



Service manual  
B7 Series  
(LCAC ON/OFF 50Hz **R410A**)

**2022.06**

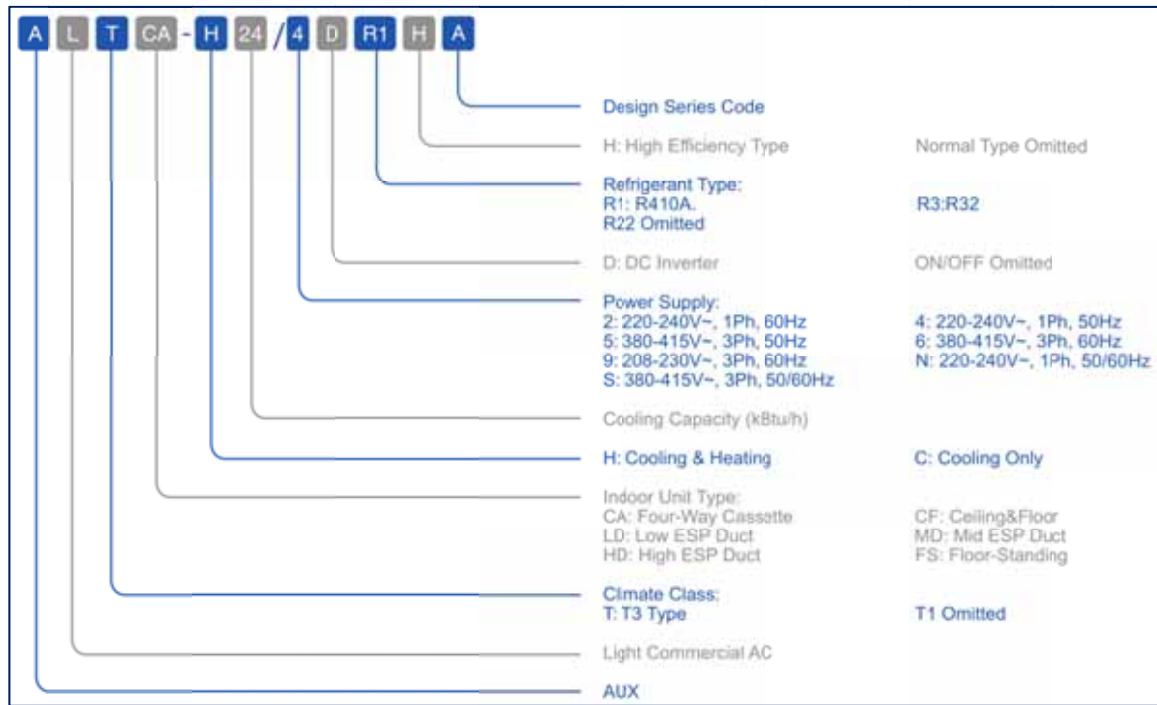
# Contents

Contents .....	2
Part1 General information .....	3
Part2 Features .....	19
Part3 Piping System .....	29
Part4 Specification.....	31
Part5 Dimension.....	31
Part6 Electrical Principle Diagram.....	52
Part7 Capacity Amendment .....	62
Part8 Static pressure curve .....	65
Part9 Control .....	71
Part10 Installation .....	83
Part11 PCB Instruction .....	83
Part12 Trouble Shooting .....	87
Update the record table.....	108

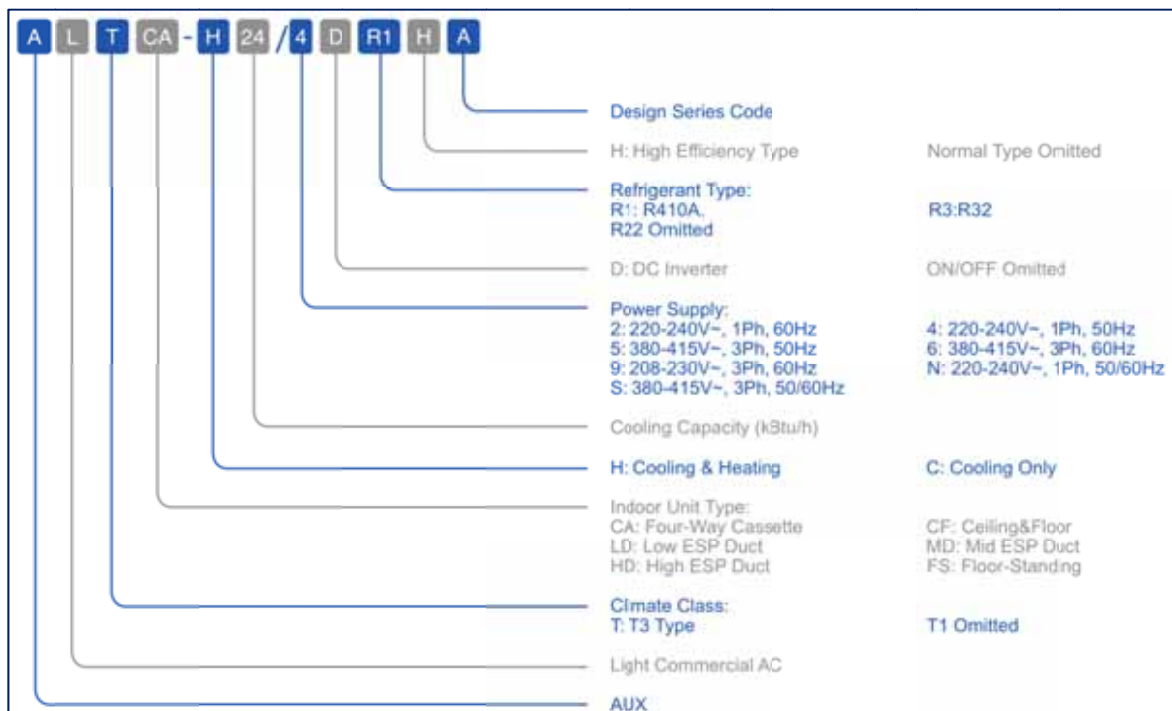
# Part1 General information

## 1. Nomenclature

### Indoor Unit

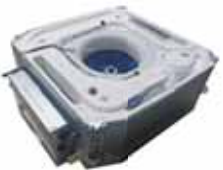








### Outdoor Unit



## 2. Unit appearance

### 2.1 Cassette


Cassette Body	Model	Panel	
		Standard	Optional
	ALCA-H12/4R1Y2A-R	 <b>MB13-I</b>	 <b>MB09</b>
	ALCA-H18/4R1Y2A-R		
	ALCA-H24/4R1E2A-R	 <b>MB12</b>	 <b>MB08</b>
	ALCA-H24/4R1YA-R(new)		
	ALCA-H36/4R1E1A-R		
	ALCA-H36/4R1YA-R(new)		
	ALCA-H36/5R1E2A-R		
	ALCA-H36/5R1YA-R(new)		
	ALCA-H48/5R1E3A-R		
	ALCA-H48/5R1YA-R(new)		
	ALCA-H60/5R1E2A-R		
	ALCA-H60/5R1YA-R(new)		

2.2 Duct




PICTURE	Capacity	Model
	12k/Btu	ALLD-H12/4R1F-R
	18k/Btu	ALMD-H18/4R1F2-R
	24k/Btu	ALMD-H24/4R1F2-R
	36k/Btu	ALMD-H36/4R1F-R
	36k/Btu	ALMD-H36/5R1F2-R
	18k/Btu	ALMD-H18/4R1YA-R(new)
	24k/Btu	ALMD-H24/4R1MA-R(new)
	36k/Btu	ALMD-H36/4R1MA-R(new)
	36k/Btu	ALMD-H36/5R1MA-R(new)
	48k/Btu	ALMD-H48/5R1F2-R
	48k/Btu	ALMD-H48/5R1MA-R(new)
	48k/Btu	ALHD-H48/5R1B1
	60k/Btu	ALMD-H60/5R1F2-R
	60k/Btu	ALMD-H60/5R1MA-R(new)

**R410A T1 ON/OFF LCAC B7 Series**







---

	60k/Btu	ALHD-H60/5R1A
---	---------	---------------

2.3 Ceiling floor

PICTURE	Capacity	Model
	18k/Btu	ALCF-H18/4R1F2-R
	24k/Btu	ALCF-H24/4R1F2-R <a href="#">ALCF-H24/4R1FA-R(new)</a>
	36k/Btu	ALCF-H36/4R1F1-R <a href="#">ALCF-H36/4R1FA-R(new)</a>
	36k/Btu	ALCF-H36/5R1F2-R
	48k/Btu	ALCF-H48/5R1F2-R <a href="#">ALCF-H48/5R1FA-R(new)</a>
	60k/Btu	ALCF-H60/5R1F2-R <a href="#">ALCF-H60/5R1FA-R(new)</a>

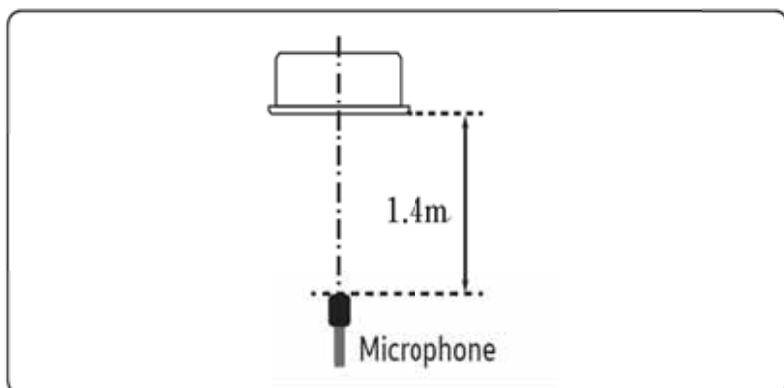
2.4 Outdoor Unit

Type	Picture	Type	Picture
AL-H12/4R1F-R(U)		AL-H18/4R1F2-R(U)	
AL-H24/4R1F2-R(U) AL-H24/4R1F3-R(U) (new)		AL-H36/4R1F-R(U) AL-H36/5R1F2-R(U) AL-H36/4R1F3-R(U) (new)	
AL-H48/5R1F2-R(U) AL-H48/5R1F3-R(U) (new) AL-H60/5R1F2-R(U) AL-H60/5R1F3-R(U) (new)		AL-H48/5R1F1-R(U) AL-H60/5R1F-R(U)	



### 3.Sound level

#### 3.1 Test condition (Cassette)

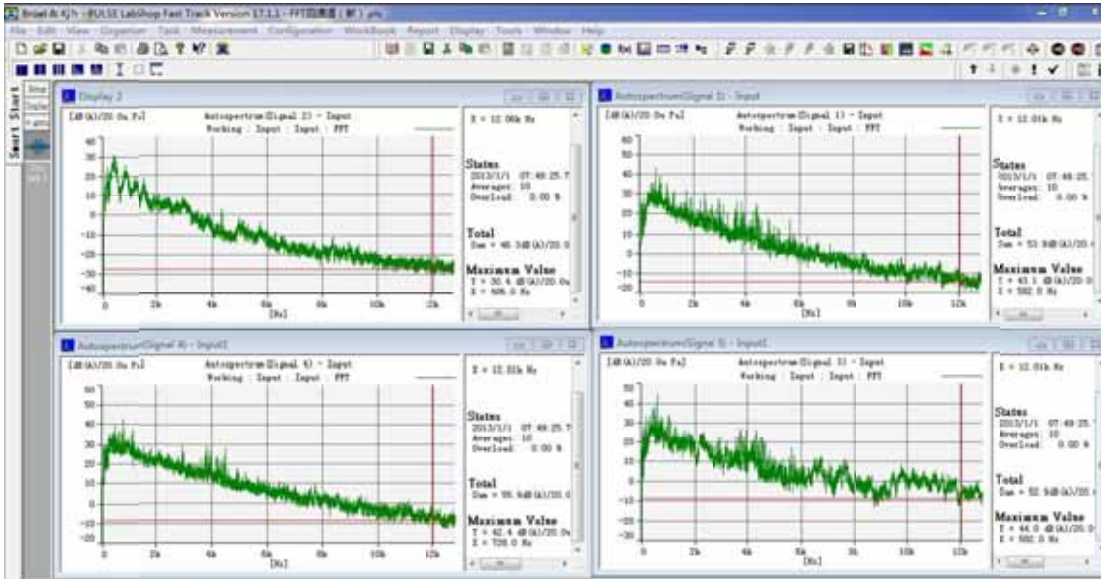


#### 3.2 Test value (Cassette)

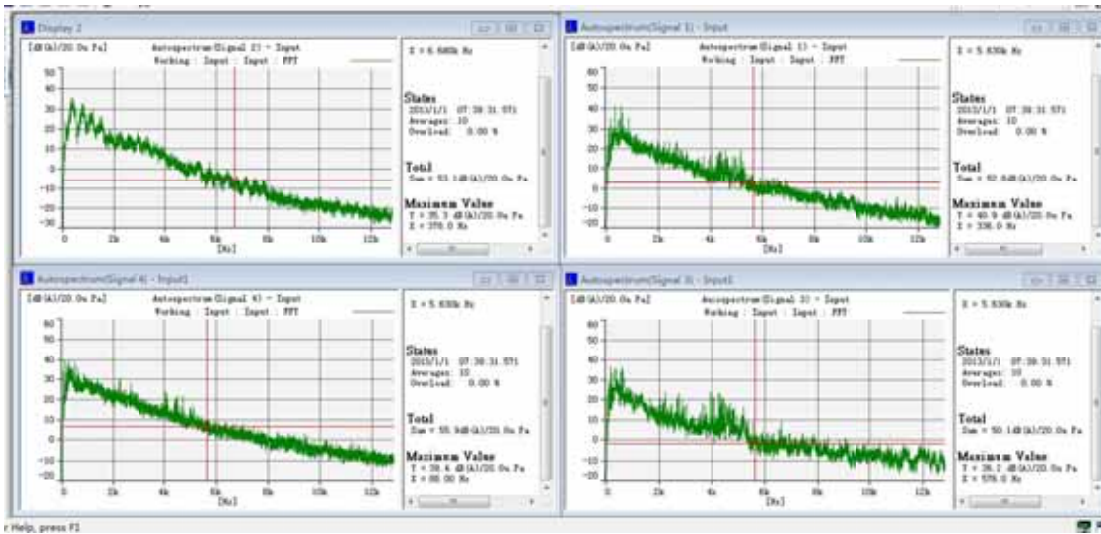
Models	Noise level under three speeds of fan (dB(A))			
	S	H	M	L
ALCA-H36/4R1E1A-R	/	48	45	39
ALCA-H12/4R1Y2A-R	/	45	42	39
ALCA-H18/4R1Y2A-R	/	45	42	39
ALCA-H36/5R1E2A-R	/	50	45	39
ALCA-H48/5R1E3A-R	/	53	51	47
ALCA-H60/5R1E2A-R	/	53	51	47
ALCA-H24/4R1YA-R <sub>(new)</sub>	/	46	42	39
ALCA-H36/4R1YA-R <sub>(new)</sub>	/	52	47	43
ALCA-H36/5R1YA-R <sub>(new)</sub>	/	52	47	43
ALCA-H48/5R1YA-R <sub>(new)</sub>	/	52	47	43
ALCA-H60/5R1YA-R <sub>(new)</sub>	/	52	47	43

3.3 NC curves (Cassette)

AL-H24/4R1F3-R(U)、ALCA-H24/4R1YA

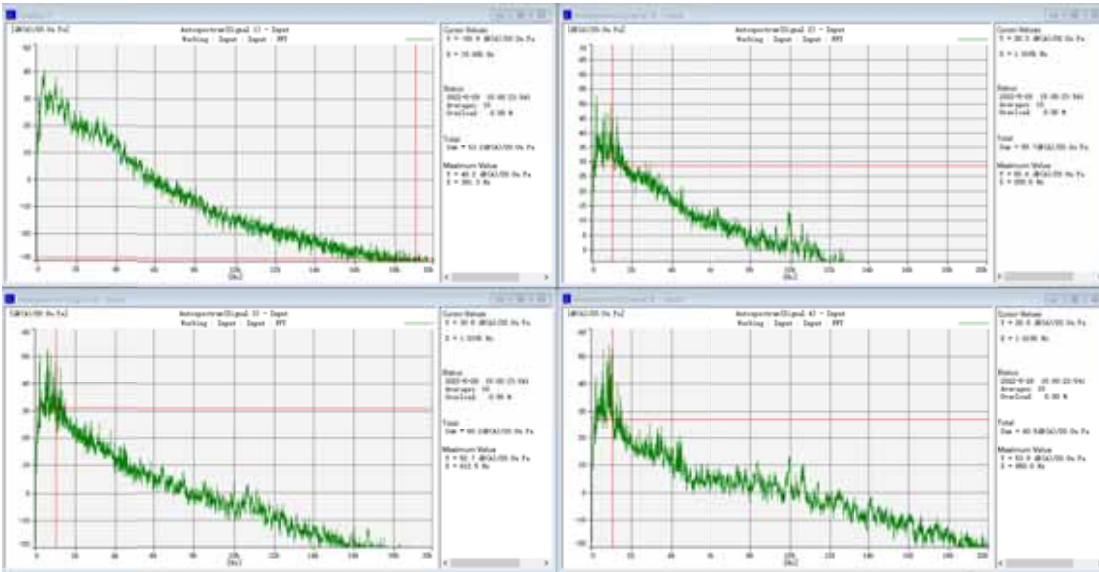


AL-H36/4R1F3-R(U)、ALCA-H36/4R1YA-R

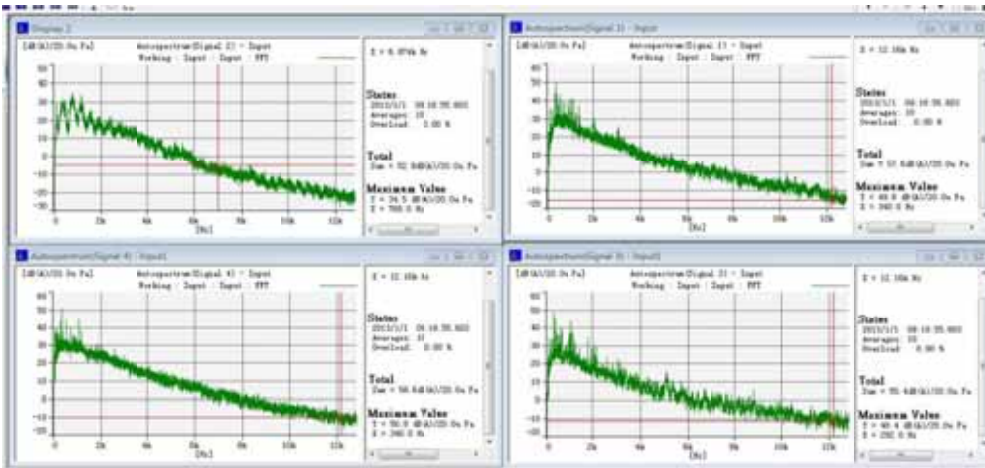


# R410A T1 ON/OFF LCAC B7 Series

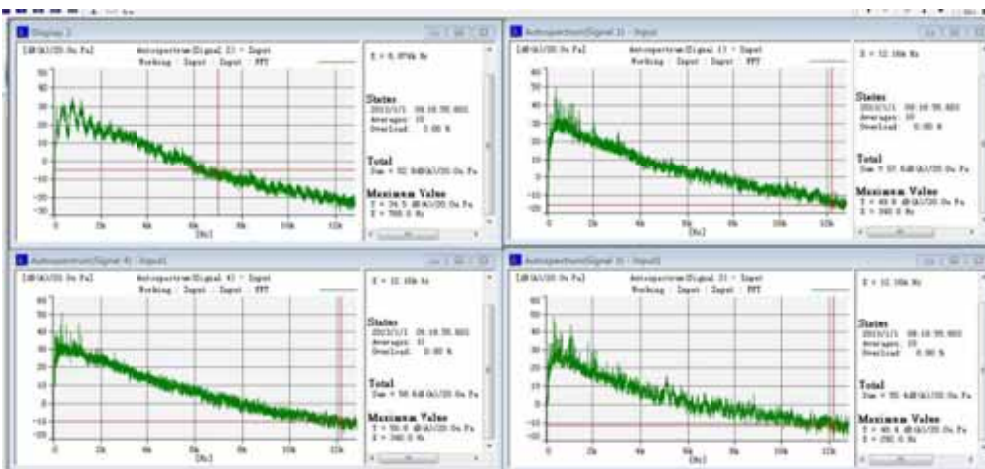
## AL-H36/5R1F2-R(U)、ALCA-H36/5R1YA-R



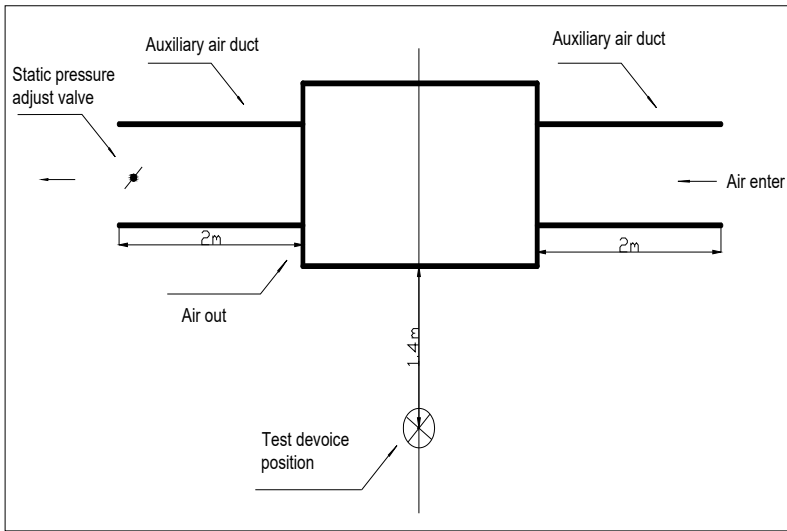
## AL-H48/5R1F3-R(U)、ALCA-H48/5R1YA-R



## AL-H60/5R1F3-R(U)、ALCA-H60/5R1YA-R



3.4 Test condition (Duct)

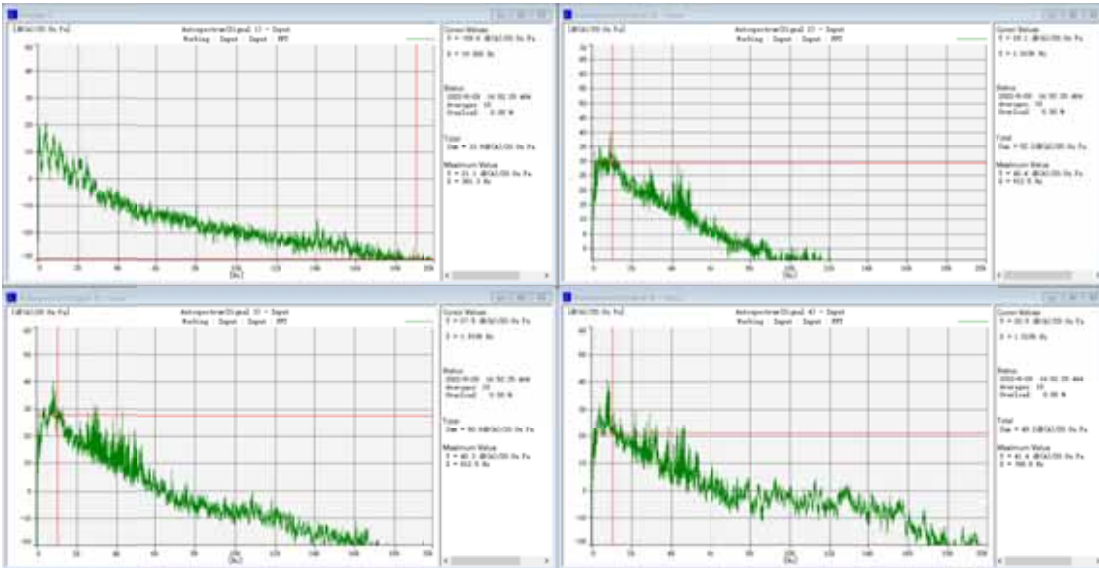


3.5 Test value (Duct)

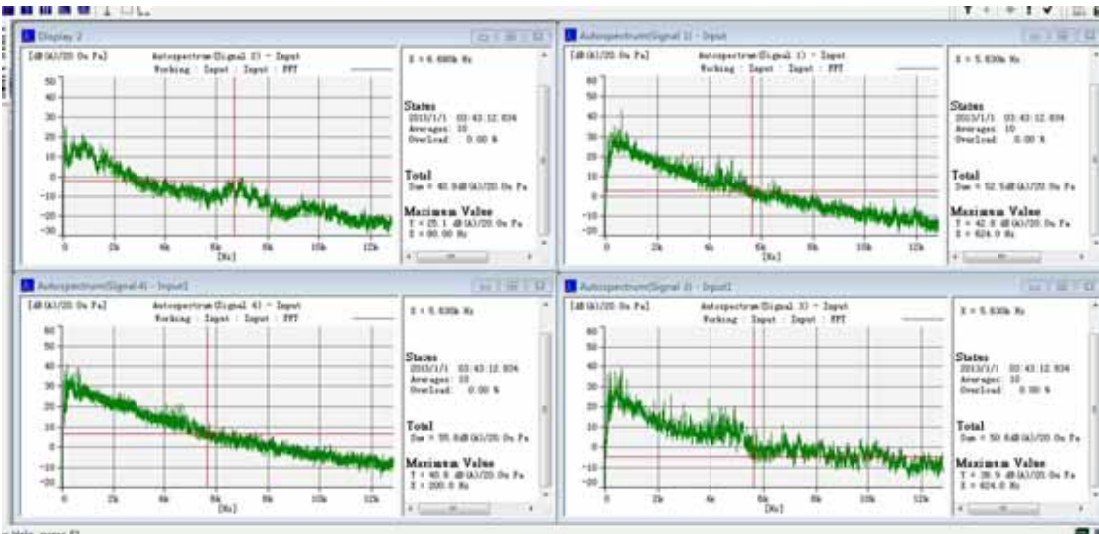
Models	Noise level under three speeds of fan (dB(A))			
	S	H	M	L
ALLD-H12/4R1F-R	39	37	33	29
ALMD-H36/4R1F-R	/	50	47	41
ALHD-H48/5R1B1	/	56	54	51
ALHD-H60/5R1A	/	56	54	51
ALMD-H18/4R1F2-R	/	39	35	32
ALMD-H24/4R1F2-R	/	46	44	42
ALMD-H36/5R1F2-R	/	50	47	43
ALMD-H48/5R1F2-R	/	50	46	44
ALMD-H60/5R1F2-R	/	50	47	45
ALMD-H18/4R1YA-R <sub>(new)</sub>	39	35	31	28
ALMD-H24/4R1MA-R <sub>(new)</sub>	44	39	37	36
ALMD-H36/4R1MA-R <sub>(new)</sub>	47	43	40	37
ALMD-H36/5R1MA-R <sub>(new)</sub>	47	43	40	37
ALMD-H48/5R1MA-R <sub>(new)</sub>	50	46	44	41
ALMD-H60/5R1MA-R <sub>(new)</sub>	50	46	44	41

3.6 NC curves (Duct)

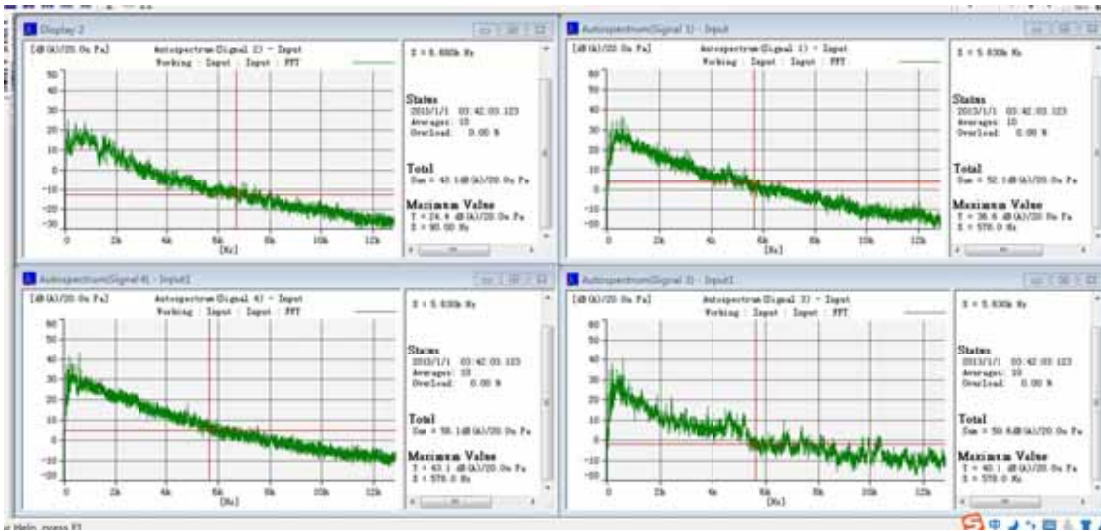
AL-H18/4R1F2-R(U)、ALMD-H18/4R1YA-R



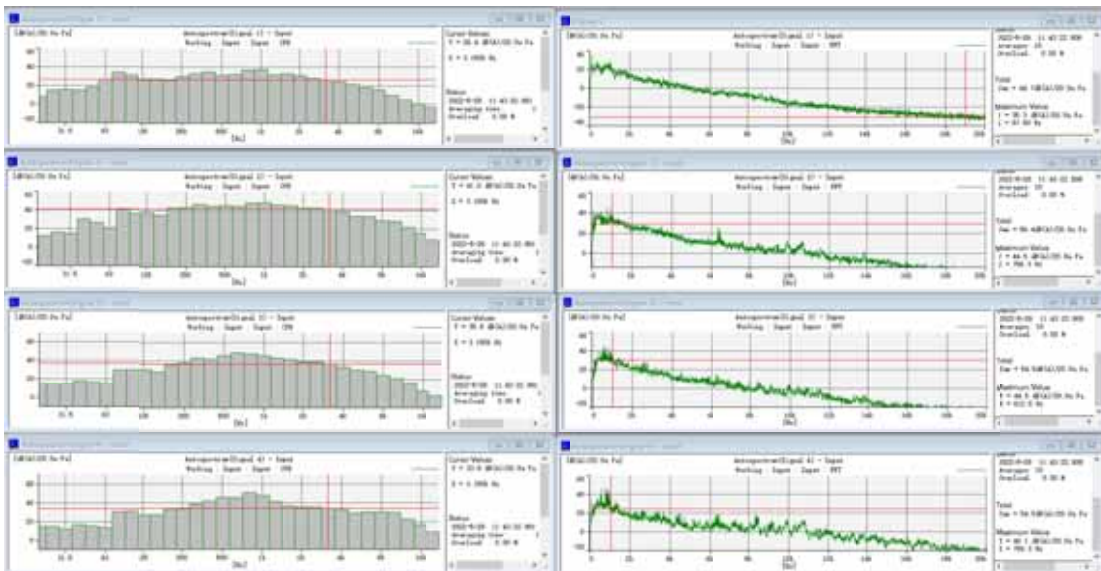
AL-H24/4R1F3-R(U)、ALMD-H24/4R1MA-R



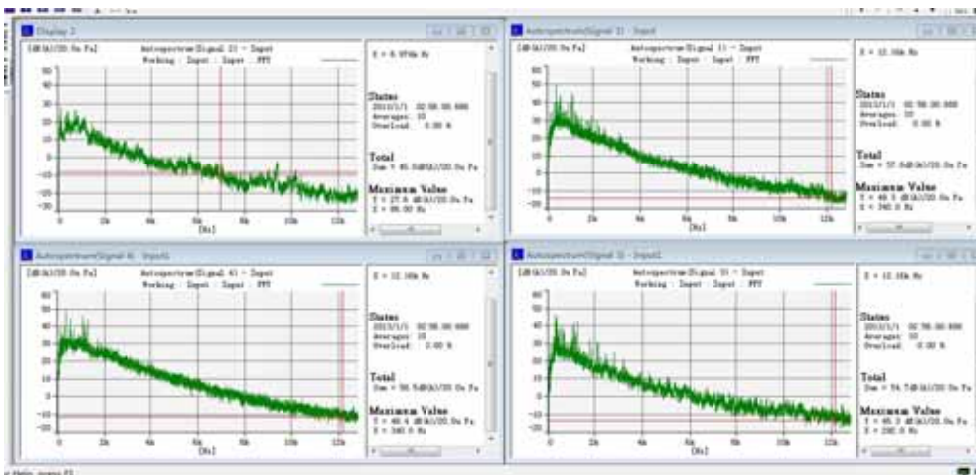
AL-H36/4R1F3-R(U)、ALMD-H36/4R1MA-R



AL-H36/5R1F2-R(U)、ALMD-H36/5R1MA-R

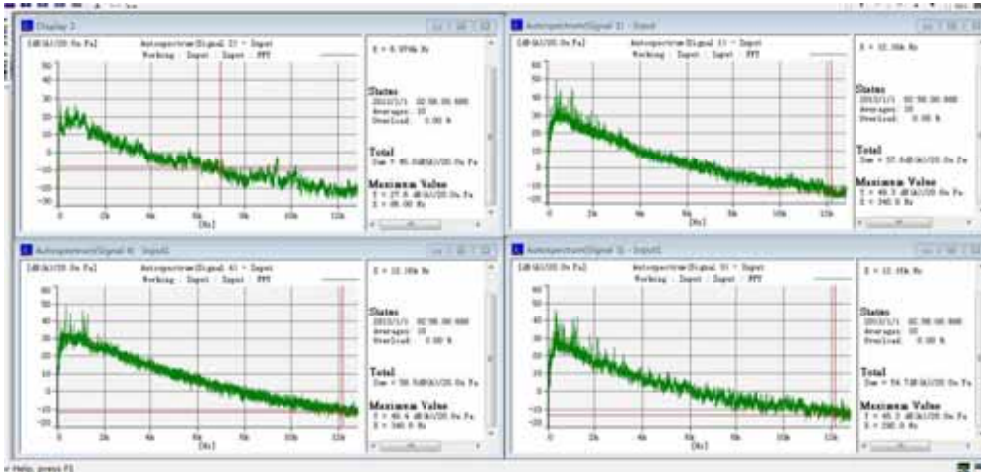


AL-H48/5R1F3-R(U)、ALMD-H48/5R1MA-R

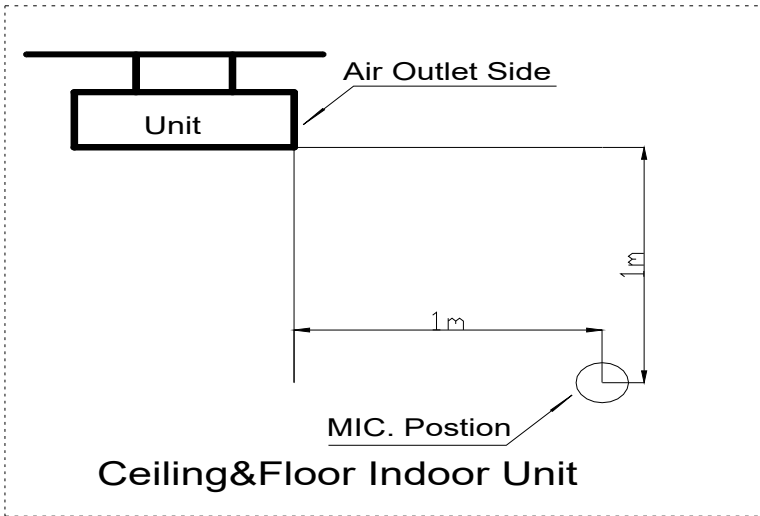


# R410A T1 ON/OFF LCAC B7 Series

## AL-H60/5R1F3-R(U)、ALMD-H60/5R1MA-R



3.7 Test condition (Ceiling Floor)



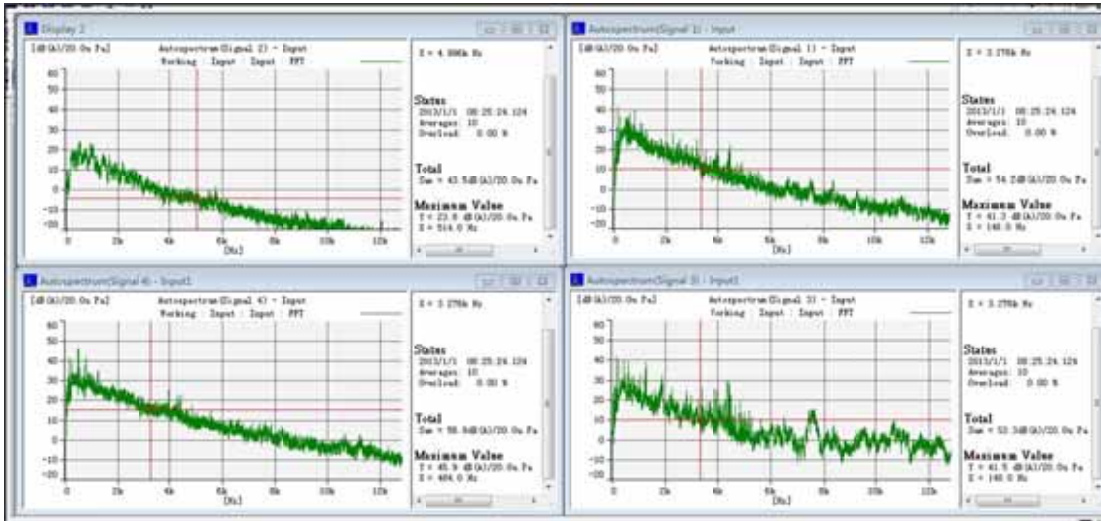
3.8 Test value (Ceiling Floor)

Models	Noise level under three speeds of fan (dB(A))			
	S	H	M	L
ALCF-H36/4R1F1-R	/	50	46	42
ALCF-H18/4R1F2-R	/	43	35	32
ALCF-H24/4R1F2-R	/	49	45	42
ALCF-H36/5R1F2-R	/	50	46	42
ALCF-H48/5R1F2-R	/	51	46	40
ALCF-H60/5R1F2-R	/	51	46	40
ALCF-H24/4R1FA-R <sub>(new)</sub>	/	46	39	35
ALCF-H36/4R1FA-R <sub>(new)</sub>	/	50	45	40
ALCF-H48/5R1FA-R <sub>(new)</sub>	/	51	46	42
ALCF-H60/5R1FA-R <sub>(new)</sub>	/	51	46	42

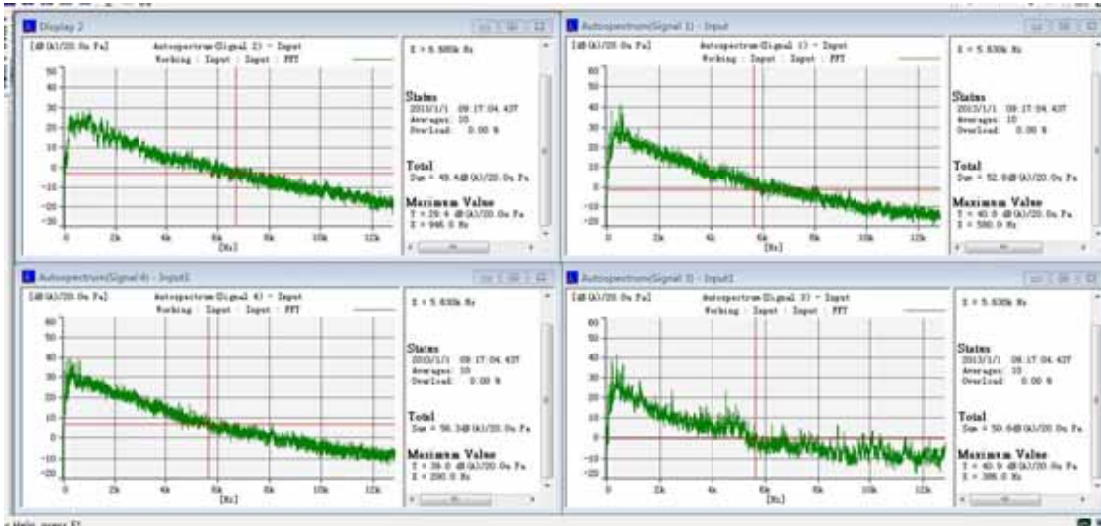


3.9 NC curves (Ceiling Floor)

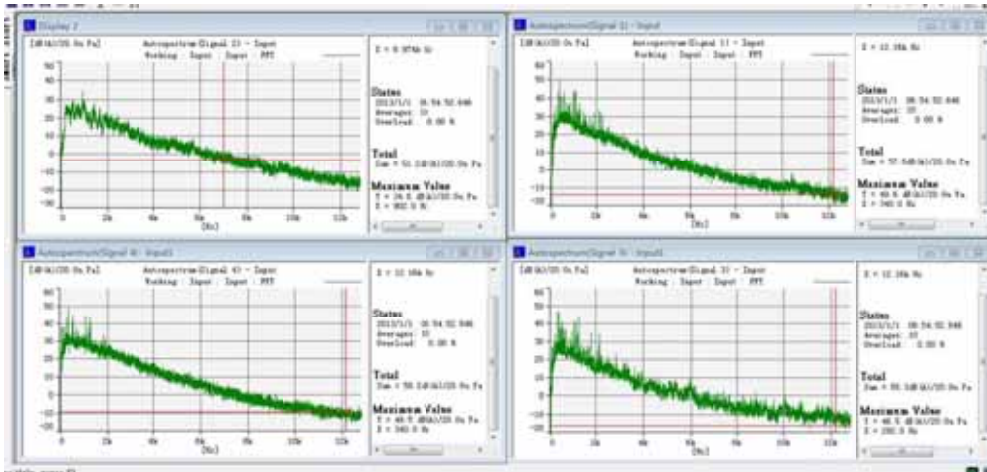
AL-H24/4R1F3-R(U) 、ALCF-H24/4R1FA-R



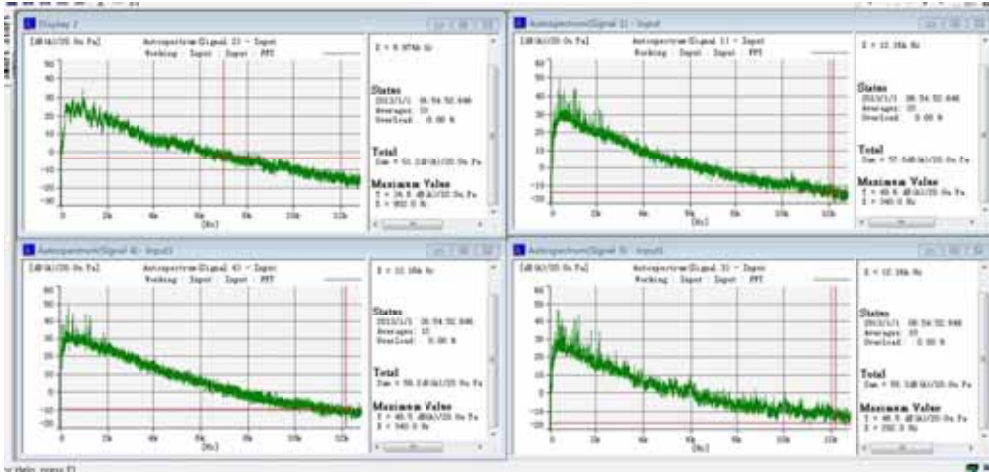
AL-H36/4R1F3-R(U) 、ALCF-H36/4R1FA-R



AL-H48/5R1F3-R(U) 、ALCF-H48/5R1FA-R



AL-H60/5R1F3-R(U) 、ALCF-H60/5R1FA-R



## Part2 Features

### 1. Outdoor Units

#### **Optimized Pipeline Design**

The design ensures the sub-cooling and enhances the cooling capacity by separating the refrigerant inlet and outlet.

