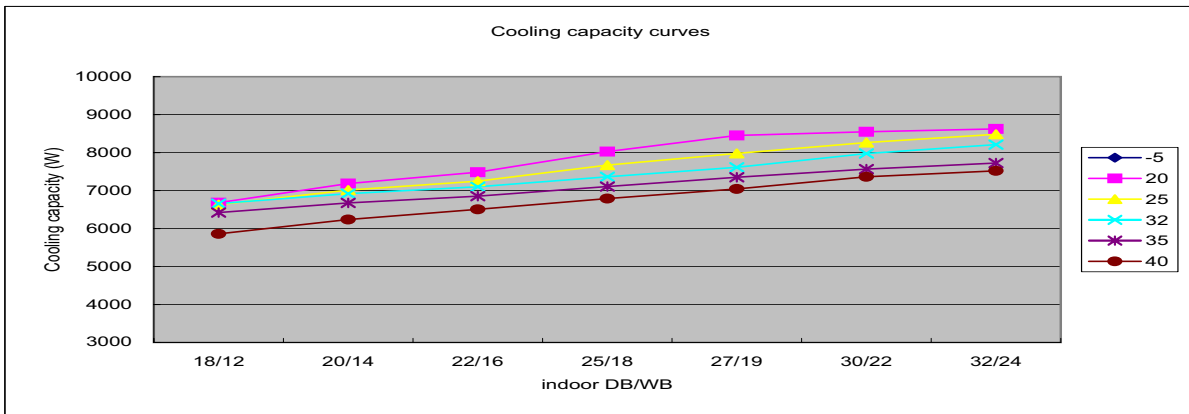
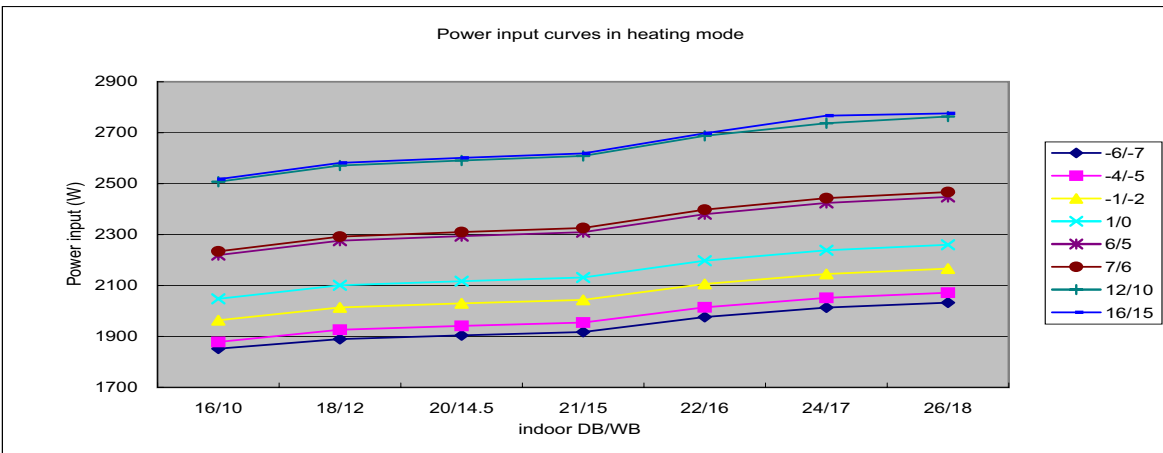
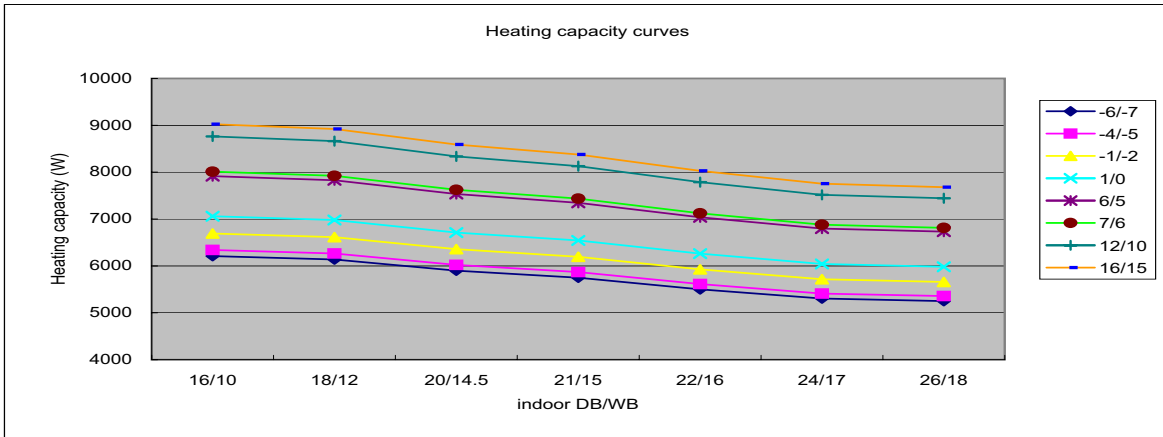
### AD362AMERA



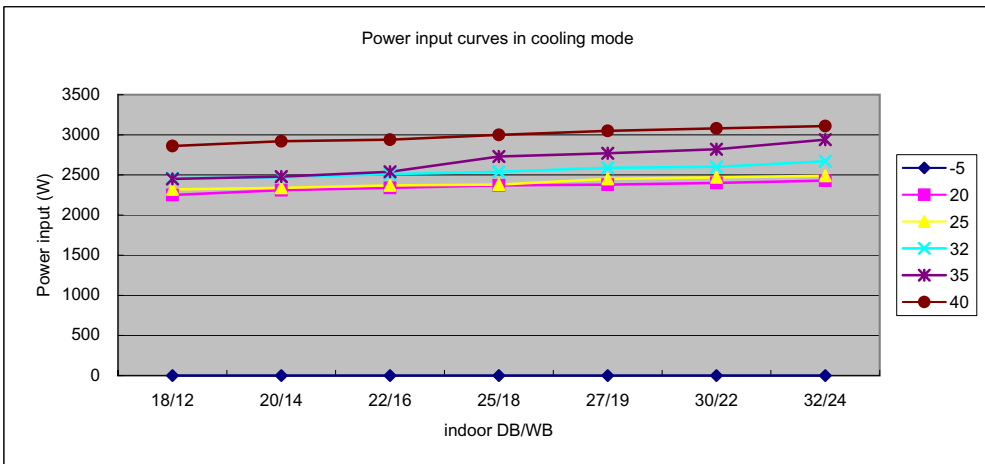
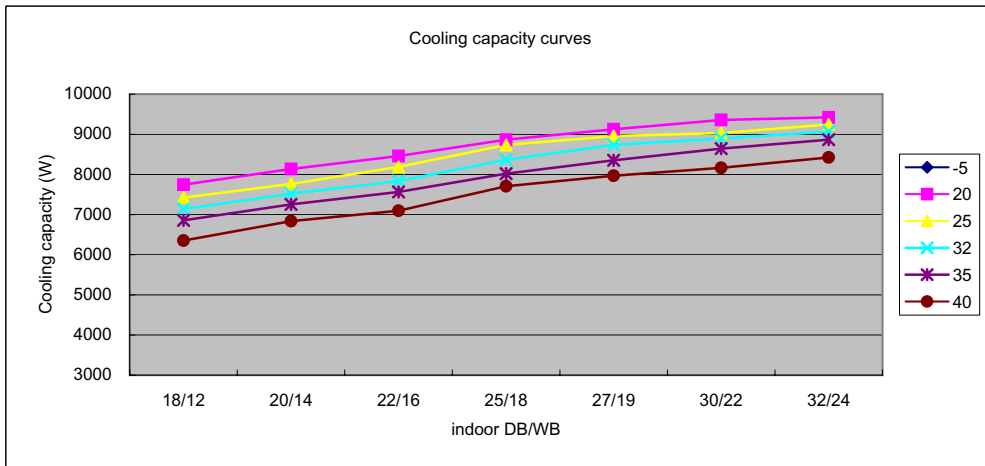
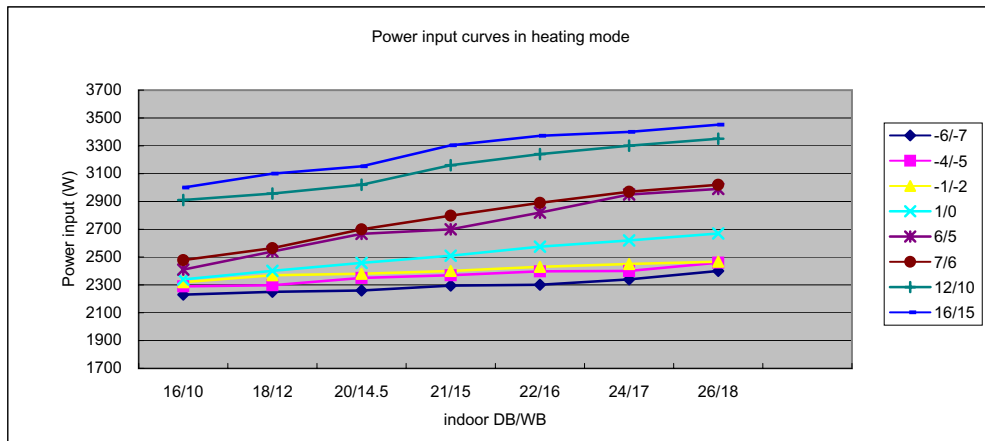
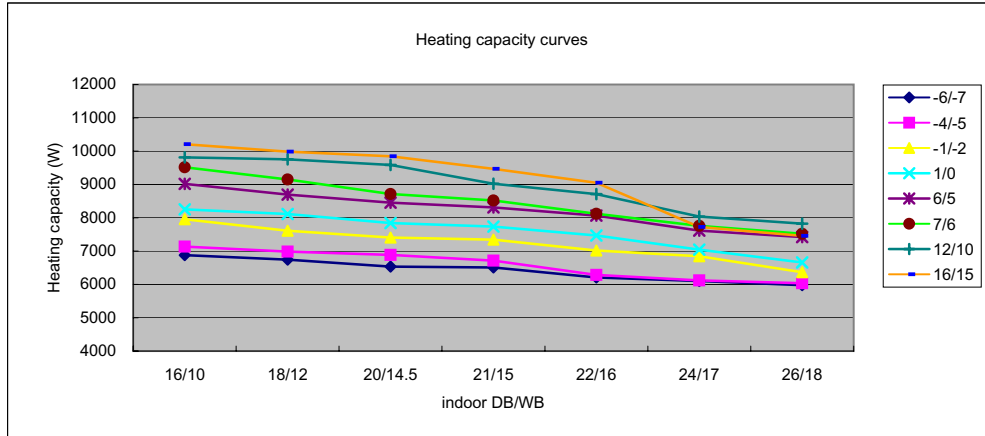
### AU182AEEAA



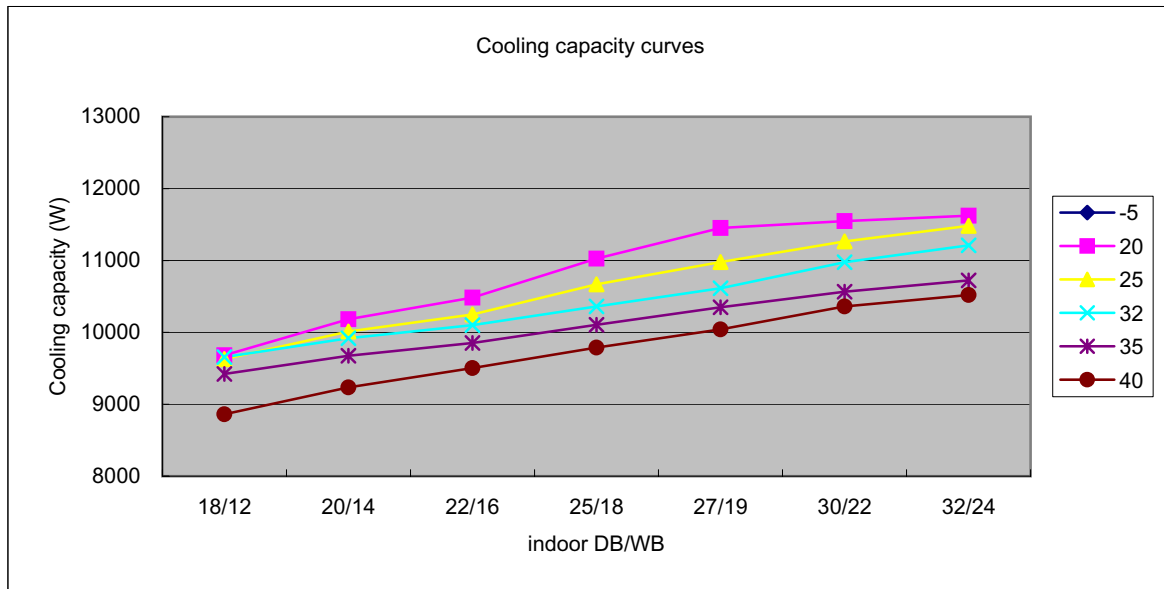
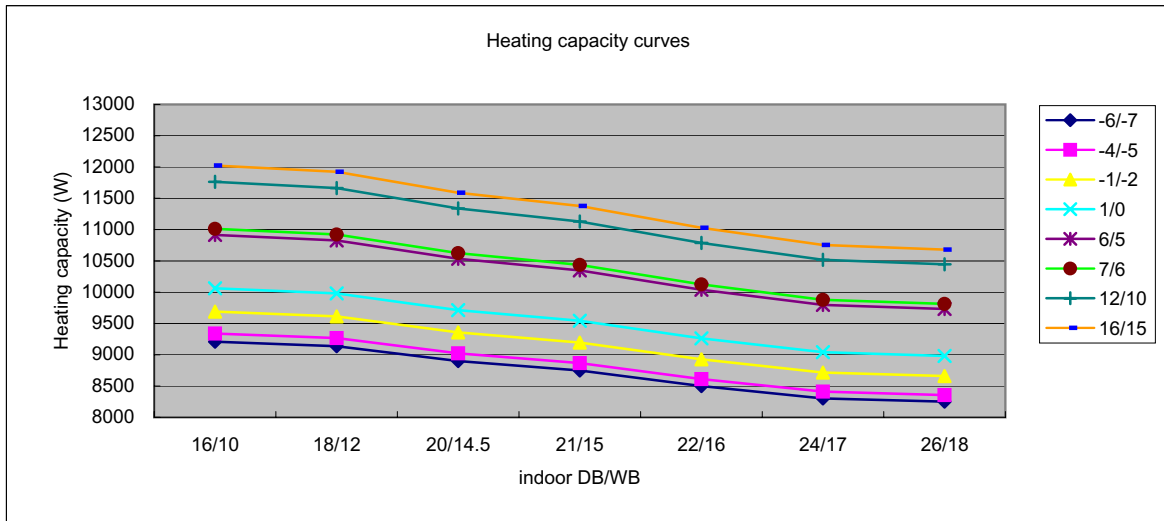
### AU242AGEAA



### AU282AHEAA

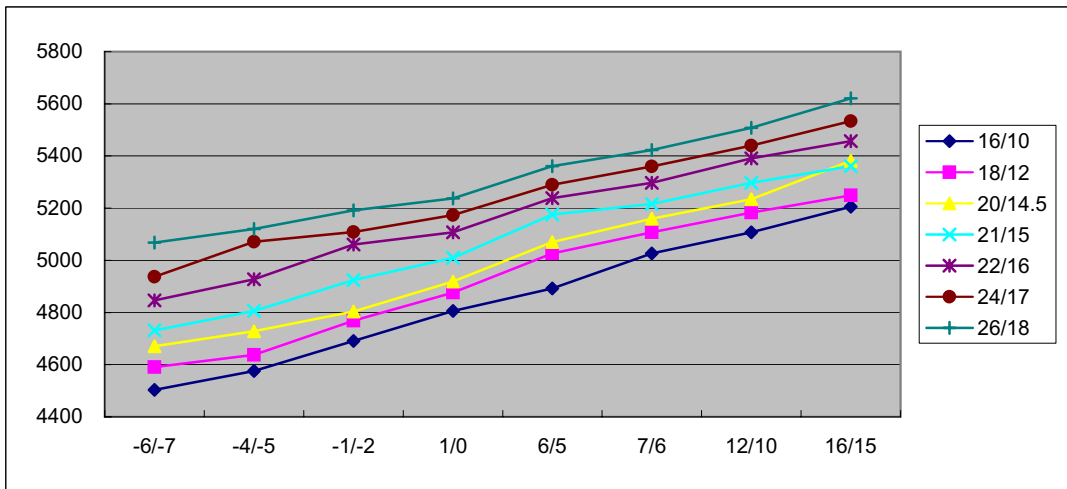
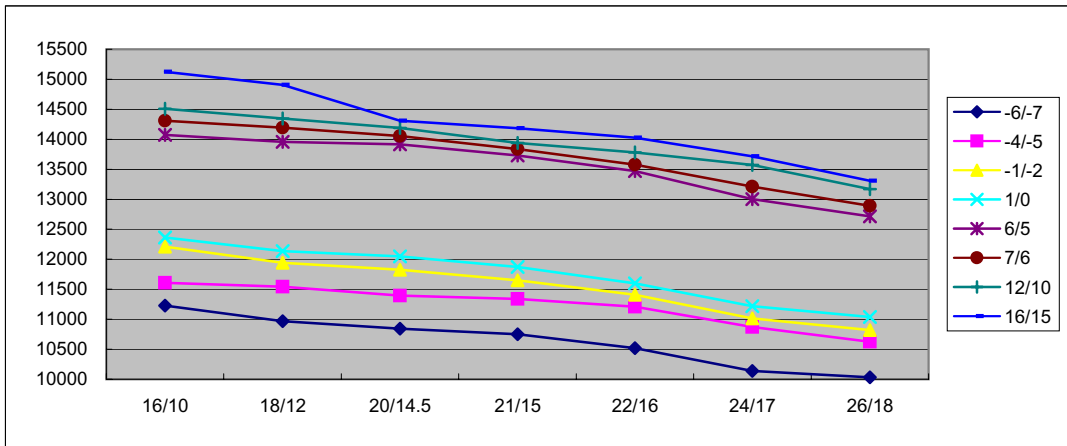


### AU362AIEAA

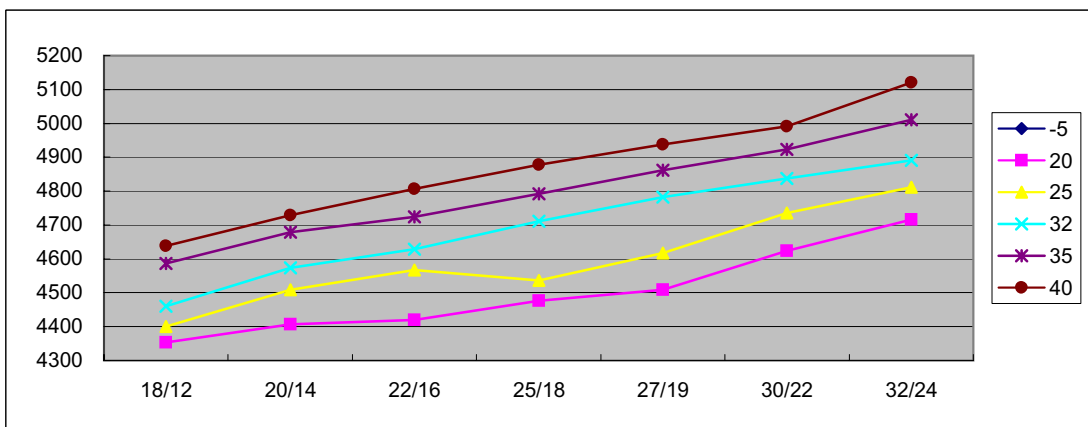
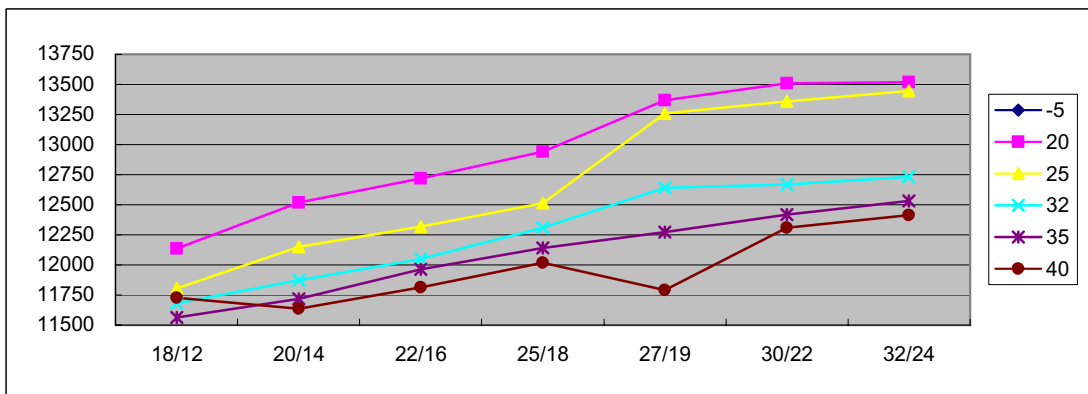


### AU2NALEAA

#### Heating capacity curves

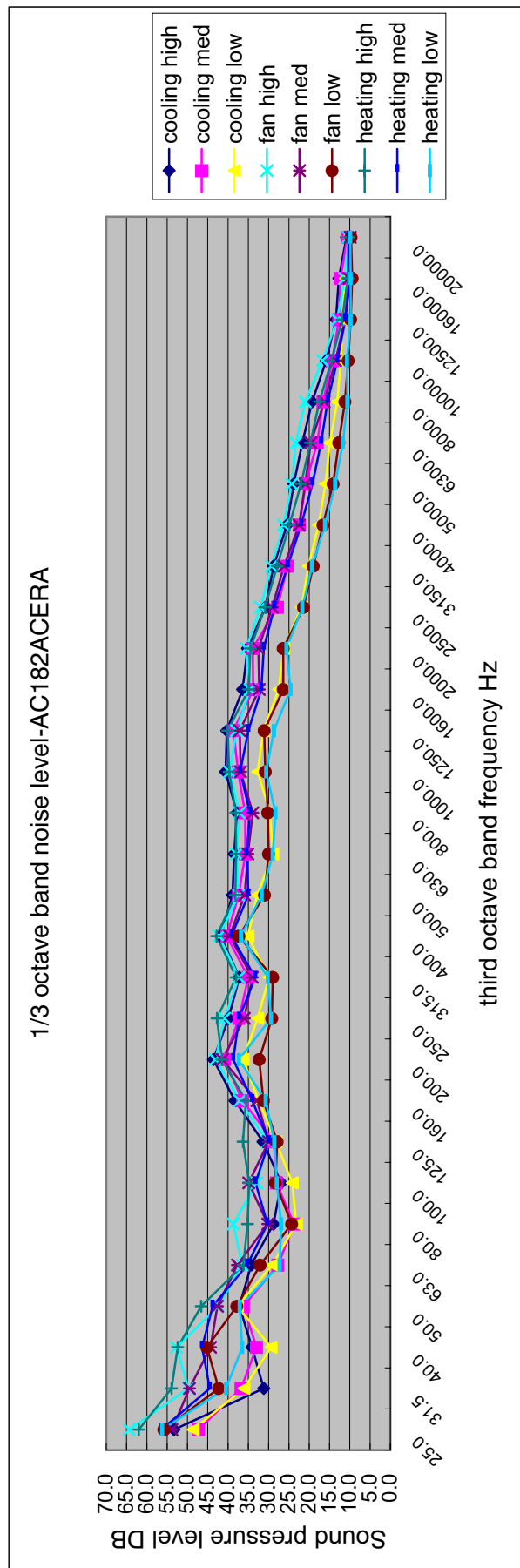
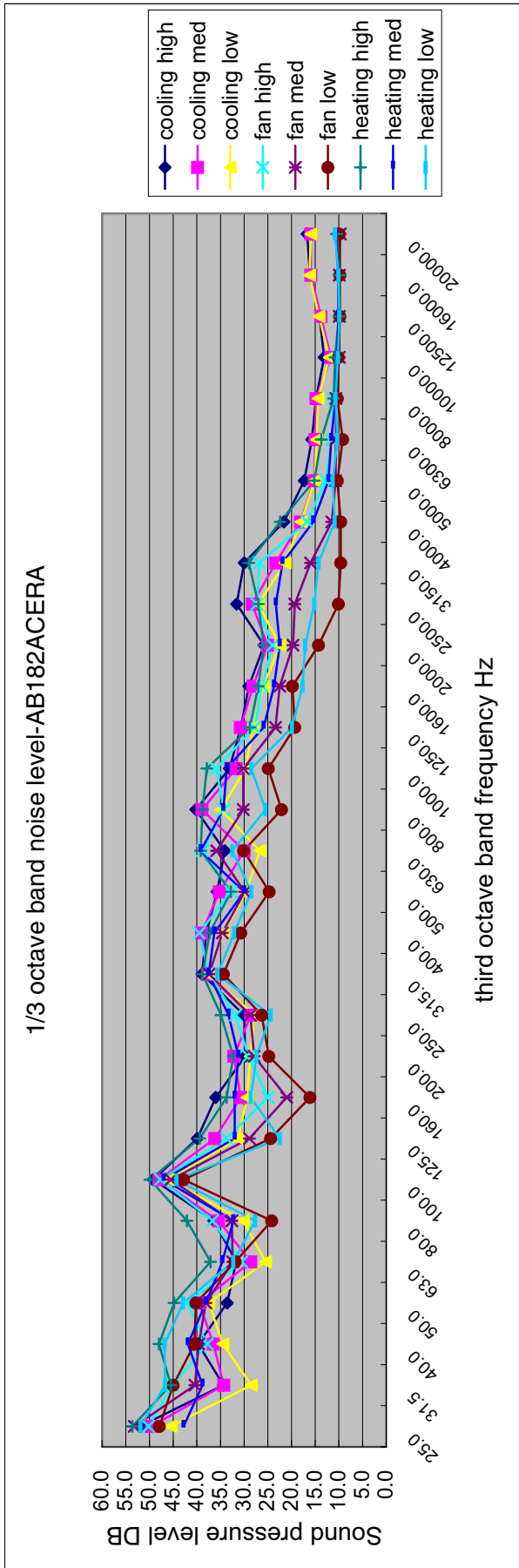


