



The new degree of comfort.®

# HIGH EFFICIENCY SERIES

(DC INVERTER 1 DRIVE 1 60HZ **R410A**)



## Table of Contents

<b>General Information</b>	<b>4</b>
1. Nomenclature	4
2. Unit Appearance	7
<b>Features</b>	<b>9</b>
1. Outdoor Units	9
2. Eight-Way Cassette	10
<b>Piping System</b>	<b>11</b>
<b>Specification</b>	<b>12</b>
1. Cassette	12
2. Outdoor Unit	13
<b>Dimension</b>	<b>14</b>
1. Cassette	14
2. Outdoor Unit	16
<b>Electrical Principle Diagram</b>	<b>19</b>
1. Cassette	19
2. Outdoor Unit	20
<b>Capacity Amendment</b>	<b>22</b>
1.Operation Range	22
2.Capacity Amendment of Different Ambient Temperature	22
3.Long Piping Length	24
4.Capacity Amendment of Different Piping Length	25
5.Equivalent Pipe Length Conversion	26
<b>Control</b>	<b>27</b>
1. Controller	27
2. Remote Controller YK_H	27
3.Wired Controller	28



The new degree of comfort.®

## Table of Contents

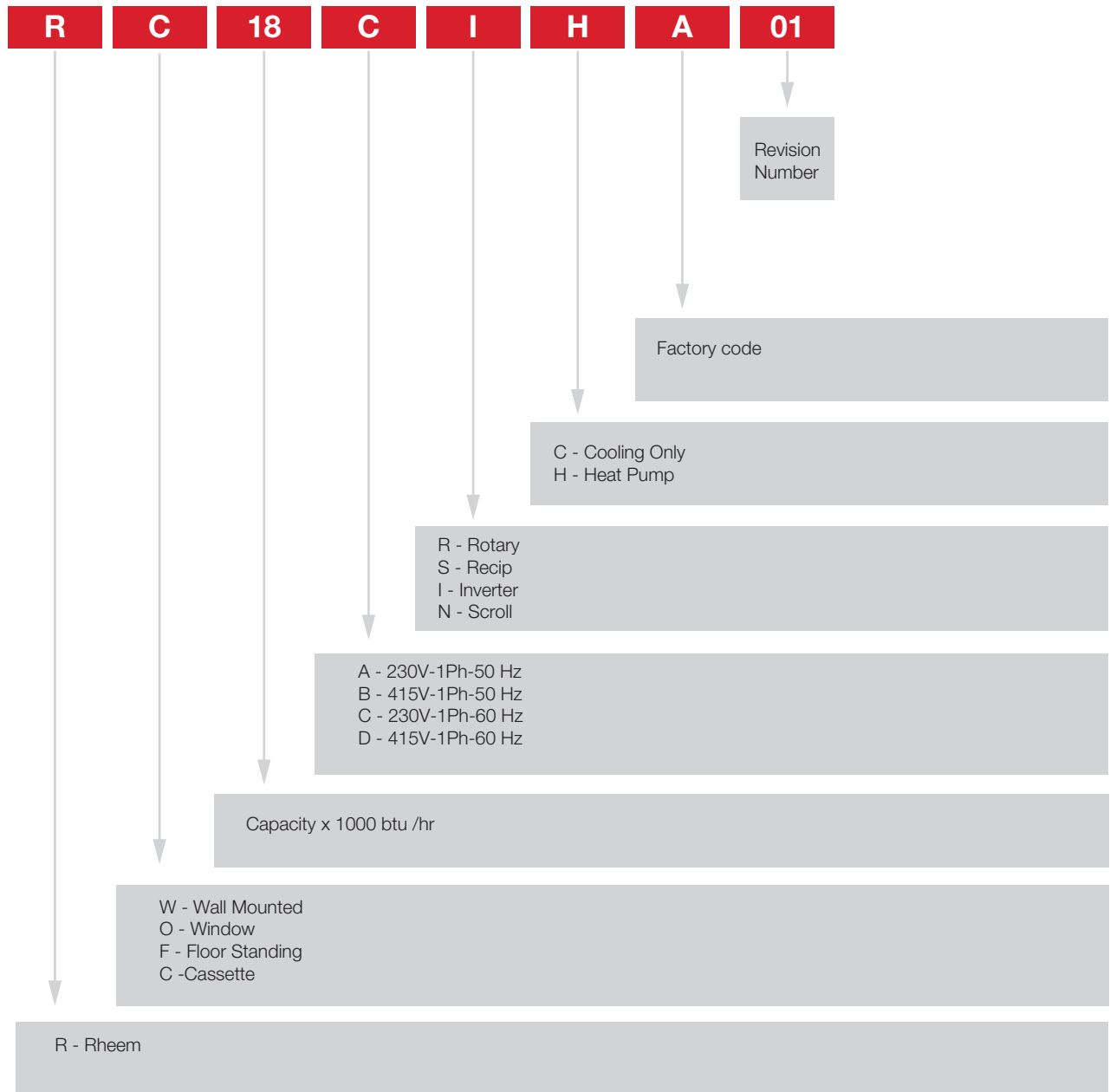
4. Parameters Setting	29
5. Parameters Checking	30
6. Room Card Function	33
7. WIFI Module	34
<b>Exploded View</b>	<b>37</b>
1. Cassette & Outdoor Unit	37
<b>Installation</b>	<b>45</b>
1. Preparation	45
2. Precaution	46
3. Cassette Installation	46
4. Outdoor Unit Installation	52
5. Connection Piping Installation	53
6. Emptying or Vacuum	57
7. Insulation	58
8. Additional Refrigerant Charge	59
9. Electrical Connection	61
<b>Wiring Diagram Indoor Unit</b>	<b>62</b>
<b>PCB Instruction</b>	<b>65</b>
1. Outdoor Unit PCB	65
2. Cassette PCB	66
<b>Trouble Shooting</b>	<b>67</b>
1. Failure Code Display	67
2. Failure Analysis	68



The new degree of comfort.®

# GENERAL INFORMATION

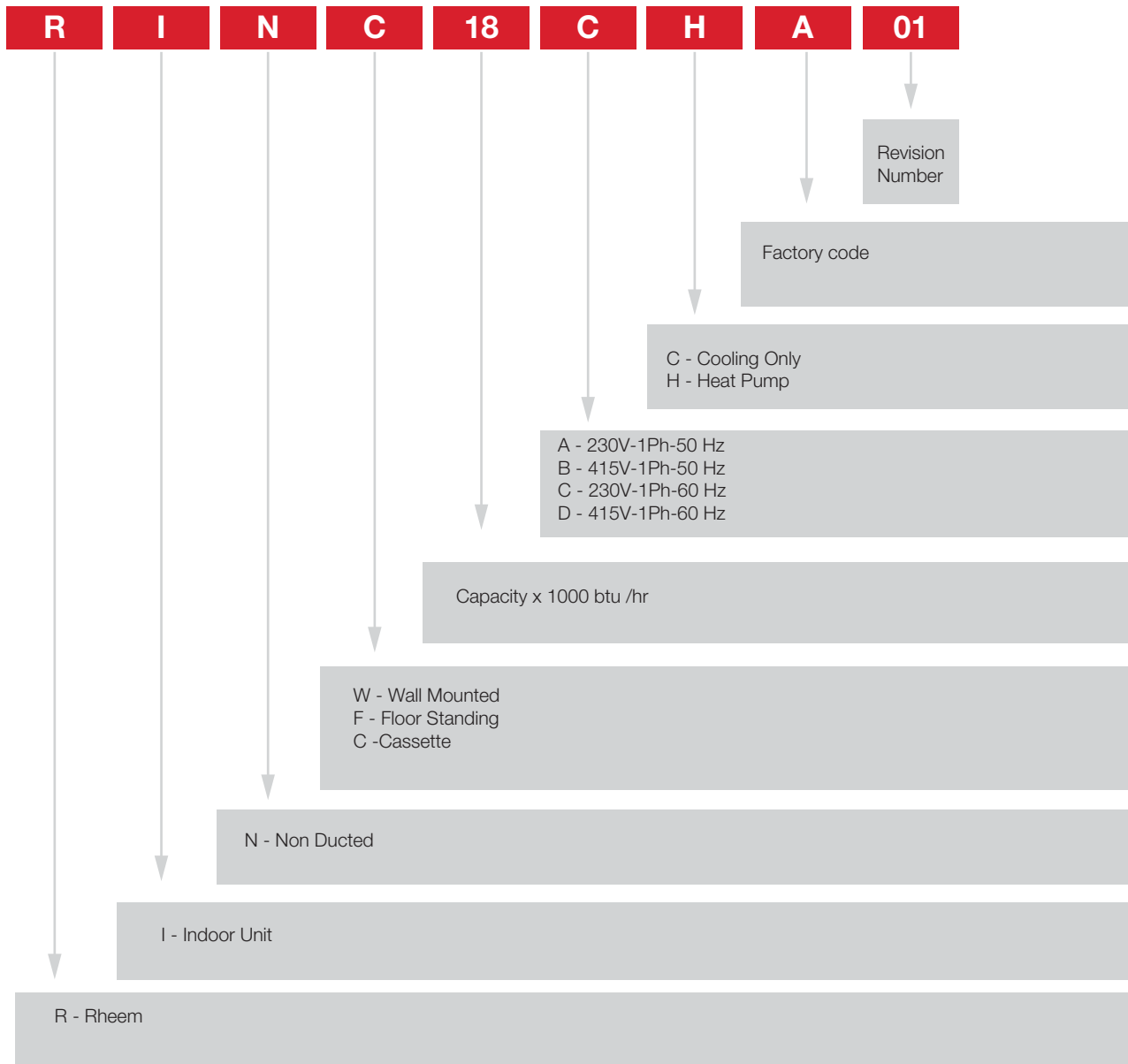
## SYSTEM NOMENCLATURE



The new degree of comfort.®

# GENERAL INFORMATION

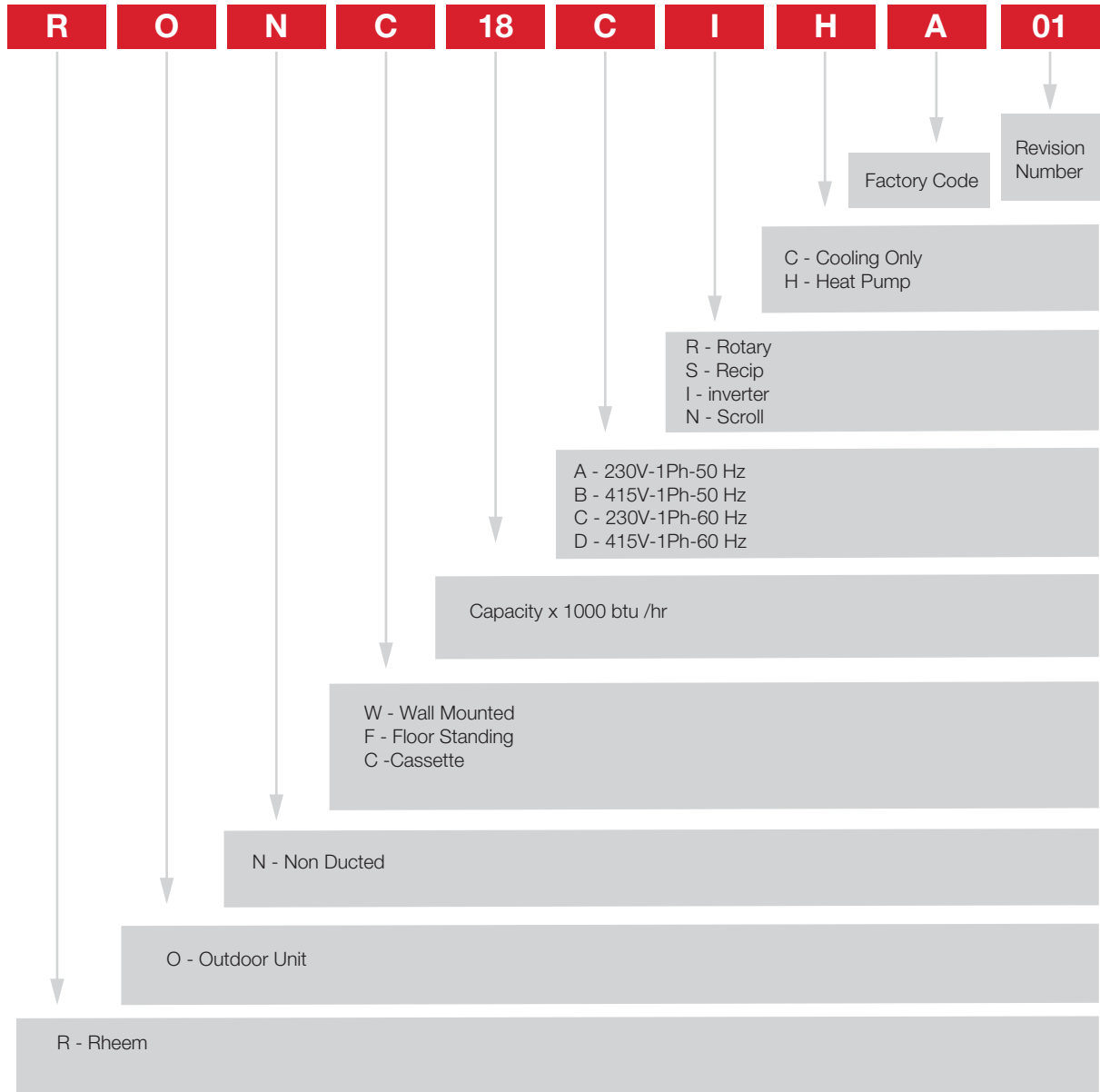
## IDU NOMENCLATURE



The new degree of comfort.®

# GENERAL INFORMATION

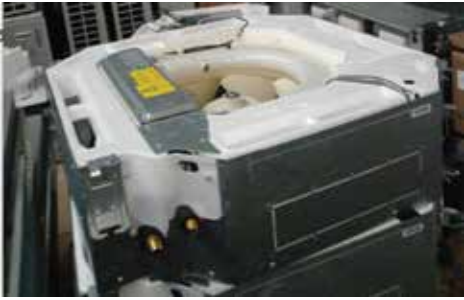


## ODU NOMENCLATURE



The new degree of comfort.®

# UNIT APPEARANCE

## CASSETTE




CASSETTE BODY	MODEL	PANEL
	RINC18CHA01	STANDARD
	RINC24CHA01	 MB08
	RINC36CHA01	
	RINC42CHA01	



The new degree of comfort.®

# UNIT APPEARANCE

## OUTDOOR UNIT

PICTURE	MODEL NO.
	RONC18CIHA01
	RONC24CIHA01
	RONC36CIHA01
	RONC42CIHA01



The new degree of comfort.®



# FEATURES

## OUTDOOR UNITS

### Environmental-friendly Refrigerant R410A

The GWP value of R410A is smaller, so the effect on the greenhouse effect is smaller.

### High Efficiency

Equipped with high efficiency DC Inverter compressor, adjustable fan motor and advanced 180° sine wave vector driver, the system can be higher than 6.1 in SEER and 4.0 in SCOP so as to meet the European and Australian new energy efficiency standards.

### Reliability

Stable cooling under -15°C and heating under -15°C outdoor environment temperature.

### 180° Sine Wave Control

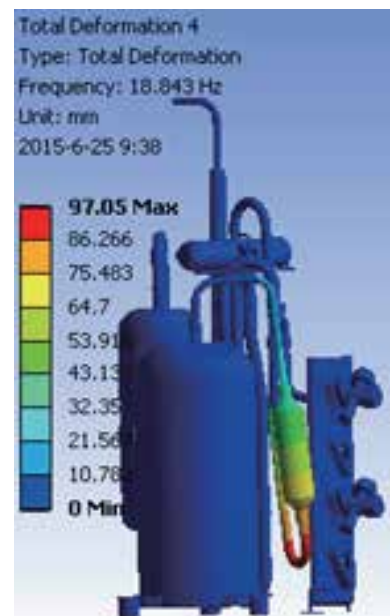
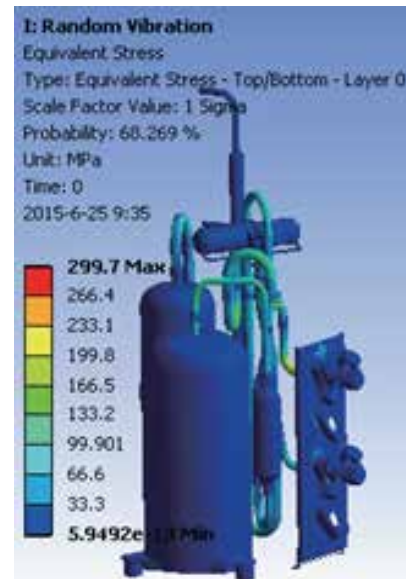
DC inverter compressor uses 180° sine wave vector control technique, make compressor motor operate smoothly and efficiency increases significantly.

### 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.

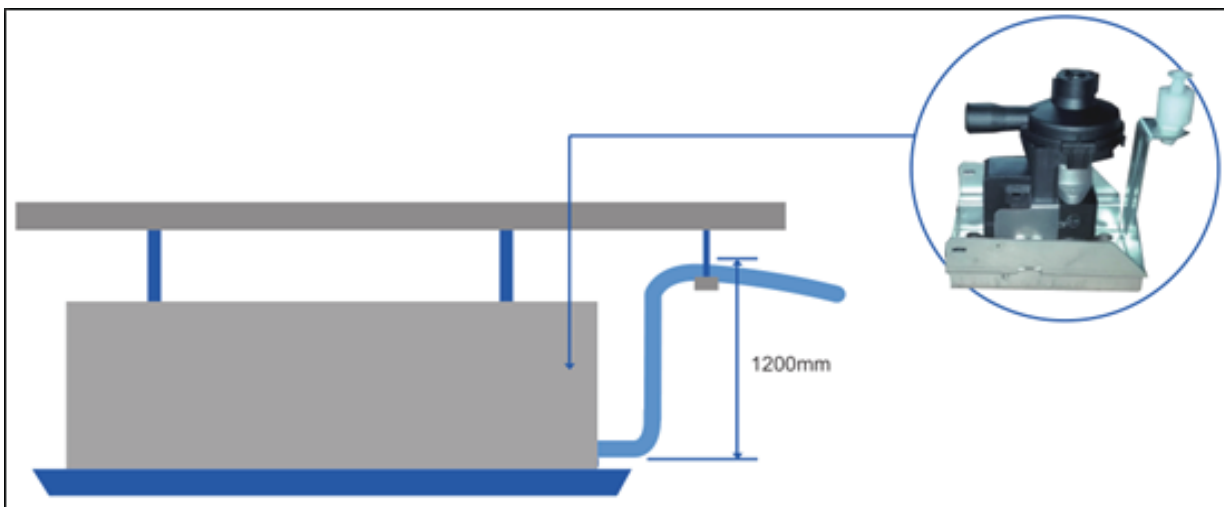


# EIGHT-WAY CASSETTE

Eight-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 upto 1200mm high from the drainage pan.

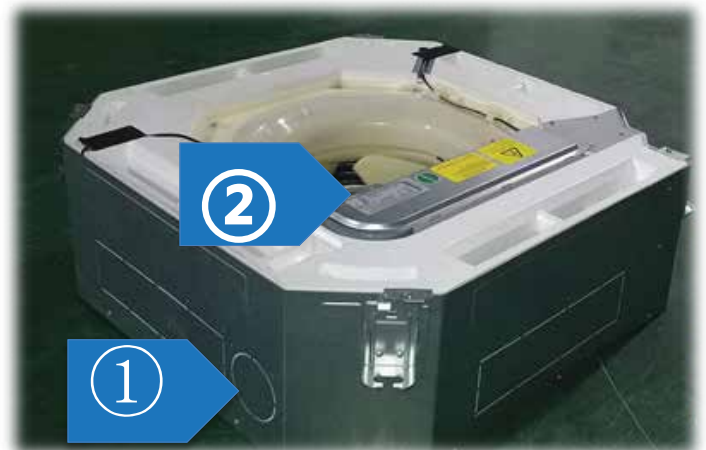


## Fresh Air Intake

Fresh air makes indoor air healthy and comfortable.

## Optimized Electric Box

Better fire-proof and easy to maintenance.



① Fresh Air Intake

② Optimized Electric Box

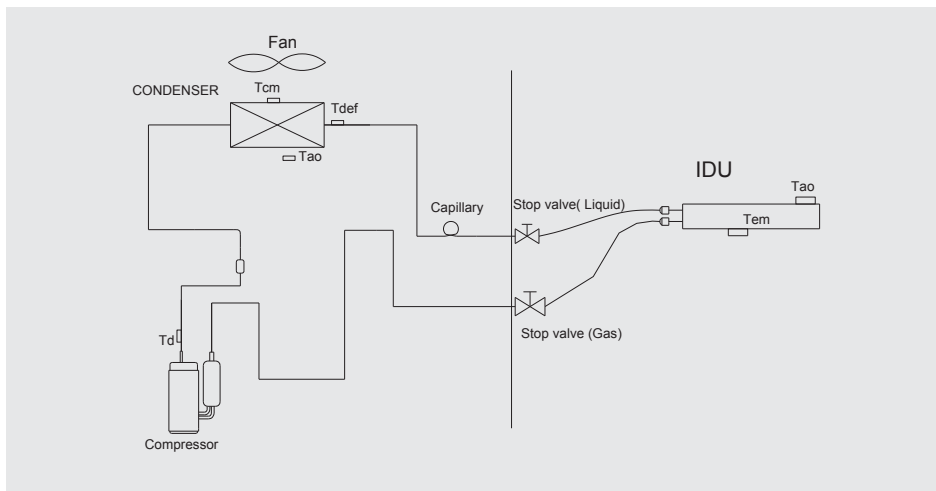


The new degree of comfort.®

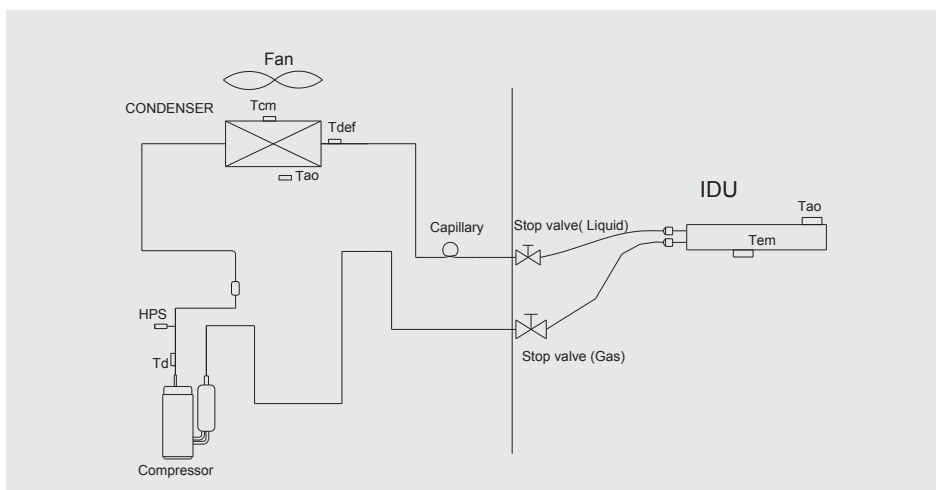
# PIPING SYSTEM

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.

## 18k & 24k models



## 36k & 42k models



# SPECIFICATION

## 1. CASSETTE

### 1.1 18k, 24k, 36k, 42k

Model	Indoor		RINC18CHA01	RINC24CHA01	RINC36CHA01	RINC42CHA01
	Outdoor		RONC18CIHA01	RONC24CIHA01	RONC36CIHA01	RONC42CIHA01
Power Supply		V~,Hz,Ph	220-240,60,1	220-240,60,1	220-240,60,1	220-240,60,1
Capacity	Cooling(T1)	Btu/h	17100	23000	32000	37000
		kW	5.01	6.75	9.40	10.85
	Cooling(T3)	Btu/h	15400	20200	28000	28600
		kW	4.50	5.91	8.20	8.40
Heating(H1)	kW	5.70	8.10	10.50	13.30	
Electric Data	Rated Cooling Power	W	1402	1885	2634	3045
	Rated Cooling Current(T1)	A	6.62	8.91	12.45	14.39
	Rated Cooling Power	W	1791	2376	3256	3326
	Rated Cooling Current(T3)	A	8.46	11.23	15.39	15.72
	Rated Heating Power	W	1541	2250	2838	3800
Rated Heating Current(H1)	A	7.28	10.63	13.41	17.96	
Performance	EER(T1)	W/W	3.58	3.58	3.56	3.56
		(Btu/h)/W	12.20	12.20	12.15	12.15
	EER(T3)	W/W	2.52	2.49	2.52	2.52
		(Btu/h)/W	8.60	8.50	8.60	8.60
COP(H1)	W/W	3.70	3.60	3.70	3.50	
Indoor Coil	A.Number Of Row		2.0	2.0	3.0	3.0
	B.Tube Pitch(a)x Row	mm	19.05x11.6	19.05x11.6	20.5x12.7	20.5x12.7
	C.Fin Pitch	mm	1.3	1.3	1.5	1.5
	D.Fin Material		Hydrophilic	Hydrophilic	Hydrophilic	Hydrophilic
	E.Tube Outside Dia.And	mm	Φ5,Inner grooved	Φ5,Inner grooved	Φ7,Inner grooved	Φ7,Inner grooved
	F.Coil Length x Height x	mm	2084x190.5x23.2	2084x190.5x23.2	2012x246x38.1	2012x246x38.1
	G.Number of circuit	/	10	10	12	12
Output Power	W	100	100	100	100	
Capacitor	μF	/	/	/	/	
Speed (Hi/Mi/Lo)	r/min	450/430/380	580/530/470	780/700/ 650	780/700/ 650	
Indoor Unit	Indoor Air Flow (Hi/Mi/Lo)	m3/h	1100/1000/850	1500/1350/1200	2000/1700/1600	2000/1700/1600
		CFM	647/588/500	882/794/706	1176/1000/941	1176/1000/941
	Noise Level(Hi/Mi/Lo)	dB(A)	42/39/37	49/47/44	53/50/48	54/52/48
	Net Dimension (W*D*H)	mm	840x840x246	840x840x246	840x840x288	840x840x288
	Packing Dimension	mm	910X910X310	910X910X310	910X910X350	910X910X350
	Net Weight	Kg	25	25	30	30
Panel	Gross Weight	Kg	29	29	35	35
	Net Weight	Kg	5.7	5.7	5.7	5.7
	Gross Weight	Kg	8.3	8.3	8.3	8.3
	Net Dimension (W*D*H)	mm	950x950x55	950x950x55	950x950x55	950x950x55
Packing Dimension	mm	1000x1000x100	1000x1000x100	1000x1000x100	1000x1000x100	
Refrigerant Pipe	Liquid Side	mm	Φ6.35	Φ9.52	Φ9.52	Φ9.52
	Gas Side	mm	Φ12.7	Φ15.88	Φ15.88	Φ19.05
	Drainage	mm	R3/4in(DN20)	R3/4in(DN20)	R3/4in(DN20)	R3/4in(DN20)
Operation Temperature Range	°C	16~32	16~32	16~32	16~32	
Application Area	m2	21-35	28-47	42-70	50-80	
StμFfing Quantity	20/40/40H	Set	84/182/208	84/182/208	72/156/182	72/156/182