#### **Simulation Technology**

Via analysing piping stress distribution, piping amplitude and displacement in transportation and operation, the reliability has been improved greatly.

#### **Flexible Installation**

Long piping / high drop between Idu and Odu, flexible installation

#### **Auto Reatart**

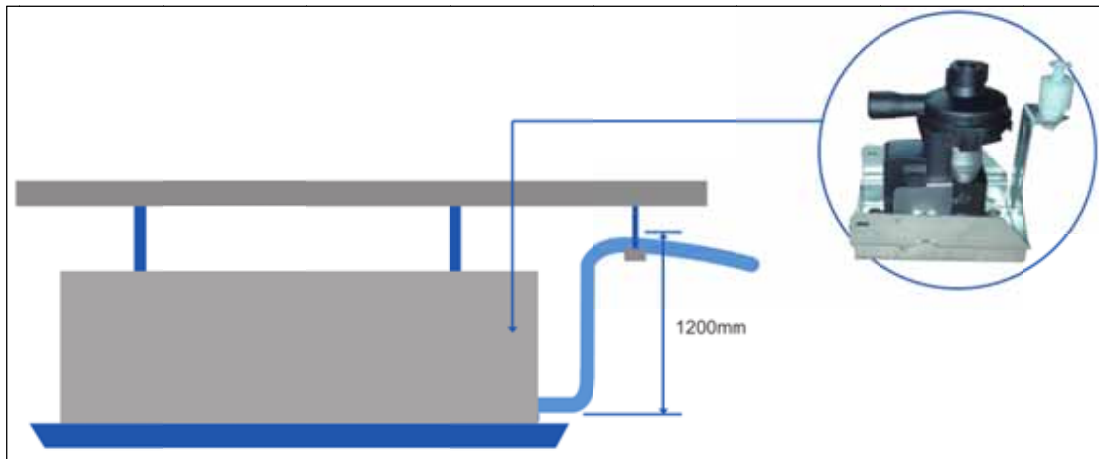
The AC can automatically memorize the operation setting when power is cut off accidently. It can return to previous setting when power resumes.

## 2. Four-way Cassette

Four-way cassette type A/C is installed under the ceiling, compared with Floor & Standing type A/C, it has following advantages: Ceiling installation combining with the decoration, makes the room more elegant; Flexible installation in anywhere in the ceiling and 4-direction blowing, makes you feel more comfortable.

### **Built-in Drain Pump**

The built-in drain pump can lift condensing water up to 1200mm high from the drainage pan.



### **Fresh Air Intake**

Fresh air makes indoor air healthy and comfortable.

### **Optimized Electric Box**

Better fire-proof and easy to maintenance.

### **Fire-proof electric control box**

Integrated electric control box, the E-box is safely covered by metal plate, for better fire-resistance

### **Fresh air makes indoor air healthy and comfortable**

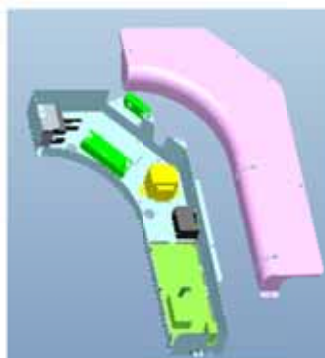
Fresh air intake hole



Y type

### Fire-proof electric control box

Integrated electric control box, the E-box is safely covered by metal plate, for better fire-resistance



### Digital Tube Display

Clearly to check the running status, more convenient for troubleshooting.

Color display is standard, white display is optional



### 3. Ceiling Floor

#### 3. 1 Comfortable prevent gel

Unique air outlet insulation and wind guide bar arc design (Kangda effect), no condensation time from 4h to 6h, higher than the industry level.



#### Strong air supply

Super air supply distance, up to 15m, the air supply volume is higher than the industry level to meet the circulation air supply of the whole room.



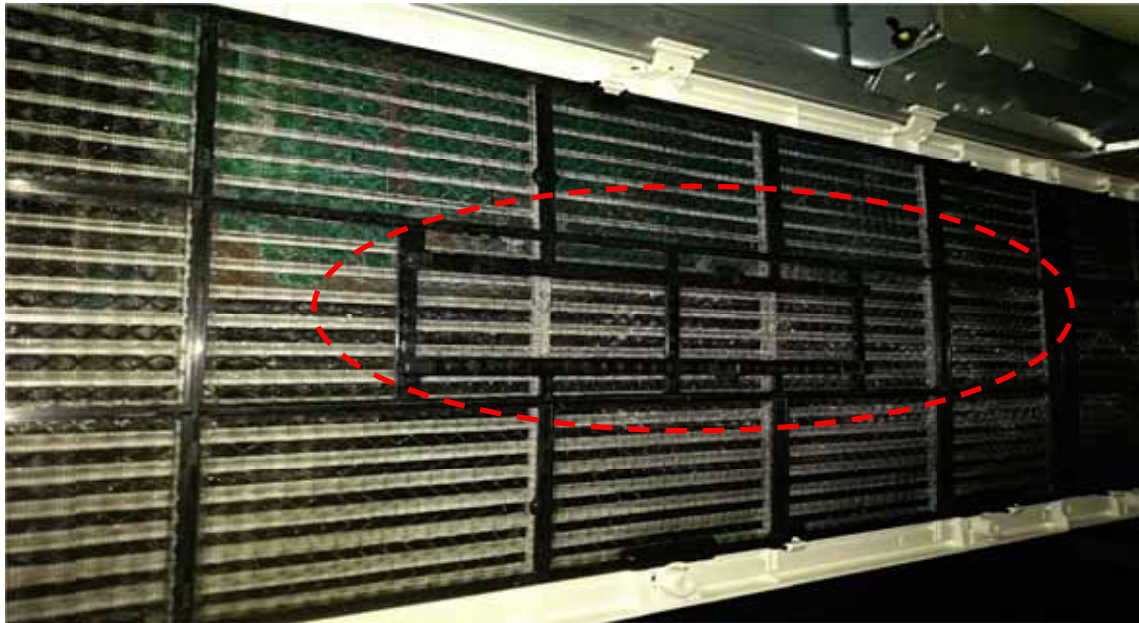
**Bring fresh air**

Fresh air inlet design can bring fresh air into the room to ensure fresh air in the room.



**degradation of formaldehyde**

The filter screen can be equipped with a formaldehyde removal module to ensure fresh air in the room.



**low noise**

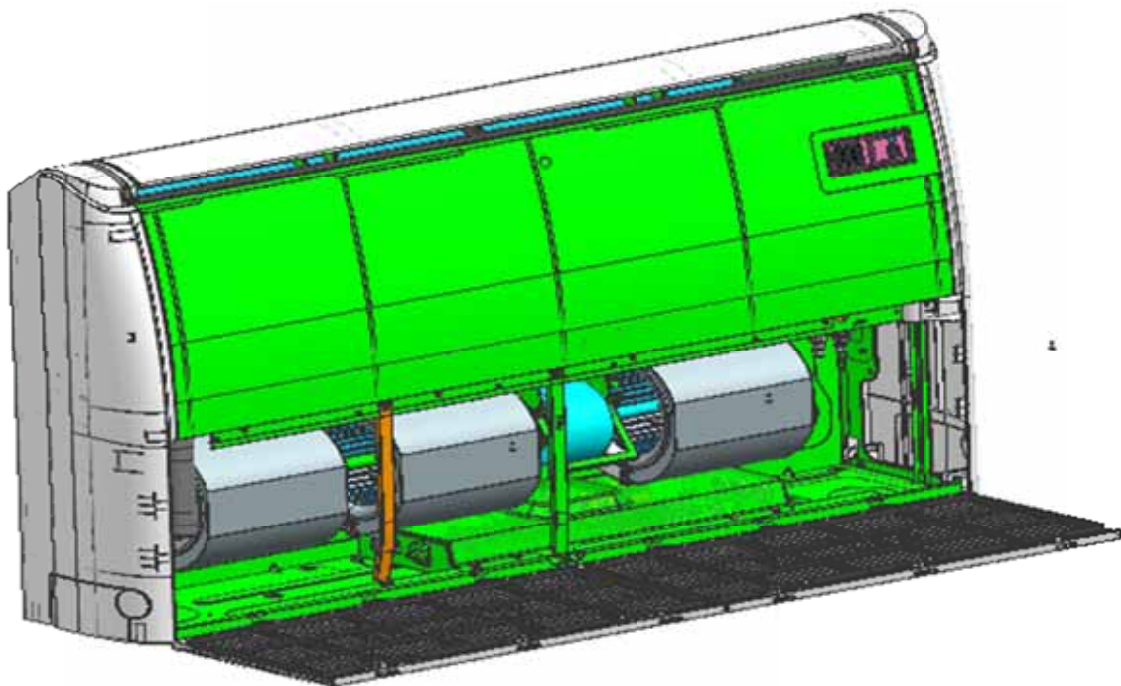
High quality wind wheel/turbine selection, using simulation design, the lowest noise than the industry level.



**3.2.2 Convenient and efficient**

**Easy unpick and wash**

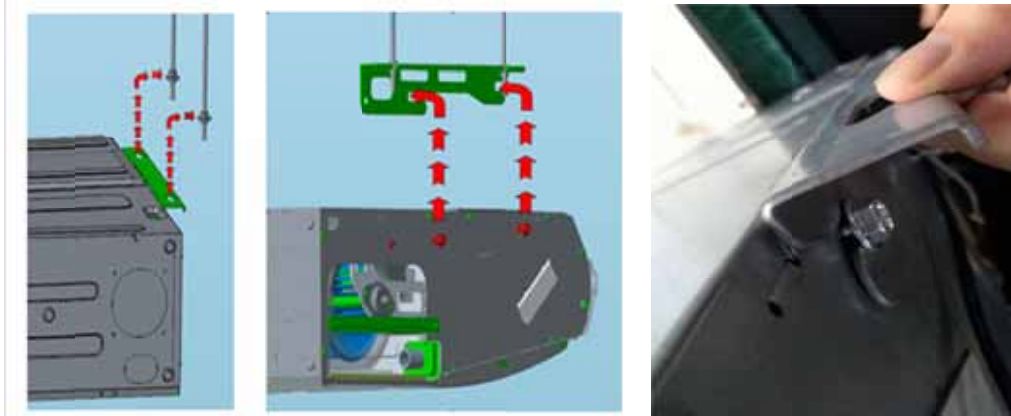
Return air grille, filter netease remove and wash.





**Easy Installation**

Can be hoisted, can be mounted;Removable load-bearing rod can be installed flexibly, and the rod can be fine-tuned up and down to adjust the horizontal Angle of machine hoisting



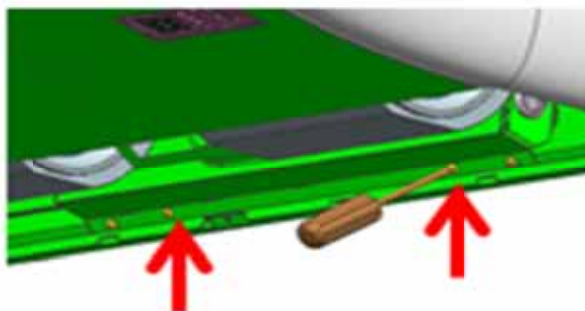
**Easy drainage**

The left and right water outlet design of the receiving tray is flexible to adapt to the installation site



**Easy maintenance**

Easy to repair, screw two screws, do not need to remove, left and right end cover 1 screw quickly remove, step motor 2 screws have been repaired, the bottom space is easy to repair



### 3.2.3 Stable And Reliable

**The face plate is elegant, the display board is beautiful**

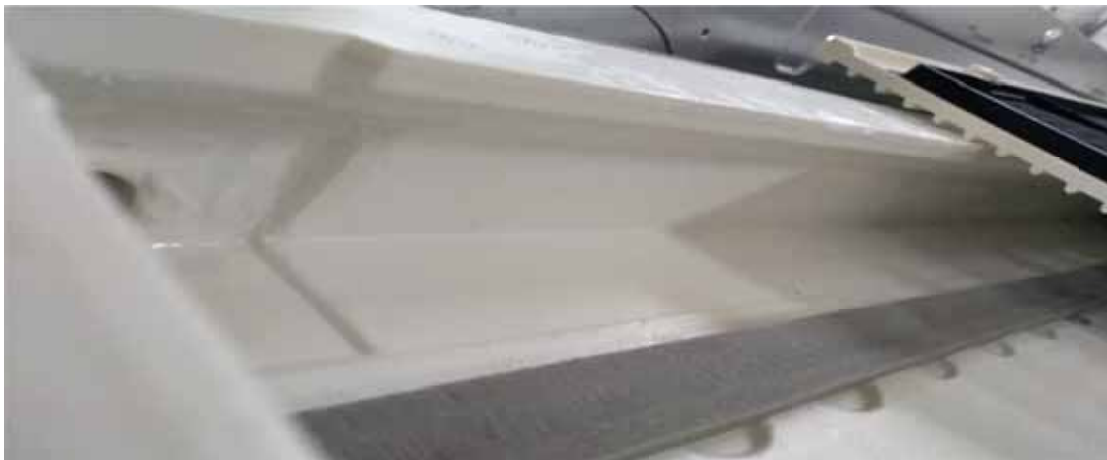
Matte white panel design, high-end elegant

Lamp board design beautiful, and good sealing, moistureproof, long reliable life



**Strong catchment**

Excellent water collection structure design, whether in lifting or upright installation can well collect condensed water to the water tray, avoid leakage



**Safe and reliable**

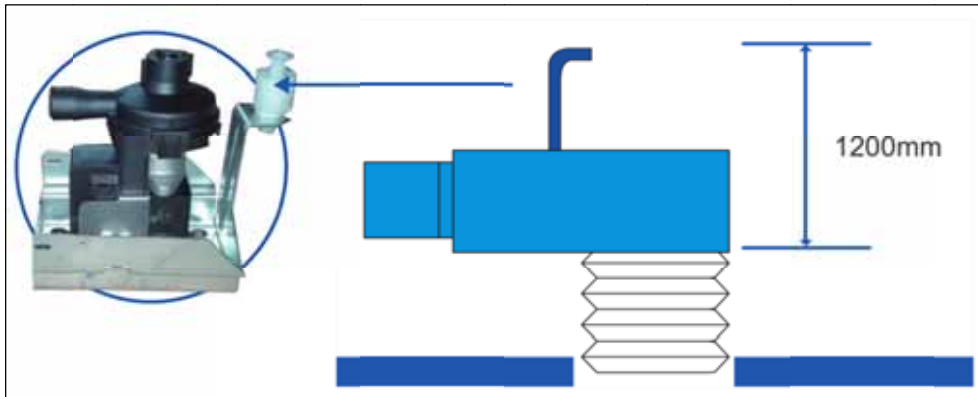
Strong and weak electric connection terminals are separated to ensure safe and reliable use of electricity

#### 4. Duct

Duct type A/C can be installed under the ceiling and also on the floor. Compared with normal Floor & Standing type A/C, it can be hoisted under the ceiling, saving room space, it is also the updating Product for Floor & Standing type A/C.

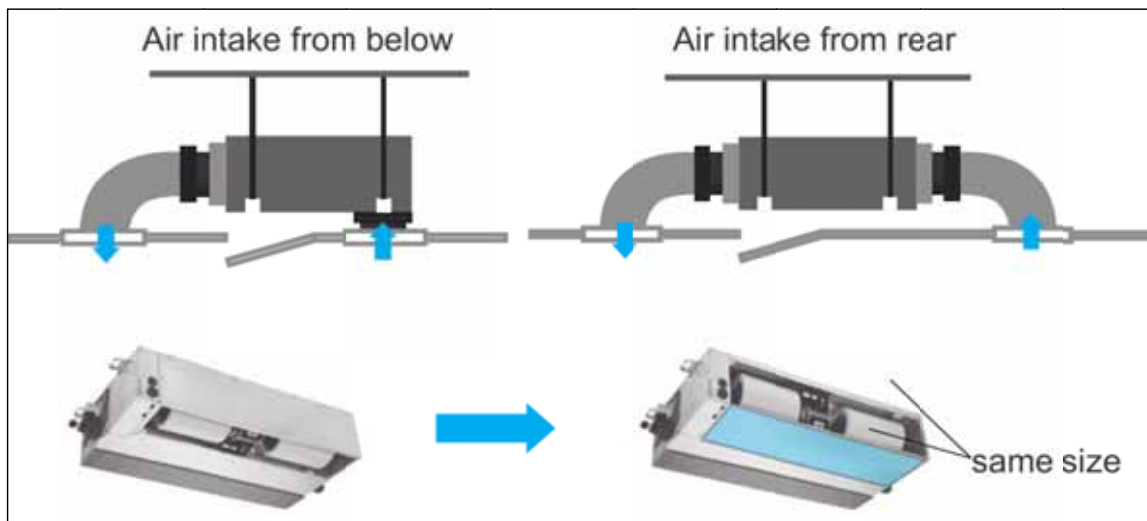
##### **Built-in Water Pump (Optional)**

The built-in pump can lift condensing water up to 1200mm high from the drainage pan.



##### **Flexible Air Intake Options**

Air intake from rear as standard, from bottom is optional. The size of the plate from bottom is the same as the flange from back, which makes it convenient to change installation style due to different decoration requirements.



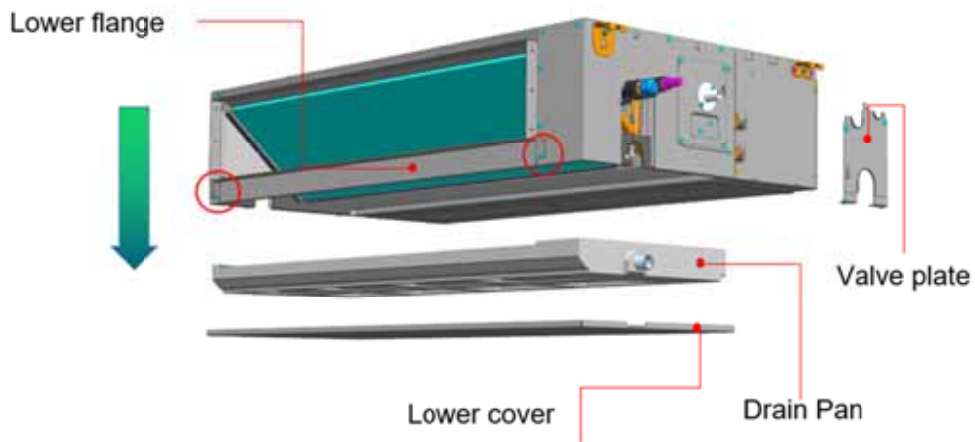
### Fresh air intake



**Fresh air intake function**  
Reserved fresh air intake hole. It is available for connecting fresh air duct.  
It is allowed max. 10% fresh air for the indoor unit.

### Independent flange

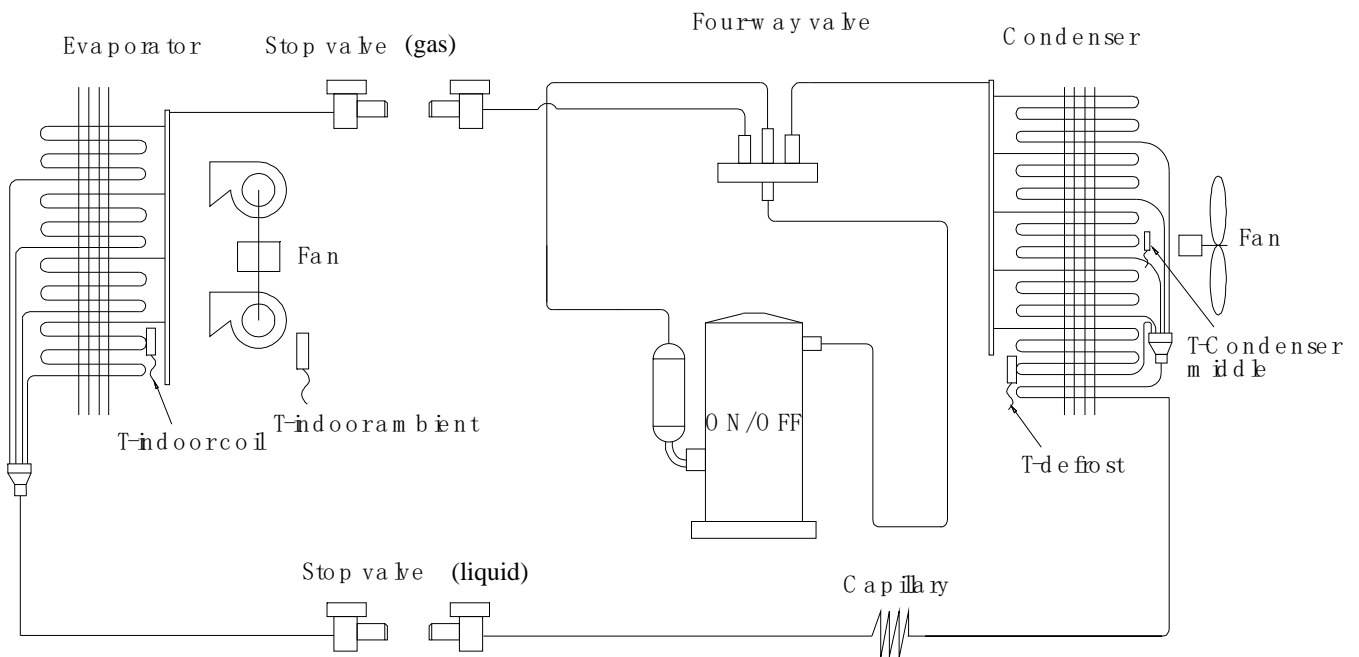
Simple structure. ensure the whole machine is repaired and cleaned without destroying installed air duct



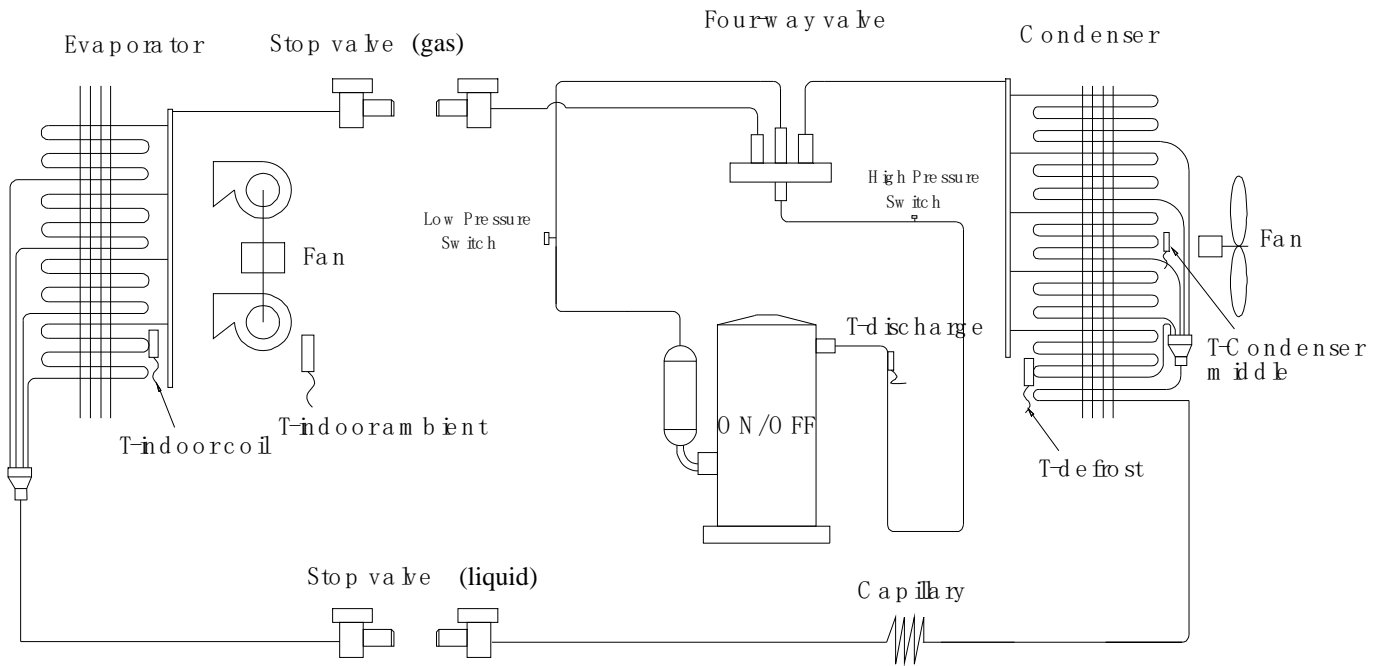
## Part3 Piping System

The compressor inhales the low-temperature and low-pressure refrigerant vapor from the evaporator, and vapor be turned into high-temperature and high-pressure gas then enters into condenser, the high-temperature and high-pressure refrigerant gas and outdoor air make heat exchange in the condenser, the compressed vapor is then cooled by heat exchange with the outside air, so that the vapor condenses to be a high-temperature and high-pressure fluid, and then through capillary throttling to cooled, low pressure, then the liquid enters into the evaporator and two-phase of gas and liquid refrigerant in the evaporator completely evaporate, thereby cooling the indoor air; from evaporator the vapor is inhaled into compressor again, so it runs continuously cycle to cycle, cooled air is continuous supplied to the air-conditioned area though duct by fan motor.

### 1. 12K,18K,24K,36K (1Ph~)



2. 36K,48K, 60K (3Ph~)



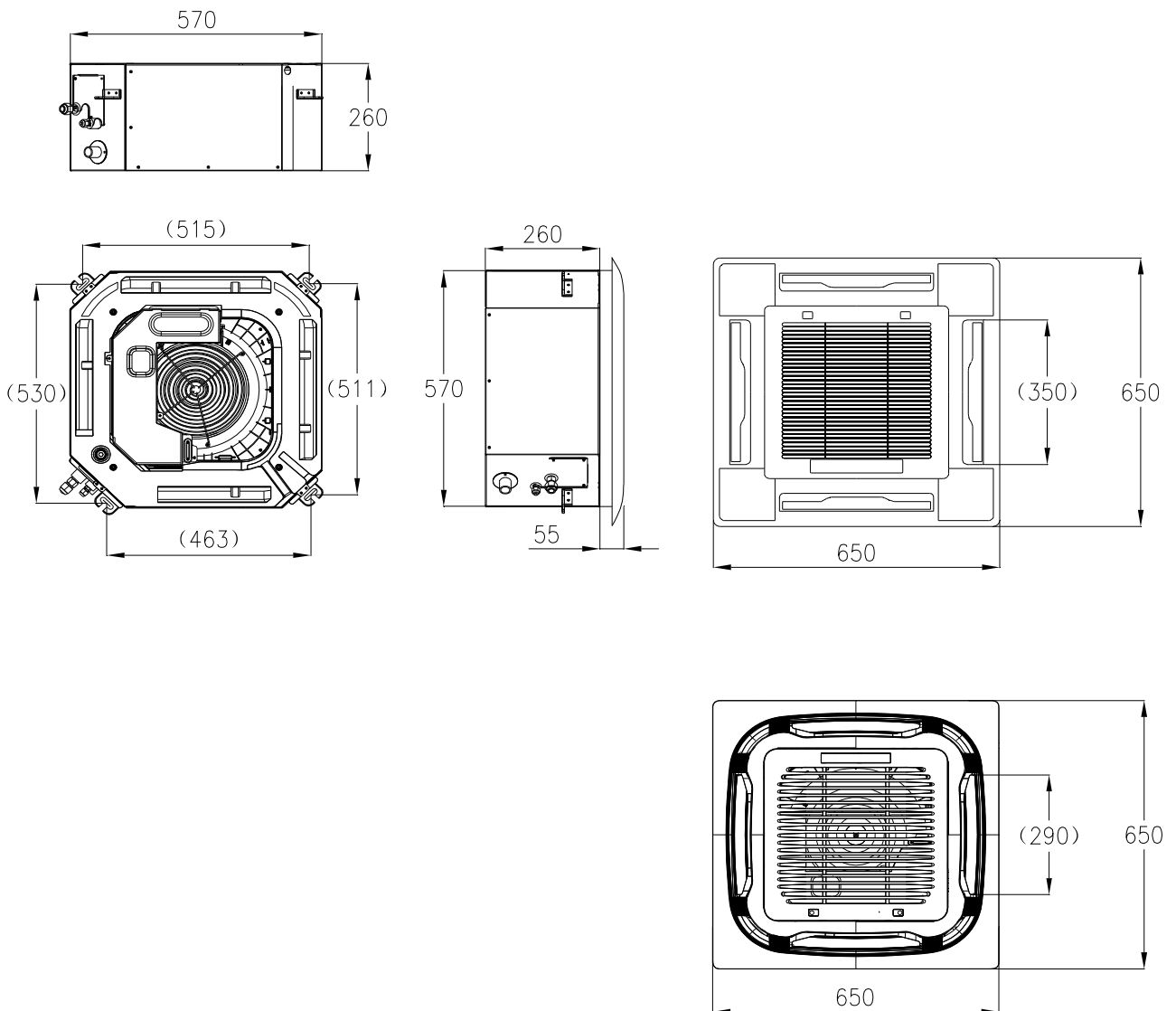
# Part4 Specification

※ Please refer to EXCEL

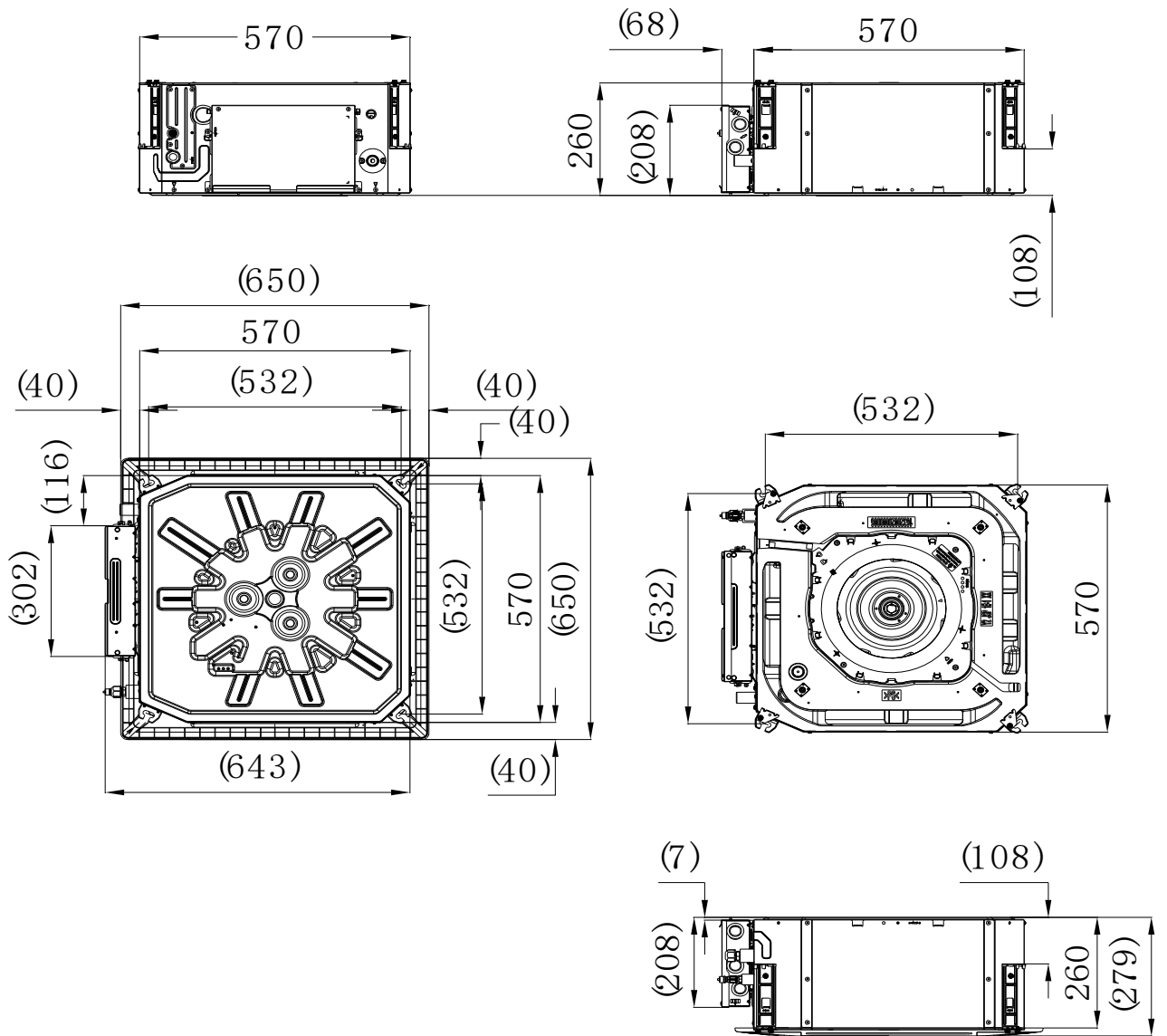
# Part5 Dimension

## 1. Cassette

### 1.1 ALCA-H12/4R1E1A-R、ALCA-H18/4R1E1A-R

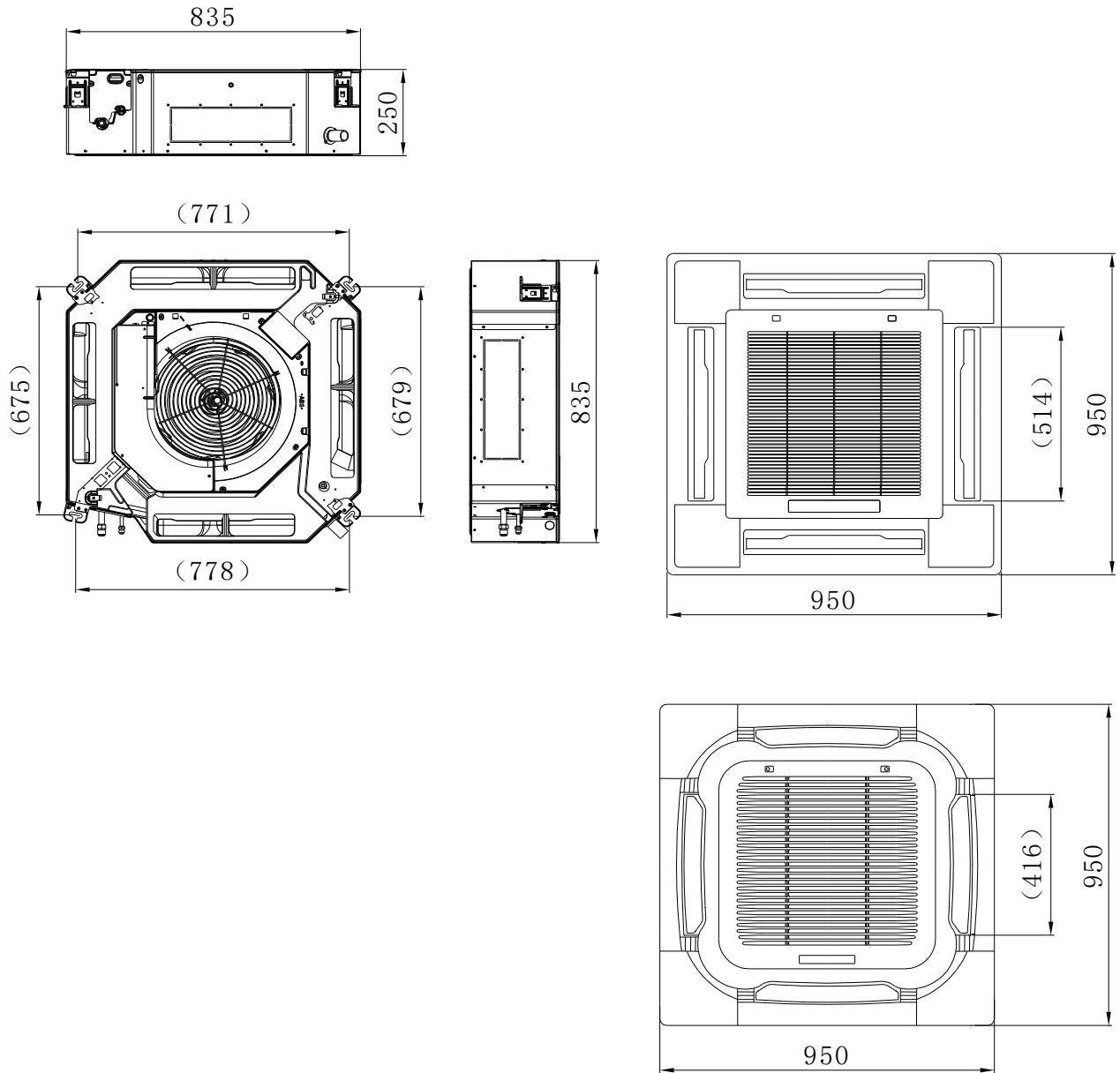


1.2 ALCA-H12/4R1Y2A-R、ALCA-H18/4R1Y2A-R (new)



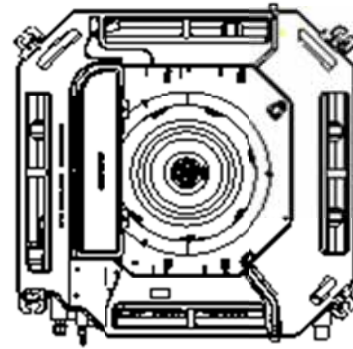
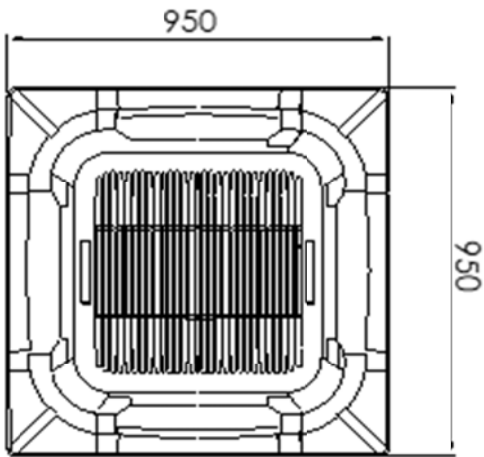
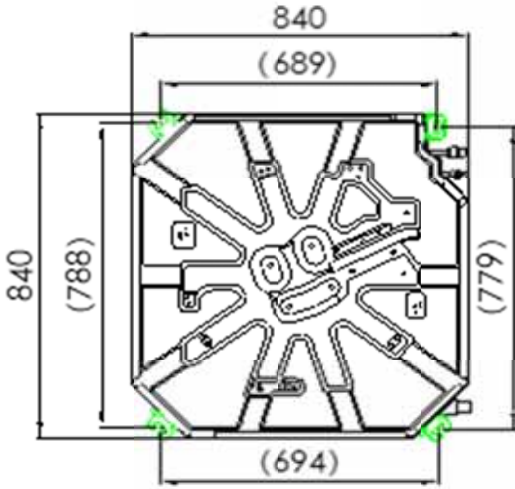


