GREE
Change for Life

Service Manual

Models: GWH18TC-S3DBA1E
GWH18TC-S3DBA2E
GWH18TC-S3DBA3E
GWH24TD-S3DBA1E
GWH24TD-S3DBA2E
GWH24TD-S3DBA3E
(Refrigerant R410A)

GREE ELECTRIC APPLIANCES,INC.OF ZHUHAI

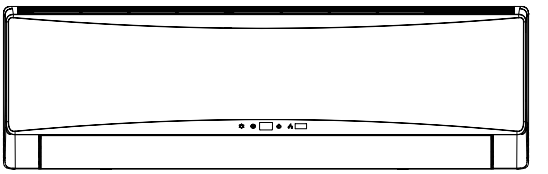
Table of Contents

Part Ⅰ: Technical Information

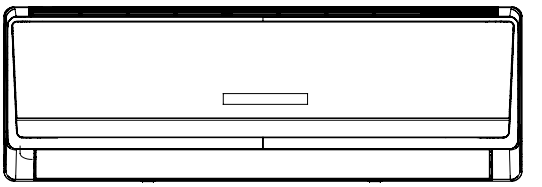
1. Summary

Indoor Unit:

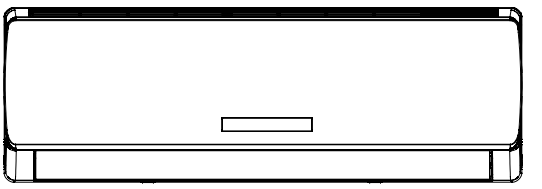
GWH18TC-S3DBA1E/I
GWH24TD-S3DBA1E/I



GWH18TC-S3DBA2E/I
GWH24TD-S3DBA2E/I

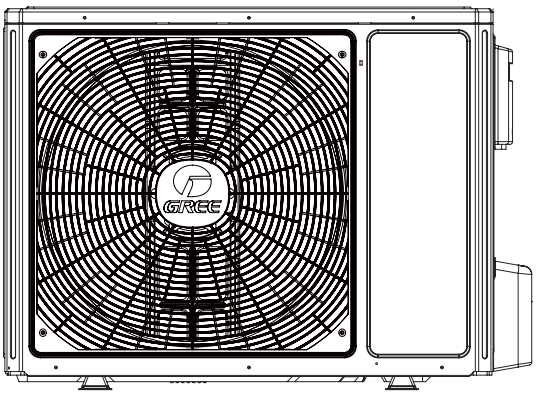


GWH18TC-S3DBA3E/I
GWH24TD-S3DBA3E/I

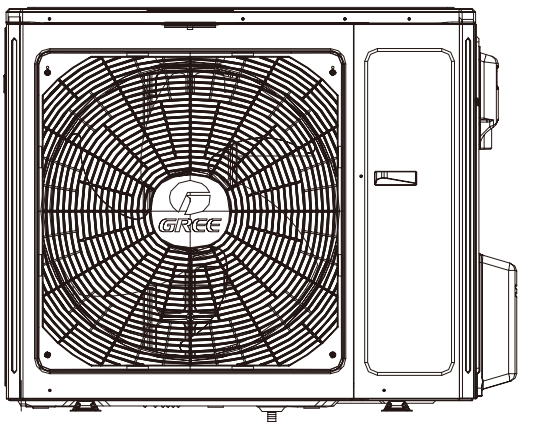


Outdoor Unit:

GWH18TC-S3DBA3E/O



GWH24TD-S3DBA3E/O



Remote Controller:

YAC1FB

2. Specifications

2.1 Specification Sheet

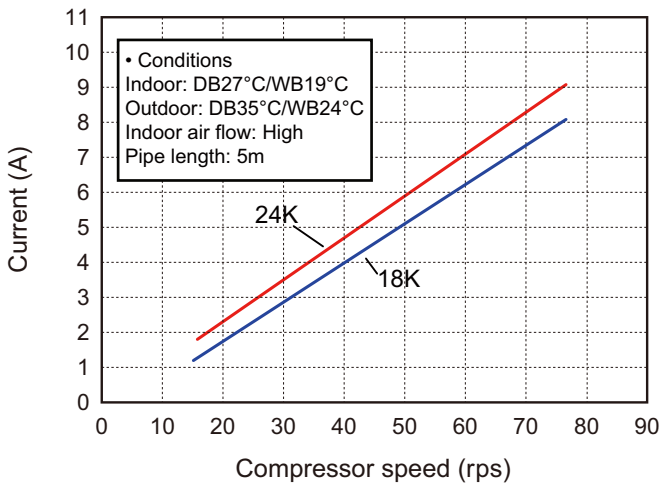
Model			1.GWH18TC-S3DBA2E 2.GWH18TC-S3DBA1E 3.GWH18TC-S3DBA3E	1.GWH24TD-S3DBA2E 2.GWH24TD-S3DBA3E 3.GWH24TD-S3DBA1E
Product Code			1.CB411003800 2.CB148009001 3.CB412003201 CB412003202	1.CB411004000 2.CB412003101 3.CB148008901
Power Supply	Rated Voltage	V ～	220-240	220-240
	Rated Frequency	Hz	50/60	50/60
	Phases		1	1
Power Supply Mode			Outdoor	Outdoor
Cooling Capacity		W	5275	7000
Heating Capacity		W	5450	7000
Cooling Power Input		W	1510	2000
Heating Power Input		W	1465	1880
Cooling Power Current		A	7.3	8.9
Heating Power Current		A	7.1	8.7
Rated Input		W	2500	3700
Rated Current		A	12.88	16.4
Air Flow Volume(SH/H/MH/M/ML/L/SL)		m^3/h	950/870/790/710/630/560/480	1200/1130/1060/990/920/850/780
Dehumidifying Volume		L/h	1.8	2.5
EER		W/W	3.5	3.5
COP		W/W	3.72	3.72
SEER			6.5	6.2
SCOP			Average:4.0 Warmer：4.6 Colder:3.3	Average:4.0 Warmer：4.6 Colder:3.3
Application Area		m^2	23-34	32-50
Indoor Unit	Model of indoor unit		1.GWH18TC-S3DBA2E/I 2.GWH18TC-S3DBA1E/I 3.GWH18TC-S3DBA3E/I	1.GWH24TD-S3DBA2E/I 2.GWH24TD-S3DBA3E/I 3.GWH24TD-S3DBA1E/I
	Indoor Unit Product Code		1.CB411N03800 2.CB148N09001 3.CB412N03201 CB412N03202	1.CB411N04000 2.CB412N03101 3.CB148N08901
	Fan Type		Cross-flow	Cross-flow
	Diameter Length(DXL)	mm	Φ100X765	Φ106X890
	Fan Motor Cooling Speed (SH/H/MH/M/ML/L/SL)	r/min	1200/1150/1050/950/850/750/650	1450/1300/1200/1100/1000/900/800
	Fan Motor Heating Speed (SH/H/MH/M/ML/L/SL)	r/min	1350/1200/1100/1000/900/800/700	1450/1300/1200/1100/1000/900/800
	Output of Fan Motor	W	25	70
	Fan Motor RLA	A	0.1	0.25
	Fan Motor Capacitor	μF	/	/
	Evaporator Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Row-fin Gap	mm	2-1.5	2-1.5
	Coil Length (LXDXW)	mm	765X25.4X342.9	903X25.4X381
	Swing Motor Model		MP28VC/MP28VC/MP24AA	MP35CJ/MP24HB/MP24HC
	Output of Swing Motor	W	2/2/1.5	2.5/1.5/1.5
	Fuse	A	3.15	3.15
	Sound Pressure Level (SH/H/MH/M/ML/L/SL)	dB (A)	46/44/42/40/38/36/34	51/50/46/44/42/40/37
	Sound Power Level (SH/H/MH/M/ML/L/SL)	dB (A)	60/58/56/54/52/50/48	65/62/58/56/54/52/49
	Dimension (WXHXD)	mm	1018X319X230	1178X326X264
	Dimension of Carton Box (LXWXH)	mm	1094X394X325	1253X411X349
	Dimension of Package (LXWXH)	mm	1097X397X340	1256X414X364
	Net Weight	kg	14	17
	Gross Weight	kg	17	21

Outdoor Unit	Model of Outdoor Unit		GWH18TC-S3DBA3E/O	GWH24TD-S3DBA3E/O
	Outdoor Unit Product Code		CB412W03200	CB412W03100
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO.,LTD	ZHUHAI LANDA COMPRESSOR CO,LTD.
	Compressor Model		QXAT-B121zF070	QXAT-D20zF030
	Compressor Oil		68EP	RB68EP
	Compressor Type		Rotary	Rotary
	L.R.A.	A	40	30
	Compressor RLA	A	6.6	11.3
	Compressor Power Input	W	1430	2476
	Overload Protector		1NT11L-6233,HPC 115/95,KSD115ºC	1NT11L-6233,HPC 115/95,KSD115ºC
	Throttling Method		Electron expansion valve	Electron expansion valve
	Operation temp	ºC	16~30	16~30
	Ambient temp (cooling)	ºC	-15~54	-15~54
	Ambient temp (heating)	ºC	-30~24	-30~24
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Rows-fin Gap	mm	2-1.4	2-1.4
	Coil Length (LXDXW)	mm	823.5X38.1X660	945X38.1X748
	Fan Motor Speed	rpm	780	820
	Output of Fan Motor	W	60	90
	Fan Motor RLA	A	0.58	0.65
	Fan Motor Capacitor	μF	/	/
	Air Flow Volume of Outdoor Unit	m^3/h	3200	4000
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	Φ520	Φ550
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5	2.5
	Sound Pressure Level (H/M/L)	dB (A)	56/-/-	58/-/-
	Sound Power Level (H/M/L)	dB (A)	65/-/-	68/-/-
	Dimension (WXHXD)	mm	963X700X396	1000X790X427
	Dimension of Carton Box (LXWXH)	mm	1026X455X735	1080X485X840
	Dimension of Package (LXWXH)	mm	1029X458X750	1083X488X855
	Net Weight	kg	51	65
	Gross Weight	kg	55.5	70
	Refrigerant		R410A	R410A
	Refrigerant Charge	kg	1.65	2.0
Connection Pipe	Length	m	5	5
	Gas Additional Charge	g/m	20	50
	Outer Diameter Liquid Pipe	mm	Φ6	Φ6
	Outer Diameter Gas Pipe	mm	Φ12	Φ16
	Max Distance Height	m	10	10
	Max Distance Length	m	25	25
	Note:The connection pipe applies metric diameter.			

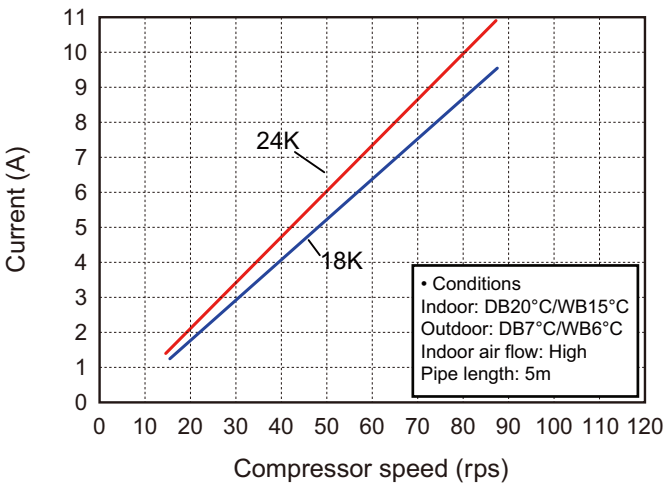
The above data is subject to change without notice; please refer to the nameplate of the unit.

2.2 Operation Characteristic Curve

Cooling

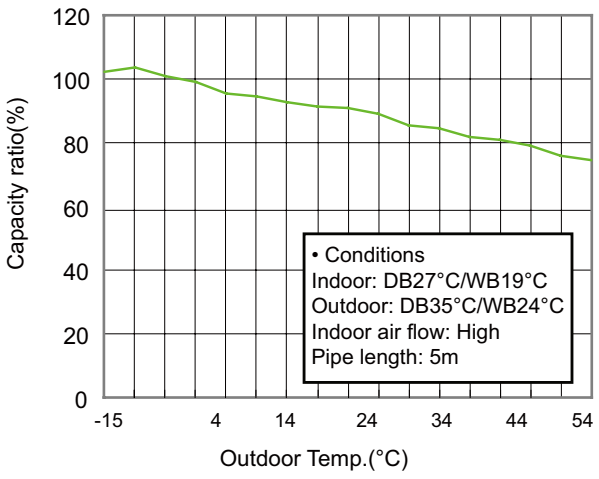


Heating

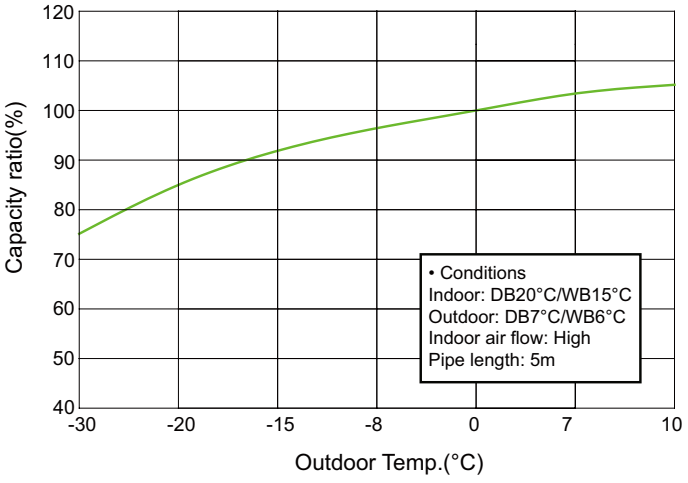


2.3 Capacity Variation Ratio According to Temperature

Cooling

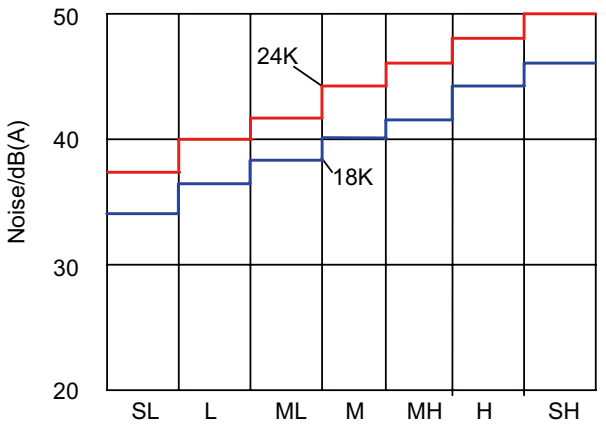


Heating

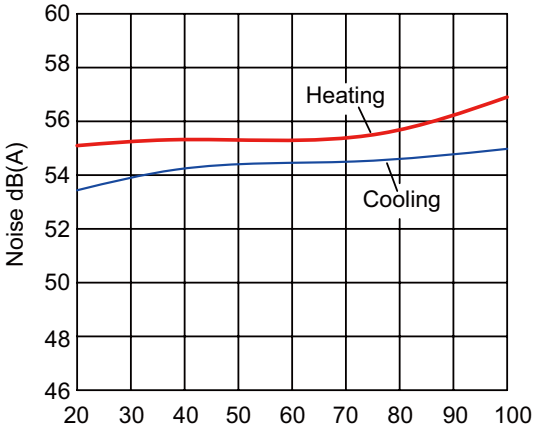


2.4 Noise Curve

Indoor side noise



Outdoor side noise



2.5 Cooling and Heating Data Sheet in Rated Frequency

Cooling:

Rated cooling condition(°C) (DB/WB)		Model	Pressure of gas pipe connecting indoor and outdoor unit	Inlet and outlet pipe temperature of heat exchanger		Fan speed of indoor unit	Fan speed of outdoor unit	Compressor revolution (rps)
Indoor	Outdoor		P (MPa)	T1 (°C)	T2 (°C)			
27/19	35/24	18K	0.9~1.0	in:8~11 out:11~14	in:75~83 out:37~48	Super High	High	73
27/19	35/24	24K	0.9~1.0	in:8~11 out:11~14	in:75~83 out:37~48	Super High	High	75

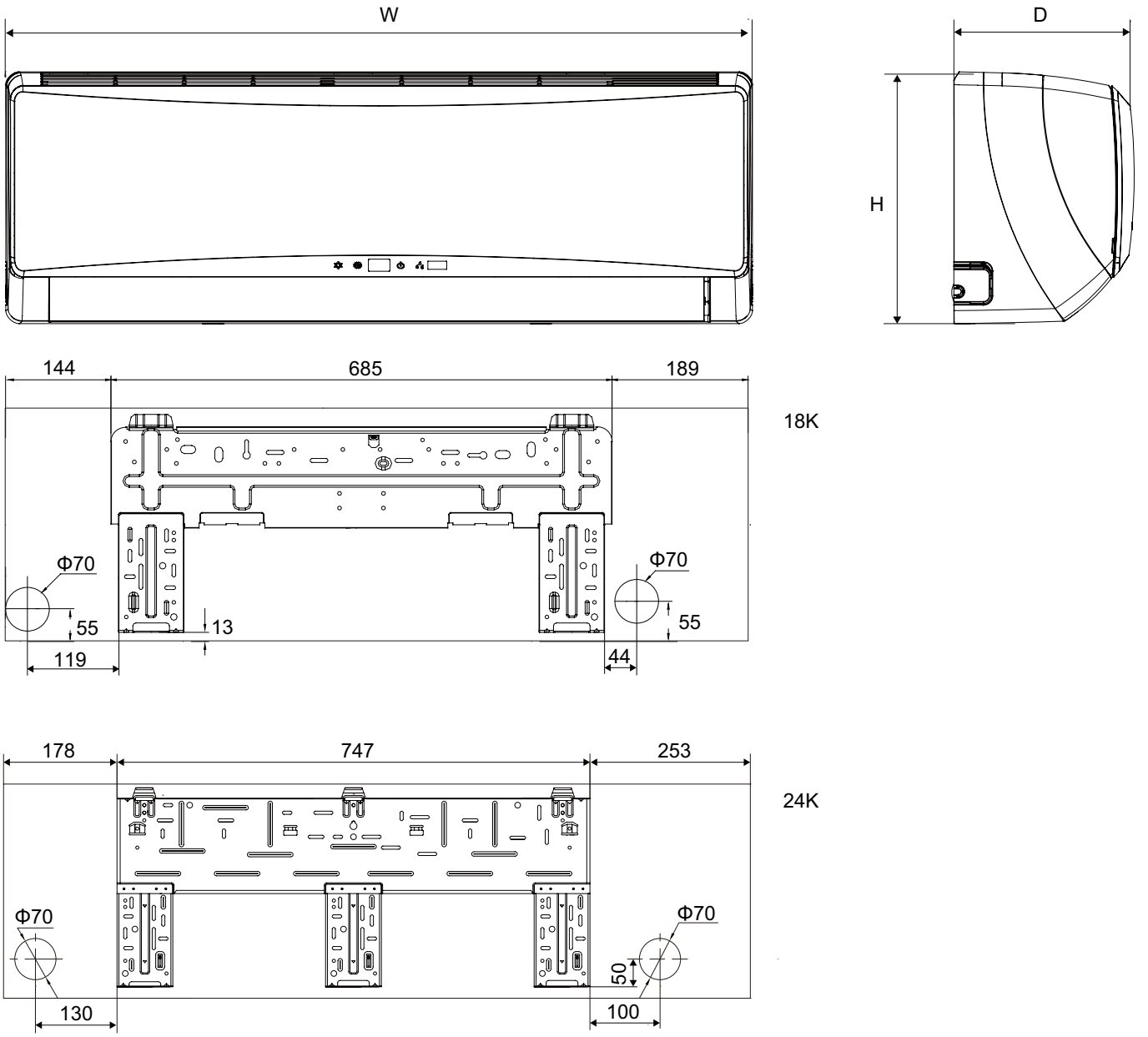
Heating:

Rated heating condition(°C) (DB/WB)		Model	Pressure of gas pipe connecting indoor and outdoor unit	Inlet and outlet pipe temperature of heat exchanger		Fan speed of indoor unit	Fan speed of outdoor unit	Compressor revolution (rps)
Indoor	Outdoor		P (MPa)	T1 (°C)	T2 (°C)			
20/15	7/6	18K	2.2~2.4	in:75~83 out:37~45	in:1~3 out:2~6	Super High	High	75
20/15	7/6	24K	2.2~2.4	in:75~83 out:37~45	in:1~3 out:2~6	Super High	High	80

Instruction:
T1: Inlet and outlet pipe temperature of evaporator
T2: Inlet and outlet pipe temperature of condenser
P: Pressure at the side of big valve
Connection pipe length: 5 m.