1. Parameters above are all measured when the connecting pipe is 5 meters.

2. Parameters above may be modified as product improvement. We keep the right to change the product specifications without prior notice, please take the parameters listed on the nameplate as criterion



The new degree of comfort.®

# OUTDOOR UNIT

## 2.1 18k, 24k, 36k, 42k

Model			RONC18CIHA01	RONC24CIHA01	RONC36CIHA01	RONC42CIHA01
Power Supply		V~, Hz, P	220-240, 60, 1	220-240, 60, 1	220-240, 60, 1	220-240, 60, 1
Max. Input Consumption		W	2800	3700	4900	6300
Max. Current		A	13	16.5	25	30
Power Factor			/	/	/	/
Compressor	Type		INVERTER	INVERTER	INVERTER	INVERTER
	Capacity	W	4720	6600	7640	11900
	Input	W	1120	1825	2065	3660
	Rated Current	A	3.73	8.3	9.30	16
	Thermal Protection temp.	°C	125	125	125	110
	Refrigerant Oil	ml	350( FW50S)	450 ( ESTEL OIL VG74)	620 ( ESTEL OIL VG74)	1650(α 68HES-H)
Outdoor Coil	A.Number Of Row		1.50	2.50	3.00	2.50
	B.Tube Pitch(a)x Row Pitch(b)	mm	22x19.05	20.5x12.7	20.5x12.7	22x19.05
	C.Fin Pitch	mm	1.3	1.5	1.4	1.4
	D.Fin Material		Window Cutting Hydrophilic aluminum foil	Window Cutting Hydrophilic aluminum foil	Window Cutting Hydrophilic aluminum foil	Corrugated Plate Hydrophilic aluminum foil
	E.Tube Outside Dia.And Material	mm	φ7, Inner grooved	φ7, Inner grooved	φ7, Inner grooved	φ7.94, Inner grooved
F.Coil Length x Height x Width	mm	886x660x38.1	882x656x38.1	977x759x38.1	906x1276x57.15	
G.Number of circuit		4	8	6	6	
Quantities		1.0	1.0	1.0	2.0	
Output Power	W	65	65	90	69	
Capacitor	μF	/	/	/	/	
Speed	r/min	870	870	940	850	
Air Flow Volume	m <sup>3</sup> /h	3500	3500	4200	6800	
Noise Level	CFM	2059	2059	2471	4000	
	dB(A)	56	58	59	60	
Dimension	Net(WxDxH)	mm	900x350x700	900x350x700	970x395x805	940x370x1320
	Packing(WxDxH)	mm	1020x430x770	1020x430x770	1105x495x895	1080x430x1440
Weight	Net	kg	40	42	61	94
	Gross	kg	44	46	66	104
Refrigerant	Type		R410a	R410a	R410a	R410a
Type/Quantity	Charged Volume	g	1300	1850	2850	4000
Refrigerant Pipe	Liquid Side	mm	Φ6.35	Φ9.52	Φ9.52	Φ9.52
	Gas Side	mm	Φ12.7	Φ15.88	Φ15.88	Φ19.05
	Max. Length	m	30	30	50	50
	Max. Height	m	15	15	30	30
Operation Temperature Range	°C	16~32	16~32	16~32	16~32	
Ambient Temp (Cooling/Heating)	°C	17~55/-5~24	17~55/-5~24	17~55/-5~24	17~55/-5~24	
Connection Wiring	Power Wiring Indoor	mm2	3x1.5	3x1.5	3x1.5	3x1.5
	Power Wiring Outdoor	mm2	3x2.5	3x2.5	3x4	3x6
	Signal Wiring	mm2	2x0.75	2x0.75	2x0.75	2x0.75
StuFing Quantity	20/40/40H	Unit	87/183/183	87/183/183	44/96/96	27/55/55

1. Parameters above are all measured when the connecting pipe is 5 meters.

2. Parameters above may be modified as product improvement. We keep the right to change the product specifications without prior notice, please take the parameters listed on the nameplate as criterion

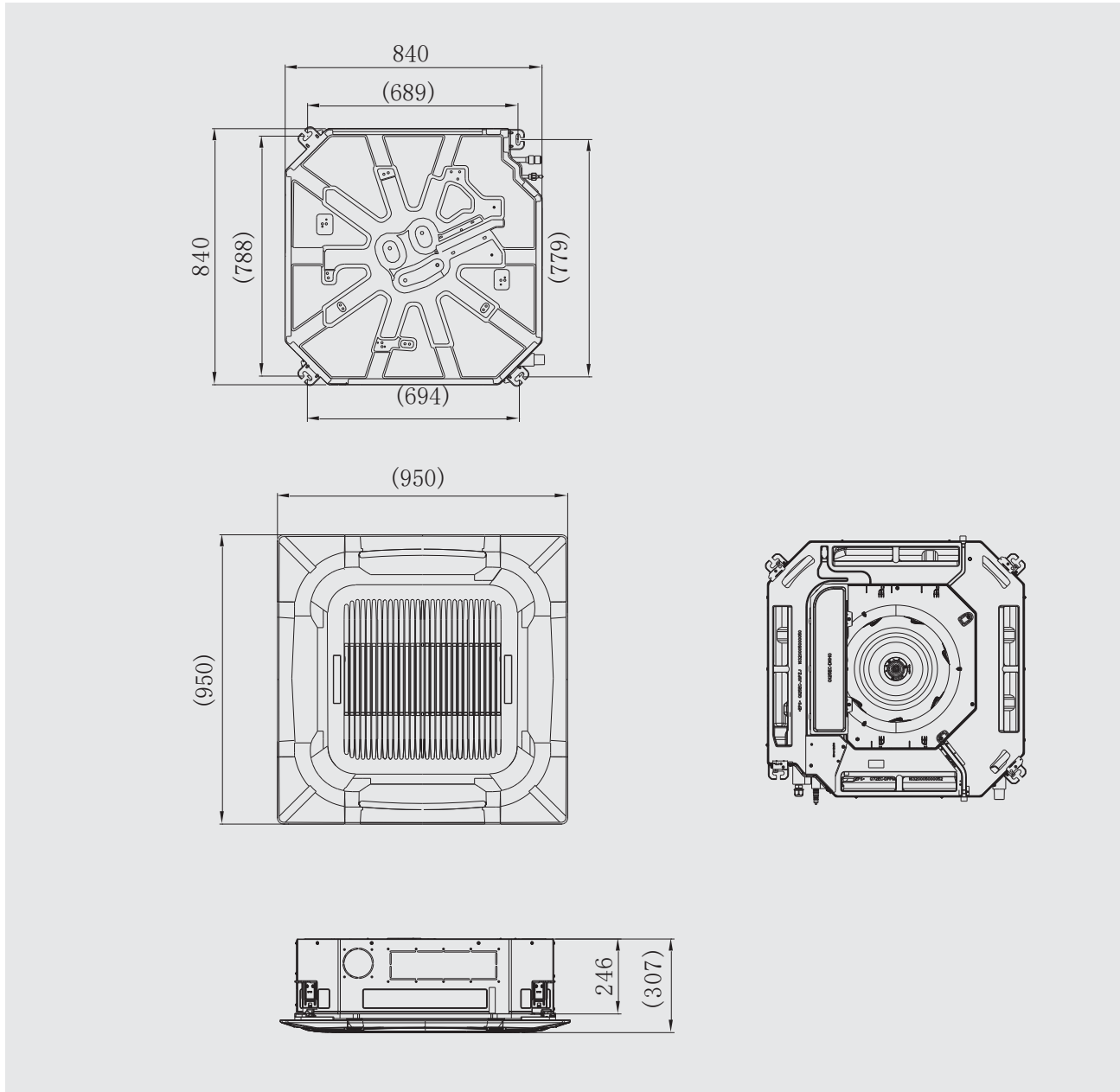


The new degree of comfort.®

# DIMENSION

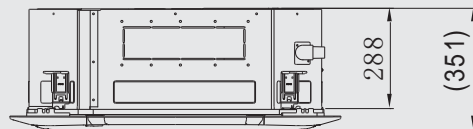
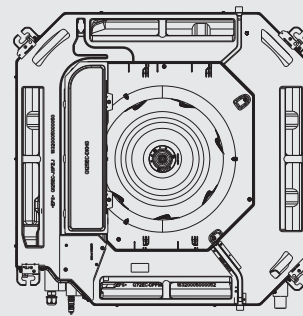
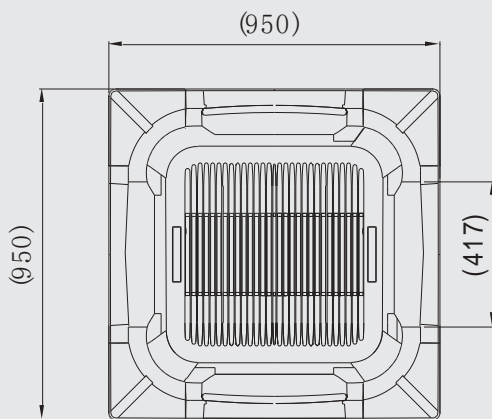
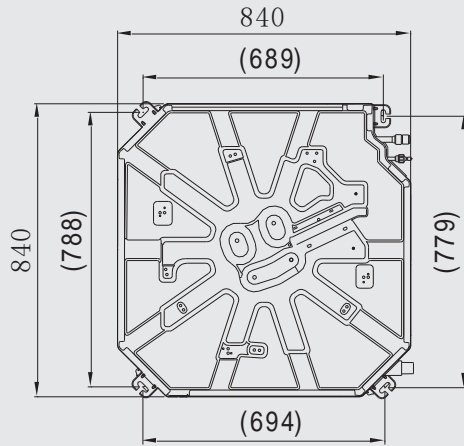
## 1. CASSETTE

### 1.1 18K, 24K



The new degree of comfort.®

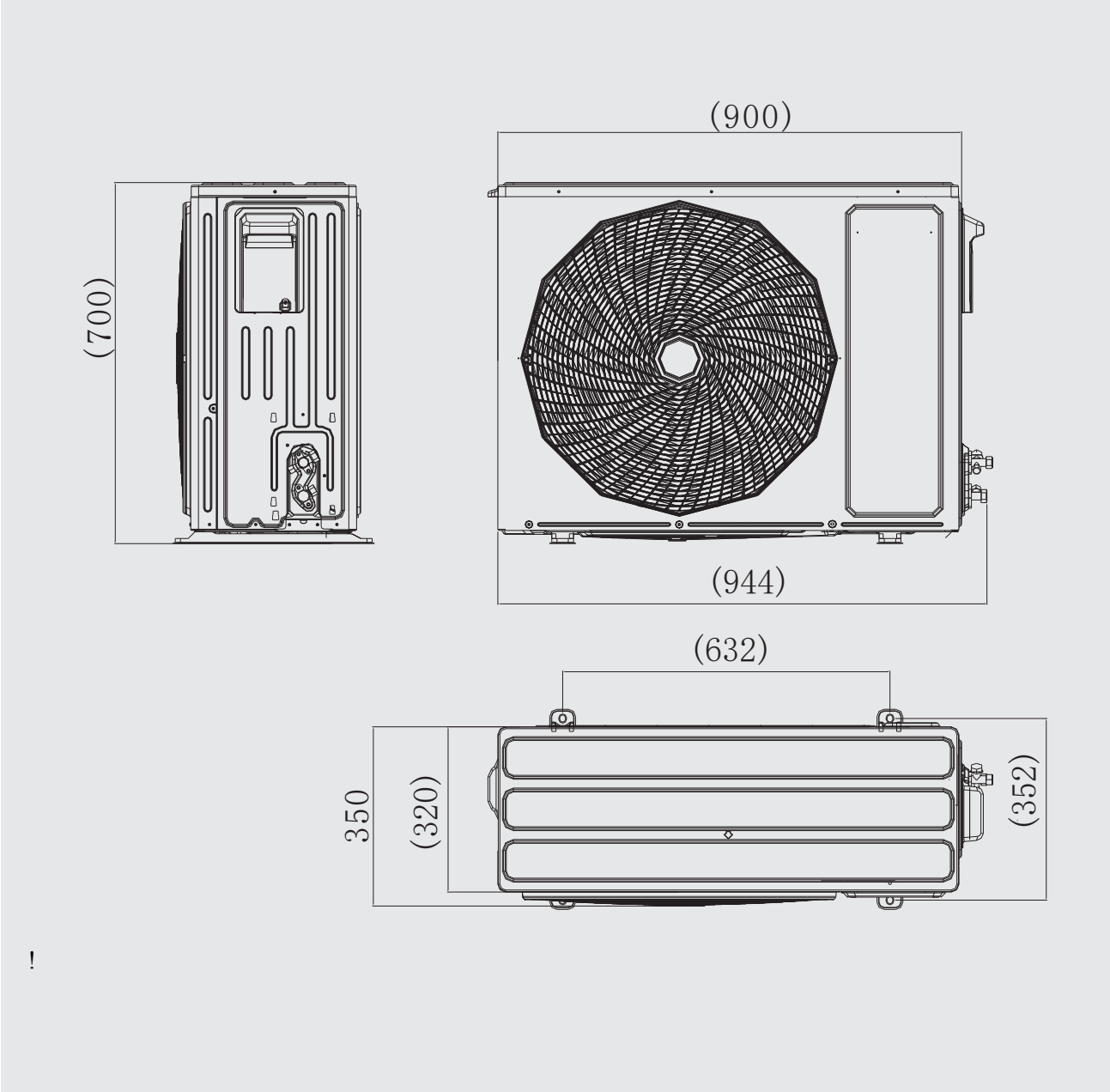
## 1.2 36k, 42k



The new degree of comfort.®

# OUTDOOR UNIT

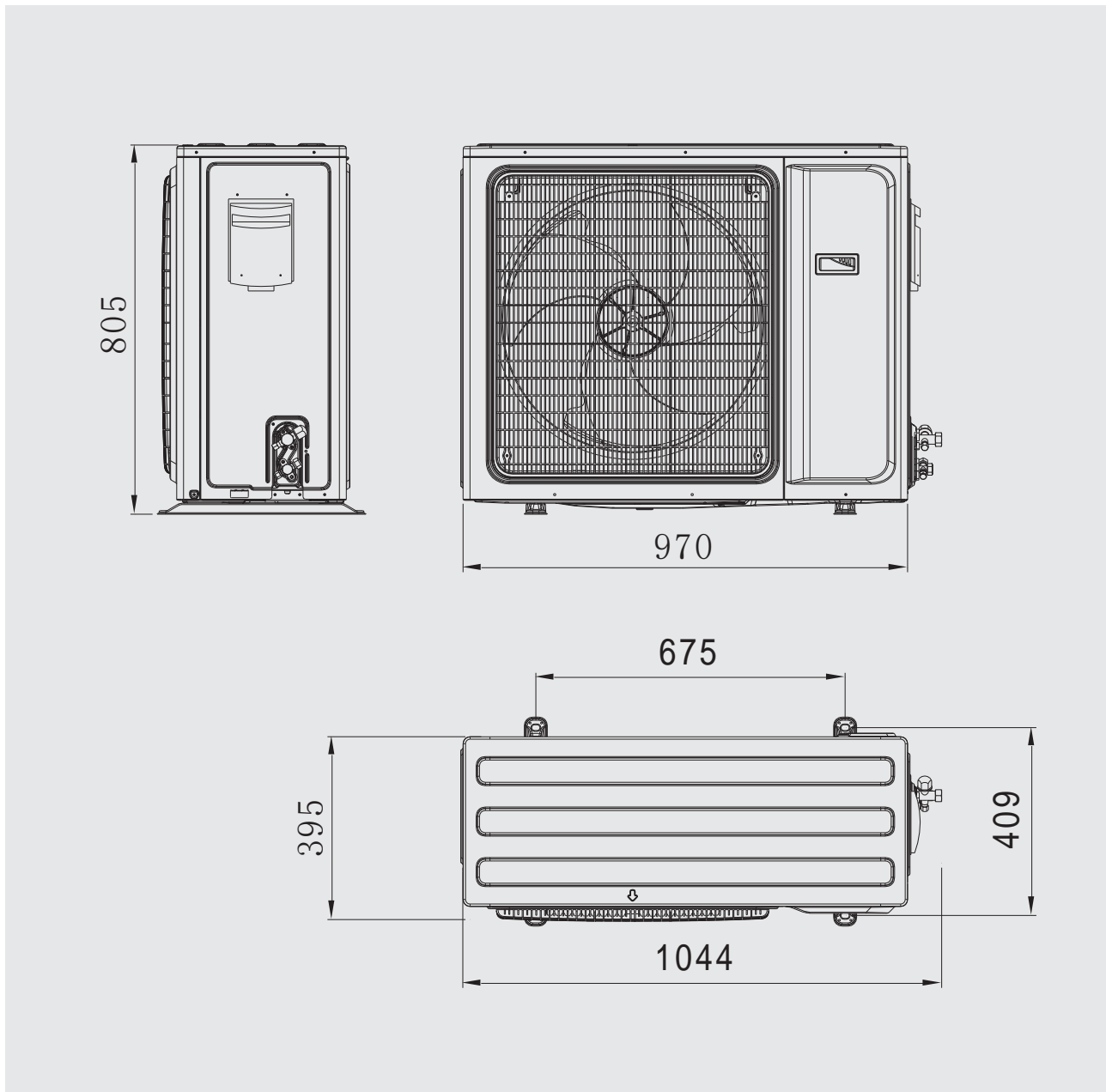
## 2.1 18K , 24K



The new degree of comfort.®

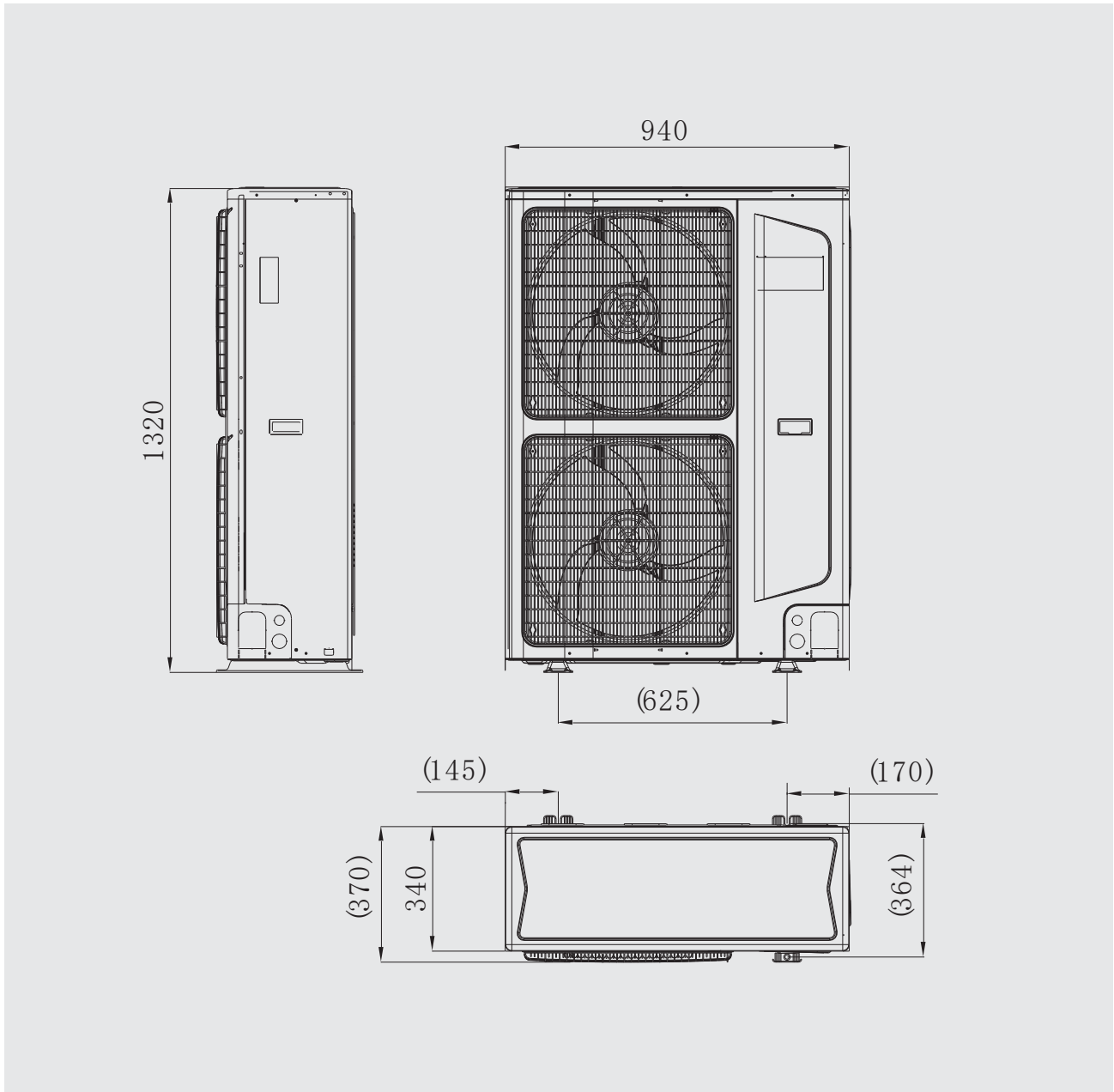


## 2.2 36K



The new degree of comfort.®

## 2.3 42K

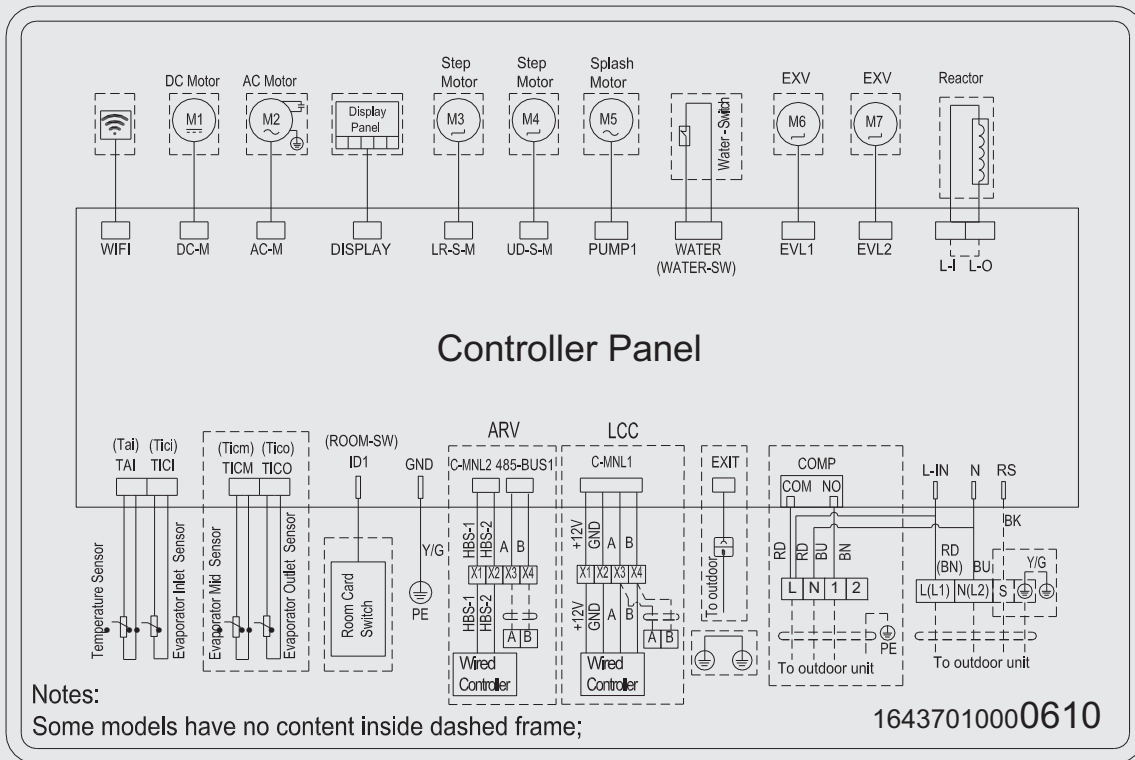


The new degree of comfort.®

# ELECTRICAL PRINCIPLE DIAGRAM

## CASSETTE

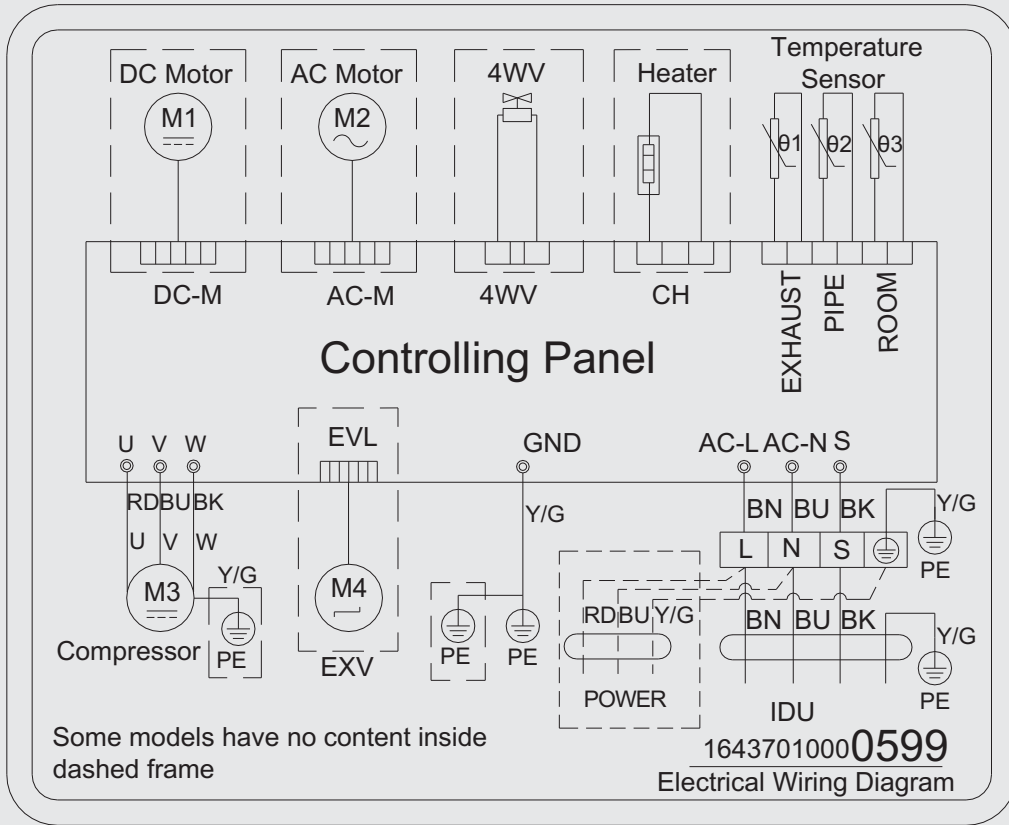
### 1.1 18k, 24k, 36k, 42k



The new degree of comfort.®

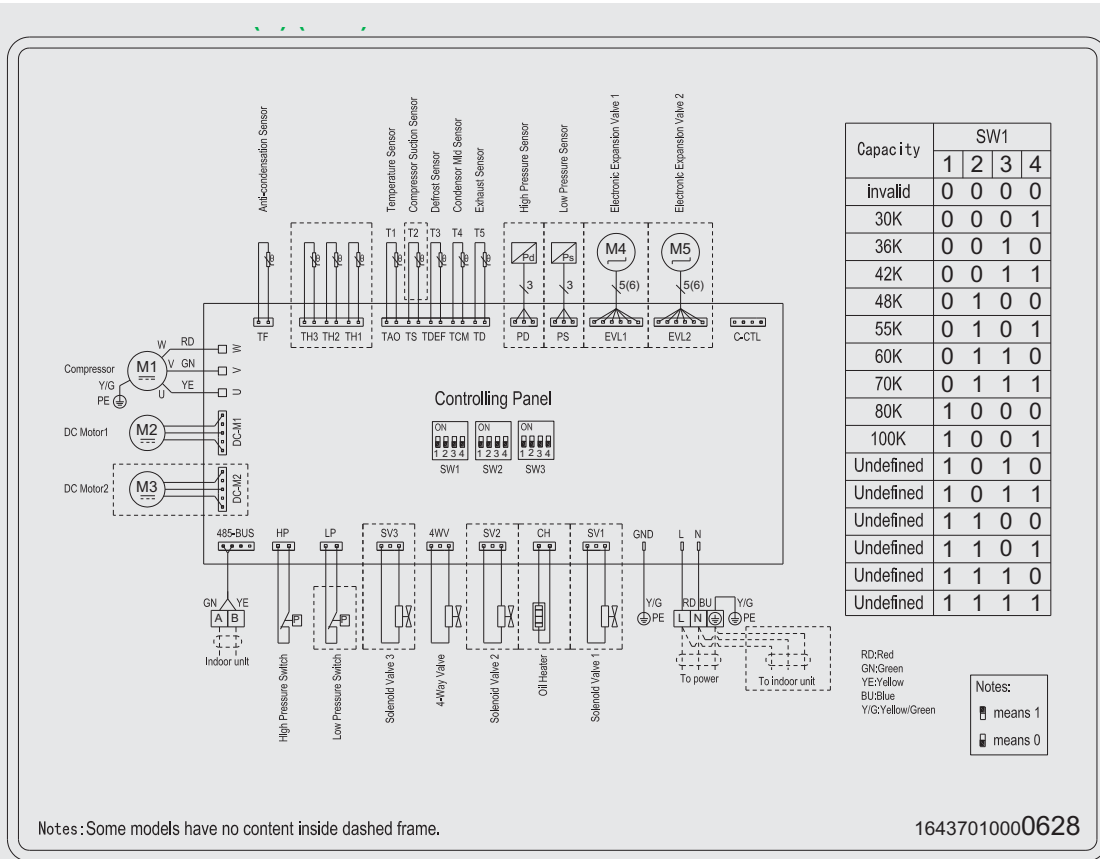
# OUTDOOR UNIT

## 2.1 18k, 24k



The new degree of comfort.®

## 2.2 36K, 42K



The new degree of comfort.®

# CAPACITY AMENDMENT

## 1. OPERATION RANGE

Cooling capacity (KBtu/h)		18K	24K	36K	42K
Power supply		60 Hz			
Voltage		220~240V			
Ambient temperature	Cooling	17~55°C			
	Heating	-5~24			