1.3 ALCA-H24/4R1E2A-R、ALCA-H36/4R1E1A-R、ALCA-H36/5R1E2A-R



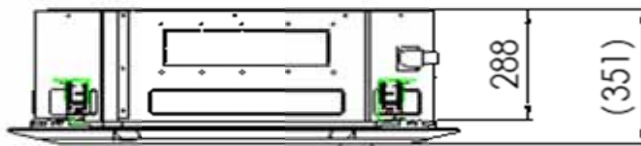
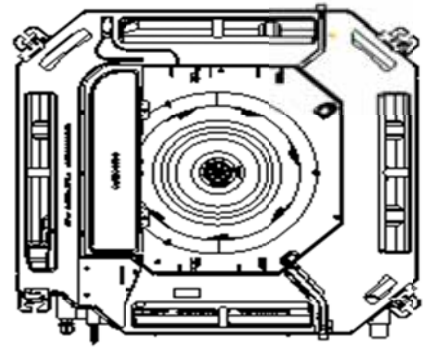
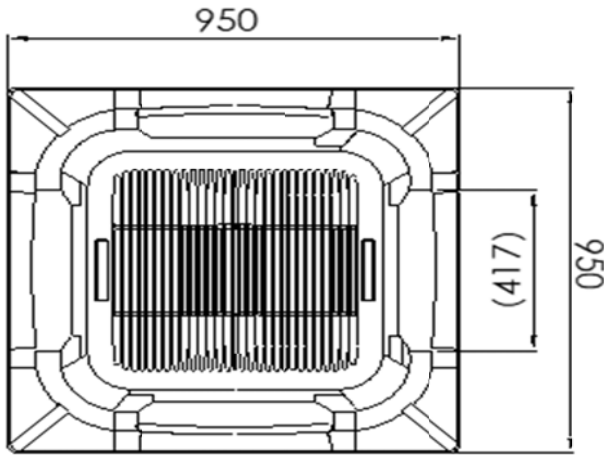
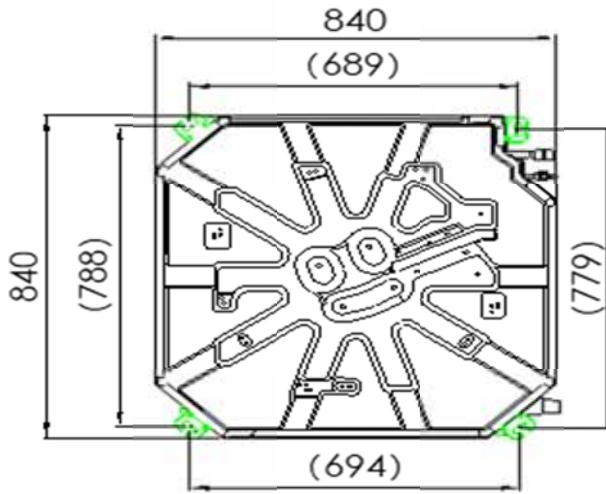
R410A T1 ON/OFF LCAC B7 Series

ALCA-H24/4R1YA-R, ALCA-H36/4R1YA-R, ALCA-H36/5R1YA-R (new)

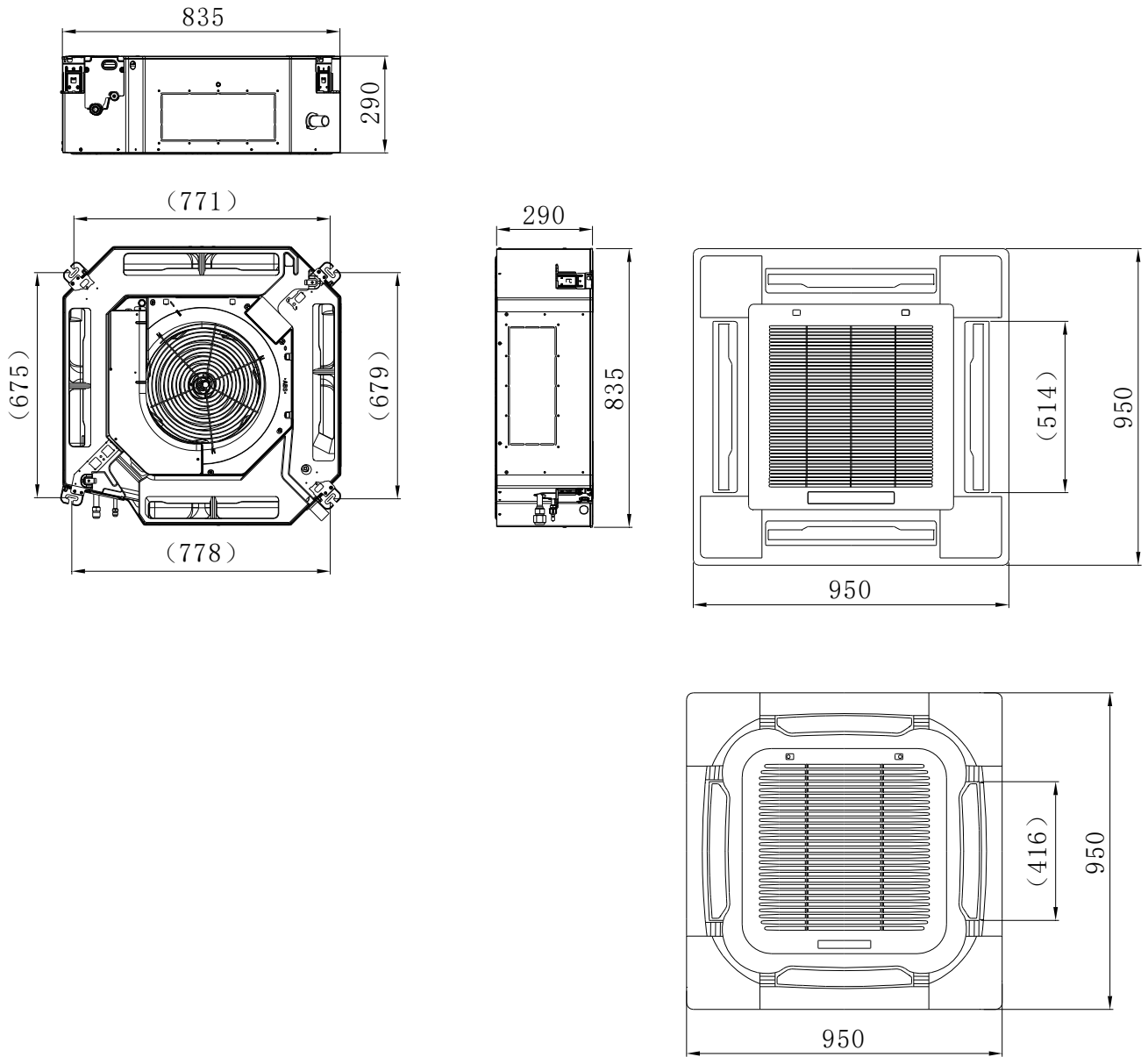


R410A T1 ON/OFF LCAC B7 Series

ALCA-H48/5R1YA-R, ALCA-H60/5R1YA-R (new)

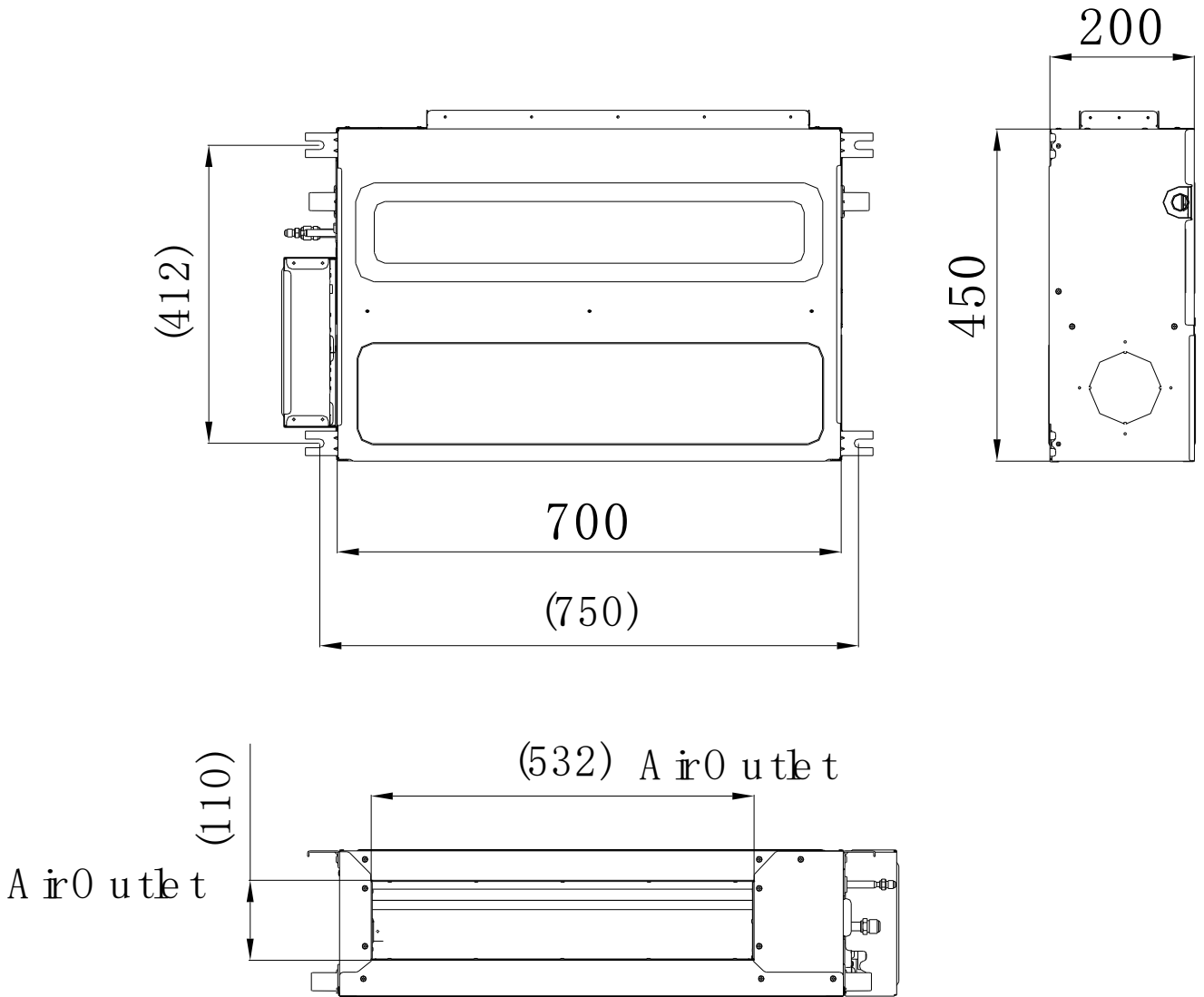


1.4 ALCA-H48/5R1E3A-R、ALCA-H60/5R1E2A-R

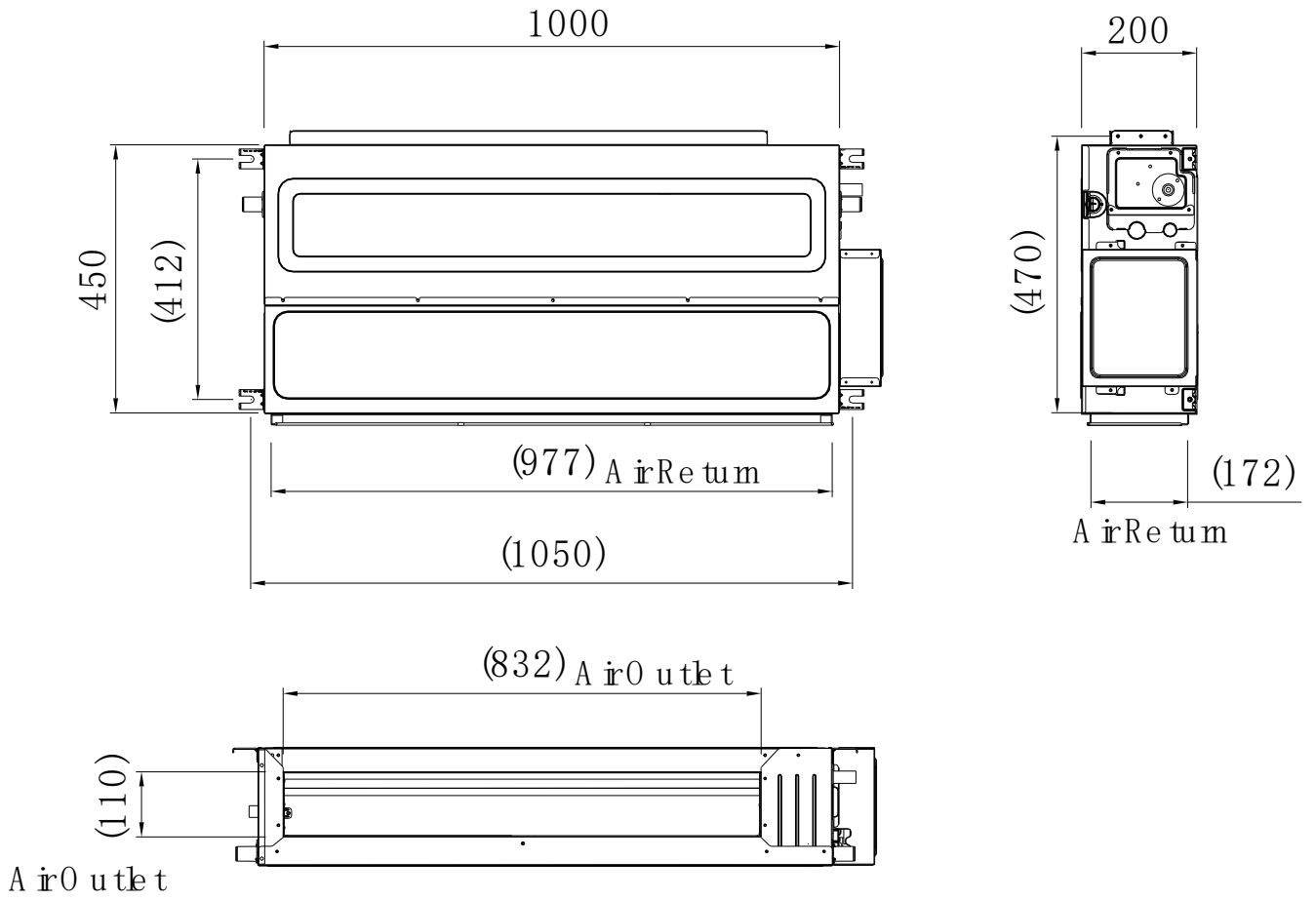


2 .Duct

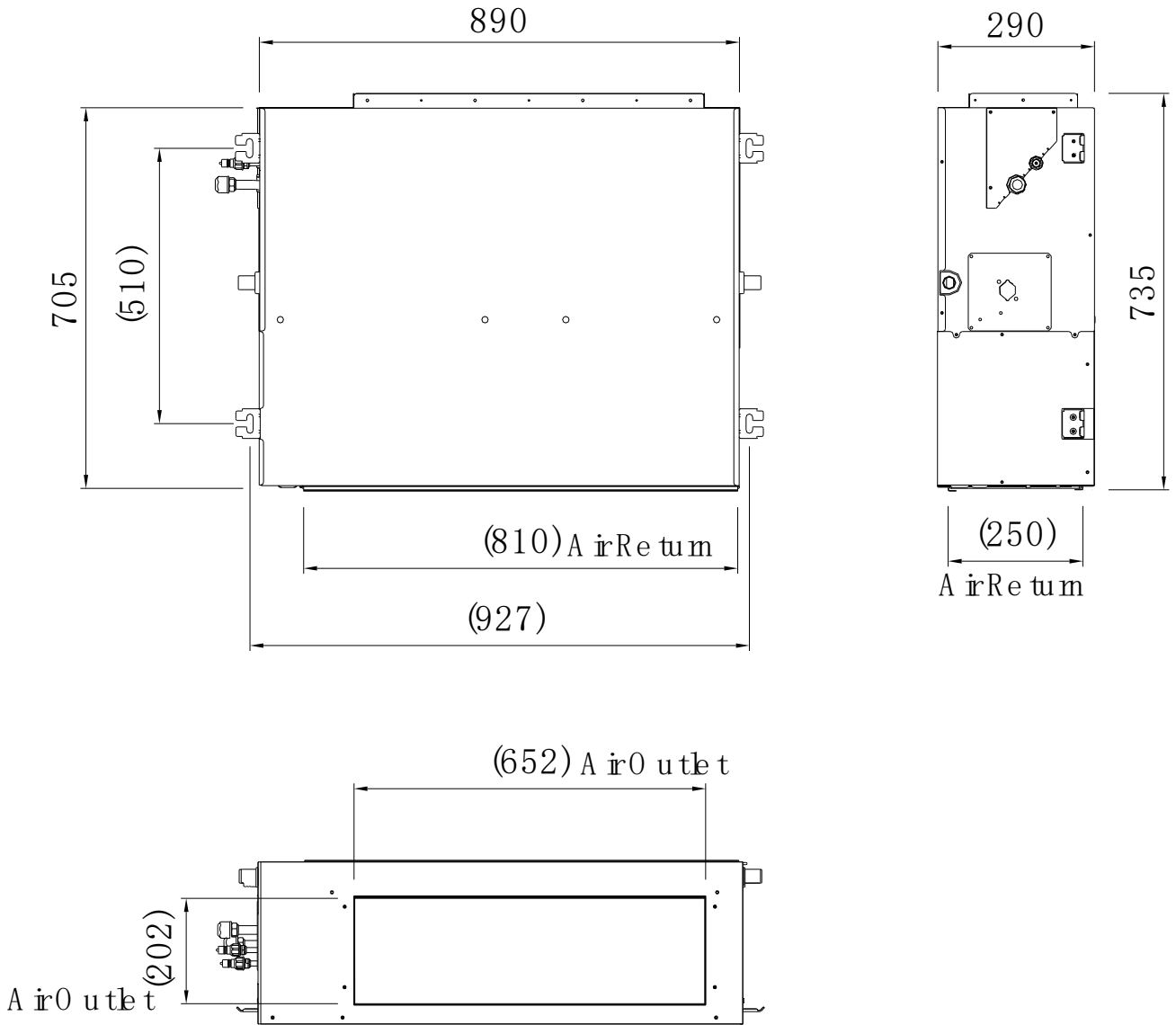
2.1 ALLD-H12/4R1F-R



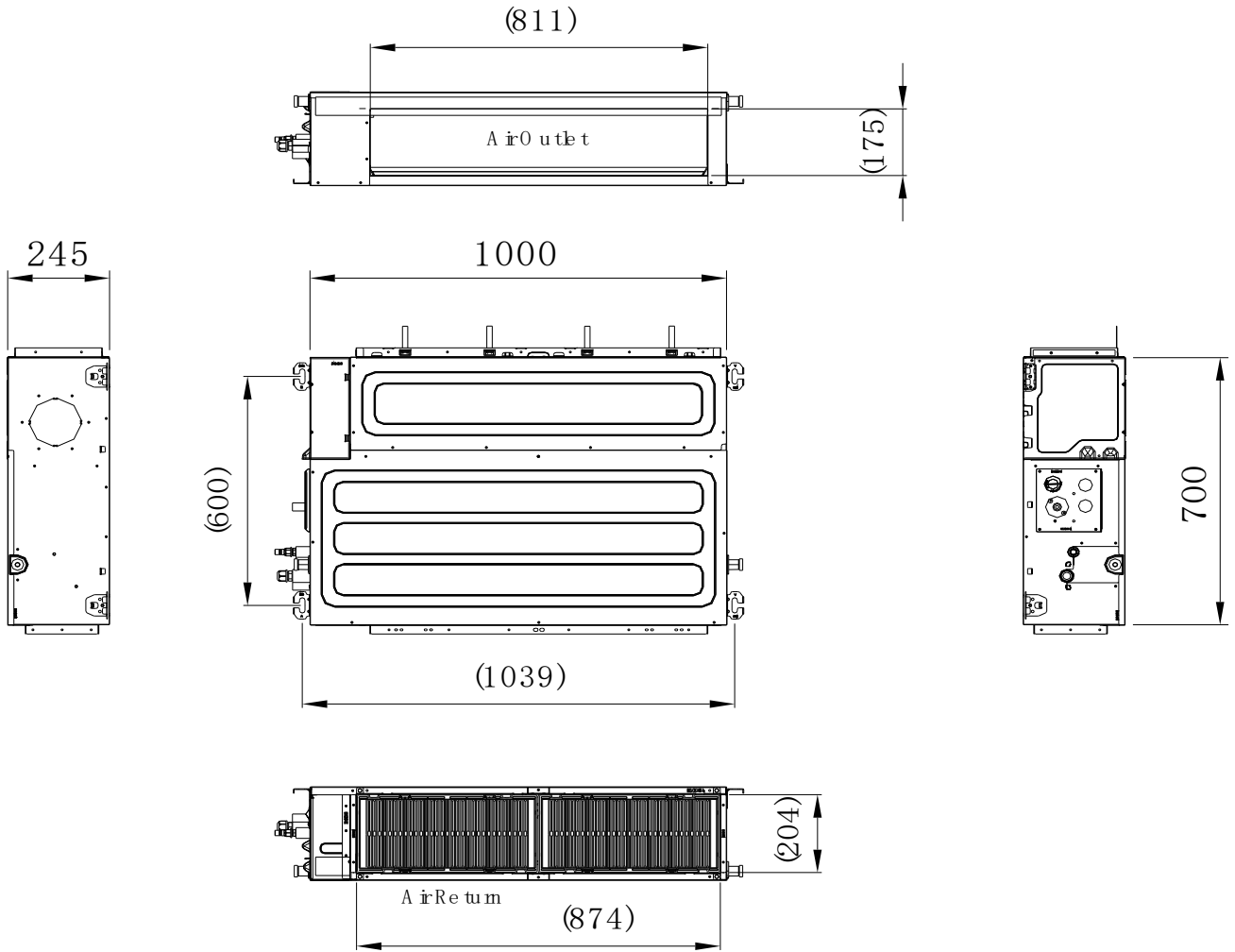
ALMD-H18/4R1YA-R (new)



2.2 ALMD-H18/4R1F2-R、ALMD-H24/4R1F2-R、ALMD-H36/4R1F-R、ALMD-H36/5R1F2-R

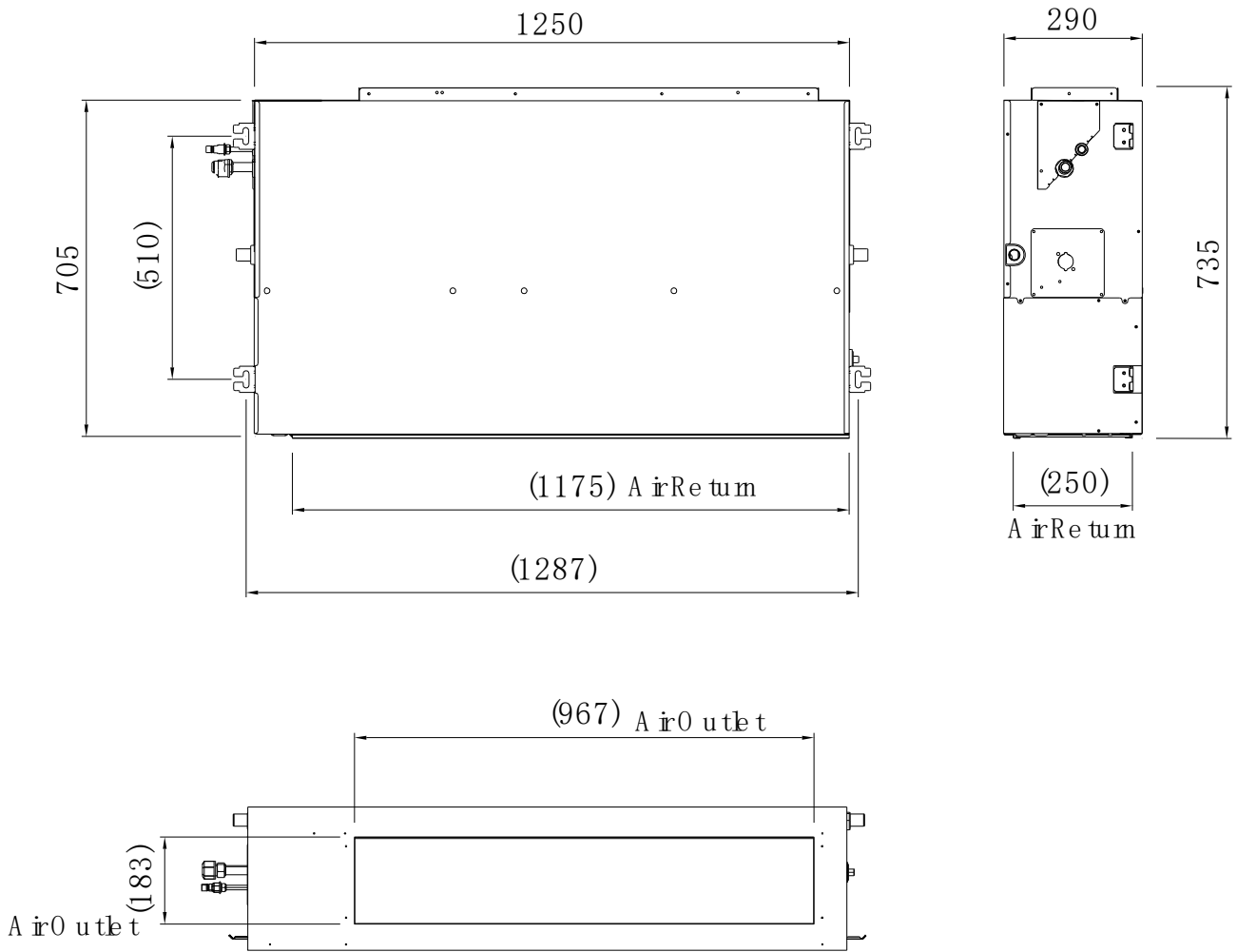


ALMD-H24/4R1MA-R、ALMD-H36/4R1MA-R、ALMD-H36/5R1MA-R (new)



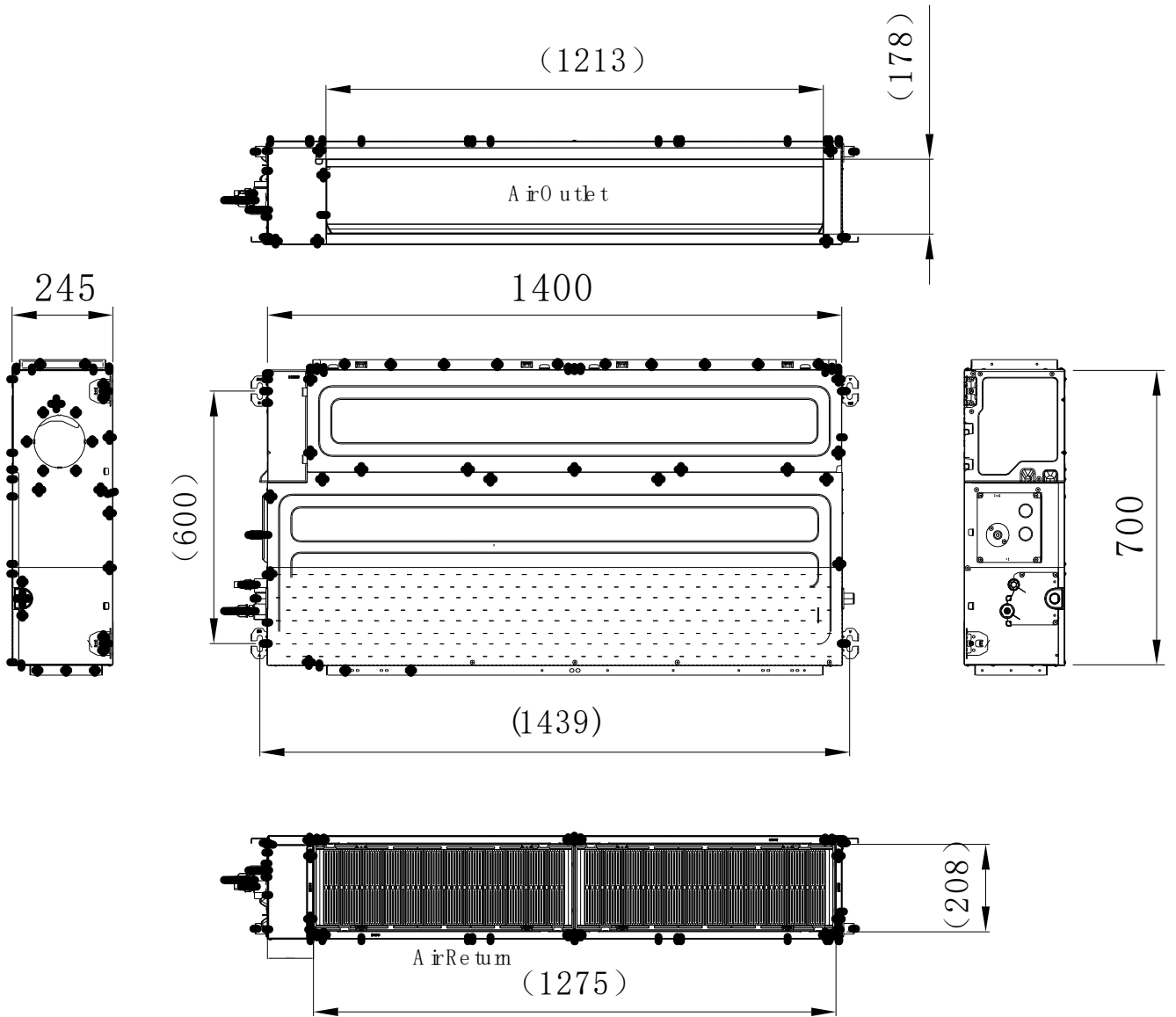


2.3 ALMD-H48/5R1F2-R、ALMD-H60/5R1F2-R

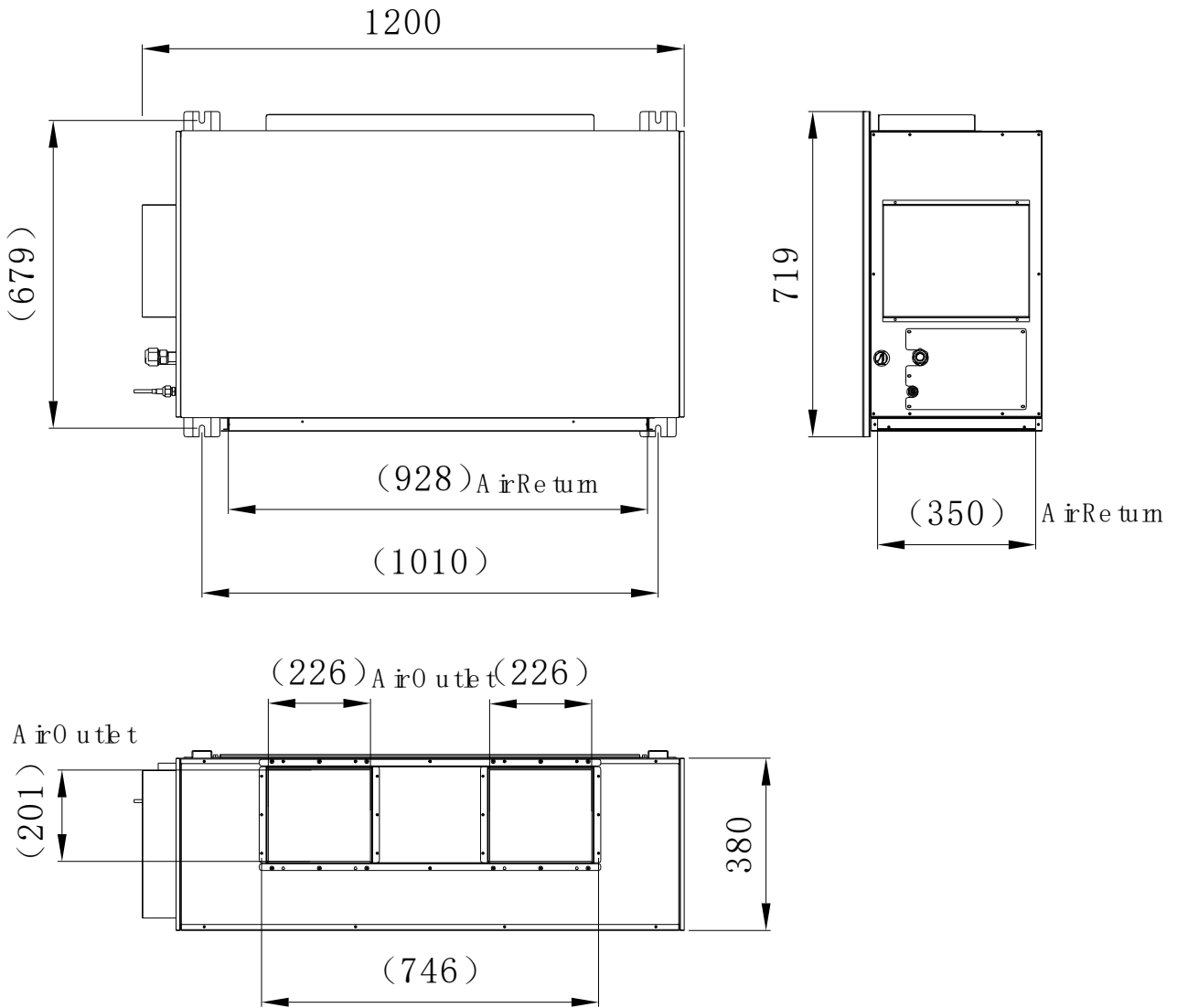


R410A T1 ON/OFF LCAC B7 Series

ALMD-H48/5R1MA-R、ALMD-H60/5R1MA-R (new)

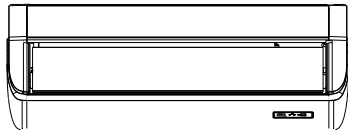
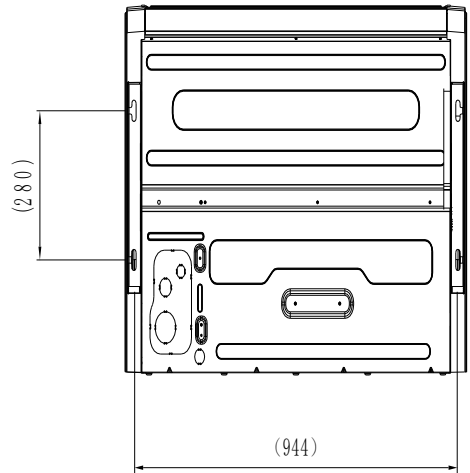
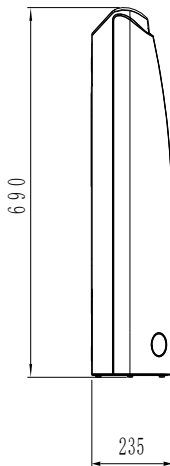
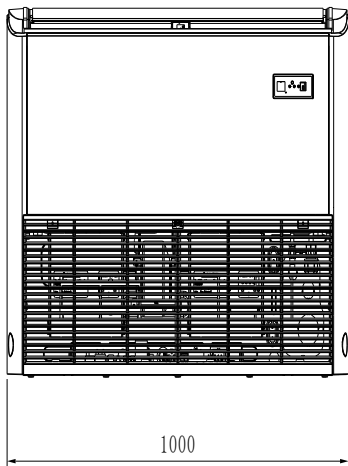
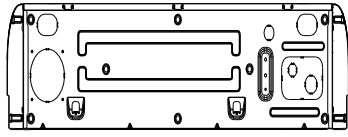