3. Outline Dimension Diagram

3.1 Indoor Unit

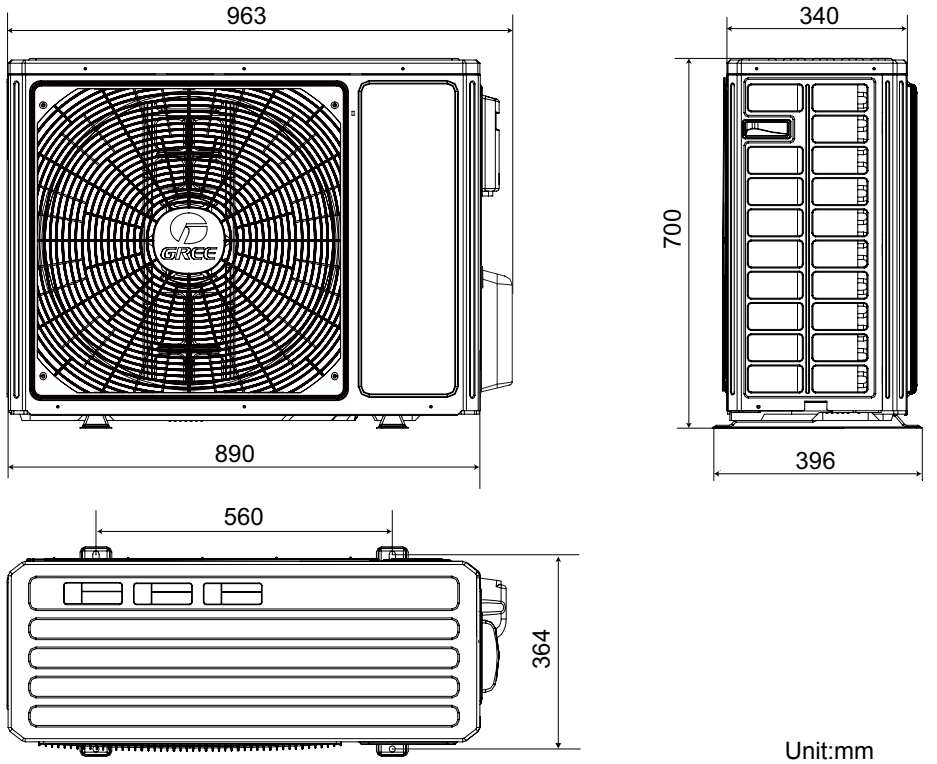


Unit:mm

Model	W	H	D
18K	1018	319	230
24K	1178	326	264

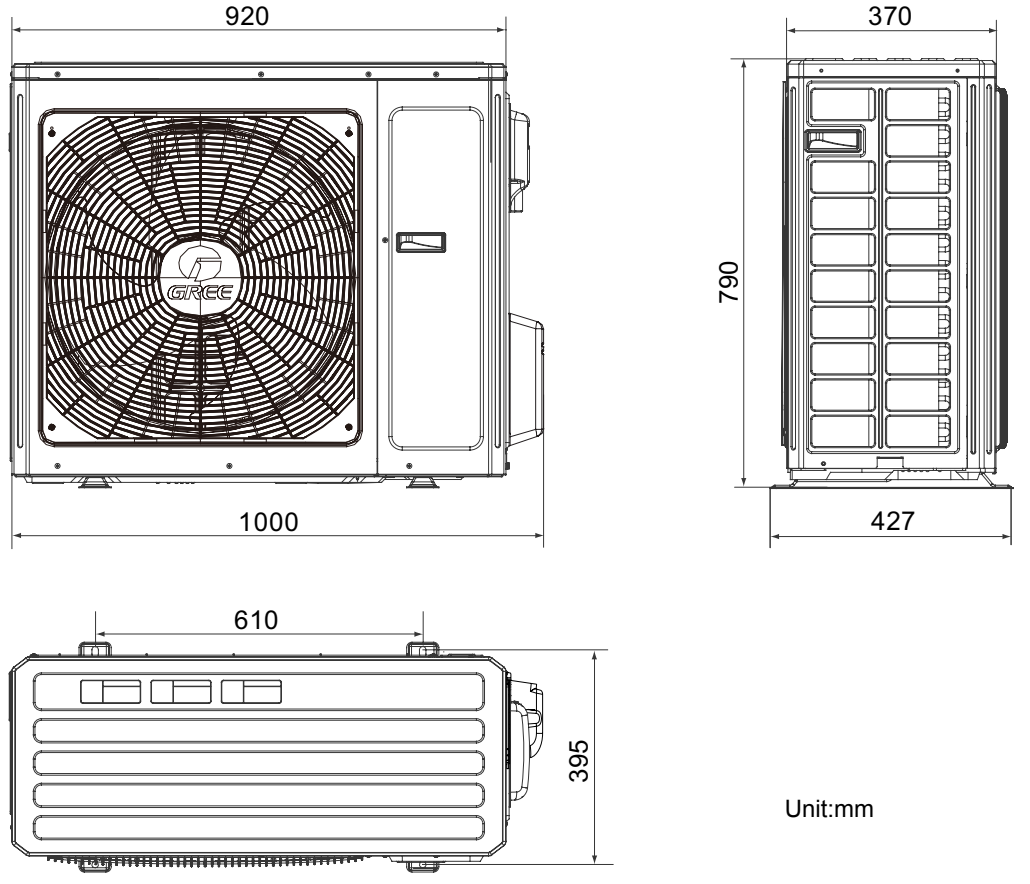
3.2 Outdoor Unit

GWH18TC-S3DBA3E/O



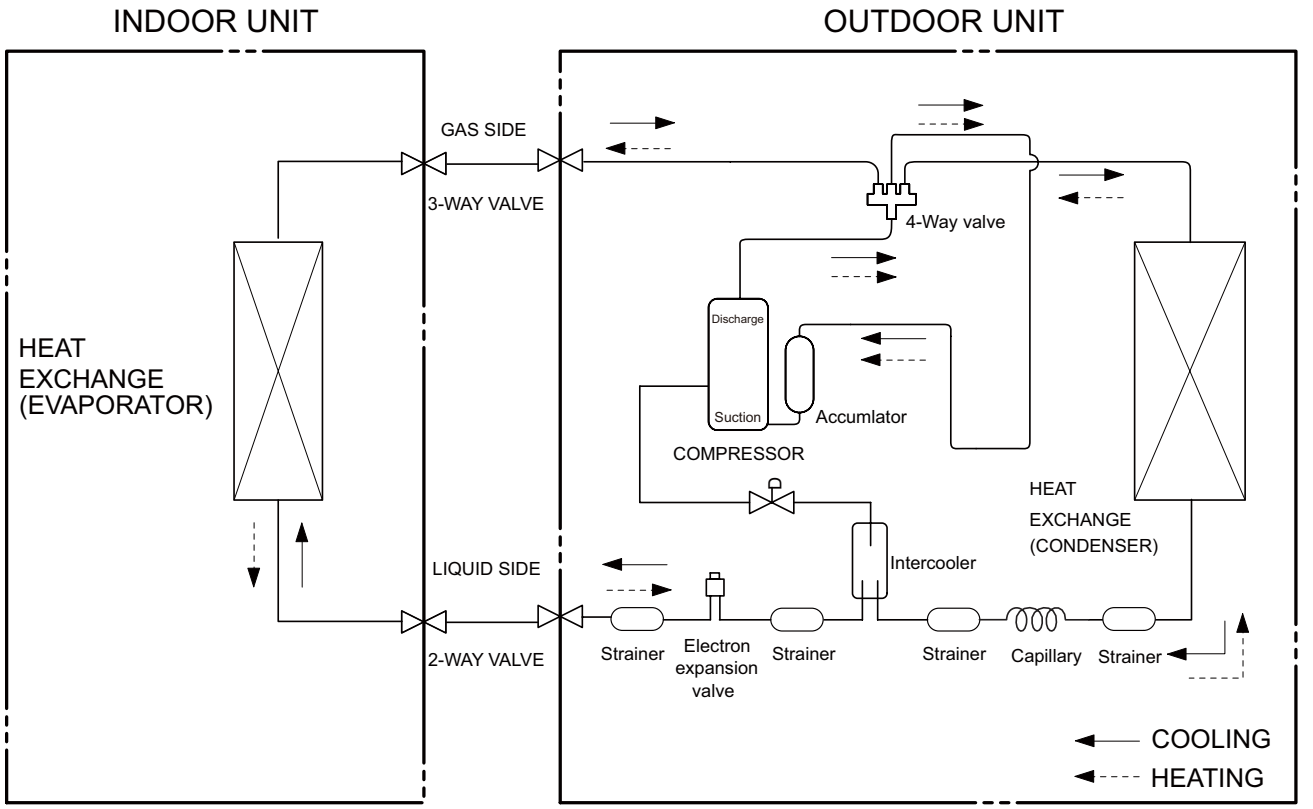
Unit:mm

GWH24TD-S3DBA3E/O



Unit:mm

4. Refrigerant System Diagr



Connection pipe specification:
Liquid pipe:1/4" (6mm)
Gas pipe:1/2" (12mm) for 18K
Gas pipe:5/8" (16mm) for 24K

5. Electrical Part

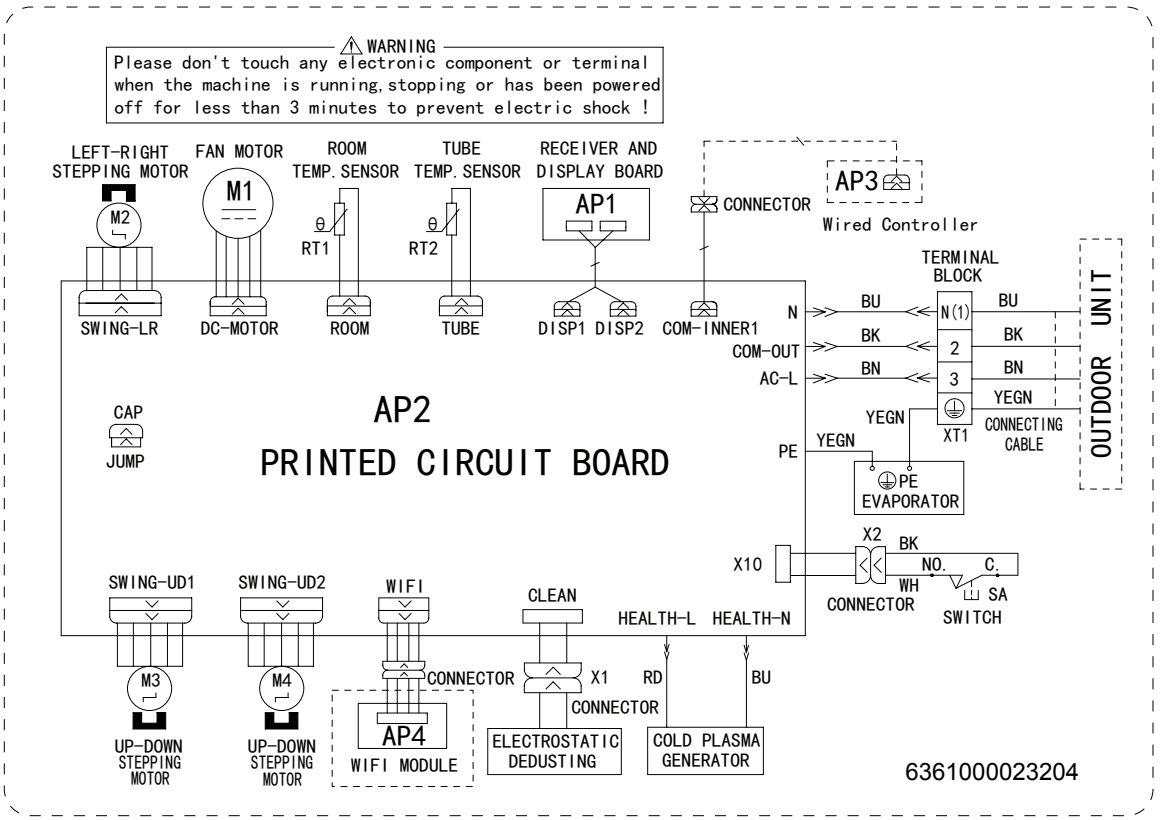
5.1 Wiring Diagram

● Instruction

Symbol	Symbol Color	Symbol	Symbol Color	Symbol	Name
WH	White	GN	Green	CAP	Jumper cap
YE	Yellow	BN	Brown	COMP	Compressor
RD	Red	BU	Blue	⏚	Grounding wire
YEGN	Yellow/Green	BK	Black	/	/
VT	Violet	OG	Orange	/	/

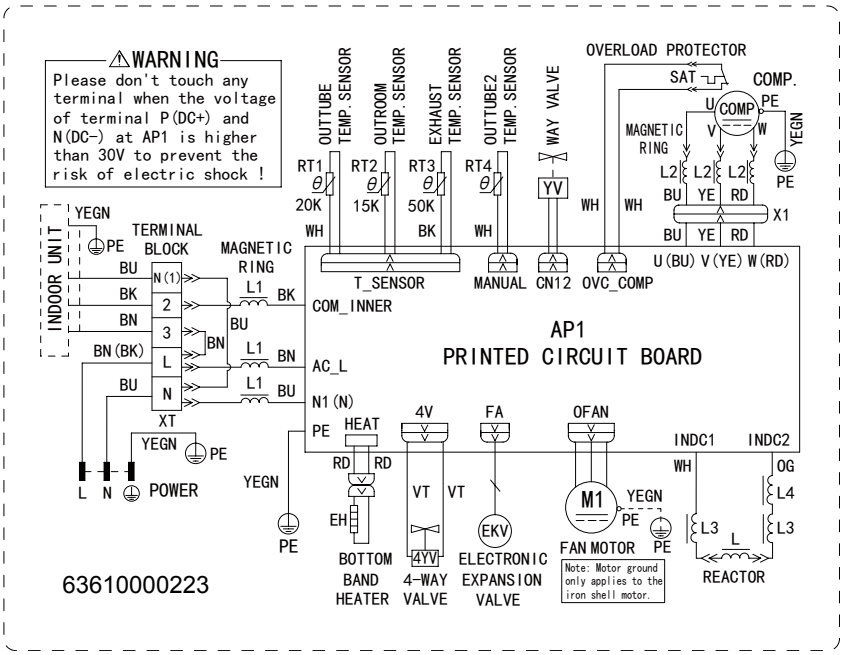
Note: Jumper cap is used to determine fan speed and the swing angle of horizontal lover for this model.

● Indoor Unit



● Outdoor Unit

GWH18TC-S3DBA3E/O GWH24TD-S3DBA3E/O

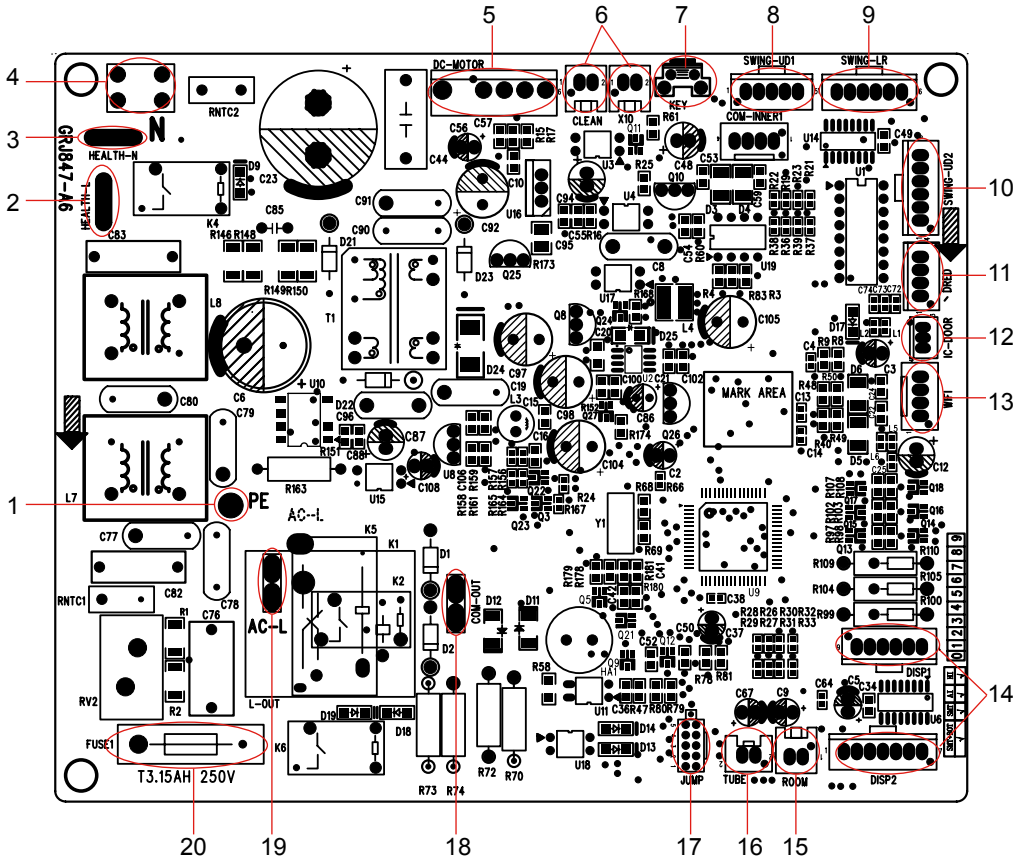


The above data is subject to change without notice. Please refer to the nameplate of the unit.