## 2. CAPACITY AMENDMENT OF DIFFERENT AMBIENT TEMPERATURE

Amendment coefficient of Cooling capacity under different indoor/outdoor DB/WB temperatureK1

IDUtemp.°C		Outdoor air inlet DB temperature°C										
DB	WB	-10	0	10	16	25	30	35	40	43	48	52
23	16	1.19	1.12	1.08	1.05	1	0.95	0.90	0.87	0.85	0.82	0.77
25	18	1.26	1.19	1.12	1.08	1.05	1	0.95	0.90	0.87	0.85	0.82
27	19	1.28	1.26	1.19	1.12	1.08	1.05	1	0.95	0.90	0.87	0.85
28	20	1.30	1.28	1.26	1.19	1.12	1.08	1.05	1	0.95	0.90	0.87
30	22	1.33	1.30	1.28	1.26	1.19	1.12	1.08	1.05	1	0.95	0.90
32	24	1.5	1.33	1.30	1.28	1.26	1.19	1.12	1.08	1.05	1	0.95

Actual cooling capacity calculation:

Actual cooling capacity=amendment coefficient of cooling capacity × nominal cooling capacity

- — Rated cooling capacity could be found from(Part 4 Specification)
- — Amendment coefficient of cooling capacity could be found from table above.



Amendment coefficient of Heating capacity under different indoor/outdoor DB/WB temperature **K2**

IDU temp. °C	Outdoor air inlet DB temperature °C									
	DB	-15	-10	-5	0	7	10	15	20	24
16		0.93	0.97	1	1.06	1.08	1.1	1.14	1.2	1.25
18		0.87	0.93	0.97	1	1.06	1.08	1.1	1.14	1.2
20		0.8	0.87	0.93	0.97	1	1.06	1.08	1.1	1.14
22		0.71	0.8	0.87	0.93	0.97	1	1.06	1.08	1.1
24		0.62	0.71	0.8	0.87	0.93	0.97	1	1.06	1.08

Actual heating capacity calculation:

Actual heating capacity = amendment coefficient of heating capacity × nominal heating capacity

- — Rated heating capacity could be found from (Part 4 Specification)
- — amendment coefficient of heating capacity could be found from table above.



The new degree of comfort.®

### 3. LONG PIPING LENGTH

Cooling capacity (KBtu/h)		18 K	24 K	36 K	42K
Connection Pipe(mm)	Liquid pipe	Φ 6.35	Φ 9.52		Φ 9.52
	Gas pipe	Φ 12.7	Φ 15.88		Φ 19.05
Max. piping length(m)		30		50	
Max.piping height(m)		20		30	
Max.Bend Qty		5	8	10	

#### 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.

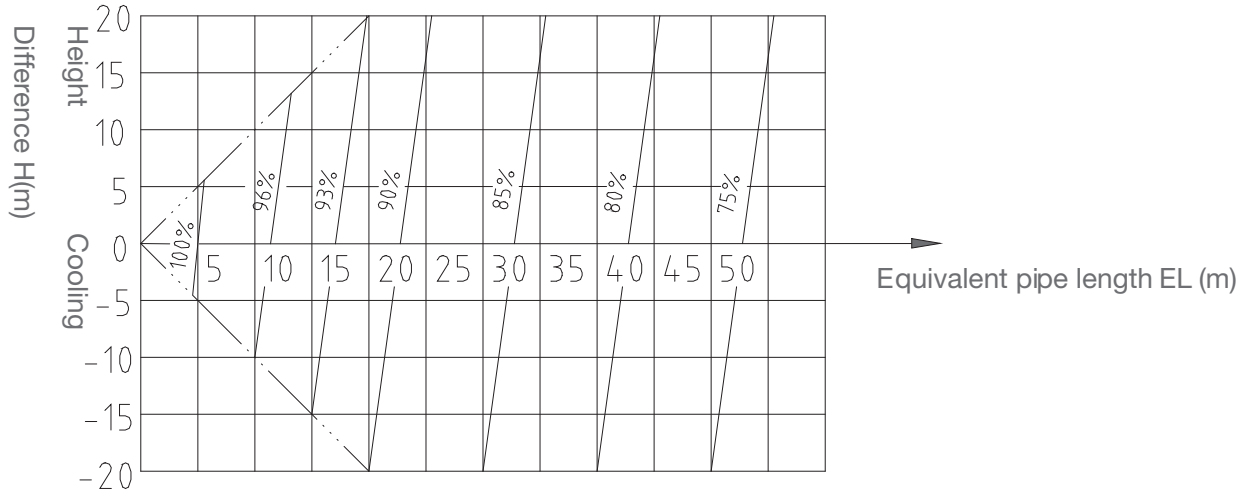




# 4. CAPACITY AMENDMENT OF DIFFERENT PIPING LENGTH

4.1 Amendment coefficients of heating and cooling capacity under different height drop **K3**

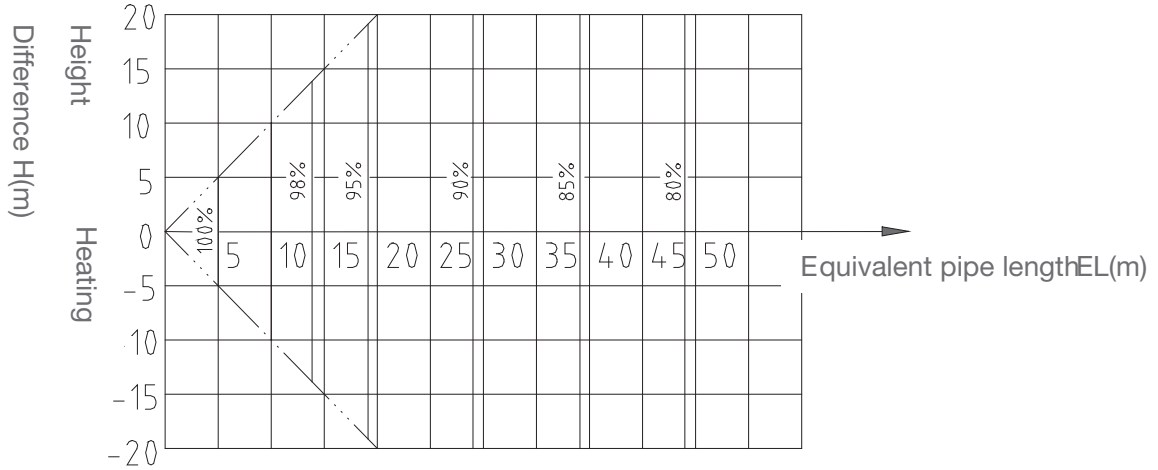
## Different Cooling Capacity modified coefficients at different height:



**Note:**

H = Height of Outdoor Unit — Height of Indoor Unit

## Different Heating Capacity modified coefficients at different height:



**Note:**

H = Height of Outdoor Unit — Height of Indoor Unit

## 4.2 Correction capability

Cooling capacity = Rated cooling capacity x **K1** x **K3**

Heating capacity = Rated heating capacity x **K2** x **K3**



The new degree of comfort.®

## 5. EQUIVALENT PIPE LENGTH CONVERSION LENGTH

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

Pipe Dia.(mm)	Type	Bend (m)	Oil Loop(m)
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

**Equivalent Pipe length  $L$**  = Actual Pipe length  $L$  + Bend Qty  $\times$  Equivalent pipe bend length + Oil Loop Qty  $\times$  Equivalent Oil Loop length

### Sample:

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

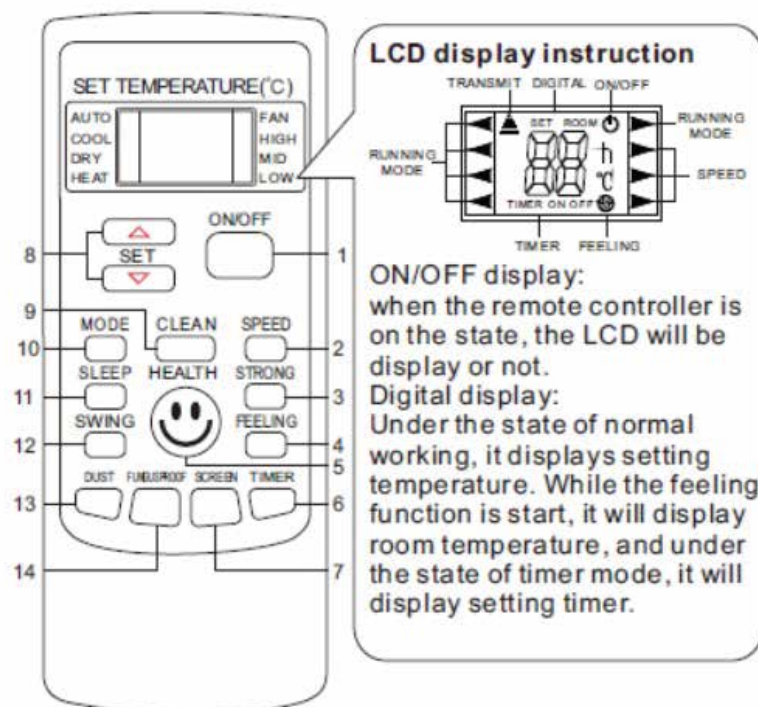


# CONTROL

## 1. CONTROLLER

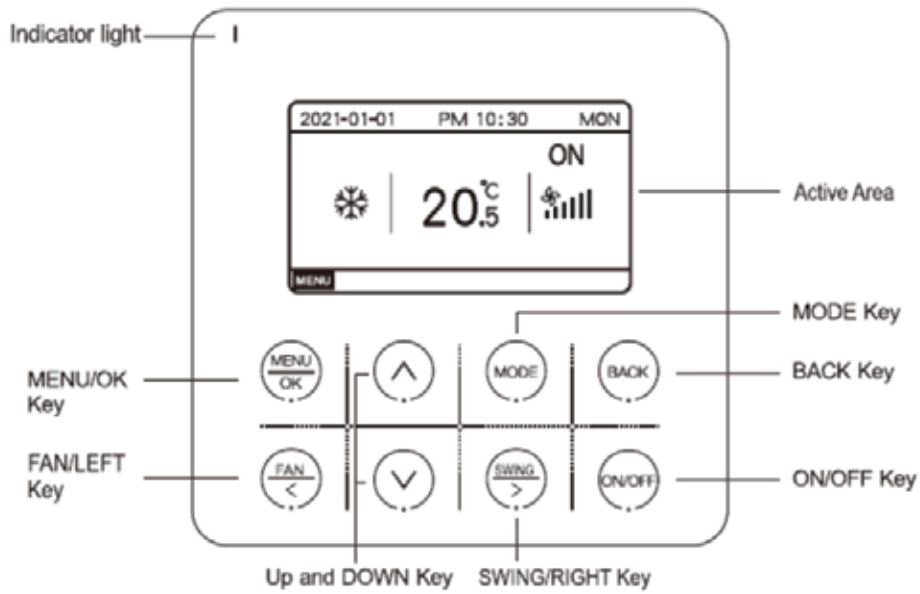
IDU type	Controller			
	Standard	Optional 1	Optional 2	Optional 3
Cassette				
	YK-H 11222001000112	YK-H 11222001000139	XK-05 11222020000038	XK-06 11222020000068

## 2. Remote Controller YK-H

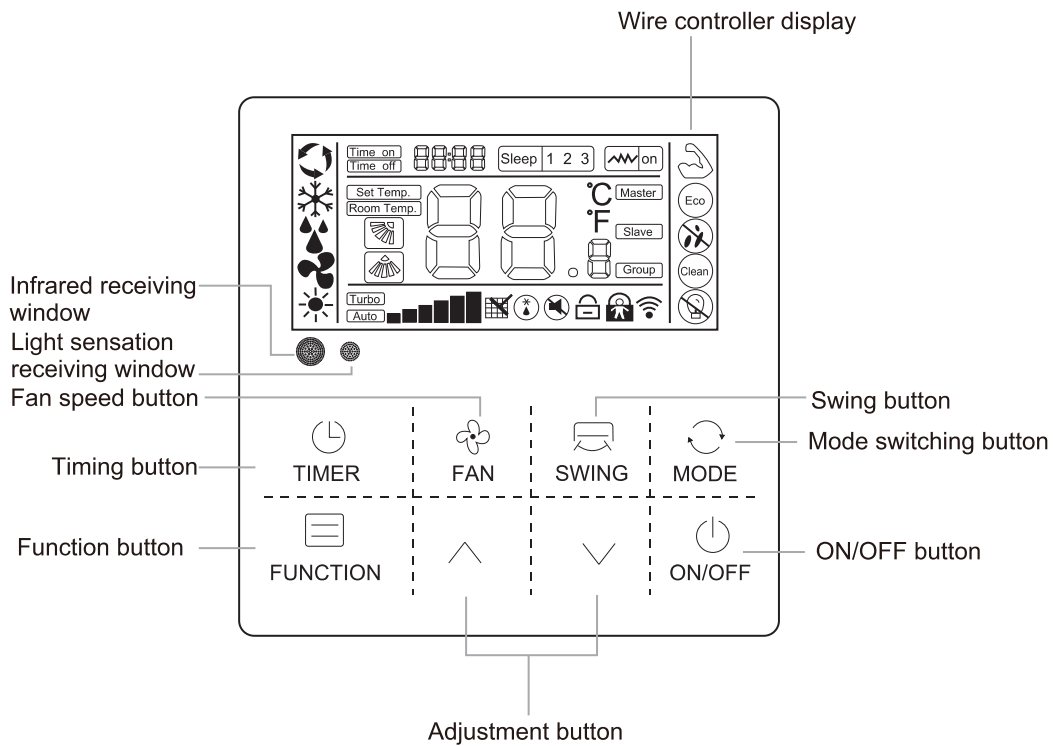


### 3. Wired Controller

#### Wired Controller XK-06



#### Wired Controller XK-05



## 4. PARAMETERS SETTING

Indoor unit's parameters can be set by remote controller (YK-L) and wired remote controller—For after-sales (In indoor side ,After a new PCB was replaced, indoor parameters set is necessary).

### Parameter Setting table

Serial Number Parameter	Model of IDU	Capacity of IDU	Static Pressure Setting	Selection of room sensor
RINC18CHA01	01	18	09	01
RINC24CHA01	01	24	16	01
RINC36CHA01	01	36	03	01
RINC48CHA01	01	42	03	01

**Note:**

Selection of air return temperature sensor; 00– sensor in indoor unit, 01 —Sensor in wired controller.



## 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 .

## Parameter Setting by XK-05


# 5. PARAMETER CHECKING

Press the “FUNCTION” button for 5 seconds, enter the parameter checking interface.  
(Before 2021.09)

After 2021.09: Press “FUNCTION” + “MODE” for 5 seconds, enter 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” button to confirm);

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



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

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

1. Press “FUNCTION” for 5s, enter parameter checking model (Before 2021.09)  
After 2021.09: Press “FUNCTION” + “MODE” for 5s, enter parameter checking model

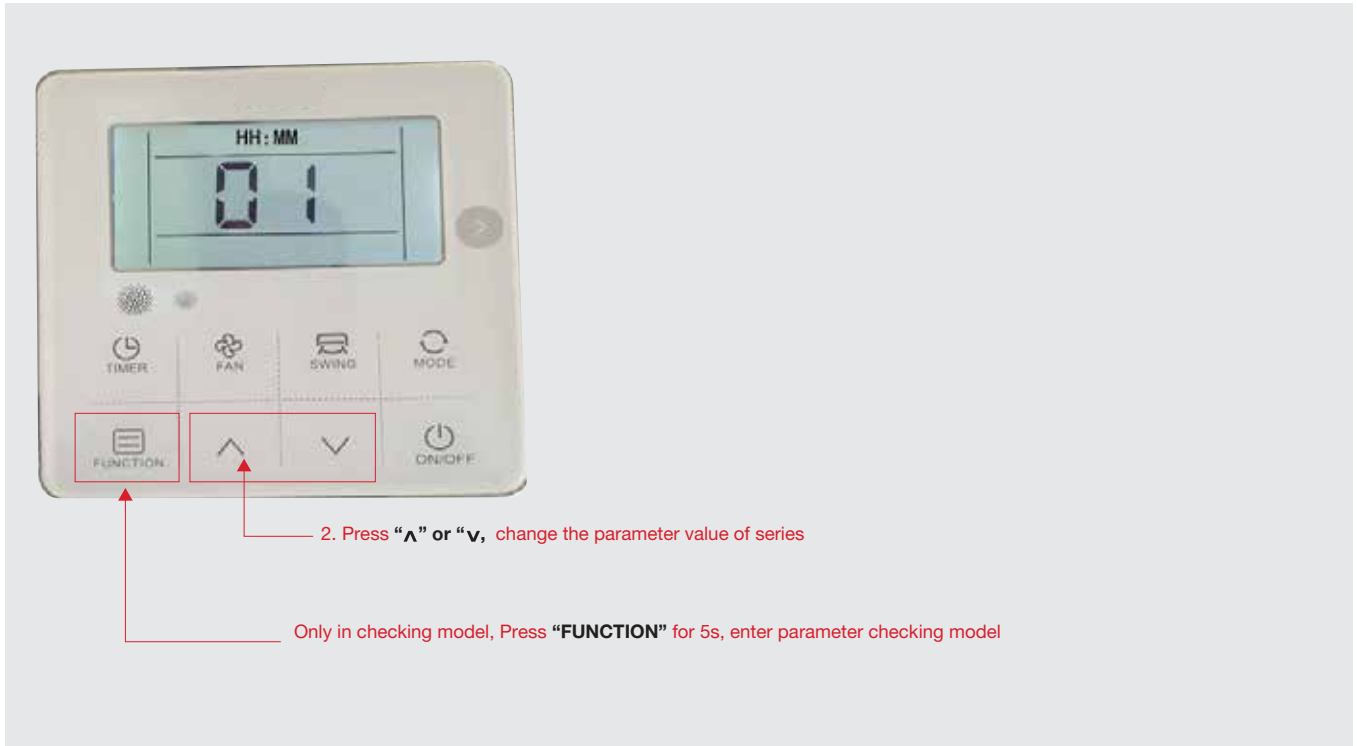


The new degree of comfort.®

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

The corresponding parameter value **“MM”** begin 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.



If you want to change the PCB from cassette type to mid duct type for 42k unit , you should set the type of the unit , check the above **【Parameter Setting Items table】** --- Mode of IDU is **【04】** , 42K cassette parameter is **【11】** , 42K mid duct parameter is **【39】**  
**【0411】** change to **【0439】** (step1)



The new degree of comfort.®



- ③ Press **"FUNCTION"** for 5S again, enter parameter setting model;NO.
- ② Press the **"^"** or **"v"** button to get "04 11"
- ① Press **"FUNCTION"** for 5s, enter parameter checking model (Before 2021.09)  
After 2021.09: Press **"FUNCTION"** + **"MODE"** for 5s, enter parameter checking model

【0411】 change to 【0439】 (step2)



- ④ Press the **"^"** or **"v"** button to get **"04 39"**
- ⑤ After finishing the setting ,press **"FUNCTION"** to confirm



The new degree of comfort.®



## 6. Room Card Function

### Function setting

Parameters 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 2.2Parameter Setting by YK-L or 2.3 Parameter Setting by XK-05

### For example ( XK-05)

#### Step 1



③ Press **"FUNCTION"** for 5S again, enter parameter setting model;

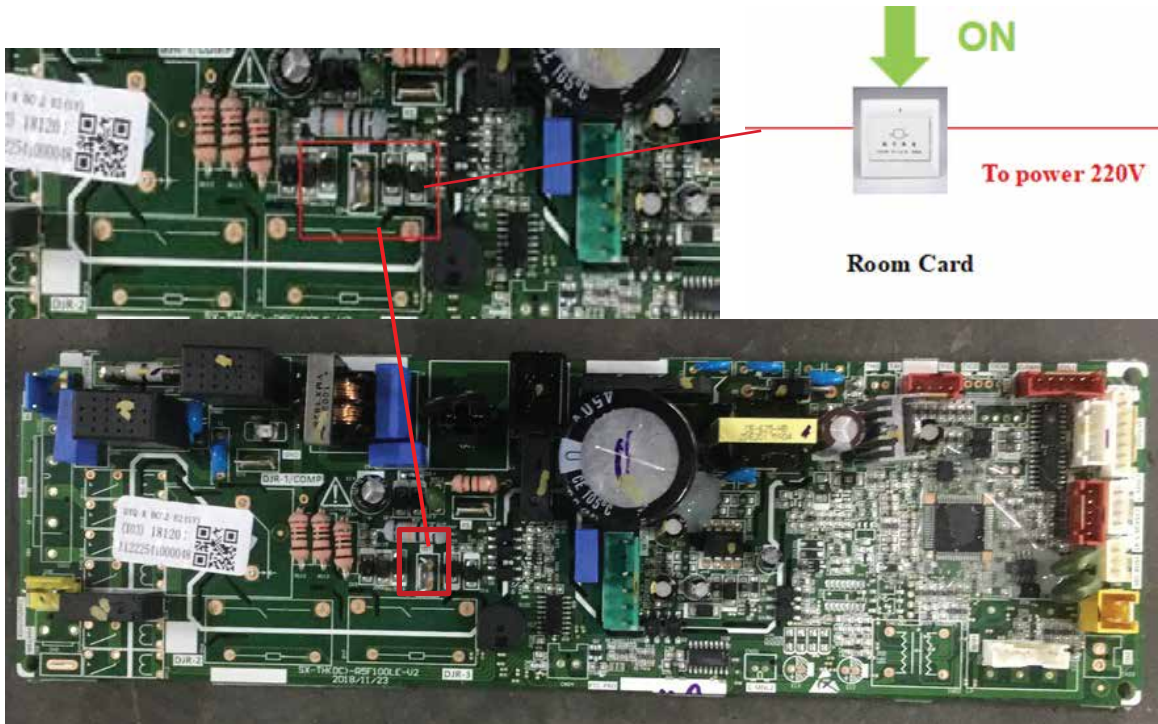
② Press the " " or " " button to get **"0939"**

① Press **"FUNCTION"** for 5S, enter parameter check model; **(Before 2021.09)**

**After 2021.09:** Press **"FUNCTION"+"MODE"** for 5s, enter parameter checking model



## (Cassette)



## 7. WIFI Module

### 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



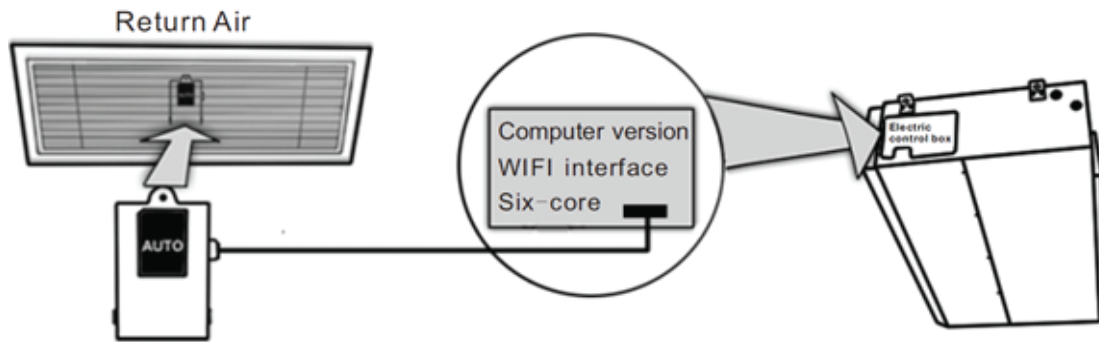
#### 2. Light Commercial WIFI Module Installation

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)



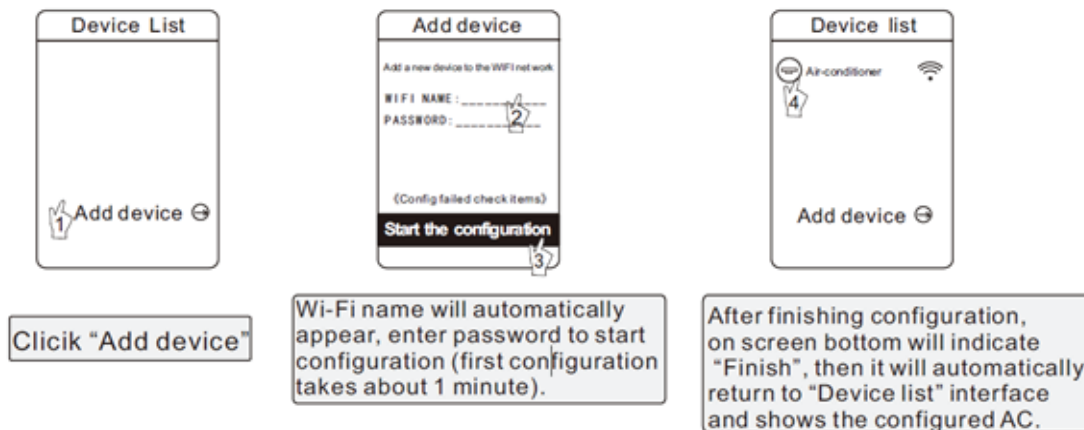
The new degree of comfort.®



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:

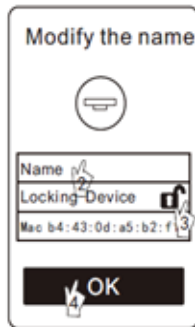


**Note:** If the configuration fails or you change the password of wireless router, you need to reset the WIFI module to reconnect: Turn on the power of the module, then repeat the steps above for APP configuration.