2.4 ALHD-H48/5R1B1、ALHD-H60/5R1A



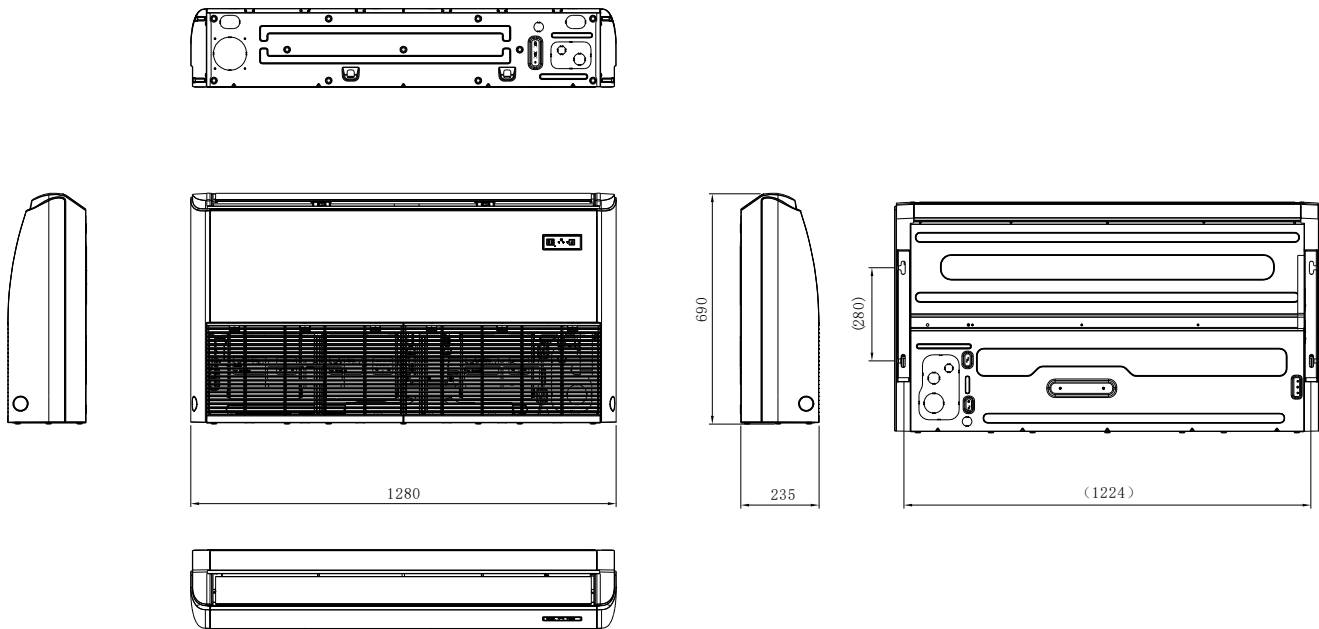
### 3. Ceiling Floor

#### 3.1 ALCF-H18/4R1F2-R、ALCF-H24/4R1FA-R (new)

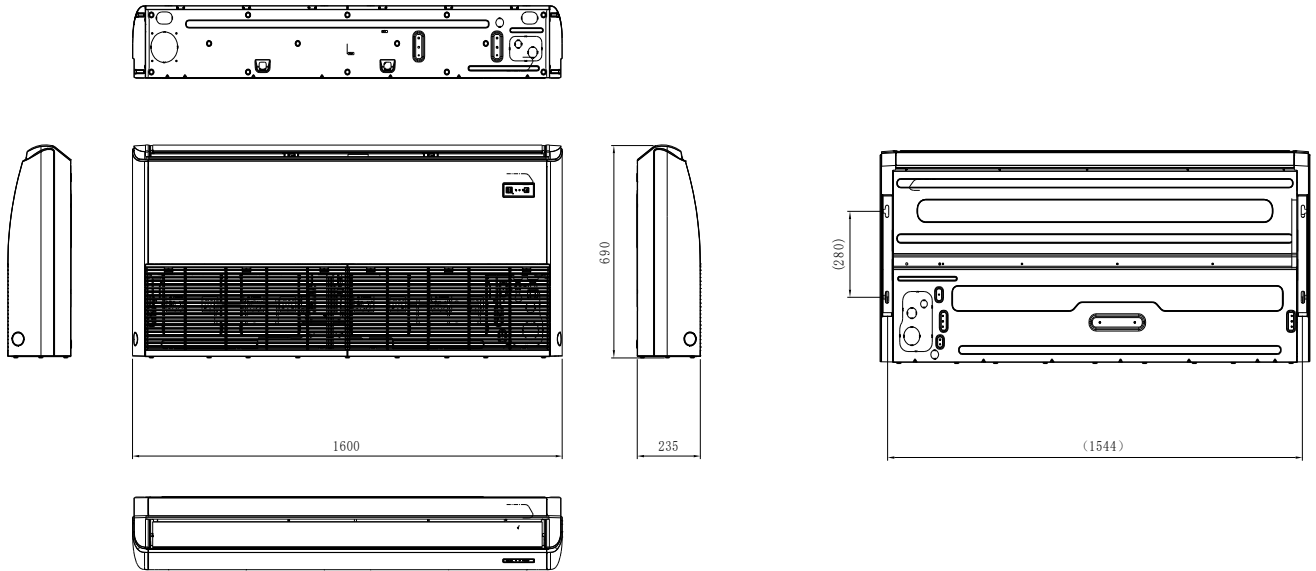


3.2 ALCF-H24/4R1F2-R、ALCF-H36/4R1F1-R、ALCF-H36/5R1F2-R、ALCF-H36/4R1FA-R  
(new)

45

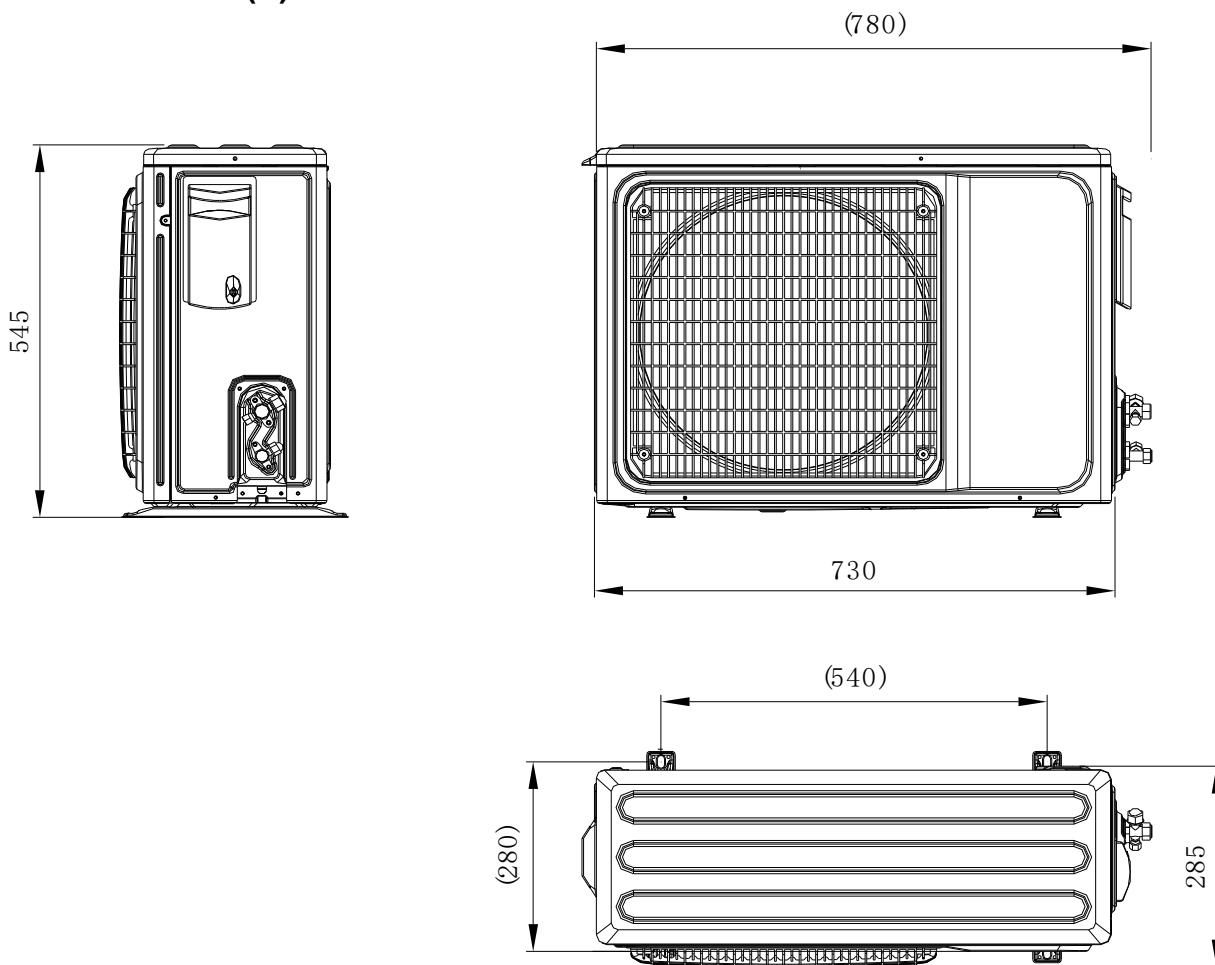


3.3 ALCF-H48/5R1F2-R、ALCF-H60/5R1F2-R  
ALCF-H48/5R1FA-R、ALCF-H60/5R1FA-R (new)

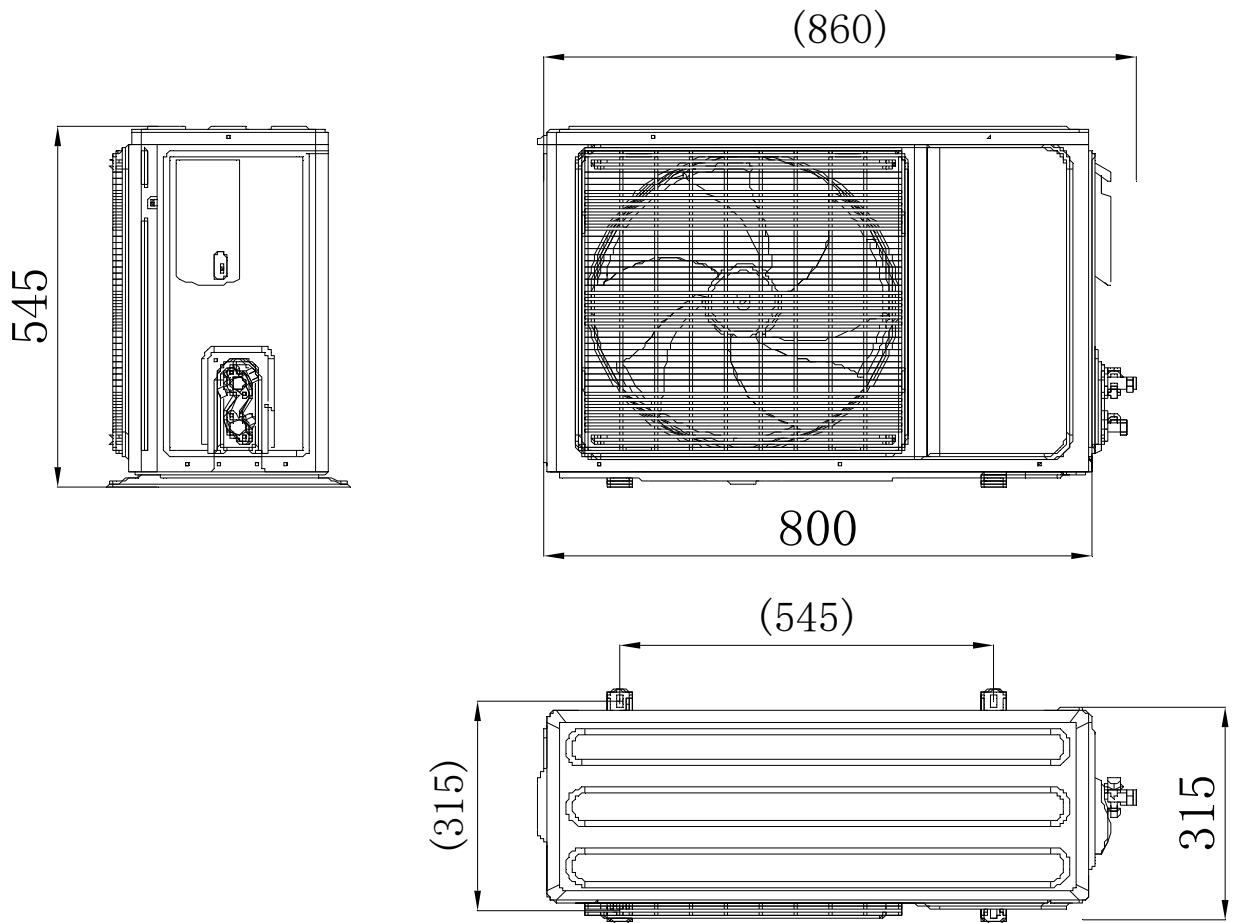


### 4. Outdoor Unit

#### 4.1 AL-H12/4R1F-R(U)

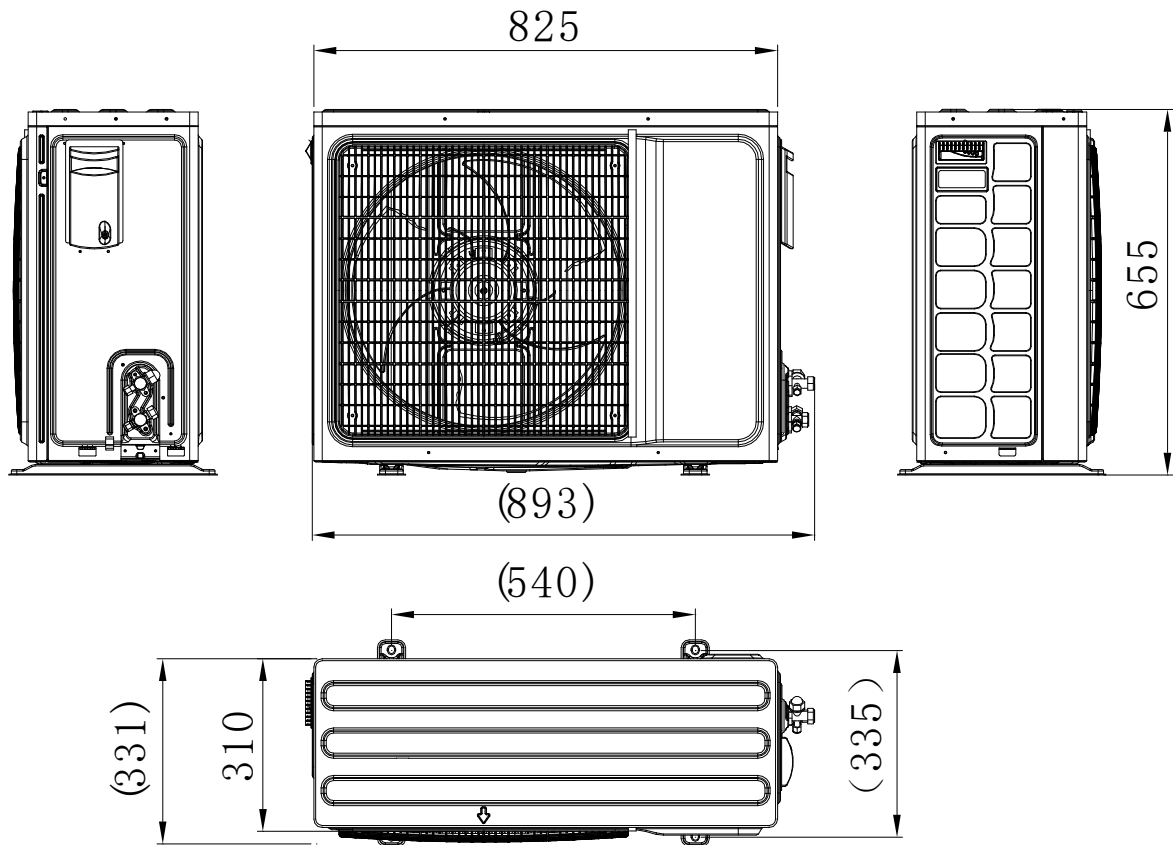


4.2 AL-H18/4R1F2-R(U)

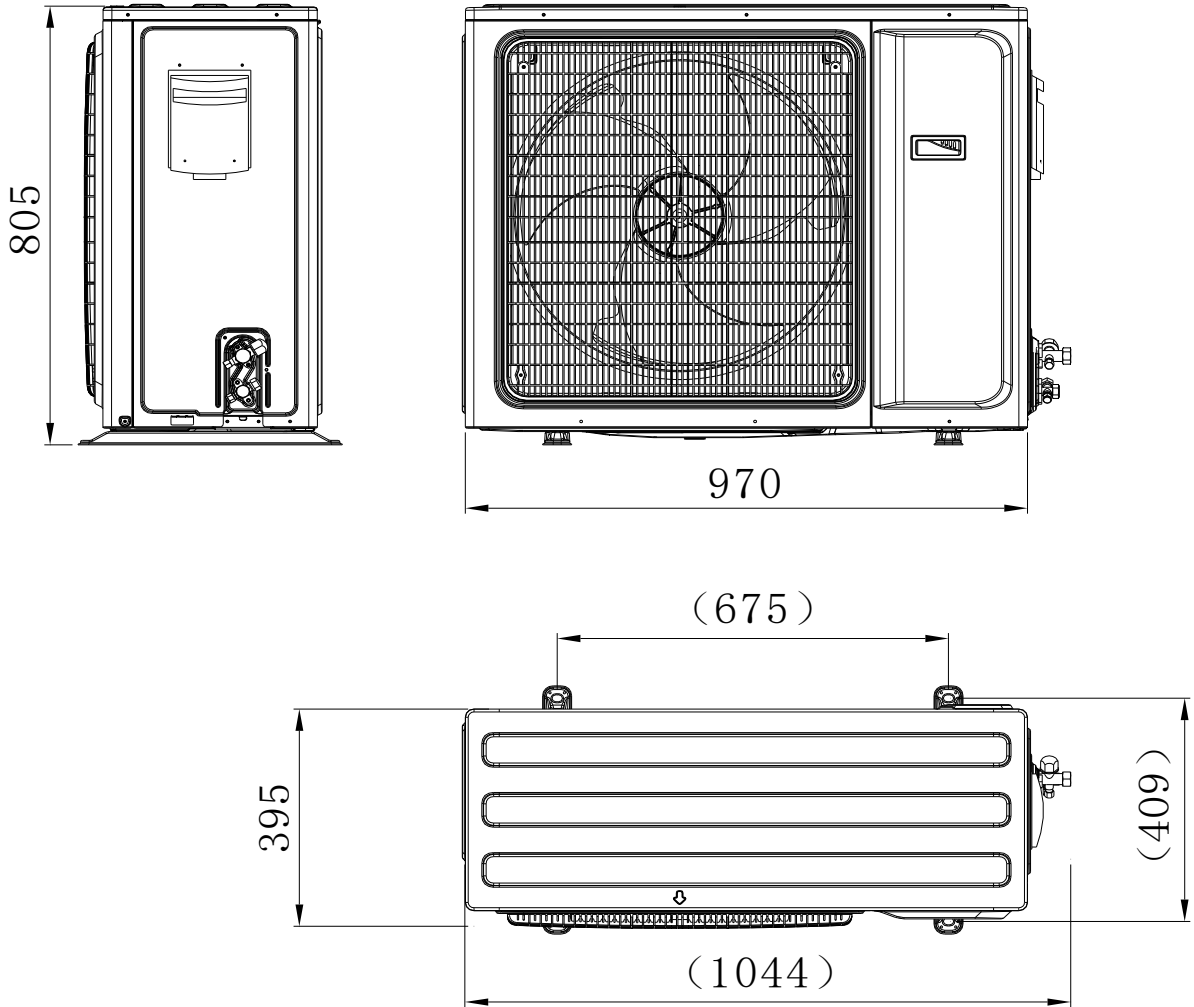




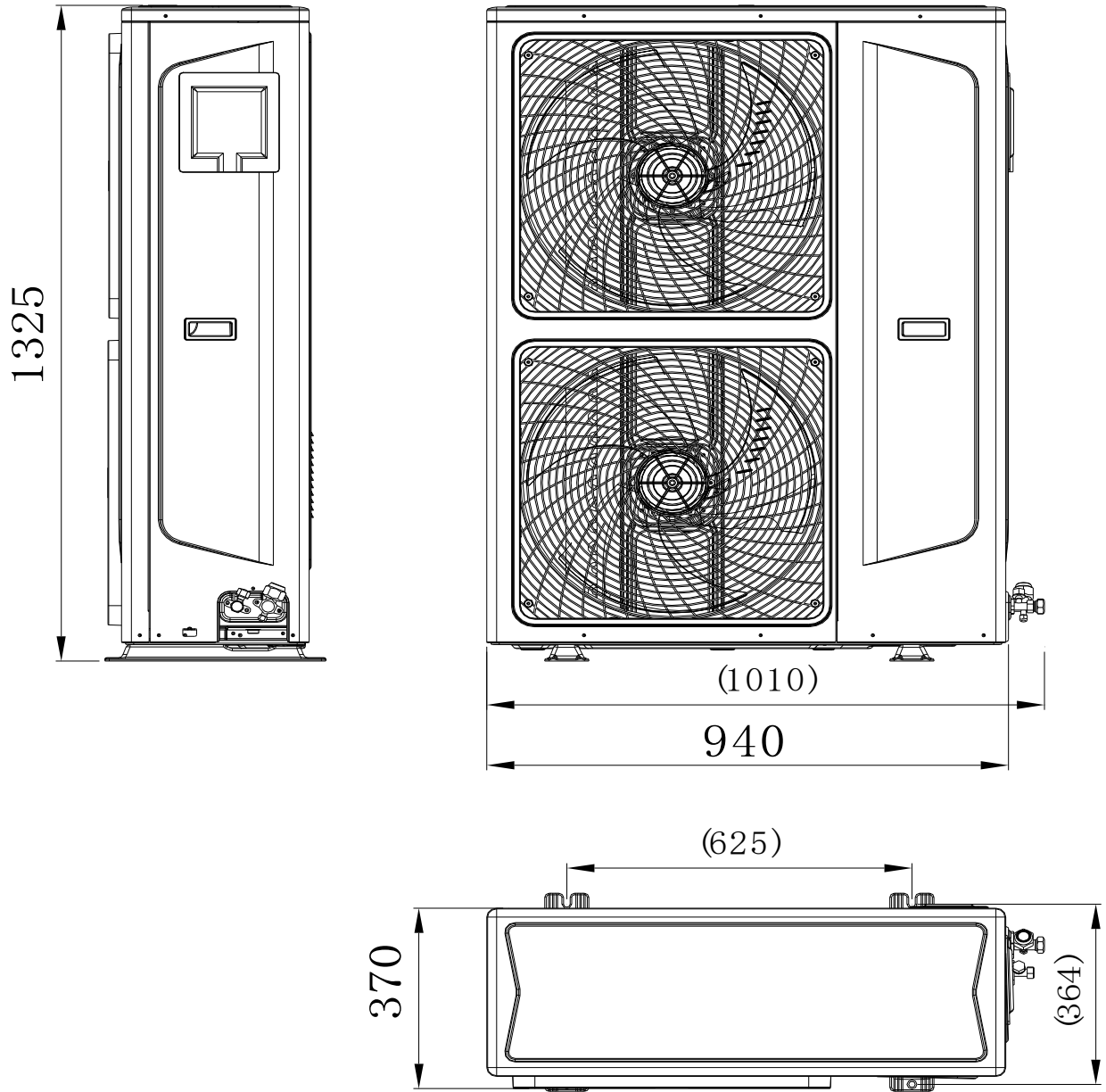
4.3 AL-H24/4R1F2-R(U)、AL-H24/4R1F3-R(U) (new)



4.4 AL-H36/5R1F2-R(U)、AL-H36/4R1F3-R(U) (new)



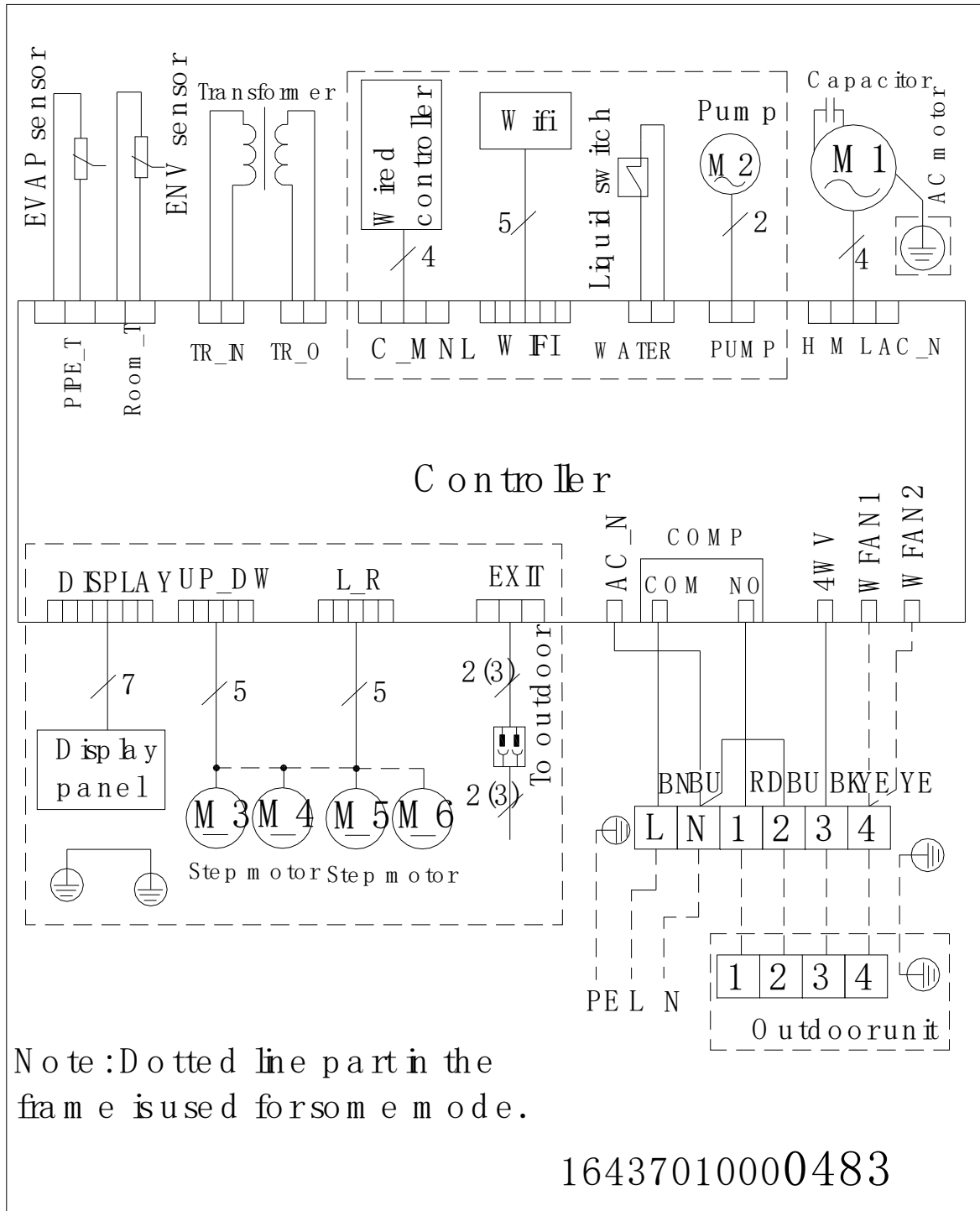
4.5 AL-H60/5R1F-R(U)、AL-H48/5R1F2-R(U)、AL-H60/5R1F2-R(U)、AL-H48/5R1F3-R(U)、AL-H60/5R1F3-R(U) (new)



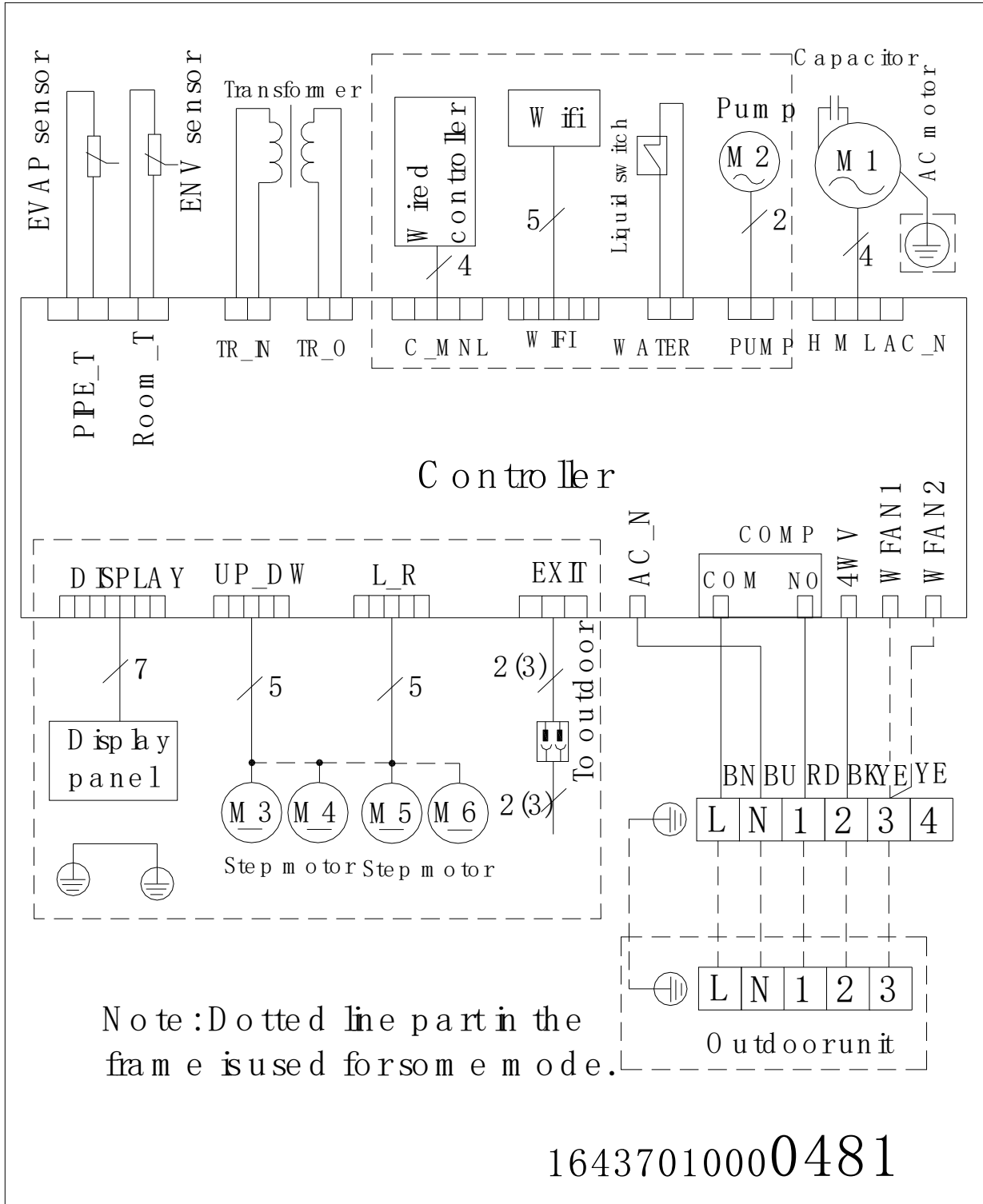
# Part6 Electrical Principle Diagram

## 1. IDU

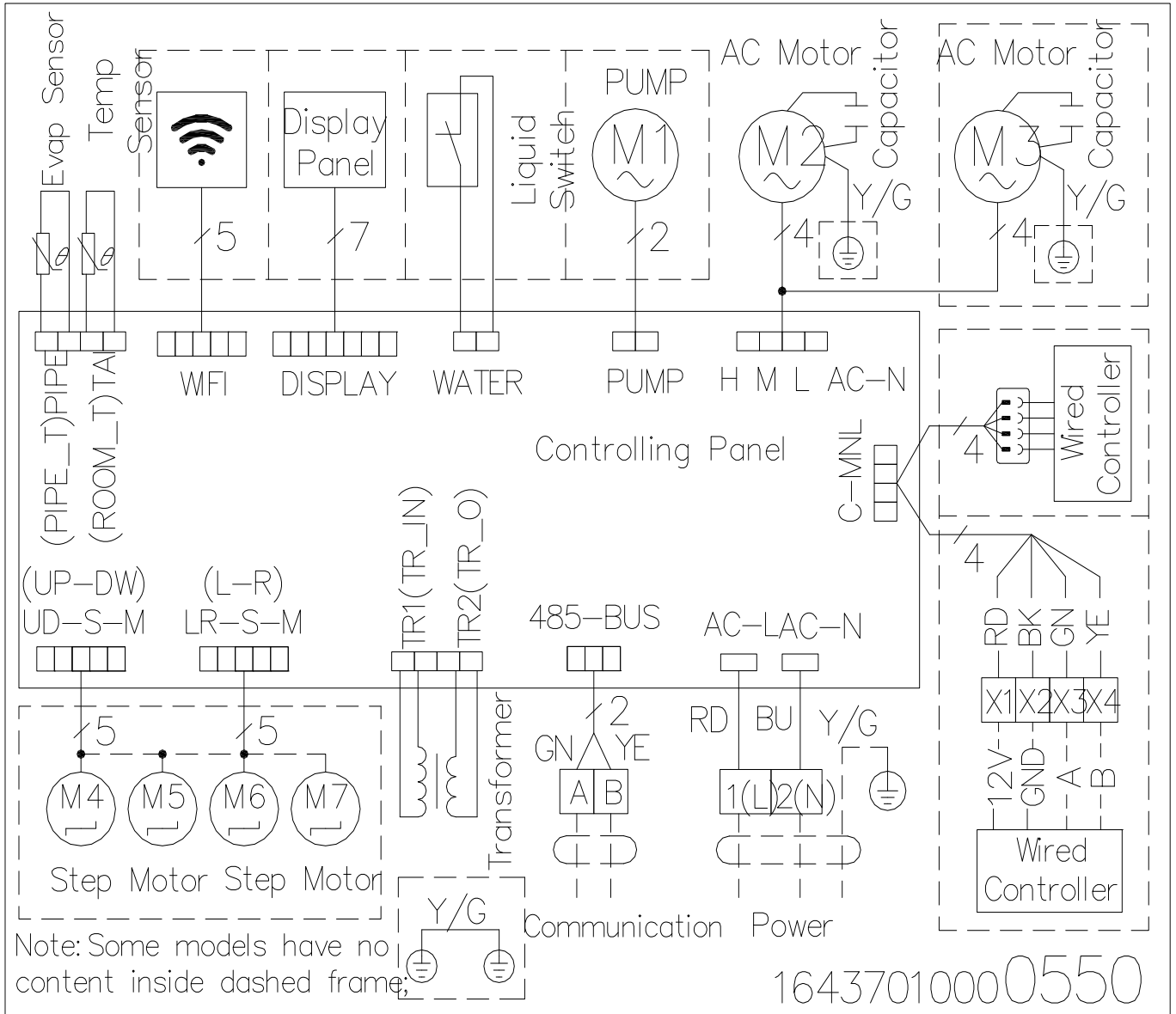
### 1.1 ALCA-H12/4R1Y2A-R、ALCA-H18/4R1Y2A-R、ALCF-H18/4R1F2-R、ALLD-H12/4R1F-R、ALMD-H18/4R1F2-R、ALMD-H18/4R1YA-R



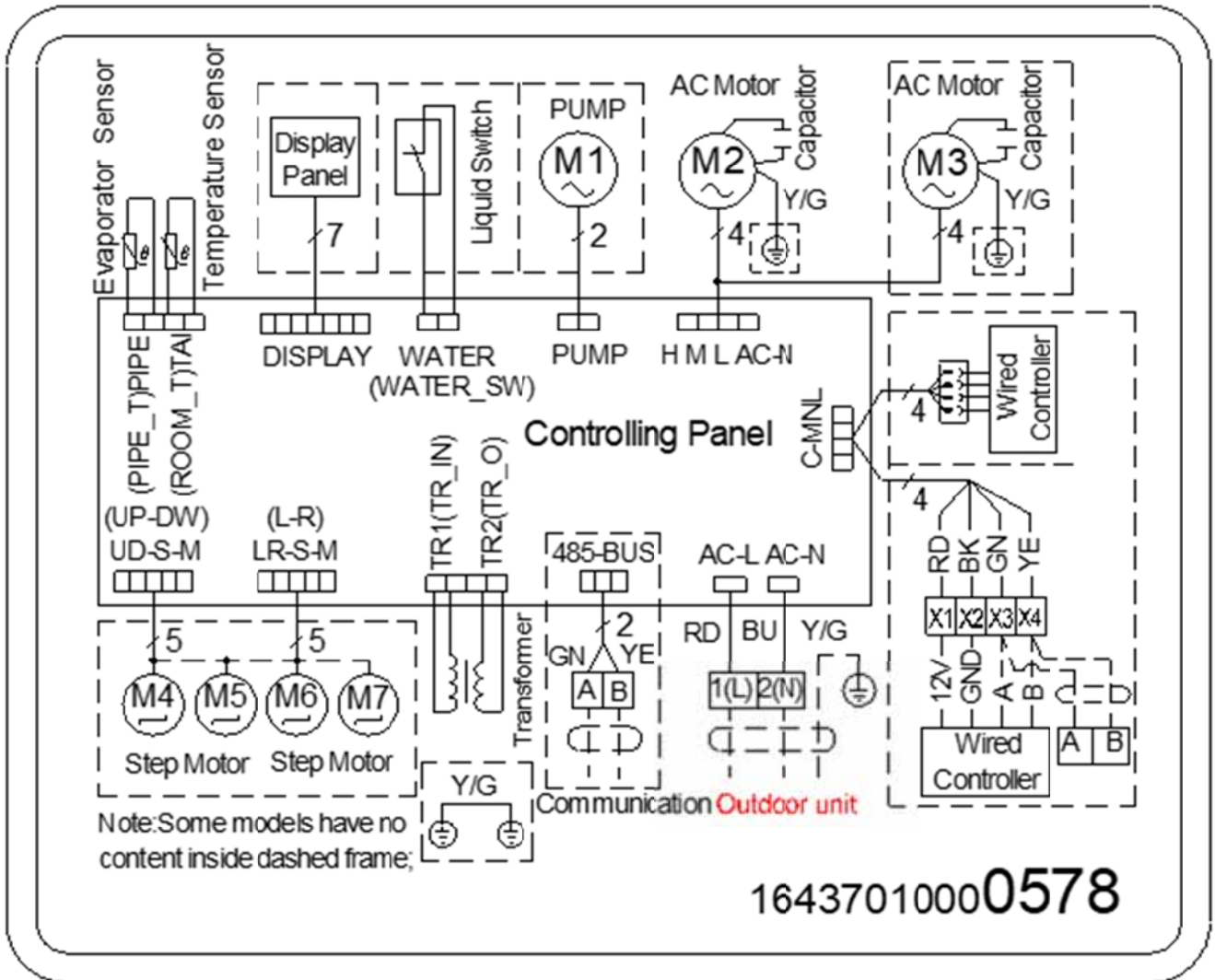
1.2 ALCA-H24/4R1E2A-R、ALCA-H36/4R1E1A-R、ALCF-H24/4R1F2-R、ALCF-H36/4R1F1-R、ALMD-H24/4R1F2-R、ALMD-H36/4R1F-R、ALCA-H24/4R1YA-R、ALCA-H36/4R1YA-R、ALMD-H24/4R1MA-R、ALMD-H36/4R1MA-R、ALCF-H24/4R1FA-R、ALCF-H36/4R1FA-R、



1.3 ALHD-H48/5R1B1、ALHD-H60/5R1A、ALCA-H36/5R1E2A-R、ALCA-H48/5R1E3A-R、ALCA-H60/5R1E2A-R、ALCF-H36/5R1F2-R、ALCF-H48/5R1F2-R、ALCF-H60/5R1F2-R、ALMD-H36/5R1F2-R、ALMD-H48/5R1F2-R、ALMD-H60/5R1F2-R、ALCA-H36/5R1YA-R、ALMD-H36/5R1MA-R