#### Cooling capacity curves

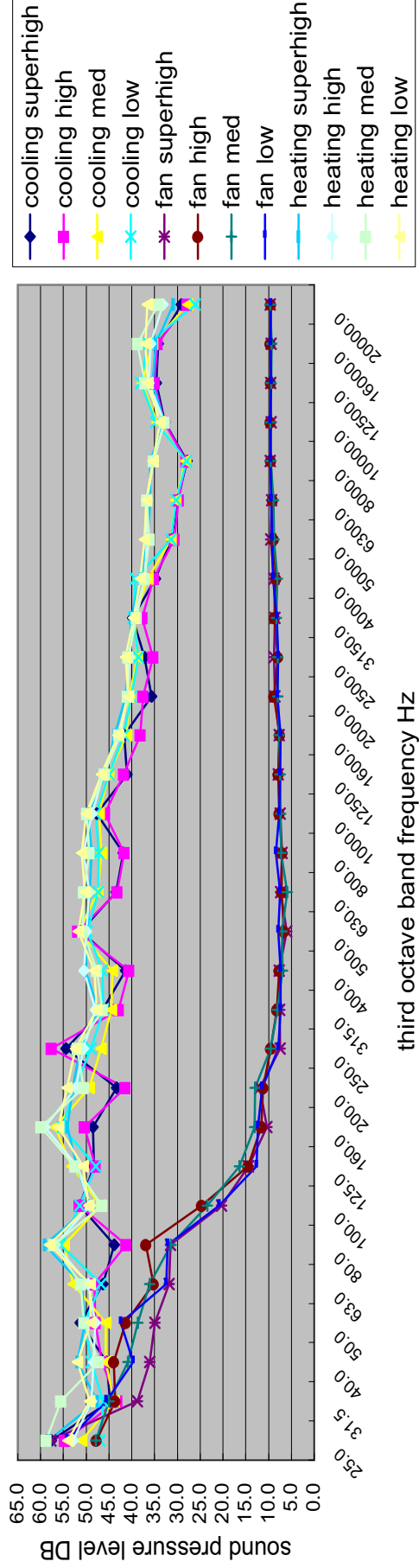




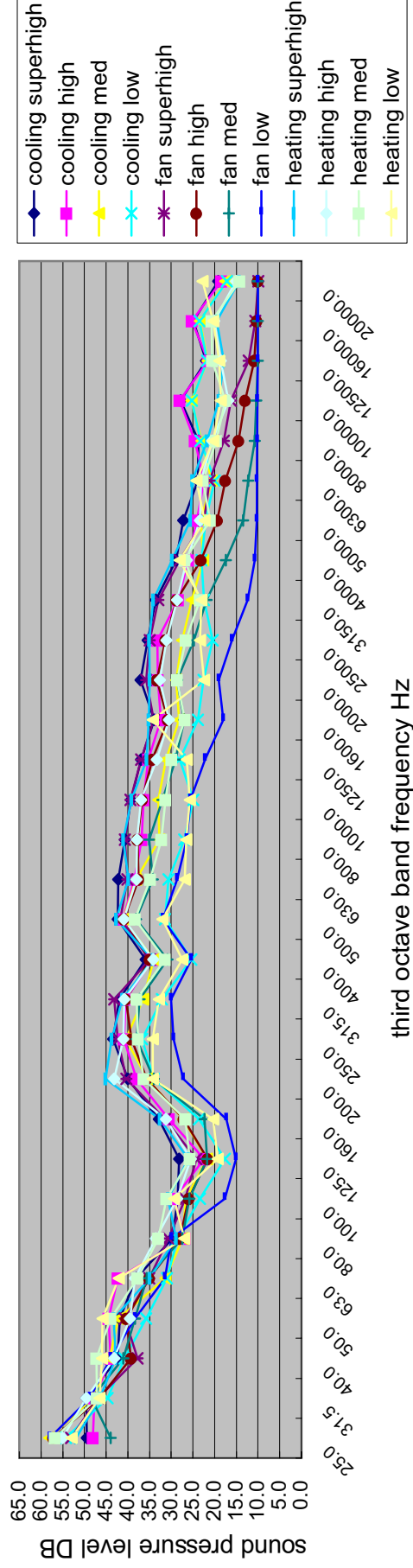
### 13. Noise level

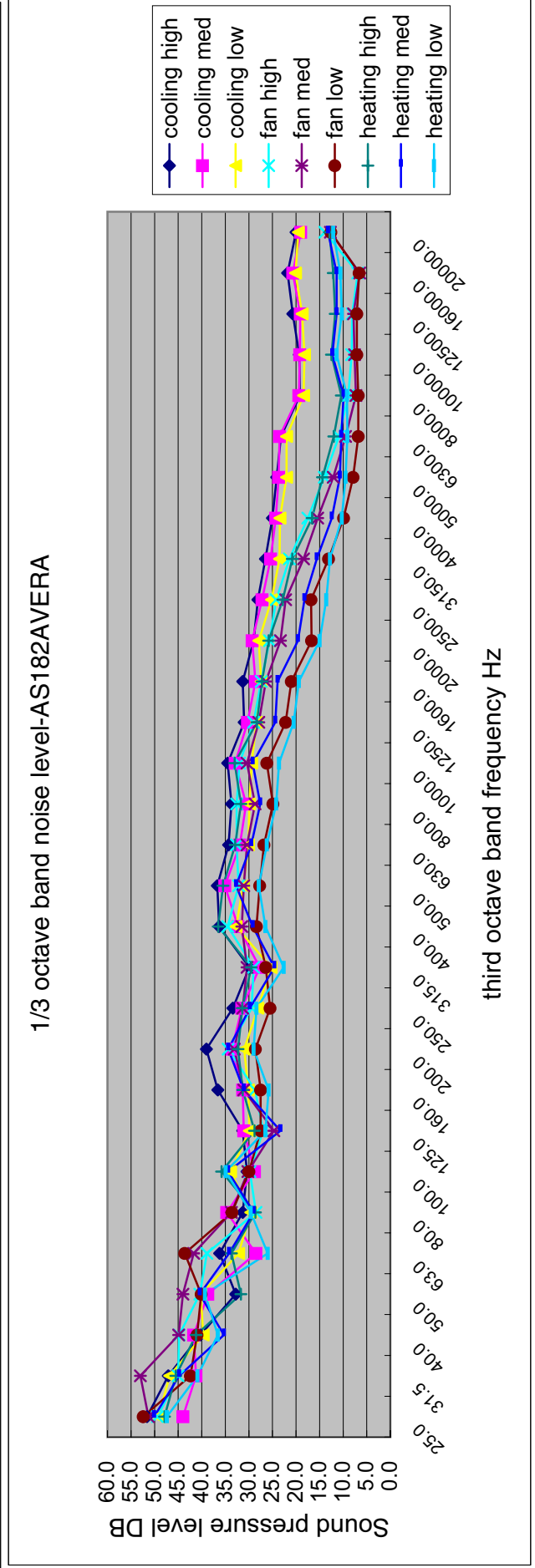
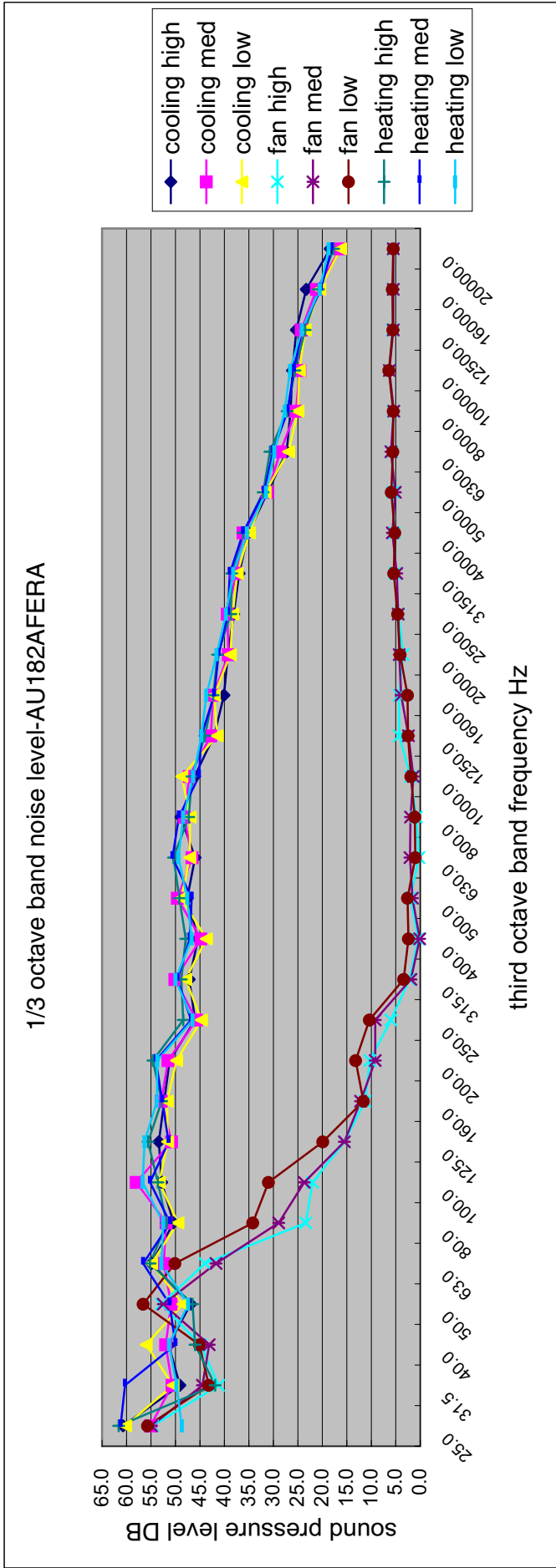


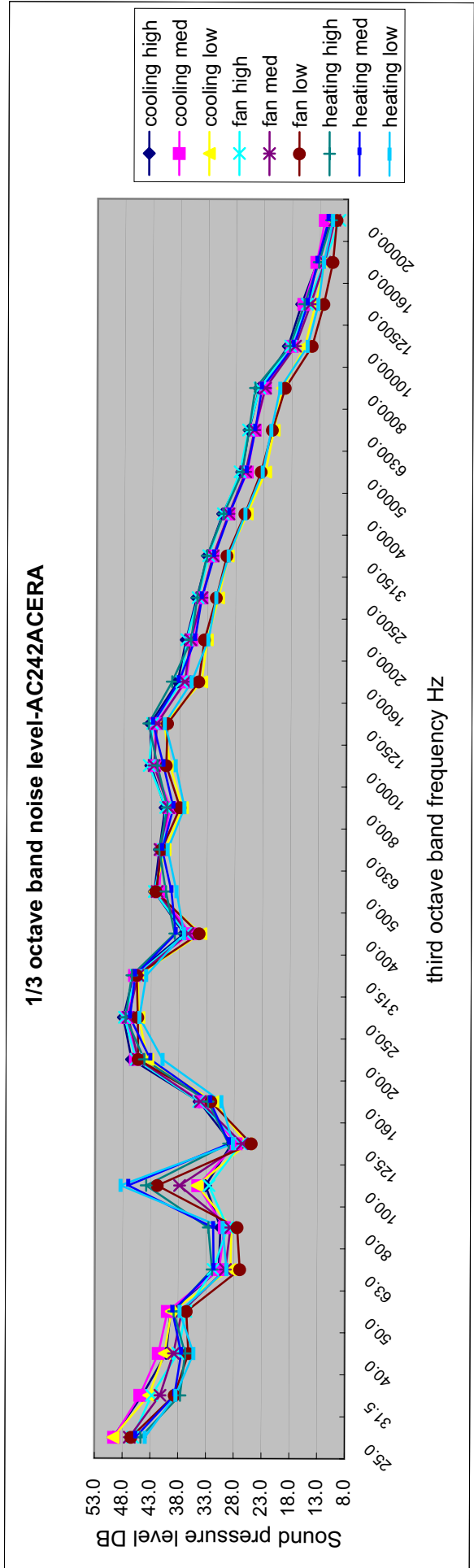
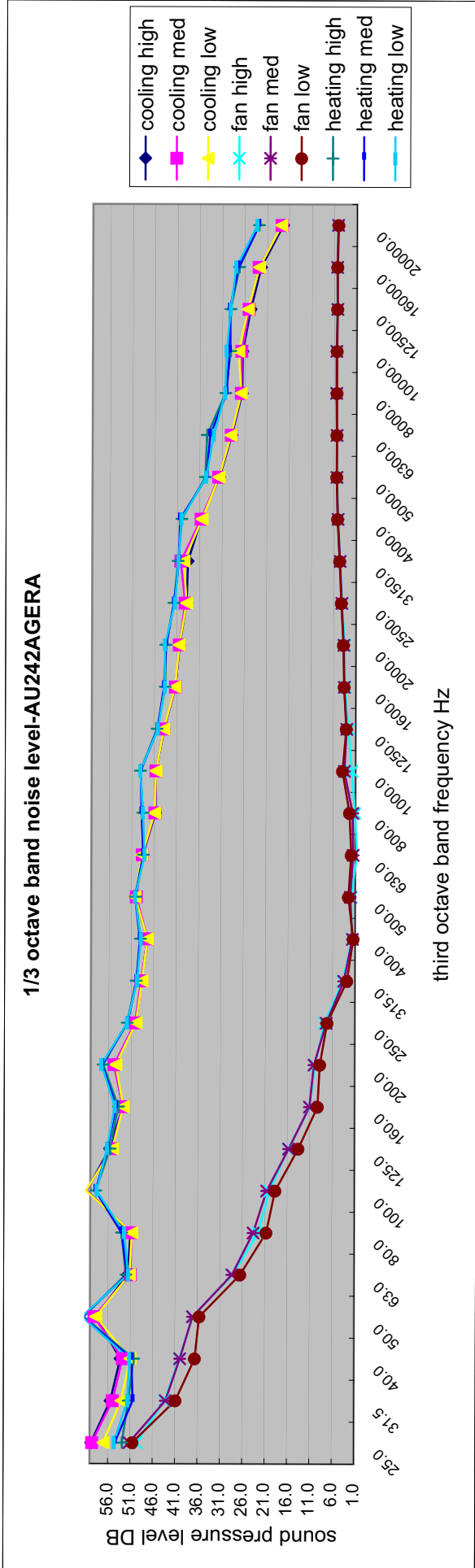
1/3 octave band noise level-AU182AFERA



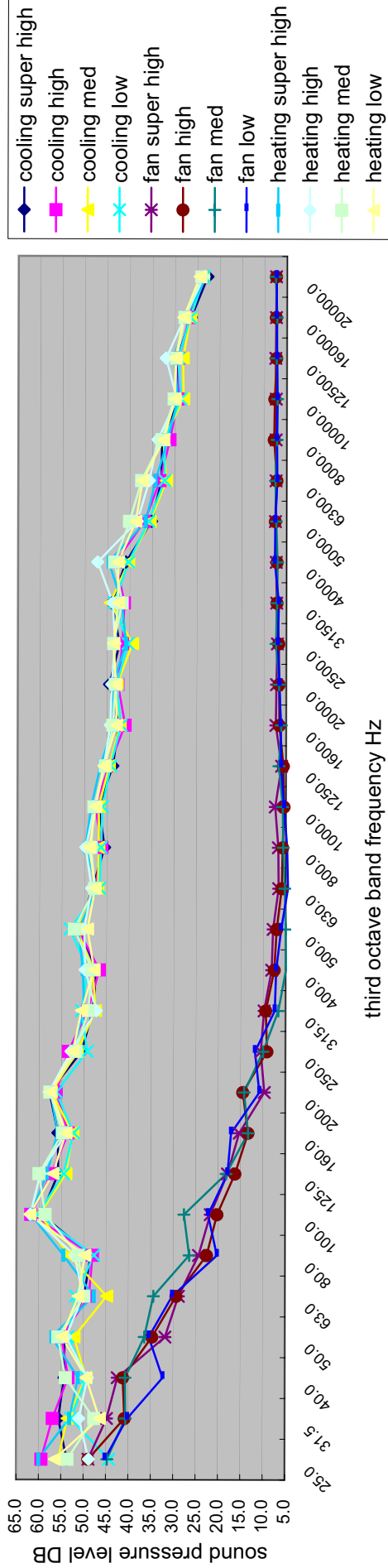
1/3 octave band noise level-AD182AMERA



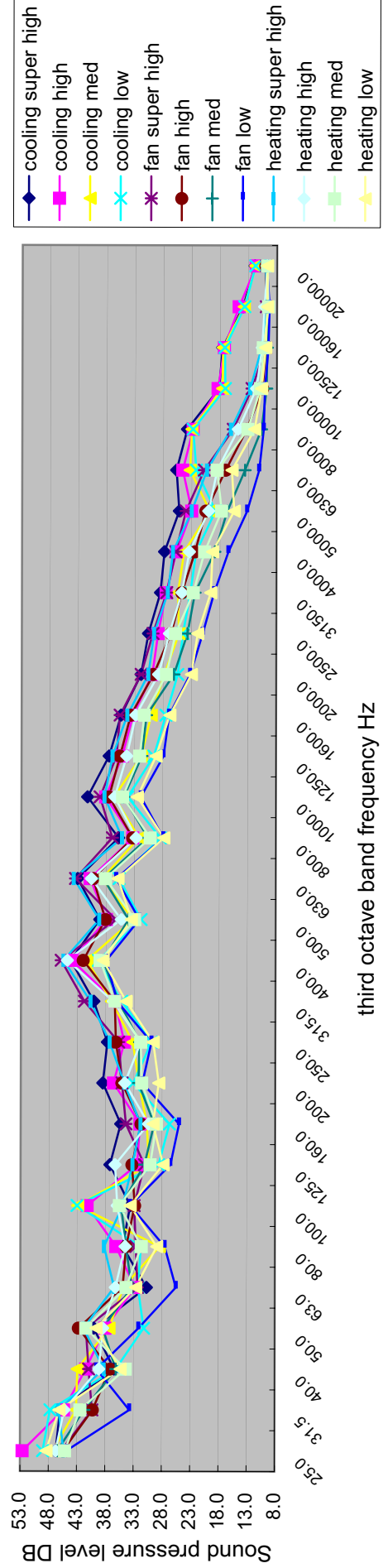


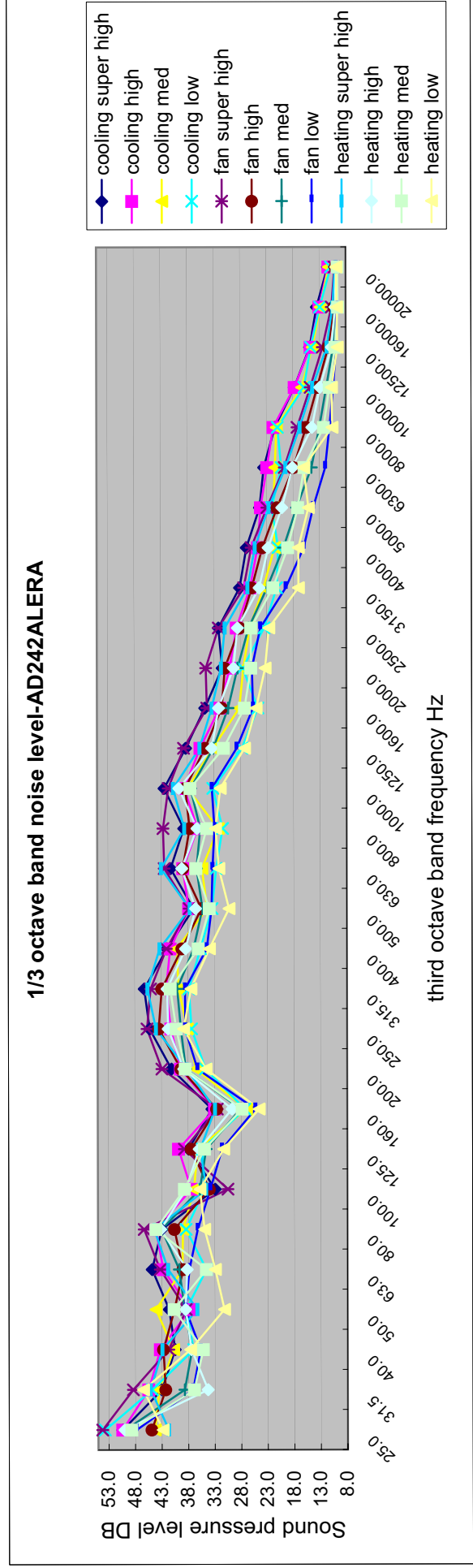
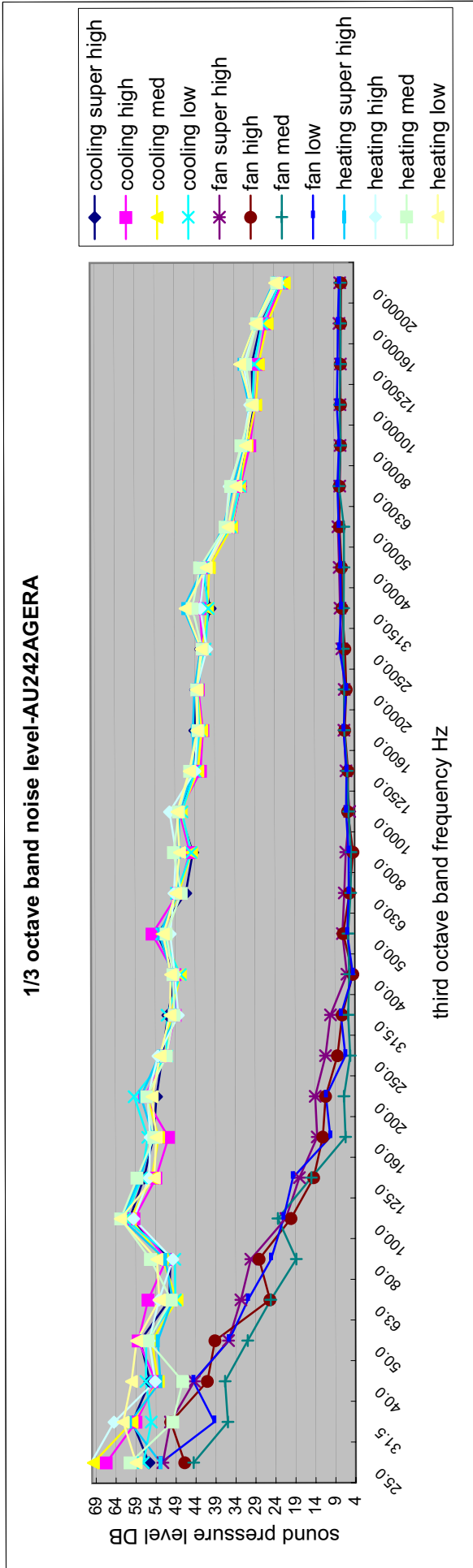


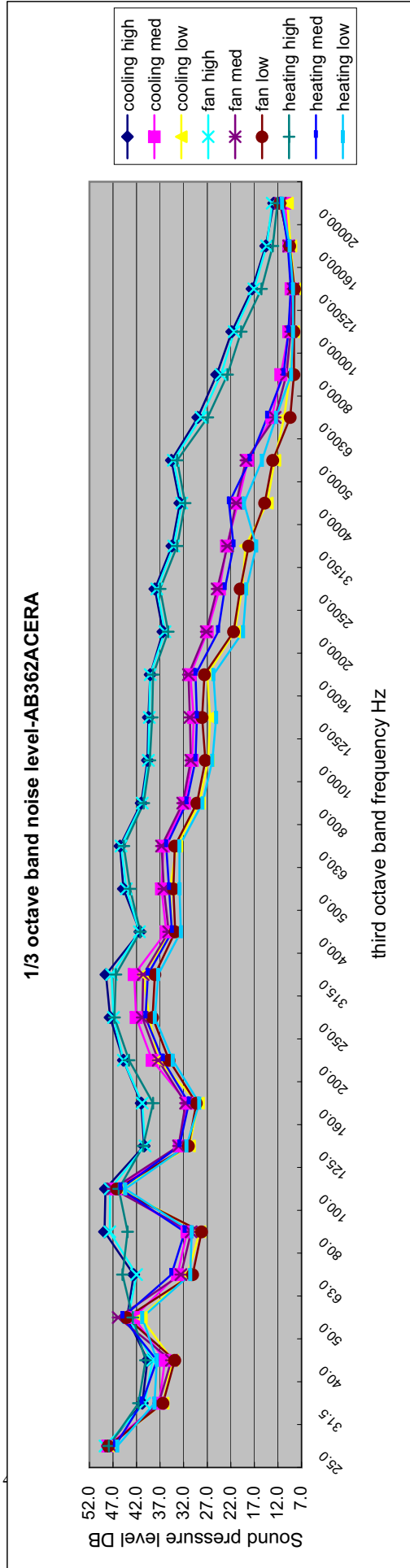
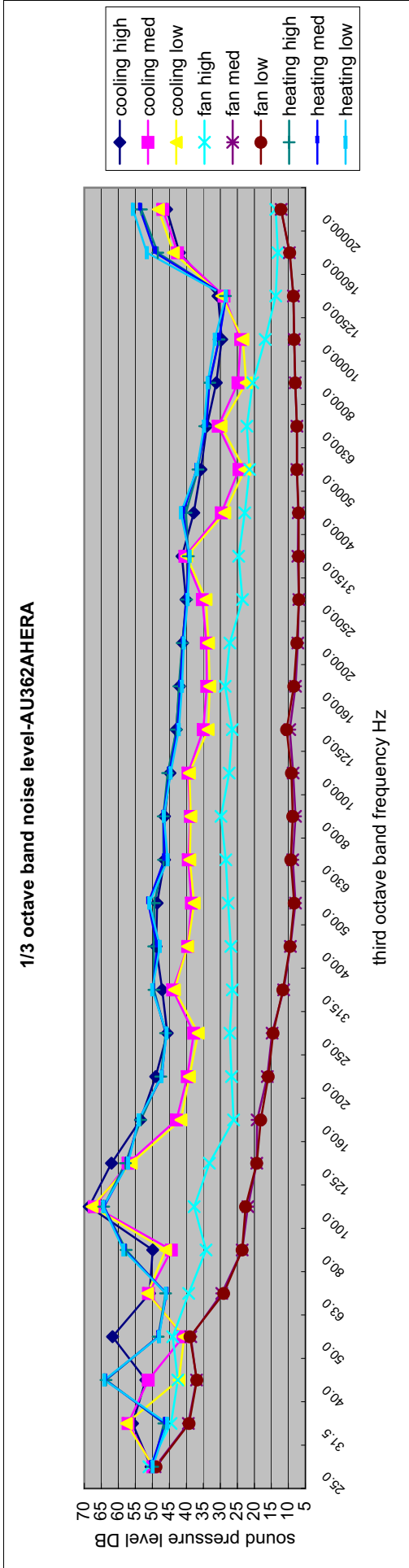
1/3 octave band noise level-AU242AGERA

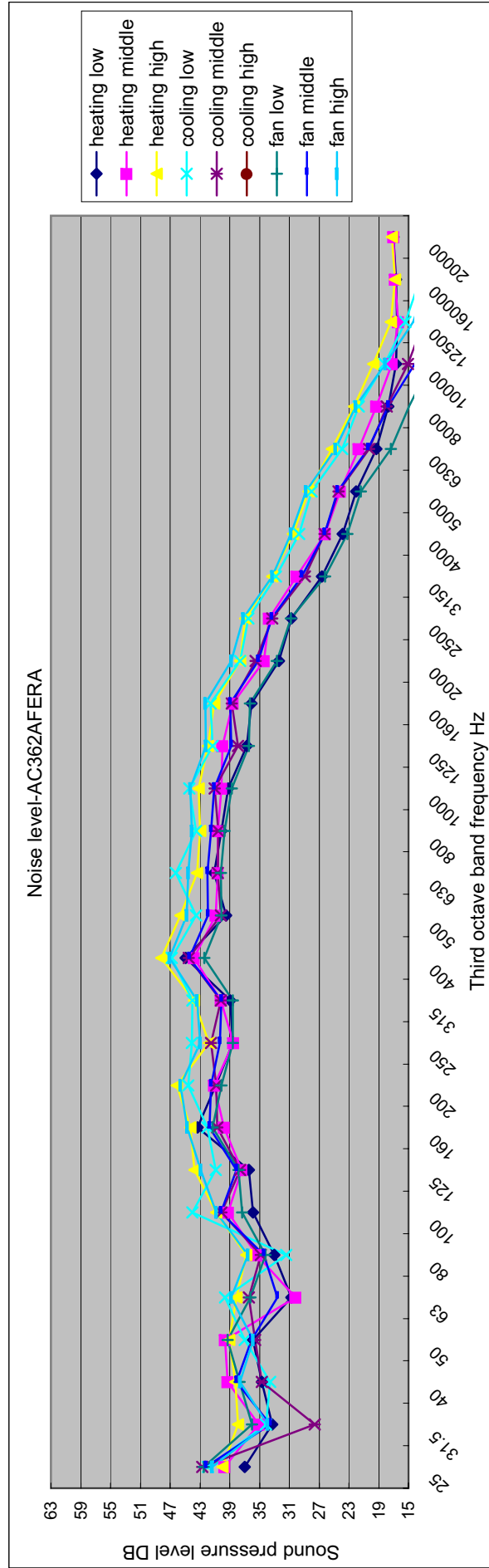


1/3 octave band noise level-AD242AMERA

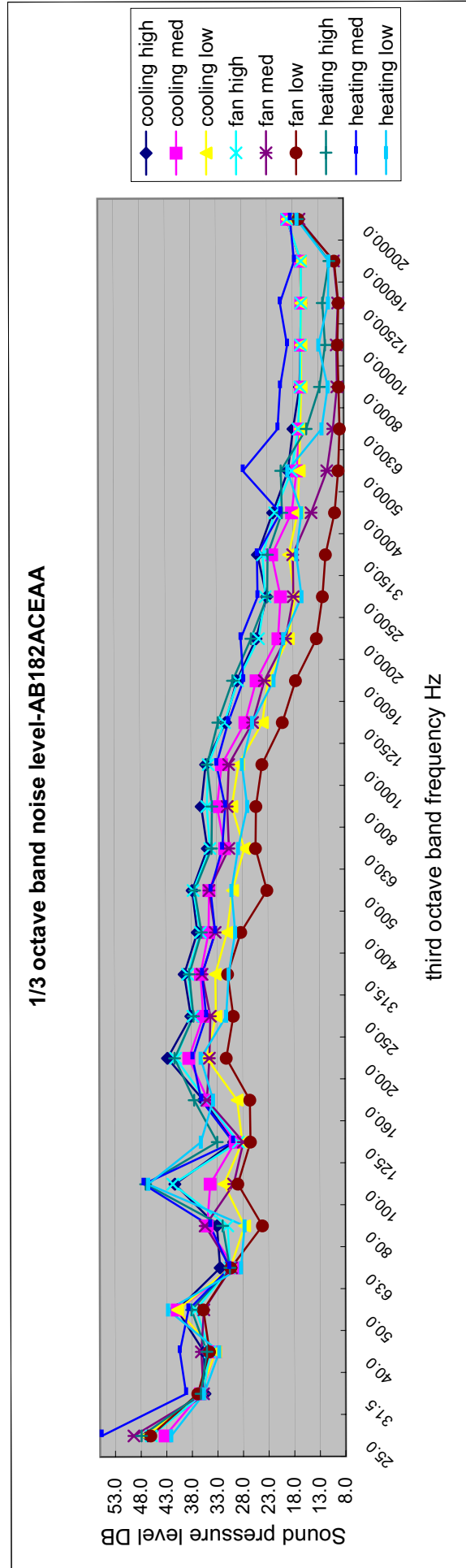
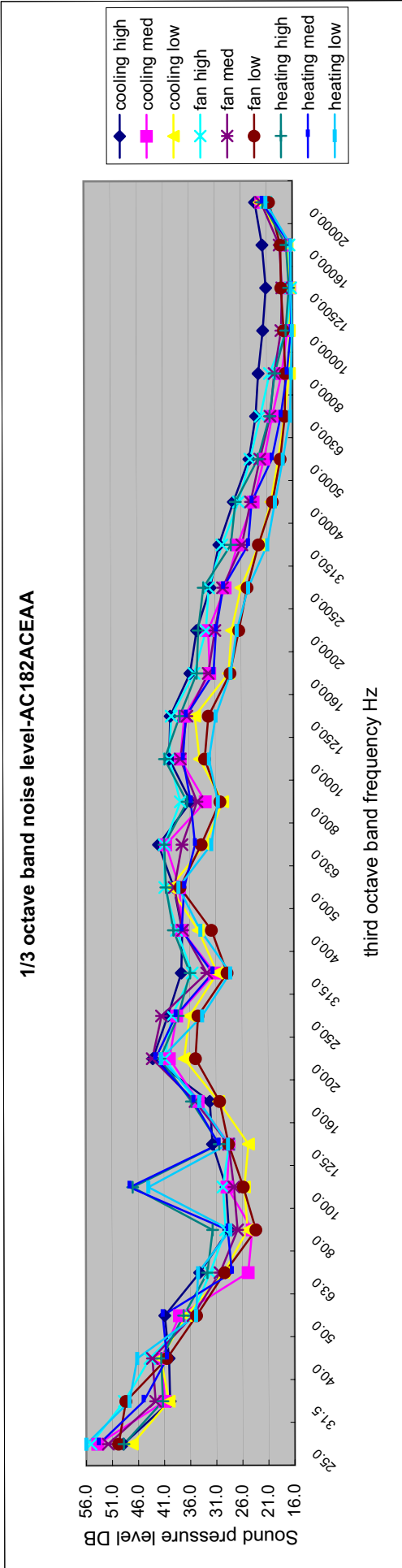