## AC management

1. Modify AC name and locking function



**Note:**

If you had locked AC equipment, you need to unlock before connecting other mobile terminal. If the mobile terminal locked AC was accidentally lost, you need to reset WIFI module first, and then use the new mobile terminal to connect (Reset step is same with 1.3 APP configuration).

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

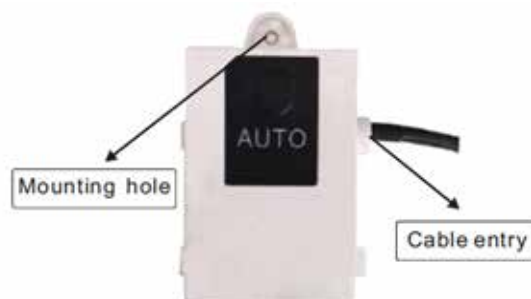
## Trouble Shooting

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.

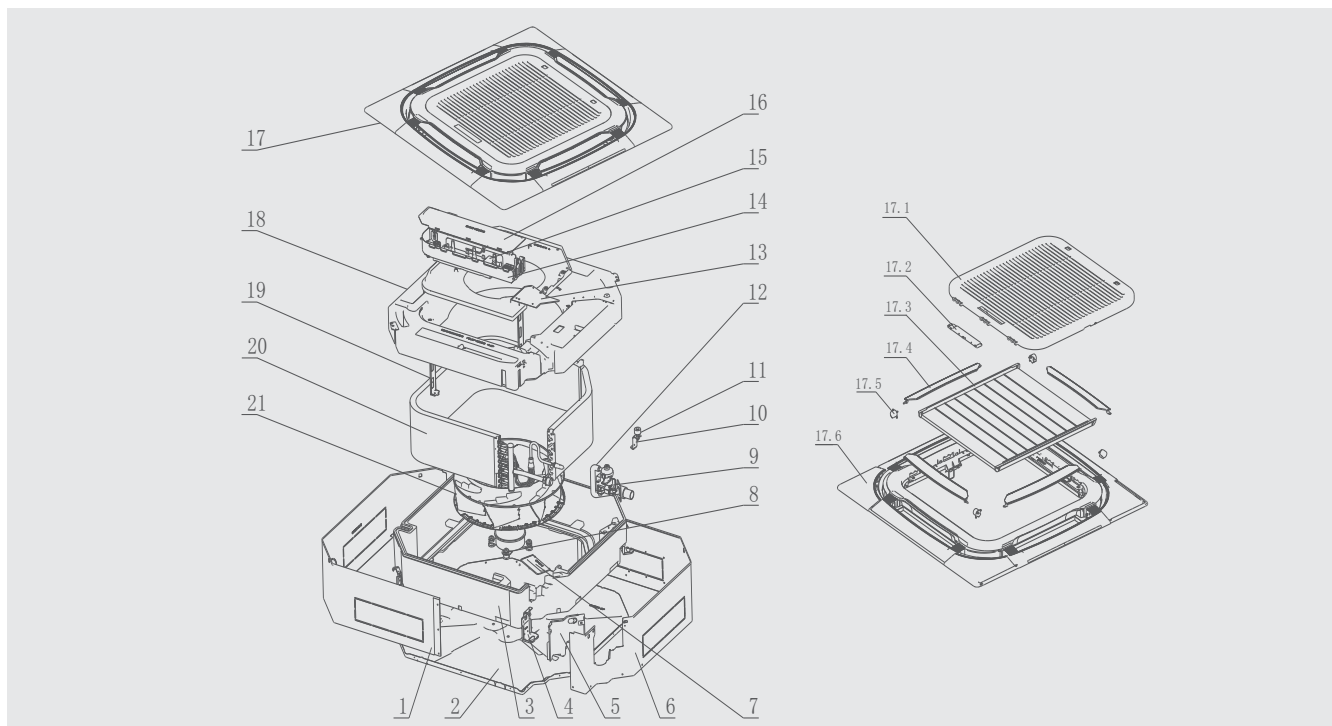
## Technical Parameters

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



# EXPLODED VIEW - RINC18CHA01

## INDOOR UNIT



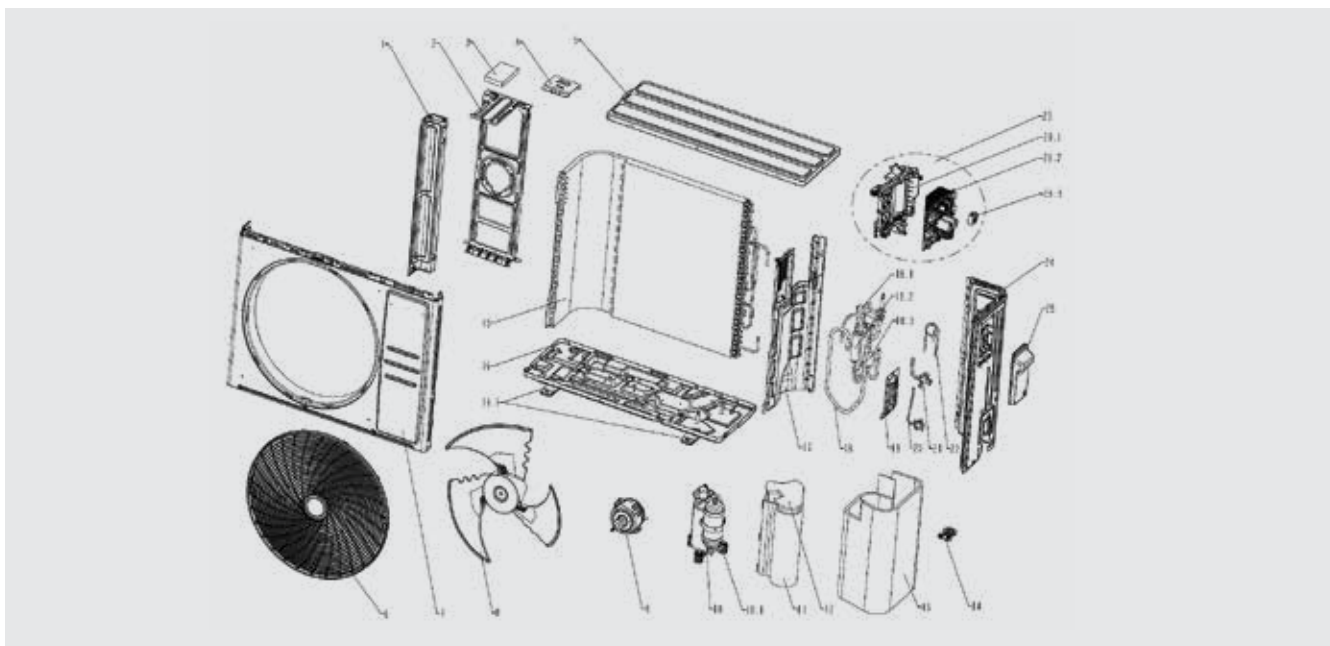
No	Code	Part Name	Qty
1	1642101000082	Right side panel	1
2	1632102300001	Chassis cover board	1
3	16320005000052	Cystosepiment for Chassis cover board	1
4	16421040000054	hangers	4
5	16420014000042	Valve board	1
6	16421010000083	Left side panel	1
7	16421002000466	tension disc	1
8	16430034000009	continuous current dynamo	1
9	16440001000022	Water pump	1
10	16421026000402	float switch support	1
11	16445034000014	float switch	1
12	16320005000053	drain-pipe assembly	1
13	16421005000631	cover plate	1
14	16421038000395	electronic control box	1
15	11222541000108	control panel	1
16	16421038000360	Valve board for electric cabinet	1
17	16108002000007	panel	1
17.1	16420010000004	Grilling	1
17.2	11222014000704	display lamp	1
17.3	16420012000001	filter screen	1
17.4	16420007000009	vane	4
17.5	16430031000002	stepping motor	4
17.6	16420011000013	cover plate	4
18	16320020000005	Cystosepiment for water pan	1
19	16421125000002	Hanger for evaporator	2
20	16324018000089	Evaporator assembly	1
21	16420018000002	wind wheel	1
22	16430007000232	Temperature sensor	1



The new degree of comfort.®

# EXPLODED VIEW - RONC18CIHA01

## OUTDOOR UNIT



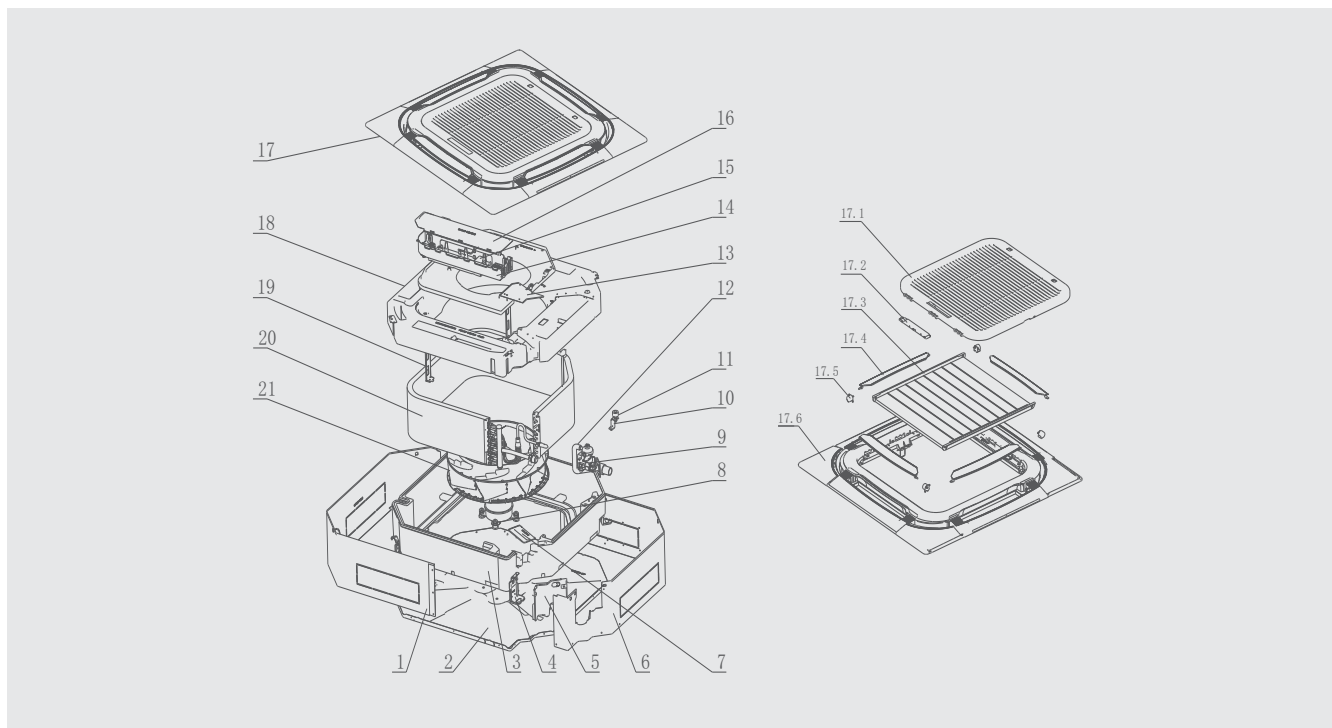
No	Code	Part Name	Qty
1	11321156000021	Left Panel	1
2	11321002000050	Motor support	1
3	11327018000017	Motor support sponge	1
4	11321029000038	Hanger for condenser	1
5	16321027000028	Top Cover	1
6	11320026000075	Panel grille	1
7	11321005000135	Front Panel (Big)	1
8	11320009000075	Axial-flow Fan	1
9	11230005000077	Fan Motor	1
10	11223004000038	Compressor	1
10.1	11333053000011	Rubber cushion	3
11	11327002000098	Noise-damping coating	1
12	11327002000094	Noise-damping coating	1
13	11327002000115	Noise-damping coating	1
14	11320133000002	Water outlet nozzle	1
15	11224004001968	Condenser assembly	1
16	11221502000725	Chassis assembly	1
16.1	113210230014	Footing	2
17	11321025000084	Partition board	1
18	11225516001256	Four-way valve assembly	1
18.1	11325007000133	Four-way valve	1
18.2	11325512000050	Silencer	1
18.3	11325512000012	Silencer	1
19	11321031000034	Valve plate	1
20	11325042000030	Stop Valve	1
21	11225517000006	Stop Valve	1
22	16325021000103	Capillary assembly	1
23	11222004001346	Control assembly	1
23.1	11320057000133	Control box	1
23.2	11222031001440	Control board	1
23.3	11330037000191	Terminal board	1
24	11321157000081	Right panel	1
25	11320068000024	Electrical cover	1
26	11329013000131	Temperature sensor	1



The new degree of comfort.®

# EXPLODED VIEW - RINC24CHA01

## INDOOR UNIT



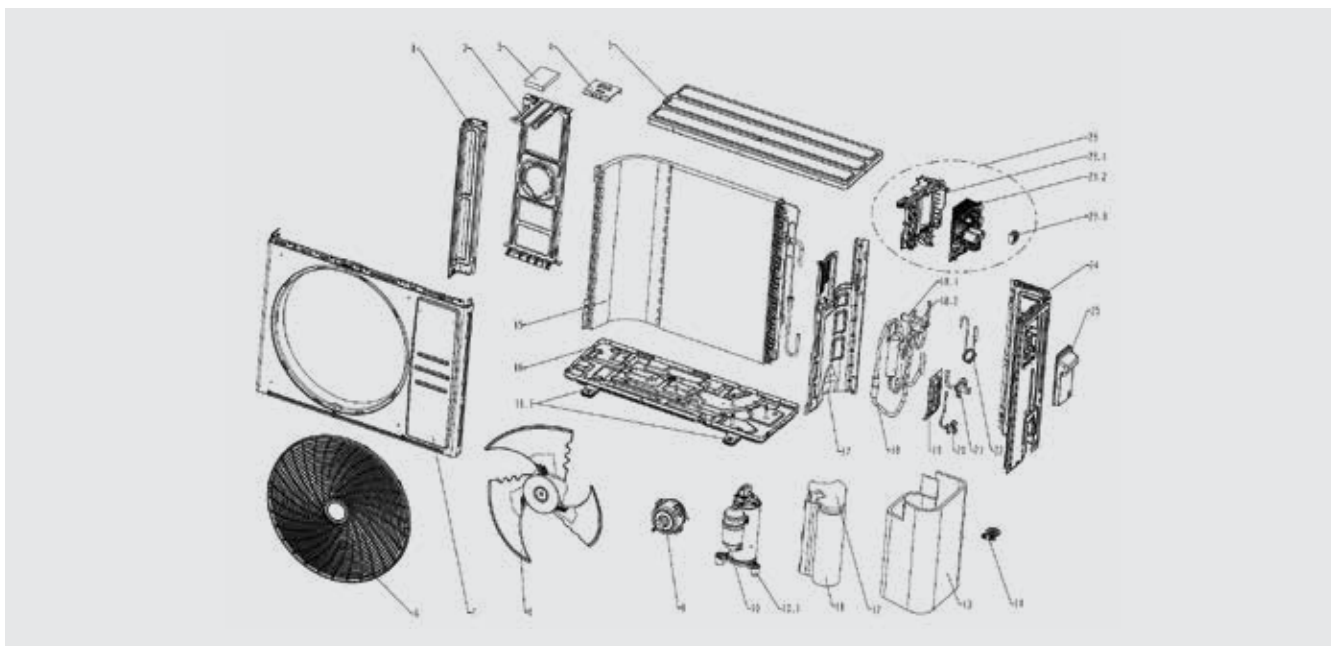
No	Code	Part Name	Qty
1	16421010000082	Right side panel	1
2	16321023000001	Chassis cover board	1
3	16320005000052	Cystosepiment for Chassis cover board	1
4	16421040000054	hangers	4
5	16420014000042	Valve board	1
6	16421010000083	Left side panel	1
7	16421002000466	tension disc	1
8	16430034000009	continuous current dynamo	1
9	16440001000022	Water pump	1
10	16421026000402	float switch support	1
11	16445034000014	float switch	1
12	16320005000053	drain-pipe assembly	1
13	164210050000631	cover plate	1
14	16421038000395	electronic control box	1
15	11222541000108	control panel	1
16	16421038000360	Valve board for electric cabinet	1
17	16108002000007	panel	1
17.1	16420010000004	Grilling	1
17.2	11222014000704	display lamp	1
17.3	16420012000001	filter screen	1
17.4	16420007000009	vane	4
17.5	16430031000002	stepping motor	4
17.6	16420011000013	cover plate	4
18	16320020000005	Cystosepiment for water pan	1
19	16421125000002	Hanger for evaporator	2
20	16324018000096	Evaporator assembly	1
21	16420018000002	wind wheel	1
22	16430007000232	Temperature sensor	1



The new degree of comfort.®

# EXPLODED VIEW - RONC24CIHA01

## OUTDOOR UNIT



No	Code	Part Name	Qty
1	11321156000021	Left Panel	1
2	11321002000050	Motor support	1
3	11327018000017	Motor support sponge	1
4	11321029000038	Hanger for condenser	1
5	16321027000028	Top Cover	1
6	11320026000075	Panel grille	1
7	11321005000135	Front Panel (Big)	1
8	11320009000075	Axial-flow Fan	1
9	11230005000077	Fan Motor	1
10	112230030000429	Compressor	1
10.1	11333031000043	Rubber cushion	3
11	11327002000114	Noise-damping coating	1
12	11327002000094	Noise-damping coating	1
13	11327002000115	Noise-damping coating	1
14	11320133000002	Water outlet nozzle	1
15	16324020000143	Condenser assembly	1
16	11221502000721	Chassis assembly	1
16.1	1132102300014	Footing	2
17	11321025000084	Partition board	1
18	11225516001265	Four-way valve assembly	1
18.1	11325007000130	Four-way valve	1
18.2	11325512000051	Silencer	1
19	11321031000034	Valve plate	1
20	11225517000005	Stop Valve	1
21	11225517000011	Stop Valve	1
22	16325021000104	Capillary assembly	1
23	11222004001347	Control assembly	1
23.1	11320057000133	Control box	1
23.2	11222031001441	Control board	1
23.3	11330037000191	Terminal board	1
24	11321157000081	Right panel	1
25	11320068000024	Electrical cover	1
26	11329013000131	Temperature sensor	1

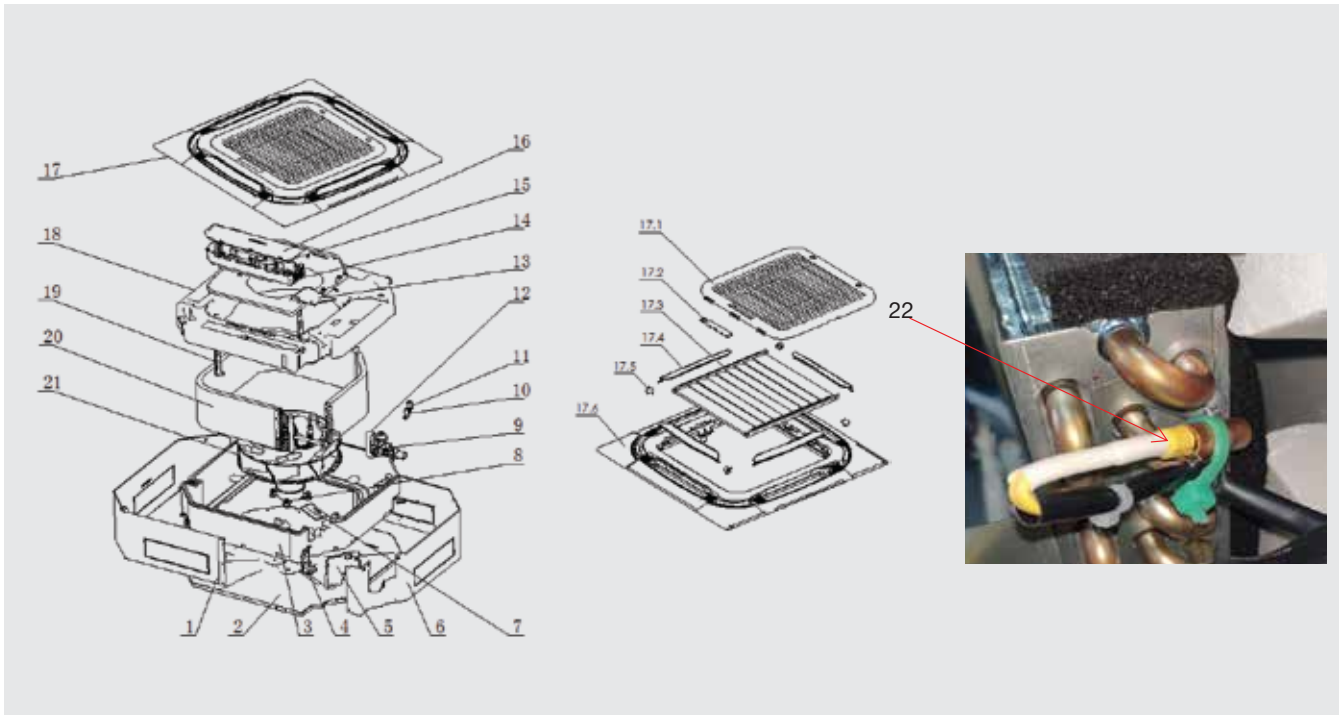


The new degree of comfort.®



# EXPLODED VIEW - RINC36CHA01

## INDOOR UNIT



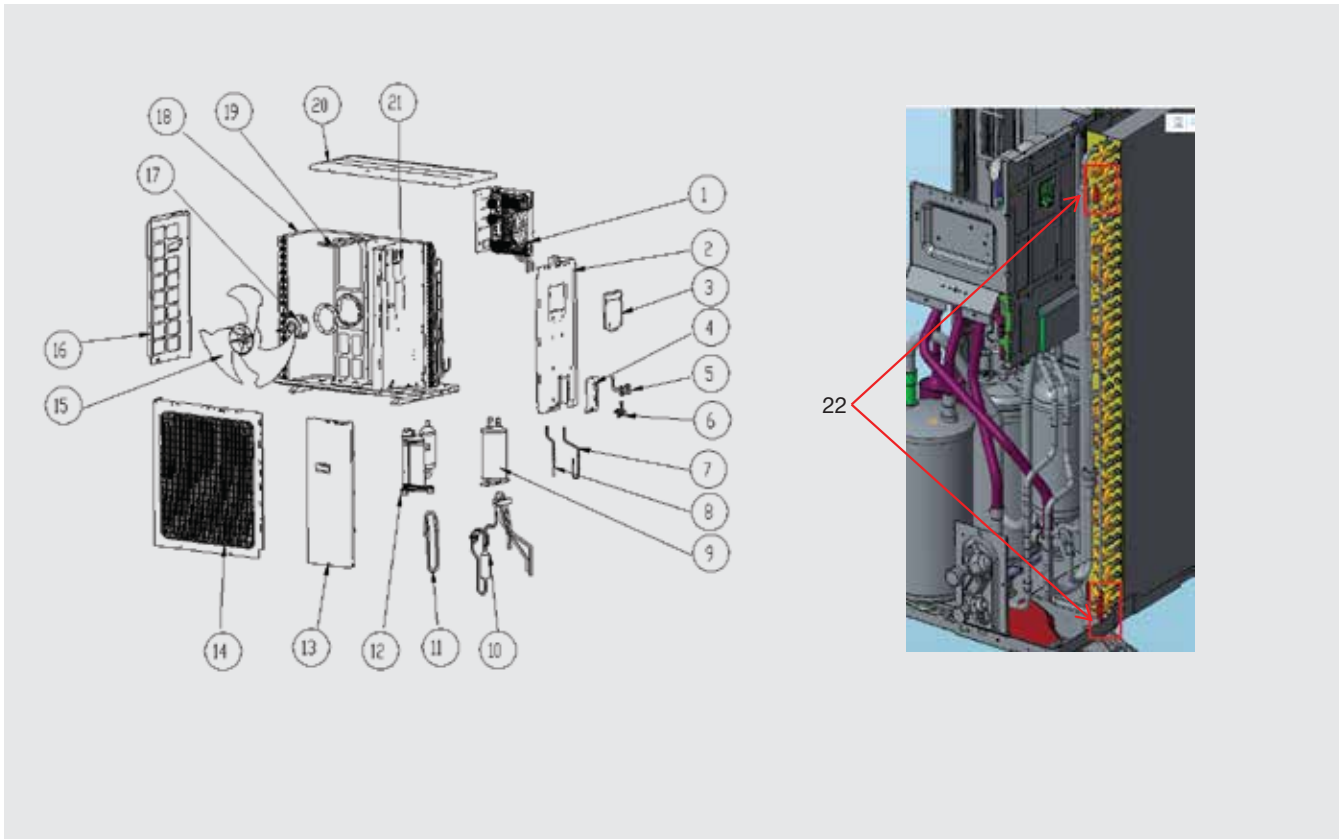
No	Code	Part Name	Qty
1	16421010000081	Right side panel	1
2	16321023000001	Chassis cover board	1
3	16320005000051	Cystosepiment for Chassis cover board	1
4	16421040000054	hangers	4
5	16420014000042	Valve board	1
6	16421010000080	Left side panel	1
7	164210020000466	tension disc	1
8	16430034000009	continuous current dynamo	1
9	16440001000022	Water pump	1
10	164210260000402	float switch support	1
11	16445034000014	float switch	1
12	16320005000053	drain-pipe assembly	1
13	164210050000631	cover plate	1
14	164210380000361	electronic control box	1
15	11222541000108	control panel	1
16	164210380000360	Valve board for electric cabinet	1
17	16108002000007	panel	1
17.1	16420010000004	Grilling	1
17.2	112220140000704	display lamp	1
17.3	16420012000001	filter screen	1
17.4	16420007000009	vane	4
17.5	16430001000133	stepping motor	4
17.6	16420011000013	cover plate	4
18	16320020000005	Cystosepiment for water pan	1
19	16421040000061	Hanger for evaporator	3
20	16324018000046	Evaporator assembly	1
21	16420018000002	wind wheel	1
22	16430007000232	Temperature Sensor	1