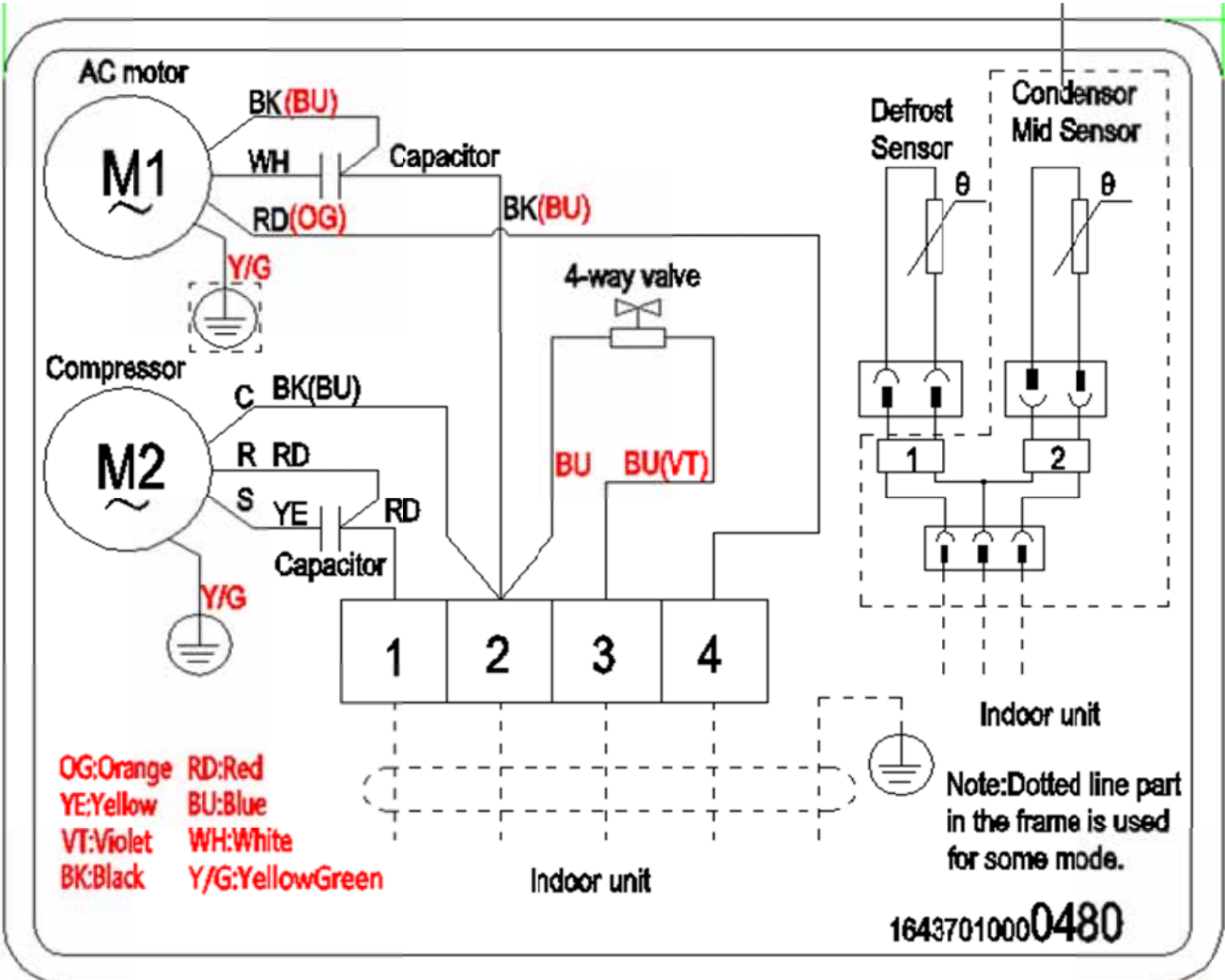


1.4ALCA-H48/5R1YA-R、ALCA-H60/5R1YA-R、ALMD-H48/5R1MA-R、ALMD-H60/5R1MA-R、ALCF-H48/5R1FA-R、ALCF-H60/5R1FA-R



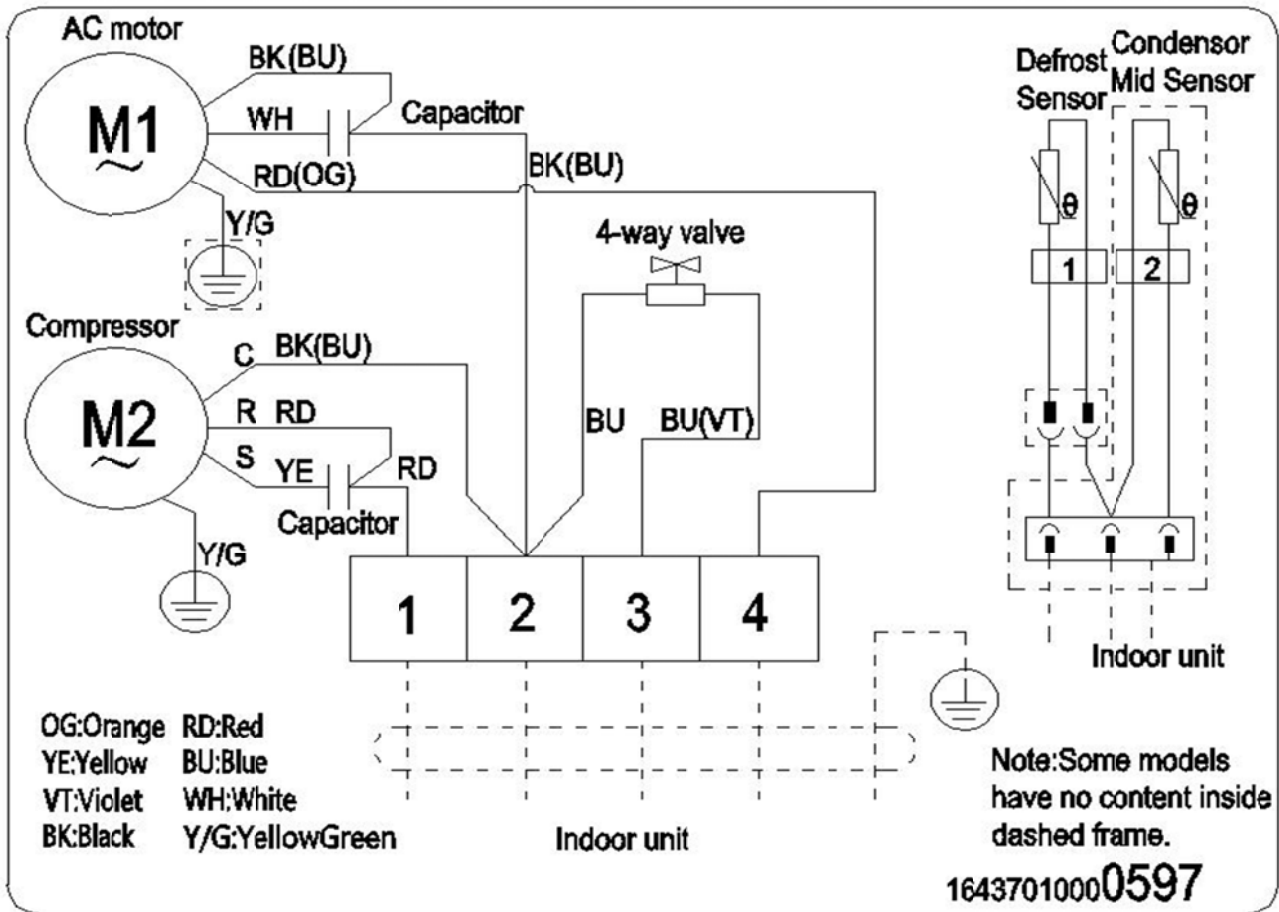
2. ODU

2.1 AL-H12/4R1F-R(U)

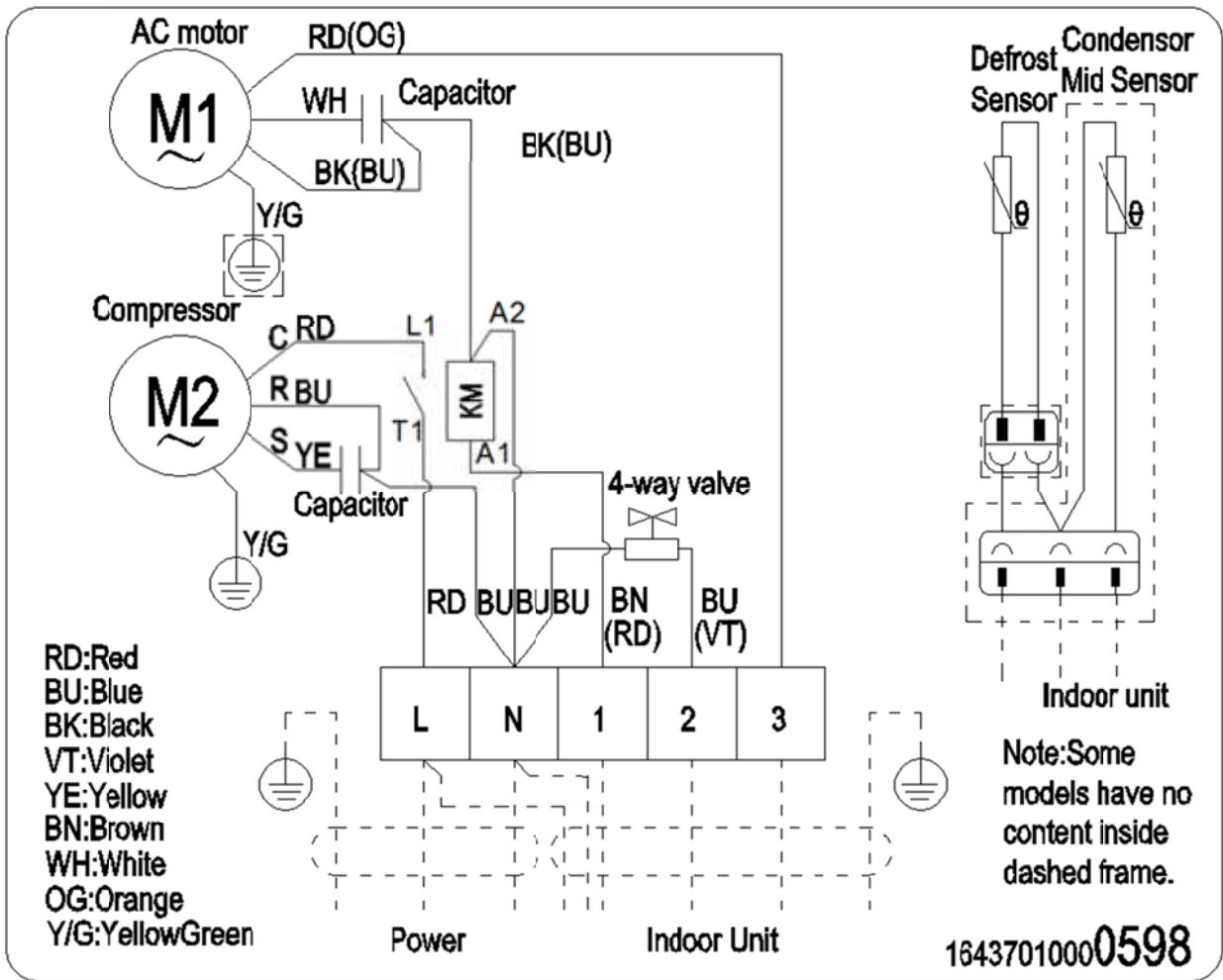




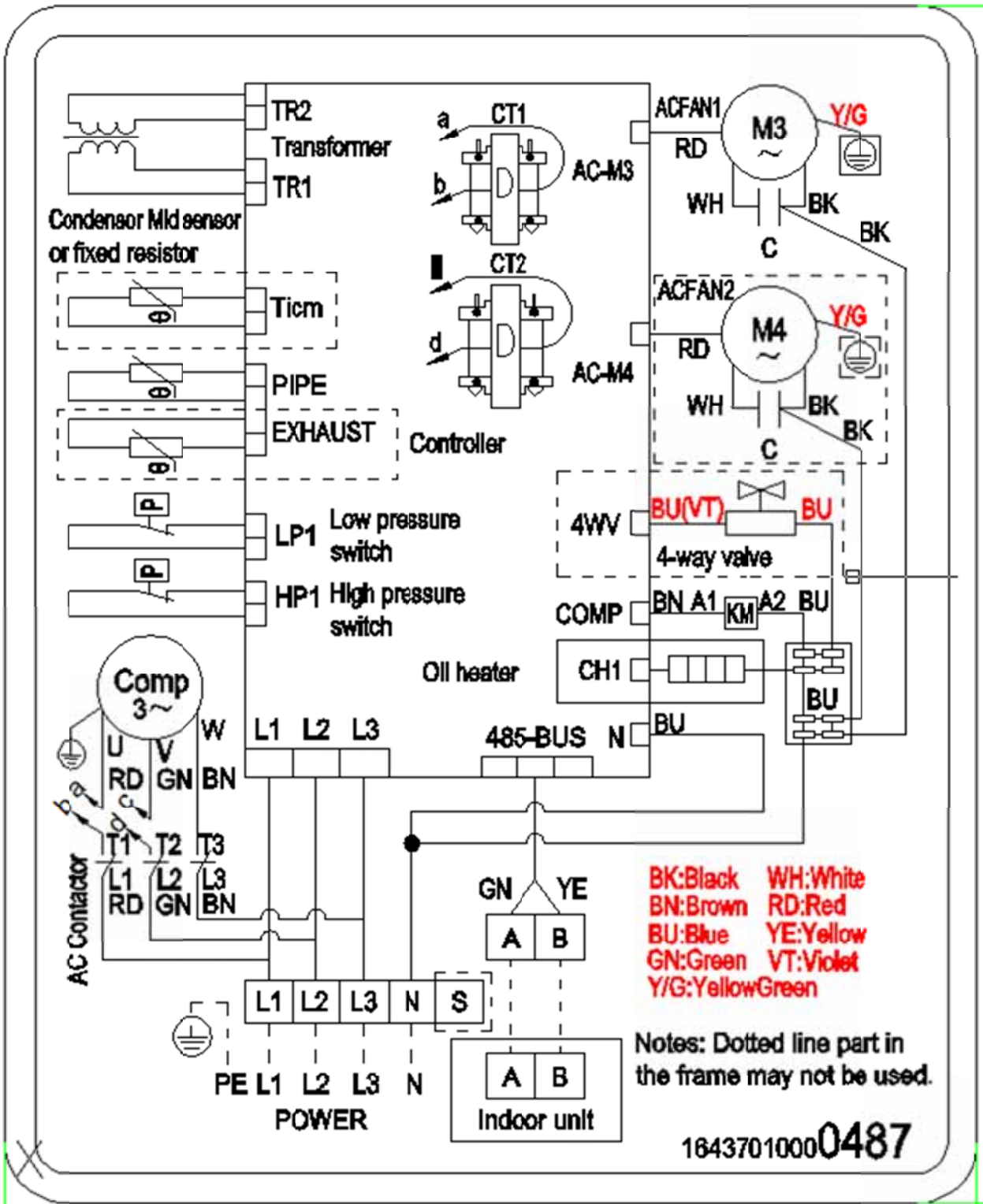
2.2 AL-H18/4R1F2-R(U)



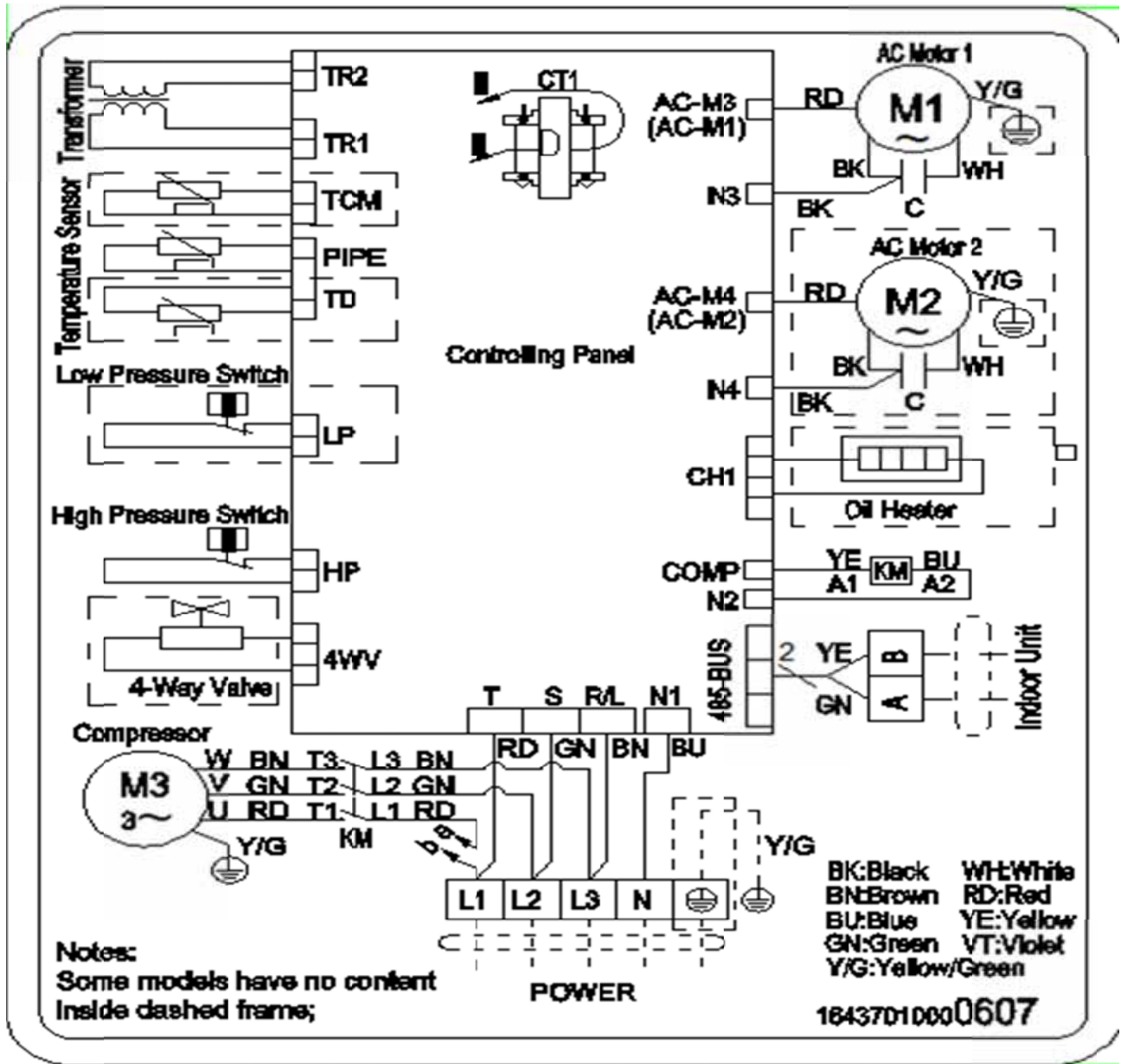
2.3 AL-H24/4R1F2-R(U)、AL-H24/4R1F3-R(U)



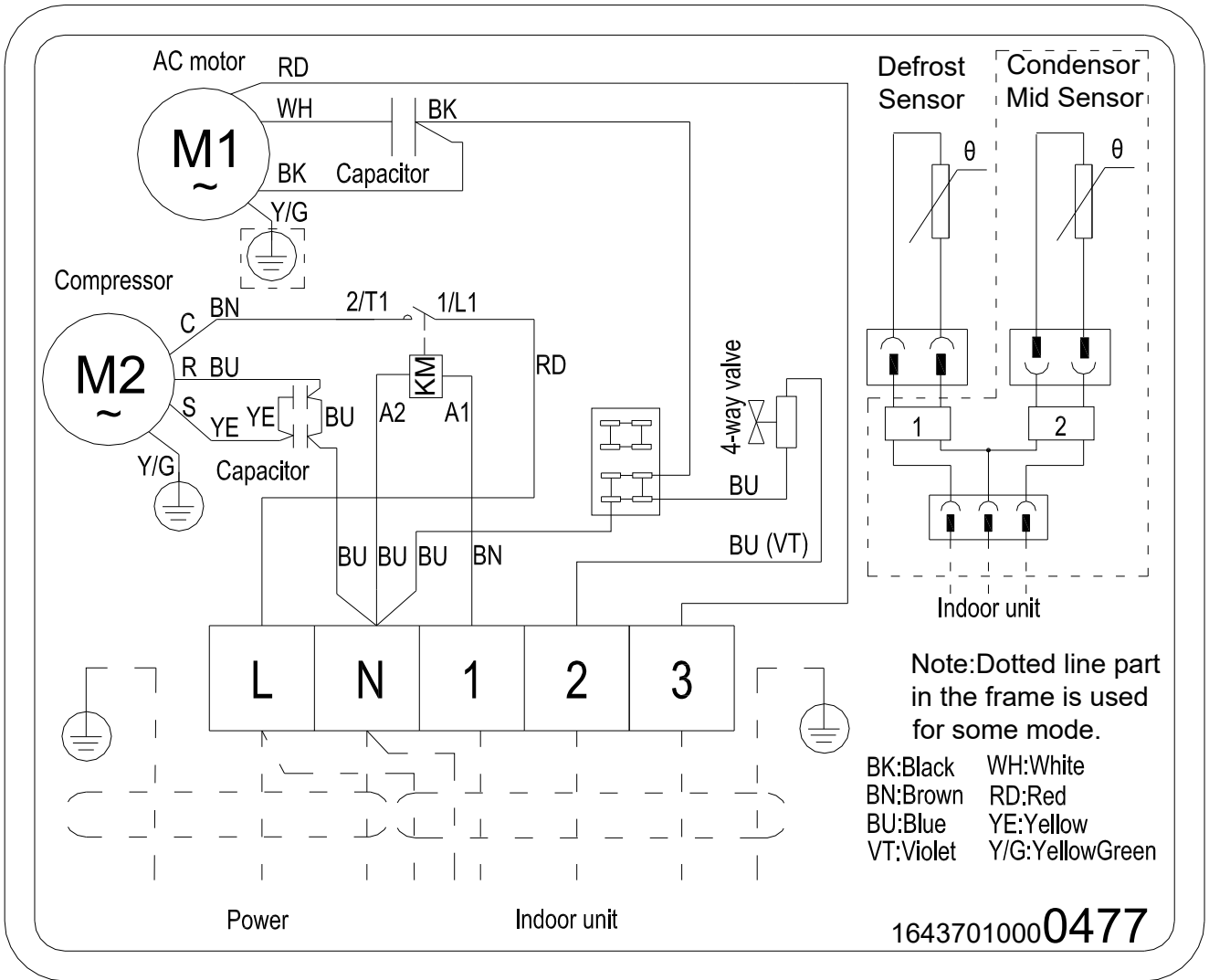
2.4 AL-H48/5R1F1-R(U)、AL-H60/5R1F1-R(U)



2.5 AL-H36/5R1F2-R(U)、AL-H48/5R1F2-R(U)、AL-H60/5R1F2-R(U)、AL-H48/5R1F3-R(U)、AL-H60/5R1F3-R(U)



2.6 AL-H36/4R1F-R(U)、AL-H36/4R1F3-R(U)



## Part7 Capacity Amendment

### 1. Operation range

Cooling capacity (KBtu/h)		12K	18K	24K	36K	36K	48K	60K
Power supply		220-240V~/50Hz/1Ph				380-415V~/50Hz/3Ph		
Ambient temperature	Cooling	-5~49°C						
	Heating	-15~24°C						

### 2. Long piping length

Cooling capacity (KBtu/h)		12K	18K	24K	36K	36K	48K	60K
Connection Pipe(mm)	Liquid pipe	Φ6.35		Φ9.52		Φ9.52		
	Gas pipe	Φ12.7		Φ15.88		Φ19.05		
Max.piping length(m)		15	20		30		50	
Max.piping height(m)		10	15		20		30	
Max.Bend Qty		3	4	4	6		8	

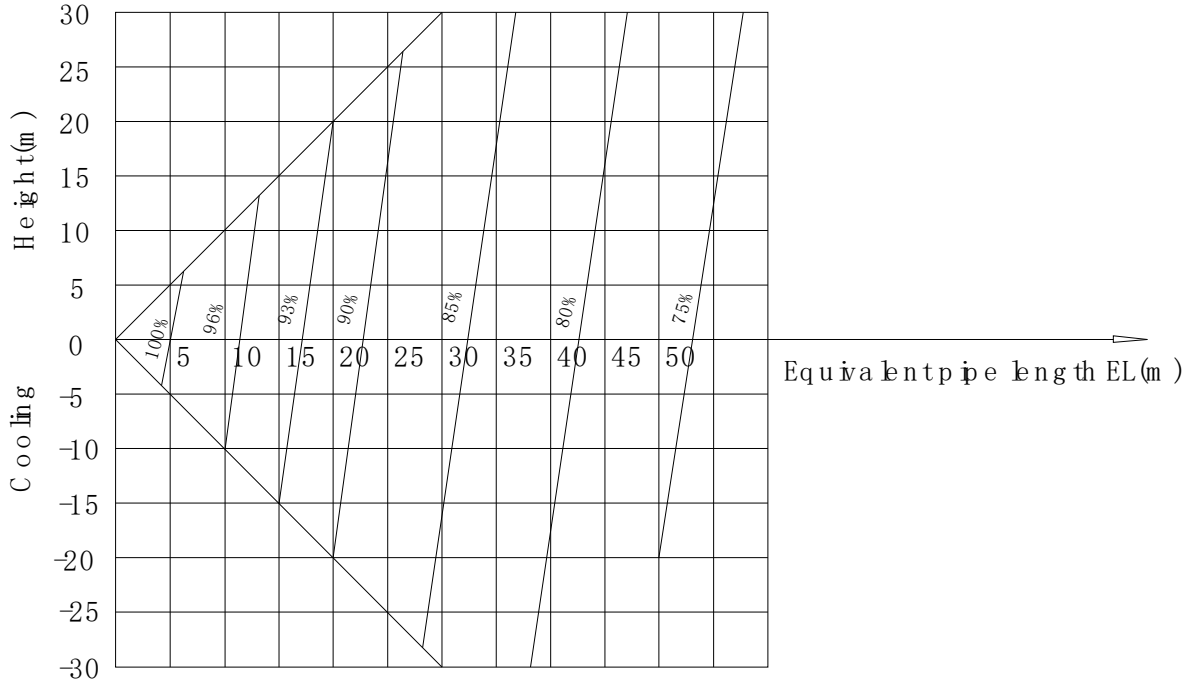
#### Caution:

1. The standard Pipe length is 5m, if the pipe length is less than this then no additional charging is necessary. If the pipe length is more than this then you should charge more refrigerant into the system according to the above Charging Data
2. The thickness of the pipe is 0.6-1.0, bearing pressure is 4.2MPa;
3. If the connection pipe is too long, the cooling capacity and stability would be decreased. And the more bend quantity, the resistance in the piping system would be bigger, then the cooling and heating capacity would be decreased even lead to compressor broken. We suggest you to use the shortest connection pipe according to the pipe length parameter in this manual. If the height difference between outdoor and indoor unit is more than 5m, an oil trap should be installed in the gas pipe for every 10 meters.

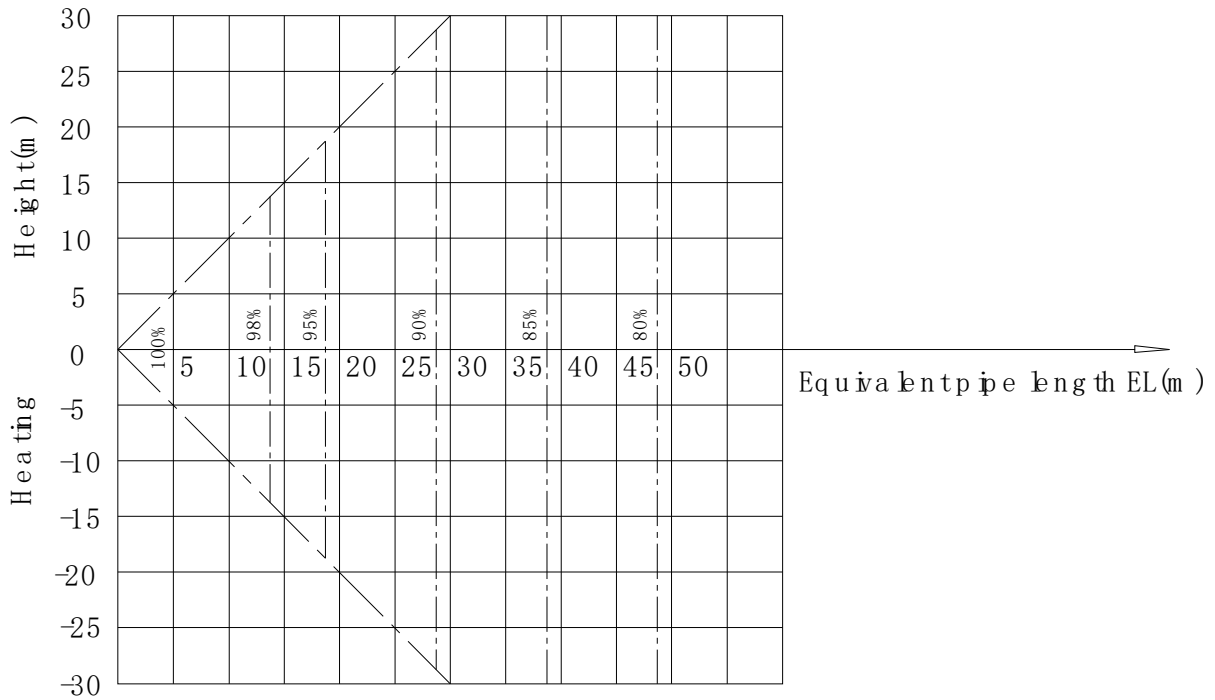
### 3. Capacity amendment of different piping length

#### 3.1 Amendment coefficients of heating and cooling capacity under different height drop K3

##### Different Cooling Capacity modified coefficients at different height:



##### Different Heating Capacity modified coefficients at different height:



**Note:**

H = Height of Outdoor Unit - Height of Indoor Unit

**3.2 Correction capability**

Cooling capacity = Rated cooling capacity xK1xK3

Heating capacity = Rated heating capacity xK2xK3

**4. Equivalent Pipe length conversion**

Equivalent pipe length means converting pipe elbow to straight pipe length after considerate the pressure loss.

**Bend and Oil Loop Conversion tablet**

Type Pipe Dia.(mm)	Bend	Oil Loop
6.35	0.10	0.7
9.52	0.18	1.3
12.70	0.20	1.5
15.88	0.25	2.0
19.05	0.35	2.4
22.02	0.40	3.0

Equivalent Pipe length L = Actual Pipe length L+ Bend Qty× Equivalent pipe bend length+ Oil Loop Qty × Equivalent Oil Loop length

**Sample:**

ALCA-H42/5 Actual Pipe length is 25 meters, Gas pipe diameter is 15.88mm. If there's 5 bends and 2 oil loops during the installation, then the equivalent pipe length should be:

$$L=25+0.25 \times 5 + 2.0 \times 2 = 30.25(m)$$

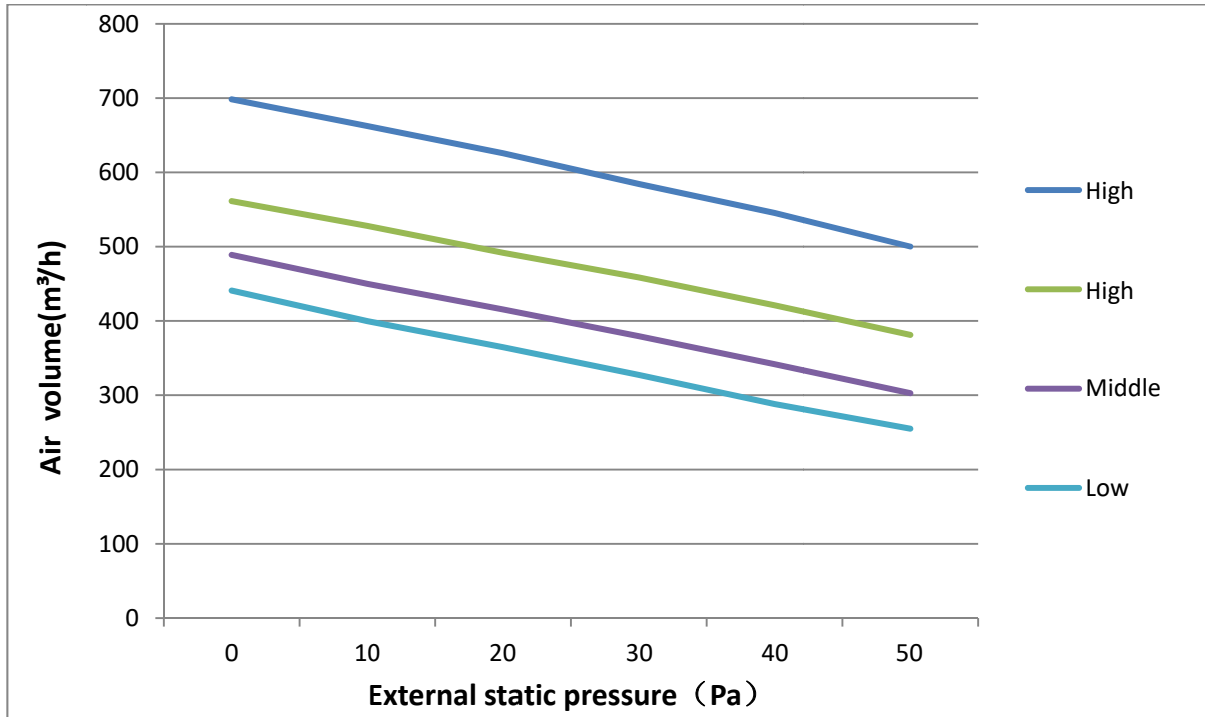
**Note:**

If there is relatively level difference of indoor and outdoor unit, S-shaped oil trap must be installed every 8~10m for vertical pipe.

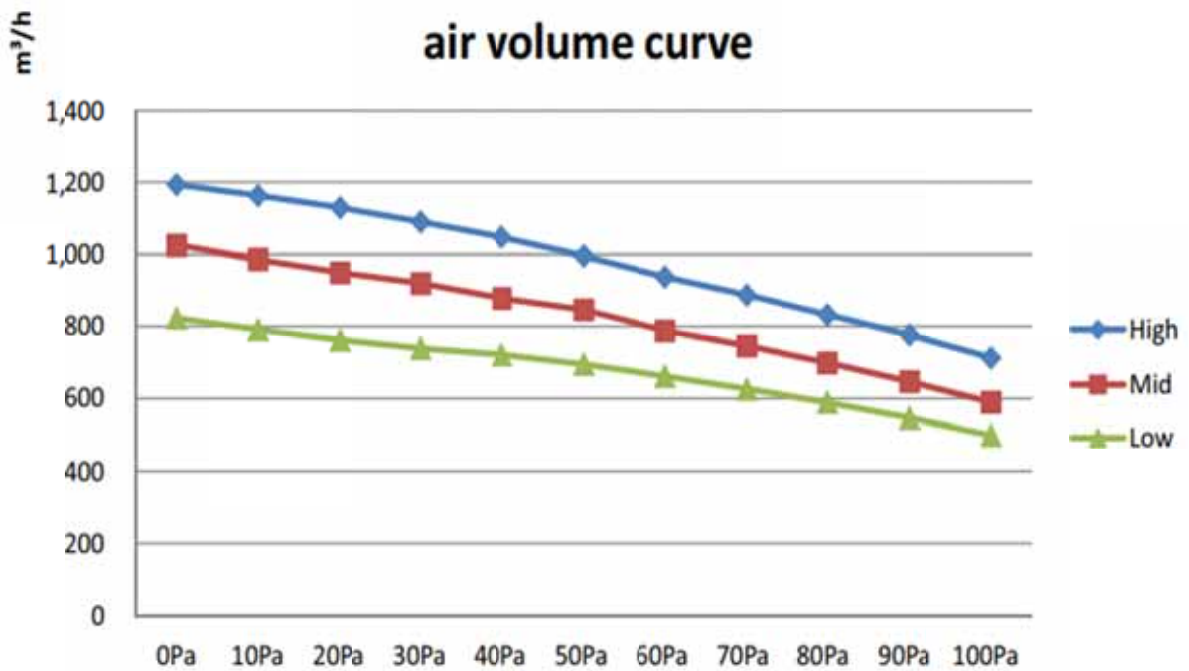


## Part8 Static pressure curve

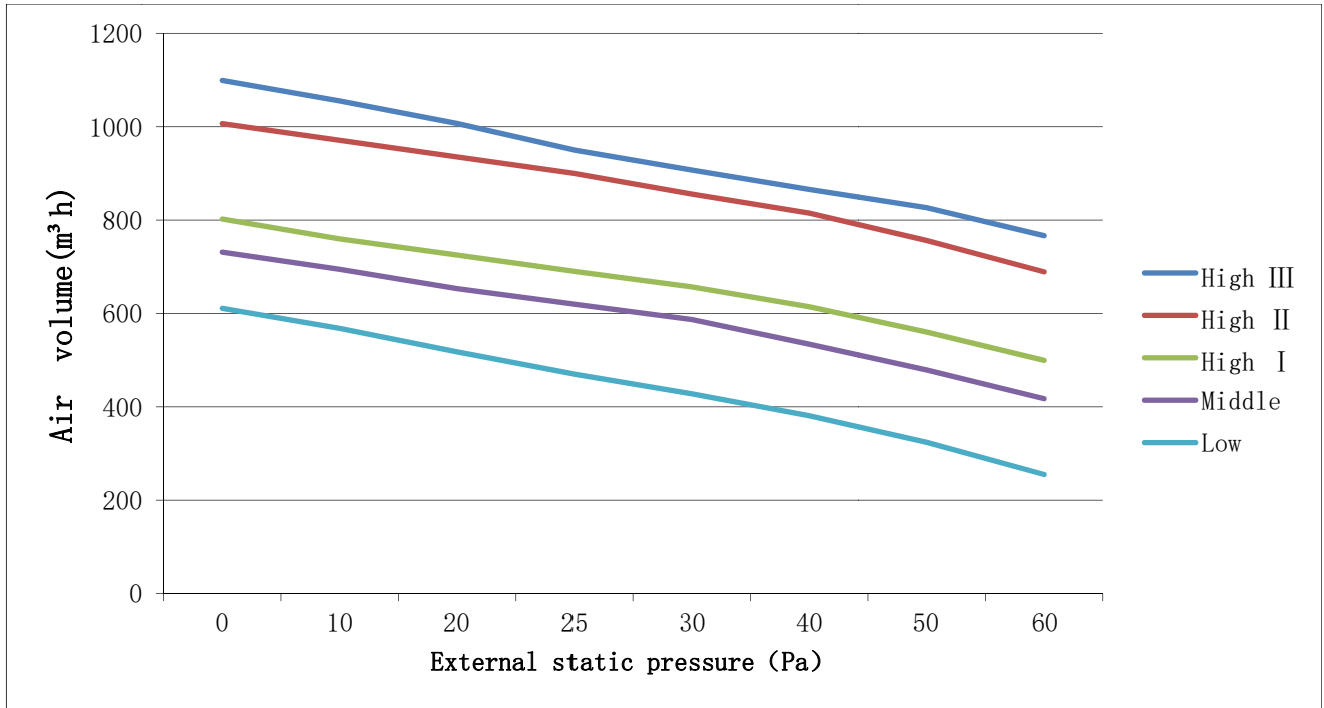
### 1. ALLD-H12/4R1F-R



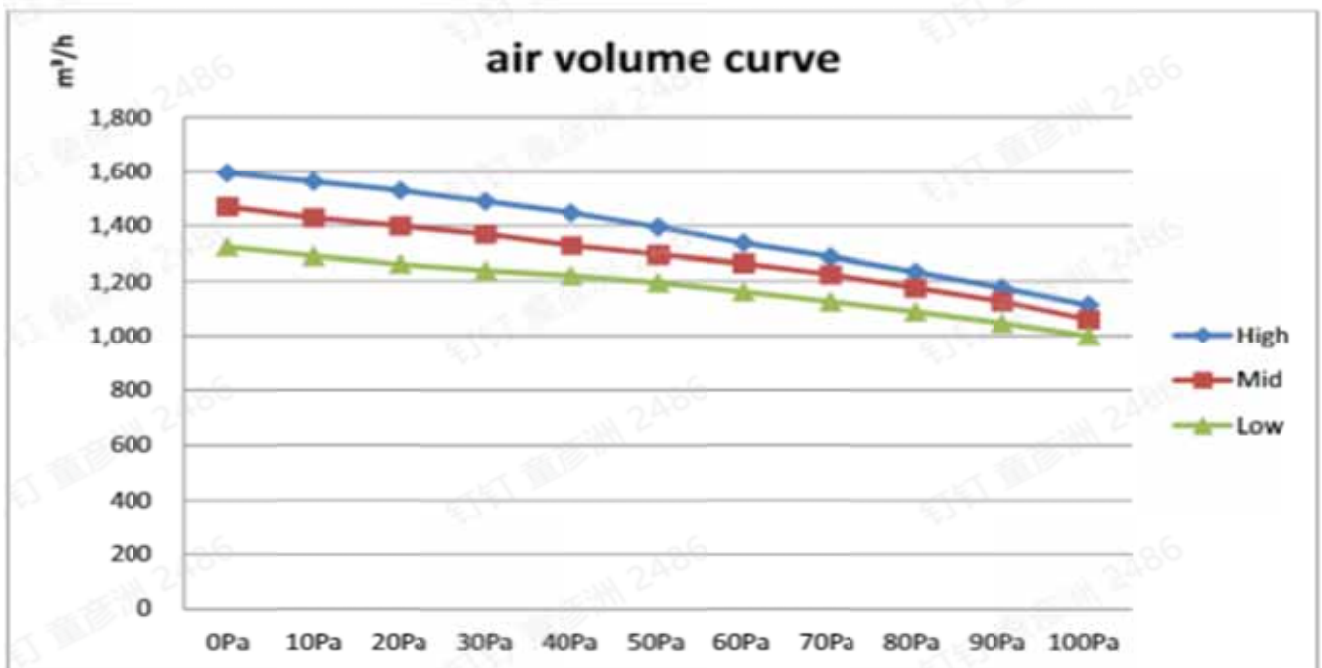
### 2. ALMD-H18/4R1F2-R



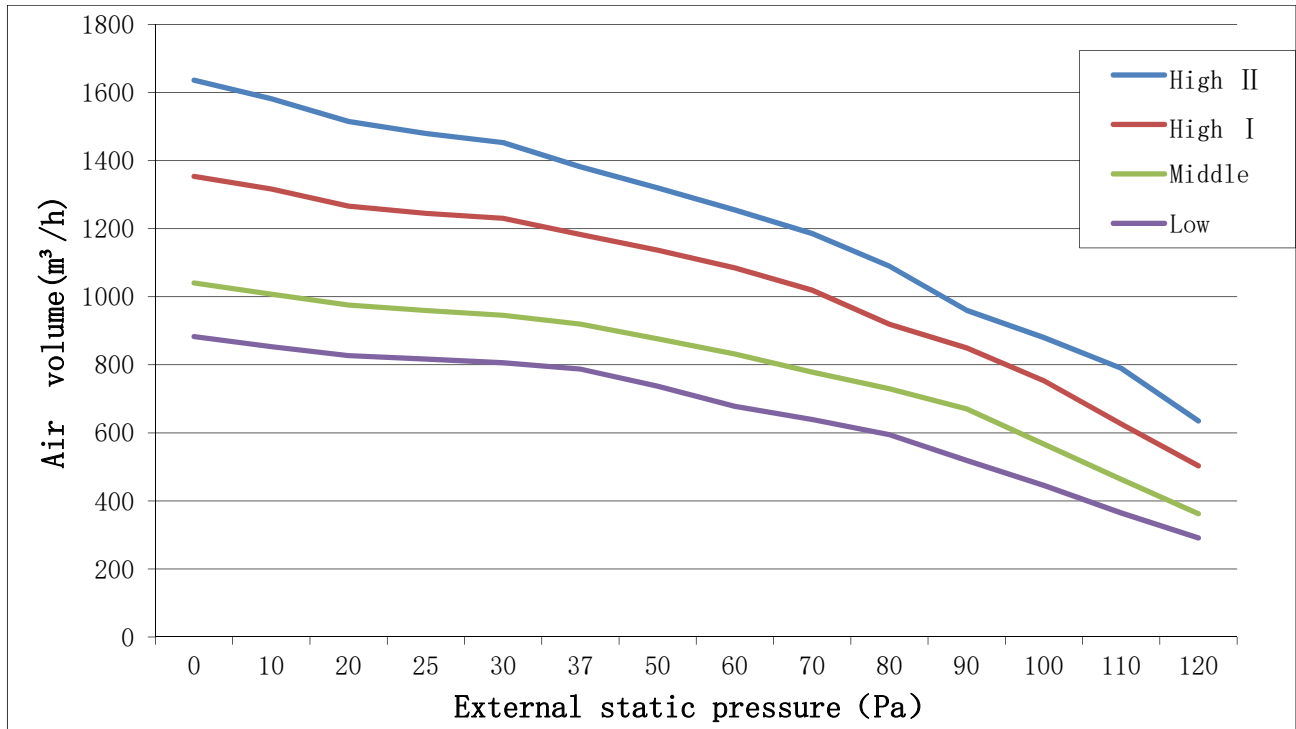
ALMD-H18/4R1YA-R (new)