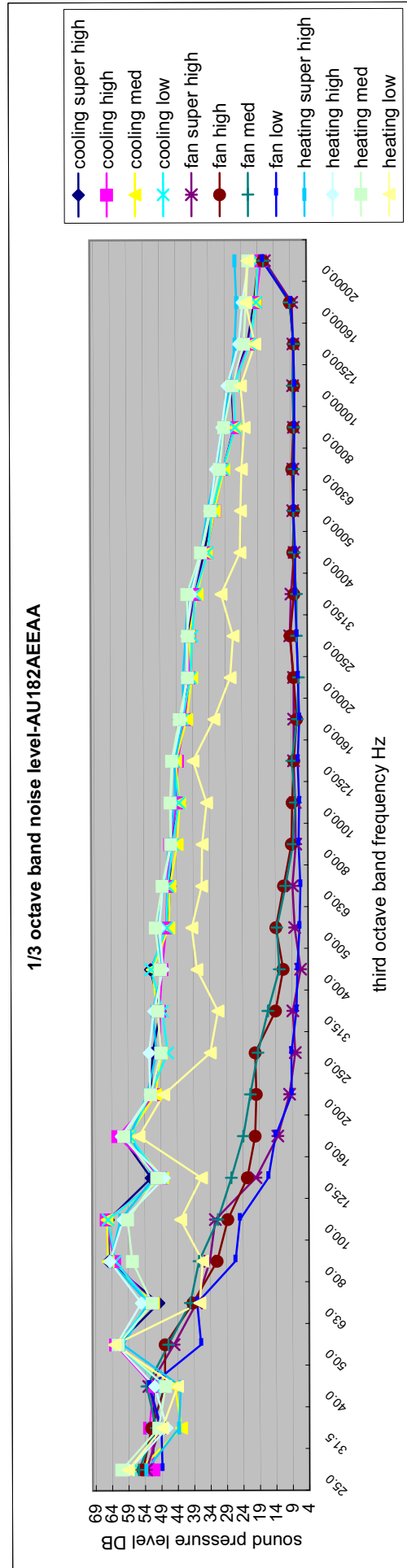
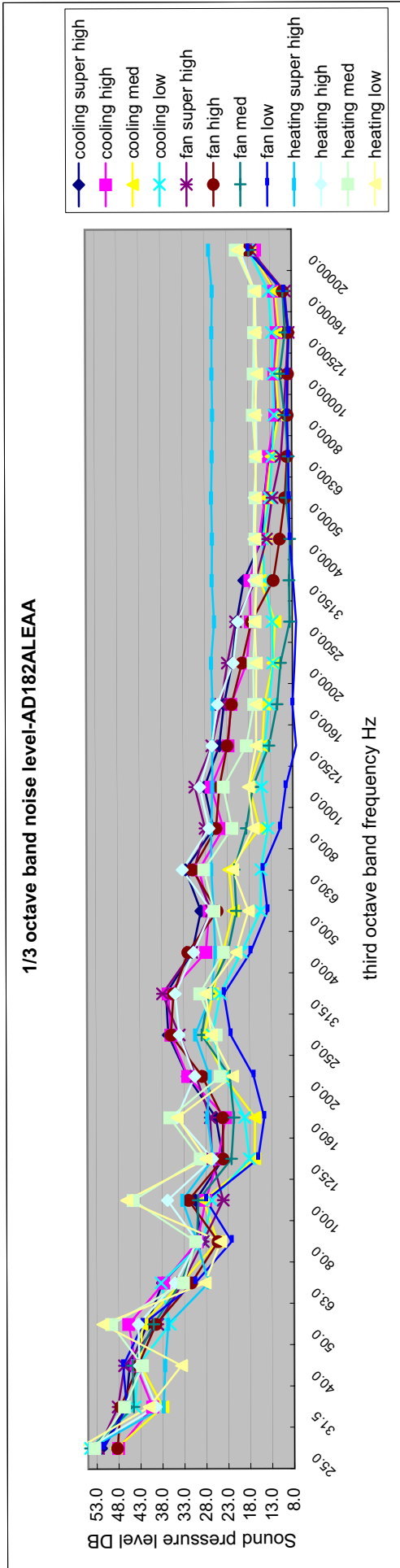


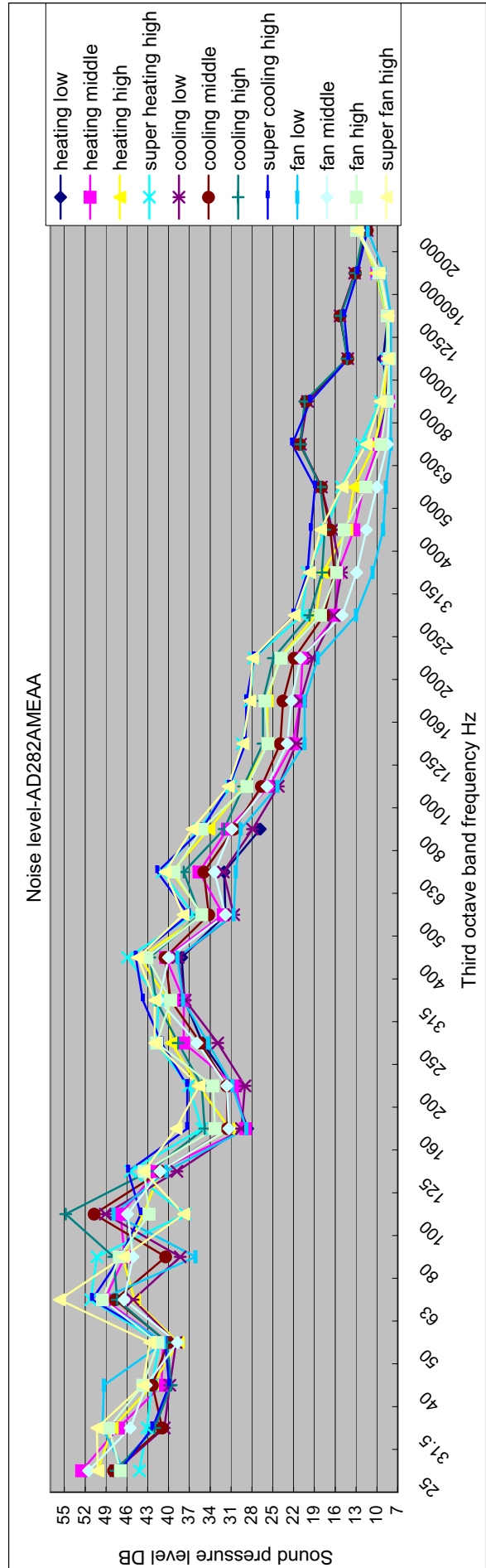
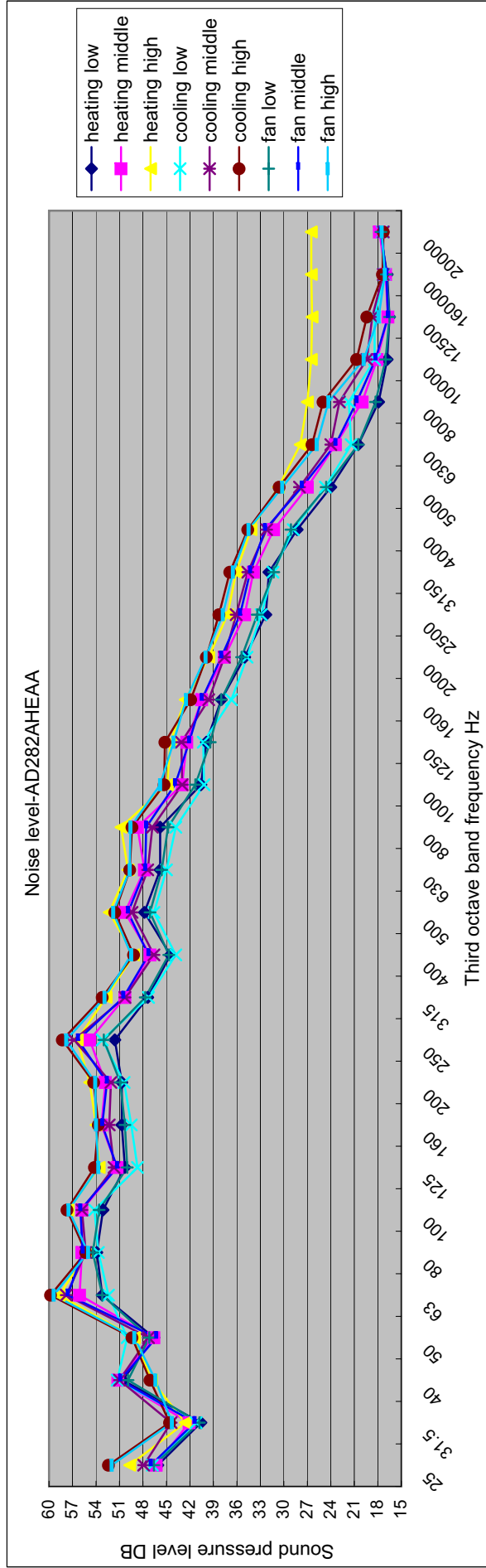


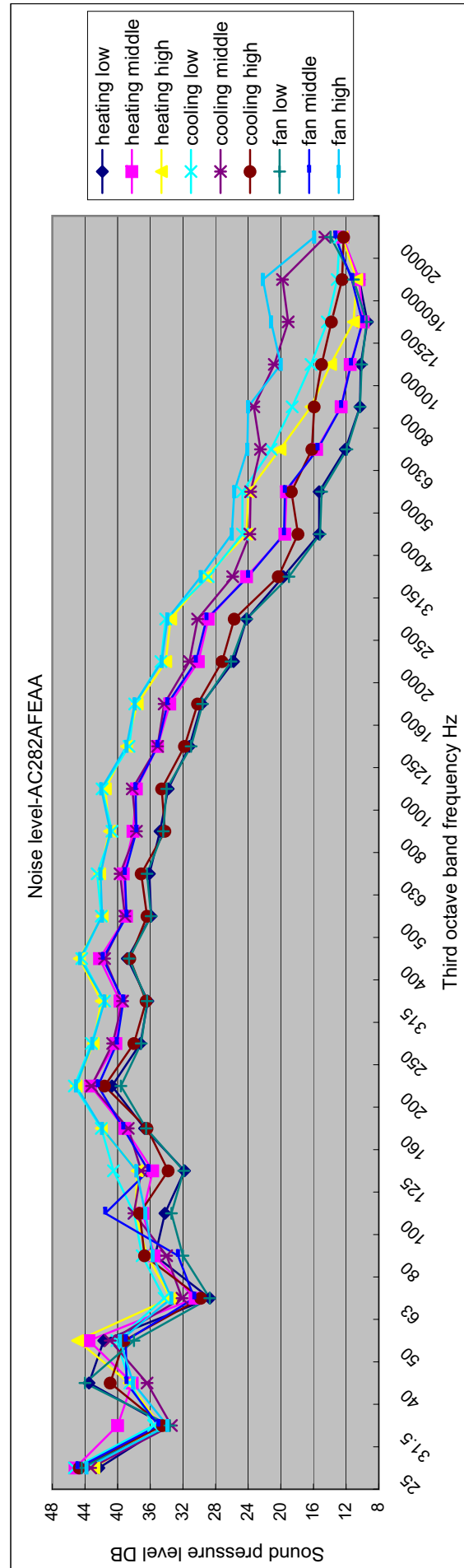
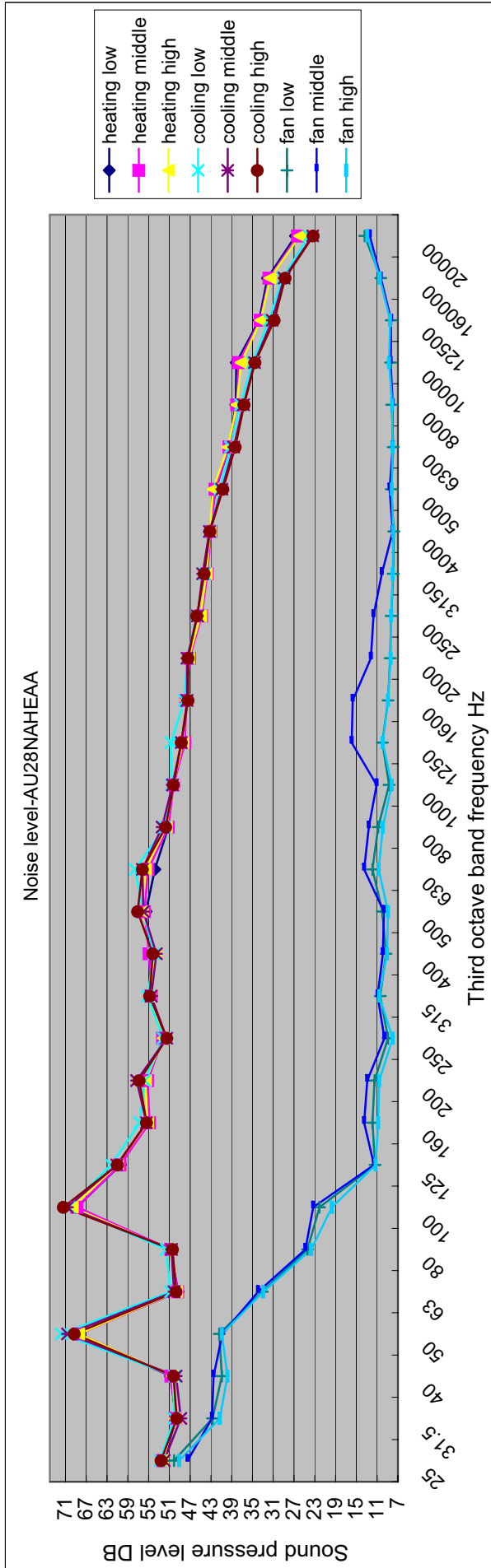


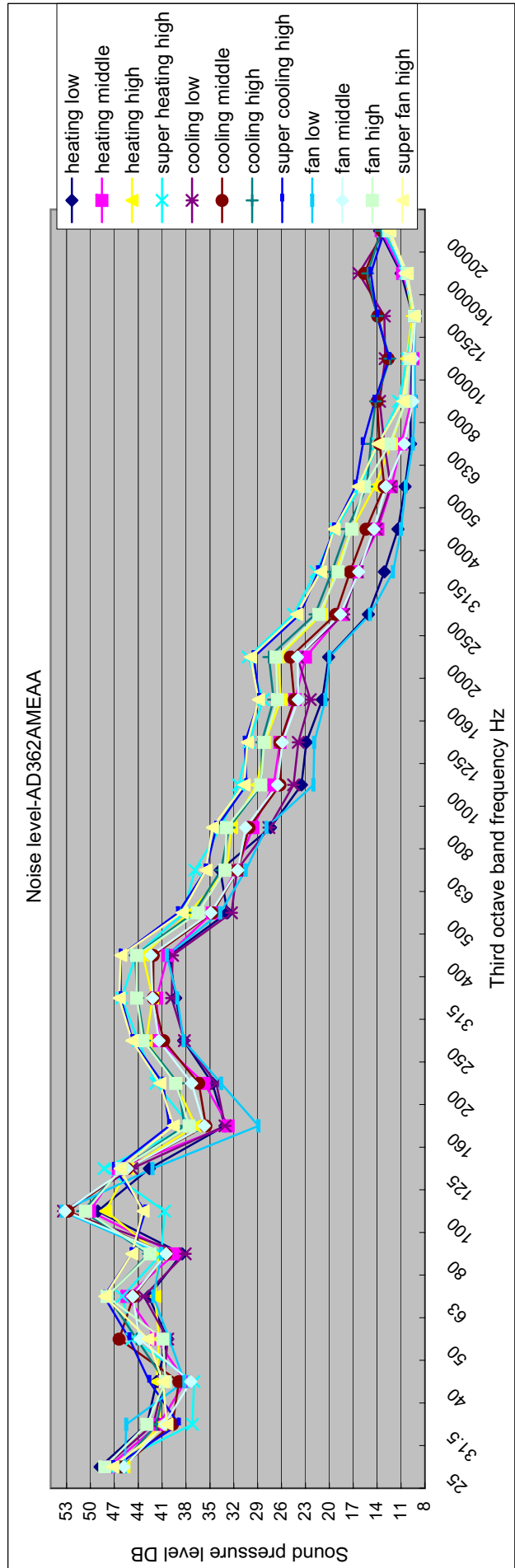
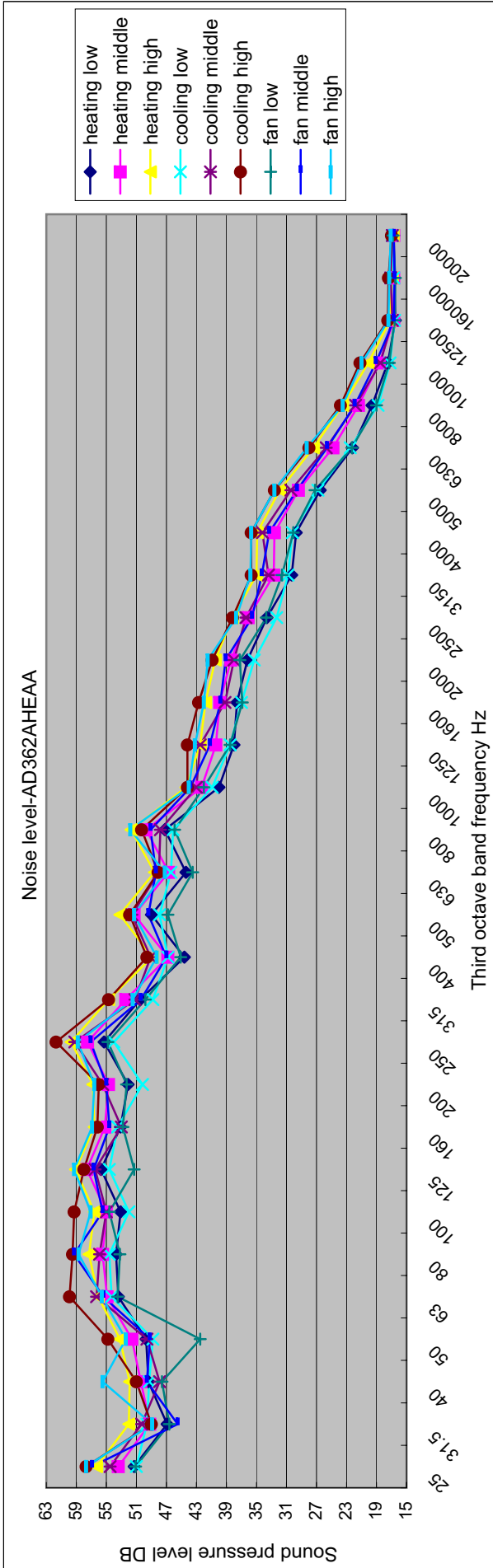


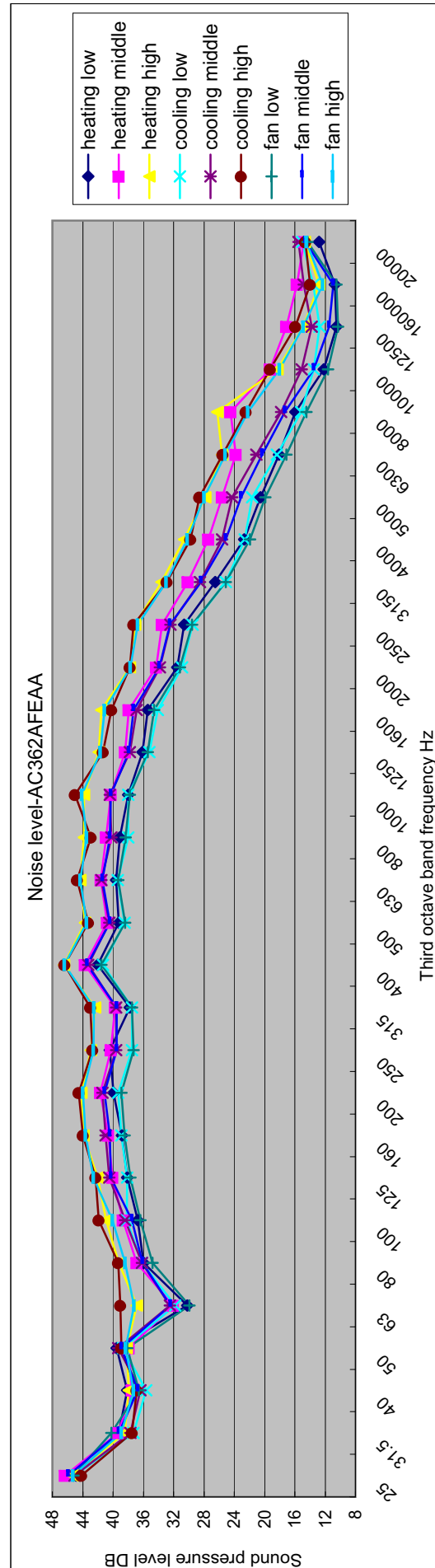
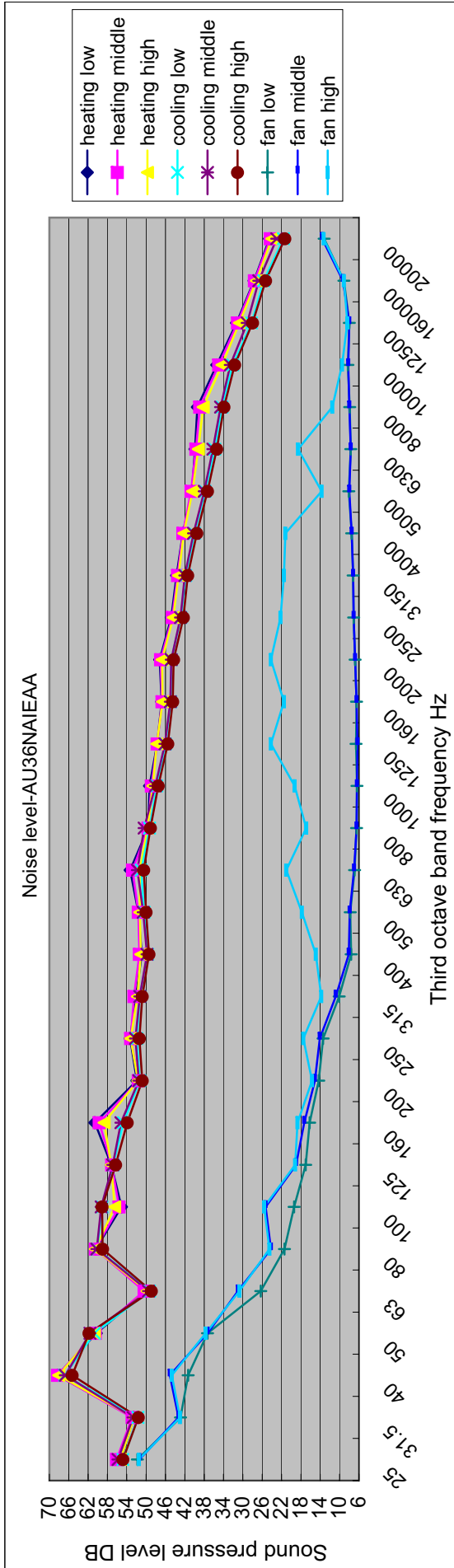


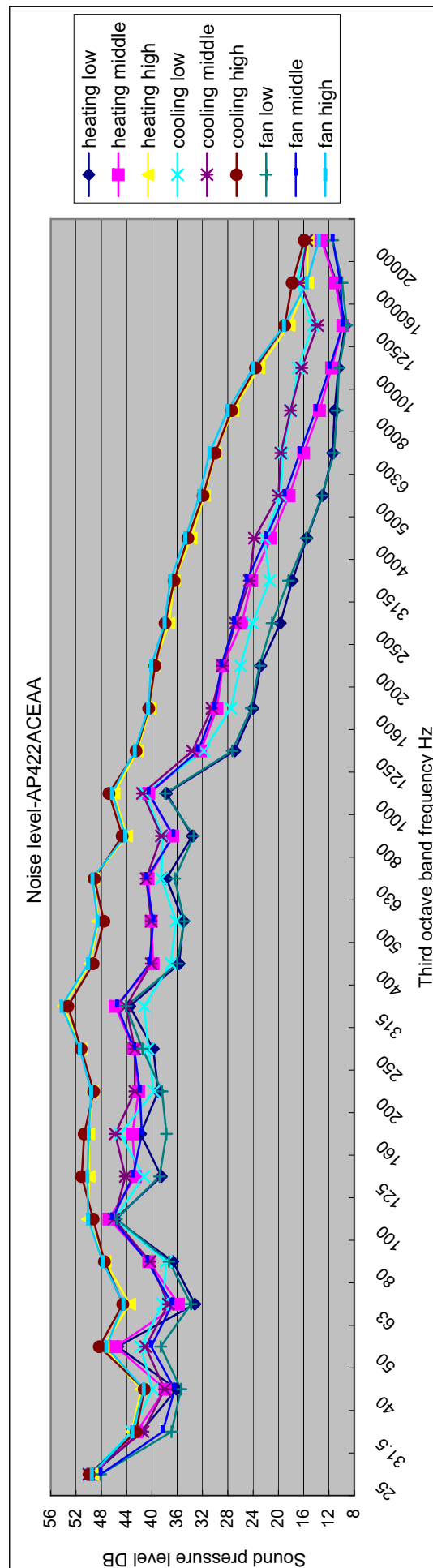
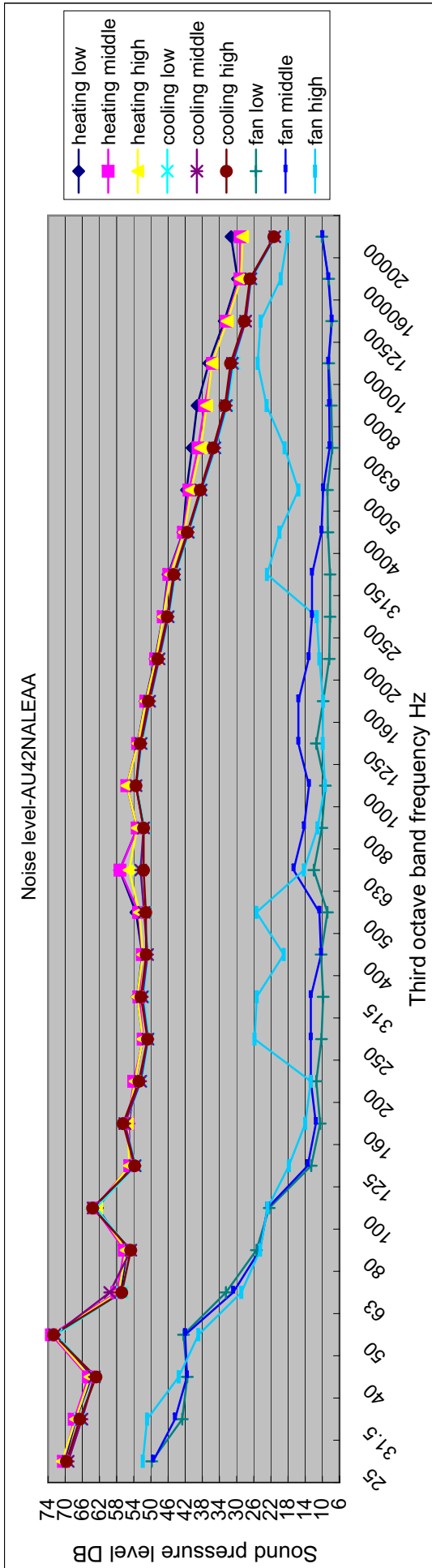