The new degree of comfort.®

# EXPLODED VIEW - RONC36CIHA01

## OUTDOOR UNIT



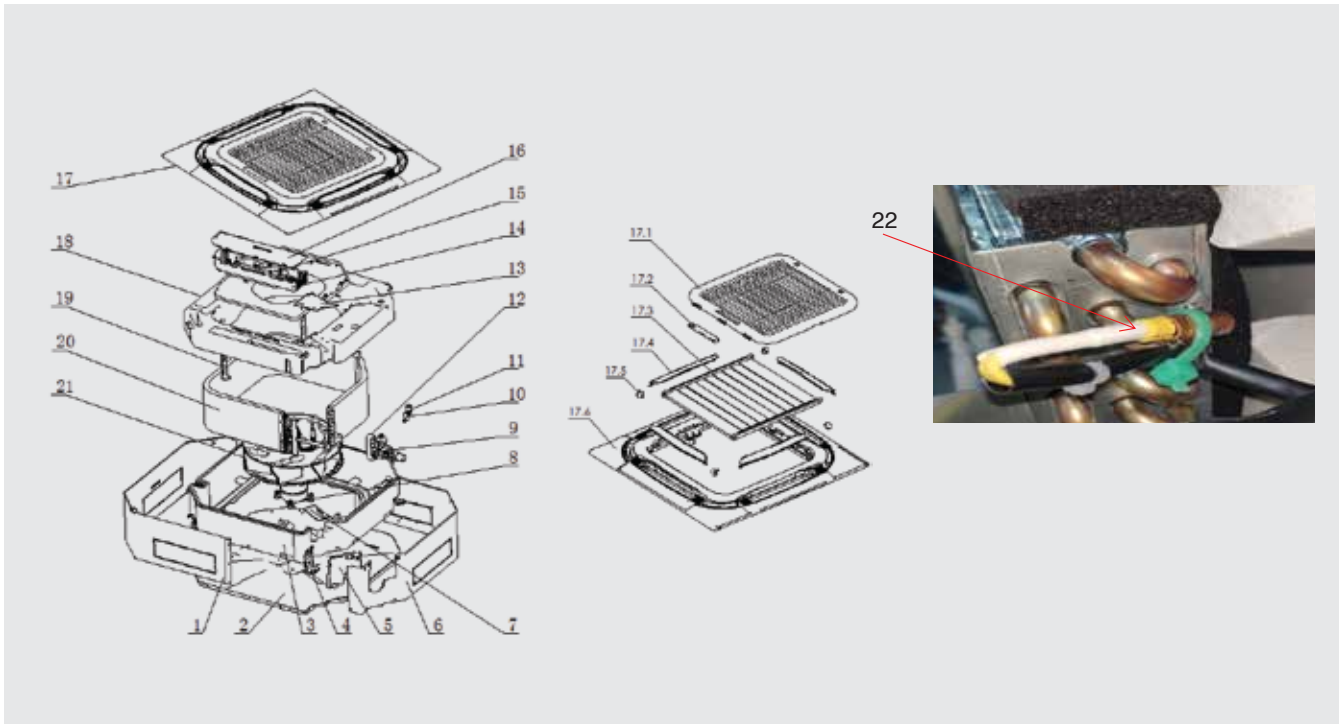
No	Code	Part Name	Qty
1	1122543000077	Controller Assembly	1
2	11321157000027	Right panel	1
3	11320068000006	Electrical cover	1
4	11321031000027	Valve plate	1
5	11225517000037	Stop valve	1
6	16441004000080	Stop valve	1
7	16325060000004	Capillary assembly	1
8	16325060000005	Capillary assembly	1
9	16442023000045	Liquid-vapor separator	1
10	16325020000116	Four-way valve assembly	1
10	16442024000010	High pressure switch	1
11	16325018000098	Suction pipe assembly	1
12	112230030000403	Compressor and its accessories	1
13	11321005000100	Panel	1
14	11321005000099	Panel	1
14	11320026000057	Panel grille	1
15	11320009000061	Axial fan	1
16	11321156000010	Left panel	1
17	11230005000033	Motor	1
18	16324020000133	Condenser assembly	1
18	16324019000005	Condenser assembly	1
19	11321002000038	Motor frame	1
20	11321009000054	Top cover	1
21	16421094000006	Partition board	1
22	16430007000277	Temperature Sensor	1



The new degree of comfort.®

# EXPLODED VIEW - RINC42CHA01

## INDOOR UNIT



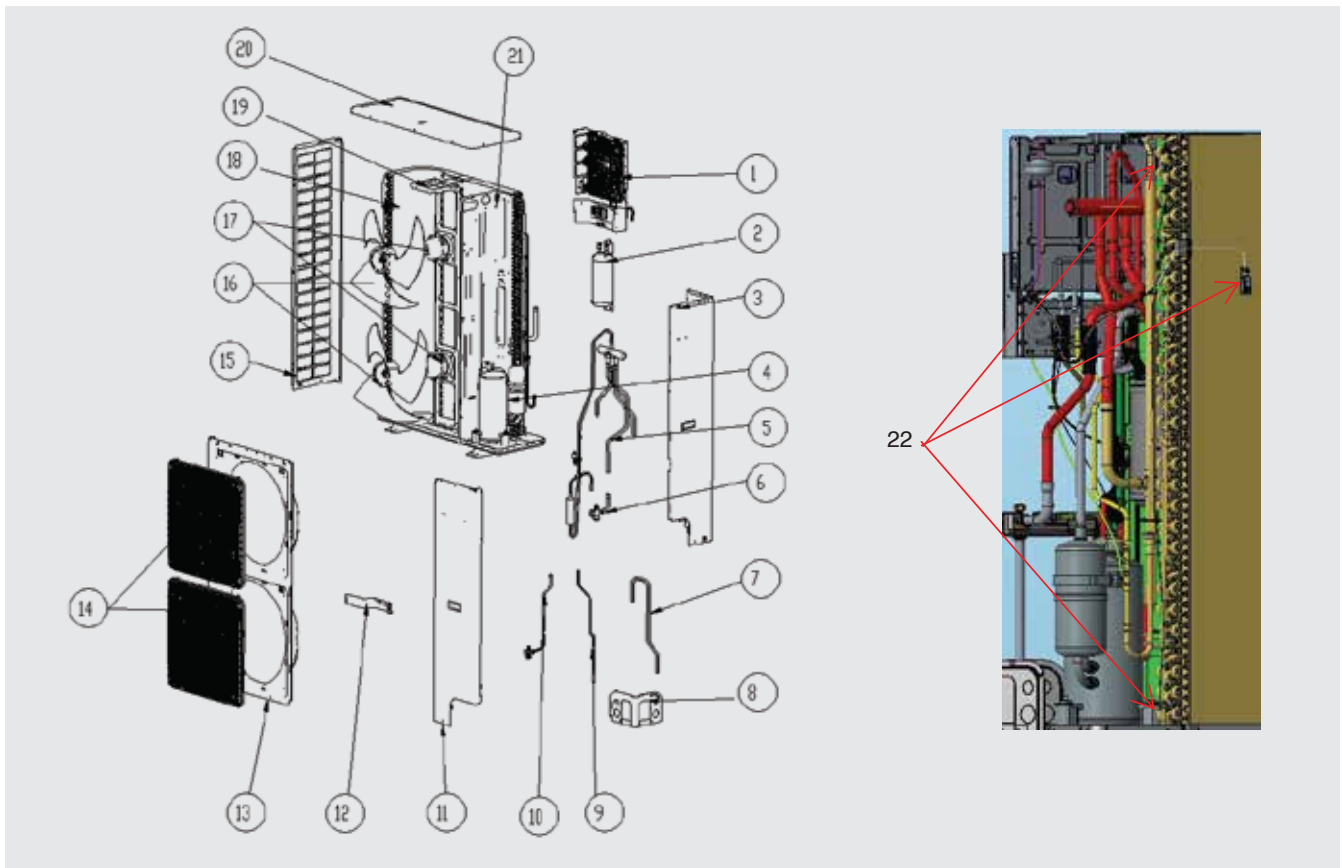
No	Code	Part Name	Qty
1	16421010000081	Right side panel	1
2	16321023000001	Chassis cover board	1
3	16320005000051	Cystosepiment for Chassis cover board	1
4	16421040000054	hangers	4
5	16420014000042	Valve board	1
6	16421010000080	Left side panel	1
7	16421002000466	tension disc	1
8	16430034000009	continuous current dynamo	1
9	16440001000022	Water pump	1
10	16421026000402	float switch support	1
11	16445034000014	float switch	1
12	16320005000053	drain-pipe assembly	1
13	164210050000631	cover plate	1
14	16421038000361	electronic control box	1
15	11222541000108	control panel	1
16	16421038000360	Valve board for electric cabinet	1
17	16108002000007	panel	1
17.1	16420010000004	Grilling	1
17.2	11222014000704	display lamp	1
17.3	16420012000001	filter screen	1
17.4	16420007000009	vane	4
17.5	16430001000133	stepping motor	4
17.6	16420011000013	cover plate	4
18	16320020000005	Cystosepiment for water pan	1
19	16421040000061	Hanger for evaporator	3
20	16324018000046	Evaporator assembly	1
21	16420018000002	wind wheel	1
22	16430007000232	Temperature Sensor	1



The new degree of comfort.®

# EXPLODED VIEW - RONC42CIHA01

## OUTDOOR UNIT



No	Code	Part Name	Qty
1	11222543000078	PCB board	1
2	16426074000003	Liquid-vapor separator	1
3	16421112000034	Right panel	1
4	16438003000049	Compressor and its accessories	1
5	16325020000115	Four-way valve assembly	1
5.1	16442024000010	High pressure switch	1
6	16441004000097	Stop valve	1
7	16426035000163	Suction pipe assembly	1
8	16421004000365	Sealing plate	1
9	16325060000001	Capillary assembly	1
10	16325033000027	Capillary assembly	1
11	16421004000405	Panel	1
12	16421014000098	Valve plate support	1
13	16421004000406	Panel	1
14	11320026000049	Panel grille	2
15	16421004000362	Left panel	1
16	16444008000015	Axial fan	2
17	16430034000024	Motor	2
18	16324020000141	Condenser assembly	1
18	16324019000055	Condenser assembly	1
19	16321002000175	Motor frame	1
20	16421004000364	Top cover	1
21	16421094000010	Partition board	1
22	16430007000276	Temperature Sensor	1



The new degree of comfort.®

# INSTALLATION

## 1. PREPARATION

Please buy following spare parts from your local market before installation.

Hung bolts M12, 4 pcs
Drainage pipe PVC
Copper connecting pipe
Adhesive belt (big size) 5 pcs, (small size) 5 pcs
Heat insulation material used to connect copper pipe (PE foam material, its thickness is more than 8mm)
Power cable, electrical wire between indoor and outdoor unit(Must be in accordance with the wire diameter in the wiring diagram)
Acetylene cylinders, oxygen cylinders (when longer pipe used it should be welded)
One set pipe cut machine. (cut copper pipe)
Refrigerant cans, electronic balance (when longer pipe used additional gas should be charged)
Pressure gauges, pipe clamp, welding torch, 2B silver electrode
Wrench 2 pcs, one of them is with adjustable torque wrench (42N.m,65N.m,100N.mm)
Nitrogen cylinder (in order to prevent oxidation when welding, using Nitrogen to replace the air)



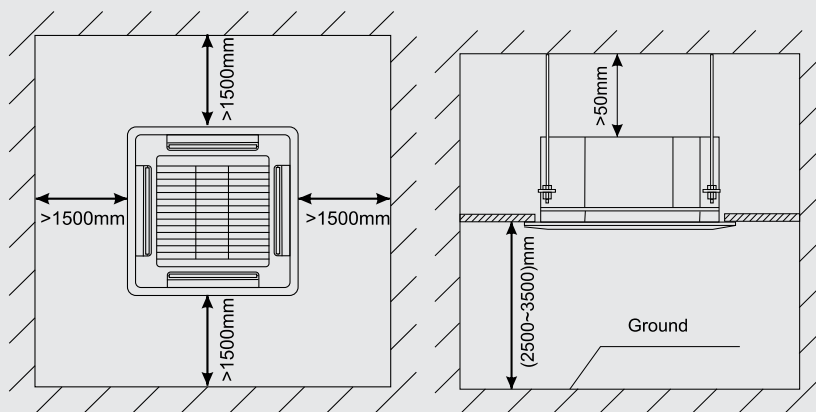
The new degree of comfort.®

## 2. PRECAUTION

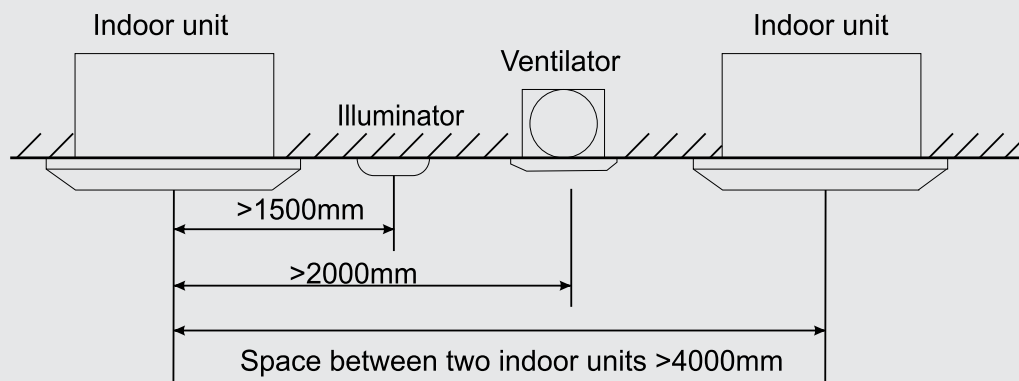
- Hanging location should be able to support the unit's weight, there should be no increase in noise and vibration. If the hanging location needs reinforcement, it should be reinforced before installation;
- Choose the space above the ceiling that can put the indoor unit inside;
- The location should be easy for drainage;
- The unit should not be installed in the heat source, steam or oil mist source (such as machine room, kitchen, laundry room, mechanical workshop, etc.);
- Choose the location at least 1 meter away from TV and radio, in order to avoid interference to them
- There should be certain distance between indoor unit and obstacles for maintenance;
- In case of leakage of refrigerant, units should immediately stop running, and contact with maintenance personnel in time. There must be no fire at the site, because the refrigerant will turn to harmful gas when get to the fire.

## 3. CASSETTE INSTALLATION

### 3.1 Installation Spacing

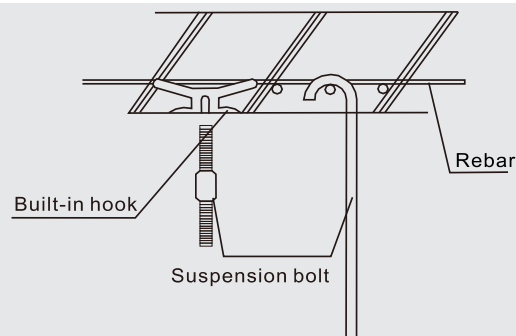


The new degree of comfort.®



### 3.2 Indoor Unit Suspension

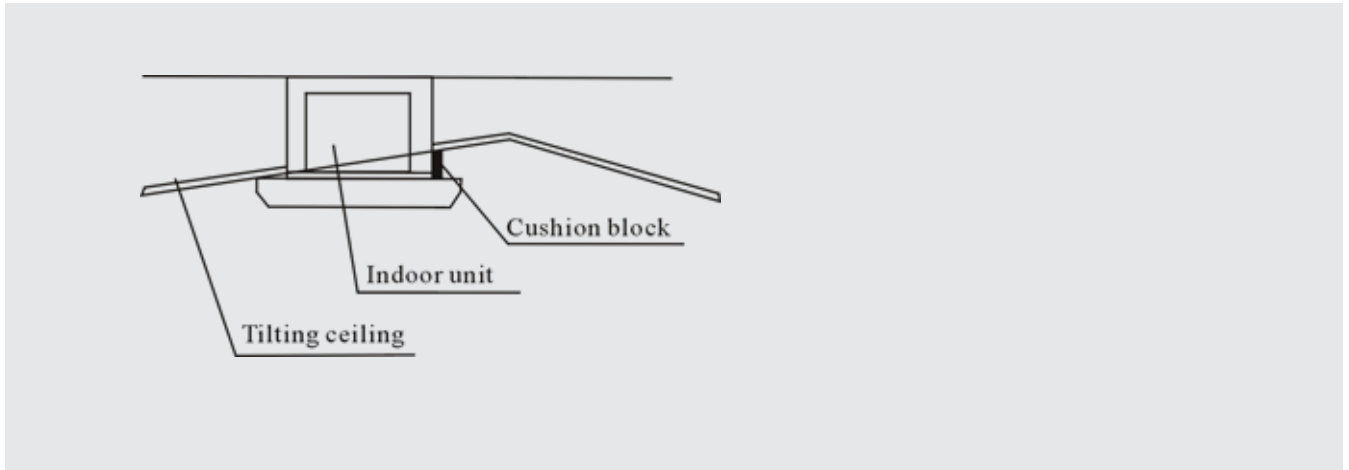
- Select the suspension foundation:  
The suspension foundation is a structure of either wooden frame or reinforced concrete. It must be firm and reliable to bear at least 4 times weight of itself and capable of bearing vibration for long periods.
- Fixing of suspension foundation:
- Fix the suspension bolts either as shown in the picture or by a steel or wooden bracket.



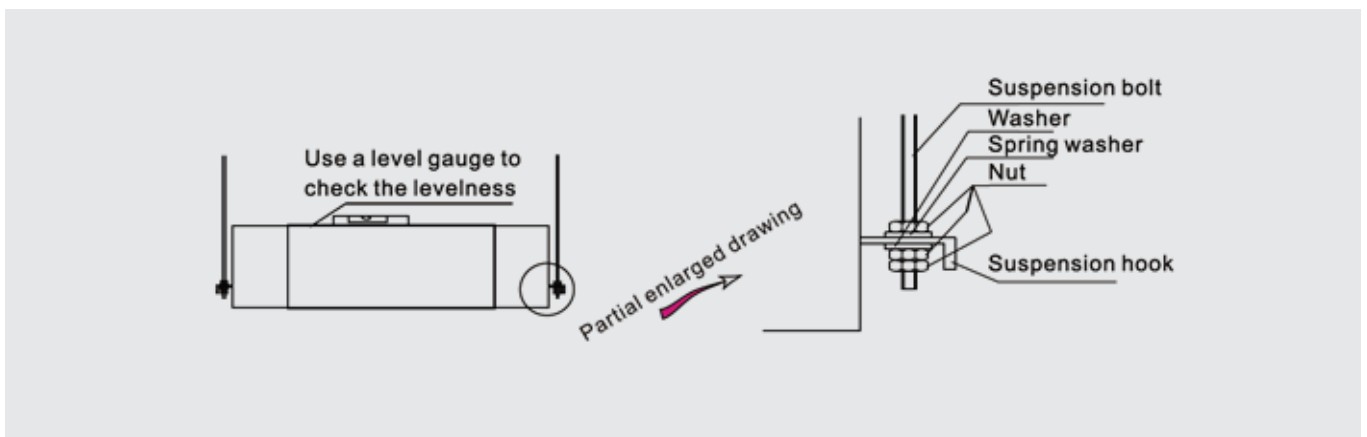
- If this unit is installed on a sloping ceiling, a cushion block should be installed between the ceiling and the air outlet panel, in order to ensure that the unit is installed on a level surface.



This is as shown in the drawing as follows:



- Adjust the relative position of the suspension hook on the suspension bolt so that the unit can be in level position in all directions. Check with a level gauge after installation to ensure that the indoor unit is horizontal, otherwise it will cause water leakage, air leakage etc.
- Tighten the bolt and ensure that four hooks are in close contact with the nuts and washers, to fix the indoor unit under the ceiling.
- After the unit is installed ensure it is secure and does not shake or sway.
- Ensure that the centre of the indoor unit is in alignment with the centre of the opening in the ceiling.

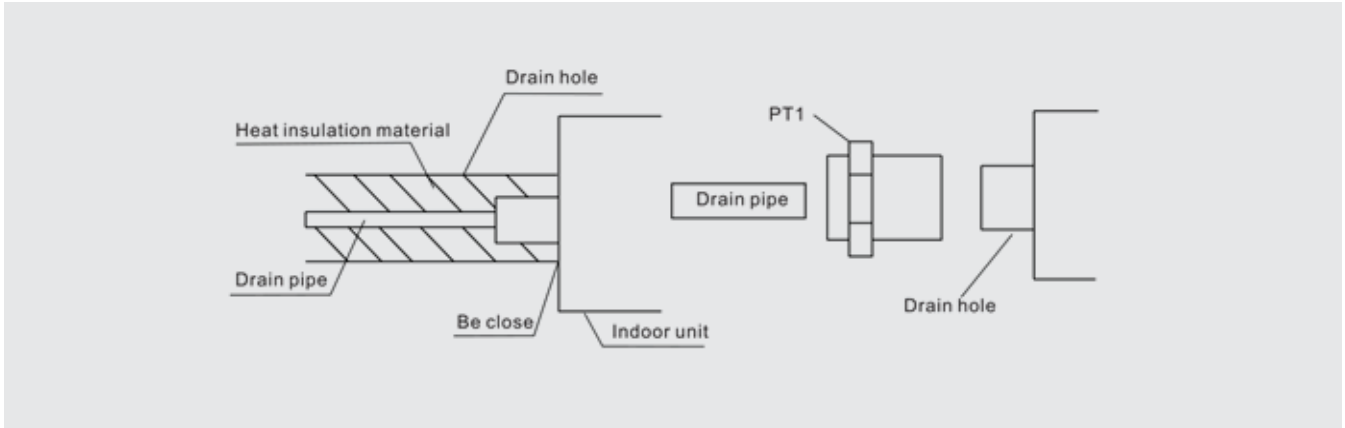


The new degree of comfort.®

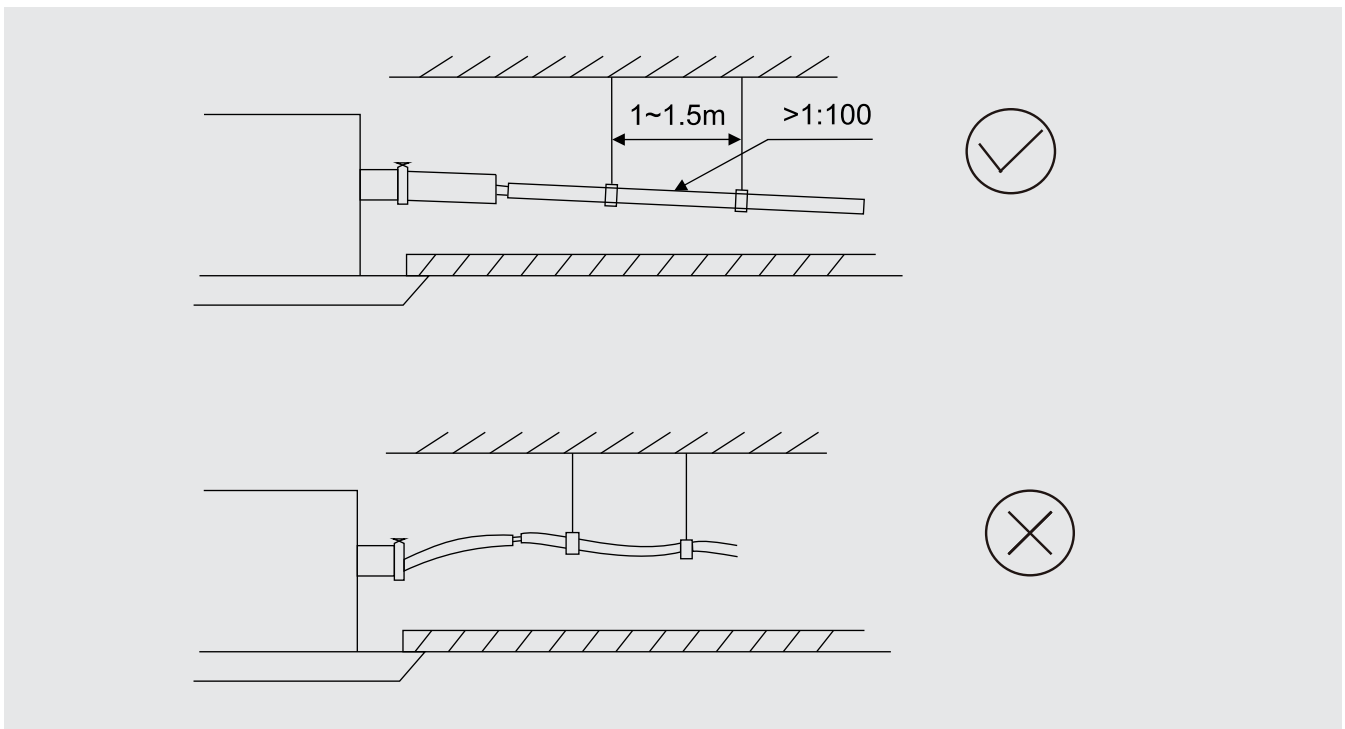


### 3.3 Drainage Pipe

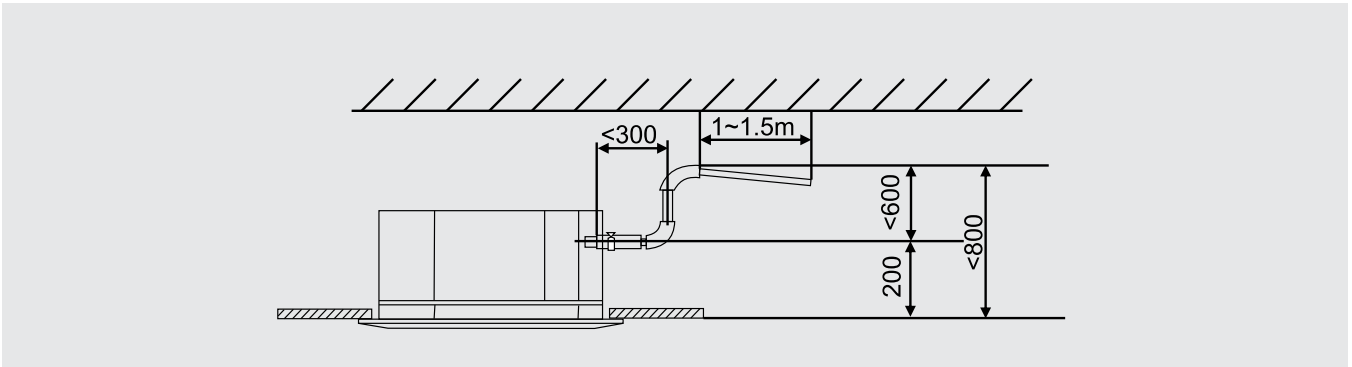
The drainage pipe should be properly insulated to prevent the generation of condensation. Heat insulation material: the thickness of rubber insulation pipe should be more than 8mm



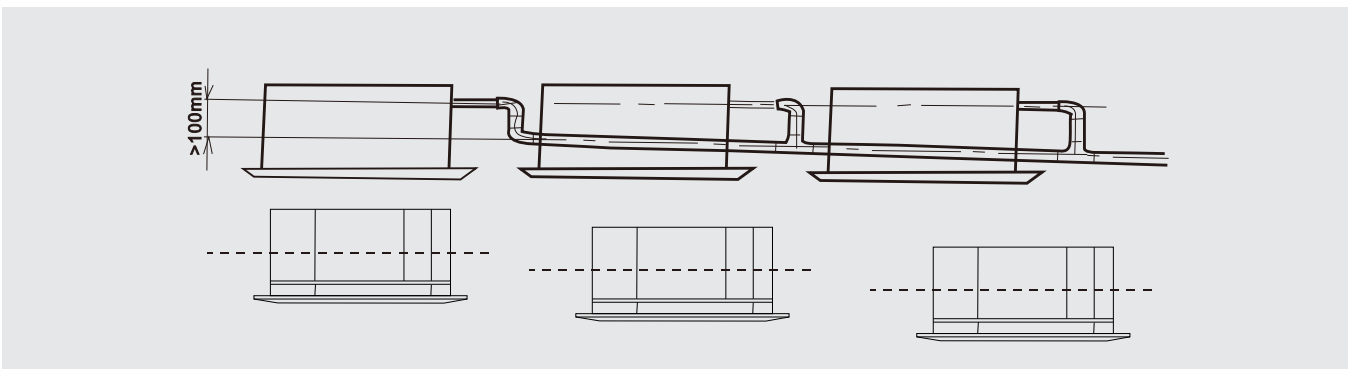
- Drainage pipe must have a downward gradient (1 / 50 1 / 100). To avoid water back flow or leakage etc.