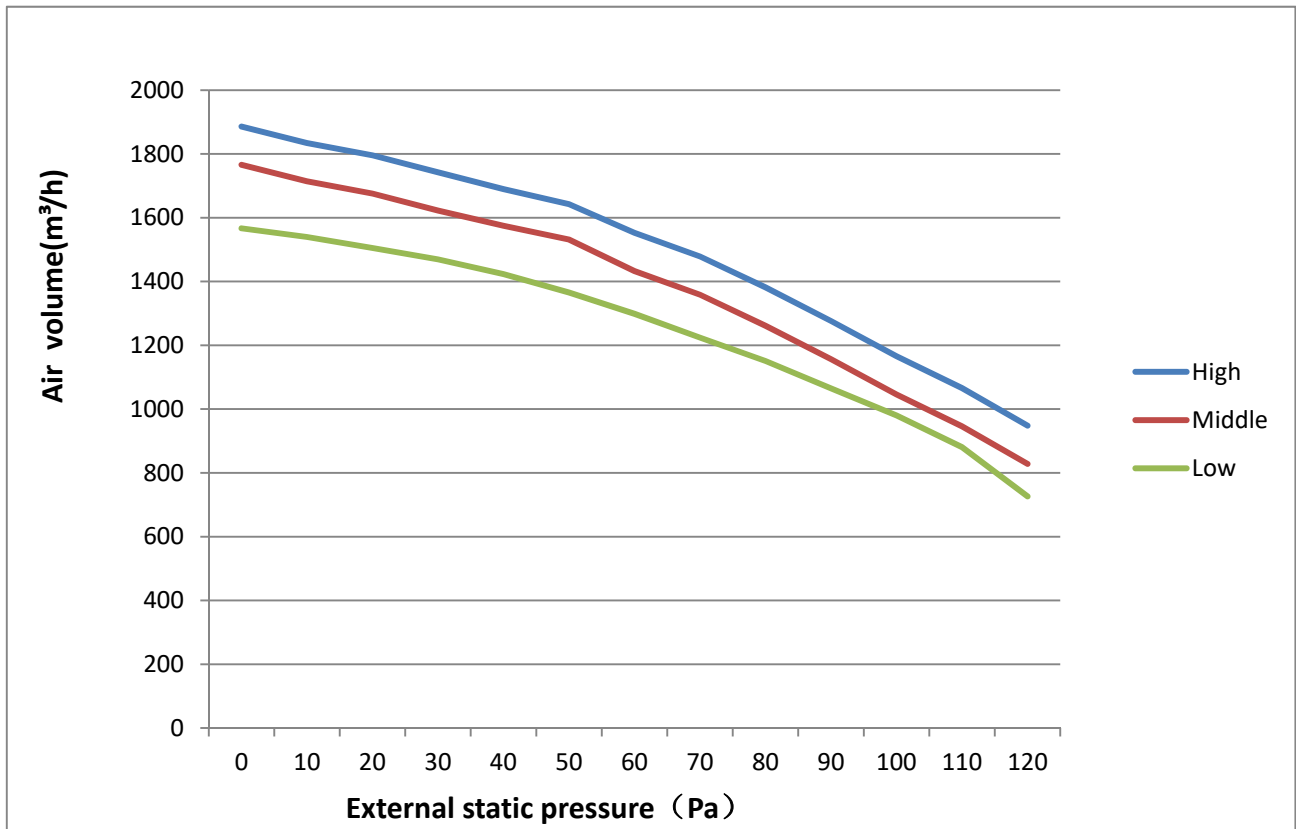
3. ALMD-H24/4R1F2-R



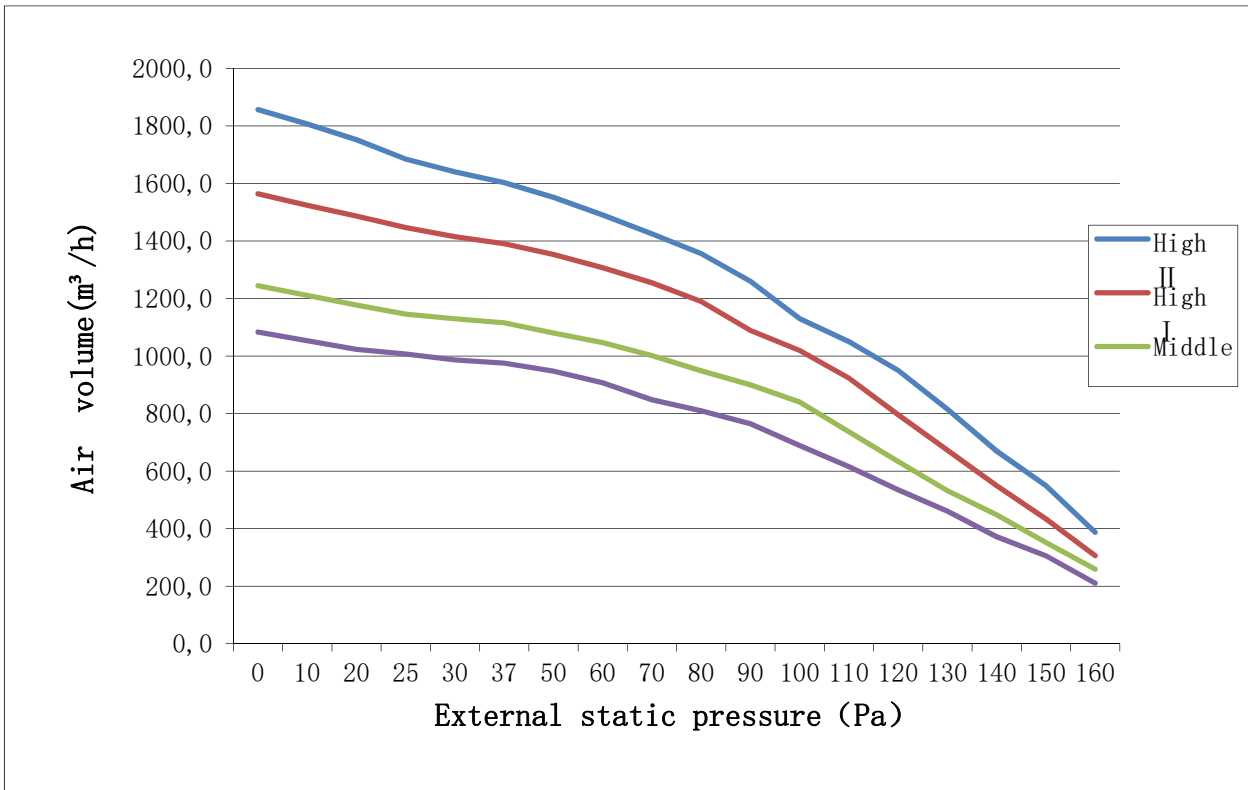
ALMD-H24/4R1MA-R (new)



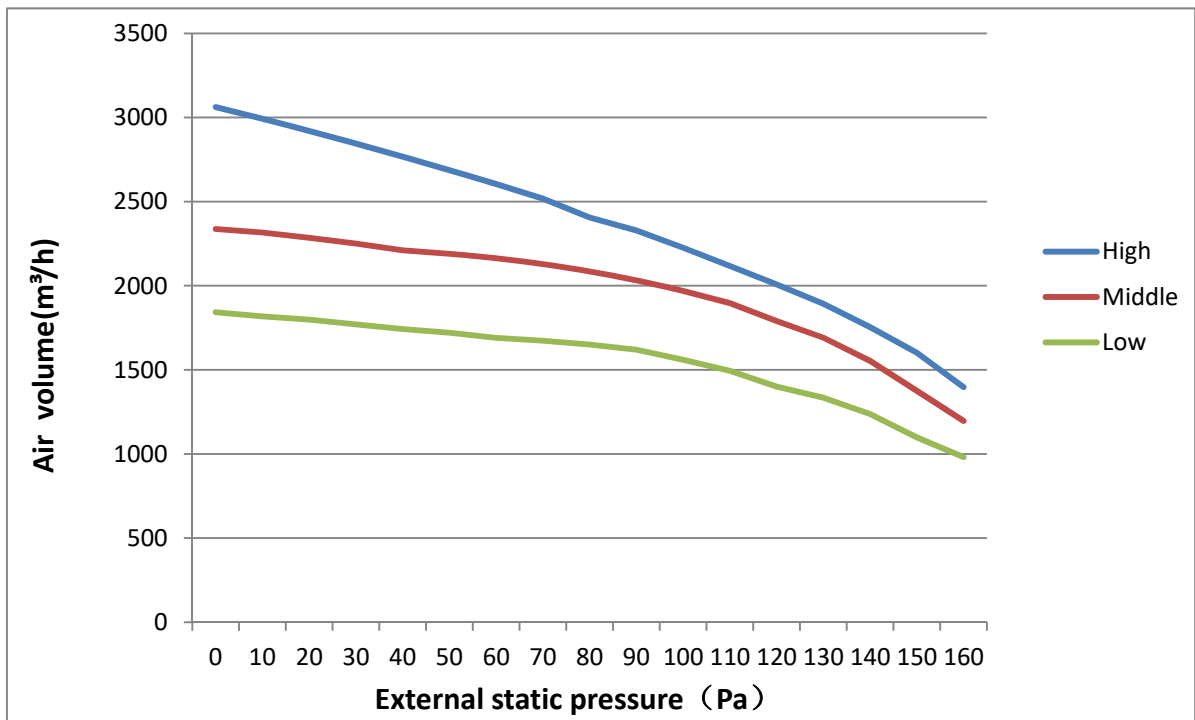
4. ALMD-H36/5R1F2-R



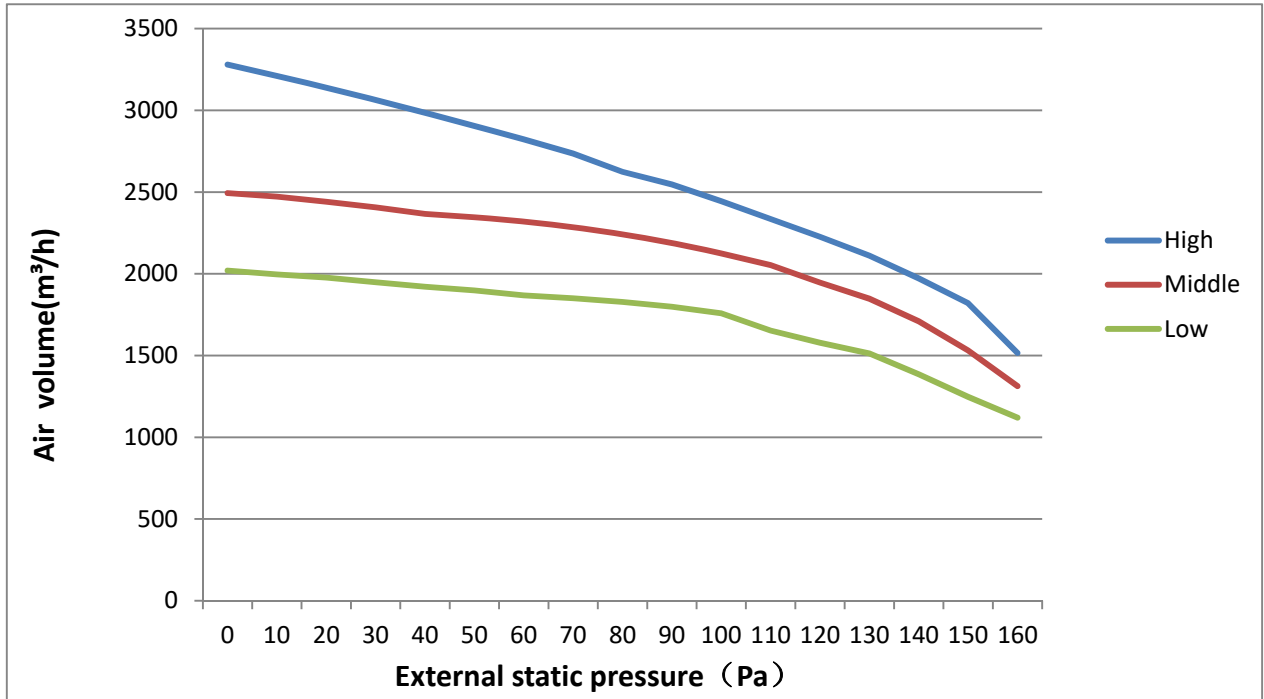
ALMD-H36/4R1MA-R、ALMD-H36/5R1MA-R (new)



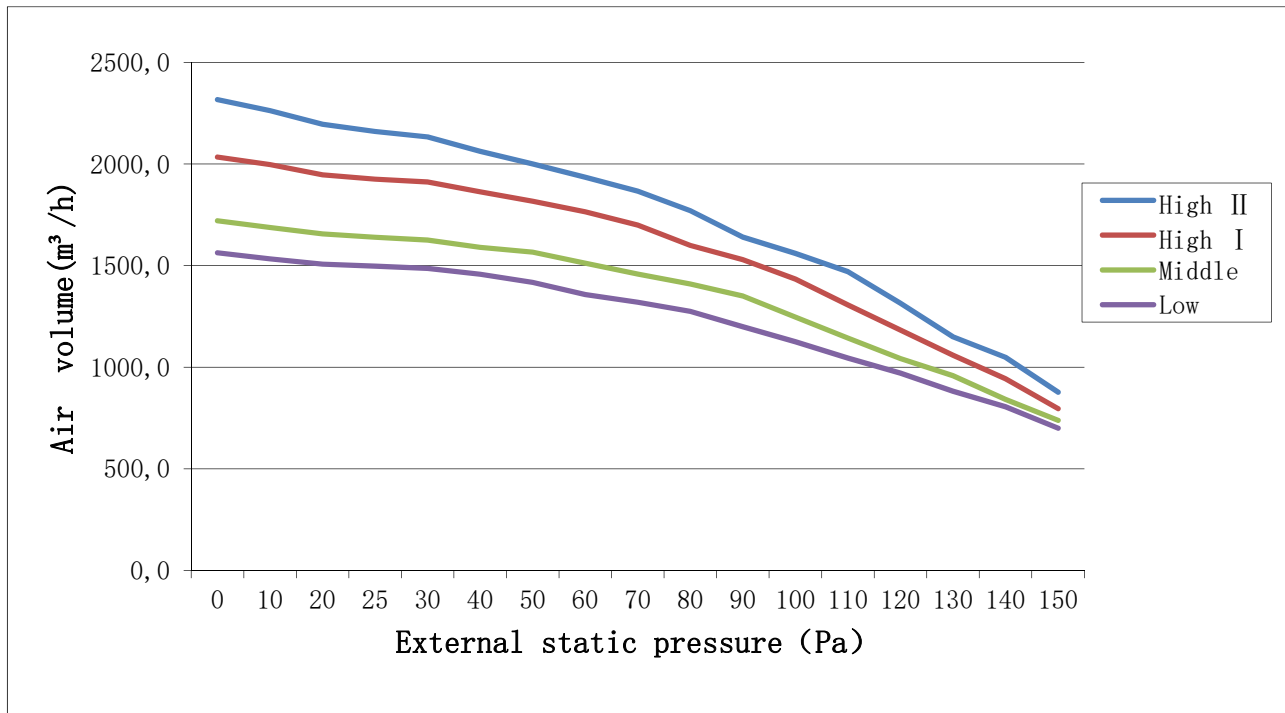
5. ALMD-H48/5R1F2-R



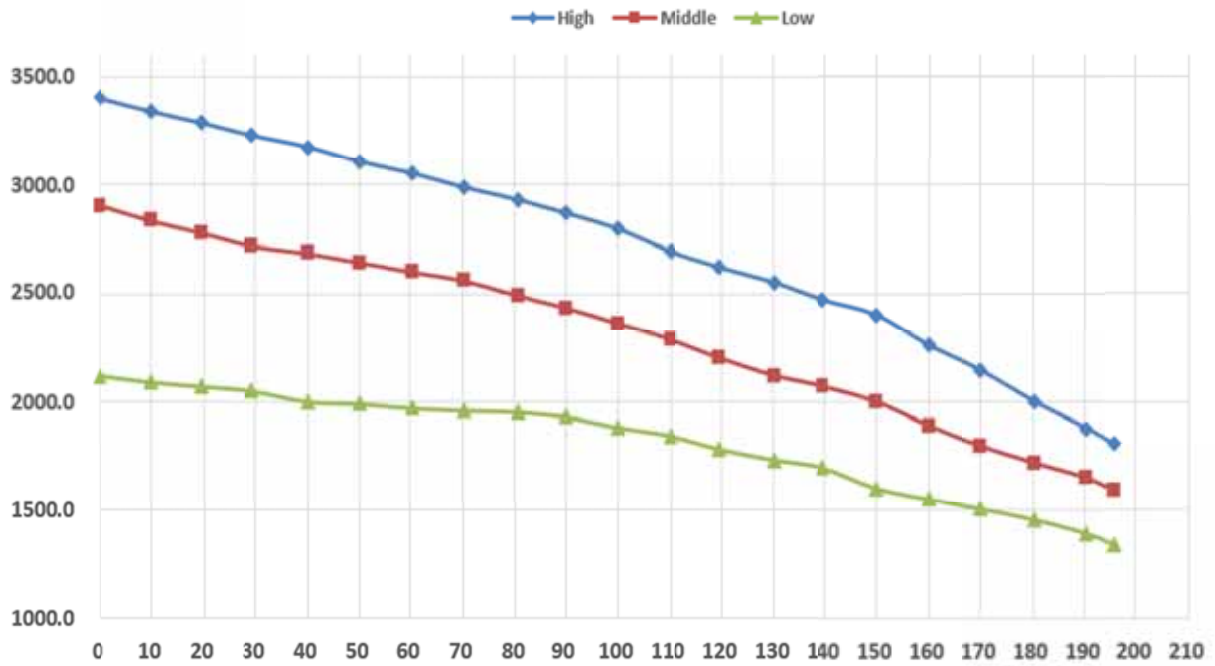
5. ALMD-H60/5R1F2-R



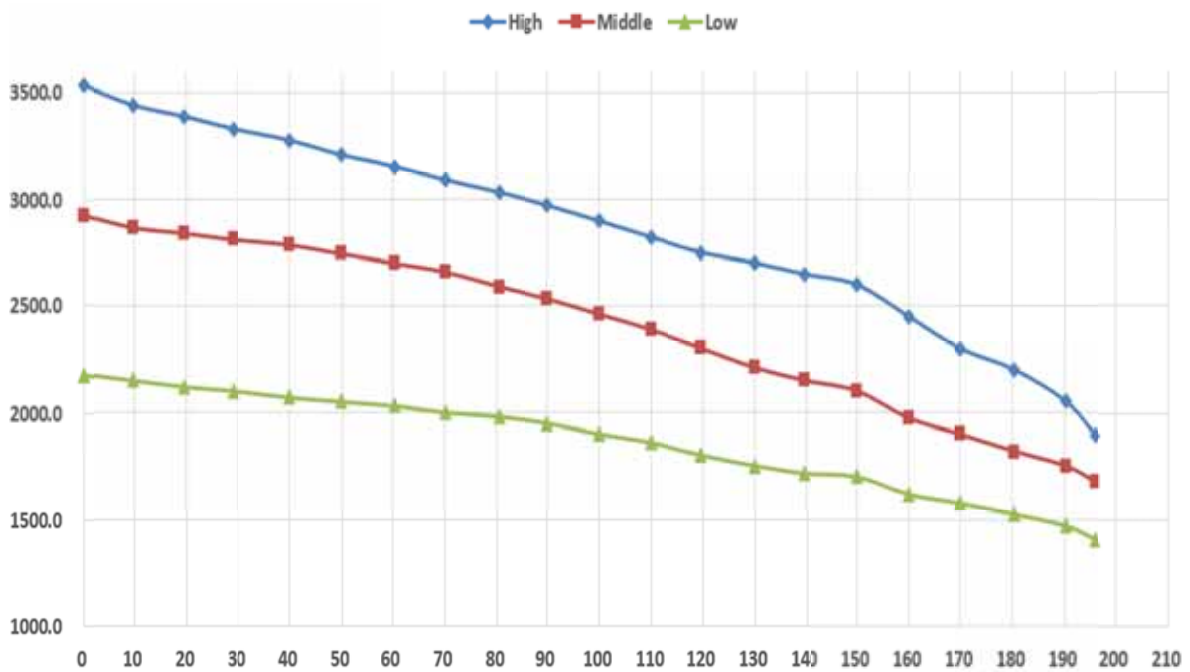
ALMD-H48/5R1MA-R, ALMD-H60/5R1MA-R (new)



### 7. ALHD-H48/5R1B1












### 8. ALHD-H60/5R1A

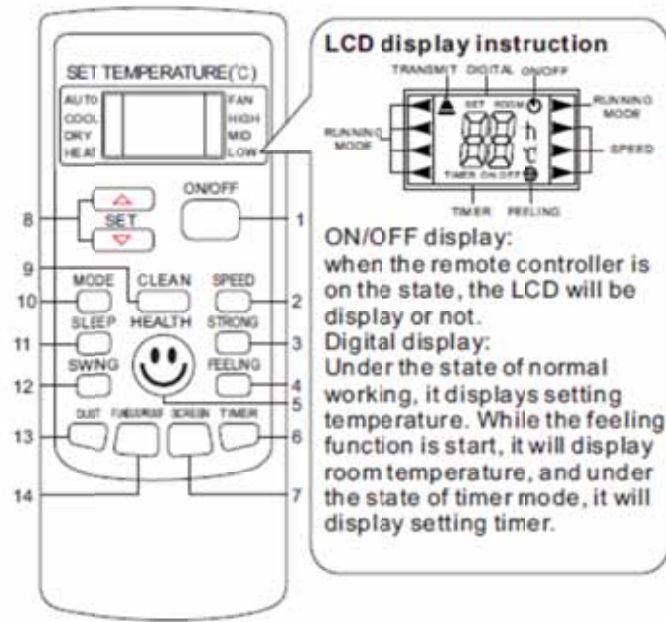


# Part9 Control

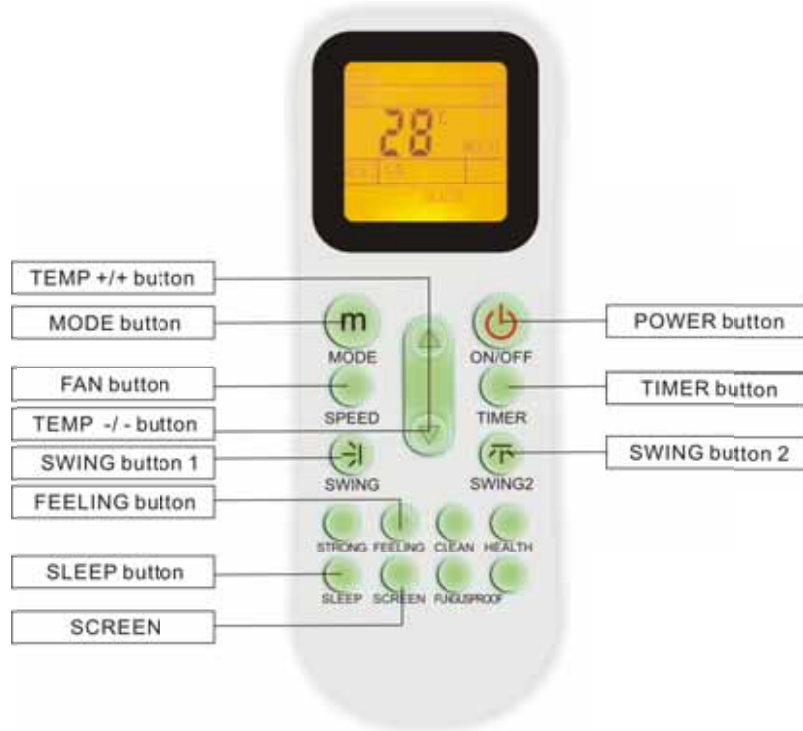
## 1. Controller

IDU type	Controller		
	Standard	Optional	Optional
Cassette			
	YK-H	XK-05	XK-06
Ceiling Floor			
	YK-H	XK-05	XK-06
Duct			
	XK05	YK-K	XK-06

### 1.1 Remote Controller YK-H



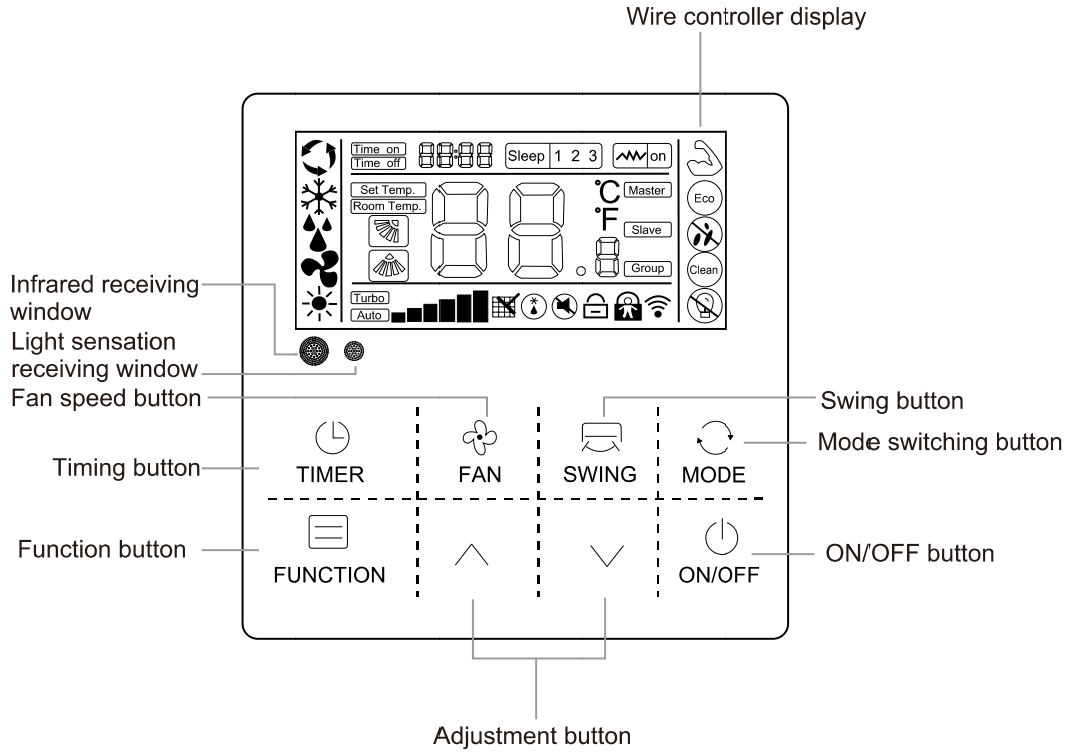
### 1.2 Remote Controller YK-K



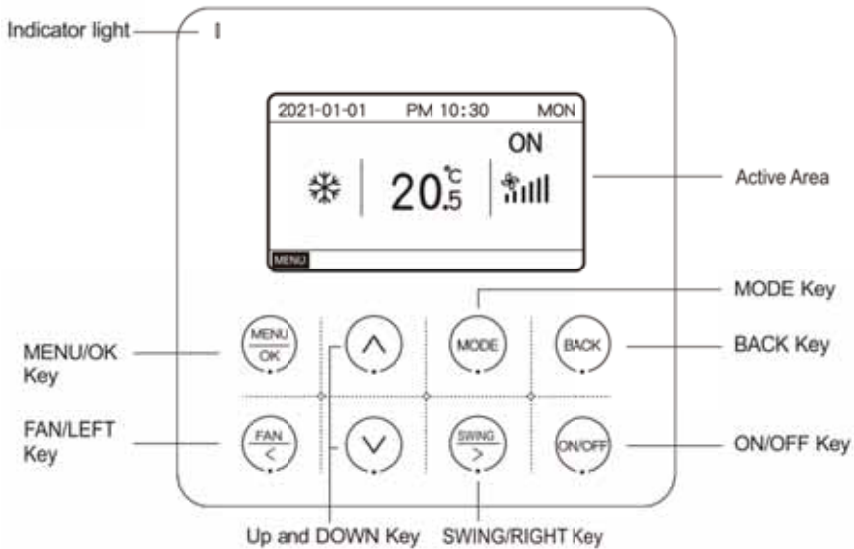


1.3 Wired Controller XK-05、XK-06

XK-05



XK-06



## 1.4 Parameter Setting by YK-L

### Enter the setting interface

- ① Make sure the remote controller is **off**
- ② Press the **two white buttons** at the down side simultaneously **more than 10s** to enter the address setting mode.

### Parameter Setting

- ③ Press the [^] or [v] button to change the parameter series number
- ④ Press the [IClean] or [ECO] button to change the parameter correspondence
- ⑤ Press the [MODE] button to send order (Send signal to display panels or receivers), Then can hear buzzer once



## 1.5 Parameter Setting by XK-04/ XK-05

### Parameter checking

Press the “FUNCTION” button for 5 seconds, enter into the parameter checking interface . the wired controller’s address will be displayed in the temperature zone of LED screen ( press “FUNCTION” button, the wired controller’s address will flash, the wired controller ‘s address can be changed through press the “^” or “v” , then press “FUNCTION” buton to confirm);

In the timing setting zone :**HH** means seires NO. **MM** means parameter value. After Entering into IDU parameter checking , via pressing the “^” or “v” buton ,you can check the parameter value of seires NO. **【04】 【05】 【1】** .



**HH:** means seires NO.  
**MM:** means parameter value.

2. Press “^”or“v” , change the parameter value of seires NO.

1. Press “**FUNCTION**” for 5S , enter parmater checking model

Parameter setting

**Only in parameter checking model** ,press the “FUNCTION” button for 5 seconds,  
Enter into parameter setting model.

The corresponding parameter value “MM” began to flash,changing it through pressing  
the “ ^ ” or “ v ” button,after finished ,press the “FUNCTION” button to confirm.When  
finishing parameter setting,it will automatically go back to parameter checking model.





2. Press “ ^ ” or “ v ” , change the parameter value.

1. Only in checking model, Press “FUNCTION” for 5S ,  
enter parameter checking model

## 2. Room Card Function

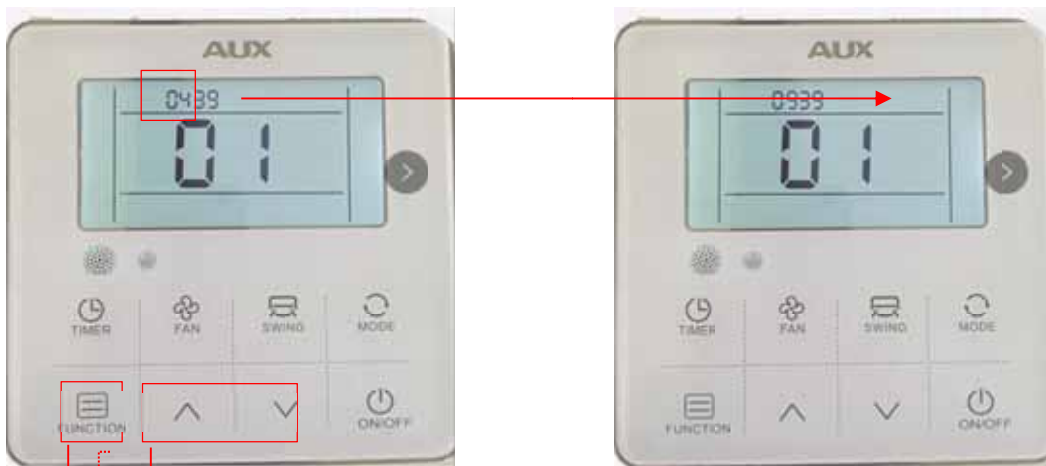
### 2.1 Function setting

Parameter setting	Model	Contact State	Operation model specification
0900	Normal ( default)		Stand
0901	Room Card (optional)		the IDU Will be into standby mode, can be controlled by controller
			the IDU Will be into standby mode, <b>can't be controlled by controller</b>

※ How to set the room card function ( Set method same as the above 【Part 9 →2.1 Parameter Setting by YK-L or 2.3 Parameter Setting by XK-04/XK-05 】

**For example ( XK-05)**

#### Step 1

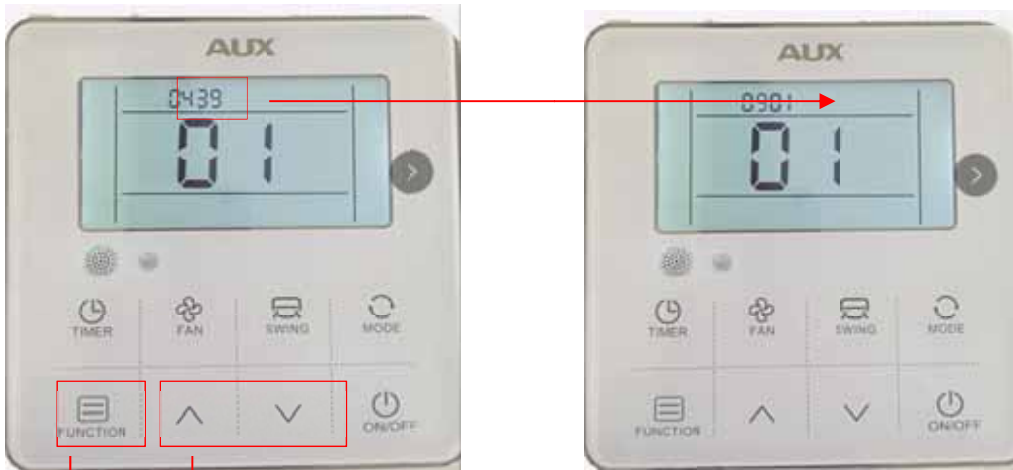


③ Press “FUNCTION” for 5S again, enter parmater setting model;

② Press the“^”or“v”button to get “09 39”

① Press “FUNCTION” for 5S,enter parmater check model;

Step 2

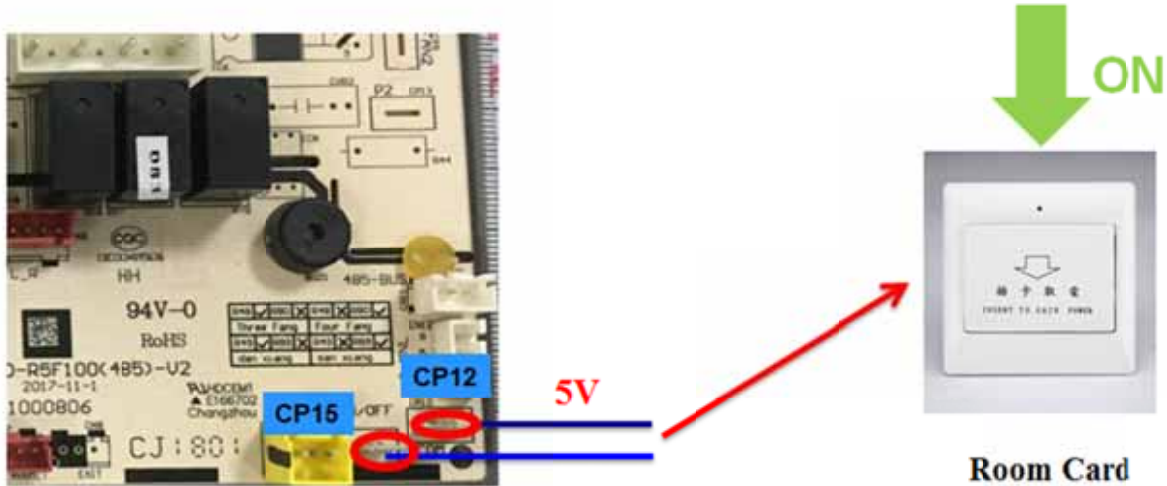


④ Press the “^” or “v” button to get “09 01”

⑤ after finishing setting , press “FUNCTION” to confirm

2.2 Wiring diagram

When the room card is inserted, the air conditioning can be controlled ; when you leave the room, the AC will standby, can not be controlled .



### 3. Wifi Module

#### 3.1 WiFi Module Configuration

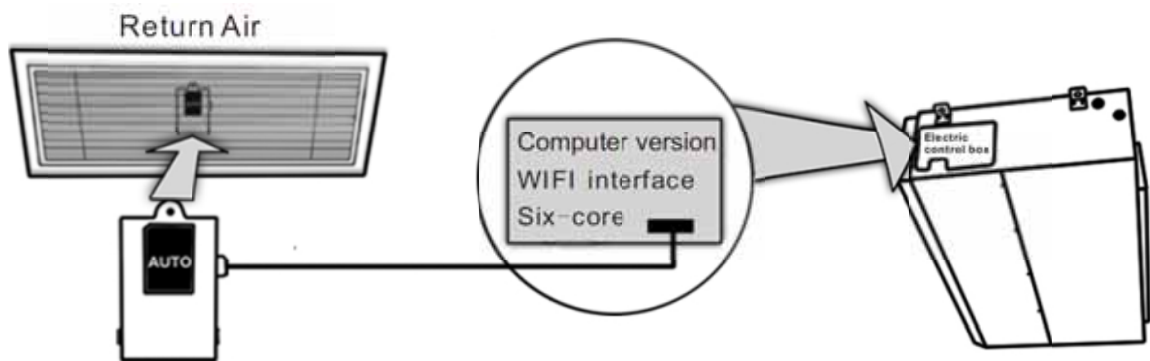
##### ① APP Download

Mobile terminal scan the following dimensional code to download APP, or search “AC Freedom” in APPSTORE and Google store



##### ② Light Commercial WIFI Module Installation

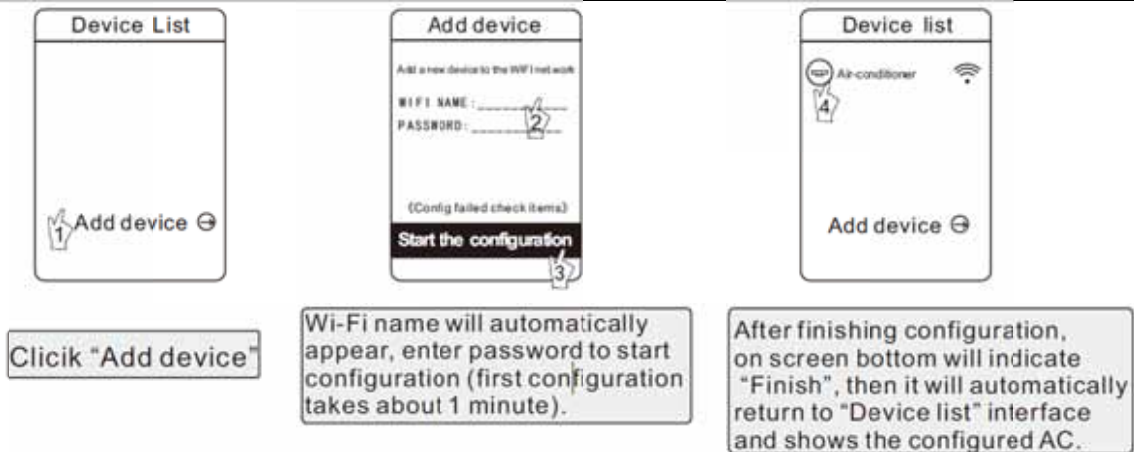
Connect the WIFI module communication wire to WIFI interfaces of main PCB, as shown below:



The WIFI module should be placed in the return air or some other place in WIFI area.  
(customers buy the wireless router)

##### ③ APP Configuration

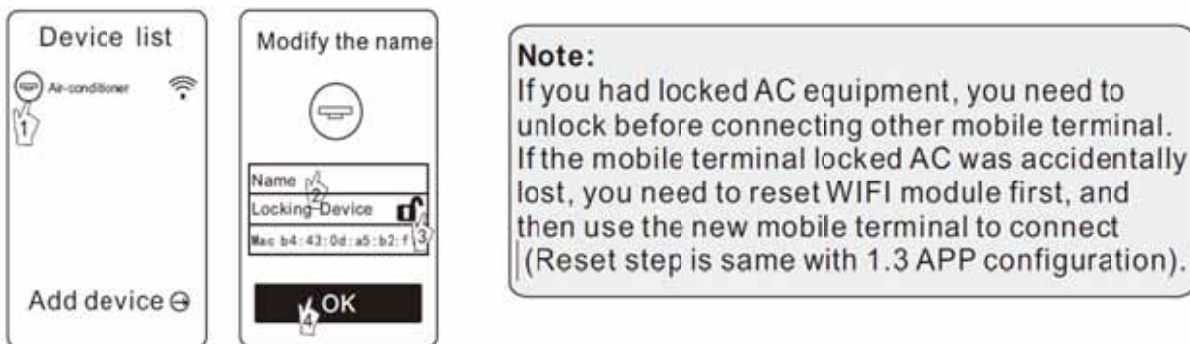
- Press "healthy" button 8 times consecutive, and buzzer even ring two sound then into the configuration
- Connect mobile terminals to WIFI, open APP “AC Freedom”, and then operate following the steps below:



**Note:** If the configuration fails or you change the password of wireless router, you need to reset the WIFI module to reconnect: Turn on the power of the module, then repeat the steps above for APP configuration.

### 3.2 AC management

#### ① Modify AC name and locking function



② For other instructions, please refer to "HELP" in APP.

#### ③ Remote-control device

Connect the wireless router to internet, then open the GPRS. It means the remote control device, voice control function only effective after connected to the Internet

### 3.3 TroubleShooting

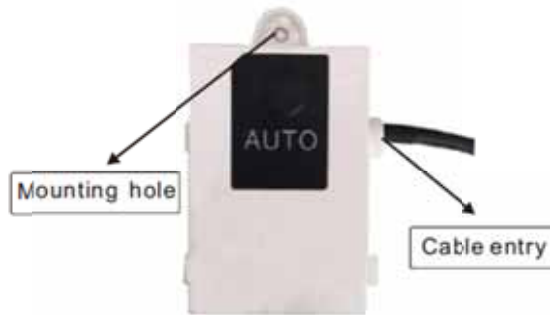
**If unable to properly configured or connect the WIFI box:**

- Make sure the WIFI box for wiring is properly connected.
- Long press WIFI box 8 seconds to reconfigure the positive button. If the problem can't be solved, please contact after sales person.