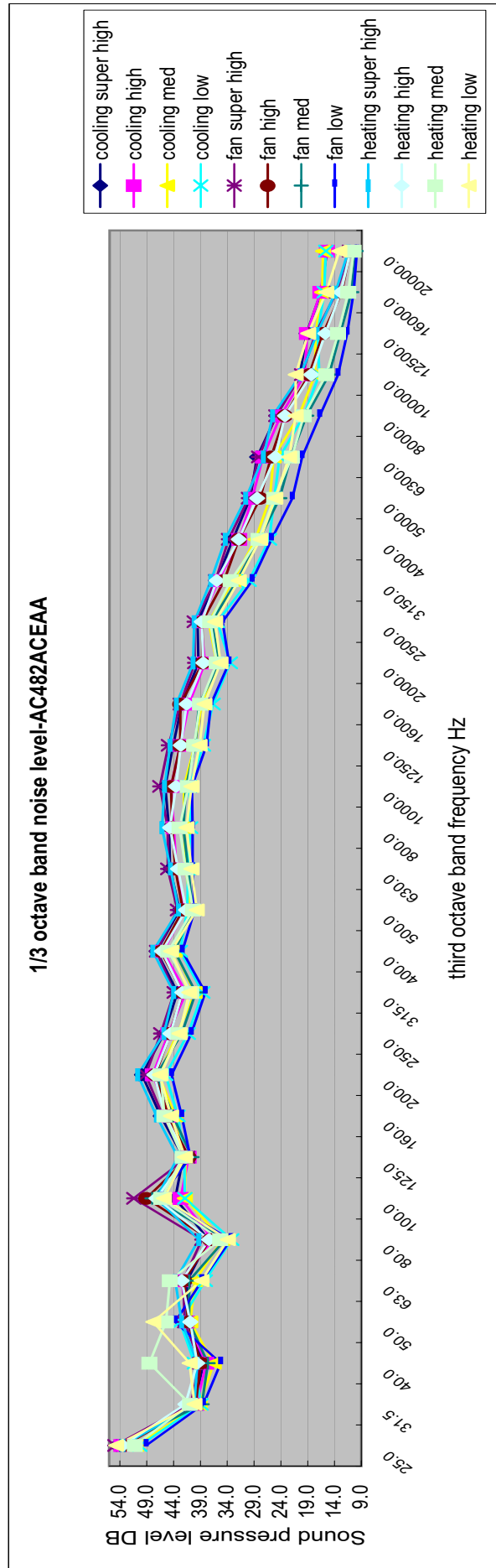
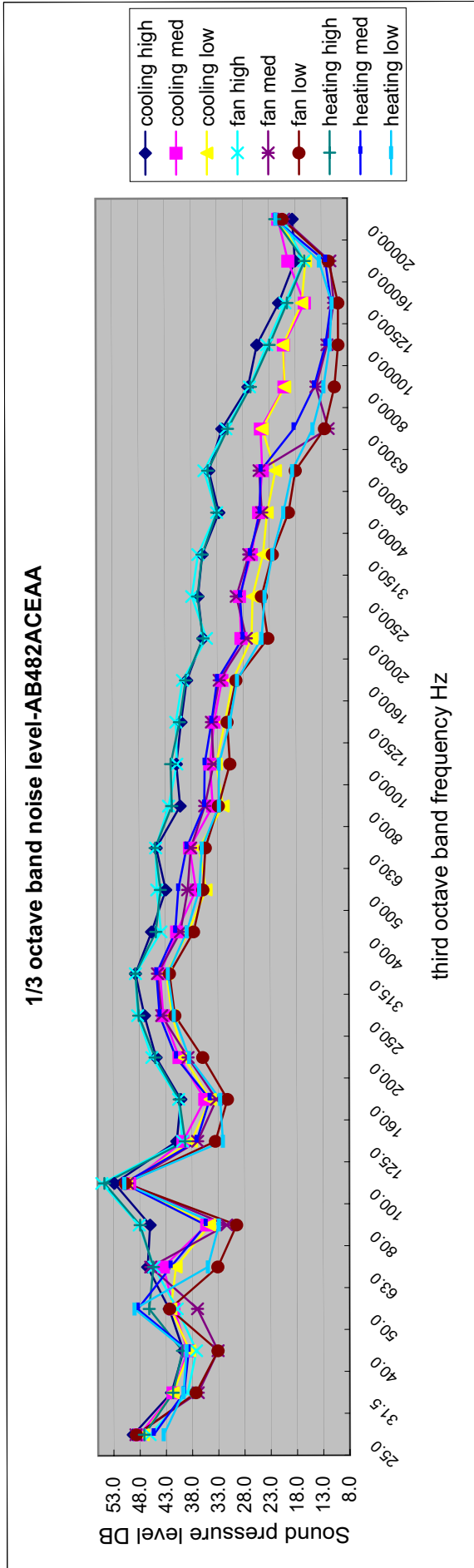




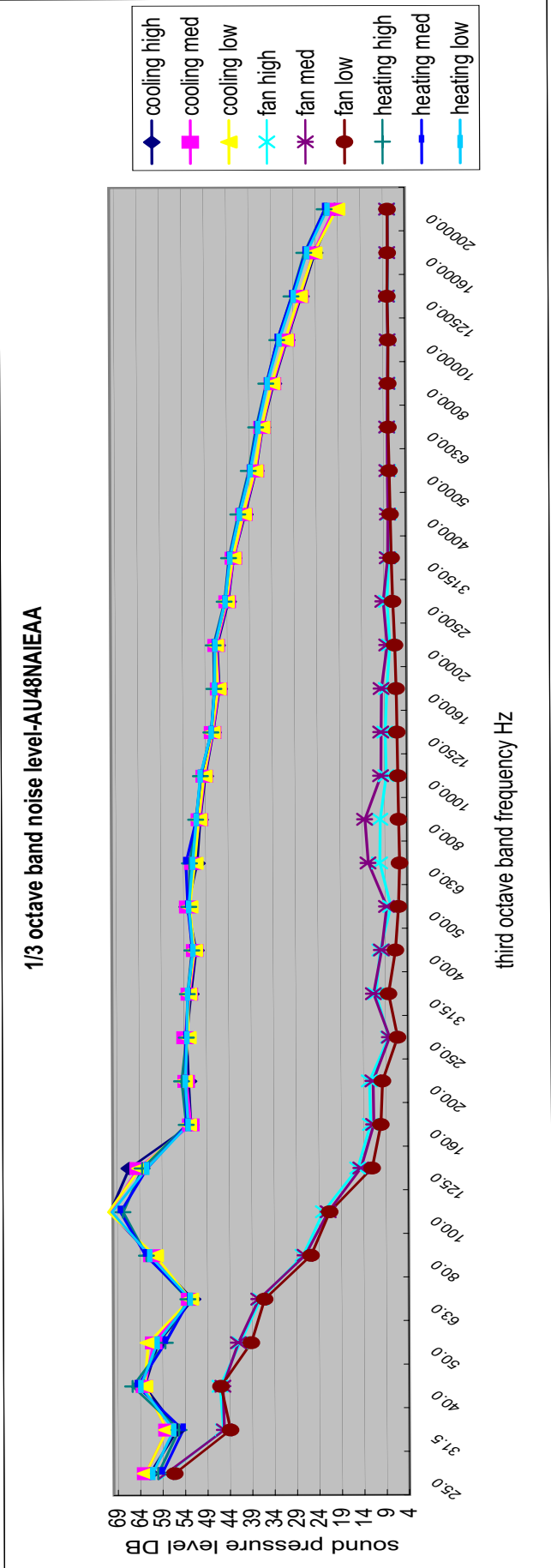
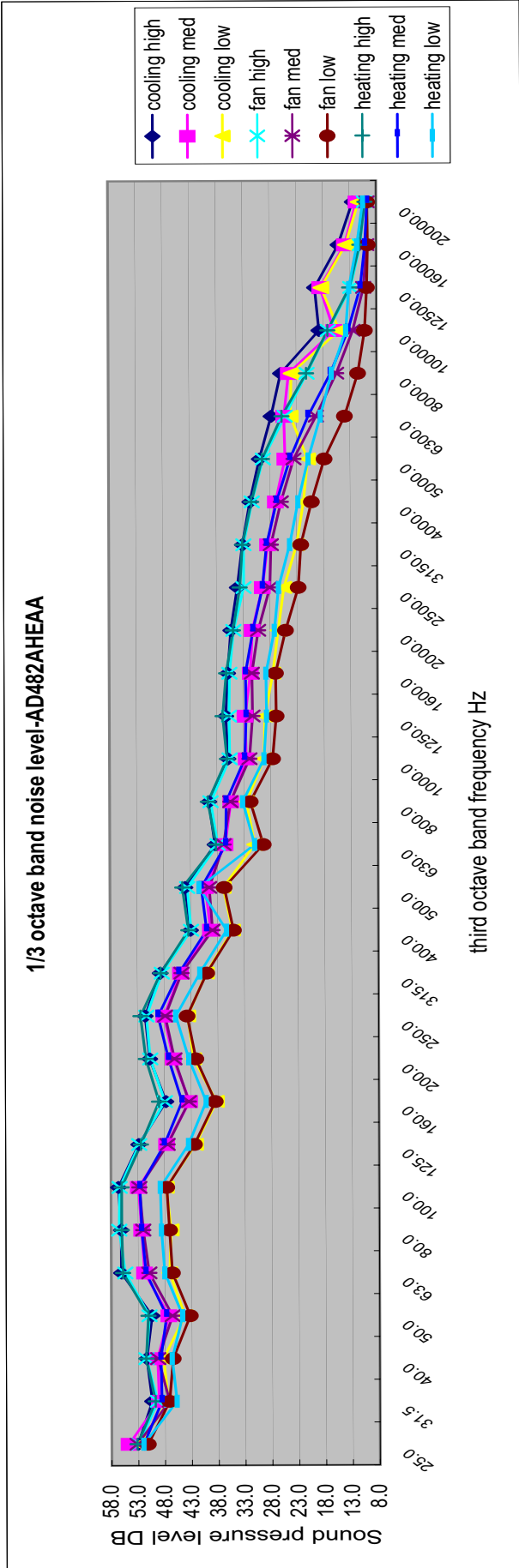




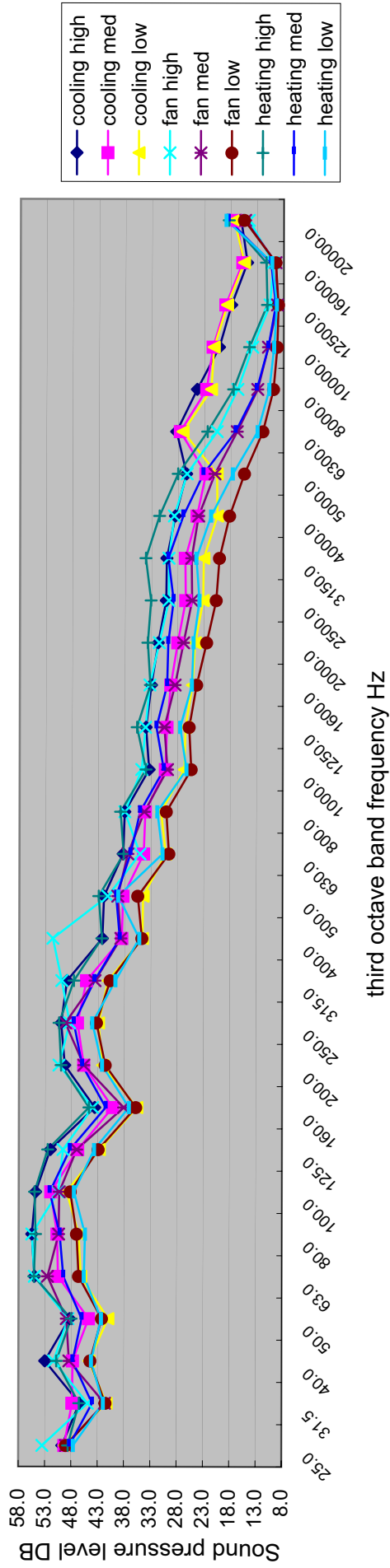




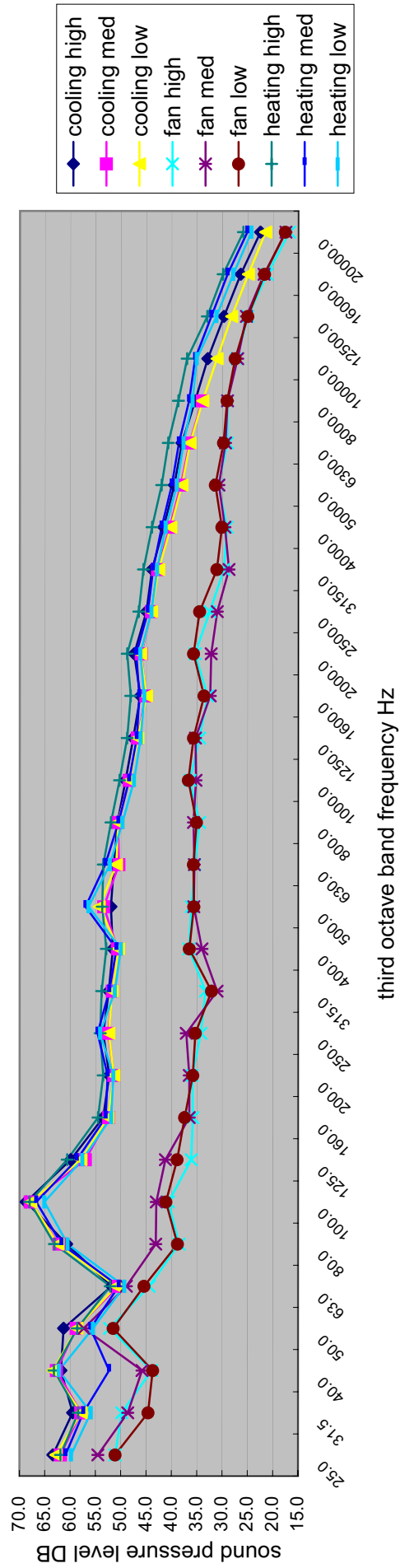




1/3 octave band noise level-AD602AHEAA



1/3 octave band noise level-AU60NAIEAA



### 13. Air velocity distribution

18000BTU/h indoor uni

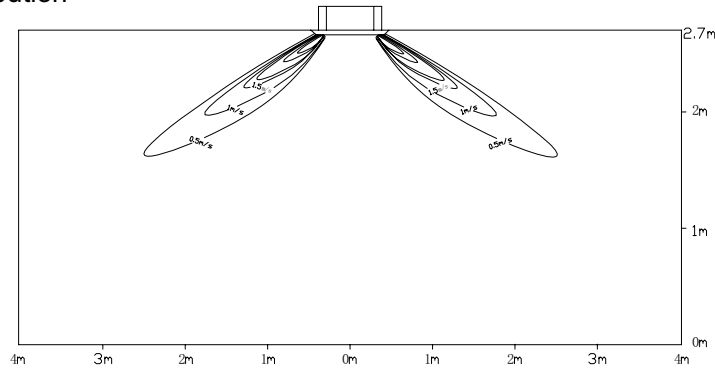
#### 1) Cassette type (AB182\*\*\*\*\*)

##### a. Cooling / Air Velocity Distribution

Cooling

Blow angle:40

Air Velocity Distribution

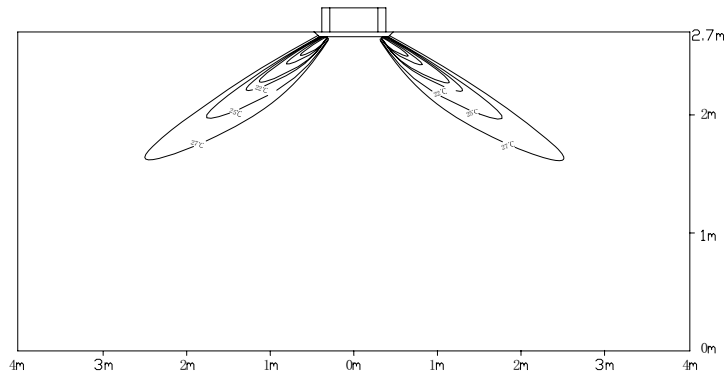


##### b. Cooling / Temperature Distribution

Cooling

Blow angle:40

Temperature Distribution

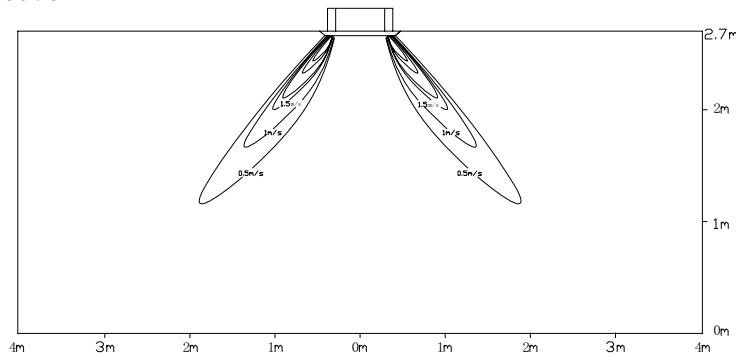


##### c. Heating / Air Velocity Distribution

Heating

Blow angle:70

Air velocity Distribution

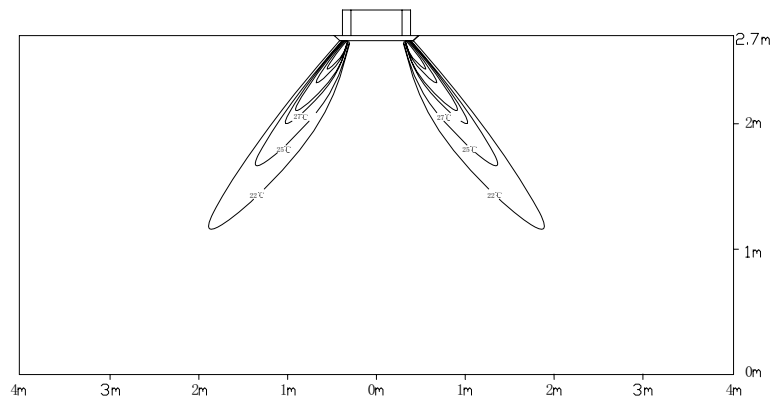


##### d. Heating / Temperature Distribution

Heating

Blow angle:70

Temperature Distribution

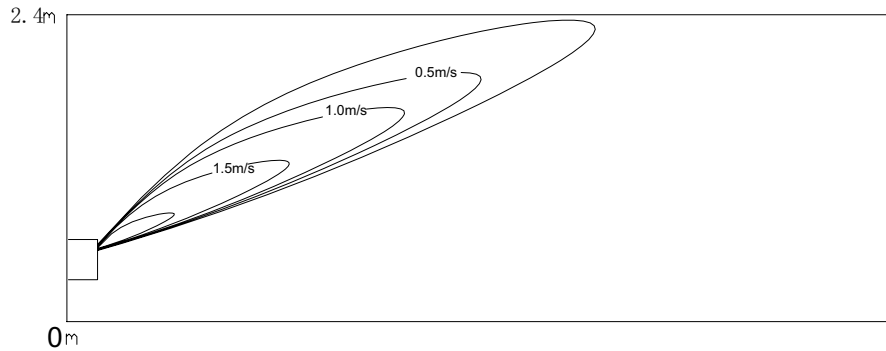


### 2) Convertible type (AC182\*\*\*\*\*)

#### a) Grounding

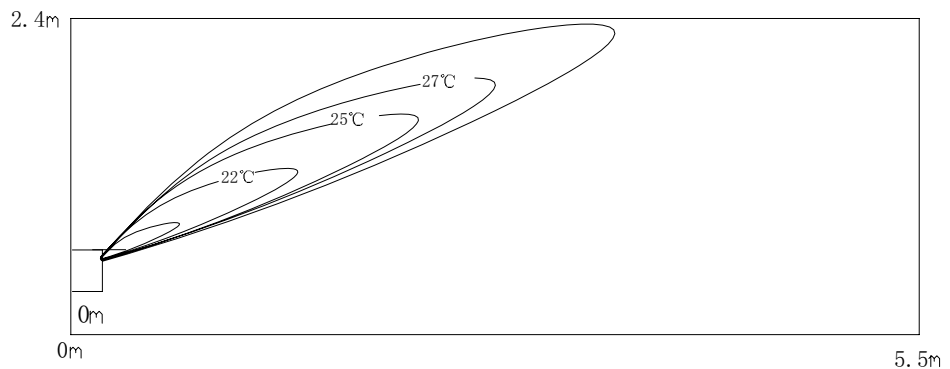
##### a. Cooling / Air Velocity Distribution

Cooling  
Blowly angle:25  
Air Velocity Distribution



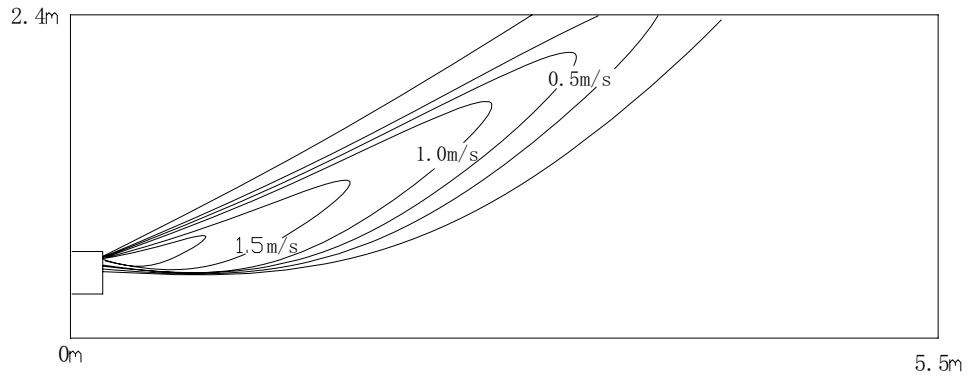
##### b. Cooling / Temperature Distribution

Cooling  
Blowly angle:25  
Temperature Distribution



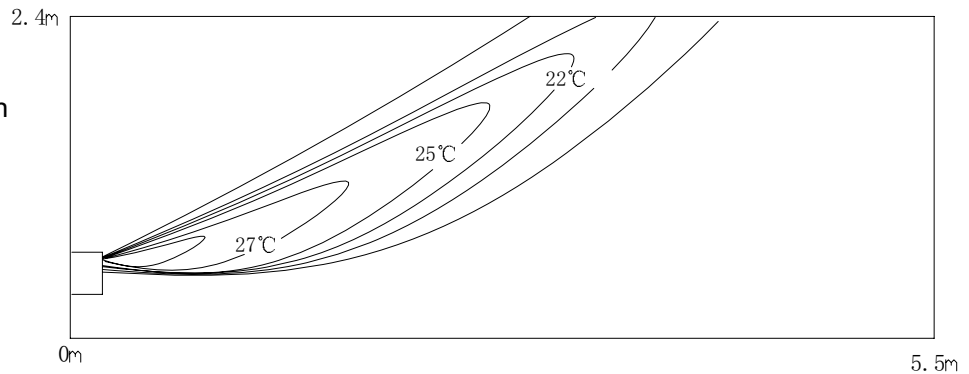
##### c. Heating / Air Velocity Distribution

Heating  
Blowly angle:5  
Air velocity Distribution



##### d. Heating / Temperature Distribution

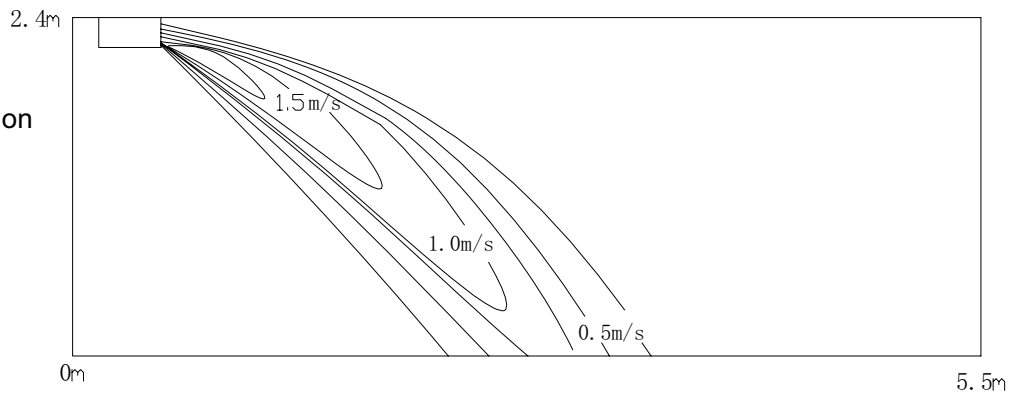
Heating  
Blowly angle:5  
Temperature Distribution



### b) Ceiling

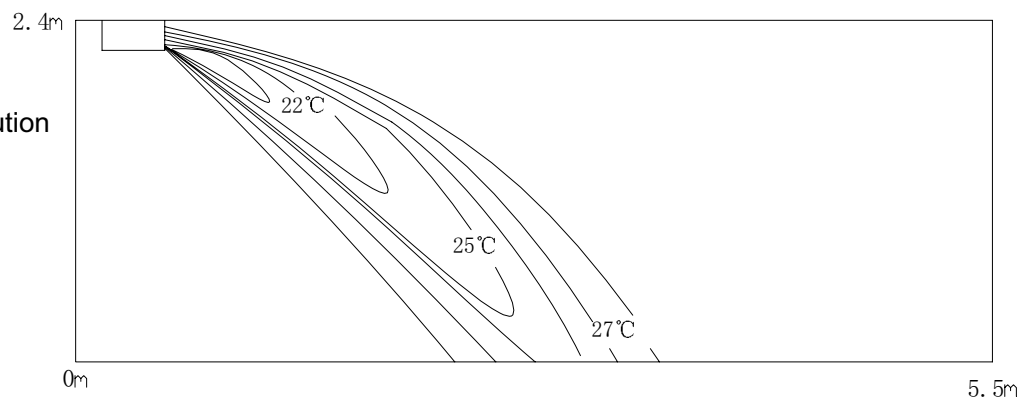
#### a. Cooling / Air Velocity Distribution

Cooling  
Blow angle: 25  
Air Velocity Distribution



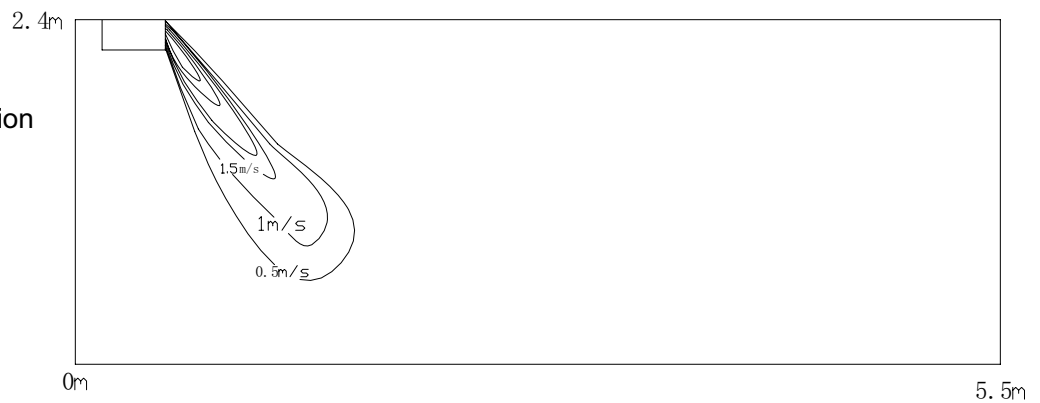
#### b. Cooling / Temperature Distribution

Cooling  
Blow angle: 25  
Temperature Distribution



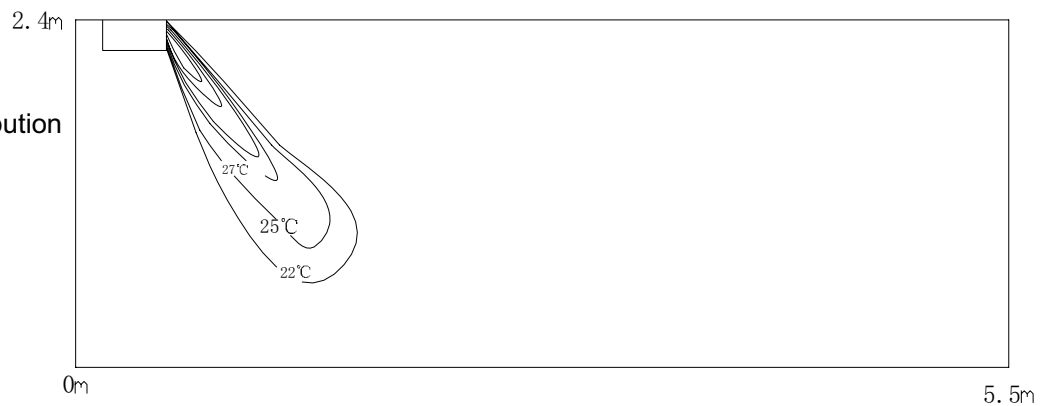
#### c. Heating / Air Velocity Distribution