5.2 PCB Printed Diagram

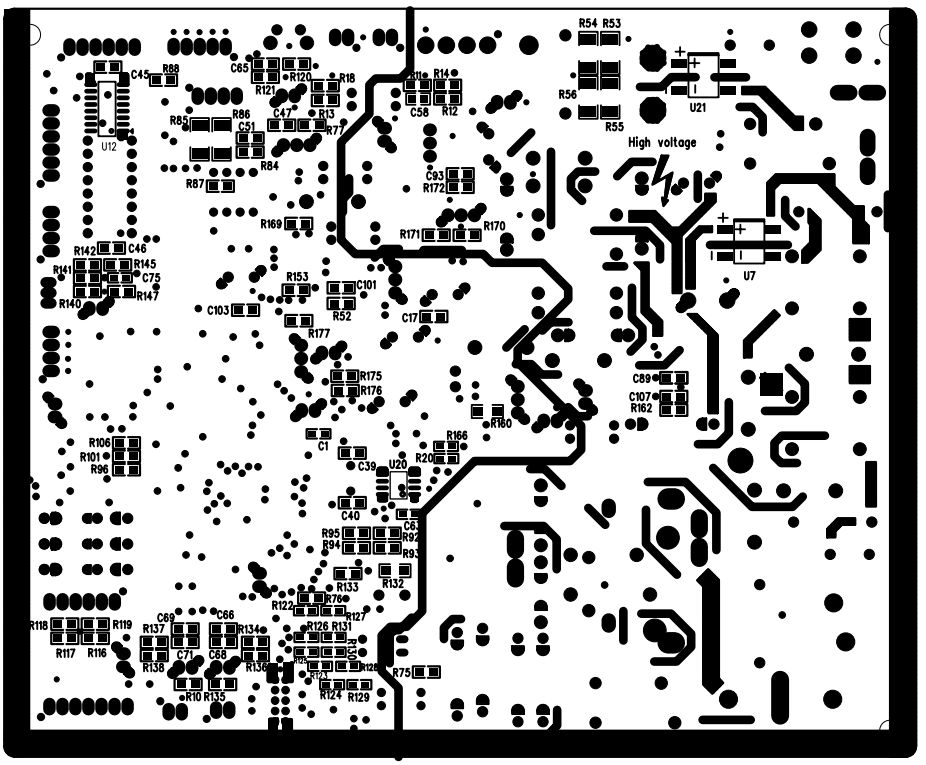
Indoor Unit

- **Top view**



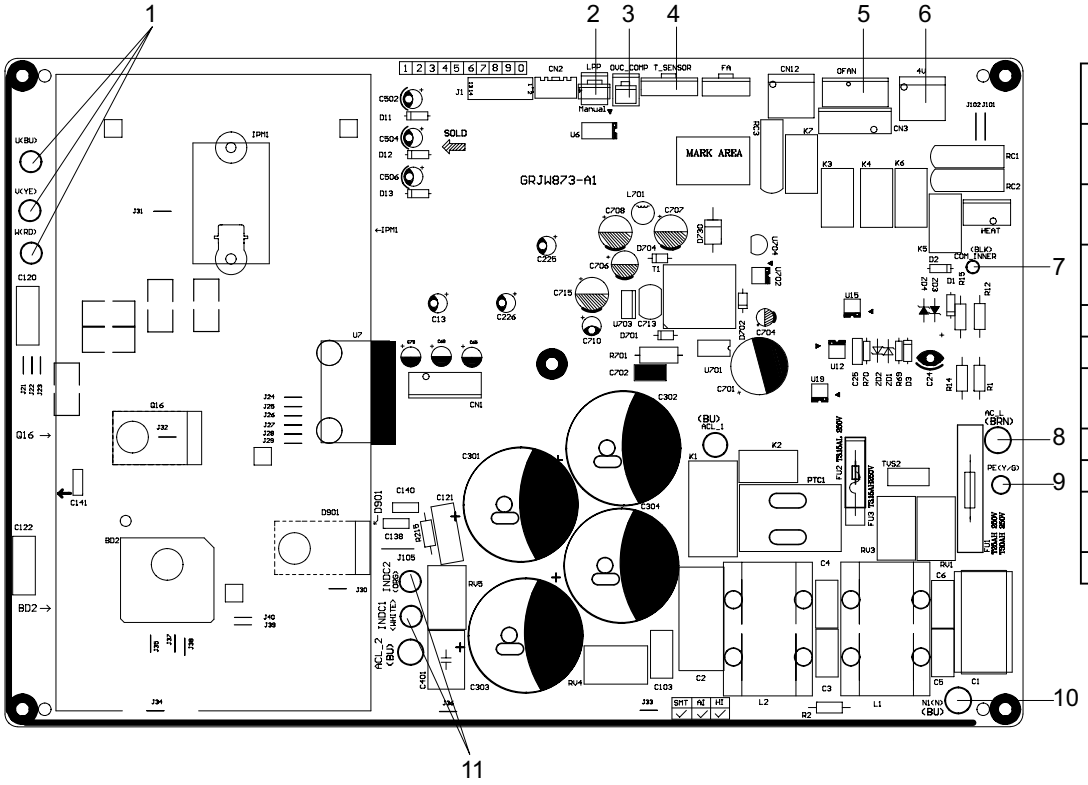
1	Grounding wire
2	Interface of health function live wire
3	Interface of health function neutral wire
4	Neutral wire
5	Interface of DC motor
6	Interface of electrostatuc dedusting
7	Auto button
8	Up&down swing interface 1
9	eft&right swing interface
10	Up&down swing interface 2
11	Interface of DRED
12	Interface of IC-DOOR
13	Interface of WiFi
14	Display interface
15	Interface of ambient temperature sensor
16	Interface of tube temperature sensor
17	Jumper cap
18	Communication interface
19	Live wire interface
20	Fuse

- **Bottom view**



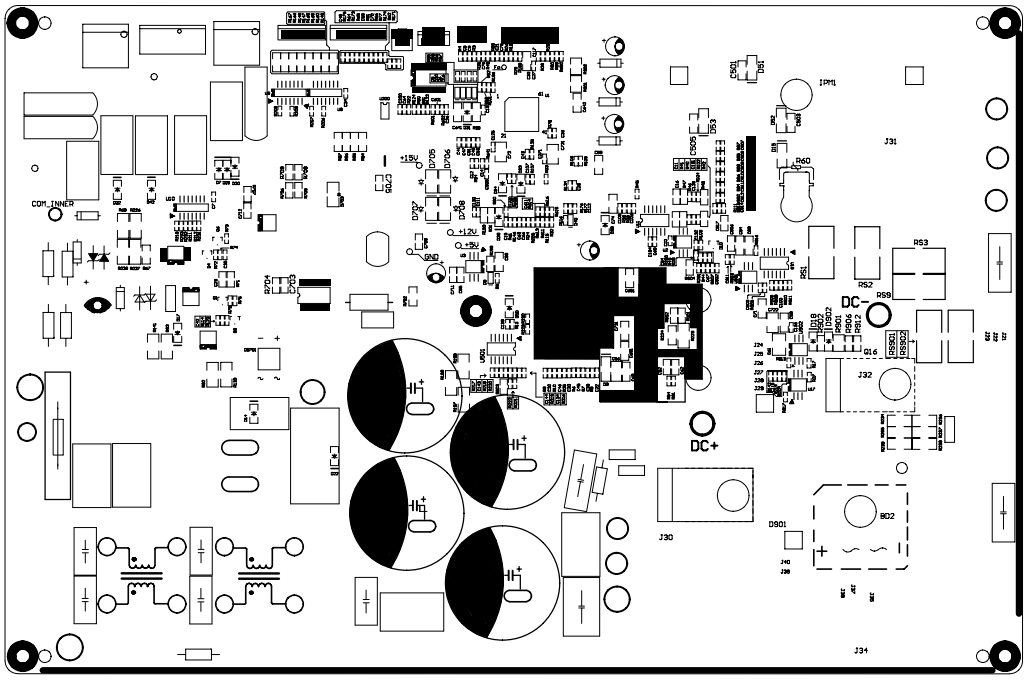
Outdoor Unit

• Top view



1	Terminal of compressor wire
2	Terminal of low pressure protection
3	Terminal of compressor overload protection
4	Terminal of outdoor temperature sensor
5	Terminal of outdoor fan
6	Terminal of 4-way valve
7	Communication wire with indoor unit
8	Power supply live wire
9	Earthing wire
10	Power supply neutral wire
11	PFC induction wire

• Bottom view

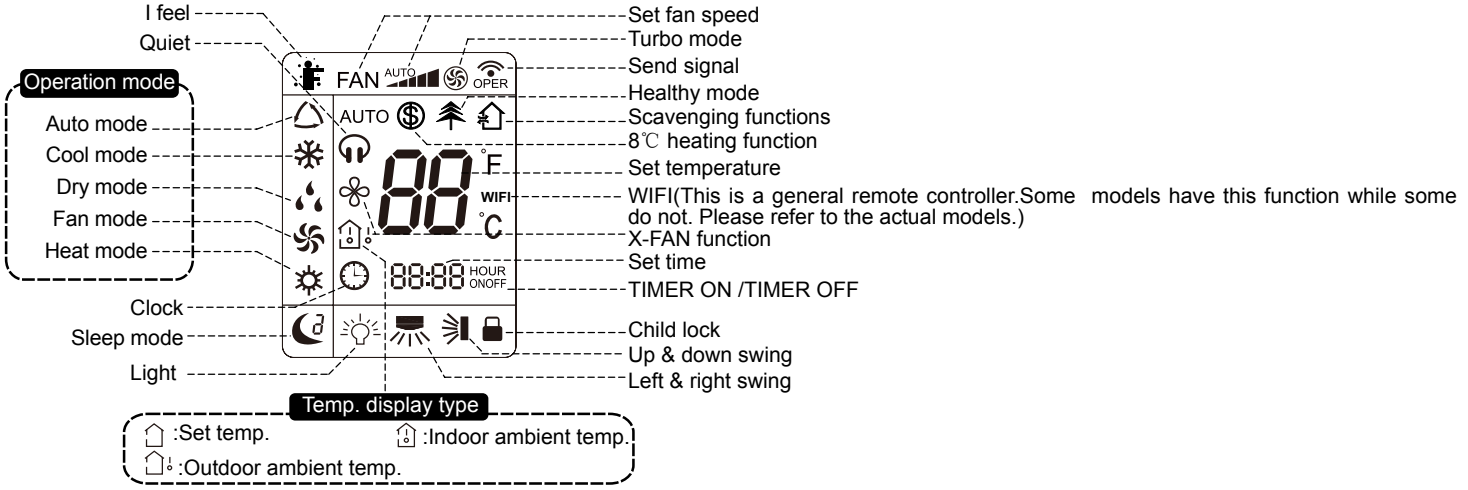


6. Function and Control

6.1 Remote Controller Introduction

1. ON/OFF button
2. MODE button
3. FAN button
4. TURBO button
5. ▲/ ▼button
6. button
7. button
8. SLEEP button
9. I FEEL button
10. TIMER ON / TIMER OFF button
11. CLOCK button
12. QUIET button(This function is unavailable for this model)
13. X-FAN button(Note: X-FAN is the same with BLOW.)
14. LIGHT button
15. /button
16. TEMP button

Introduction for icons on display screen



Introduction for buttons on remote controller

Note:

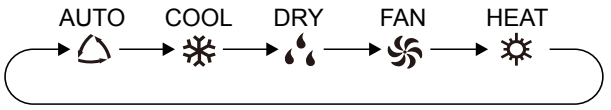
- This is a general use remote controller, it could be used for the air conditioners with multifunction; For some function, which the model doesn't have, if press the corresponding button on the remote controller that the unit will keep the original running status.
- After putting through the power, the air conditioner will give out a sound. Operation indictor " " is ON (red indicator). After that, you can operate the air conditioner by using remote controller.
- Under on status, pressing the button on the remote controller, the signal icon " "on the display of remote controller will blink once and the air conditioner will give out a “de” sound, which means the signal has been sent to the air conditioner.

1. ON/OFF button

Press this button can turn on or turn off the air conditioner. After turning on the air conditioner, operation indicator " ⏻ "on indoor unit's display is ON (green indicator. The colour is different for different models), and indoor unit will give out a sound.

2. MODE button

Press this button to select your required operation mode.



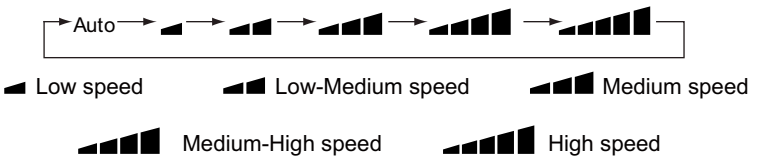
● When selecting auto mode, air conditioner will operate automatically according to ex-factory setting. Set temperature can't be adjusted and will not be displayed as well. Press "FAN" button can adjust fan speed. Press " " / " " button can adjust fan blowing angle.
● After selecting cool mode, air conditioner will operate under cool mode. Cool indicator " " "on indoor unit is ON. Press "▲" or " ▼ " button to adjust set temperature. Press "FAN" button to adjust fan speed. Press " " / " " button to adjust fan blowing angle.
● When selecting dry mode, the air conditioner operates at low speed under dry mode. Dry indicator " " on indoor unit is ON. Under dry mode, fan speed can't be adjusted. Press " " / " " button to adjust fan blowing angle.
● When selecting fan mode, the air conditioner will only blow fan, no cooling and no heating. All indicators are OFF. Press "FAN" button to adjust fan speed. Press " " / " " button to adjust fan blowing angle.
● When selecting heating mode, the air conditioner operates under heat mode. Heat indicator " " on indoor unit is ON. Press "▲" or " ▼ " button to adjust set temperature. Press "FAN" button to adjust fan speed. Press " " / " " button to adjust fan blowing angle. (Cooling only unit won't receive heating mode signal. If setting heat mode with remote controller, press ON/OFF button can't start up the unit.

Note:

● For preventing cold air, after starting up heating mode, indoor unit will delay 1~5 minutes to blow air (actual delay time is depend on indoor ambient temperature).
● Set temperature range from remote controller: 16~30℃ (61-86°F); Fan speed: auto, low speed, medium speed, high speed.

3. FAN button

This button is used for setting Fan Speed in the sequence that goes from AUTO , , , , , to then back to Auto.



4. TURBO button

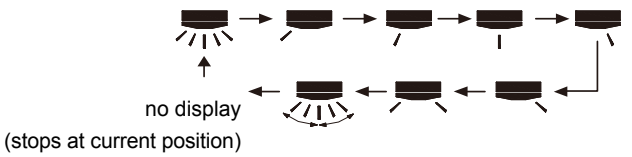
Under COOL or HEAT mode, press this button to turn to quick COOL or quick HEAT mode. " " icon is displayed on remote controller. Press this button again to exit turbo function and " " icon will disappear. If start this function, the unit will run at super-high fan speed to cool or heat quickly so that the ambient temp. approachs the preset temp. as soon as possible.

5. ▲/▼ button

● Press " ▲ " or " ▼ " button once increase or decrease set temperature 1℃ (°F). Holding " ▲ " or " ▼ " button, 2s later, set temperature on remote controller will change quickly. On releasing button after setting is finished, temperature indicator on indoor unit will change accordingly. (Temperature can't be adjusted under auto mode)
● When setting TIMER ON, TIMER OFF or CLOCK, press " ▲ " or " ▼ " button to adjust time. (Refer to CLOCK, TIMER ON, TIMER OFF buttons) When setting TIMER ON, TIMER OFF or CLOCK, press " ▲ " or " ▼ " button to adjust time. (Refer to CLOCK, TIMER ON, TIMER OFF buttons)

6. button

Press this button can select left & right swing angle. Fan blow angle can be selected circularly as below:



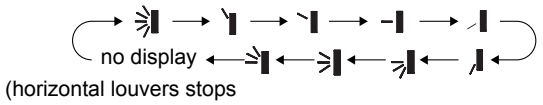
Note:

● Press this button continuously more than 2s, the main unit will swing back and forth from left to right, and then loosen the button, the unit will stop swinging and present position of guide louver will be kept immediately.

● Under swing left and right mode, when the status is switched from off to , if press this button again 2s later, status will switch to off status directly; if press this button again within 2s, the change of swing status will also depend on the circulation sequence stated above.

7. button

Press this button can select up & down swing angle. Fan blow angle can be selected circularly as below:



(horizontal louvers stops at current position)

● When selecting " ", air conditioner is blowing fan automatically. Horizontal louver will automatically swing up & down at maximum angle.
● When selecting " ", air conditioner is blowing fan at fixed position. Horizontal louver will stop at the fixed position.
● When selecting " ", air conditioner is blowing fan at fixed angle. Horizontal louver will send air at the fixed angle.
● Hold " "button above 2s to set your required swing angle. When reaching your required angle, release the button.