- The unit has a drain pump which will lift up to 1200mm. However after the pump stops the water left in the pipe will drain back and may overflow the drain tray causing water leakage. For this reason please install the drain pipe as shown



- When draining multiple units into a common drain line, this common drain should be installed about 100mm below each units drain outlet, as shown in the drawing.

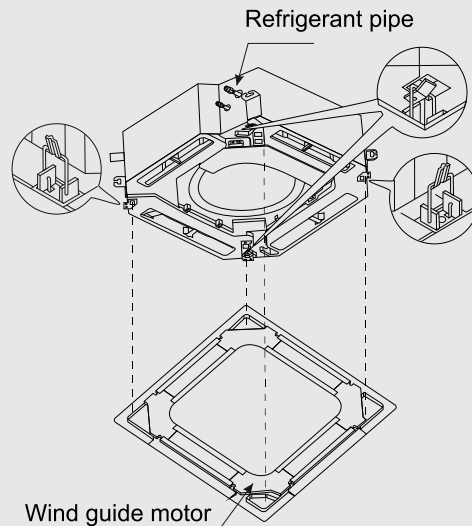


- When finish installation please carry out the drainage test to ensure that the water flow through the pipeline fluently, and carefully observe the junction to ensure that there is no water leakage. If the unit is installed in the newly built house, strongly recommend that this test taken before the ceiling installation. Even it is the heating only unit, this test is unavoidable.

### 3.4 Panel Installation

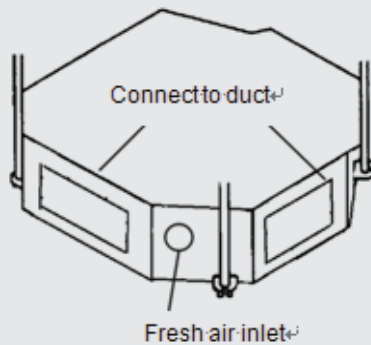
Panel please refer to the following picture, the panel has four hooks which attach to corresponding hangers on the unit and the panel should be positioned using these first. The panel is then fixed into position by four bolts which are accessed through the four corner panels on the grille.





### 3.5 Connect, Fresh Air Ventilation

In order to meet different customers' requirements and their different usage environment, the 24k indoor unit more than 24k reserves one fresh air ventilation hole and four duct connection holes. The fresh air can be introduced from outside or through duct.

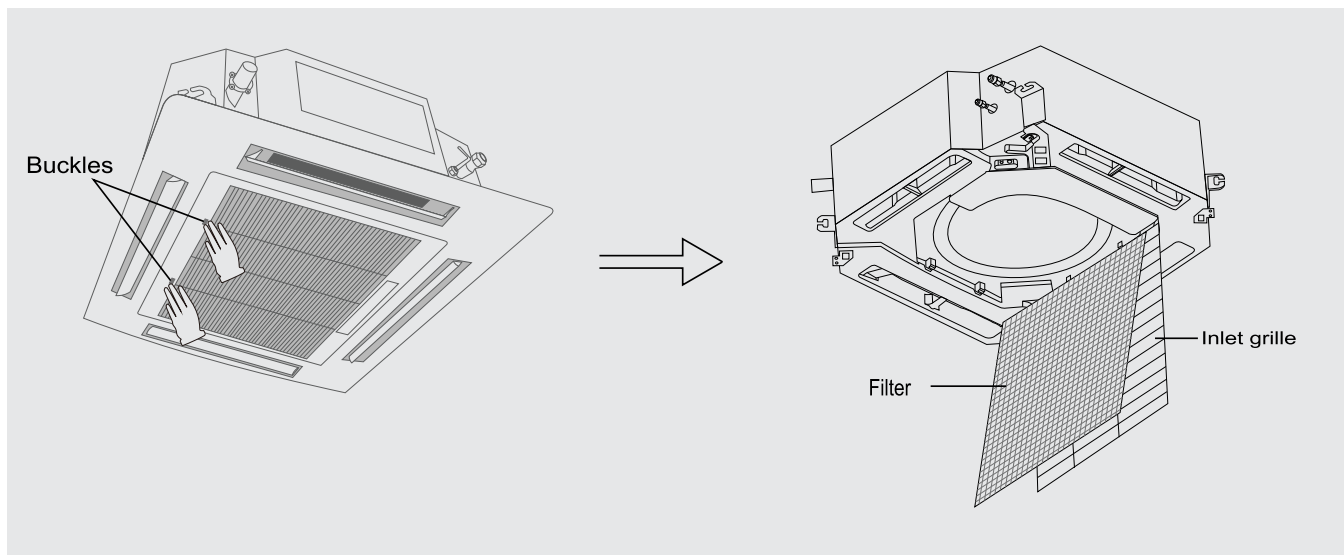


- Fresh air ventilation: In the corner of the unit there is a circular fresh air connection hole, if users want this feature, please cut down the circular metal sheet and connect it to the duct. Fresh air hole is connected to the return air inlet of the indoor unit, when operation, the fresh air can be introduced from outside due to the negative pressure.



The new degree of comfort.®

### 3.6 Remove Air Filter



## 4. OUTDOOR UNIT INSTALLATION

### 4.1 Installation Location

- The site shall be strong enough to bear its weight, prevent noise and vibration.
- The site shall be ensured to avoid direct sunshine, if necessary set a Havelock above the outdoor unit.
- The site shall be easy to drainage the rain water and the frost water.
- The site shall be ensured that the outdoor unit will not be covered by snow LDring the winter season.
- The site shall be ensured that the outlet is not facing the strong wind.
- The site shall be ensured that outlet air and operation noise will not affect the neighbors' daily life.
- The site shall be ensured that the outdoor unit will not be affected by the garbage and oil mist.

### Warning :

If outdoor unit working under such environment which contains oil (including machine oil) salt(marine areas), sulfide gas (hot springs and oil refinery areas), those substance may lead to the failure work of the outdoor unit.



## 4.2 Installation Spacing

- The site shall be easy for ventilation then the outdoor unit can inhale and discharge air easily. What's more please reserve enough space for maintenance.

Note: Require  $A > 300\text{mm}$ ;  $B > 1500\text{mm}$ ;  $C > 300\text{mm}$ ;  $D > 500\text{mm}$ ;

## 4.3 Installation Foundation

- Use size M10 bolt and nut to fasten the outdoor unit tightly on the bracket, keep it in the horizontal level. The suitable length for bolt shall 20mm over the base level, in order to minimize vibration please do set a rubber shock absorber.



- If the outdoor unit is mounted on the wall or on the rooftop, in order to prevent earthquake and strong wind please fasten it as tightly as possible.
- Set a drainage channel to ensure the condensing water can drain out smoothly.
- To avoid that only four angles metal sheet to support the outdoor unit.

## Transport

When the outdoor unit is to be lifted, please use two slings longer than 8m and insert cushioning material between the slings and outdoor unit to avoid damaging the casing.

# 5. CONNECTION PIPING INSTALLATION

## 5.1 Installation Precaution

Please choose the phosphorus deoxidation seamless copper pipe as the piping.

- If use the lengthen piping needs welding:

Please welding before fasten the nut, when welding using nitrogen gas to replace the air in the pipe in order to prevent oxidation.

- If there are many points to be welded when installing the lengthen piping, please set a filter in the pipe(buy from local market).



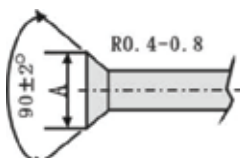
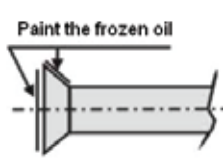
- Please use nitrogen gas or air to remove the dust and water in the pipe,
- Please lay out the piping according to the tend towards of the piping, but it is not allowed more than 3 times curved at the same point of the pipe(if do like this the pipe will become rigid)
- Pipe bending machine is used during the process of bending the pipe, the curvature shall not be too small or it will affect the refrigerant flow.

## 5.2 Specification Of Connection Pipe

Cooling capacity (KBtu/h)		18 K	24 K	36 K	42K
Connection Pipe(mm)	Liquid pipe	Φ 6.35	Φ 9.52		Φ 9.52
	Gas pipe	Φ 12.7	Φ 15.88		Φ 19.05
Max. piping length(m)		30		50	
Max.piping height(m)		20		30	
Max.Bend Qty		5	8	10	

## 5.3 Piping Specification Selection

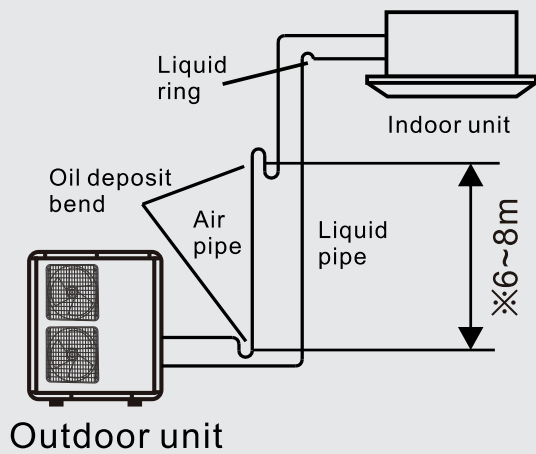
As to the detail selection please take reference to the cooling capacity adjust index figure during different installation situations.

Piping diameter	Tighten torque	Expanding size (A)	Expanding shape	Paint the frozen oil
1/4in(φ6.35mm)	15-19(N·m)	8.3-8.7mm		
3/8in(φ9.52mm)	35-40(N·m)	12.0-12.4m		
1/2in(φ12.7mm)	50-60(N·m)	15.4-15.8m		
5/8in(φ15.88mm)	62-76(N·m)	18.6-19.0m		
3/4in(φ19.05mm)	70-75(N·m)	22.9-23.3m		

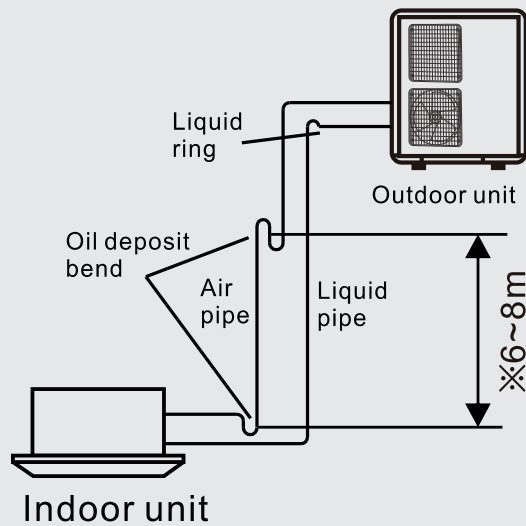


The new degree of comfort.®

## 5.4 Oil Trap



※means that each high and low difference 6~8m sets an oil deposit bend



※means that each high and low difference 6~8m sets an oil deposit bend

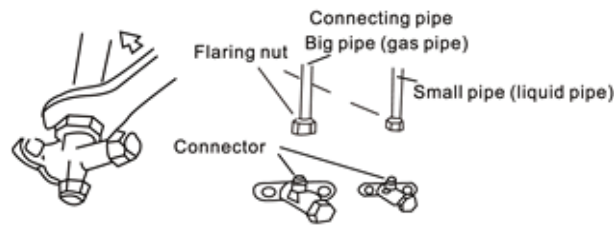
### Note:

This chart is for explanation purposes. An actual installation will differ from this according to the site conditions. When making an oil trap the radius of the bend should be between 1.5 and 2 times the pipe diameter.



The new degree of comfort.®

## 5.5 Piping Connection



Using expanding machine to expand accessories, the size of horn shown in the above figure:

- Paint a thin layer of frozen oil at both inside and outside part of the expanding.
- Make the expanding right to the screw thread shape connection of the indoor unit, using hands to tighten the nut then using a wrench to tighten the nut again, the tighten torque as follows figure.

## 5.6 Equivalent Pipe Length Conversion

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

Elbow 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

Equivalent pipe length  $L = \text{Actual Pipe length } L + \text{Bend Qty} \times \text{Equivalent pipe bend length} + \text{Oil Loop Qty} \times \text{Equivalent Oil Loop length}$



The new degree of comfort.®



## Sample:

Actual Pipe length is 20 meters, Gas pipe diameter is 15.88mm. If there's 4 bends and 2 oil loops during the installation, then the equivalent pipe length should be:

$$L=20+0.25\times 4+2\times 2=25(m)$$

## 6. EMPTYING OR VACUUM

Before charging the refrigerant to the system, to ensure that there is no impurities, water or non-condensable gas. So, emptying and vacuum operation should be carried out.

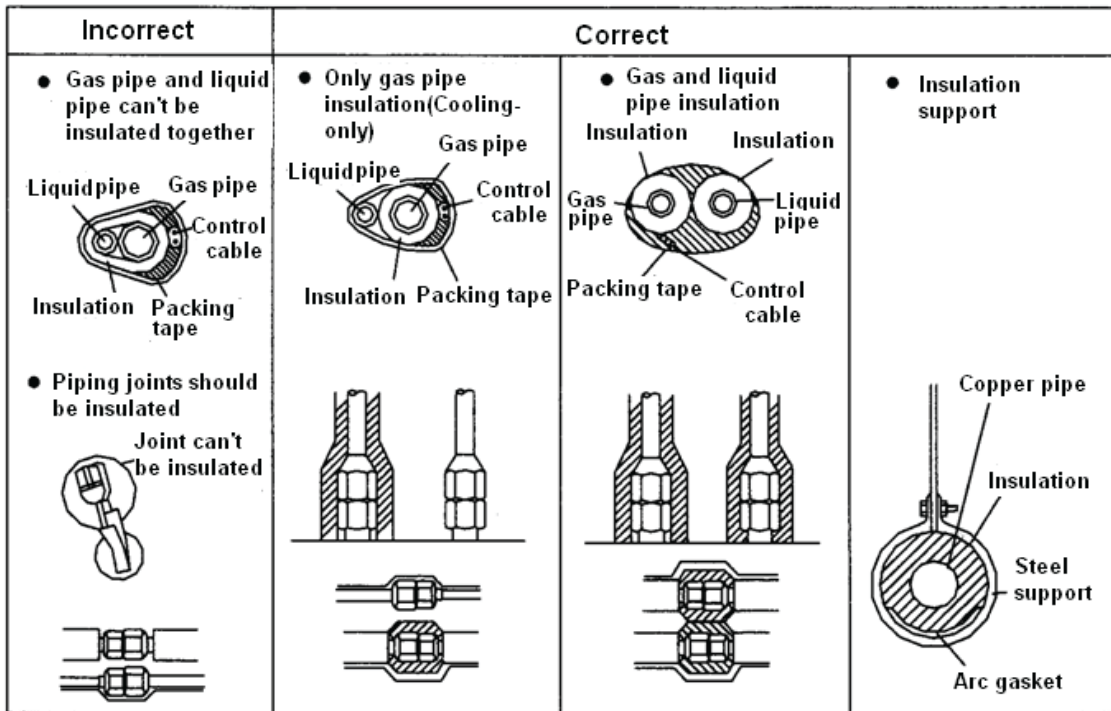
- Vacuum: when process this operation please be sure that the connection pipe is tightened up.
  1. Screw off the cover of maintenance valve connection, connect the pressure gauge to the connection of maintenance valve
  2. Connect the vacuum pump to the pressure gauge, turn on the vacuum pump and pressure gauge to process the vacuum operation toward the indoor unit and piping, while to ensure that the absolute pressure is no less than 50Pa after this operation.
  3. Turn off the pressure gauge and vacuum pump to keep the pressure in the same level in 20 minutes.
- Emptying: when process this operation, please disconnect the high pressure valve with liquid valve.
  1. Connect the gas valve of the stop valve to the thimble side of the rubber hoses, the other side of rubber hoses should be connected to the refrigerant tank.
  2. Open the refrigerant tank valve, using the refrigerant inside the tank with high speed to empty the air in the indoor unit and the connection piping. When the outlet air becomes mist (it feels cold by touching it), then the air is emptied.
  3. When ensure that the air is emptied, connect and tighten the high pressure valve of outdoor unit stop valve and liquid side connection pipe, keep this state more than 10 seconds.
  4. Use soapy what to test each connection junctions (including lengthen piping welding junction)
  5. Confirmed that there is no leakage, turn off the valve of refrigerant tank, take down the rubber hose as well.
- Turn on the high-low pressure valve of the outdoor unit.

After vacuum and emptying, screw back the cover of the maintenance valve of outdoor unit low pressure valve, screw off the high-low pressure valve of the outdoor unit (note: shall totally turned off ). Connect the refrigerant to the system.



# 7. INSULATION

- Use heat insulation material with good insulation performance to wrap the pipe.



## Notes

Drainage pipe and connection piping should be wrapped by heat insulation material respectively or there will be dew or leakage

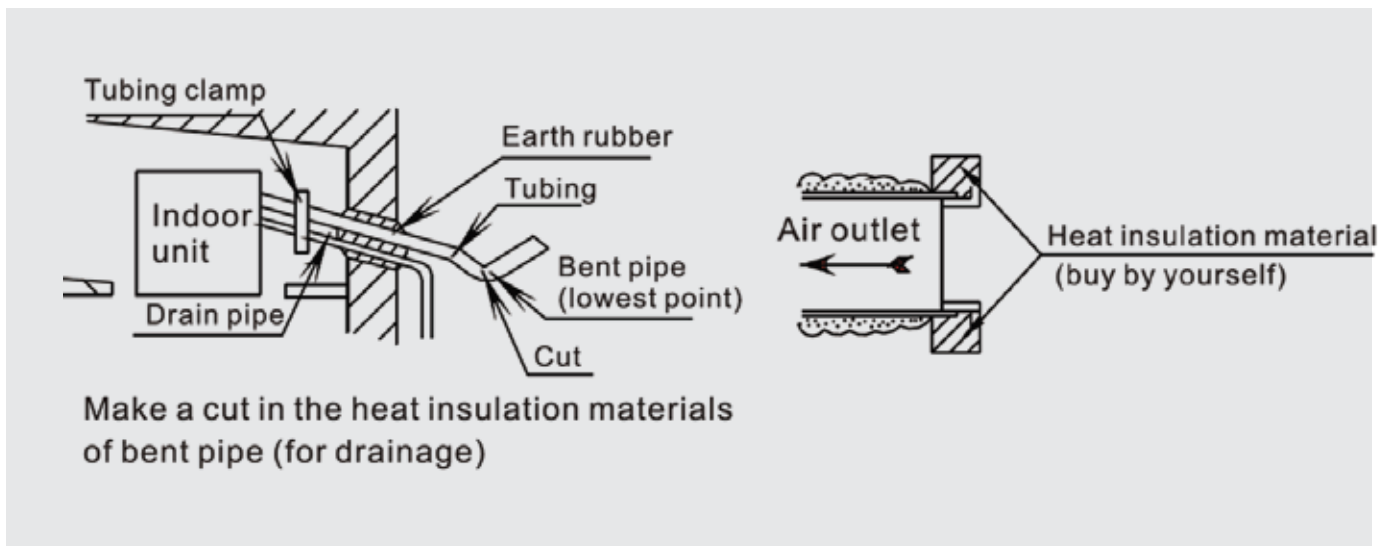
During the high temperature working environment, our air conditioner is proved my dew conditioner experiment. But if it keeps on working during the high humidity (the dew temperature is more than 23 ) environment which may lead to water leakage, in such condition please use following additional insulation material:

- Glass fiber insulation material with the thickness between 10~20mm can be used.
- The part of indoor unit which get in touch with the back side of ceiling should pasted with insulation material.
- Besides the previously more than 8mm thick insulation material, connection piping (both gas pipe and liquid pipe), drainage pipe should be wrapped by additional 10~30 mm thick insulation material.



## To seal the hole on the wall.

- To prevent rainwater or other foreign bodies from entering the room and air-conditioner after installing the tubing and drain pipe, the gap between wall hole and tubing, drain pipe and electric wire should be sealed with mastic, sealant rubber or putty, or poor performance or leakage will result
- If the outdoor unit is higher than indoor unit, tubing should be bent to ensure that the lowest point of the tubing is lower than the wall hole to prevent rainwater entering the room or air-conditioner along the piping system.



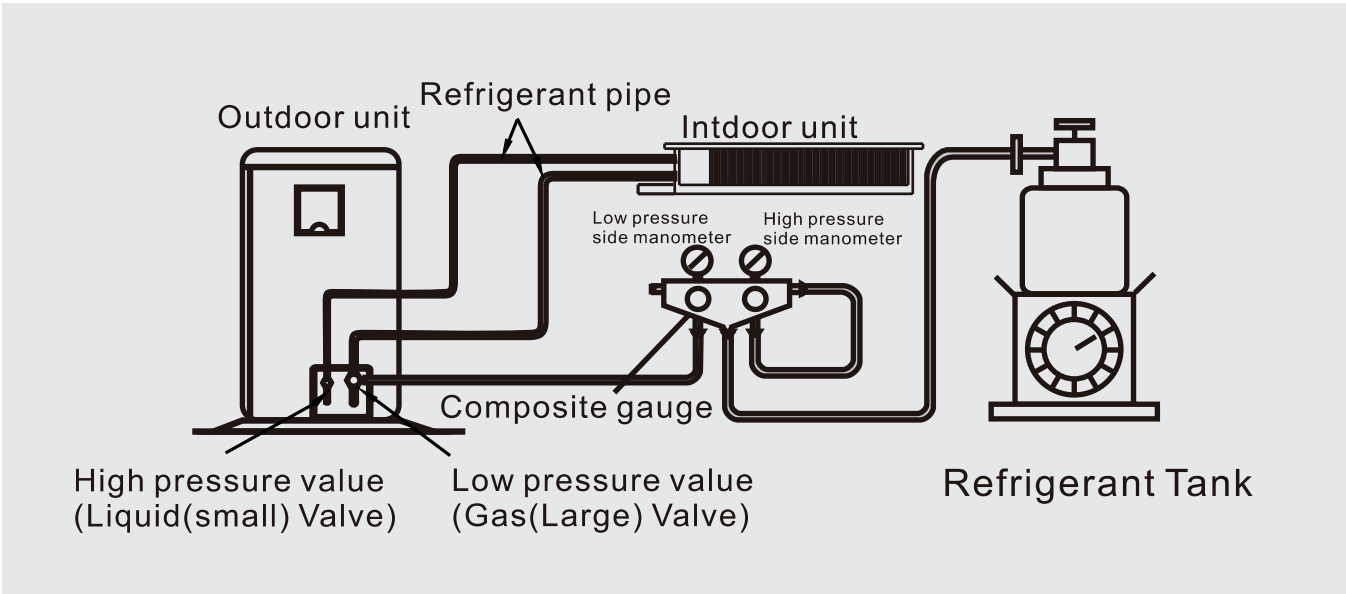
## 8. ADDITIONAL REFRIGERANT CHARGE

When pipe length exceeds 5m, please add refrigerant according to the table below:

	Capacity	Piping size)		Additional refrigerant charge amount (kg/m)
		Gas pipe	Liquid pipe	
Connection piping	18K	φ12.7×1mm	φ6.35×0.75mm	0.022
	24K , 36K	φ15.88×1mm	φ9.52×0.75mm	0.05
	42K	φ19.05×1mm	φ9.52×0.75mm	0.05



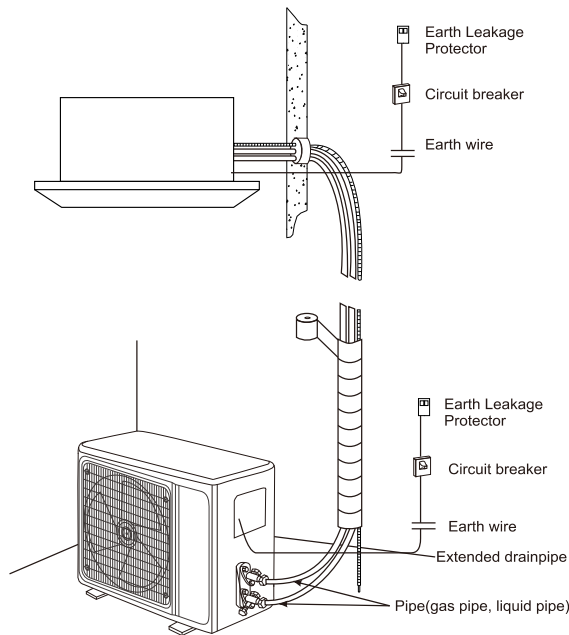
The new degree of comfort.®



The new degree of comfort.®

# 9. ELECTRICAL CONNECTION

## 9.1 Electrical Connection Precaution



Installation of electric items must be carried out by qualified, professional technicians. An isolated circuitry should be fixed with whole-pole disconnection devices, which is with at least 3mm gap of touch point. Power supply and indoor to outdoor connection should use special cable. Providing the necessity of installation or replacement, the professional technician of service store appointed by manufacturer must be required, while self-operation by users is prohibited.

In case of any electric shock accident, the creepage protection devices /power supply on-off and breaker must be required with power supply.

The specification of fuse for single phase control board is F5AL 250V, while for 3 phase control board, both indoor and outdoor unit, it is F3.15AL 250V.

Machine must be earthed surely. If not, it'll be probably caused creepage..

Equivalent 227IEC53(RVV) type of power cord of GB5023 or the excelled must be required. The cords should be fixed properly against broken, while ends/joints of cords is under outside force. Improper connection or fixation will cause disaster like fire....etc. Equivalent 245IEC57(YZW) type of power cord of GB5023 or the excelled must be used as connection line of indoor and outdoor.

### Notice

The earth line is neither allowed to connect to gas pipe, water pipe or circuitry of telephone or lighting rod, nor to the earth line of other devices.

### Others

Please fix power supply cord and connection wires of indoor and outdoor, in accordance with circuit diagram

Fix the cords into terminal boards properly and safely with cable fixation tools to avoid any danger caused by the power cord under outside forces.