Heating  
Blow angle: 65  
Air velocity Distribution



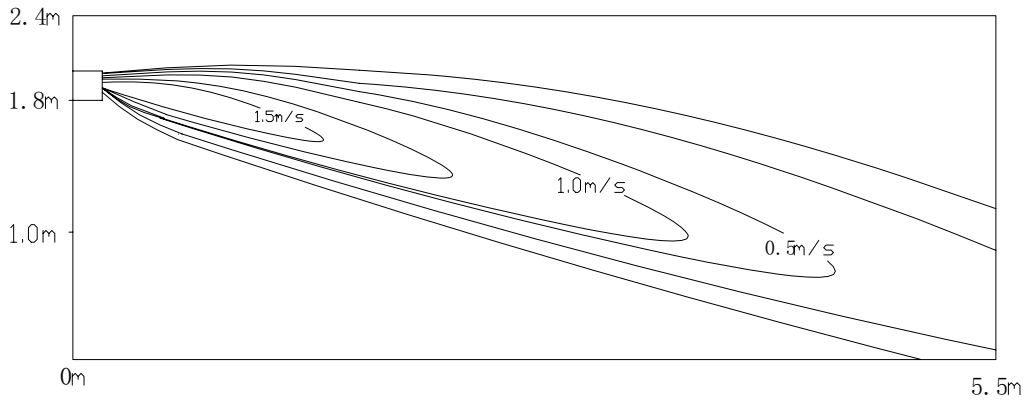
#### d. Heating / Temperature Distribution

Heating  
Blow angle: 65  
Temperature Distribution

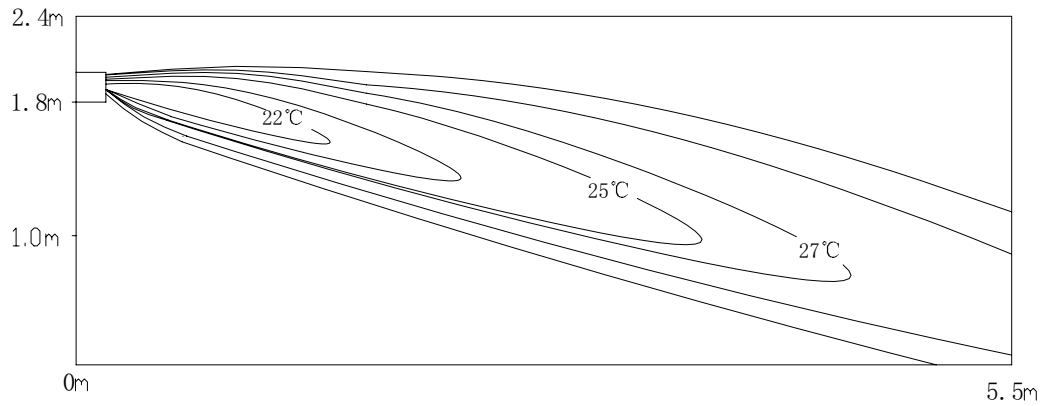


### 3) Duct type (AD182\*\*\*\*\*)

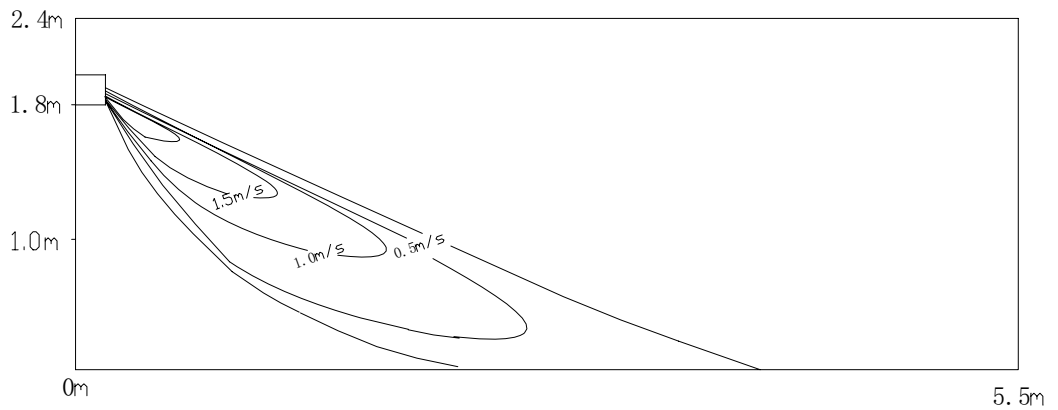
cooling  
air discharge angle 5°  
Air Velocity distribution



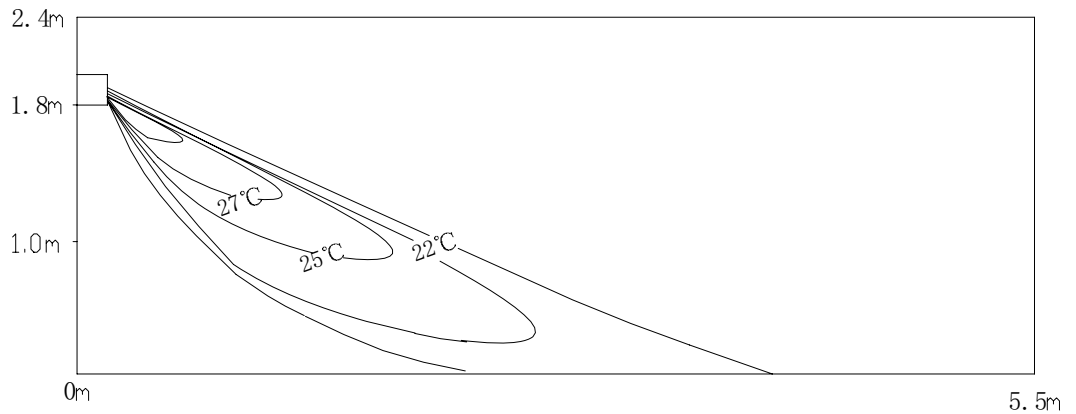
cooling  
air discharge angle 5°  
Temperature distribution



heating  
air discharge angle 45°  
Air Velocity distribution



heating  
air discharge angle 45°  
Temperature distribution

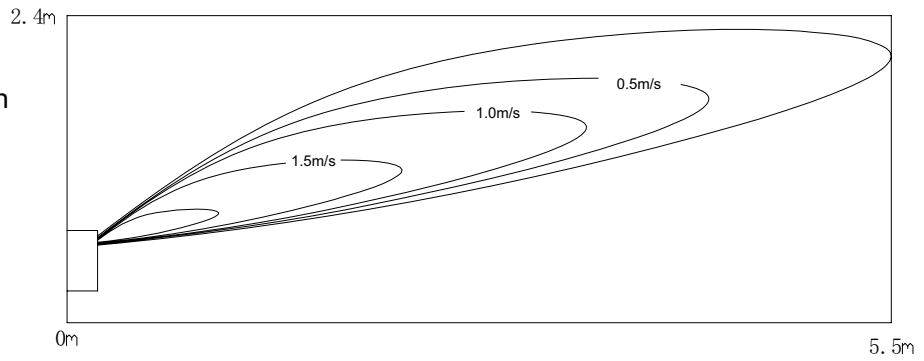


### 24000~28000BTU/h indoor units

Model: AC282\*\*\*\*\*

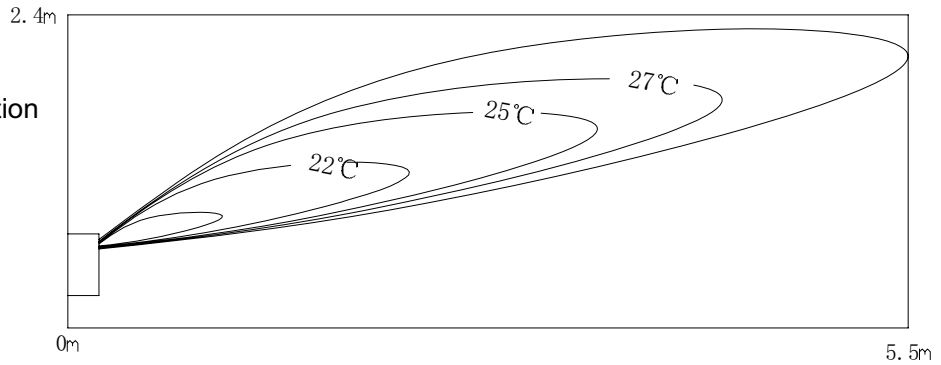
a. Cooling / Air Velocity Distribution

Cooling  
Blow angle:25  
Air Velocity Distribution



b. Cooling / Temperature Distribution

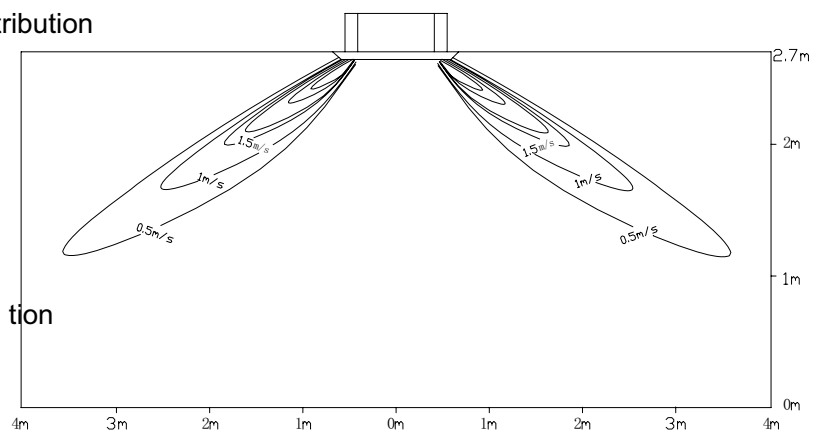
Cooling  
Blow angle:25  
Temperature Distribution



Model: AB282\*\*\*\*\*

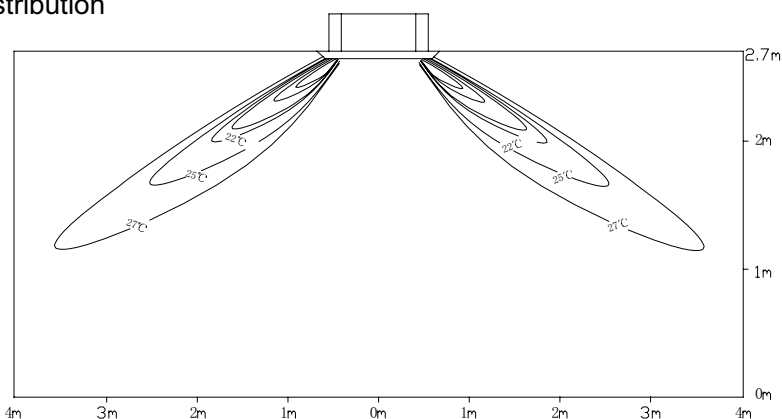
a. Cooling / Air Velocity Distribution

Cooling  
Blow angle:40  
Air Velocity Distribution



b. Cooling / Temperature Distribution

Cooling  
Blow angle:40  
Temperature Distribu



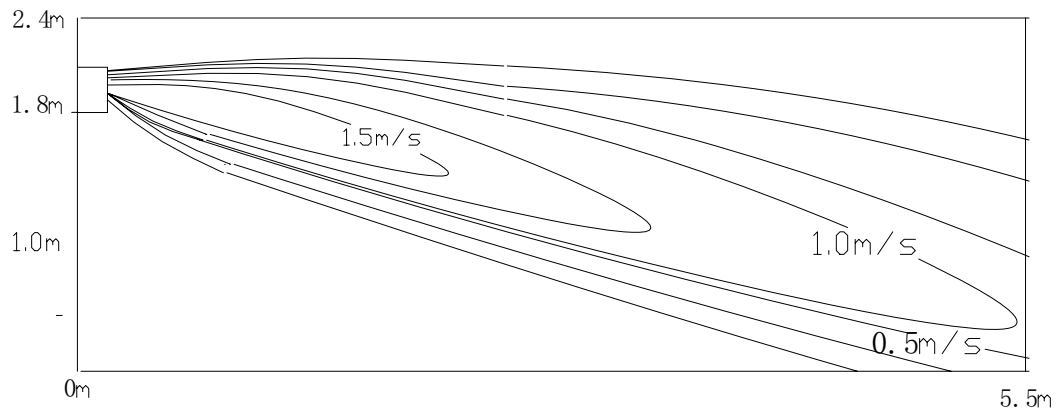
3

### AD282\*\*\*\*\*

cooling

air discharge angle 5°

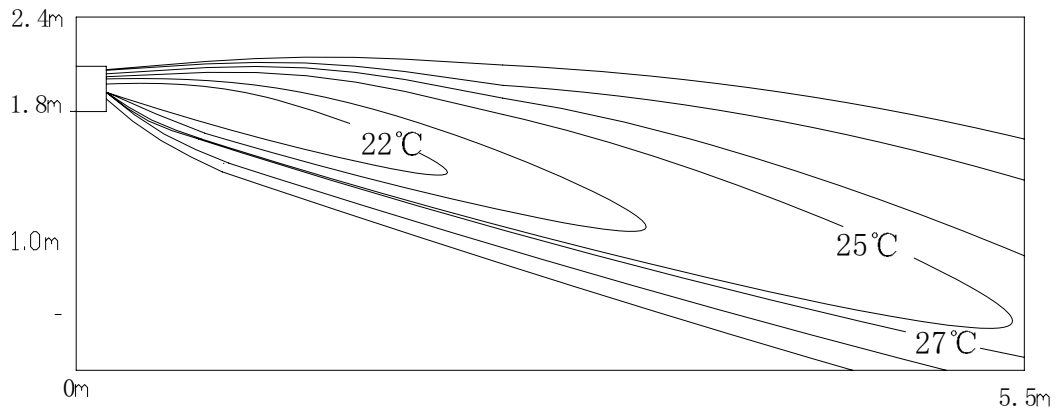
Air Velocity distribution



cooling

air discharge angle 5°

Temperature distribution



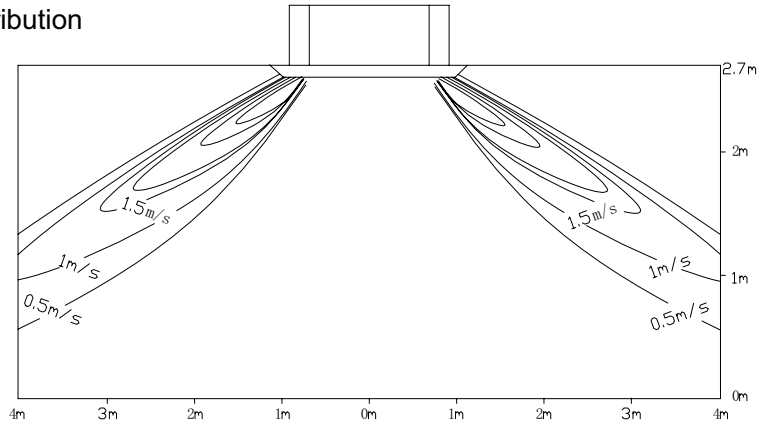


### 36000~42000BTU/h indoor units

#### 1) AB362\*\*\*\*\*

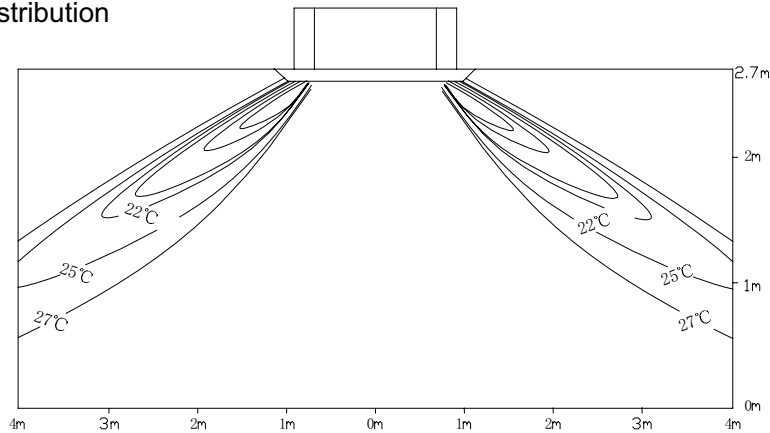
##### a. Cooling / Air Velocity Distribution

Cooling  
Blow angle: 40  
Air Velocity Distribution



##### b. Cooling / Temperature Distribution

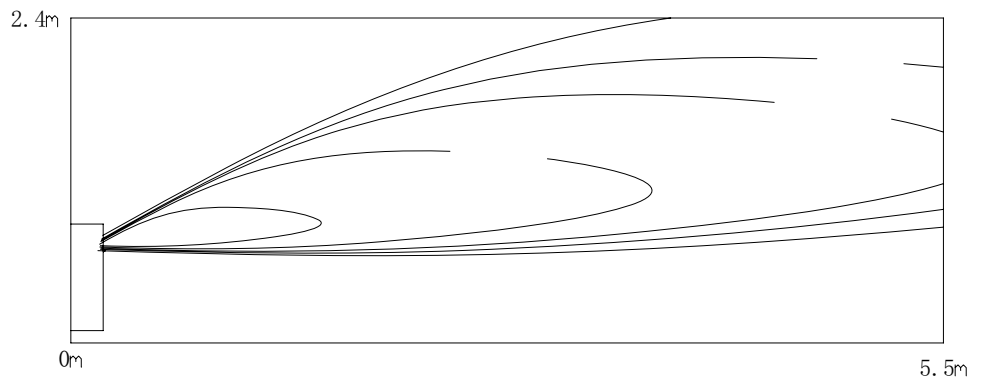
Cooling  
Blow angle: 40  
Temperature Distribution



#### 2) AC362\*\*\*\*\*

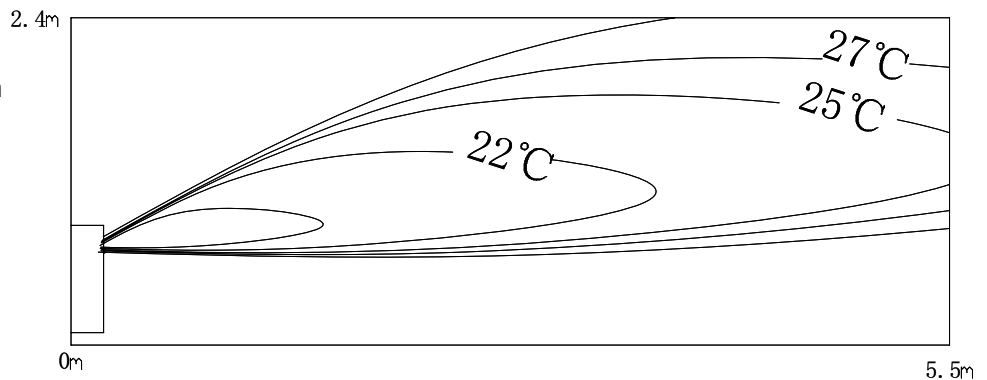
##### a. Cooling / Air Velocity Distribution

Cooling  
Blow angle: 25  
Air Velocity Distribution



##### b. Cooling / Temperature Distribution

Cooling  
Blow angle: 25  
Temperature Distribution





# Appendix

## -Controllers

### Infrared controllers:

- YR-H71
- YR-H50
- YR-H49

### Wired controllers:

- YR-E12

### Central controller:

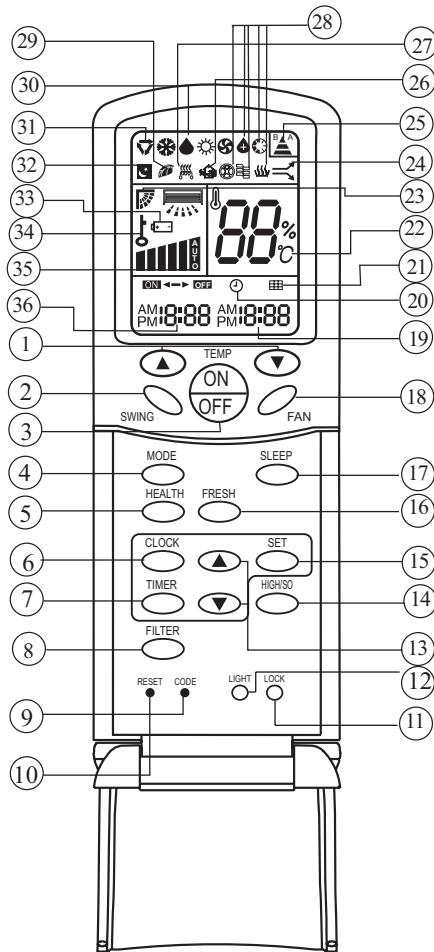
- YCZ-A001

### Weekly timer:

- YCS-A001

### 1 Infrared controller

#### 1.1 Infrared controller YR-H71



#### 4.Operation MODE

Used to select operation mode.

Every time you press MODE button, operation mode changes according to following sequence:



#### 5.HEALTH Button

Used to set health mode, if the unit has the negative ion function and oxygen bar function.

#### 6.CLOCK Button

Used to set correct time.

#### 7.CLOCK Button

Used to select TIMER ON, TIMER OFF.

(Note: if time of TIMER ON is the same as TIMER OFF, TIMER ON/OFF cannot be set)

#### 8. FILTER Button

Used to set up/down function of filter.

#### 9. CODE Button

Used to select code A or B, for the units except that we recommend especially, the code is A.

#### 10.RESET Button

Press this button by using a sharp article to resume the correct operation of the remote controller in case of need, i.e. for example in case of malfunctions due to electromagnetic noise.

#### 11.LOCK Button

Used to lock operation button and LCD display contents: by pressing this button, other buttons comes out of function and lock state display appears; if you press it again, lock state will be no more active and lock state display will disappear.

#### 12.LIGHT Button

Used to light the control panel (only for cabinet unit)

#### 13.Up and down Button

Used to set TIMER and CLOCK up or down.

#### 14.HIGH/SO Button

Used to select HIGH or SOFT operation.

#### 15.SET Button

Used to confirm TIMER and CLOCK settings.

#### 16.FRESH Button

Used to set fresh mode, the unit will draw in fresh air.

#### 17.SLEEP Button

(The clock must be corrected before setting sleep function) Used to set sleep mode.

#### 1.TEMP Setting Button

(Used to set temperature. Setting ranges: 16°C to 30°C)

In Up/Down function, for controlling up and down filter.

#### 2.SWING Button

If you press this button once, auto swing will be activated.

If you press this button again, the louver will fix in the present position.

#### 3.Power ON/OFF Button

Used for unit start and stop

After power on, the LCD of remote controller will display the previous operation state (except for TIMER, SLEEP and SWING state).

**NOTE:** 1.Cooling only air conditioner does not have the displays and functions related to heating.

#### 2.HIGH/SO button

This button is activated in Cooling/Heating mode, the fan speed is in AUTO mode after pressing it and "high function" will be cancelled automatically after 15 minutes running.

### 18.FAN Button

Used to select fan speed:LOW,MID,HIGH,AUTO.

### 19.TIMER OFF Display

### 20.CLOCK Display

### 21.FILTER Display

### 22.TEMPERATURE Display

### 23.AUTO SWING Display

### 24.HIGH/SO Display

### 25.SIGNAL SENDING Display

### 26.FRESH AIR Display

### 27.ELECTRICAL HEATING Display

### 28.Some other buttons

All these functions are not available now.

### 29.HEALTH Display

Displays when healthy run function is set.

### 30.DEHUMIDIFICATION Display

### 31.Operation MODE Display

AUTO RUN	COOL RUN	DRY RUN	HEAT RUN	FAN RUN

### 32.SLEEP State Display

### 33.BATTERY Energy Display

Notify the user when it is time to change the batteries.

### 34.LOCK State Display

### 35.FAN SPEED Display

LO	
MID	
HI	
AUTO	

### 36.TIMER ON Display

### Remote Controller' Operation

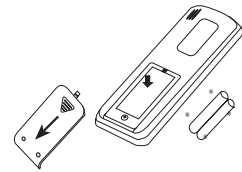
- When in use, direct signal transmission head to the receiver placed on the indoor unit

- The distance between the remote controller and the receiver should be max 7m and there should be no obstacle between them.
- Do not throw the remote controller; prevent it from being damaged.
- When operating the remote controller in an area where electronically controlled lights are installed or wireless handsets are used, please move closer to the indoor unit as the function of the remote controller might be affected by signals emitted by the above mentioned equipments.

### Battery loading

### Battery loading

Batteries are fitted as follows:



Remove the battery compartment lid

Slightly press and disengage the battery compartment

lid marked with "▽" and then hold the remote

controller by the upper section and then remove

the battery compartment lid by pressing in the direction of the arrow as shown in the figure above.

### Loading the battery

Ensure that batteries are correctly placed in the compartment as required for positive and negative terminals.

### Replacing the battery compartment lid

The battery compartment lid is reinstalled in the reverse sequence.

### Display review

Press the button to see if batteries are properly fitted. If no display appears, refit the batteries.

### Confirmation indicator

If no indication is displayed after press ON/OFF button, reload the batteries.

Caution:

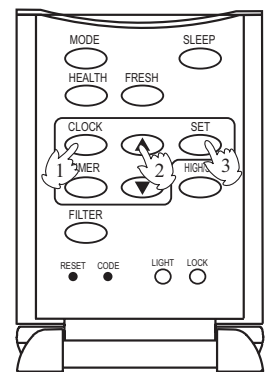
If the remote controller does not operate as designed after fitting new batteries of the same type, press the Reset button (marked ↓) with a pointed article.

### Clock Set

When unit is started for the first time and after replacing batteries in remote controller, clock should be adjusted as follows:

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

Note:AM means morning and PM means afternoon.

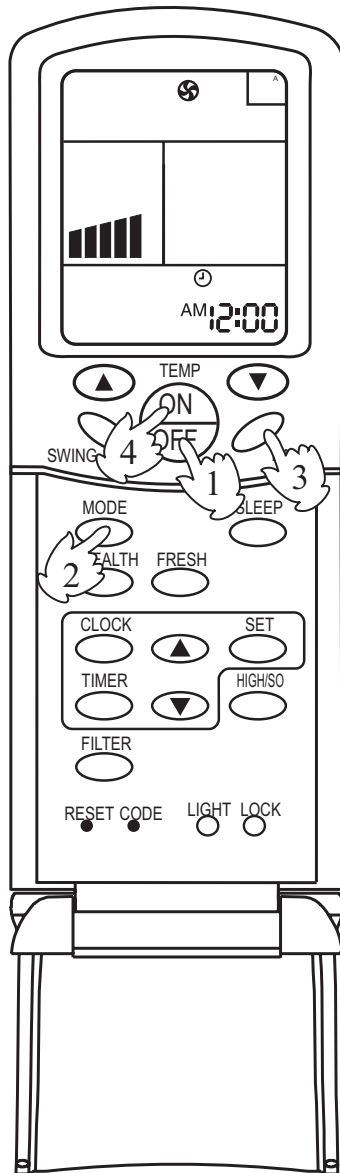


**Note:**

It is recommended that the batteries be removed from the compartment if the remote controller is not used for an extended period.

The remote controller is programmed for automatic test of operation mode after the batteries are replaced. When the test is conducted, all icons will appear on the screen and then disappear if the batteries are properly fitted.

### Fan Operation



**1. Unit start**

Press ON/OFF button to start your air conditioner. Previous operation status appears on LCD (except for TIMER, SLEEP, and SWING setting).

**2. Select operating mode**

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



Then **select FAN**

**3. Adjust fan speed**

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



Air conditioner will run at the selected fan speed. When in AUTO mode, unit will adjust fan speed according to room temperature automatically.

**4. Unit stop**

Press ON/OFF button to stop unit.

**About FAN mode**

When the air conditioner runs in FAN mode, it is not possible to select AUTO FAN or to set temperature.