Note:

● " " may not be available. When air conditioner receives this signal, the air conditioner will blow fan automatically.
● Press this button continuously more than 2s, the main unit will swing back and forth from up to down, and then loosen the button, the unit will stop swinging and present position of guide louver will be kept immediately.
● Under swing up and down mode, when the status is switched from off to , if press this button again 2s later, status will switch to off status directly; if press this button again within 2s,the change of swing status will also depend on the circulation sequence stated above.

8. SLEEP button

Press this button, can select Sleep 1 ( ), Sleep 2 ( ), Sleep 3 ( ) and cancel the Sleep, circulate between these, after electrified, Sleep Cancel is defaulted.
● Sleep 1 is Sleep mode 1, in Cool modes; sleep status after run for one hour, the main unit setting temperature will increase 1°C, two hours, setting temperature increa sed 2°C, then the unit will run at this setting temperature; In Heat mode: sleep status after run for one hour, the setting temperature will decrease 1°C, two hours, setting temperature will decrease 2°C, then the unit will run at this setting temperature.
● Sleep 2 is sleep mode 2, that is air conditioner will run according to the presetting agroup of sleep temperature curve.
● Sleep 3-the sleep curve setting under Sleep mode by DIY;
(1)Under Sleep 3 mode, press “Turbo” button for a long time, remote controller entersinto user individuation sleep setting status, at this time, the time of remote controllerwill display “1hour”, the setting temperature “88” will display the corresponding temp-erature of last setting sleep curve and blink (The first entering will display according tothe initial curve setting value of original factory);
(2)Adjust “+” and “-” button, could change the corresponding setting temperature, afteradjusted, press “Turbo” button for confirmation;
(3)At this time, 1hour will be automatically increased at the timer postion on the remotecontrol, (that are "2hours" or "3hours" or "8hours"), the place of setting temperature "88"will display the corresponding temperature of last setting sleep curve and blink;(4) Repeat the above step (2)~(3) operation, until 8 hours temperature setting finished,sleep,curve setting finished, at this time, the remote controller will resume the original timer display; temperature display will resume to original setting temperature.
● Sleep3- the sleep curve setting under Sleep mode by DIY could be inquired:The user could accord to sleep curve setting method to inquire the presetting sleep curve, enter into user individuation sleep setting status, but do not change the tempera-ture, press “Turbo” button directly for confirmation. Note: In the above presetting or enquiry procedure, if continuously within 10s, there is no button pressed, the sleep curve setting within 10s, there is no button pressed, the sleep curve setting status will be automatically quit and resume to display the original displaying. In the presetting orenquiry procedure, press "ON/OFF" button, "Mode" button, "Timer" button or "Sleep" button, the sleep curve setting or enquiry status will quit similarly.

9. I FEEL button

Press this button to start I FEEL function and " " will be displayed on the remote controller. After this function is set, the remote controller will send the detected ambient temperature to the controller and the unit will automatically adjust the indoor temperature according to the detected temperature. Press this button again to close I FEEL function and " " will disappear.
● Please put the remote controller near user when this function is set. Do not put the remote controller near the object of high temperature or low temperature in order to avoid detecting inaccurate ambient temperature.

10. TIMER ON / TIMER OFF button

● TIMER ON button
"TIMER ON" button can set the time for timer on. After pressing this button, " " icon disappears and the word "ON" on remote controller blinks. Press " ▲ " or " ▼ "button to adjust TIMER ON setting. After each pressing " ▲ " or " ▼ " button, TIMER ON setting will increase or decrease 1min. Hold " ▲ " or " ▼ " button, 2s later, the time will change quickly until reaching your required time. Press "TIMER ON" to confirm it. The word "ON" will stop blinking. " " icon resumes displaying. Cancel TIMER ON: Under the condition that TIMER ON is started up, press "TIMER ON" button to cancel it.
● TIMER OFF button

"TIMER OFF" button can set the time for timer off. After pressing this button," "icon disappears and the word "OFF" on remote controller blinks. Press " ▲ " or " ▼ " button to adjust TIMER OFF setting. After each pressing " ▲ " or " ▼ " button, TIMER OFF setting will increase or decrease 1min. Hold " ▲ " or " ▼ " button, 2s later, the time will change quickly until reaching your required time. Press "TIMER OFF" word "OFF" will stop blinking. " " icon resumes displaying. Cancel TIMER OFF. Under the condition that TIMER OFF is started up, press "TIMER OFF" button to cancel it.

Note:

● Under on and off status, you can set TIMER OFF or TIMER ON simultaneously.
● Before setting TIMER ON or TIMER OFF, please adjust the clock time.
● After starting up TIMER ON or TIMER OFF, set the constant circulating valid. After that, air conditioner will be turned on or turned off according to setting time. ON/OFF button has no effect on setting. If you don't need this function, please use remote controller to cancel it.

11. CLOCK button

Press this button to set clock time. " " icon on remote controller will blink. Press " ▲ " or " ▼ " button within 5s to set clock time. Each pressing of " ▲ " or " ▼ " button, clock time will increase or decrease 1 minute. If hold " ▲ " or " ▼ " button, 2s later, time will change quickly. Release this button when reaching your required time. Press "CLOCK" button to confirm the time. " " icon stops blinking.

Note:

● Clock time adopts 24-hour mode.
● The interval between two operation can't exceeds 5s. Otherwise, remote controller will quit setting status. Operation for TIMER ON/TIMER OFF is the same.

12. QUIET button

Press this button, the Quiet status is under the Auto Quiet mode (display " " and "AUTO" signal) and Quiet mode (display " " singal) and Quiet OFF (there is no signal of " " displayed), after powered on, the Quiet OFF is defaulted.

Note:

● The Quiet function can be set up in all modes; Under the Quiet mode,the fan speed is not available.
● When quiet function is selected:
Under cooling mode: indoor fan operates at notch 4 speed. 10 minutes later or when indoor ambient temperature≤28°C, indoor fan will operate at notch 2 speed or quiet mode according to the comparison between indoor ambinet temperature and set temperature.
Under heating mode: indoor fan operates at notch 3 speed or quiet mode according to the comparison between indoor ambient temperature and set temperature.
Under dry, fan mode: indoor fan operates at quiet mode.
Under auto mode: the indoor fan operates at the auto quiet mode according to actual cooling, heating or fan mode.
● The Quiet function is only available for some models.

13. X-FAN button

Pressing this button in COOL or DRY mode, the icon " " is displayed and the indoor fan will continue operation for 2 minutes in order to dry the indoor unit even though you have turned off the unit. After energization, X-FAN OFF is defaulted.X-FAN is not available in AUTO, FAN or HEAT mode.
This function indicates that moisture on evaporator of indoor unit will be blowed after the unit is stopped to avoid mould.
● Having set X-FAN function on: After turning off the unit by pressing ON/OFF button indoor fan will continue running for about 2 min. at low speed. In this period, press X-FAN button to stop indoor fan directly.
● Having set X-FAN function off: After turning off the unit by pressing ON/OFF button, the complete unit will be off directly.

14. LIGHT button

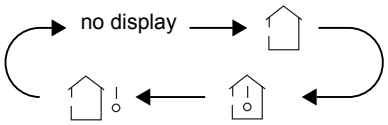
Press this button to turn off display light on indoor unit. " " icon on remote controller disappears. Press this button again to turn on display light. " " icon is displayed.

15. / button

Press this button to achieve the on and off of healthy and scavenging functions in operation status. Press this button for the first time to start scavenging function; LCD displays " ". Press the button for the second time to start healthy and scavenging functions simultaneously; LCD displays " " and " " . Press this button for the third time to quit healthy and scavenging functions simultaneously. Press the button for the fourth t ime to start healthy function; LCD display " " . Press this button again to repeat the operation above.
● This function is applicable to partial of models.

16. TEMP button

By pressing this button, you can see indoor set temperature, indoor ambient temperature or outdoor ambient temperature on indoor unit's display. The setting on remote controlleris selected circularly as below:



● When selecting "  " or no display with remote controller, temperature indicator on indoor unit displays set temperature.
● When selecting "  " with remote controller, temperature indicator on indoor unit displays indoor ambient temperature.
● When selecting "  " with remote controller, temperature indicator on indoor unit displays outdoor ambient temperature.

Note:

● Outdoor temperature display is not available for some models. At that time, indoor unit receives "  "signal, while it displays indoor set temperature.
● It's defaulted to display set temperature when turning on the unit.There is no display in the remote controller.
● Only for the models whose indoor unit has dual-8 display.
● When selecting displaying of indoor or outdoor ambient temperature, indoor temperature indicator displays corresponding temperature and automatically turn to display set temperature after three or five seconds.

Function introduction for combination buttons

1. Energy-saving function

Under cooling mode, press "TEMP" and " CLOCK" buttons simultaneously to start up or turn off energy-saving function. When energy-saving function is started up, "SE" will be shown on remote controller, and air conditioner will adjust the set temperature automatically according to ex-factory setting to reach to the best energy-saving effect. Press "TEMP" and "CLOCK"buttons simultaneously again to exit energy-saving function.

Note:

● Under energy-saving function, fan speed is defaulted at auto speed and it can't be adjusted.
● Under energy-saving function, set temperature can't be adjusted. Press "TURBO" button and the remote controller won't send signal.
● Sleep function and energy-saving function can't operate at the same time. If energy-saving function has been set under cooling mode, press sleep button will cancel energy-saving function. If sleep function has been set under cooling mode, start up the energy-saving function will cancel sleep function.

2. 8℃ heating function

Under heating mode, press "TEMP" and "CLOCK" buttons simultaneously to start up or turn off 8℃ heating function. When this function is started up, " $ " and "8℃ " will be shown on remote controller, and the air conditioner keep the heating status at 8℃ . Press "TEMP" and "CLOCK" buttons simultaneously again to exit 8℃ heating function.

Note:

● Under 8℃ heating function, fan speed is defaulted at auto speed and it can't be adjusted.
● Under 8℃ heating function, set temperature can't be adjusted. Press "TURBO" button and the remote controller won't send signal.
● Sleep function and 8℃ heating function can't operate at the same time. If 8℃ heating function has been set under cooling mode, press sleep button will cancel 8℃ heating function. If sleep function has been set under cooling mode, start up the 8℃ heating function will cancel sleep function.
● Under ℉ temperature display, the remote controller will display 46 ℉ heating.

3. Child lock function

Press " ▲ " and " " simultaneously to turn on or turn off child lock function. When child lock function is on, "  " icon is displayed on remote controller. If you operate the remote controller, the "  " icon will blink three times without sending signal to the unit.

4. Temperature display switchover function

Under OFF status, press " ▼ " and "MODE" buttons simultaneously to switch temperature display between ℃ and ℉ .

5. WIFI fuction

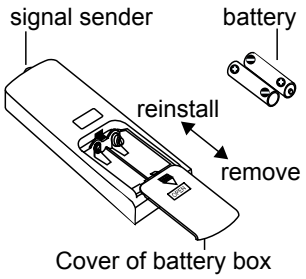
Press "MODE" and "TURBO" button simultaneously to turn on or turn off WIFI function. When WIFI function is turned on, the " **WiFi**" icon will be displayed on remote controller; Long press "MODE" and "TURBO" buttons simultaneously for 10s, remote controller will send WIFI reset code and then the WIFI function will be turned on. **WiFi** function is defaulted ON after energization of the remote controller.
● This function is only available for some models.

Operation guide

1. After putting through the power, press "ON/OFF" button on remote controller to turn on the air conditioner.
2. Press "MODE" button to select your required mode: AUTO, COOL, DRY, FAN, HEAT.
3. Press " ▲ " or " ▼ " button to set your required temperature. (Temperature can't be adjusted under auto mode).
4. Press "FAN" button to set your required fan speed: auto, low, medium and high speed.
5. Press "SWING" button to select fan blowing angle.

Replacement of batteries in remote controller

1. Press the back side of remote controller marked with " OPEN ", as shown in the fig, and then push out the cover of battery box along the arrow direction.
2. Replace two 7# (AAA 1.5V) dry batteries, and make sure the position of "+" polar and "-" polar are correct.
3. Reinstall the cover of battery box.



Note:

● During operation, point the remote control signal sender at the receiving window on indoor unit.

● The distance between signal sender and receiving window should be no more than 8m, and there should be no obstacles between them.

● Signal may be interfered easily in the room where there is fluorescent lamp or wireless telephone; remote controller should be close to indoor unit during operation.

● Replace new batteries of the same model when replacement is required.

● When you don't use remote controller for a long time, please take out the batteries.

● If the display on remote controller is fuzzy or there's no display, please replace batteries.

6.2 Operation of Smart Control (Smart Phone, Tablet PC) For Gree

Operation Instructions

Download and install APP

Scan the following QR code with your smart phone and download Wifi Smart.

Install the APP according to its guidance. When successfully installed, your smart phone homepage will show this icon

User of IOS system can search for the Gree Smart in Apple store to download the Apple version APP.

Configuration

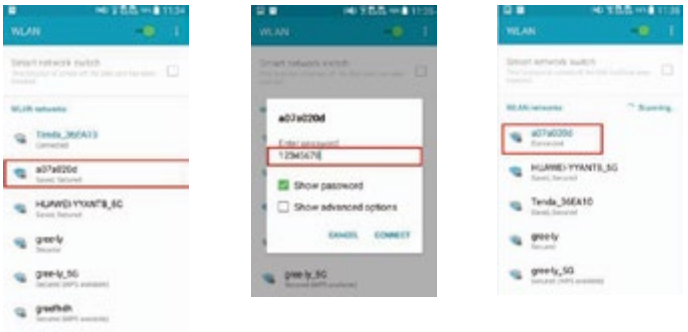
NOTE: Select either the original configuration or AP configuration according to the APP functions.