### 3.4 Technical Parameters

- Working temperature : 0~50 ;
- Working environment humidity : 20~90%RH ;
- Dimensions : 78 X 52 X 15.5
- Configuration cable wire length : 1500mm





# Part10 Installation

※ Please refer to the installation & operation manual

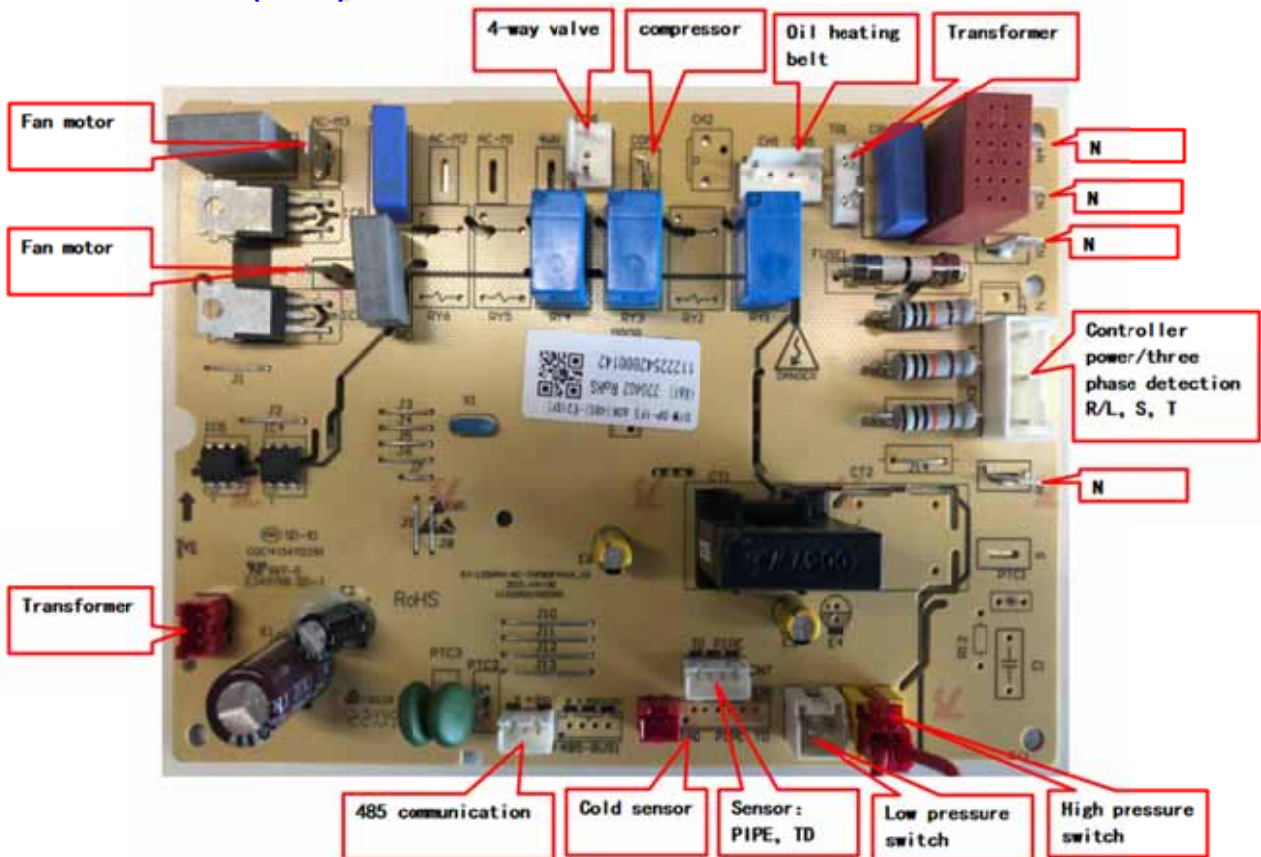
## Part11 PCB Instruction

### 1. Outdoor Unit PCB

AL-H36/5R1F2-R(U) /AL-H48/5R1F2-R(U) /AL-H60/5R1F2-R(U)

AL-H48/5R1F3-R(U)/ AL-H60/5R1F3-R(U) ( new )

11222542000142 (3Ph~)

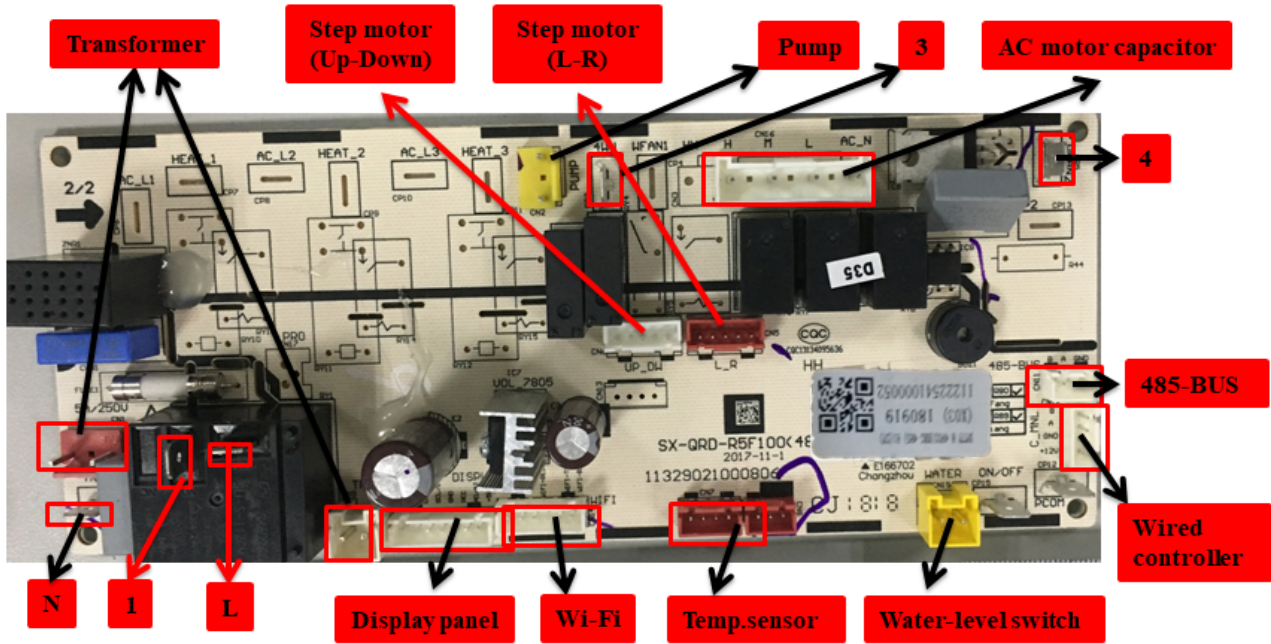


## 2. Indoor Unit PCB

### 2.1 Duct (1Ph~)

ALLD-H12/4R1F-R、ALMD-H18/4R1YA-R、ALMD-H24/4R1MA-R、ALMD-H36/4R1MA-R (New)

PCB:11222541000052



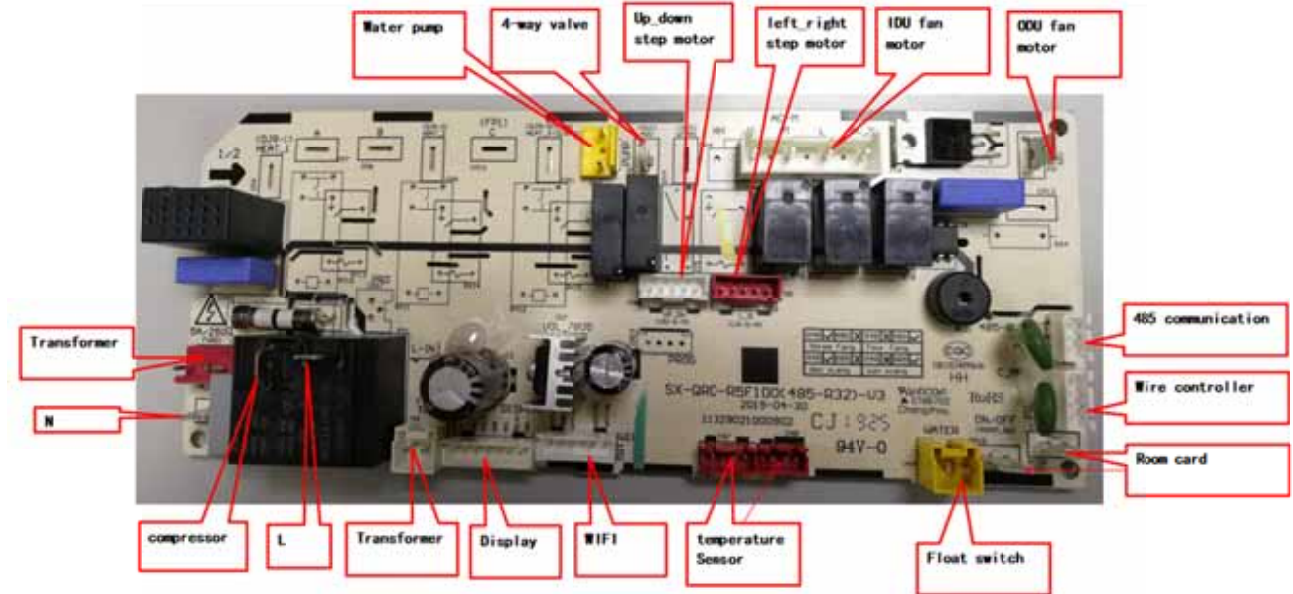
### 2.2 Cassette,Ceiling Floor,Duct (1Ph~)

ALCA-H12/4R1Y2A-R/ALCA-H18/4R1Y2A-R/ALCA-H24/4R1E2A-R/ALCA-H36/4R1E1A-R  
ALCA-H24/4R1YA-R/ALCA-H36/4R1YA-R (New)

ALCF-H18/4R1F2-R/ALCF-H24/4R1F2-R/ALCF-H36/4R1F1-R  
ALCF-H24/4R1FA-R/ALCF-H36/4R1FA-R (New)

ALMD-H18/4R1F2-R/ALMD-H24/4R1F2-R/ALMD-H36/4R1F-R  
11222541000029

**R410A T1 ON/OFF LCAC B7 Series**



**2.3 Cassette、Ceiling Floor、Duct(3Ph~)**

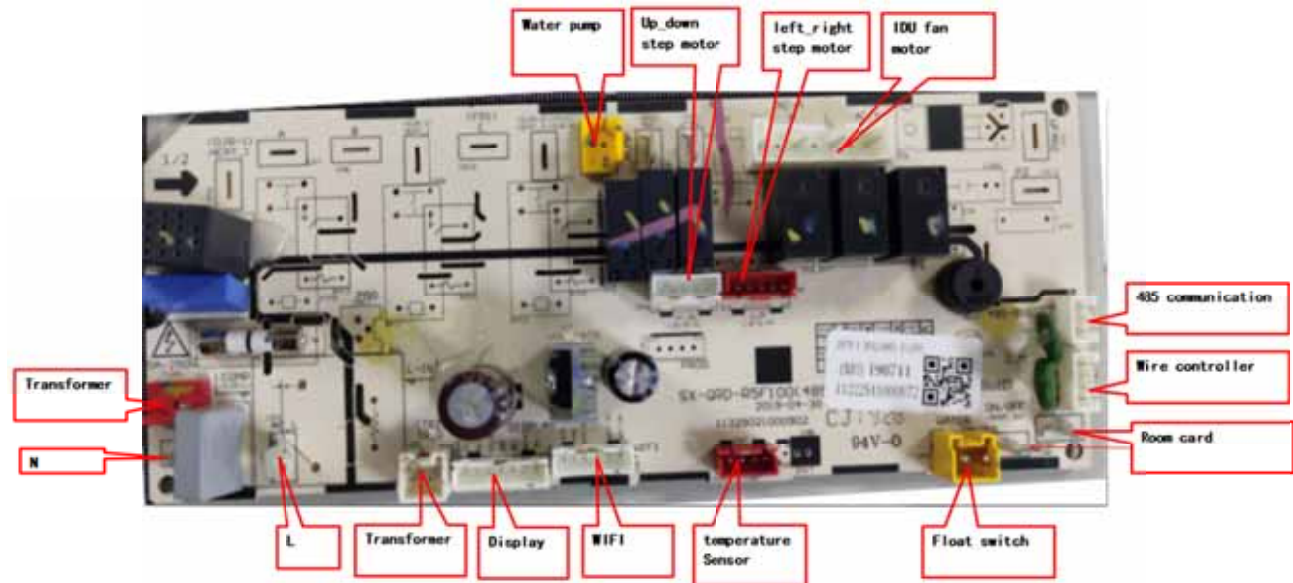
ALCA-H36/5R1E2A-R/ ALCA-H48/5R1E3A-R/ ALCA-H60/5R1E2A-R  
 ALCF-H36/5R1F2-R/ ALCF-H48/5R1F2-R/ ALCF-H60/5R1F2-R

**ALCF-H48/5R1FA-R/ ALCF-H60/5R1FA-R (New)**

ALMD-H36/5R1F2-R/ ALMD-H48/5R1F2-R ALMD-H60/5R1F2-R

**ALMD-H36/5R1MA-R/ ALMD-H48/5R1MA-R/ ALMD-H60/5R1MA-R (New)**

PCB:122254100072

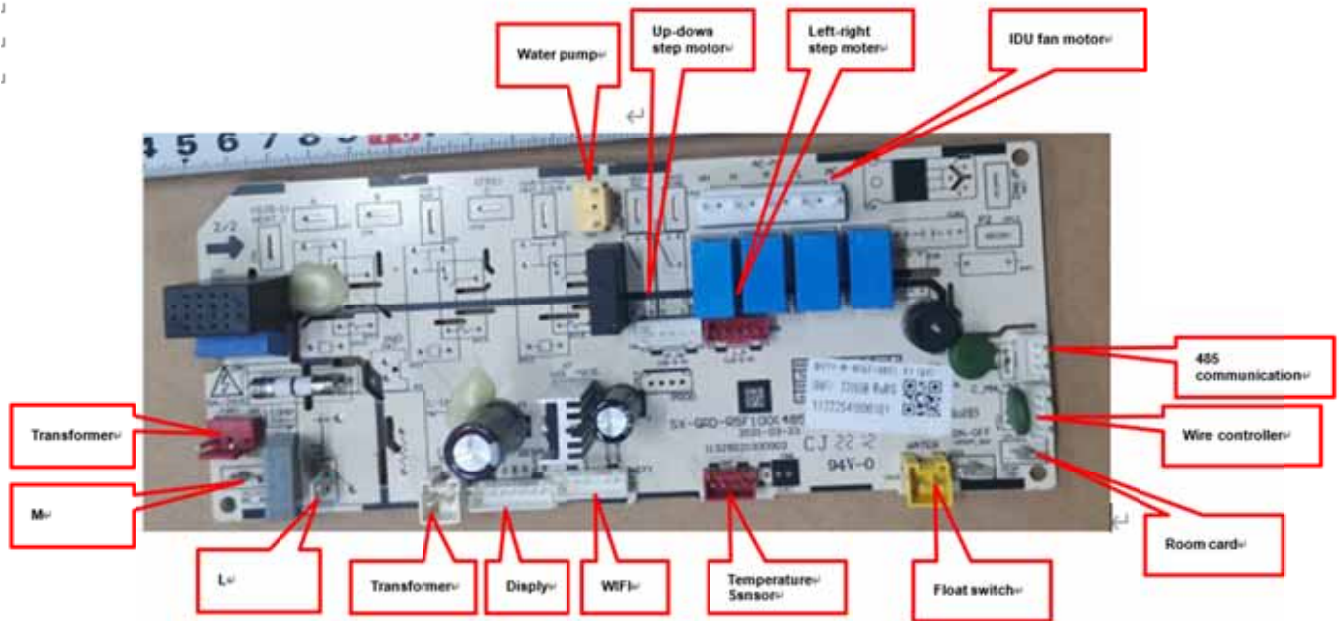


**2.4 Duct (3Ph~)**

**ALMD-H36/5R1MA-R/ALMD-H48/5R1MA-R/ALMD-H60/5R1MA-R (New)**

PCB:11222541000101

# R410A T1 ON/OFF LCAC B7 Series



## Part12 Trouble Shooting

### 1. Failure code display

When AC has failure, indoor display board and wire controller will show error codes

Error code	Error code definition	Recovery or not	Problem possible reasons
E0	Lack of refrigerant	No	Compressor internal protection
			System is short of refrigerant
			Reversing failure of 4 way valve
E1	TA (Indoor temperature sensor) is abnormal	Yes	Sensor damage
			Poor contact of sensor
E2	TW(Defrosting temperature sensor) is abnormal	Yes	Sensor damage
			Poor contact of sensor
E3	TE(Indoor coil sensor) is abnormal	Yes	Sensor damage
			Poor contact of sensor
E4	Drainage system failure	Yes	Damage of water pump
			Damage of water level switch
			Water level switch is locked
E5	Communication failure of wired controller	Yes	Communication wire sequence error
			Poor contact of communication wire
E6	Outdoor unit protection(phase sequence)	No	The power cable phase is missing
			Power cable phase sequence error
E7	TL(Outdoor condensing temperature sensor) is abnormal	Yes	Sensor damage
			Poor contact of sensor
E8	TP(Discharge temperature sensor) is	Yes	Sensor damage

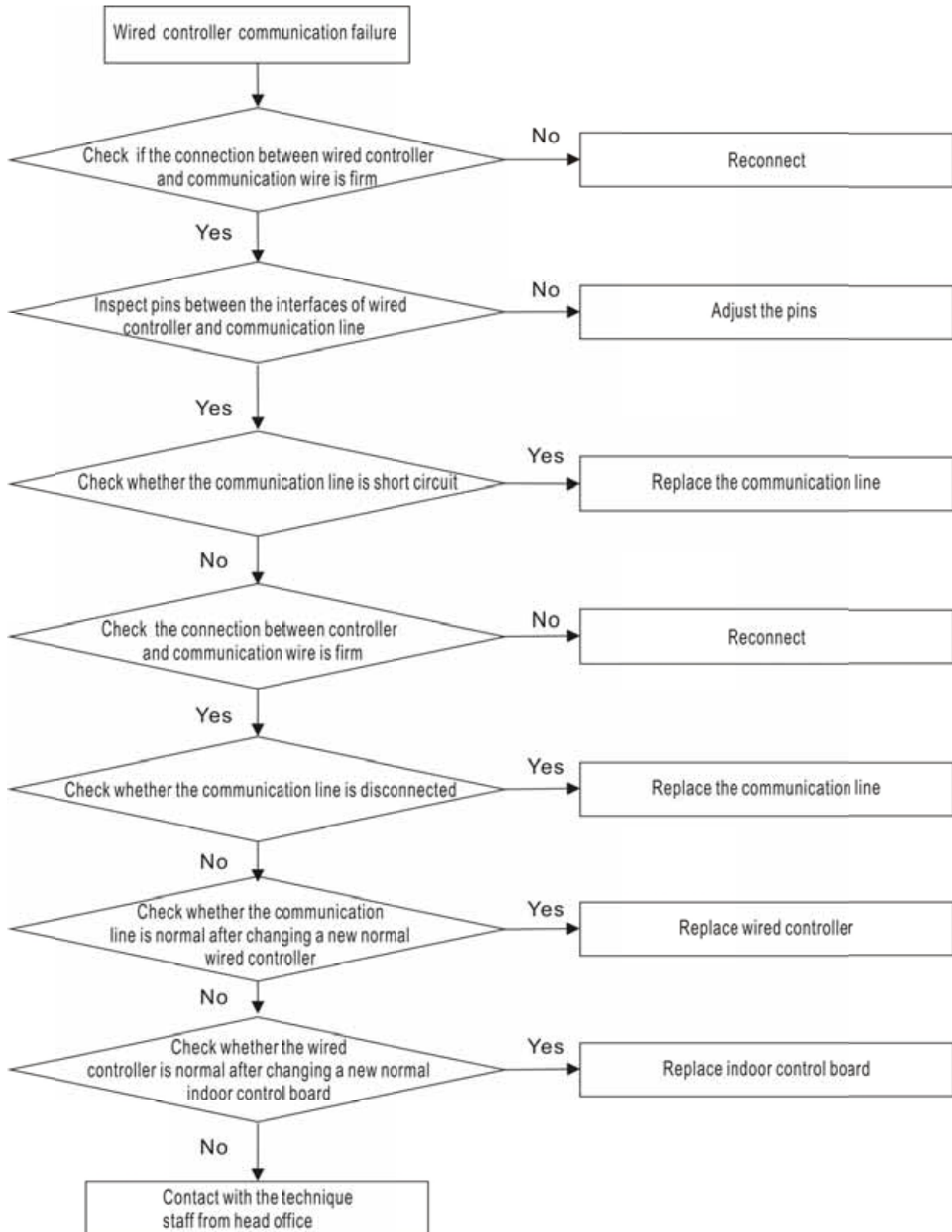
**R410A T1 ON/OFF LCAC B7 Series**

	abnormal		Poor contact of sensor
<b>E9</b>	Low pressure protection	Yes	System is short of refrigerant
<b>EA</b>	Outdoor unit protection (Discharge temperature is too high)	No	External protection device action
<b>F1</b>	Communication failure between indoor unit and outdoor unit	Yes	Communication wire sequence error
			Poor contact of communication wire
<b>F2</b>	Exhaust overtemperature protection	Yes	System is blocked or fault of the outdoor fan
<b>F3</b>	Outdoor fan is abnormal	Yes	Poor contact of outdoor motor
			Motor is broken
<b>F4</b>	Indoor fan is abnormal	Yes	Poor contact of indoor motor
			Motor is broken
<b>F5</b>	Outdoor temperature sensor is abnormal	Yes	Sensor damage
			Poor contact of sensor
<b>F6</b>	Compressor overcurrent protection	No	Compressor is blocked
			Low voltage
<b>F7</b>	Dial switch is abnormal	Yes	Wrong position of dial switch
<b>FB</b>	Indoor power protection	Yes	Wrong wiring
<b>F9</b>	High pressure protection	Yes	Condenser is blocked
			Abnormal operation of the outdoor fan
			System pipe is blocked

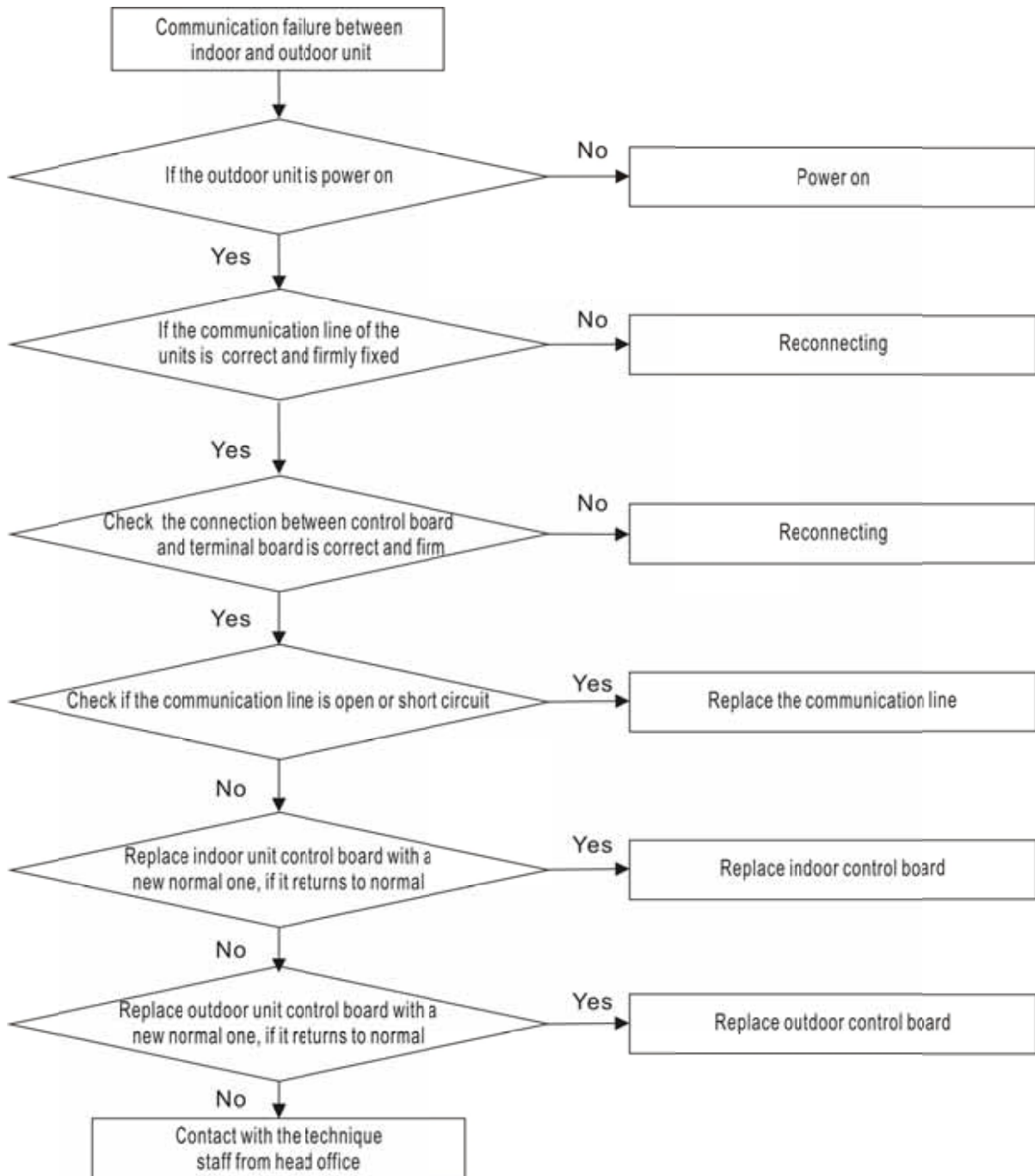


## 2. Failure analysis

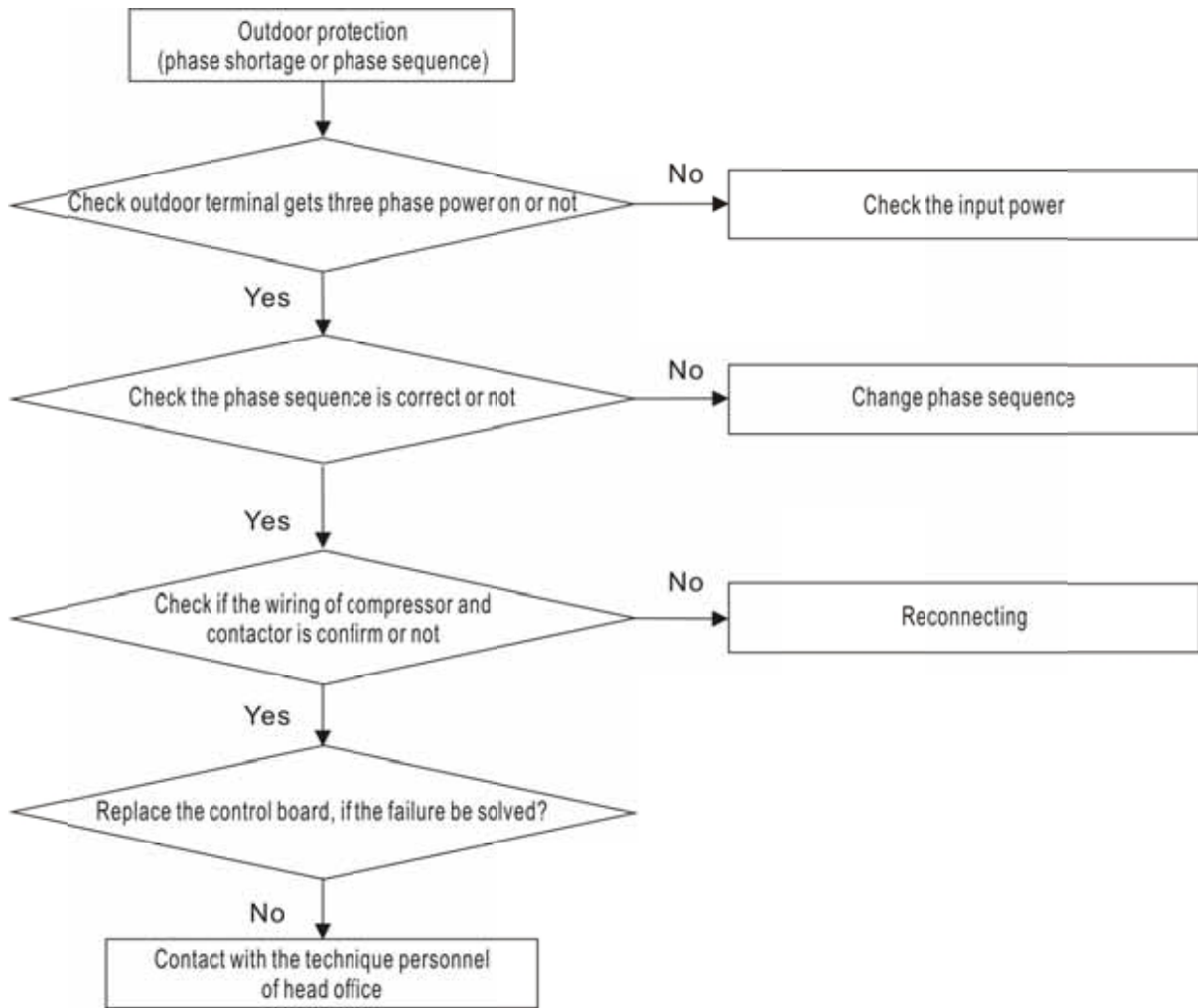
### 2.1 【H2】 Wired controller communication failure



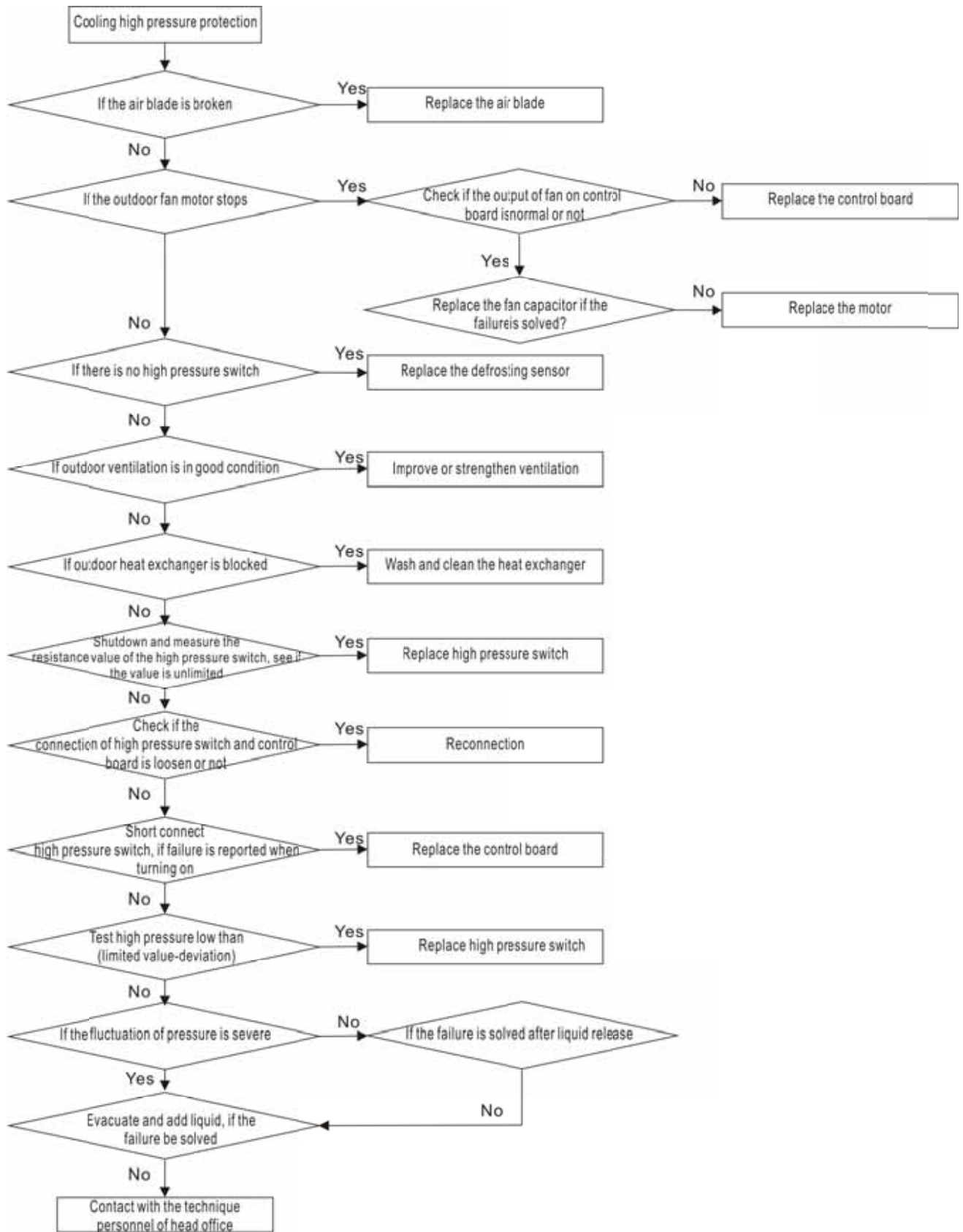
2.2 【E5/5E】 Communication failure between indoor and outdoor unit



Outdoor protection(phase sequence)



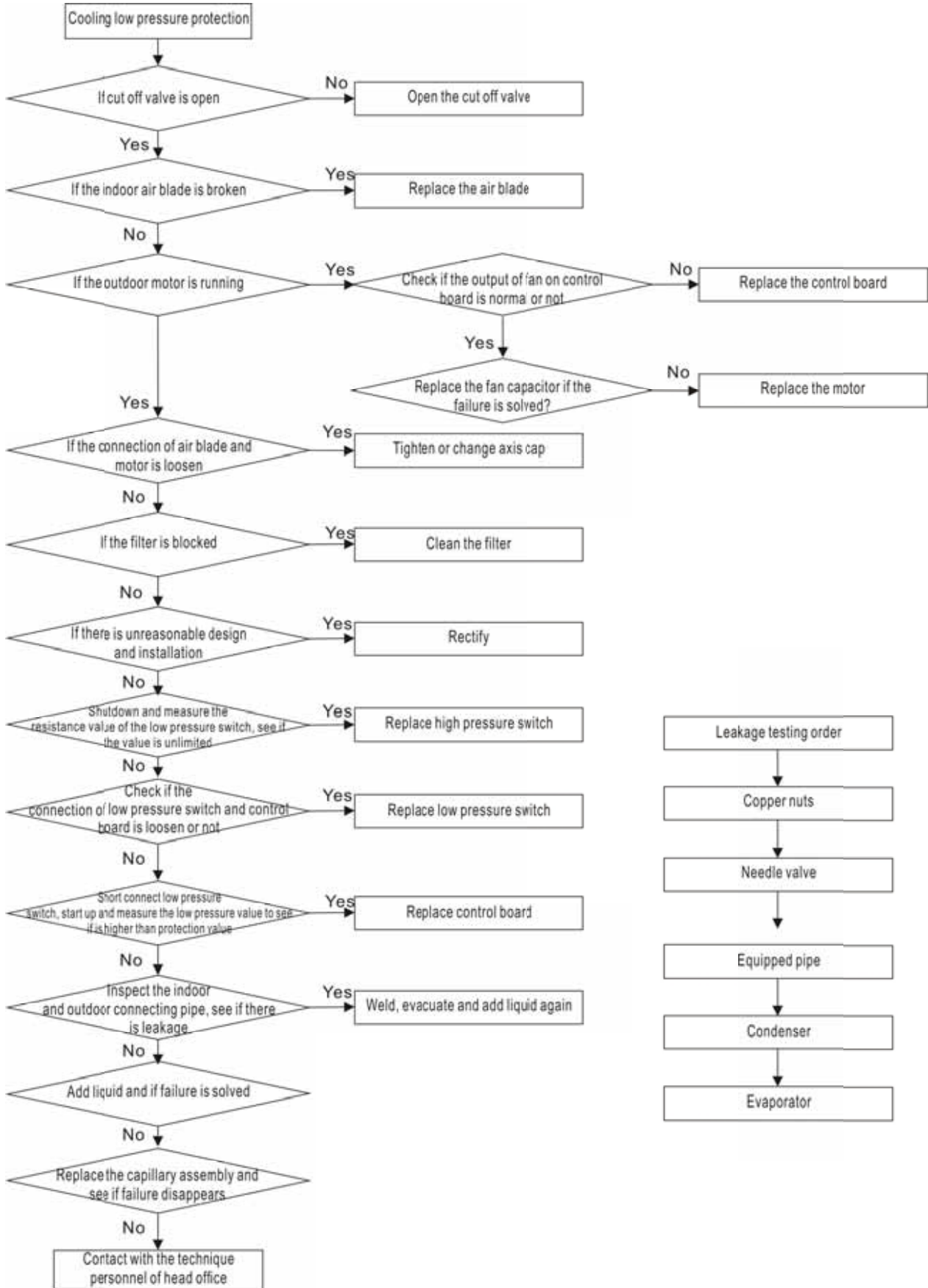
2.3 【P2】 Cooling high pressure protection



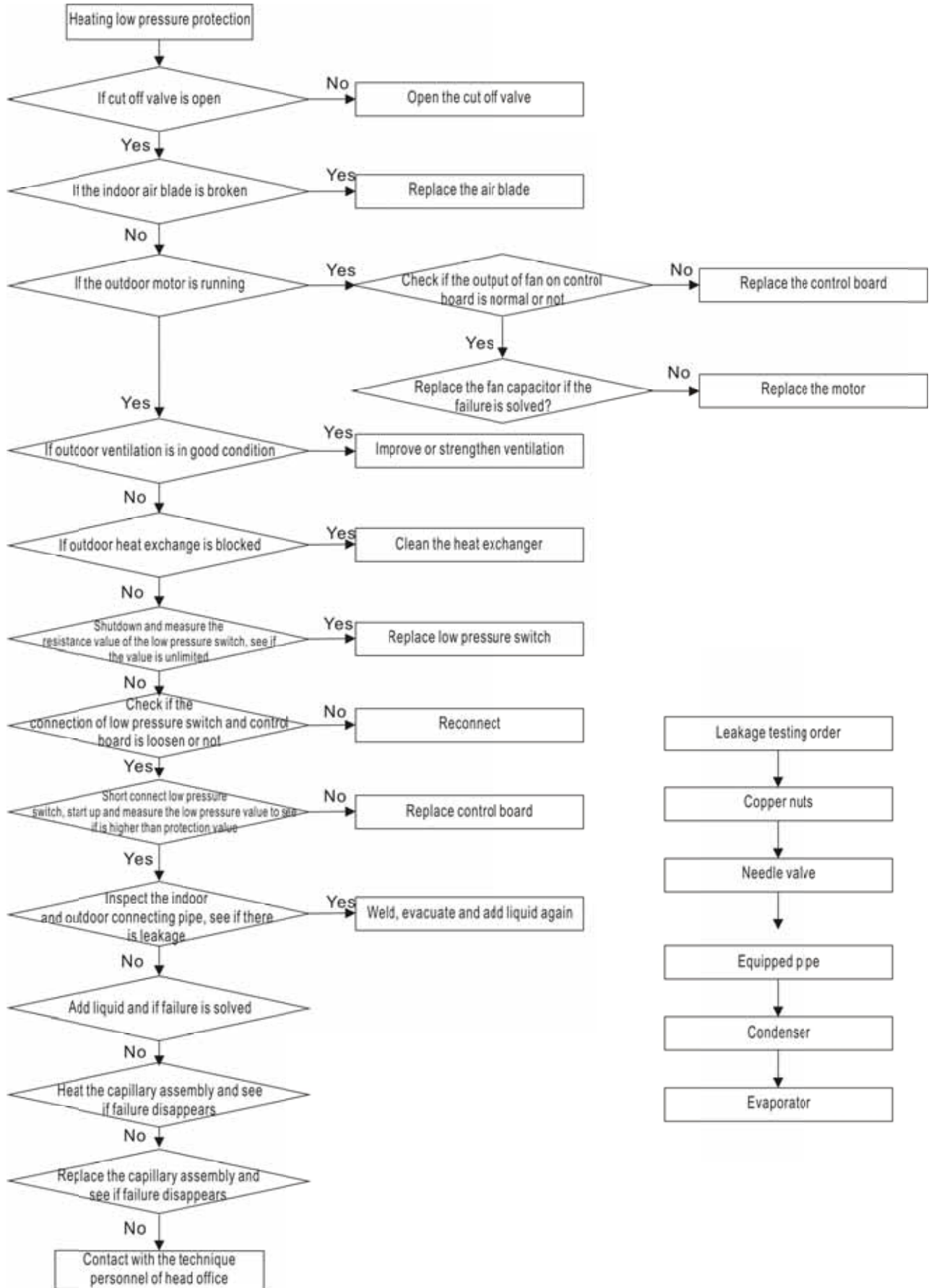
**【P2】 Heating high pressure protection**