### AUTO, COOL , HEAT and DRY Operation

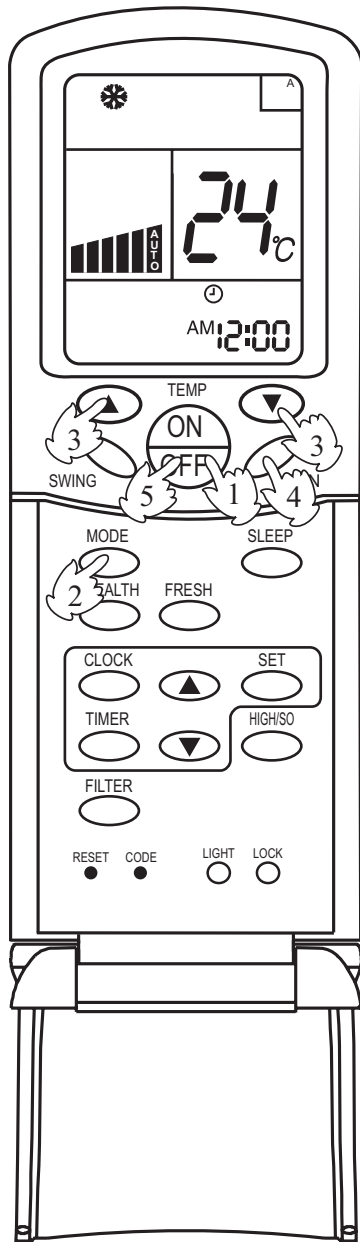
**1. Unit start**

Press ON/OFF button, unit starts. Previous operation status appears on LCD (except for TIMER, SLEEP and SWING setting)

**2. Select operation mode**

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





Then select AUTO run or select COOL operation or select DRY operation or select HEAT operation

3. Temperature setting  
Press TEMP button.

- ▲ Every time the button is pressed, temp. setting increases 1°C; if the button is kept pressed, temp. setting will increase quickly.
- ▼ Every time the button is pressed, temp. setting decreases 1°C, if the button is kept pressed, temp. setting will decrease quickly.

Set proper temperature

4. Adjust FAN button

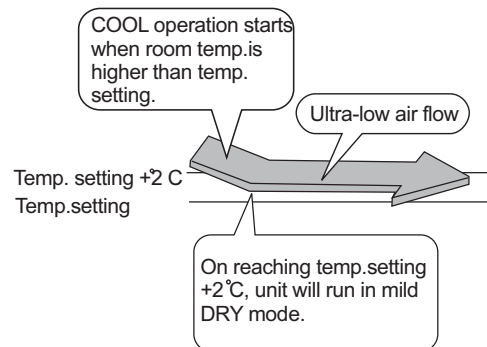
Press FAN button. At each press, fan speed changes as follows:



Air conditioner will run at the selected fan speed.

5. Unit stop

Press ON/OFF button, unit stops.



In ATUO mode, the temperature setting is not displayed on LCD. In this mode, during running air conditioner will select COOL, HEAT or FAN mode automatically according to the room temperature.

In DRY mode, when room temperature becomes 2°C higher than temperature setting, unit will run intermittently at LOW speed regardless of FAN setting. When room temperature is lower than temperature setting, unit will only run FAN operation.

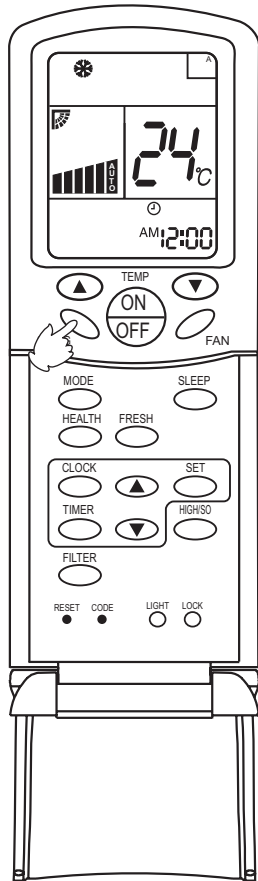
In HEAT mode, warm air will blow out after a short period of time due to cold-draft prevention function.

### Adjusting air flow direction

#### AUTO SWING

Press SWING button. Up and down airflow varies upwards and downwards. Left and right airflow varies left and right sides. When the automatic swing louver moves to the proper angle, press SWING button can fix the airflow direction.

- Always use SWING button on the remote controller to adjust flaps. Adjusting them by hand may result in air conditioner's abnormally running.



- In COOL or DRY mode, do not leave the louver in downward position for a long time, as the water vapor close to the grille may condense and water may drop from the air conditioner.
- Please carefully set temperature when children, old or weak people use the air conditioner.
- In case of great humidity, If the vertical flaps are completely turned towards left or right, the louver will drop water.
- Never adjust the louver directly by hand, as this could make it work abnormally. If the louver work abnormally, stop unit, restart and adjust the louver by remote controller.

### After unit stops:

Displays on the LCD disappear.

All indicators on the indoor unit go out.

Swing louver automatically close the air outlet.

### Hints:

As in COOL mode air flows downwards, adjusting airflow horizontally will be much more helpful for a better air circulation. As in HEAT mode air flows upwards, adjusting airflow downward will be much more helpful for a better air circulation. Be careful not to catch a cold when cold air blows downward directly.

## Sleep Function

Before going to bed you can press down the SLEEP button and the air conditioner will run so as to make you sleep more comfortably. Before using this function, the clock must be set.

### Use of SLEEP function

After the unit's start, set running mode and then press SLEEP button once to make the air conditioner have the previous-set sleep time (first power-on is "1h"). The sleep symbol will appear.

▲/▼: Press time button, you can choose the time in 1~8 hours. Each time the button is pressed, the time increases/decreases 1 hour: "xh" and "OFF" indications appear on the display.

#### Operation Mode

##### 1. In COOL, DRY mode

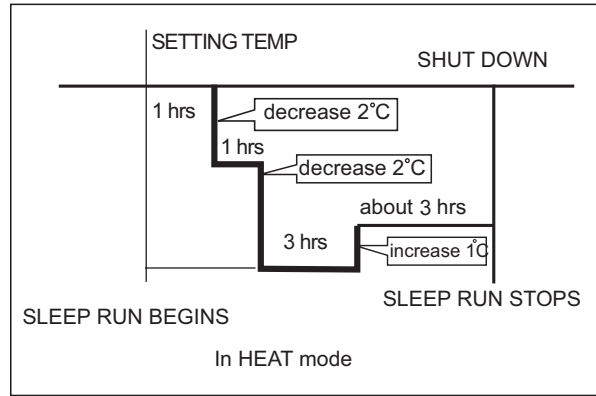
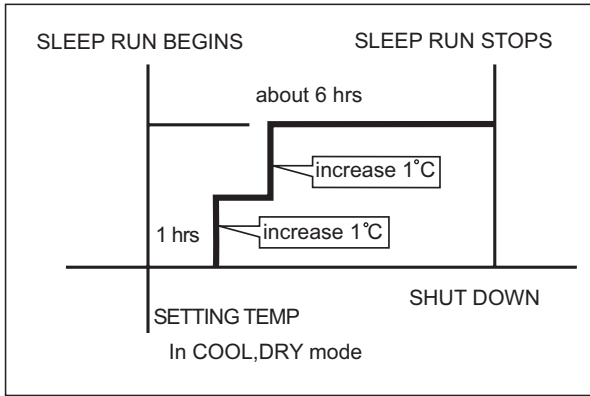
One hour after sleeping operation start, the temperature is 1°C higher than the setting one. After another hour, temperature rises 1°C: sleep run continuously for another 6 hours and then stops. The actual temperature is higher than the setting one which is to prevent from being too cold to your sleep.

##### 2. In HEAT mode

One hour after sleeping operation start, the temperature is 2°C lower than the setting one. After another hour, temperature decreases by 2°C more. Temperature will automatically rise by 1°C after another 3 hours' continuous operation and keep running for another 3 hours. The actual temperature is lower than the setting one which is to prevent from being too hot to your sleep.

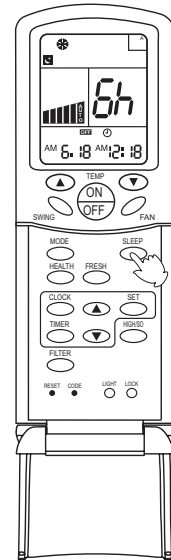
##### 3. In AUTO mode.

The air conditioner will run in corresponding sleep operation according to the automatically selected operation mode.



### Notes:

- After setting SLEEP function, it is not possible to set clock.
- If set-sleep time does not reach 8 hours, unit will automatically stop operation after set time is reached.
- Set "TIMER ON" or "TIMER OFF" in COOL, DRY mode function first, then set SLEEP. After set SLEEP function, the TIMER function cannot be set.



### Timer ON/OFF Function

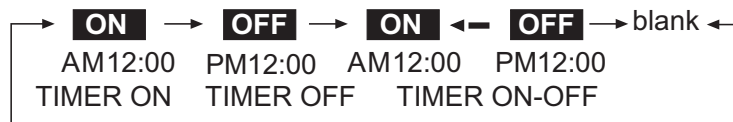
Set clock correctly before starting TIMER operation

#### 1. Unit start

After unit start, select your desired operation mode (operation mode will be displayed on LCD)

#### 2. TIMER mode selection

Press TIMER button on the remote controller to change TIMER mode. Every time the button is pressed, display of TIMER mode changes as follows:



Then select TIMER mode as needed (TIMER ON or TIMER OFF).

Now **ON** or **OFF** will flash.

#### 3. TIMER setting (press time adjust buttons $\blacktriangle$ $\blacktriangledown$ )

▲ Every time the button is pressed, time increases 10 minutes. If the button is kept pressed, time changes quickly.

▼ Every time the button is pressed, time decreases 10 minutes. If the button is kept pressed, time changes quickly. It can be adjusted within 24 hours at will.

#### 4. Confirm setting

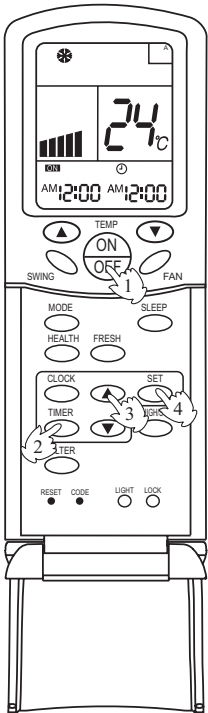
After setting correct time, press SET button to confirm time. Now **ON** or **OFF** stop flashing.

Time displayed: unit starts or stops at X hour X min (TIMER ON or TIMER OFF)

#### 5. Cancel TIMER mode

Just press TIMER button several times until TIMER mode disappears.





### Hints:

After replacing batteries or if a power failure occurs, TIMER setting must be reset. Remote controller has memory function. When you use TIMER mode next time, just press SET button after mode selection if timer setting is the same as the previous one.

### Note:

After setting TIMER function, the remote controller displays TIMER time. If you want to see clock time, just press CLOCK button once: clock time will be displayed (if you press the button again continuously, you can adjust clock). 5 seconds later, the display will show TIMER time again.

## Timer ON-OFF Function

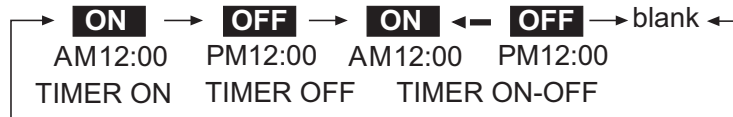
Set clock correctly before starting TIMER operation

### 1. Unit start

After unit start, select your desired operation mode (operation mode will be displayed on LCD)

### 2. TIMER mode selection

Press TIMER button on the remote controller to change TIMER mode. Every time the button is pressed, display of TIMER mode changes as follows:



Then select TIMER ON-OFF mode. **ON** will flash.

### 3. Time setting for TIMER ON

Press time button  $\blacktriangle$

$\blacktriangle$  Every time the button is pressed, time increases 10minutes. If the button is kept pressed, time will changes quickly.

$\blacktriangledown$  Every time the button is pressed, time decreases 10minutes. If the button is kept pressed, time will changes quickly.

It can be adjusted within 24 hours at will.

AM refers to morning and PM refers to afternoon.

### 4. Timer confirming for TIMER ON

After setting correct time, press TIMER button to confirm time. Now **ON** stops to flash, while **OFF** starts flashing.

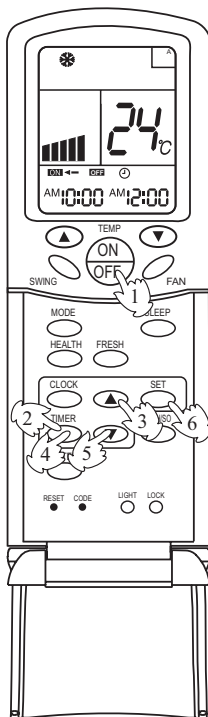
### 5. Timer setting for TIMER OFF

Press time buttons  $\blacktriangle$  and follow the same procedures in " Time setting for TIMER ON"

### 6. Time confirming for TIMER OFF

After time setting, press SET button to confirm time. **OFF** stops to flash.

Time displayed: unit starts or stops at X hour X min.



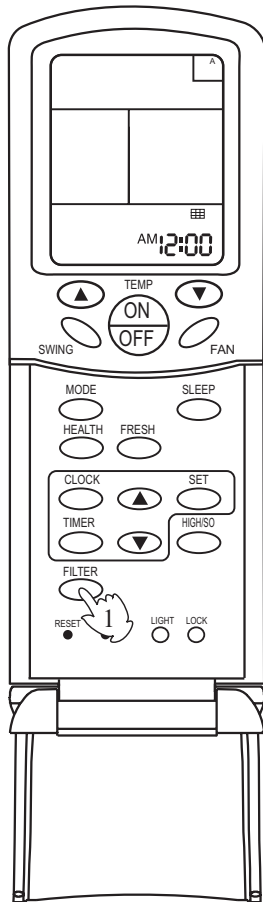
### 7. Canel TIMER mode

Just press TIMER button several times until TIMER mode disappears. According to the time setting sequence of TIMER ON and TIMER OFF, either start-stops or stops-start can be realized.

If the time setting of TIMER ON is the same as TIMER OFF, TIMER ON-OFF function cannot be set.

### Filter Up/Down

(Only for 600\*600 panel of single unit)



After the air conditioner has operated for a certain period, dust has accumulated on the filter, and the filter up/down function can be used to clean it.

1. Whether unit starts or stops, continuously press FILTER button for 3 seconds and enter the filter up/down waiting status (when unit stops, the yellow TIMER indicator flashes, and filter and clock indication are displayed on the remote controller. Only the FILTER button, the temperature buttons "▲" "▼" and time buttons ◆ are active).
2. Press temperature "▼" button or time "▼" button in filter up/down waiting status: the up/down mechanism makes the filter moving downward and does not stop until it has reached the maximum limit.
3. Press temperature "▲" button or time "▲" button in filter up/down waiting status: the up/down mechanism makes the filter to moving upward till near the surface board and then automatically adjusts it to reset (when adjusting, to reset, it will not be controlled by the remote controller till the adjustment is finished).
4. During moving downward, press temperature "▲" button or time "▲" button: moving stops.
5. During moving downward, press temperature "▼" button or time "▼" button: moving stops.
6. Continuously press FILTER button 3 seconds again to cancel the filter up/down waiting mode (unit stops, the yellow timer indicator stops flashing, the filter goes back to the original position, the remote controller goes back to off status and only clock is displayed).

Note:

If the filter does not thoroughly go back to the original position, only needs to operate several times repeatedly.

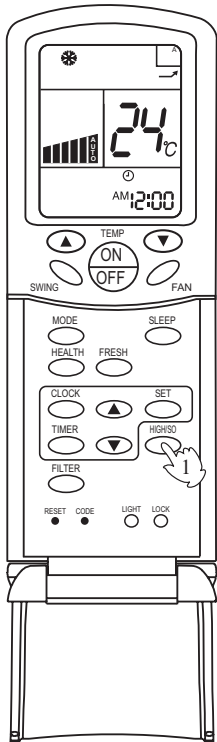
### " High mode " Operation

#### Outline of operation in "High Mode"

This function is suitable when the set temperature must be reached in the shortest delay. The button "HIGH/SO", referred to this function, is effective in Cooling/Heating mode (not in Auto/Dry/Fan modes).


NOTICE:

- When the air conditioner is operating in " High Mode " , unevenness of room air temperature may occur due to the intensive operation in a short time.
- Anyway, operation in "High Mode", does not last for more than 15 minutes, then regular operation is automatically restored.



### ON


#### Press the HIGH/SO button once

The indication  appears on the display of the remote controller and operation in "High Mode" starts.

The AUTO fan speed is automatically set and the corresponding indication is also displayed.

### OFF

#### Press the HIGH/SO button twice

If the button is pressed once, the indication  is displayed on the remote controller. If you press the button once again, the indication disappears, regular operation is restored and fan speed goes back to the mode set before "High Mode" operation.


## " Soft mode " Operation

### Outline of operation in "Soft Mode"

Operation in "Soft Mode", more silent, is suitable when noises should be reduced, e.g.. for reading or sleeping. The button "HIGH/SO", referred to this operation, is effective in Cooling/Heating mode (not in Auto/Dry/Fan modes).


### ON

#### Press the HIGH/SO button twice

The indication  appears on the display of the remote controller and operation in "Soft Mode" starts. The AUTO fan speed is automatically set and the corresponding indication is also displayed.

### OFF

#### Press the HIGH/SO button twice

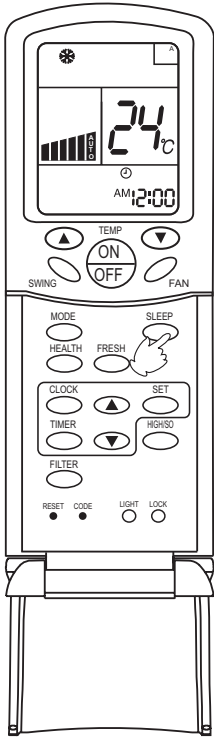
If the button is pressed once, the indication  is disappears from the remote controller's display. If you press the button once again, regular operation is restored and fan speed goes back to the mode set before "Soft Mode" operation.

### NOTICE:

When the air conditioner is operating in " High Mode " , unevenness of room air temperature may occur due to the intensive operation in a short time.

Anyway, operation in "High Mode", does not last for more than 15 minutes, then regular operation is automatically restored.

### Auto restart function setting



After the power failure compensation is set, if power failure suddenly occurs while the air conditioner is working, it will resume the previous working state when the power is supplied again.

**Setting Method:** When the remote controller is on (excluding timer mode and fan mode), press the "Sleep" button on the remote controller 10 times within 5 seconds, and after the buzzer rings 4 times, the air conditioner will enter the state of auto restart.

**Cancel Method:** Press the "Sleeping" button on the remote controller 10 times within 5 seconds, and after the buzzer rings 2 times, the auto restart mode will be cancelled.

**Notes:** When a power failure suddenly occurs during the air conditioner is working after the power failure compensation is set, if the air conditioner will not be used for a long time, please cut off the power supply to prevent its operation from being resumed after the power is supplied again, or press the "Switch On/Off" button after the power comes again.

**If the unit has not the "sleep" button or function, please realize the function by pressing "swing" with the same method.**

#### Note:

This kind of remote controller can be used for all UNITARY indoor units except for AP182ACBEA.

### Infrared controller YR-H71 and remote receiver RE-01:

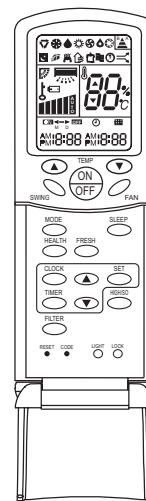
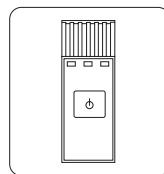
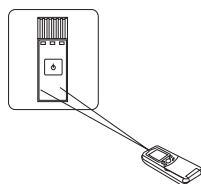
If the unit is wired type and it is without the remote receiver, you can use the remote receiver RE-01 and the remote controller YR-H71 to realize the remote function. The installation of remote receiver and usage function are as follows:

The right figure is a remote controller, which can be used on series remote control units and the matching remote control receiver

1. Remote control receiver using method :

Use remote controller control the remote control window of the remote control receiver.

2. For Unitary Free, Unitary Smart and Multi units, the controller CODE please select code "A"; for H-MRV and AS\*\*X ABAA unit, please select code "B".



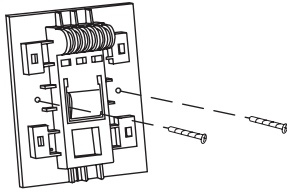
Remote receiver Remote controller

### Installation of receive display

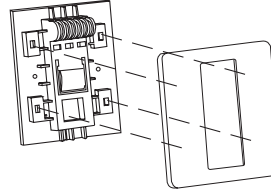
Because of the temperature sensitive device, do not install the receive display at straight sunlight place, either in front of air outlet grill, for it is effected greatly from cool air and heat air, the receive display is at least 20mm distance to the air outlet grill.

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.).



1. Fix the receive display with screws on the selected place

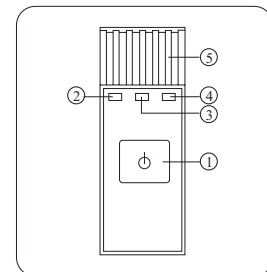


2. Place the panel onto the fixed frame, pay attention that the four claws must be placed into the corresponding four poles on the frame

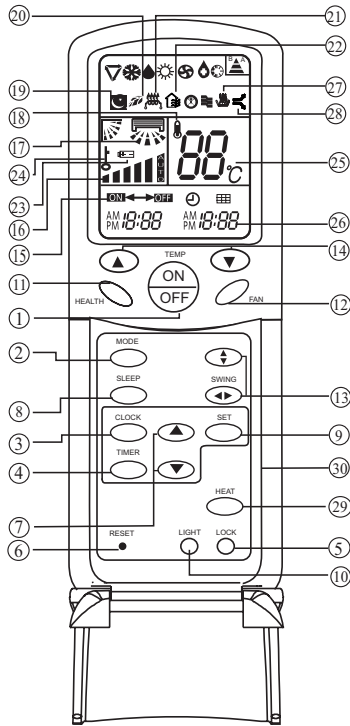
Connecting wiring method of receiver :

- Refer the indoor unit wiring diagram .
- Safety cautions see the electrical wiring part .

- ①. Emergency switch
- ②. Running lamp: When the compressor working, this lamp bright.
- ③. Timing lamp: When the unit been setting Timing running, this lamp bright.
- ④. Power lamp: After open the unit, this lamp bright when the unite enter health running, the lamp change from orange to blue lamp.
- ⑤. Indoor temp. sensor: Test the room temperature.



### 1.2 Infrared controller YR-H50



Except [SWING][POWER/SOFT][HEAT] function, the other basic functions are same with YR-H71, please reference YR-H71 manual. [Swing] function description:

#### Air flow adjustment

Swing louvers  
Up and down  
(Horizontal louvers)

Position 1



Position 2



Position 3



Position 4



Position 5



Position 6



Left and right  
(Vertical louvers)

Position 1



Position 2



Position 3



Position 4



Position 5



Position 6



Position 7



Position 8



Swing

- Press SWING the vertical ouvers move from left and right.

Fixed position

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

Swing

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

Fixed position

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

#### 13 SWING

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

#### 29 HEAT

Select Auxiliary electric heater

#### 30 POWER/SOFT

Select power/soft

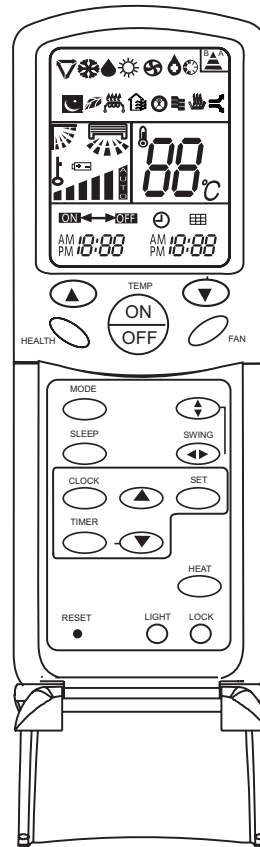
**Note:** Put louvers at up position in cooling and down position in heating mode. This will be helpful to keep an even room temp.

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

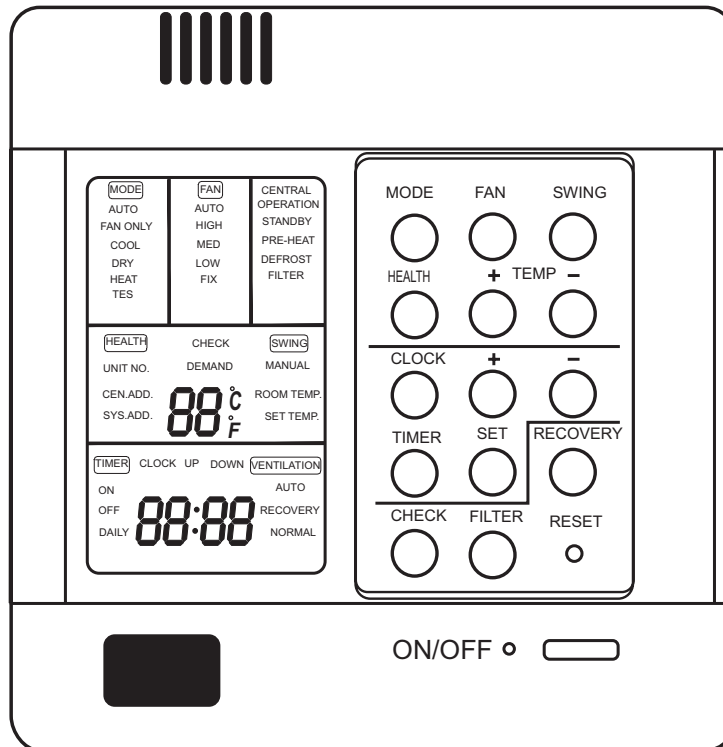
**Note:** For new apperance convertible unit, the position 3 and position 4 are "Auto Swing".

### 1.3 Infrared controller YR-H49

The main functions of YR-H49 are same with YR-H50, please reference YR-H71 and YR-H50 manuals.



### 2. Wired controller



#### Buttons function:

- MODE: used for select indoor operation mode.
- FAN: used for select indoor air flow.
- SWING: used for setting indoor swing mode.
- HEALTH: used for setting indoor health function.
- TEMP + -: used for changing set temperature.
- CLOCK: used to adjust time.
- +、 -: stands for time plus/minus, used to adjust time.
- TIMER: used to set timer mode.
- RECOVERY: used to switch over air-exchanging mode.
- CHECK: auto-diagnostic button.
- FILTER: filter-cleaned button.
- RESET: reset correct mode button.

#### Display description:

- [MODE] [AUTO]: auto operation mode
- [MODE] [FAN ONLY]: air-throwing mode
- [MODE] [COOL]: Cooling operation mode
- [MODE] [DRY]: Dehumidification mode
- [MODE] [HEAT]: Heating operation mode
- [MODE] [HEAT] [TES]: In heating mode, auxiliary electric heater is running. Only when the unit with auxiliary electric heater is in auxiliary electric heating mode, it will display.
- [FAN] [AUTO]: auto fan running



[FAN] [HIGH]: high fan speed  
[FAN] [MED]: medium fan speed  
[FAN] [LOW]: low fan speed  
[FAN] [FIX]: fixed fan speed, it will display only when fixed fan speed is requested to main indoor unit.  
[CENTRAL]: central control mode  
[OPERATION] : running mode  
[STAND BY] : waiting mode  
[PRE-HEAT] : pre-heating mode  
[DEFROST]: defrosting mode  
[FILTER] : request of filter to be cleaned  
[HEALTH]: health function  
[UNIT NO.]  
[CEN.ADD]: central control address, the address number will display on “88”  
[SYS.ADD.]: system address, the address number will display on “88”  
[CHECK]: auto-diagnostic, trouble shooting  
[DEMAND]: compulsory operation function, when it works, [CENTRAL] will flash  
[SWING]: swing mode  
[ROOM TEMP.]: indoor ambient temperature  
[SET TEMP.]: set admired temperature.  
[TIMER][ON] : timer function is on.  
[TIMER][OFF] : timer function is off  
[TIMER][ON][OFF] : timer function ON-OFF  
[TIMER][ON][OFF][DAILY]: timer ON-OFF will switch over in turn daily  
[CLOCK]: clock display, the displaying time is the current time of the clock.  
[UP]、[DOWN]: indicator of filter elevating  
[VENTILATION][AUTO]: auto ventilation mode  
[VENTILATION][RECOVERY]: fully heat exchanging ventilation mode  
[VENTILATION][NORMAL]: normal ventilation mode

### **FAN ONLY OPERATION:**

- 1) Start up operation: press the button of ON/OFF, the system will start up, and will display [MODE][AUTO]; [FAN][AUTO]; [ROOM TEMP.] + “24°C”; [CLOCK] + “12: 00”.
- 2) Select MODE: press the MODE button, then you will see in the display section [MODE] switch over in below sequence: [FAN ONLY] → [COOL] → [DRY] → [HEAT] → [AUTO] → [FAN ONLY]. Select [FAN ONLY].
- 3) Select fan speed: press FAN button, then you see in the display section [FAN] switch over in below sequence: [HIGH] → [MED] → [LOW] → [HIGH]. Select proper fan speed.
- 4) Power off: press ON/OFF button, indoor unit will be powered off, there are only time and the ambient temperature in the screen.