1.Original configuration

Before operation, please finish the following configuration in order to realize Wifi control and the connection between air conditioner and intelligent device.

(1).Short-distance control setting for air conditioner using Wifi hotspot

Step 1: Air conditioner Wifi is set in AP mode in factory. You can search the air conditioner Wifi hotspot through your smart phone. The name of Wifi hotspot is the last 8 numbers of the air conditioner mac address. Password is 12345678.



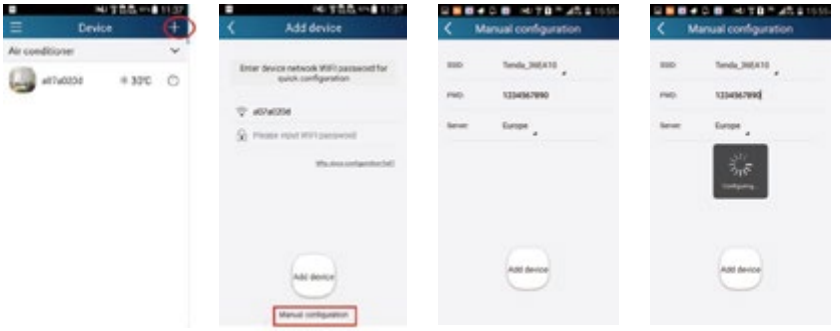
Step 2: Open APP and the screen will show the air conditioner that you just connected. Tap the name of this air conditioner on your phone to enter and realize short-distance control, as shown below. Please refer to "Functions introduction" for specific control methods.

NOTE:One AC can be controlled by 4 smart phones in maximum at the same time.

(2).Short-distance and long-distance control setting for air conditioner connecting with router

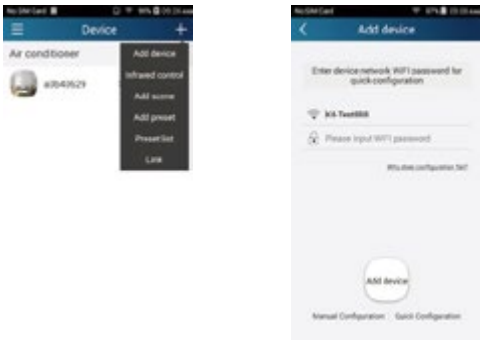
Step 1: Under short-distance control, return to the homepage "Home Control". Tap + at the top right corner of the homepage "Device".

Select "Add device" and enter the page of "Add device". Tap "Manual configuration" and enter the page "Manual configuration".
Step 2: Select the correct network name and enter the password. Select the server (The server setting here must keep the same as the server setting in "Settings" mentioned below. Otherwise, remote control will fail.), then tap the button "Add device" for configuration. At this time, "Configuring" is displayed on the APP. The buzzer in the indoor unit will give out a sound when configuration succeeds.



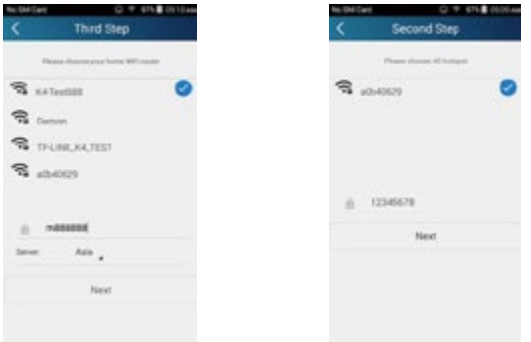
2.AP configuration

4 steps of configuration
Step 1: Enter homepage "Device", and then tap + at the top right corner.
Select "Add device" and enter the page "Add device". Tap "Manual Configuration".

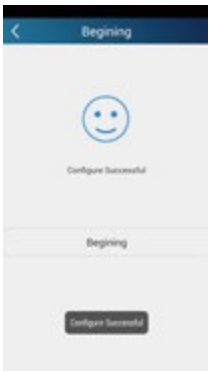


Step 2: Tap "Next" in the First Step.

Step 3: Select the wireless network of air conditioner. APP will show the password 12345678 (default password of the network of air conditioner). Then tap "Next"; select the name of home Wifi router, then enter the correct password and select a server.



Step 4: If configuration is successful, a window will pop up and read "Configuration succeeded". Then configuration is completed.



NOTE: After configuration is completed, the air conditioner hot spot connected to your phone will disAPPear. You should reconnect your phone to the home Wifi router to realize long-distance control.
The above configuration only needs one phone. Other types of phones shall install this APP, connect with the air conditioner hot spot or wireless router of Wifi air conditioner. When connection is done, open the APP to use short-distance operation to control the air conditioner and then you can use the long-distance control.

Functions introduction

1.User registration

Purpose: To realize long-distance control

Operation instruction: For the first time login, you have to register a new username. If you already have a username, skip the registration step and enter email address and password on the "Login Page" to log in. If password is forgotton, you can reset the password.

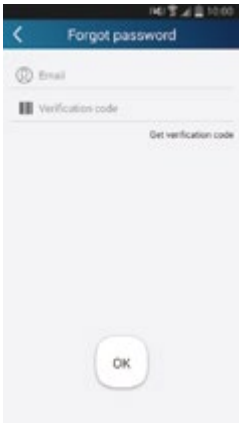
Operation steps:

(1) Select the sever address

(2) Account login: Slide the page "Device", and enter the page "Menu" on the left. Tap "Login" to enter the page "Register username". New user must first register a username. Tap "Register".

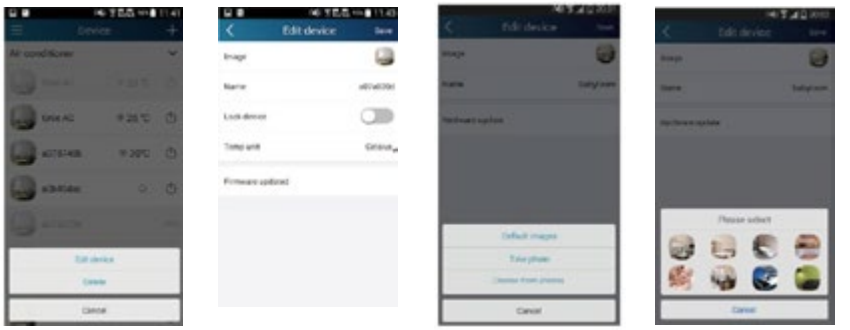
(3) Enter your email address. Wait until you receive the verification code. Enter the code and then tap "OK" to log in.

(4) If password is forgotten, you can reset the password with your email address.
Tap "Forgot password" and enter the page "Forgot password". Tap "Get verification code" to get an email verification code. Enter a new password and tap "OK" to log in.

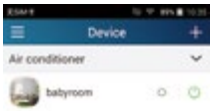


2.Personal settings
Purpose: Set name (device name, preset name, etc.) and images (device image) in order to identify a user easily.
(1) Set device name
After quick configuration, a list of controllable smart devices will be generated. Default name for air conditioner is the last 8 numbers of the air condtioner mac address.

Step 1: Tap and hold "a0b417ac" to enter the page "Edit device". Tap "Image" to select the source of image. Select from "Default images" or "Take photo" or "Choose from photos" and save an image.



Step 2: Tap "Name" to change device name. Save it and the new device name will be shown. Enable button "Lock device" to lock the device so that other smart phones can't search the device. Tap "Temp unit" to change the temperature unit.

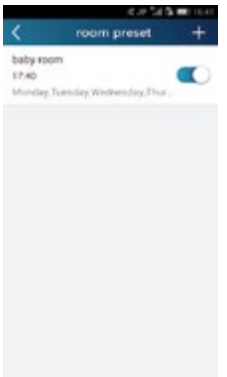


Step 3: Tap "Firmware update" to upgrade the firmware of the device. Tap"1.8" and then the device will be updated automatically.

(2) Set preset name

Step 1: Tap + at the top right corner of the homepage "Device". Select "Add preset" and enter the page "Preset edit".

Step 2: Choose the time. Tap "Name". As shown in the picture, its name is "baby room". For timer type, select "On". Then select the repeating days. Save the setting of preset name.



(3) Set device image

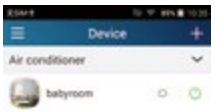
Please refer to step 1 in 2(1)

3.Control functions

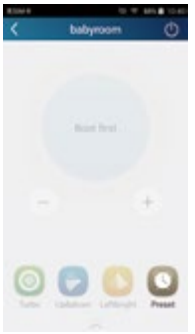
(1) Common control functions: General control on the operation of smart devices (On/Off, temperature, fan speed, mode, etc.) and the setting of advanced functions (air exchange, dry, health, light, sleep, energy saving upper limit).

Step 1: General control

Enter the homepage "Home control" first. Take "babyroom"as an example.

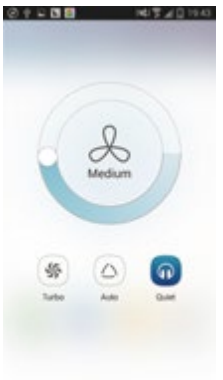


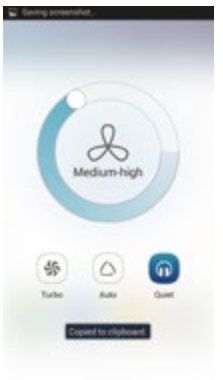
Tap "babyroom" and enter the page of air conditioner control. Tap ⏻ to turn on the control switch.



Tap + or − to increase or decrease temperature. Tap Cool to change working mode. Tap Turbo to enter the page of fan speed adjustment.

Tap and go around the circle to adjust fan speed.





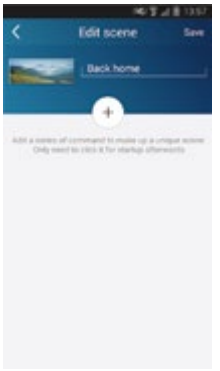
Step 2: Advanced settings

Tap to enter advanced settings. You may select "Air", "Dry", "Health", "Light", "Sleep" or "Energy saving".

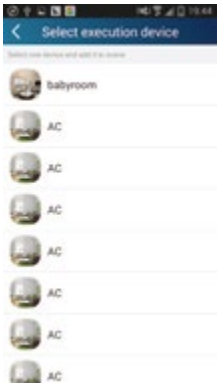
(2) Advanced control functions: Set scene; Preset; Link; Infrared control (only APPlicable to smart phones with infrared emitter)

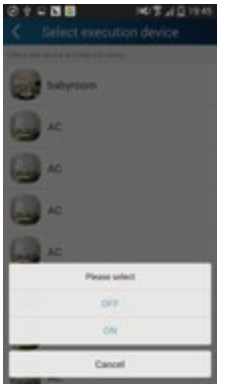
Set scene: Preset the operation of several smart devices by one tap.

On the page "Home control", tap the image of "Home control" to enter the page "Edit scene".

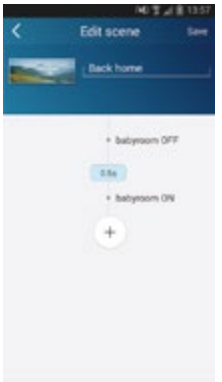


Tap "Add scene" and edit the scene name, for example, "Back home". Add execution devices.
Tap  to add commands. On the page "Select execution device", select the air conditioner named "babyroom". Then select "ON" or "OFF".

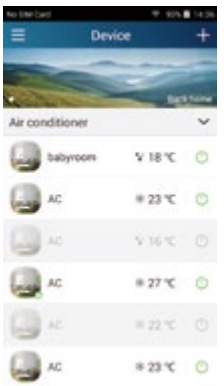


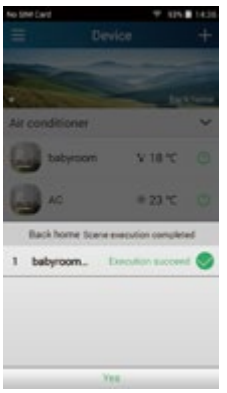


Continue to select the next execution device as instructed above. Tap to set the interval.

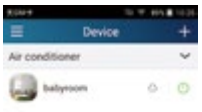


Tap "Save". Tap the scene picture displayed on homepage "Device" to send the command. Then the scene "Back home" will be in execution. You may view the execution condition of the scene.

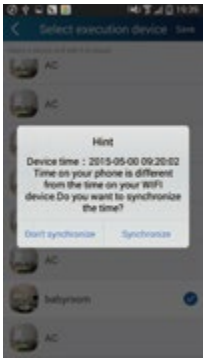




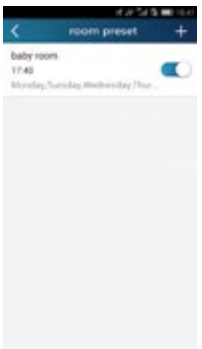
(3) Preset includes single-device preset and multi-device preset
Single-device preset: This can preset a certain device to be On/Off at a specific time.
On the homepage "Device", take air conditioner "babyroom" as an example. Tap  at the bottom of the page "babyroom". Then you will enter the page "Preset edit".



Slide up and down to set the time. If you need to synchronize the time, tap " synchronize". If such "Hint" interface doesn't show up, please skip this operation step.



Tap "Name" to customize the preset name.
Preset device can’t be selected and it will default to "babyroom". Select "On" for the timer type. Select repeating days to complete the preset.



Multi-device preset: This can preset multiple devices to execute a command at a specific time.
Please refer to the instructions as how to set preset time, name, timer type and repeating days for a single device.
Tap "Preset device" to select one or more devices. Then return to the page "Device".

(4) Link(This function is APPlicable to some models)

Select a master device. When the environment satisfies the parameters as set in the master device, slave devices will execute commands to realize devices linkage.