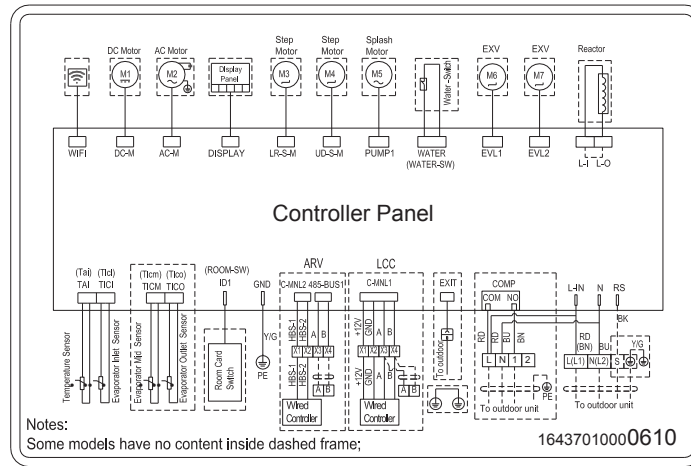
After fixation, use bind tape (affixed) to bind wires avoiding any collision with other components like compressor, copper pipes...etc



# Wiring Diagrams Indoor Unit

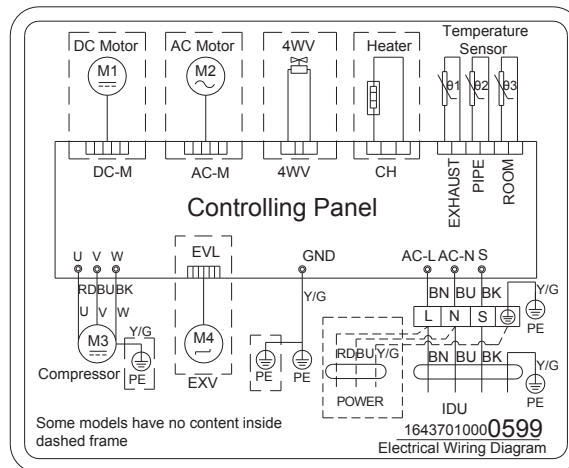
## Cassette

18k, 24k, 36k, 42k

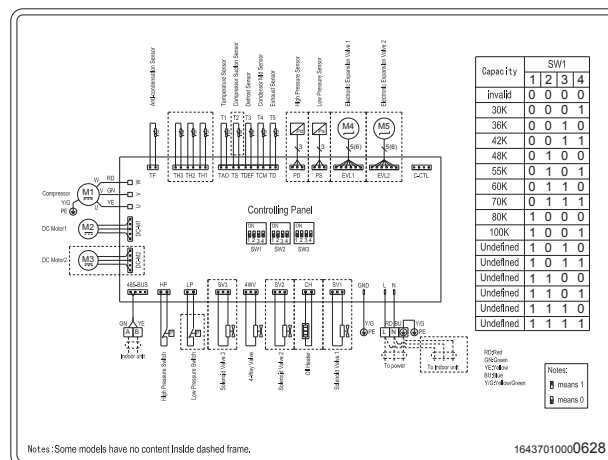


# Wiring Diagrams Outdoor Unit

18k, 24k



36k, 42k



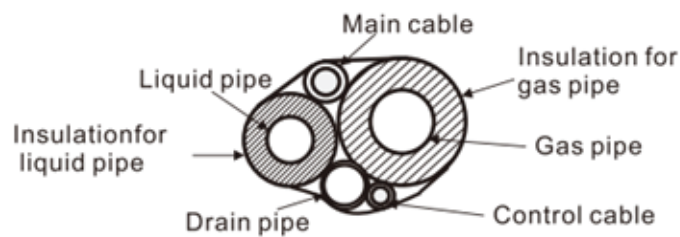
The new degree of comfort.®

## Recommended Specification for Power Line of Outdoor Unit (stand-alone power supply)

Unit Type	Item	Power supply	Power Line (mm <sup>2</sup> )	ground wire(mm <sup>2</sup> )
Separate power	18K	220~240V 1Ph~ 50/60Hz	3*2.5	2.5
	24K		3*2.5	2.5
	36K		3*2.5	2.5
	42K		5*2.5	2.5

### Outdoor wire connection

- Remove the electric item cover, which is positioned in the right side of outdoor unit, connect the wires in accordance with the electric diagram on the back of the cover.
- Be sure that pressing the wires tightly with the terminal boards while it through the board, the wire ends must be tightly fixed into terminal boards. The earth wire must be fixed into appointed position.
- After all the wire connected, bundle connection pipe, connection wires and drainage pipe with strips like mentioned drawing below:



### Notice:

- Be sure do't make the drainage pipe flat while bundled.



## Commissioning

### Check installation condition

Check indoor/outdoor unit installation and wire connection in accordance with the requirement of service manual.

- Check the power supplying, diameter of wires, air on-off and make it sure that the items can be matched with machines and, earth wire connection safety.
- Check air inlet/outlet duct and make it sure that the items is clean, operating smoothly.  
Commissioning
- The system should be power on for 8 hours for preheat before the first time start up..
- During winter, while after 8 hours power off, the performance test should be 2 and half hours power on later:
- Power on the system and start up, r cooling mode.
- After 3 minutes compressor protection, check whether there is normal cooling air come from indoor unit and if there is abnormal noise come from indoor/outdoor units
- Configure the mode with “fan” and check whether there is high air come from indoor unit.
- Operate “swing” mode, check whether the louver is properly swaying.
- Press the other buttons on the remote controller and check whether the complete unit is on proper working condition
- Keep on running for 1 hour with “cooling” mode and check if the drainage system is on proper condition
- Switch the mode for “heating” and check whether there is warm air flow come from indoor unit, whether there is abnormal noise come from indoor/outdoor units
- After confirmation of normal working condition, press the “on-off” button to stop the system.
- At last, train the end users with operation, maintaining and special notice.





# PCB INSTRUCTION

## 1. OUTDOOR UNIT PCB

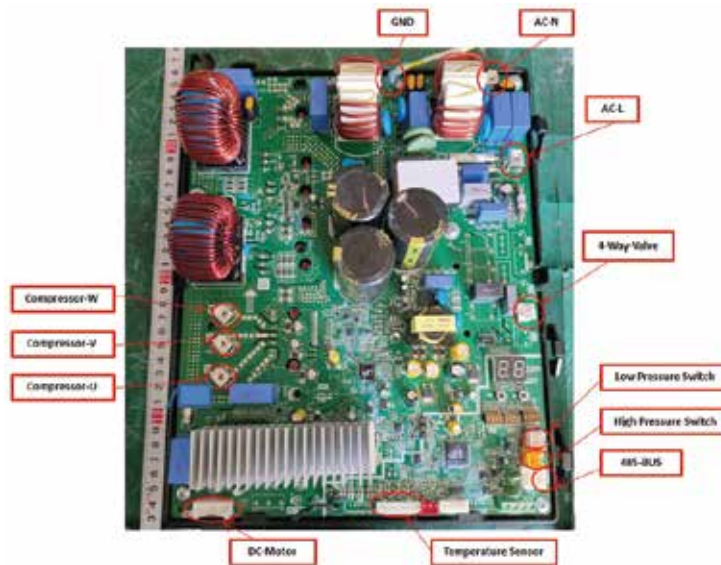
### 1.1 18K, 24K

#### Main PCB and Driver Modular



### 1.2 36K

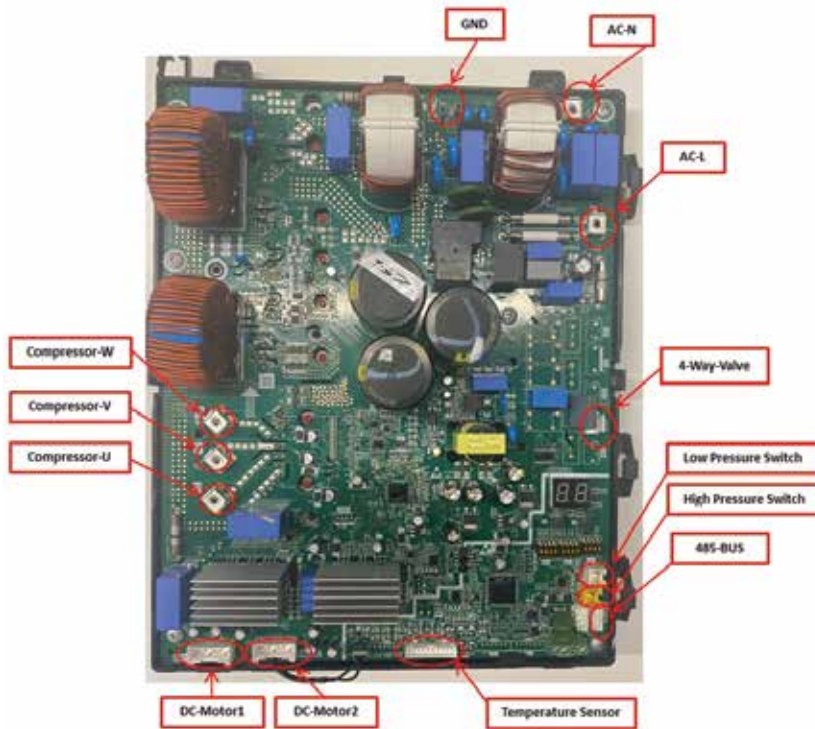
#### Main PCB and Driver Modular



The new degree of comfort.®

# 1.3 42K

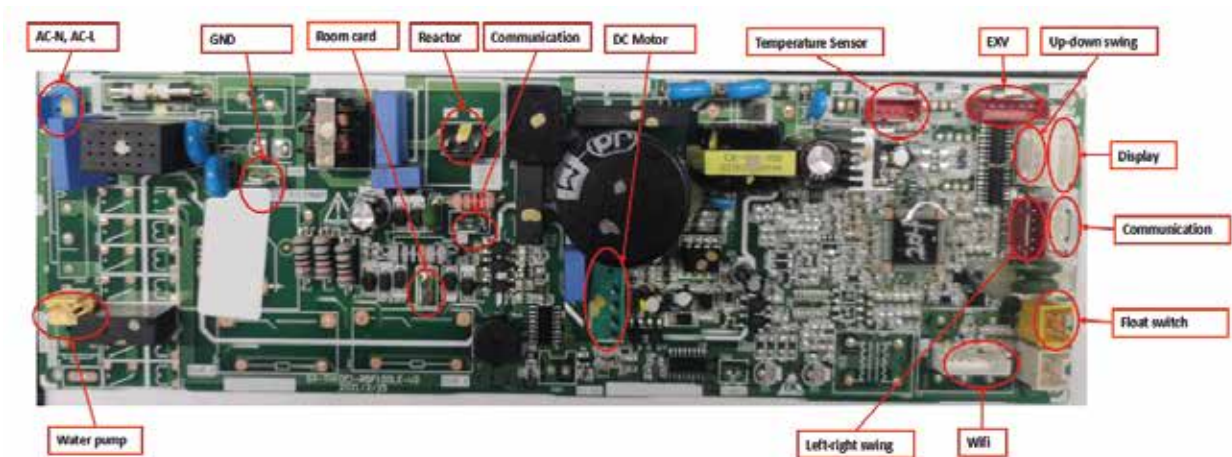
## Main PCB and Drive Modular



# 2. Cassette PCB

## 2.1 18k, 24k, 36k, 42k

### Main PCB



The new degree of comfort.®

# TROUBLE SHOOTING

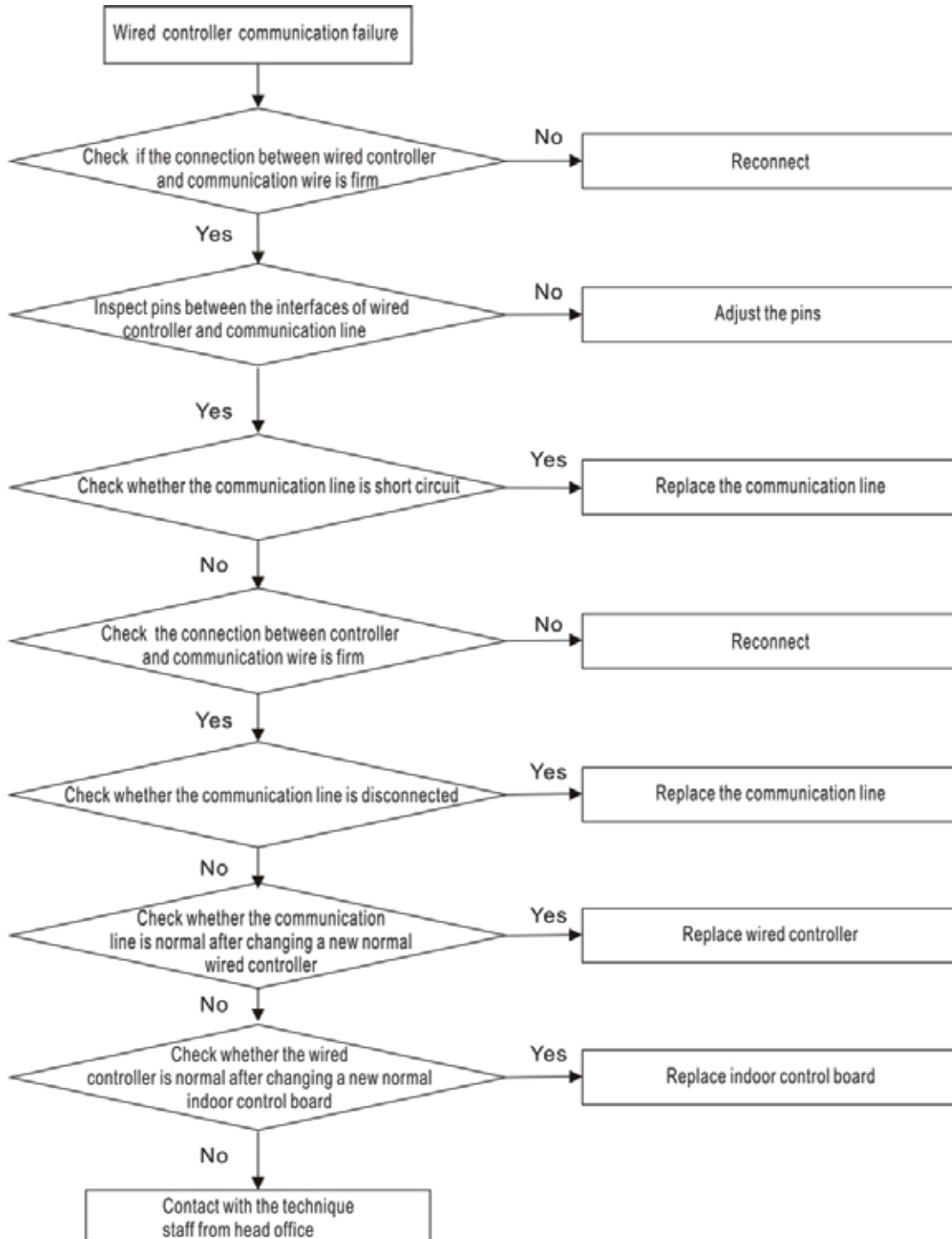
## 1. FAILURE CODE DISPLAY

SN	ERROR CODE	DESCRIPTION
1	31	Fault with the inverter module protection
2	35	Fault with the over-electric current protection
3	36	Fault with the over-voltage or low voltage protection
4	38	Fault with the Compressor Power supply Phase deficiency protection
5	3E	Fault with the compressor start
6	3H	Fault with the Fan motor of outdoor unit
7	A1	Fault with the room temperature sensor (Tico) on the indoor unit
8	A2	Fault with the temperature sensor (Tcm) on the indoor unit
9	A5	Fault with the drainage
10	A6	Fault with the Fan motor of indoor unit
11	A9	Communication error between the outdoor unit and the indoor unit
12	AA	Communication error between the wired controller and main PCB of the indoor unit
13	AJ	Fault with anti-Frozen protection of indoor unit in heating model
14	C1	Fault with the Environmental temperature sensor (Tao) on the outdoor unit
15	C3	Fault with the discharge temperature sensor
16	C6	Fault with the suction temperature sensor
17	C8	Fault with the temperature sensor (Tcm) on the outdoor unit
18	E1	Fault of four-way valve
19	E3	Protection high temperature discharge
20	E8	Fault with anti-high temperature protection of indoor unit in heating model
21	F6	Fault with the low pressure
22	FH	Protection low temperature discharge
23	H1	Fault with the high pressure switch
24	H4	with the low pressure switch
25	J3	Communication error between the driver PCB and main PCB of the outdoor unit
26	J6	Communication error between the driver PCB and main PCB of the indoor unit
27	J7	Fault with the outdoor unit EPROM

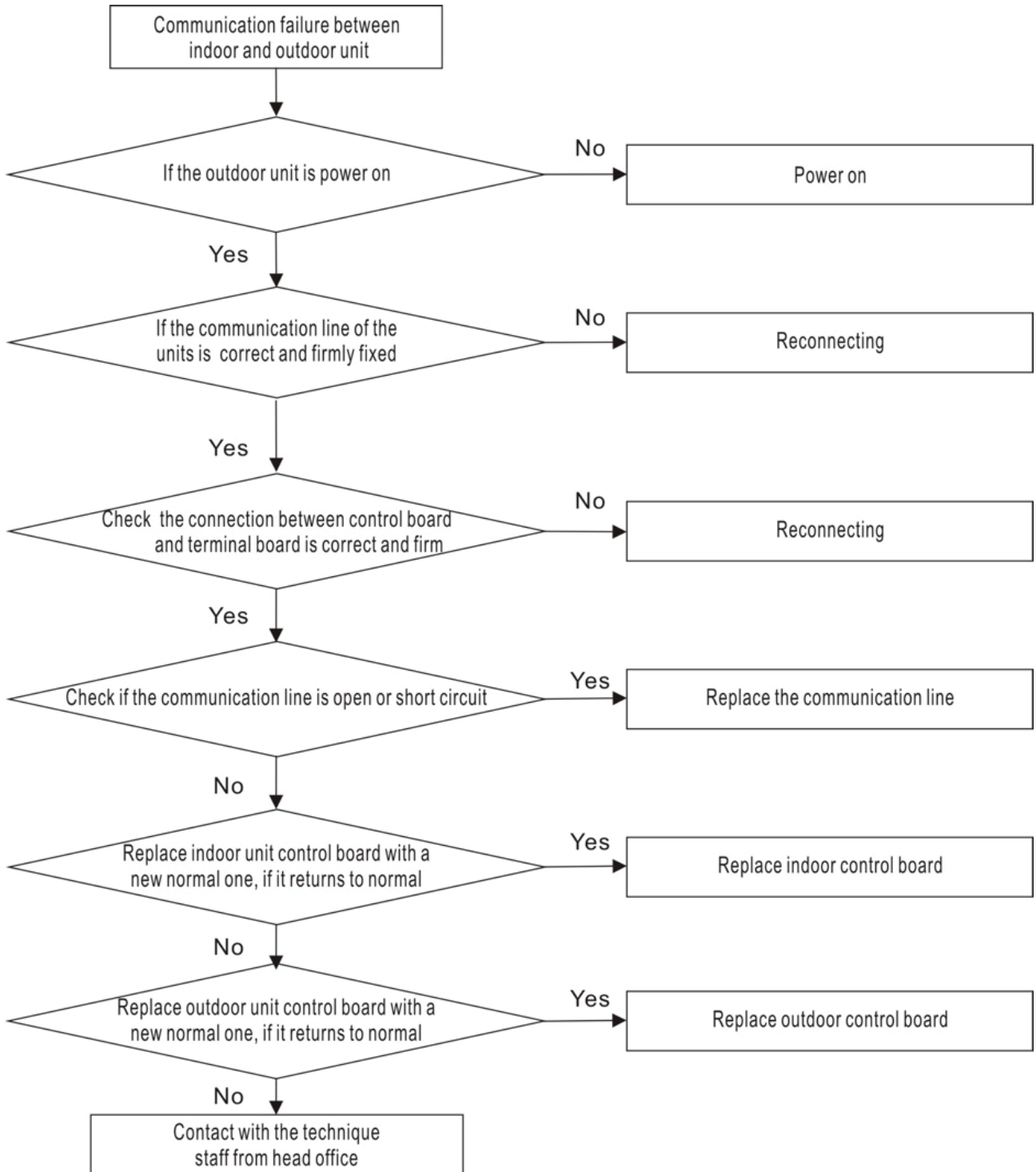


## 2. FAILURE ANALYSIS

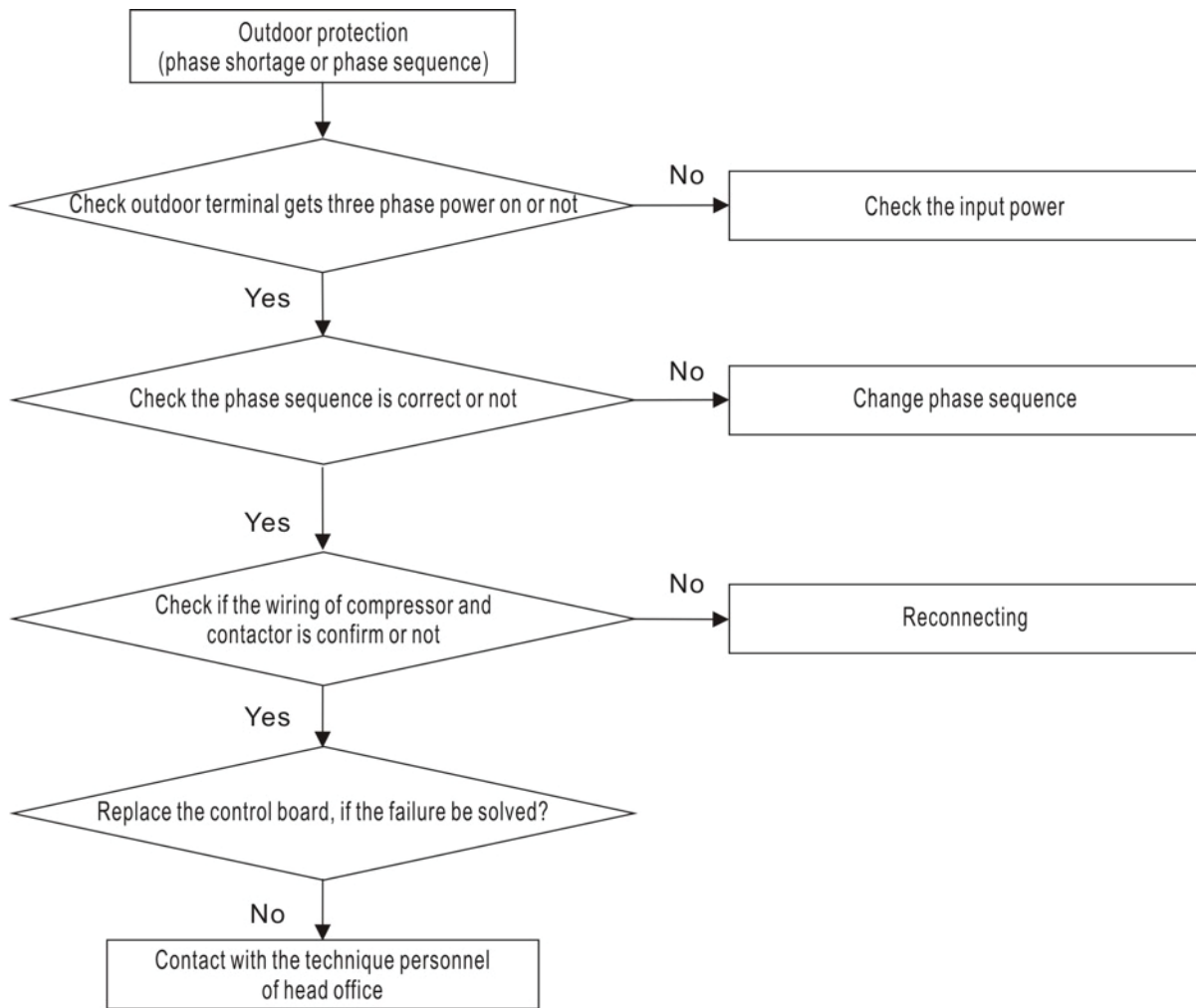
### 2.1 (AA) Wired controller communication failure