### **AUTO operation, COOLING, HEATING and DEHUMIDIFICATION operation**

- 1) Start up operation: press the button of ON/OFF, the system will start up, and will display [MODE][AUTO]; [FAN][AUTO]; [ROOM TEMP.] + “24°C”; [CLOCK] + “12: 00”.
- 2) Select MODE: press the MODE button, then you will see in the display section [MODE] switch over in below sequence: [FAN ONLY] → [COOL] → [DRY] → [HEAT] → [AUTO] → [FAN ONLY]. Select [COOL].
- 3) Change set temperature: press TEMP + or – every time, [SET] will display, and set temperature will increase/reduce 1°C (F).
- 4) Select fan speed: press FAN button, then you see in the display section [FAN] switch over in below sequence: [AUTO] → [HIGH] → [MED] → [LOW] → [AUTO]. Select proper fan speed.
- 5) Select [SWING]: press [SWING] button, swing function is valid. Press again, swing function is invalid.
- 6) Set [HEALTH]: used to set the indoor health function. Press it once, [HEALTH] will display in the display section, then indoor health function is valid. Press it again, [HEALTH] will disappear, then the health function is invalid.  
This function is valid only for the unit with health function.
- 7) Power off: press ON/OFF button, indoor unit is powered off. There are only time and the ambient temperature in the screen.

### **Set TIMER operation:**

Adjust clock: when powered on, for the first time to set timer function, the clock will be adjusted.

Press “CLOCK” button, and set the current clock. Now, “CLOCK” will flash at the frequency of 2Hz. Press the clock +/- button; the current clock can be adjusted. Until the proper time comes, press [SET].

### **TIMER ON operation:**

Press TIMER button, and keep pressing it, in the display section [TIMER] will switch over in below sequence: [ON] → [OFF] → [ON][OFF] → [ON][OFF][DAILY] → [ ]. Select [TIMER] [ON], then [TIMER] [ON] flashes, press the clock +/- button to adjust the time of TIMER ON, press [SET] button.

### **TIMER OFF operation:**

Press TIMER button, and keep pressing it, in the display section [TIMER] will switch over in below sequence: [ON] → [OFF] → [ON][OFF] → [ON][OFF][DAILY] → [ ]. Select [TIMER] [OFF], then [TIMER] [OFF] flashes, press the clock +/- button to adjust the time of TIMER OFF, press [SET] button.

### **TIMER ON-OFF operation:**

Press TIMER button, and keep pressing it, in the display section [TIMER] will switch over in below sequence: [ON] → [OFF] → [ON][OFF] → [ON][OFF][DAILY] → [ ]. Select [TIMER] [ON] [OFF]. Firstly, [TIMER][ON] flashes, press the clock +/- button to adjust the time of

TIMER ON, press [TIMER]. [TIMER][ON] will be constant on. Then [TIMER] [OFF] flashes, press the clock +/- button to adjust the time of TIMER OFF, press [SET]. The time sequence of timer on and timer off will determine the mode is [TIMER] [ON] → [OFF] or [TIMER] [OFF] → [ON]. If you want the current time, press [CLOCK] once, current time will display; press again, [CLOCK] will flash, and press [+][-] to adjust the time.

Note: 1. If the two times are same, the timer state which is set later will flash, in this case, timer can not be set.

2. When entering TIMER setting state, if you do not input any button in continuous 10 seconds, the unit will quit from the TIMER mode.

### **Cancel TIMER operation:**

In the timer operation state, press [TIMER] button, the unit will quit from the current timer operation state, and the set data will be memorized, then enter the next timer mode.

### **[FILTER] function**

When the wired controller receives the filter-cleaned signal from indoor unit, [FILTER] will display. After finishing clean, press [FILTER], the sign [FILTER] disappears, and the controller will send the filter reset signal to indoor unit.

When the sign [FILTER] not display, it is invalid to press [FILTER] in short time.

### **FILTER ELEVATING function: (only for the unit with elevating function)**

When the filter needs to be cleaned, the panel can be lowered to the admired height by the [FILTER][UP][DOWN] function. Method is below: In power off state, press [HEALTH] for 10 seconds to enter filter elevating set state. In this state, the sign [FILTER] will flash and [UP] [DOWN] will display simultaneously, Press TEMP [+], in timer section [UP] will display, while press TEMP [-], in timer section [DOWN] will display. When it arrives the appropriate position, press [UP], [UP][DOWN] will display simultaneously, filter will stop going down. Press [UP] again, filter will go up. Press [FILTER] button to quit the mode.

### **DEMAND operation function:**

By this function, all the indoor units can be made in nominal mode. Set the operation mode in cooling and then shut off the unit. In the stop state, press [ON/OFF] button for 5 seconds to enter cooling trial operation state. If it is in heating mode before shut off the unit, then press [ON/OFF] button for 5 minutes, it will enter heating trial operation state.

In cooling, there will be "LL" in the position where the set temperature displays. In heating, there will be "HH" in the position where the set temperature displays. The wired controller will send the [DEMAND] signal to indoor unit. In the [DEMAND] operation, "COOL" or "HEAT" will display at 1Hz frequency. Indoor fan motor will be fixed at "AUTO" mode. The indoor units in the same group will quit the [DEMAND] in turn.

At this time, only the buttons of [ON/OFF] and temperature [+][-] are valid. Press [ON/OFF] to quit [DEMAND] mode.

### CENTRAL control function

When the central controller selects [CENTRAL] mode, the buttons in the wired controller except for [CHECK] will be invalid.

### VENTILATION mode (only for the unit with fresh air function or heat recovery function)

Press [RECOVERY] button, then the unit will switch over the ventilation mode:

[ ] → [VENTILATION][AUTO] → [VENTILATION][RECOVERY] → [VENTILATION][NORMAL] → [ ], please select appropriate ventilation mode.

### Query indoor malfunction history:

In the state of power on or power off, press [CHECK] button, enter the malfunction-querying mode of all indoor units in the group. Then [CHECK] and [UNIT NO.] will display, and the actual indoor numbers will be displayed in some sequence (unit number is in decimals). At the same time, in the time region, there will be the current malfunction and the latest time malfunction, the displaying format is [XX: YY], in which XX stands for the current malfunction, if normal, it will display “— —”; YY stands for the latest time malfunction. The failure code of every unit will display for 3 seconds. After the failure codes of all indoor units in the whole group are displayed, the mode will quit automatically.

### Clear abnormal state and malfunction history:

In normal state, press [CHECK] button for 5 seconds to clear abnormal states, at the same time, wired controller will send the data of “clear abnormal state”, but the malfunction history still retains.

In normal state, press [CHECK] button for 15 seconds, except for malfunction states, the malfunction history in wired controller will be cleared.

### Query indoor performance state:

In normal state, press both buttons of [CHECK] and [FILTER] for 5 seconds, in the set temperature region in the screen, [XX] will display, XX is indoor number, which can be selected by pressing [TEMP] [+] [-]. In the timer region in the screen, [YZZZ] will display, in which Y stands for data type, ZZZ stands for the corresponding data. which can be selected by pressing [CLOCK] [+] [-].

Y	ZZZ	Type
A	Indoor capacity (W)	Nominal cooling capacity/10, decimal
B	Request of indoor capacity (Hz)	Actual value, decimal
C	Temperature of indoor ambient temp. sensor TA	Actual value, decimal
d	Temperature of indoor gas pipe sensor TC1	Actual value, decimal
E	Temperature of indoor liquid pipe sensor TC2	Actual value, decimal
F	Open degree of indoor PMV	Actual value, decimal

g	Preset	---
H	Outdoor total capacity	Actual value, decimal

In check mode, press [CHECK] to quit the check mode, and go into normal running mode.

### How to change the function switches?

No.	Type	State of switch	Function description
J01	Changeover of Wired controller and central controller	Connected	Central controller
		Cut off	Wired controller
J02	Changeover of type of wired controller	Connected	Set as simple controller
		Cut off	Set as standard controller
J06	Selection of room temp. sensor	Connected	Use the sensor in the wired controller
		Cut off	Use the sensor in the indoor unit
J07	Auto restart after power failure	Connected	Common control
		Cut off	Auto restart after power failure
J03	Display of room temperature	Connected	Yes
		Cut off	No
SW01 ①	Changeover of master or slave controller	ON	Set as slave controller
		OFF	Set as master controller
SW01 ②	°C or °F	ON	°F
		OFF	°C
D1	Shorten time function	Connected	Indoor unit in shorted time function
		Cut off	Common control
D2	Compulsorily defrost	Connected	Send compulsorily defrost signal to indoor unit
		Cut off	Common control

Note: 1. The switches in grey can be operated after opening the cover of wired controller.

2. Switches or jumper wire must be adjusted when the wired controller is powered off. If the wired controller is powered on, the above operations will be invalid.

#### 3. Shorten time function

In normal operation, D1 is in short circuit, it will enter shorten time mode, and the time will be shortened in the proportion of 60:1. In shorten time mode, LED will flash at the frequency of 0.5 second. Cut off D1, it will quit the shorten time mode and return to the normal operation mode.

#### 4. Compulsorily defrost

In heating mode 30°C and in High fan speed, D2 is in short circuit, it will enter compulsorily defrost mode; cut off D2, it will quit. It is always be used when in testing to see if the defrost function is good.

#### 5. Lock function

There is no lock function only in the wired controller. But when it is connected with a central controller, if the central controller is set to “central”, the buttons in the wired controller will be invalid, or the buttons will be valid.

### Setting address method:

The address setting can be realized by setting indoor PCB.

If you use the group control function, there should be a master unit and 15 sets of slave units. For the master unit, the SW5-3 should be at “ON”. For the slave units, the SW5-3 should be at “OFF”.

Please refer the below table,

Indoor unit address	SW1-4	SW1-3	SW1-2	SW1-1
1	OFF	OFF	OFF	ON
2	OFF	OFF	ON	OFF
3	OFF	OFF	ON	ON
4	OFF	ON	OFF	OFF
5	OFF	ON	OFF	ON
6	OFF	ON	ON	OFF
7	OFF	ON	ON	ON
8	ON	OFF	OFF	OFF
9	ON	OFF	OFF	ON
10	ON	OFF	ON	OFF
11	ON	OFF	ON	ON
12	ON	ON	OFF	OFF
13	ON	ON	OFF	ON
14	ON	ON	ON	OFF
15	ON	ON	ON	ON

If you use central control type, SW1, SW2 will be used simultaneously.

Wiring request in central control type: port A-B is connected with indoor port CN16 (A-B) through 2-core shield wire. Requirements:

1. Port A connects with port CN16 (A) of all indoor units.
2. Port B connects with port CN16 (B) of all indoor units.

Address on central controller	Indoor unit address	SW2-3	SW2-2	SW2-1	SW1-4	SW1-3	SW1-2	SW1-1
1	1	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	2	OFF	OFF	OFF	OFF	OFF	OFF	ON
3	3	OFF	OFF	OFF	OFF	OFF	ON	OFF
4	4	OFF	OFF	OFF	OFF	OFF	ON	ON
5	5	OFF	OFF	OFF	OFF	ON	OFF	OFF
6	6	OFF	OFF	OFF	OFF	ON	OFF	ON

7	7	OFF	OFF	OFF	OFF	ON	ON	OFF
8	8	OFF	OFF	OFF	OFF	ON	ON	ON
9	9	OFF	OFF	OFF	ON	OFF	OFF	OFF
10	10	OFF	OFF	OFF	ON	OFF	OFF	ON
11	11	OFF	OFF	OFF	ON	OFF	ON	OFF
12	12	OFF	OFF	OFF	ON	OFF	ON	ON
13	13	OFF	OFF	OFF	ON	ON	OFF	OFF
14	14	OFF	OFF	OFF	ON	ON	OFF	ON
15	15	OFF	OFF	OFF	ON	ON	ON	OFF
16	16	OFF	OFF	OFF	ON	ON	ON	ON
17	17	OFF	OFF	ON	OFF	OFF	OFF	OFF
18	18	OFF	OFF	ON	OFF	OFF	OFF	ON
19	19	OFF	OFF	ON	OFF	OFF	ON	OFF
20	20	OFF	OFF	ON	OFF	OFF	ON	ON
21	21	OFF	OFF	ON	OFF	ON	OFF	OFF
22	22	OFF	OFF	ON	OFF	ON	OFF	ON
23	23	OFF	OFF	ON	OFF	ON	ON	OFF
24	24	OFF	OFF	ON	OFF	ON	ON	ON
25	25	OFF	OFF	ON	ON	OFF	OFF	OFF
26	26	OFF	OFF	ON	ON	OFF	OFF	ON
27	27	OFF	OFF	ON	ON	OFF	ON	OFF
28	28	OFF	OFF	ON	ON	OFF	ON	ON
29	29	OFF	OFF	ON	ON	ON	OFF	OFF
30	30	OFF	OFF	ON	ON	ON	OFF	ON
31	31	OFF	OFF	ON	ON	ON	ON	OFF
32	32	OFF	OFF	ON	ON	ON	ON	ON
33	33	OFF	ON	OFF	OFF	OFF	OFF	OFF
34	34	OFF	ON	OFF	OFF	OFF	OFF	ON
35	35	OFF	ON	OFF	OFF	OFF	ON	OFF
36	36	OFF	ON	OFF	OFF	OFF	ON	ON
37	37	OFF	ON	OFF	OFF	ON	OFF	OFF
38	38	OFF	ON	OFF	OFF	ON	OFF	ON
39	39	OFF	ON	OFF	OFF	ON	ON	OFF
40	40	OFF	ON	OFF	OFF	ON	ON	ON
41	41	OFF	ON	OFF	ON	OFF	OFF	OFF
42	42	OFF	ON	OFF	ON	OFF	OFF	ON
43	43	OFF	ON	OFF	ON	OFF	ON	OFF
44	44	OFF	ON	OFF	ON	OFF	ON	ON
45	45	OFF	ON	OFF	ON	ON	OFF	OFF
46	46	OFF	ON	OFF	ON	ON	OFF	ON
47	47	OFF	ON	OFF	ON	ON	ON	OFF
48	48	OFF	ON	OFF	ON	ON	ON	ON
49	49	OFF	ON	ON	OFF	OFF	OFF	OFF
50	50	OFF	ON	ON	OFF	OFF	OFF	ON

51	51	OFF	ON	ON	OFF	OFF	ON	OFF
52	52	OFF	ON	ON	OFF	OFF	ON	ON
53	53	OFF	ON	ON	OFF	ON	OFF	OFF
54	54	OFF	ON	ON	OFF	ON	OFF	ON
55	55	OFF	ON	ON	OFF	ON	ON	OFF
56	56	OFF	ON	ON	OFF	ON	ON	ON
57	57	OFF	ON	ON	ON	OFF	OFF	OFF
58	58	OFF	ON	ON	ON	OFF	OFF	ON
59	59	OFF	ON	ON	ON	OFF	ON	OFF
60	60	OFF	ON	ON	ON	OFF	ON	ON
61	61	OFF	ON	ON	ON	ON	OFF	OFF
62	62	OFF	ON	ON	ON	ON	OFF	ON
63	63	OFF	ON	ON	ON	ON	ON	OFF
64	64	OFF	ON	ON	ON	ON	ON	ON
65	65	ON	OFF	OFF	OFF	OFF	OFF	OFF
66	66	ON	OFF	OFF	OFF	OFF	OFF	ON
67	67	ON	OFF	OFF	OFF	OFF	ON	OFF
68	68	ON	OFF	OFF	OFF	OFF	ON	ON
69	69	ON	OFF	OFF	OFF	ON	OFF	OFF
70	70	ON	OFF	OFF	OFF	ON	OFF	ON
71	71	ON	OFF	OFF	OFF	ON	ON	OFF
72	72	ON	OFF	OFF	OFF	ON	ON	ON
73	73	ON	OFF	OFF	ON	OFF	OFF	OFF
74	74	ON	OFF	OFF	ON	OFF	OFF	ON
75	75	ON	OFF	OFF	ON	OFF	ON	OFF
76	76	ON	OFF	OFF	ON	OFF	ON	ON
77	77	ON	OFF	OFF	ON	ON	OFF	OFF
78	78	ON	OFF	OFF	ON	ON	OFF	ON
79	79	ON	OFF	OFF	ON	ON	ON	OFF
80	80	ON	OFF	OFF	ON	ON	ON	ON
81	81	ON	OFF	ON	OFF	OFF	OFF	OFF
82	82	ON	OFF	ON	OFF	OFF	OFF	ON
83	83	ON	OFF	ON	OFF	OFF	ON	OFF
84	84	ON	OFF	ON	OFF	OFF	ON	ON
85	85	ON	OFF	ON	OFF	ON	OFF	OFF
86	86	ON	OFF	ON	OFF	ON	OFF	ON
87	87	ON	OFF	ON	OFF	ON	ON	OFF
88	88	ON	OFF	ON	OFF	ON	ON	ON
89	89	ON	OFF	ON	ON	OFF	OFF	OFF
90	90	ON	OFF	ON	ON	OFF	OFF	ON
91	91	ON	OFF	ON	ON	OFF	ON	OFF
92	92	ON	OFF	ON	ON	OFF	ON	ON
93	93	ON	OFF	ON	ON	ON	OFF	OFF
94	94	ON	OFF	ON	ON	ON	OFF	ON



95	95	ON	OFF	ON	ON	ON	ON	OFF
96	96	ON	OFF	ON	ON	ON	ON	ON
97	97	ON	ON	OFF	OFF	OFF	OFF	OFF
98	98	ON	ON	OFF	OFF	OFF	OFF	ON
99	99	ON	ON	OFF	OFF	OFF	ON	OFF
100	100	ON	ON	OFF	OFF	OFF	ON	ON
101	101	ON	ON	OFF	OFF	ON	OFF	OFF
102	102	ON	ON	OFF	OFF	ON	OFF	ON
103	103	ON	ON	OFF	OFF	ON	ON	OFF
104	104	ON	ON	OFF	OFF	ON	ON	ON
105	105	ON	ON	OFF	ON	OFF	OFF	OFF
106	106	ON	ON	OFF	ON	OFF	OFF	ON
107	107	ON	ON	OFF	ON	OFF	ON	OFF
108	108	ON	ON	OFF	ON	OFF	ON	ON
109	109	ON	ON	OFF	ON	ON	OFF	OFF
110	110	ON	ON	OFF	ON	ON	OFF	ON
111	111	ON	ON	OFF	ON	ON	ON	OFF
112	112	ON	ON	OFF	ON	ON	ON	ON
113	113	ON	ON	ON	OFF	OFF	OFF	OFF
114	114	ON	ON	ON	OFF	OFF	OFF	ON
115	115	ON	ON	ON	OFF	OFF	ON	OFF
116	116	ON	ON	ON	OFF	OFF	ON	ON
117	117	ON	ON	ON	OFF	ON	OFF	OFF
118	118	ON	ON	ON	OFF	ON	OFF	ON
119	119	ON	ON	ON	OFF	ON	ON	OFF
120	120	ON	ON	ON	OFF	ON	ON	ON
121	121	ON	ON	ON	ON	OFF	OFF	OFF
122	122	ON	ON	ON	ON	OFF	OFF	ON
123	123	ON	ON	ON	ON	OFF	ON	OFF
124	124	ON	ON	ON	ON	OFF	ON	ON
125	125	ON	ON	ON	ON	ON	OFF	OFF
126	126	ON	ON	ON	ON	ON	OFF	ON
127	127	ON	ON	ON	ON	ON	ON	OFF
128	128	ON	ON	ON	ON	ON	ON	ON

### Electrical functions of wired controller:

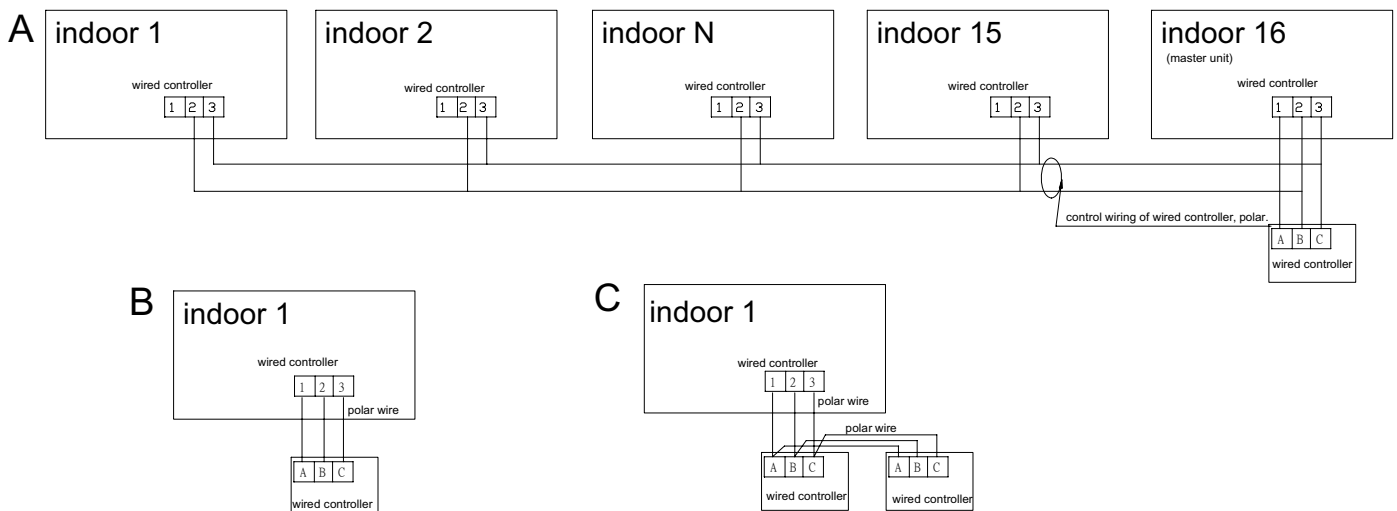
1. Function difference between master wired controller and slave one:

Contrastive items	Master wired controller	Slave wired controller
Function	All of functions	Only with below functions: ON/OFF, MODE, FAN SPEED, SET TEMP., SWING

2. Function difference between simple wired controller and the standard one:

Contrastive item	Standard wired controller	Simple wired controller
Function	With all functions	Only can control ON/OFF, MODE, FAN, TEMP., SWING.
Master/Slave selection	Can be either of Master and Slave controller	Only can be Master controller

3. Wiring connections of wired controller:



There are three methods to connection wired controller and the indoor units:

A. One wired controller can control max. up to 16 sets of indoor units, and 3 pieces of polar wire must connect the wired controller and the master unit (the indoor unit connected with wired controller directly), the others connect with the master unit through 2 pieces of polar wire.

B. One wired controller controls one indoor unit, and the indoor unit connects with the wired controller through 3 pieces of polar wire.

C. Two wired controllers control one indoor unit. The wired controller

connected with indoor unit is called master one, the other is called slave one. Master wired controller and indoor unit; master and slave wired controllers are all connected through 3 pieces of polar wire.

### 3. Communication wiring:

The wired controller is equipped with special communication wiring in the accessories. 3-core terminal (1-white 2-yellow 3-red) is connected with the terminal A、B、C of wired controller respectively.

The communication wiring is 4 meter long; if the actual length is more than it, please distribute wiring according to below table:

Communication wiring length (m)	Dimensions of wiring
<100	0.3mm <sup>2</sup> X3-core shielded wire
≥100 and <200	0.5mm <sup>2</sup> X3-core shielded wire
≥200 and <300	0.75mm <sup>2</sup> X3-core shielded wire
≥300 and <400	1.25mm <sup>2</sup> X3-core shielded wire
≥400 and <600	2mm <sup>2</sup> X3-core shielded wire

※ One side of the shielded sheet of communication wire must be earthed.

### 3. Weekly timer YCS-A001

#### Instruction:

**1 - PROGRAM**-the display shows the weekly timer timing setting state, and in setting state, the timing information can be adjusted.

**2 - No:8-timing group number:** when it is not set timing, there is no timing group number; after setting timing, it will automatically form a group number according to each kind of setting combination, so that in the sequent timing setting, it can execute instant setting by using timing group number.

**3 - Setting state and holiday functional area**-1 (MON), 2 (TUE), 3 (WED), 4 (THU), 5 (FRI), 6 (SAT), 7 (SUN) are used to indicate the 7 days in a week; the symbol of this part will display after powered on; after set the corresponding weekday's timing function, the ON symbol under the corresponding symbol will display, if not set timing, there will be no display; if not set Holiday function, the OFF symbol on the upside of the indicating symbol will not display, after set Holiday function, the OFF will display and at the same time temporarily the previous timing setting and turn off the air conditioner.

**4 - No. 1 group and No.2 group timing setting display area**-when entering timing setting state, the contents of timing will flash; choose Date, Hour and Minute to perform increase and decrease adjustment by the adjusting key.

**5 - Time display area**-including display the weekday, hour and minute; before setting timing function, please calibrate the current clock.

**6 - Unit number trouble code display area**-when the air conditioner in the control network has trouble, the corresponding unit number and the trouble code will display in this area.

**7 - Program**

Enter or exit the timing setting in normal condition,

**8 - Holiday**

Close the units and invalid for timing in no affect on the timing setting condition.

**9 - Number**

Group setting and timing setting (take one day as a standard unit)

**10 - Hour**

Timing setting condition and time setting condition ,select the adjustment

**11 - Min.**

Timing setting condition and time setting condition ,select the adjustment

**12 - Time**

Enter and exit the at present date and time condition in normal condition

**13 - Week**

Timing setting condition and time setting condition ,select the adjustment

**14 -Timing setting condition and time setting condition** , increase the setting parameters

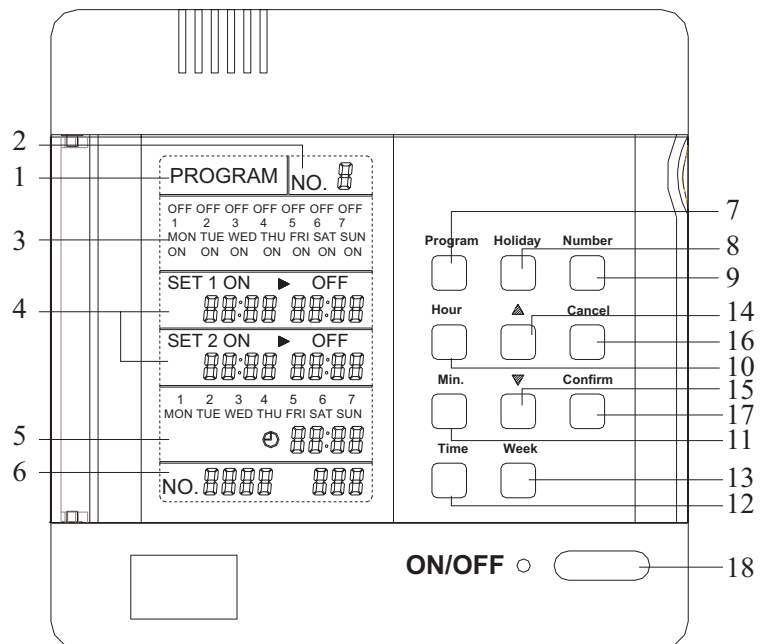
**15 -Timing setting condition and time setting condition** , decrease the setting parameters

**16 - Cancel**

Cancel the present setting before confirm the parameter.

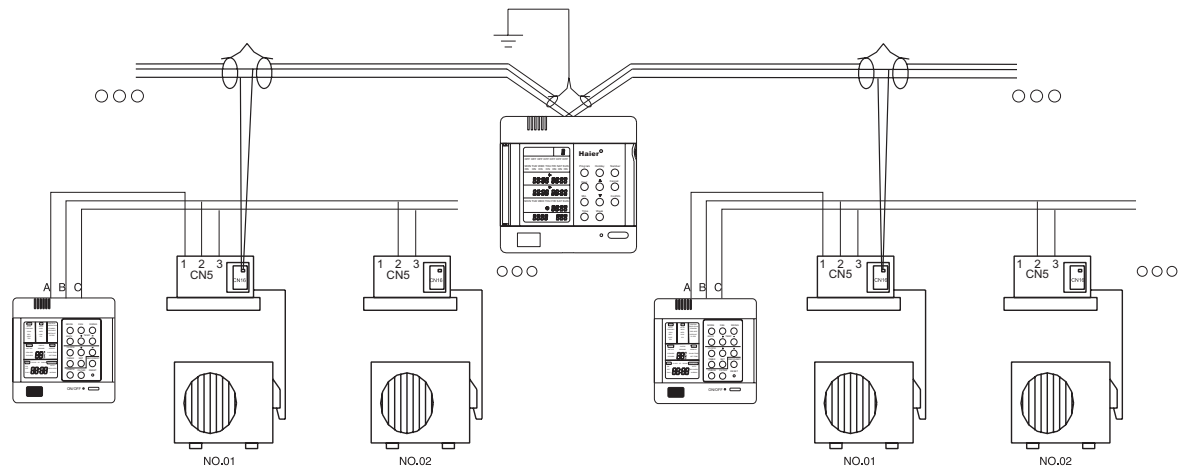
**17 - Confirm** Confirm the parameter.