Step 1: Set the parameters of master device (Select master device, select environment parameters, select master device status).

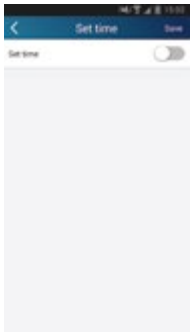
Tap + at the top right corner of the homepage "Device". Select "Link" and enter the page "Add linkage". Tap "Device/Param" to enter the page "Select device". Take "baby room" as an example. Tap "babyroom".

Enter the page "Select environment parameters".

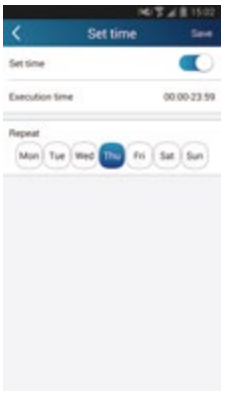
Tap "Temperature" to enter the page "Select temperature parameter". Slide up or down to adjust temperature. Tap "Upper limit" or "Lower limit".

Tap "Mode" and "On/Off" to select the status of master device. Then tap "Save".

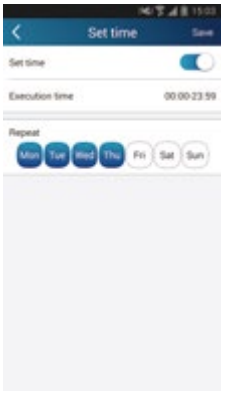
Step 2: Set time parameter for linkage. Tap "Time parameter" to enter the page "Set time". Slide rightwards to turn on the setting time.



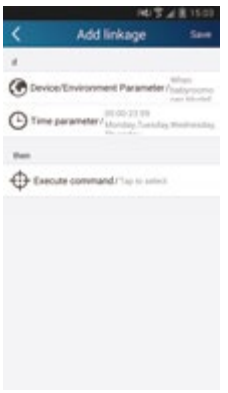
Tap "Execution time"; then tap "Start" and "Stop" to set start time and stop time respectively. Tap "OK" at the top right corner to save the setting.



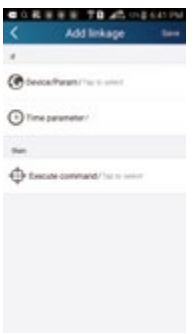
Tap the days below "Repeat" to select the repeating days. Then tap "Save".



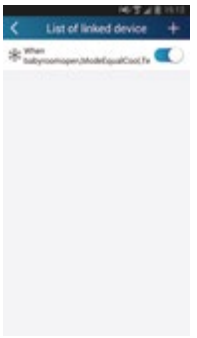
Step 3: Select "Execute command"
Tap "Execute command" and enter the page "Select device".



Tap the name of device that you want to control. Tap "ON" or "OFF" and then tap "Save" to complete the linkage.



Tap "Save" and then repeat the above steps to set linkage of several scenes.

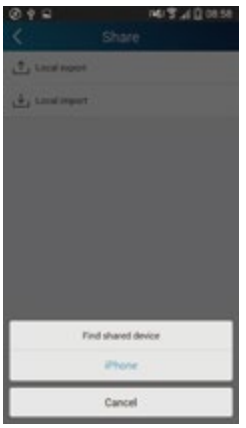


(5) Infrared control (only APPlicable to smart phones with infrared emitter).
Function: Smart phone can be used as a remote controller.
Tap + at the top right corner of the homepage "Device". Select "Infrared" and enter the page "Remote controller". Tap ^ and slide up to enter the page of advanced functions.

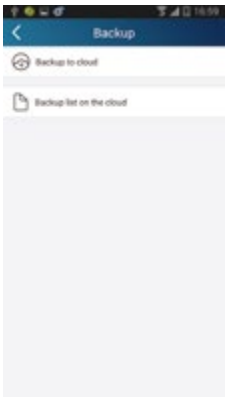
Tap ⏻ to turn on the device. Tap Mode to select mode. Tap ◎ to adjust fan speed and swing angle. Tap "Health", "Energy saving", "Sleep" etc. to set advanced functions.
Tap "Sleep" to enter the page "Sleep". You can select "Traditional sleep", "Expert sleep" or "DIY sleep". Tap "DIY sleep" and then tap the left and right arrows to set sleep time. Tap up and down arrows to adjust temperature at a specific sleep time.

4.Menu functions
Menu functions (Share, Set, History, Feedback)
(1) Share: To share quick configuration information and unit's information, including local export and local import.
For local import, you just need to tap "Local import" and wait for the data download.
Local export
Step 1: Export local data to another smart phone.
Enter "Menu" on the left side and tap "Share" to enter the page "Share". Then tap "Local export".

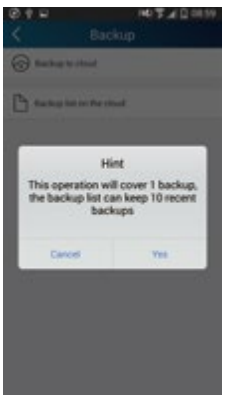
Step 2: Another smart phone to be imported.
Tap the model name and wait for the download.



(2) Backup: To keep backup of the quick configuration information and unit's information, including backup to cloud and backup list on the cloud.
Backup to cloud
Enter the "Menu" on the left and tap "Backup".



Tap "Backup to cloud" and then tap "Yes". Then wait for the data download.

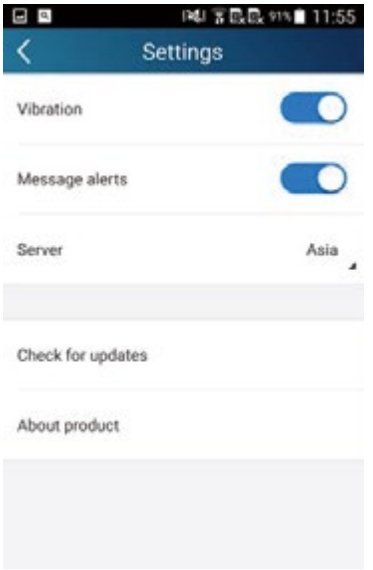


Select "Backup list on the cloud". Then backup records will APPear. Tap "Record" to download data and recover data to local unit.

(3) Settings

User can set vibration, message alerts, server, updates, etc. The server setting here must be the same as the server setting in "Configuration" mentioned before.

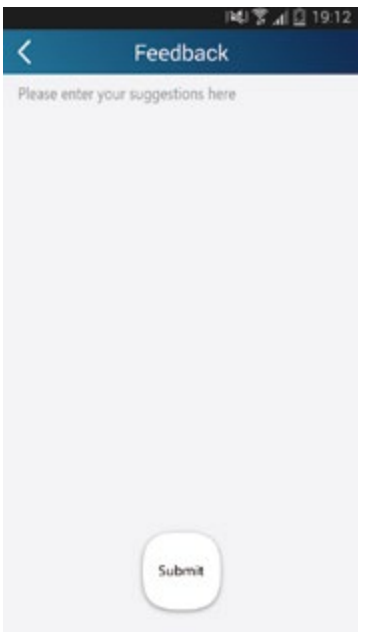
Otherwise, remote control will be invalid.



(4) Feedback

User can feedback suggestions to back-stage management for maintenance and development.

Tap "Feedback". Enter your suggestions and then submit it.



6.3 Operation of Smart Control (Smart Phone, Tablet PC)

Operation Instructions

Download and install APP

Scan the following QR code with your smart phone and download Wifi Smart.

Install the APP according to its guidance. When successfully installed, your smart phone homepage will show this icon 

User of IOS system can search for the Wifi Smart in Apple store to download the Apple version APP. Android user can search "WiFi Smart" on Google Play to download it.

Configuration

NOTE: Select either the original configuration or AP configuration according to the APP functions.

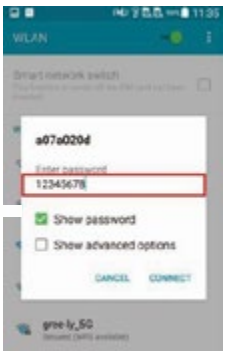
1.Original configuration

Before operation, please finish the following configuration in order to realize Wifi control and the connection between air conditioner and intelligent device.

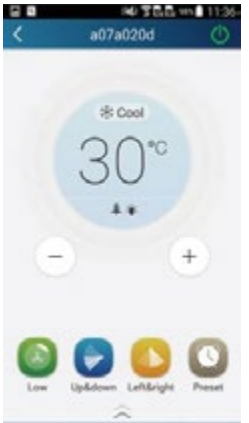
(1).Short-distance control setting for air conditioner using wifi hotspot

Step 1: Air conditioner wifi is set in APP mode in factory.

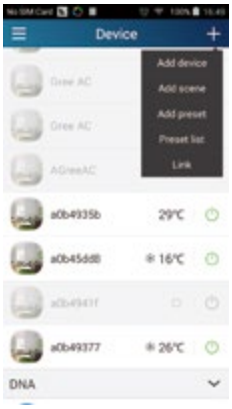
You can search the air conditioner wifi hotspot through your smart phone.The name of wifi hotspot is the last 8 numbers of the air conditioner mac address. Password is 12345678.



Step 2: Open APP and the screen will show the air conditioner that you just connected. Tap the name of this air conditioner on your phone to enter and realize short-distance control, as shown below. Please refer to "Functions introduction" for specific control methods.

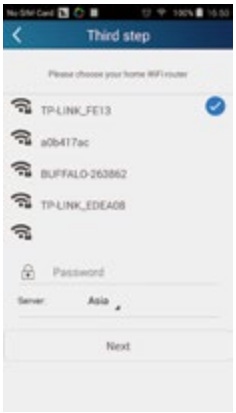


2.Configuration method for Android phones
4 steps of configuration
Step 1: Enter homepage "Device", and then tap + at the top right corner.
Select "Add device" and enter the page "Add device".
Tap "Manual configuration" and enter the page "Manual configuration".



Step 2: Tap "Next" in the First Step.

Step 3: Select the wireless network of air conditioner. APP will show the password 12345678 (default password of the network of air conditioner). Then tap "Next"; select the name of home WiFi router, then enter the correct password and select a server.

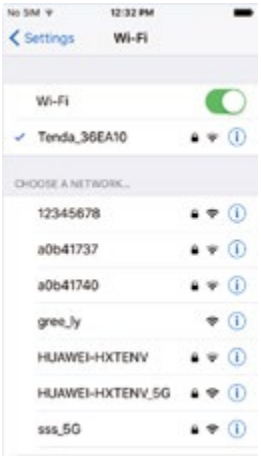


Step 4: If configuration is successful, a window will pop up and read “WIFI module starts to connect the configured wireless router”.Then configuration is completed.

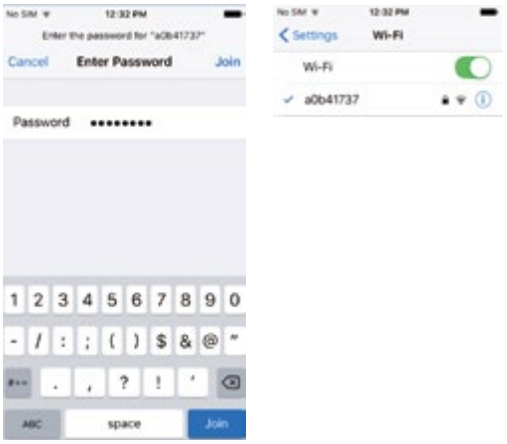
NOTE: After configuration is completed, the air conditioner hot spot connected to your phone will disappear. You should reconnect your phone to the home WiFi router to realize long-distance control.The above configuration only needs onephone. Other types of phones shall install this APP, connect with the air conditioner hot spot or wireless router of WiFi air conditioner. When connection is done, open the APP to use short-distance operation to control the air conditioner and then you can use the long-distance control.

3.Configuration method for Apple phones

Step 1: Turn on Wi-Fi “Settings” on the phone.



Step 2: In general, the hot spot signal of air conditioner is the last 8 bits of MAC address. Eg: Select “a0b41737” and enter the defaulted password “12345678” to connect it.



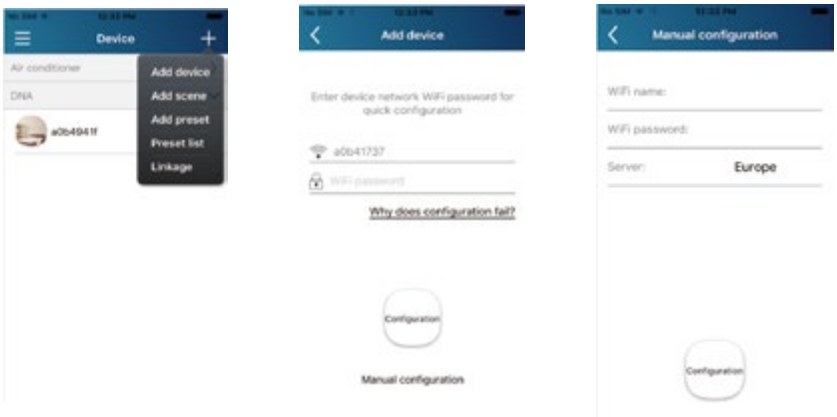
Step 3: Turn on APP, press “+” button, press “Add device” to enter into the page of “Add device” and then select “Manual configuration”. Enter wireless router’s SSID and PSW on the page of “Manual configuration”. The display on the server will be the same as the selection when registering the account (server selection in “Setting”).

Eg: WiFi name: Tenda_XXX;

WiFi password:123456789

Server: Europe

Check whether the filled information is correct. If the information is wrong, configuration will fail. Press “Configuration” to start configuration.