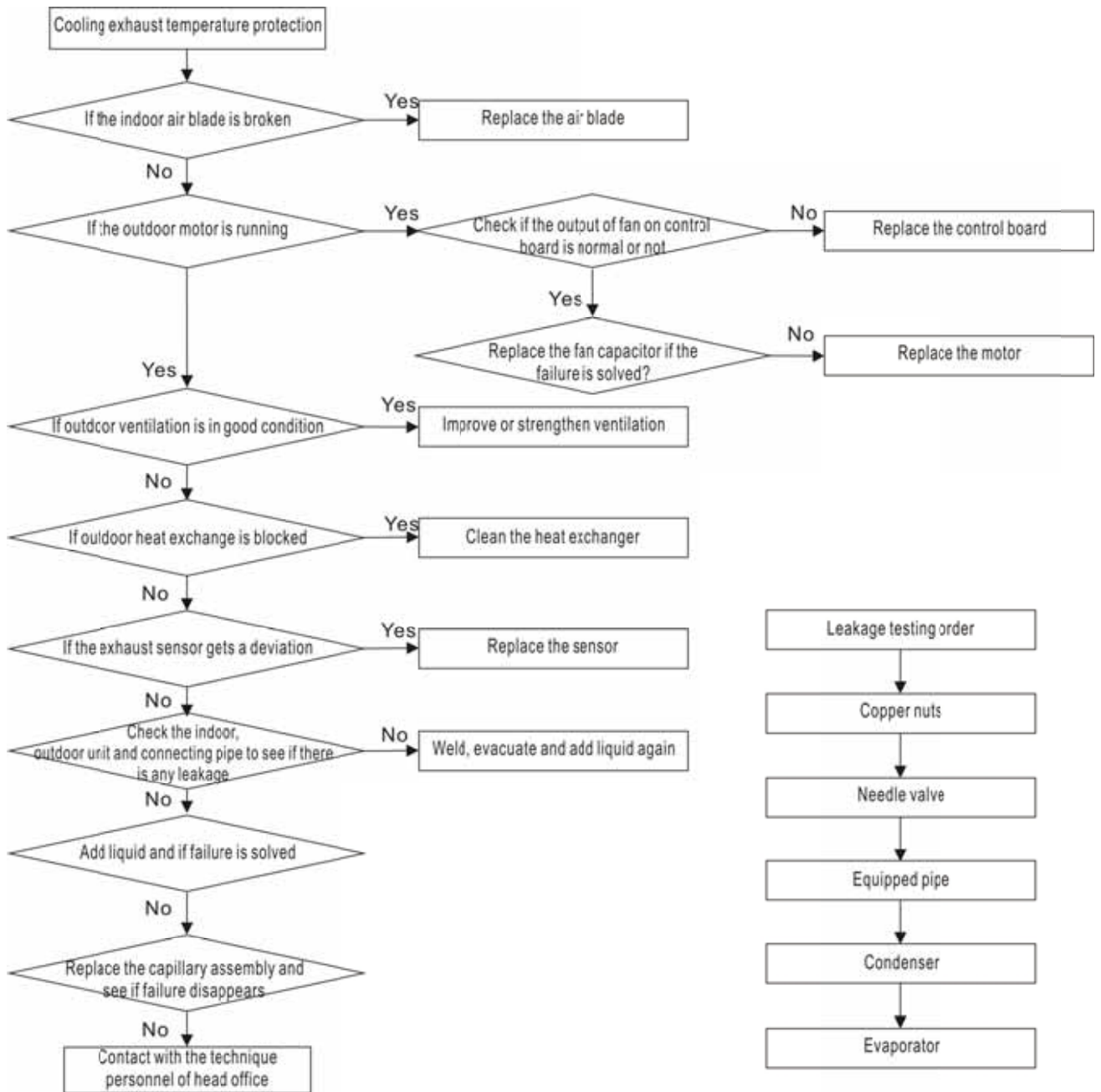
2.4 【H6】 Cooling low pressure protection



**[H6] Heating low pressure protection**

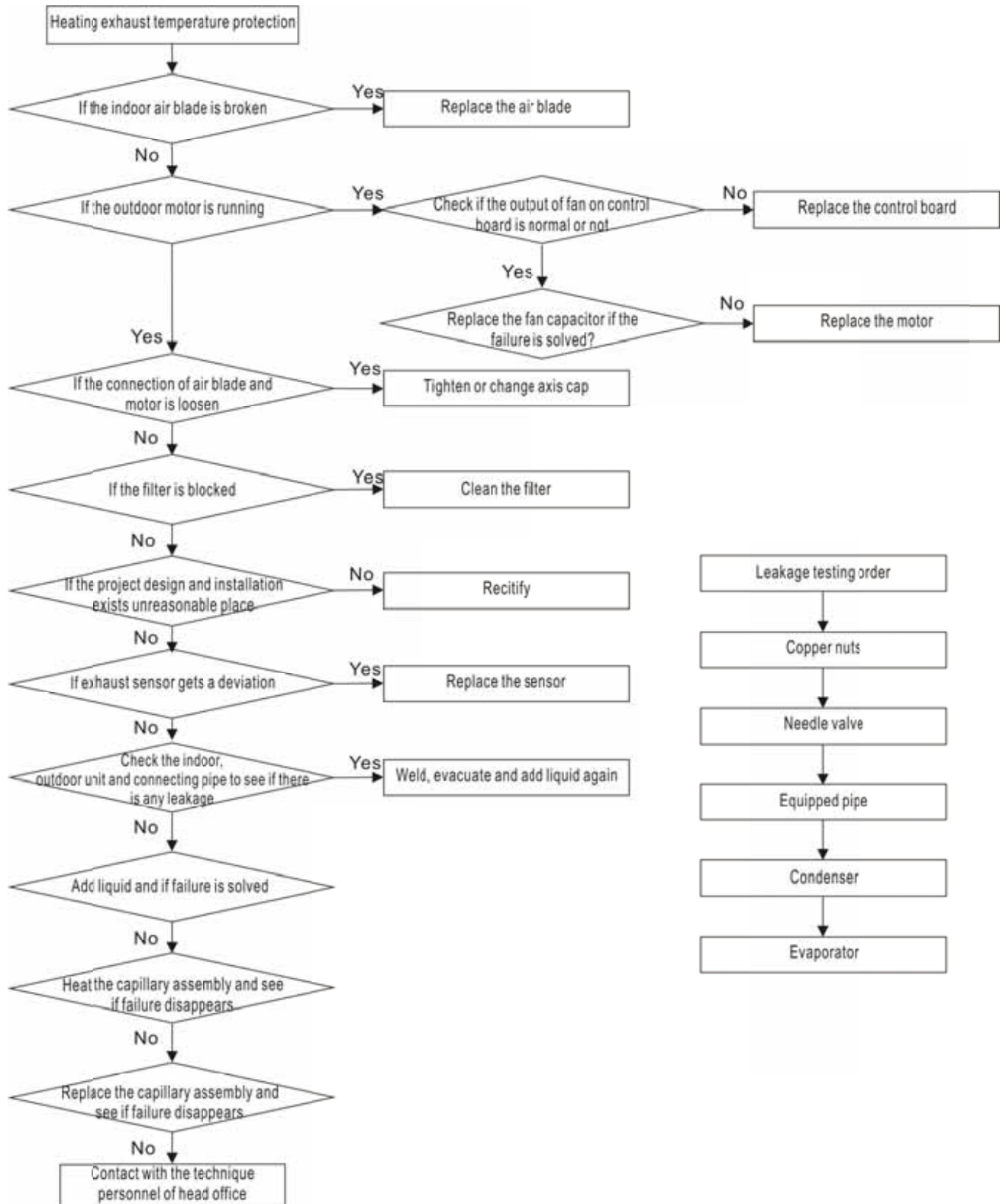


2.5 【P5/J5】 Cooling exhaust temperature protection

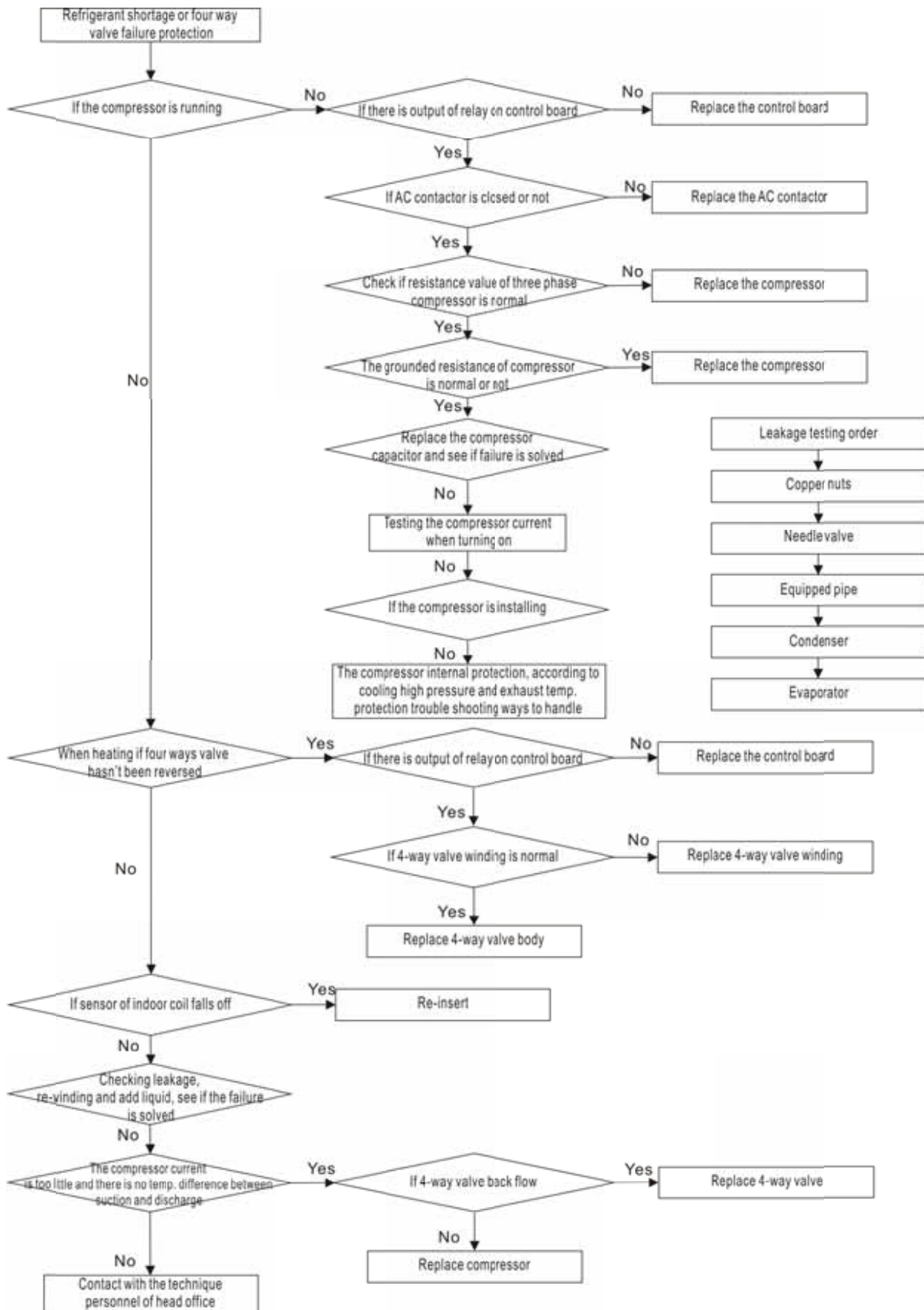




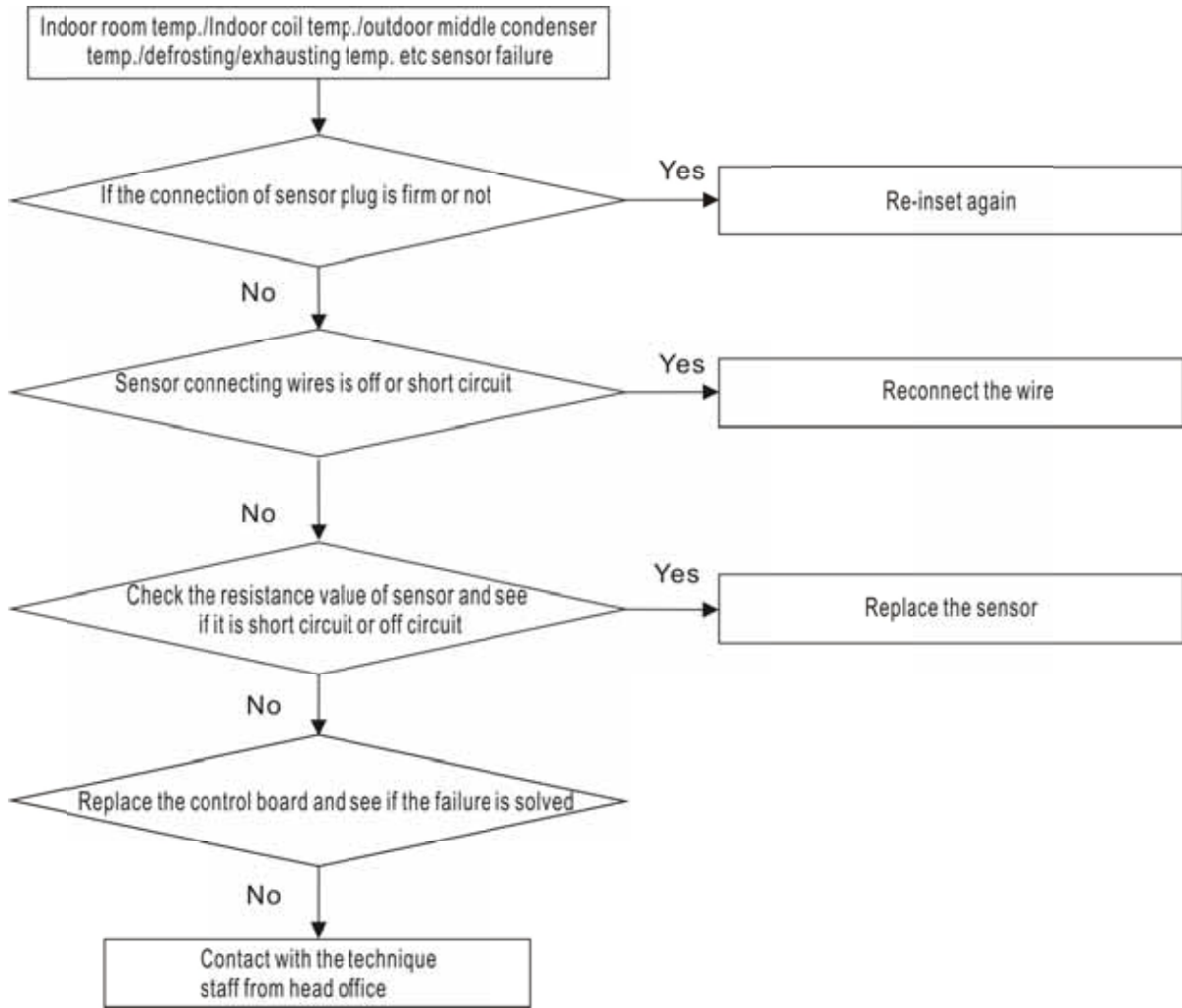
**【P5/J5】 Heating exhaust temperature protection**



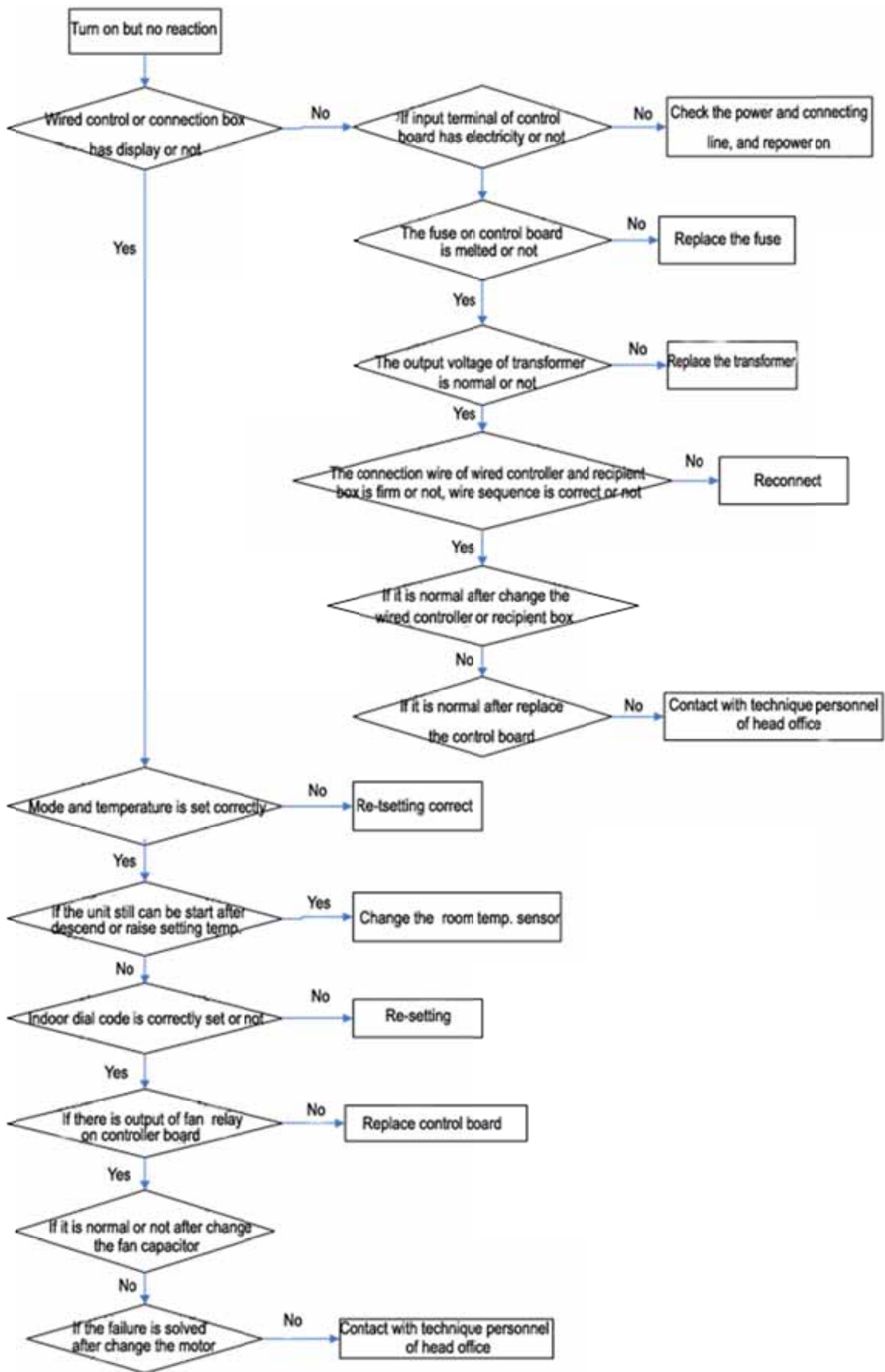
2.6 【H8】 Refrigerant shortage or four way valve failure protection



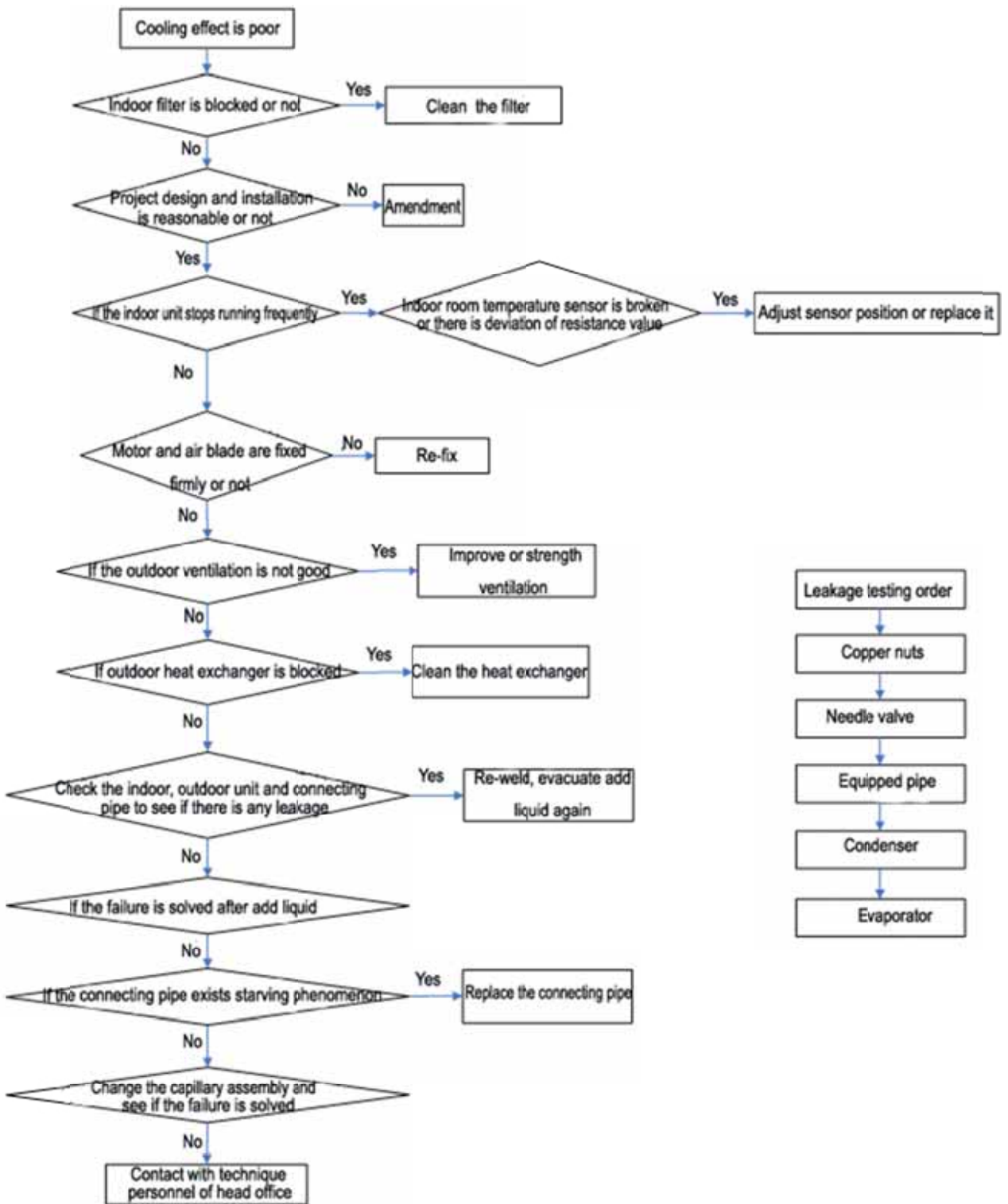
Sensor failure protection

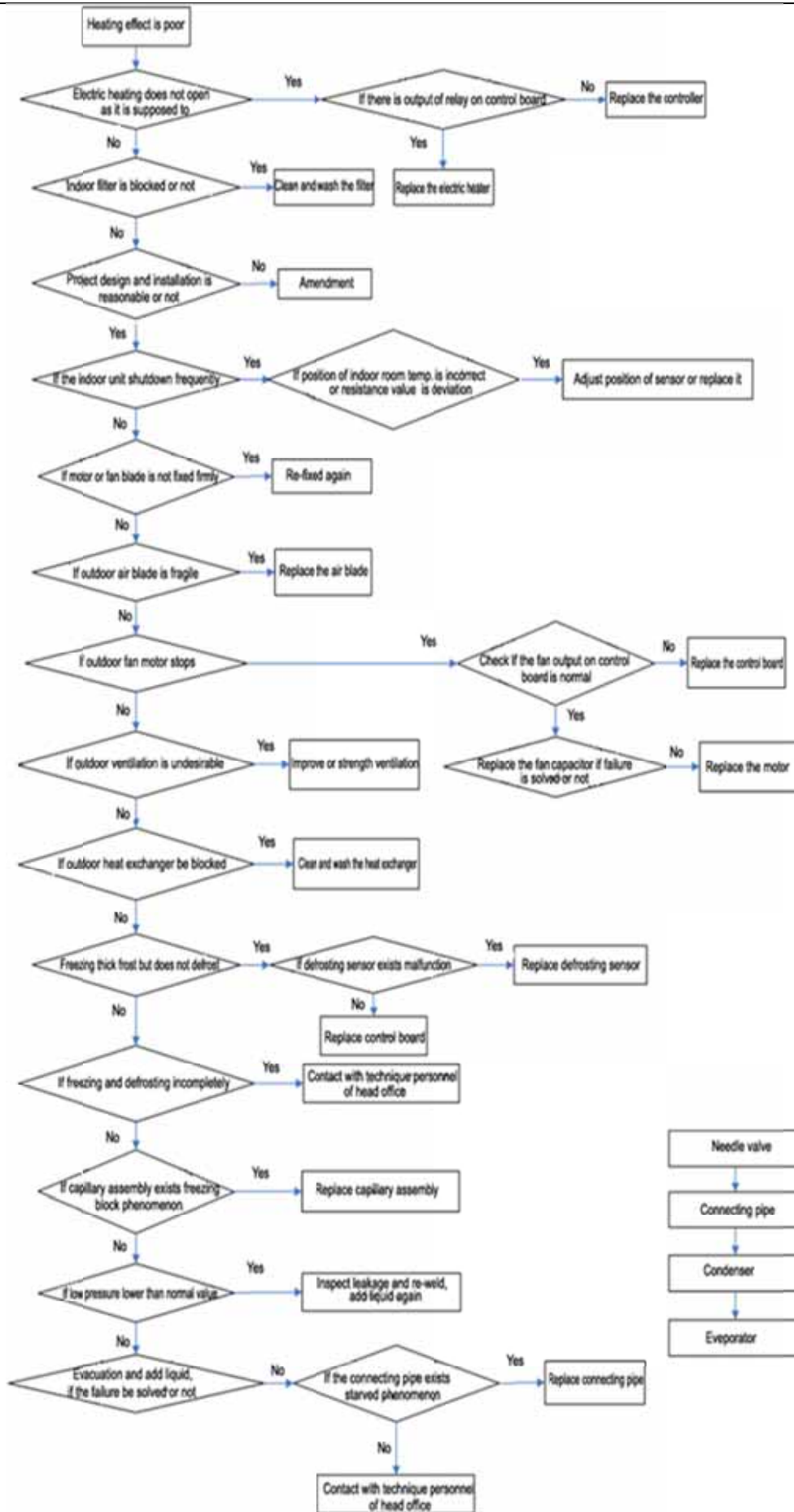


No action after power-on

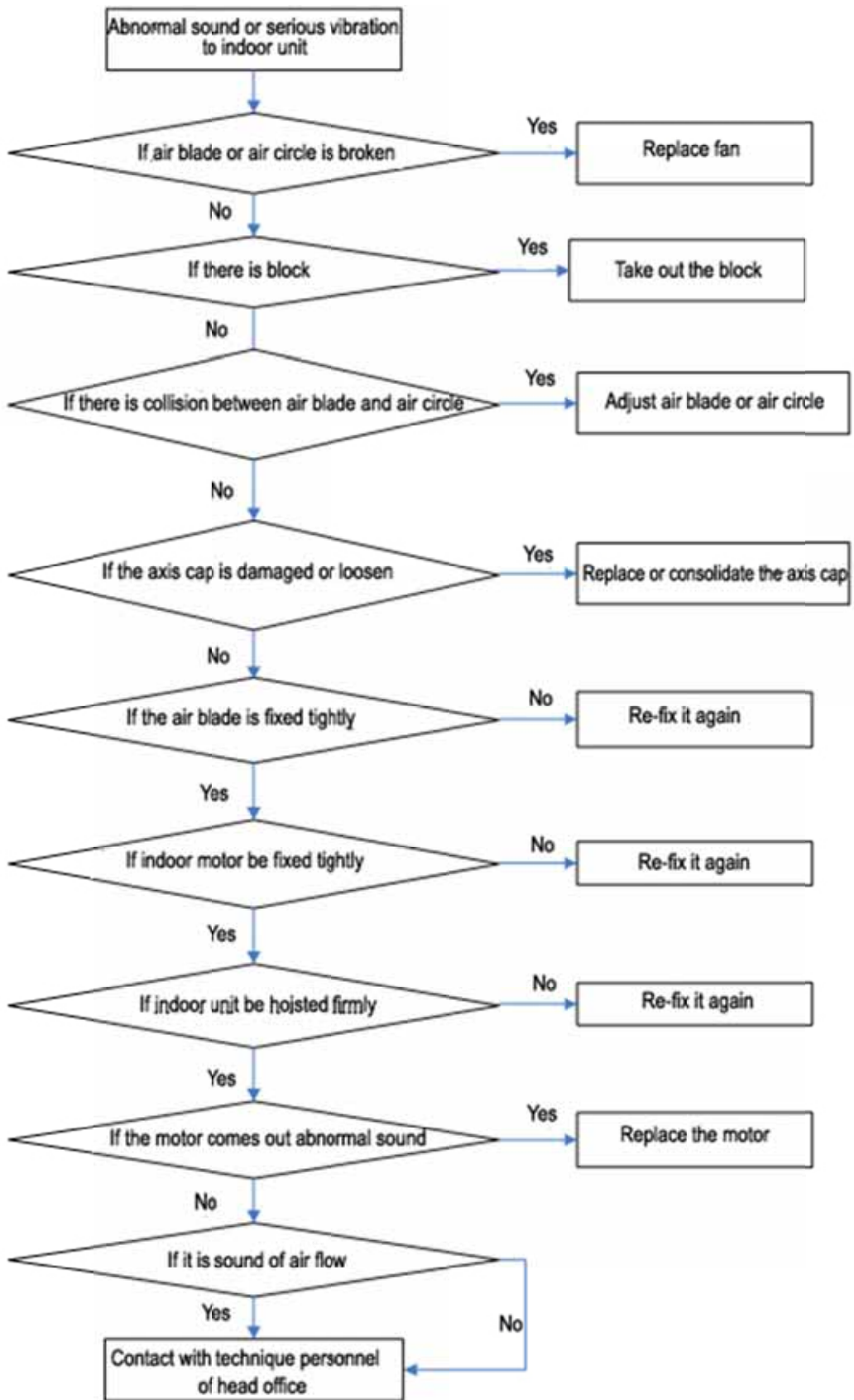


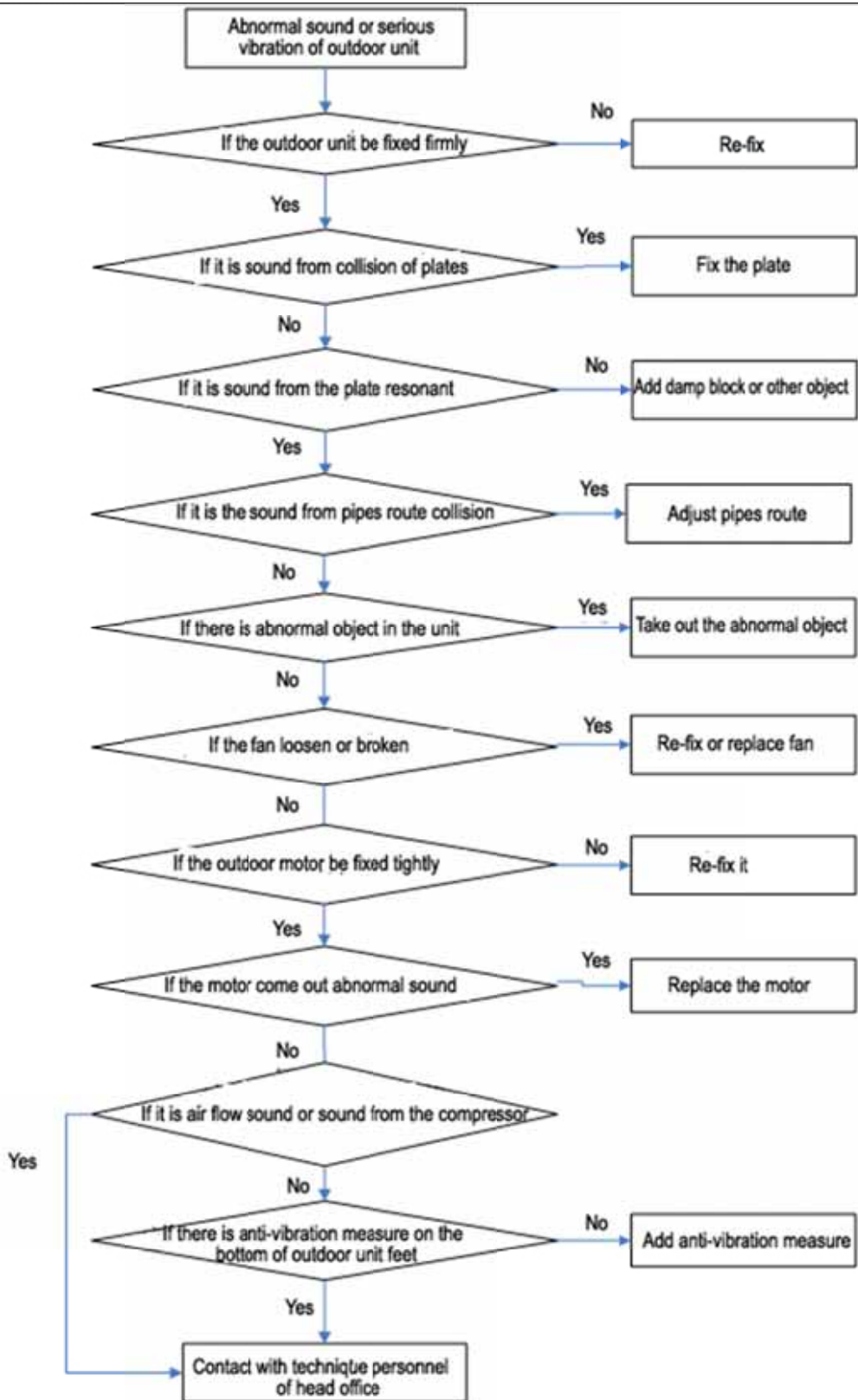
Poor effect





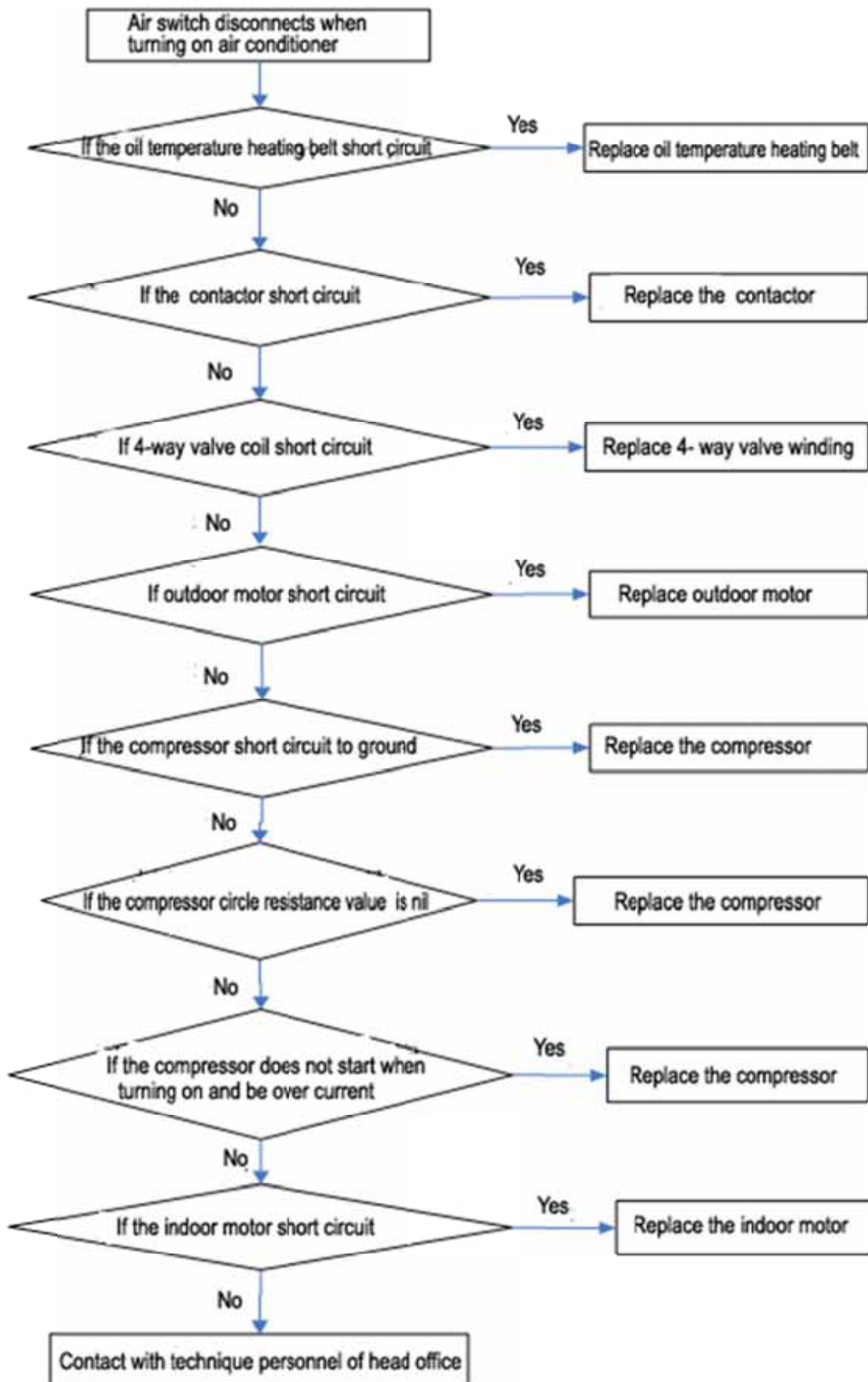
Abnormal sound or vibration



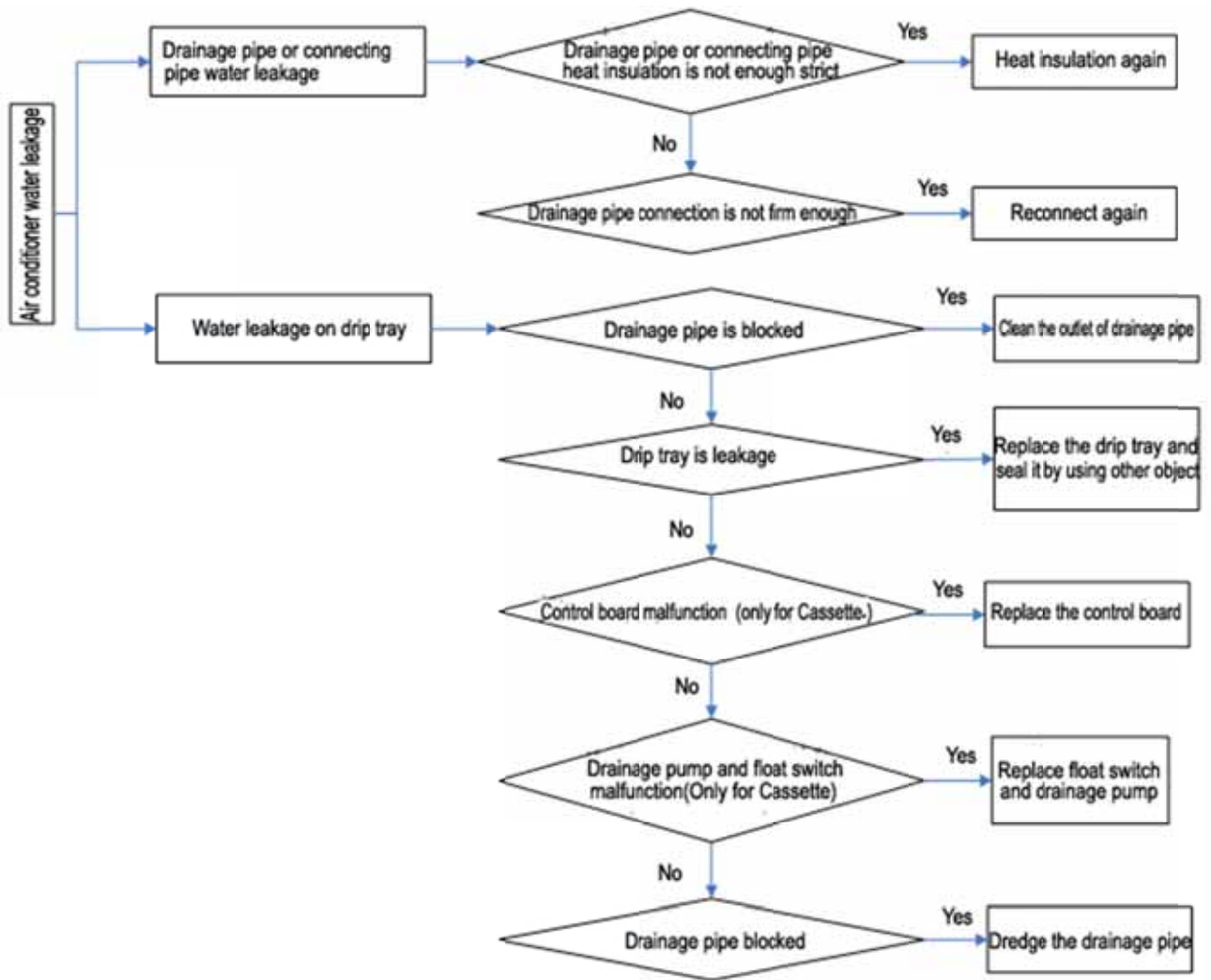




Air switch action when air conditioner starting up



Air conditioner water leakage



# AUX

Technology leads Intelligent life

## NINGBO AUX ELECTRIC CO.,LTD

**Web:**[Http://auxcac.cn](http://auxcac.cn)

**Tel:**+86-574-88220564

**E-mail:**auxcac@mail.auxgroup.com

**Add:** NO. 1166 North Mingguang Road, Jiangshan, Ningbo, Zhejinag, PR. China

The above designs and specifications are subject to change without prior notice. Final specifications please refer to latest technical specification provided by sales representative.

201811 *Technical Suppport Department*

## Update the record table

更新版本	更新人	更新内容
20210712 V1 版	程送圆	B7 系列项目完成，增加认证型号、爆炸图、电气原理图
20220311 V2 版	童彦洲	修改 Y 平台天花外观图、尺寸图；更新电气原理图；增加噪声值
20220522 V3 版	童彦洲	更新电气原理图；增加两款高静压风管机的静压风量曲线
20220630 V4 版	张滨源	增加 S7 系列产品内容