## 2.2 (A9) Communication failure between indoor and outdoor unit

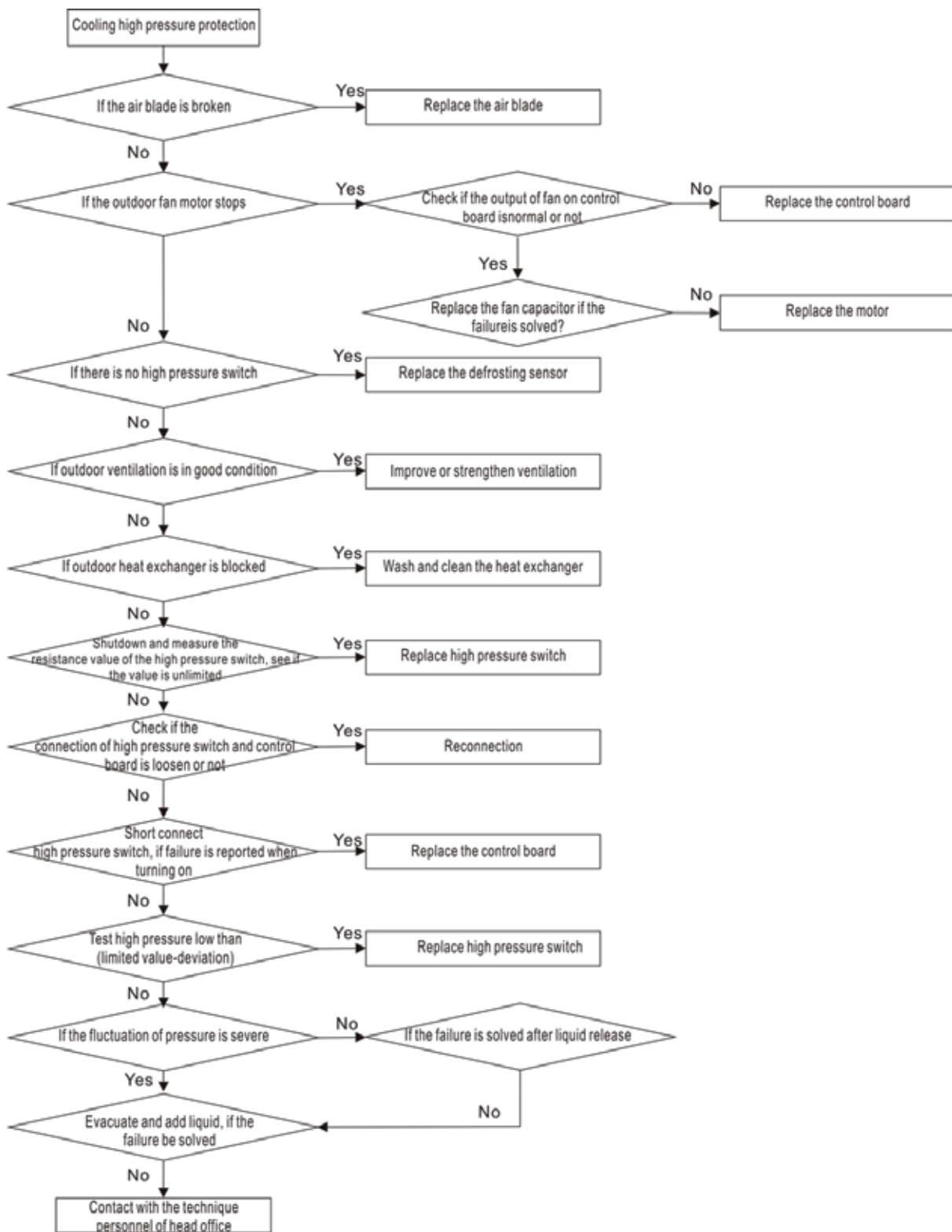


## Outdoor protection (phase sequence)

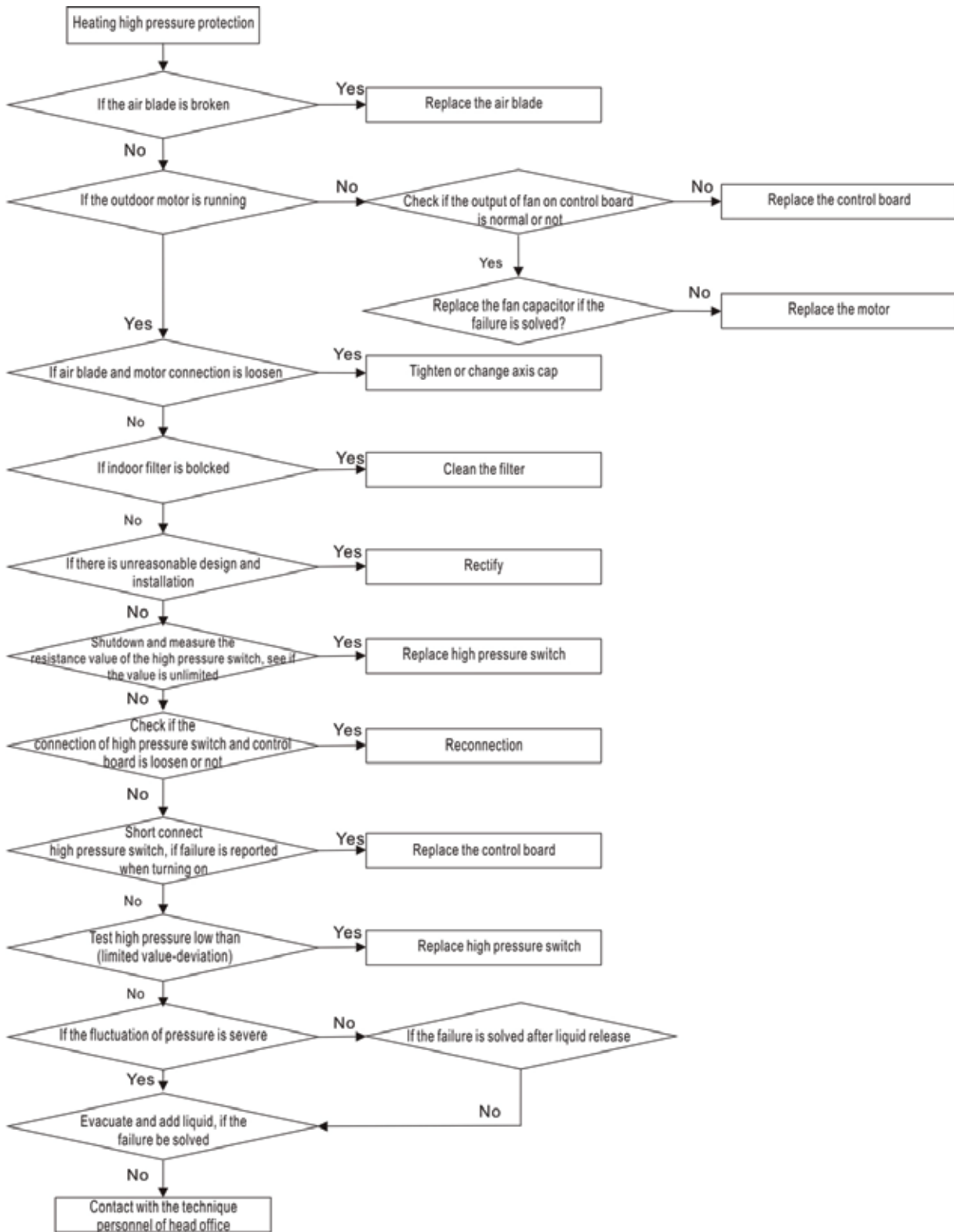


## 2.3 (H1) high pressure protection

### Cooling high pressure protection



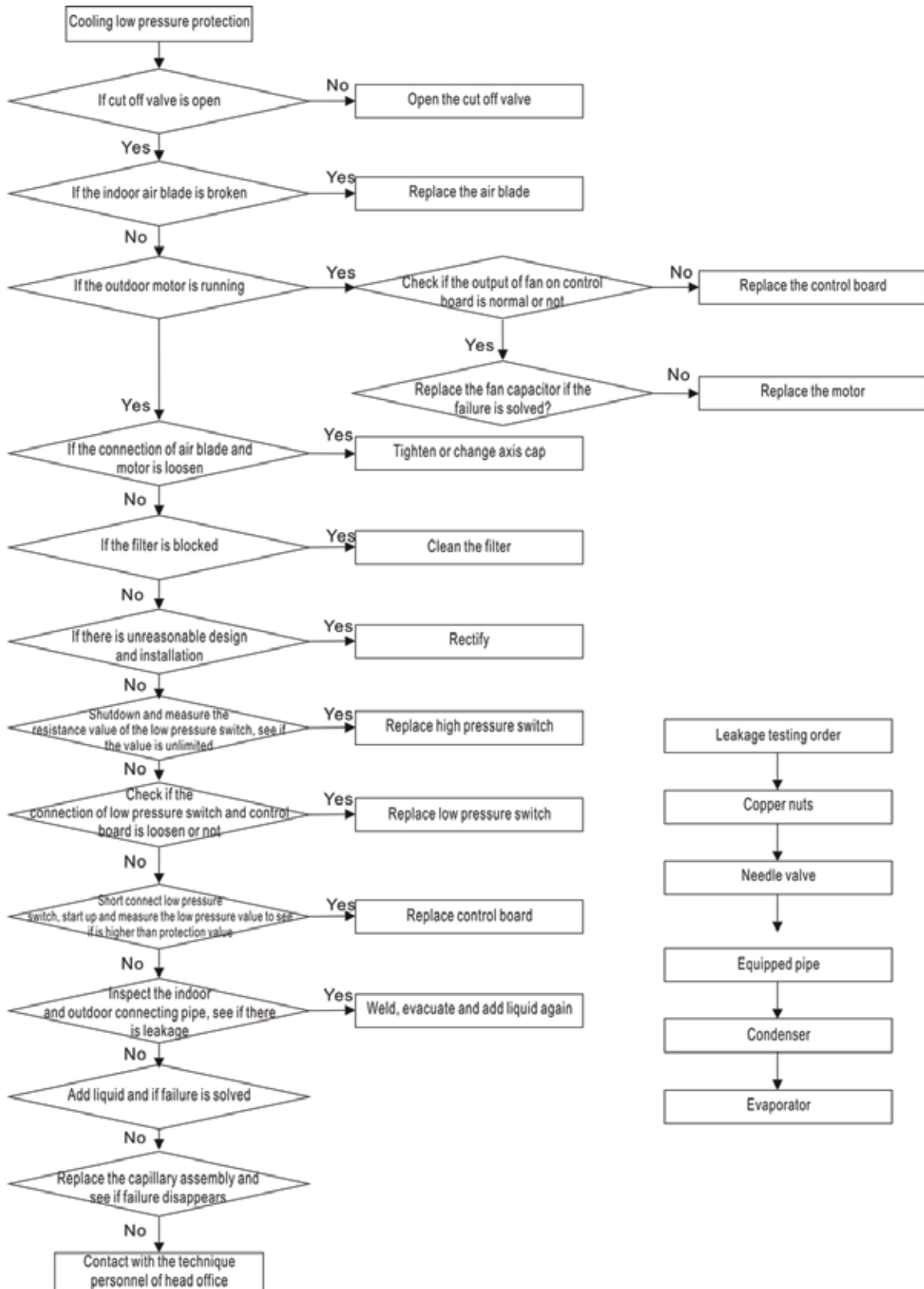
# Heating high pressure protection



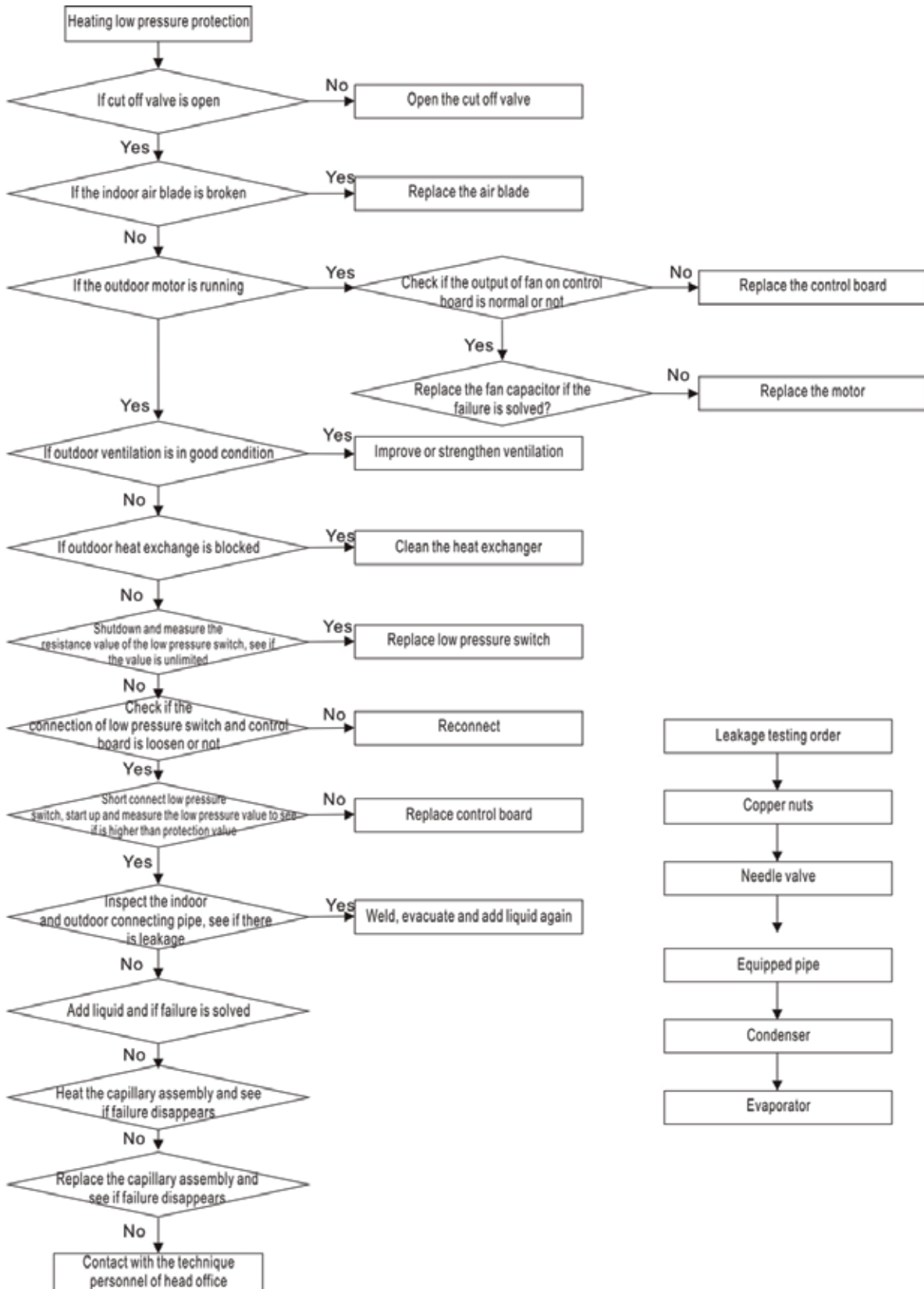


## 2.4 (H4) low pressure protection

### Cooling low pressure protection

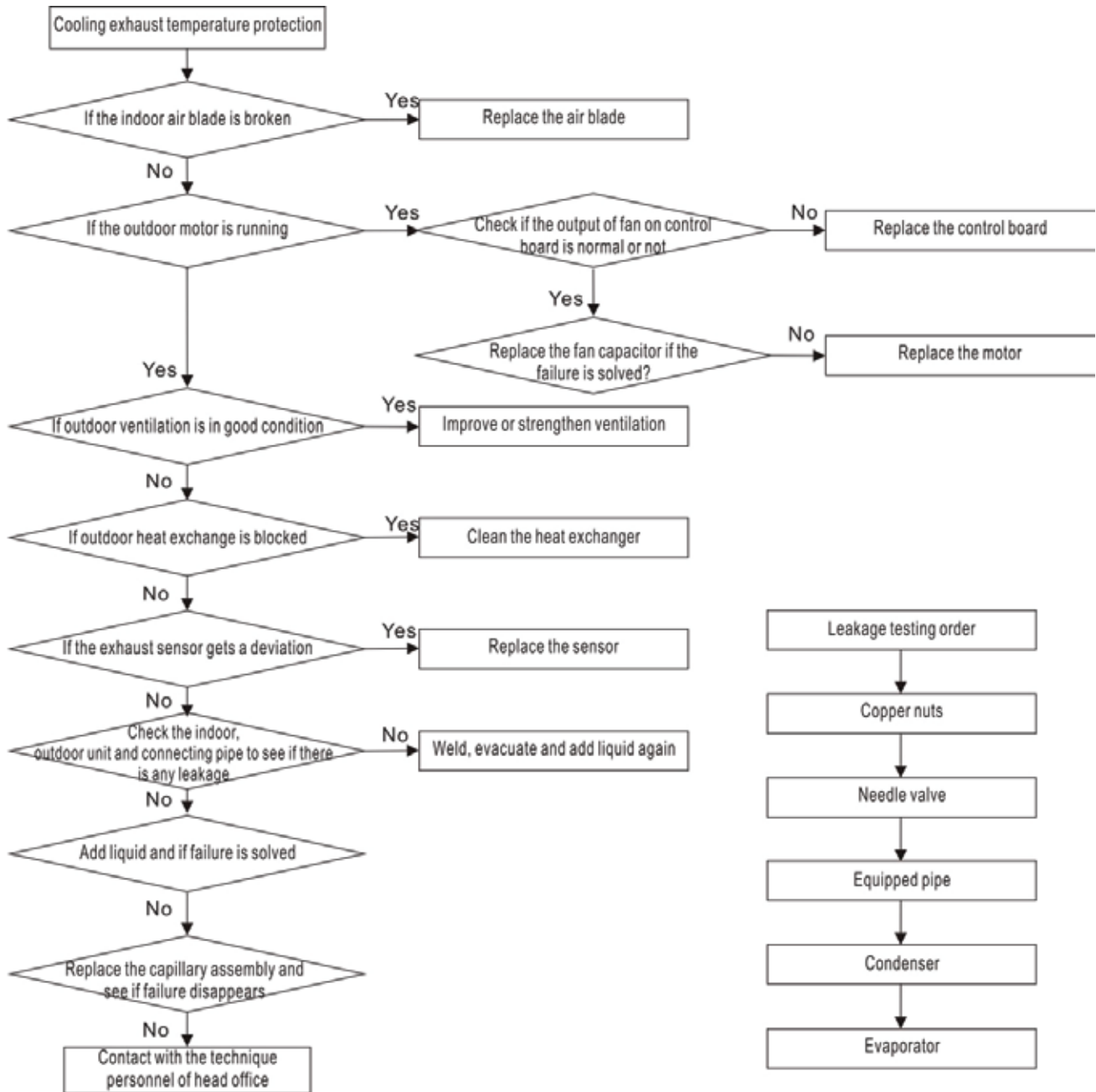


# Heating low pressure protection

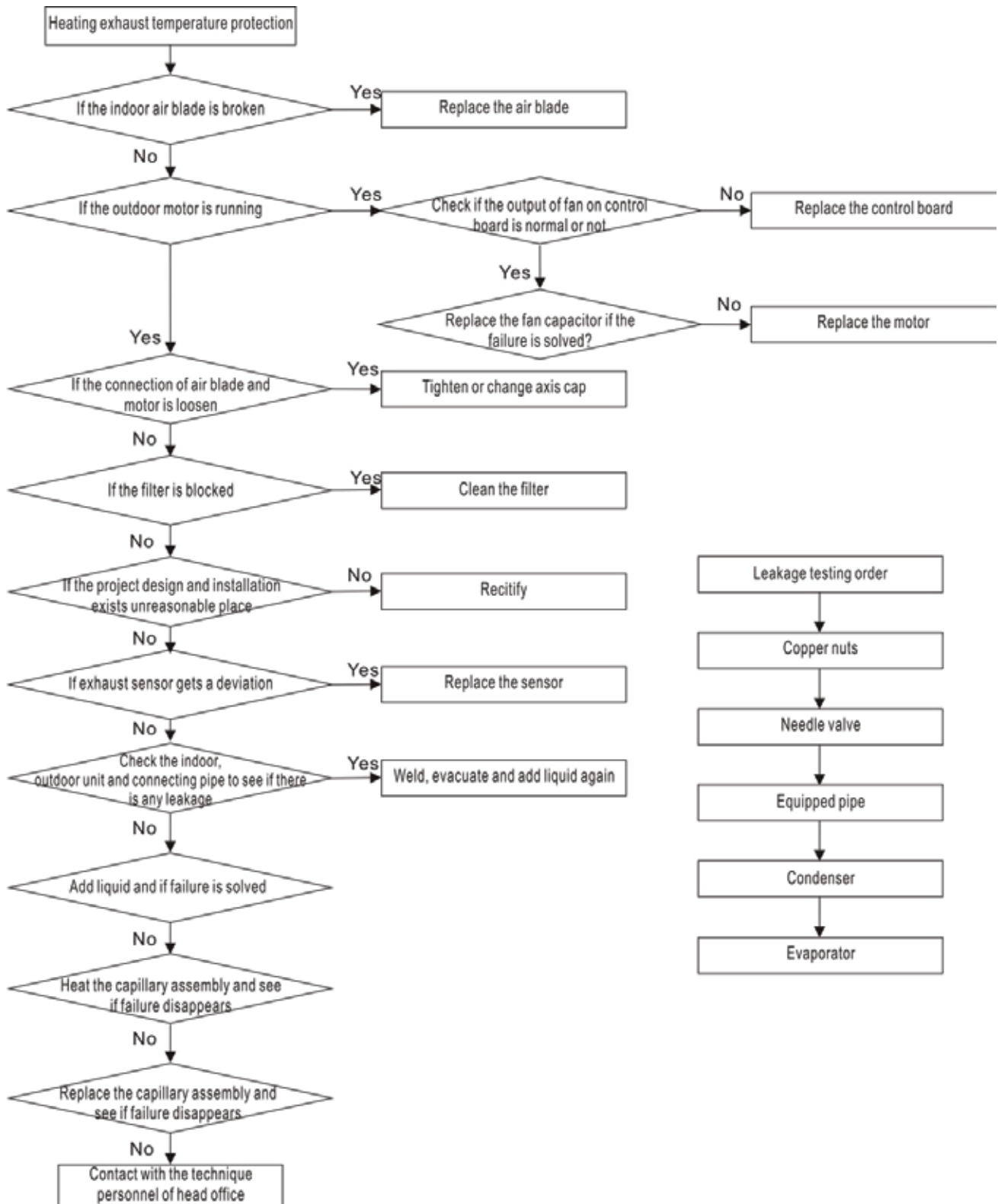


## 2.5 (E3) High exhaust temperature protection

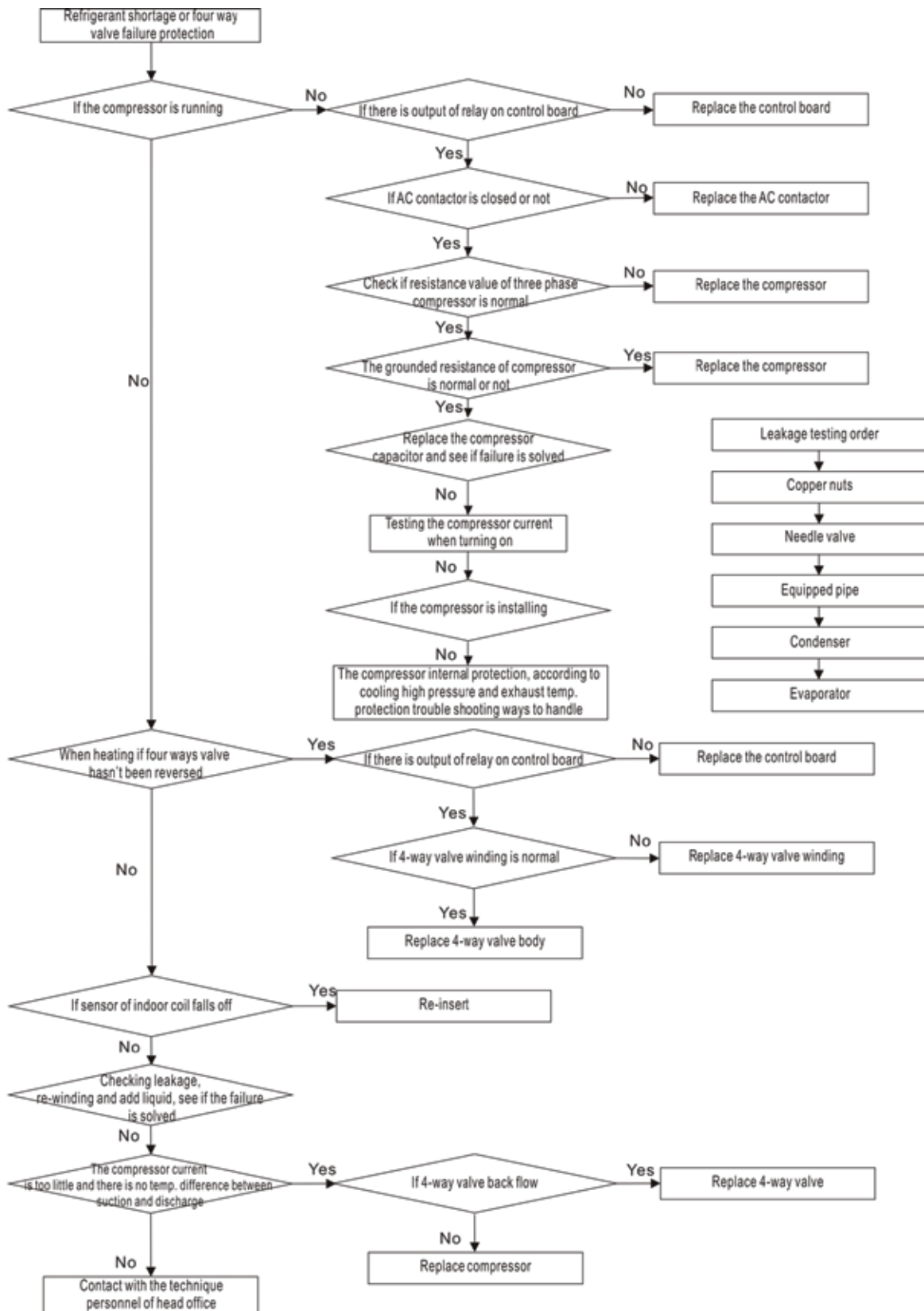
### Cooling exhaust temperature protection



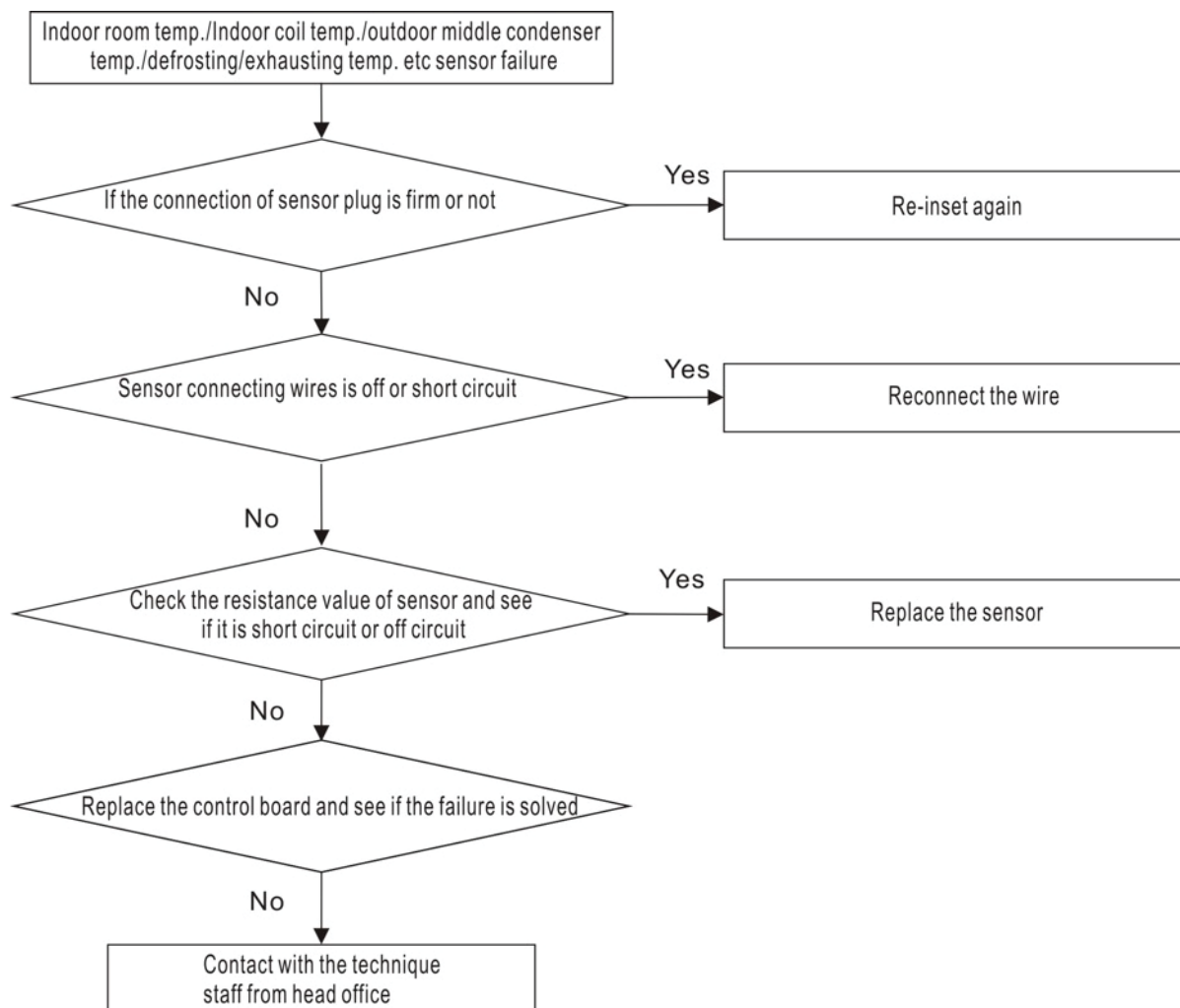
## Heating exhaust temperature protection



## 2.6 (E1) four way valve failure protection



## 2.7 Sensor failure protection





The new degree of comfort.®



Founded in 1925, Rheem® is nearly a 100 year old North American manufacturer delivering innovative, energy efficient air conditioning and water heating solutions under one roof to homes and businesses in more than 70 countries worldwide. From its Atlanta, Ga. Headquarters, three U.S. manufacturing facilities, state-of-the-art distribution center and Advanced Technology Integration (ATI) Lab, Rheem® designs, builds and supplies some of the most reliable, environmentally responsible and technologically advanced products in the industry. Under the “One Rheem Quality” promise, every Rheem® built everywhere in the world is held to the same high standard of excellence.



@rheemmea

Rheem Middle East and Africa

Rheem Middle East

Learn more at : [www.rheem-mea.com](http://www.rheem-mea.com)