**18 - ON/OFF** Open/close the unit.



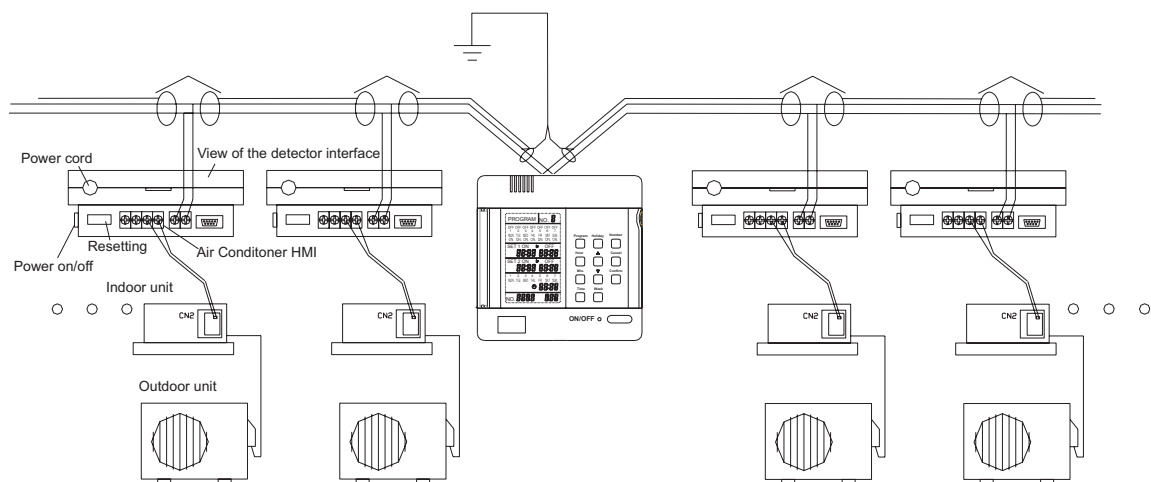
### Connecting method

1. Use group controller and weekly timer to realize the group control function + weekly timing function, applicable for the units except for the unit which needs detector to realize the weekly timer function, such as cabinet type, console type.



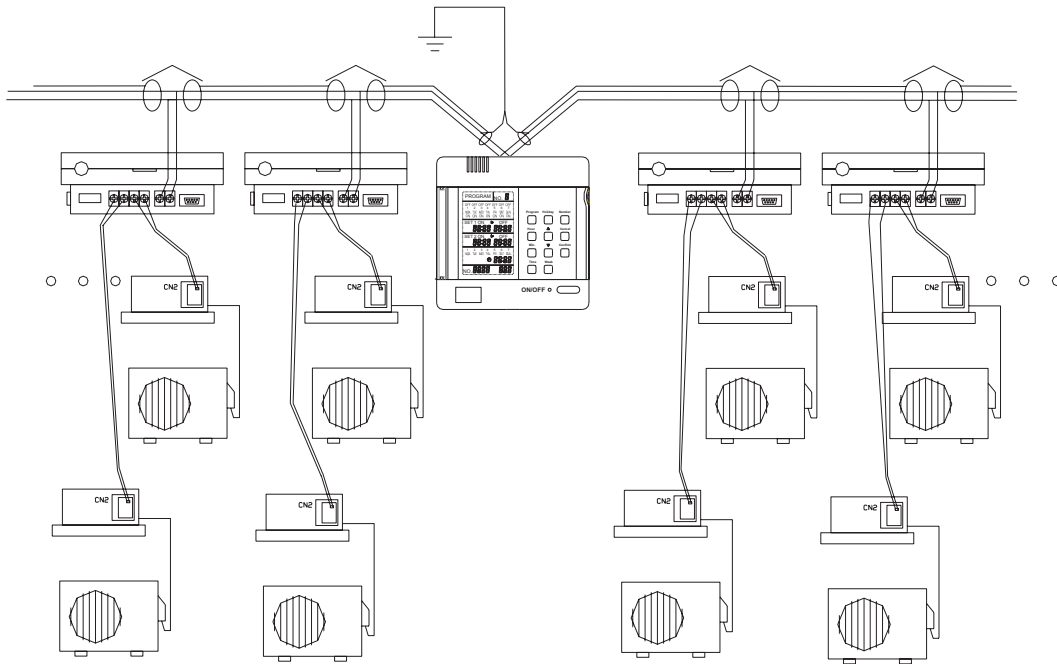
2. Use weekly timer to realize weekly timing function, applicable for the units which need detector to realize the weekly timer function, such as cabinet type, console type.

The detector is connected with one air conditioner by the 4-core screw fixed terminals A+ and A- of air conditioner interface, then accordingly set the dial-code switch of the detector in single unit working mode; the address number setting shall be performed according the planned program, for specific setting and corresponding address, please refer to the dial-code switch setting in detector's operation manual; use weekly timer to fulfill weekly timing function, the system needs to be connected with weekly timer; each detector and weekly timer is connected with shielded twisted pair communication bus by the 2-core screw fixed terminals (A and B) of its RS-485 interface; the communication bus must be shielded and grounded, and the resistors in its two ends shall be suited.

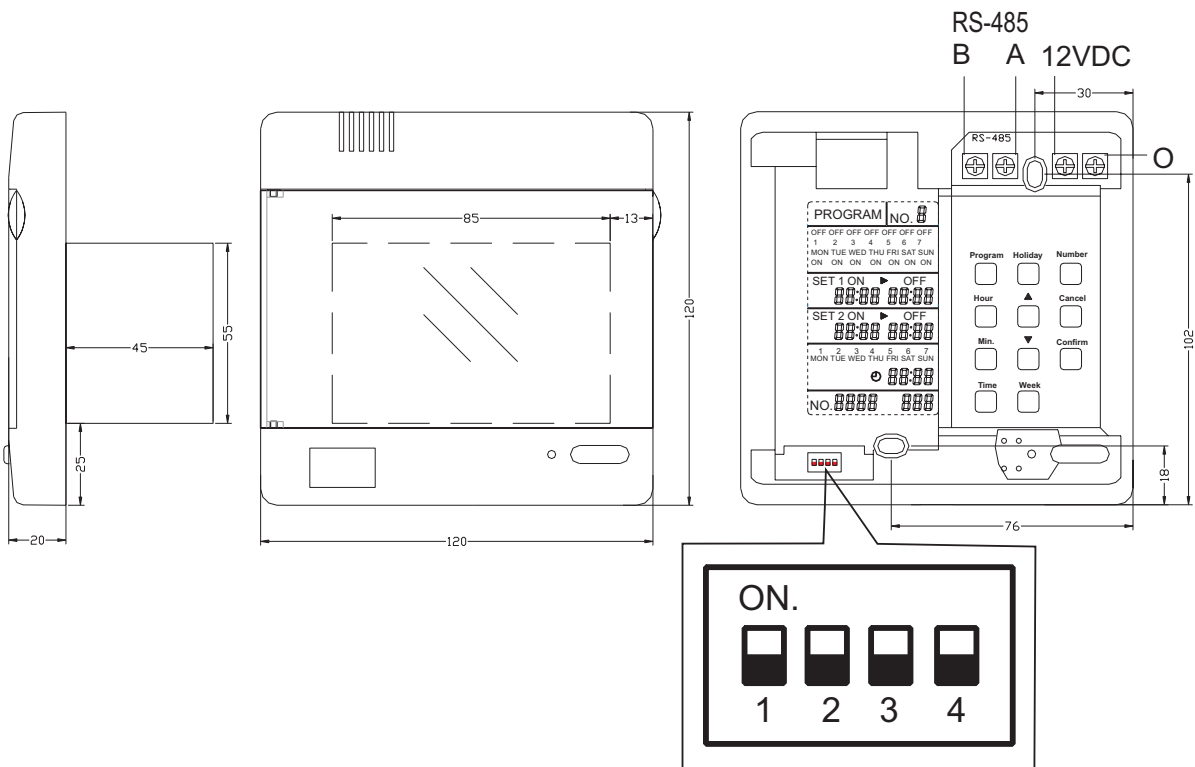


3. Use weekly timer to realize two units auto-changeover function, applicable for the units which need detector to realize the weekly timer function, such as cabinet type, console type.

The detector is connected with two same model air conditioners by the 4-core screw fixed terminals of air conditioner interface; then accordingly set the dial-code switch of the detector in double units working mode, and the double units switch time is default 24 hours; the address number setting shall be performed according the planned program, for specific setting and corresponding address, please refer to the dial-code switch setting in detector's operation manual; use weekly timer to fulfill double units switch weekly timing function, the system needs to be connected with weekly timer; each detector and weekly timer is connected with shielded twisted pair communication bus by the 2-core screw fixed terminals (A and B) of its RS-485 interface; the communication bus must be shielded and grounded, and the resistors in its two ends shall be suited.

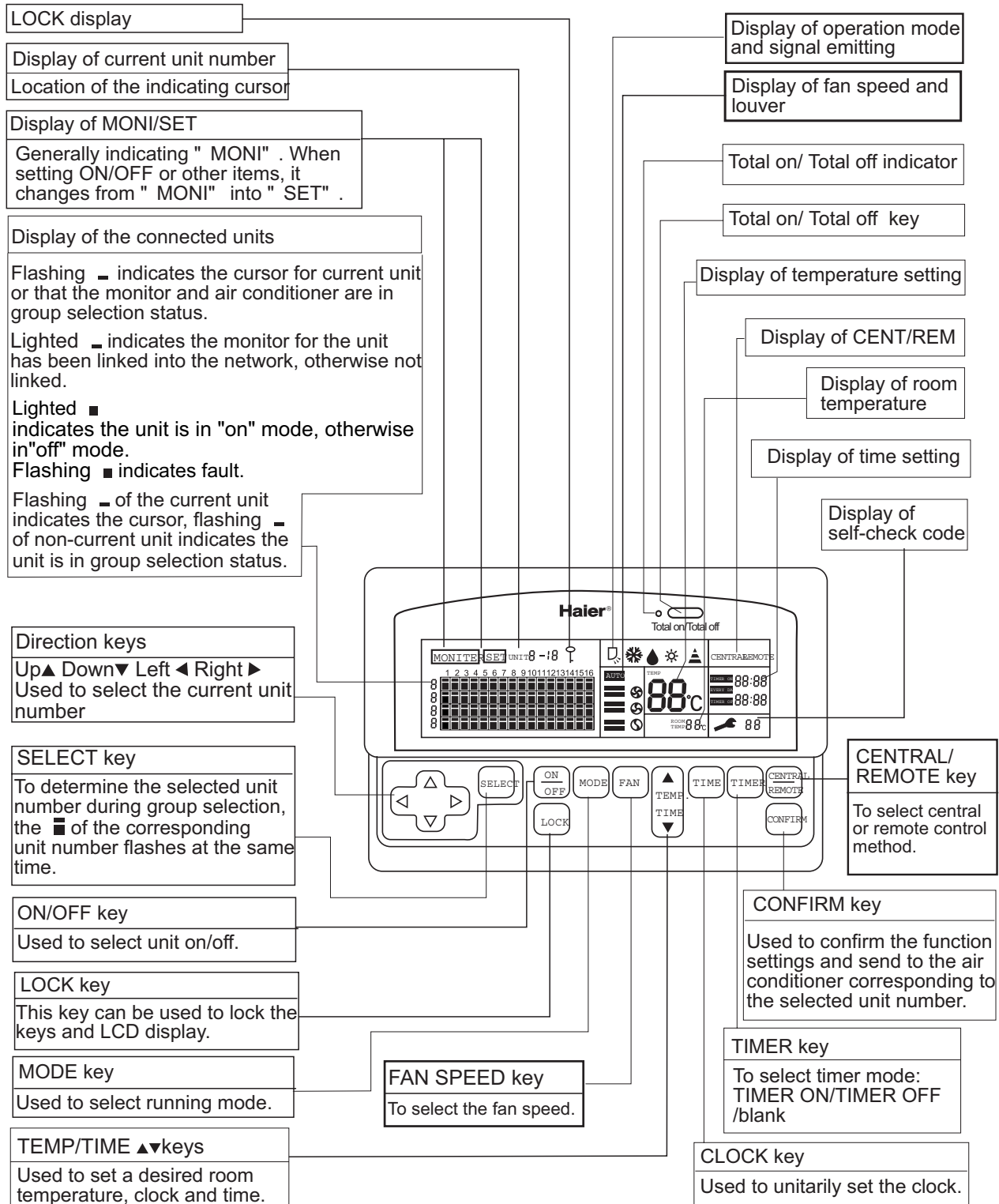


### Installation dimensions



### 4. Central Controller YCZ-A001

Function description:



**Note:** In MONI mode, pressing SEL, MODE, FAN SPEED, TEMP TIME keys may change the MONI mode into SET mode. If SET key or other keys hasn' t been pressed within 10s, it will automatically return to MONI mode.

### 1. Communication function

Communicate with the indoor PCB in the group control network

To communicate with the indoor PCB through the R S-485 bus (A, B). The central controller sends commands to and receives response from indoor PCB; communication by address enables sending and receiving control information, work information and fault information between indoor PCB and the central controller.

### 2. LCD display function:

The LCD could display the fundamental status of air conditioning units (are the units existing? On/off? Fault? Are units group selected? Cursor and the current unit no.);

The LCD can display the working status of the air conditioning unit with the current number (mode, fan speed, temperature setting, room temperature, timer, error code, central/remote control status);

The working status of the central controller (monitor/set status, panel locking status, signaling status).

### 3. Key input function:

The keys for moving the current unit number cursor and for group selection: ▲, ▼, ►, ◀, SELECT;

The keys for setting working status of the air conditioning unit and control conditions: ON/OFF, MODE, FAN SPEED, TEMP, TIME ▲/▼, CLOCK, TIMER, CENT/REM, SET;

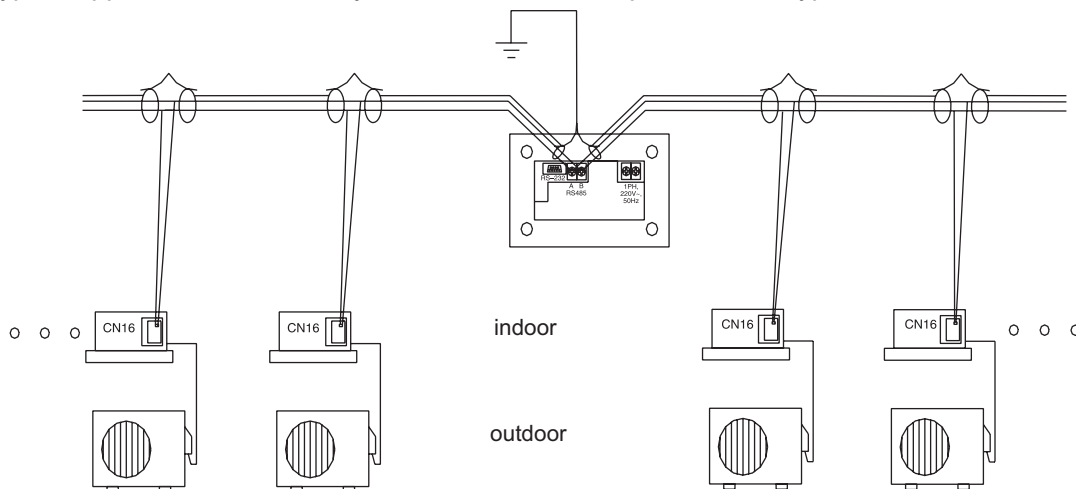
The key for locking key function of the central controller: LOCK.

### 4. Unit number setting function:

To enrich the control functions of Haier commercial air conditioner remote monitoring system, multiple controllers could be set to work together for a combination of multiple functions. For this, the central controller is provided with a two-digit switch for setting controller address.

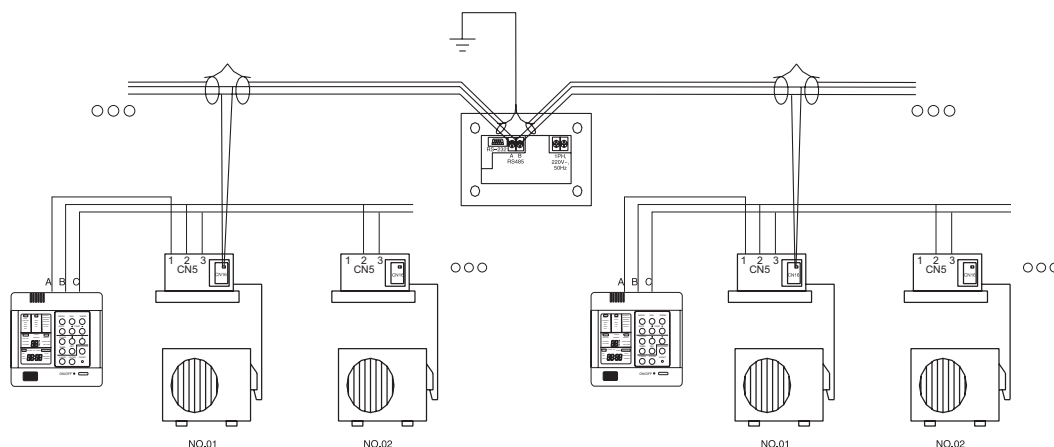
### 5. Realizing central control function with the central controller(max.128 indoor units can be connected)

this type is applicable for the unitary free indoor units except for cabinet type.



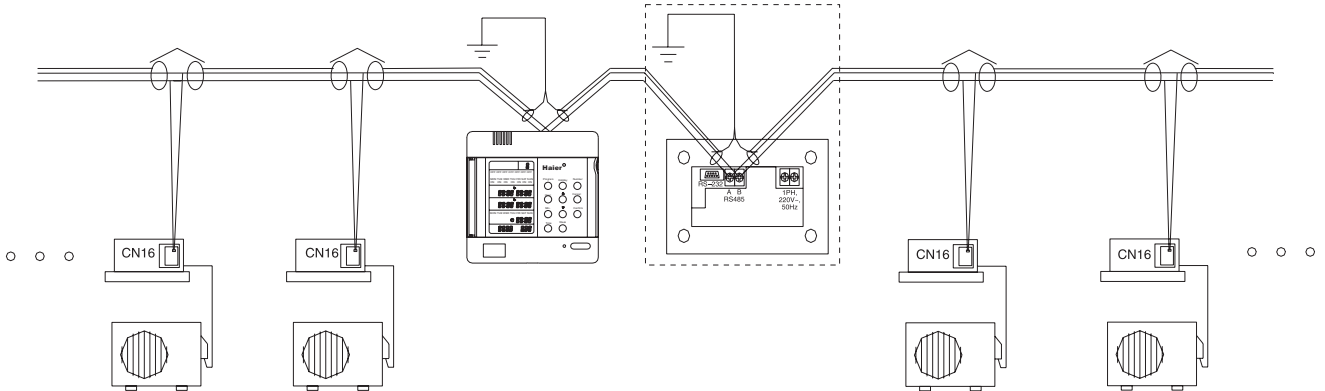
### 6. Central control system + Group control system(max.128 x16 indoor units can be connected),this type is

applicable for the unitary free indoor units except for cabinet type.

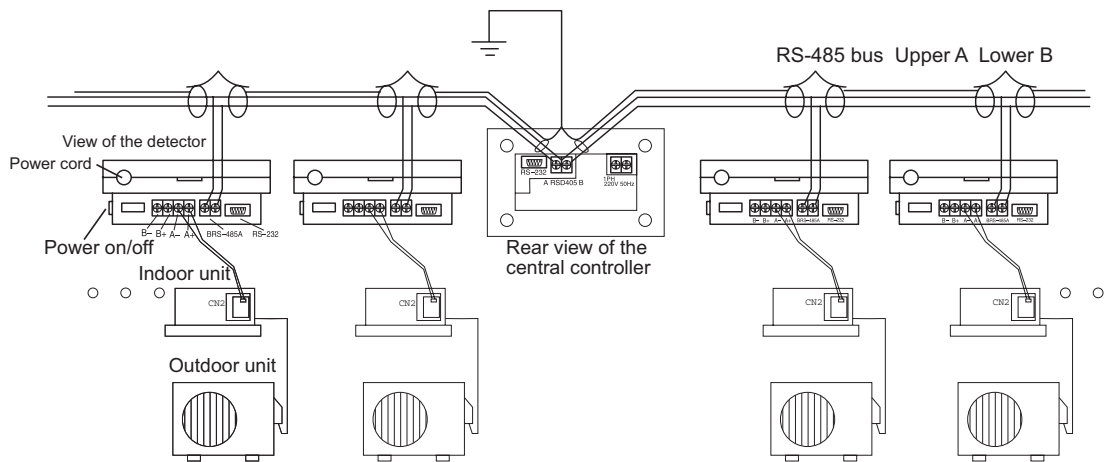




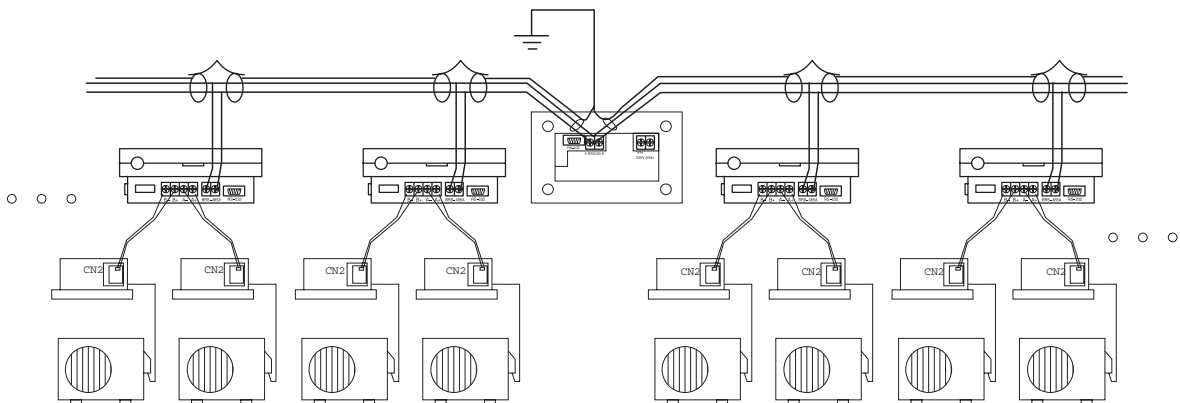
7. Use central controller + weekly timer to realize the group control function + weekly timing function, this type is applicable for the unitary free indoor units except for cabinet type.



8. Realizing group control function with the central controller, for the unit which needs the detector, such as cosole unit, cabinet units.

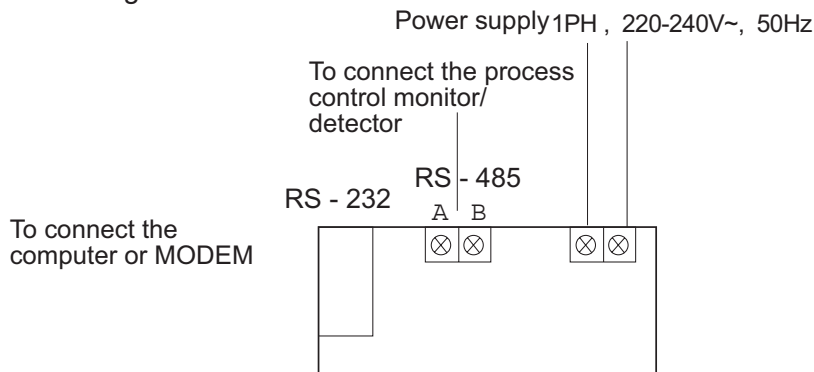


9. Realizing double unit switch-over group control function with the central controller, for the unit which needs the detector, such as cosole unit, cabinet units.



### Installation procedure

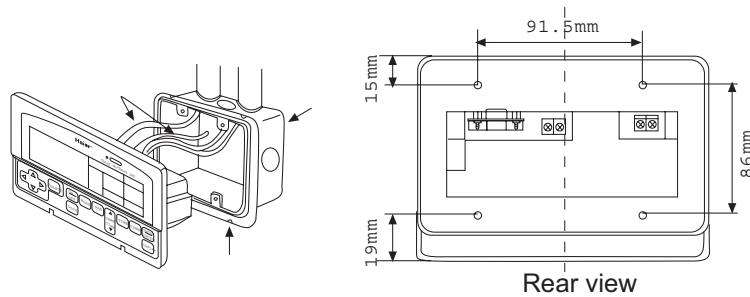
#### 1. Wire connecting



#### 2. Installation method

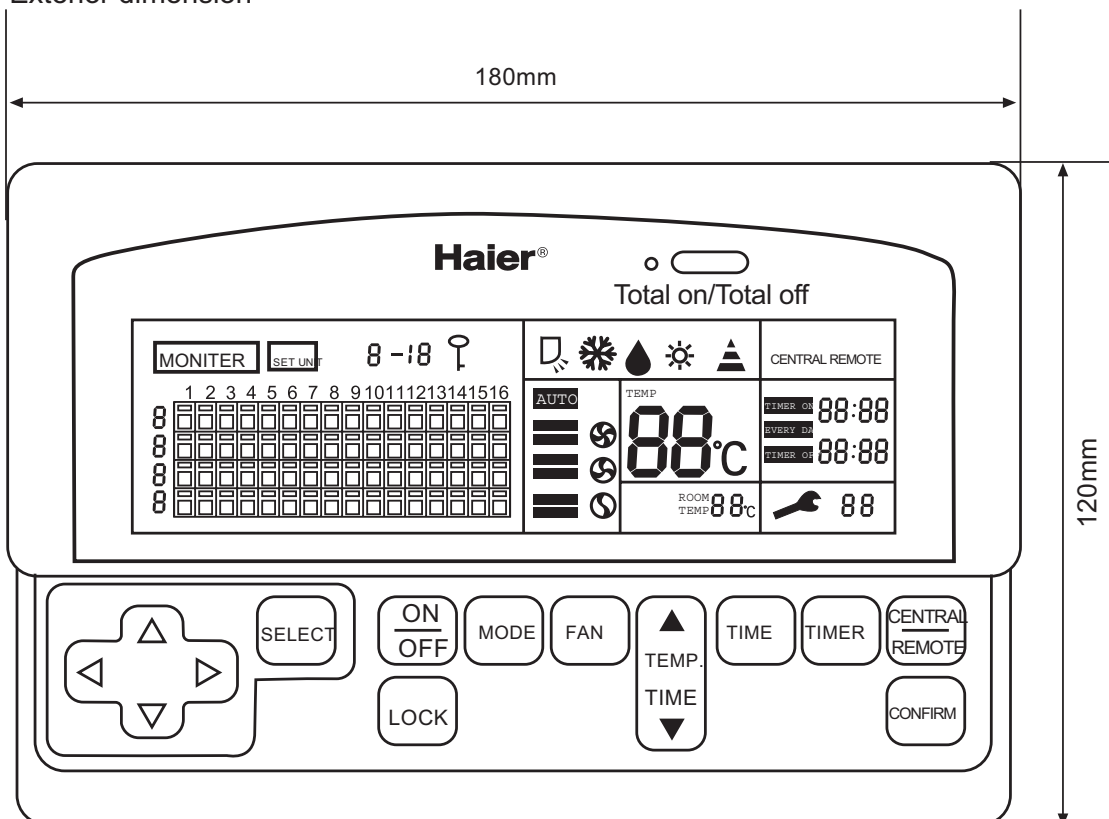
A wiring box cover must be used.

The central controller shall be installed into the installation box built in the wall fastening with 4 screws (as shown).

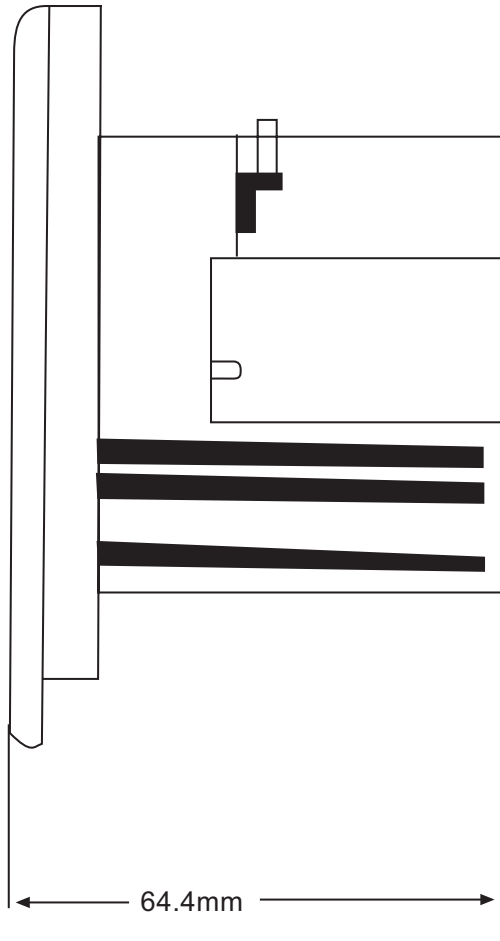


**Note:** Please confirm the supply voltage of AC220-240V and correct wiring. In application environment with intense electromagnetic interference, the central controller should be shielded, while the connecting wire between the monitor and the central controller should be shielded twin twisted wire.

#### Exterior dimension



(Fig.1)



As illustrated:  
(Figure 1 is the front view and Figure 2  
is the side view) The central controller  
is 180mm long, 120mm wide and 64.4 mm  
thick.

(Fig.2)