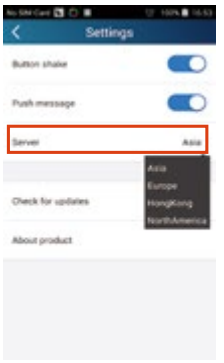
Notice:

- Finally, press “Configuration”, and APP will send the filled information to Wifi Smart. At this time, the buzzer will give out a sound, which indicates it has started to connect the wireless router.

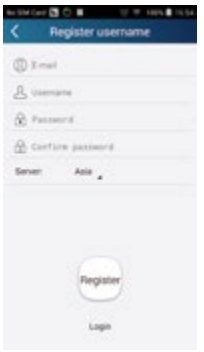
- If the name of router or the password is wrong, Wifi Smart can't connect to the wireless router. 2 mins later, please conduct the configuration operation again. Reset Wi-Fi adaptor by pointing you remote at the indoor unit and holding the mode and Turbo buttons on your remote control for 10 seconds and until you hear the beep.
- Wrong server selection will cause long-distance control invalid. Therefore, please make sure thatthe server selection when registering the account is the same as this one.
- If the password is blank, no password is defaulted for the wireless router, which is the OPEN mode.
- Configuration should be conducted at one time. As for other phones, they can automatically search for the device after connecting to the wireless router (such as Tenda_XXX) and turning on the APP.

Functions introduction

1.User registration
Purpose: To realize long-distance control.
Operation instruction: For the first time login, you have to register a new username. If you already have a username, skip the registration step and enter email address and password on the "Login Page" to log in. If password is forgotton, you can reset the password.
Operation steps:
(1) Select the sever address.



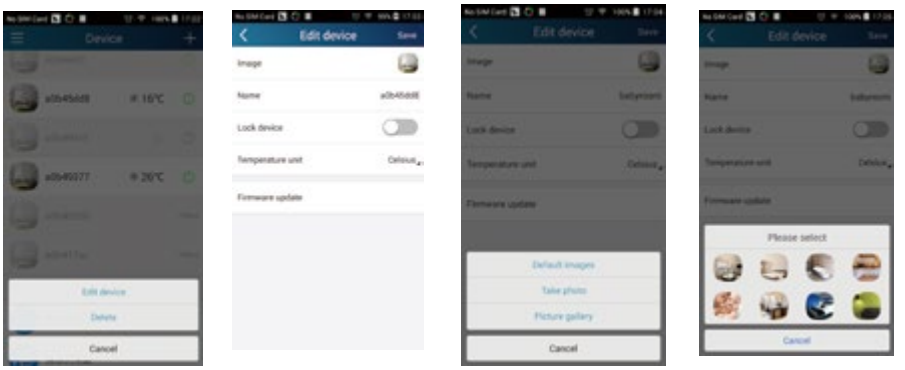
(2) Account login: Slide the page "Device", and enter the menu page on the left.Tap "Login" to enter the page "Register username". New user must first register a username. Tap "Register".



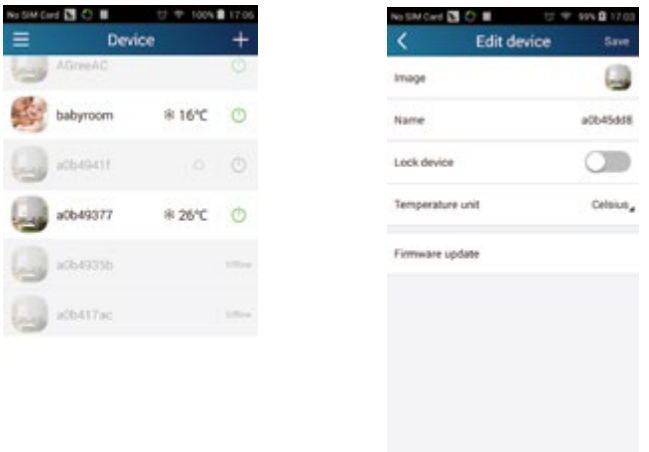
(3) If password is forgotten, you can reset the password with your email address.
Tap "Forgot password" and enter the page "Forgot password". Enter your registered email account the first. Tap "Get verification code" to get an email verification code. Enter a new password and tap "OK" to log in.

2.Personal settings
Purpose: Set name (device name, preset name, etc.) and images (device image) in order to identify a user easily.
(1) Set device name
After quick configuration, a list of controllable smart devices will be generated. Default name for air conditioner is the last 8 numbers of the air condtioner mac address.

Step 1: Tap and hold the Wifi model name, such as “a0b417ac”, to enter the page "Edit device". Tap "Image" to select the source of image. Select from "Default images " or " Take photo" or "Choose from photos" and save an image.



Step 2: Tap "Name" to change device name. Save it and the new device name will be shown. Enable button "Lock device"to lock the device so that other smart phones can’t search the device. Tap "Temperature unit" to change the temperature unit.

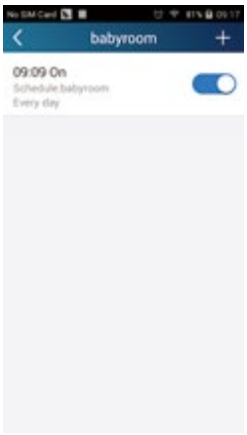


Notice: If this device is not locked, other phones within the local area network can be found through wifi smart APP and operate the device.
Step 3: Tap "Firmware update" to upgrade the firmware of the device. Tap"1.7" and then the device will be updated automatically.

(2) Set preset name

Step 1: Tap + at the top right corner of the homepage "Device". Select "Add preset" and enter the page "Preset edit".

Step 2: Choose the time. Tap "Name". As shown in the picture, its name is "baby room". For timer type, select "On". Then select the repeating days. Save the setting of preset name.



(3) Set device image

Please refer to step 1 in 2(1)

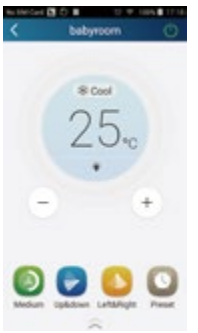
3.Control functions

(1) Common control functions: General control on the operation of smart devices (On/Off, temperature, fan speed, mode, etc.) and the setting of advanced functions (air exchange, dry, health, light, sleep, energy saving upper limit).

Step 1: General control

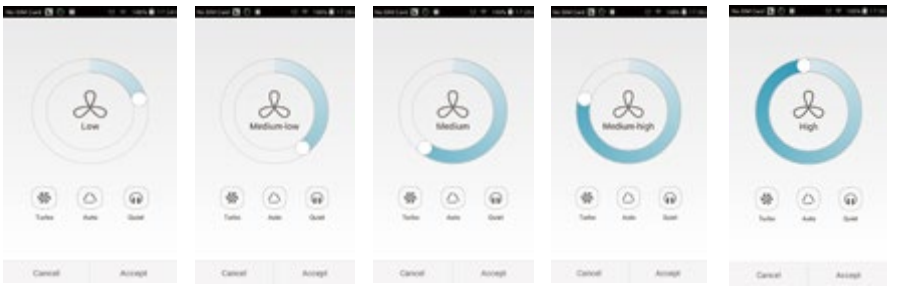
Enter the homepage "Device" first. Take "babyroom" as an example.

Tap "babyroom" and enter the page of air conditioner control. Tap to turn on the control switch.



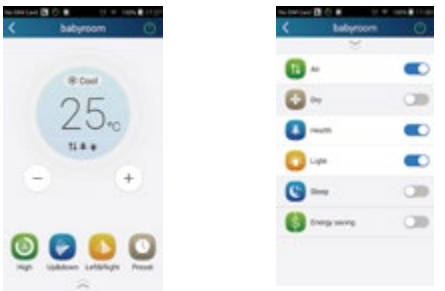
Tap or to increase or decrease temperature. Tap to Cool change working mode. Tap to enter the page of fan speed adjustment.

Tap and go around the circle to adjust fan speed.



Step 2: Advanced settings

Tap to enter advanced settings. You may select "Air", "Dry", "Health", "Light", "Sleep" or "Energy saving".

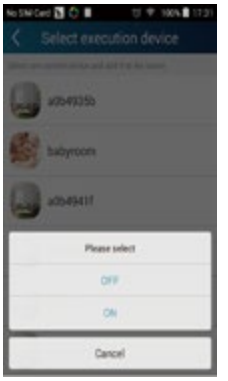


(2) Advanced control functions; Set scene; Preset; Link: Infrared control(only applicable to smart phones with infrared emitter)

Set scene: Preset the operation of several smart devices by one tap. On the page "Device", tap the image of "Device" to enter the page "Edit scene".

Tap "Add scene" and edit the scene name, for example, "Back home". Add execution devices.

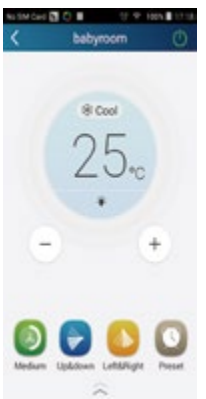
Tap to add commands. On the page "Select execution device", select the air conditioner named "babyroom". Then select "ON" or "OFF".



Continue to select the next execution device as instructed above. Tap 0.5s to set the interval.

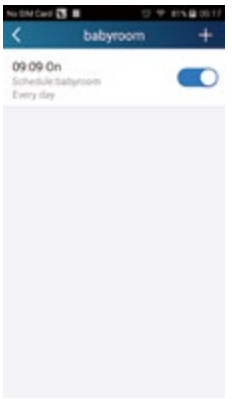
Tap "Save". Tap the scene picture displayed on homepage "Device" to send the command. Then the scene "Back home" will be in execution. You may view the execution condition of the scene.

(3) Preset includes single-device preset and multi-device preset
Single-device preset: This can preset a certain device to be On/Off at a specific time.
On the homepage "Device", take air conditioner "babyroom" as an example. Tap Preset at the bottom of the page "babyroom". Then you will enter the page "Preset edit".



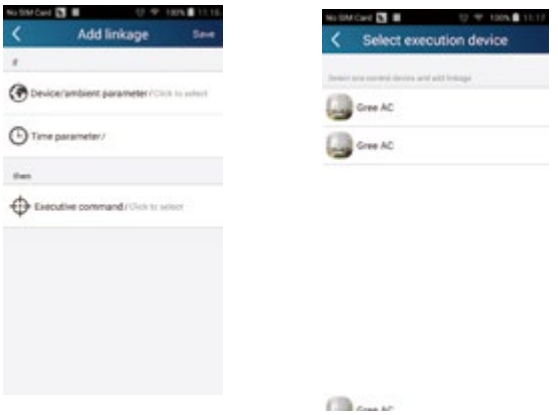
Slide up and down to set the time. If you need to synchronize the time, tap " synchronize". If such "Hint" interface doesn't show up, please skip this operation step.

Tap "Name" to customize the preset name.
Preset device can't be selected and it will default to "babyroom". Select "On" for the timer type. Select repeating days to complete the preset.



Multi-device preset: This can preset multiple devices to execute a command at a specific time.
Please refer to the instructions as how to set preset time, name, timer type and repeating days for a single device.
Tap "Preset device" to select one or more devices. Then return to the page "Device".

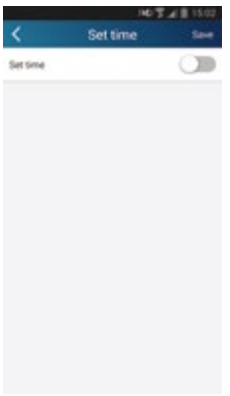
(4) Link(This function is applicable to some models)
Select a master device. When the environment satisfies the parameters as set in the master device, slave devices will execute commands to realize devices linkage.
Step 1: Set the parameters of master device (Select master device, select environment parameters, select master device status).
Tap + at the top right corner of the homepage "Device". Select "Link" and enter the page "Add linkage". Tap "Device/Param" to enter the page "Select device". Take "baby room" as an example. Tap "babyroom".



Enter the page "Select environment parameters".

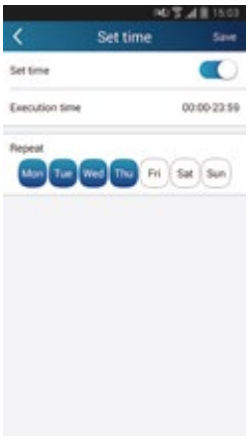
Tap "Temperature" to enter the page "Select temperature parameter". Slide up or down to adjust temperature. Tap "Upper limit" or "Lower limit".
Tap "Mode" and "On/Off" to select the status of master device. Then tap "Save".

Step 2: Set time parameter for linkage. Tap "Time parameter" to enter the page "Set time". Slide rightwards to turn on the setting time.



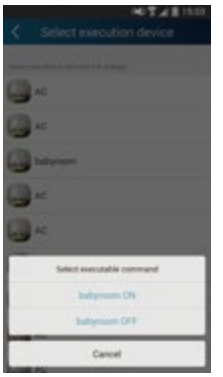
Tap "Execution time"; then tap "Start" and "Stop" to set start time and stop time respectively. Tap "OK" at the top right corner to save the setting.

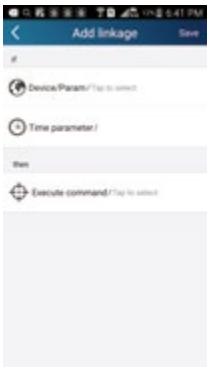
Tap the days below "Repeat" to select the repeating days. Then tap "Save".



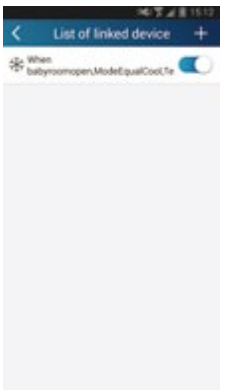
Step 3: Select "Execute command" Tap "Execute command" and enter the page "Select device".

Tap the name of device that you want to control. Tap "ON" or "OFF" and then tap "Save" to complete the linkage.





Tap "Save" and then repeat the above steps to set linkage of several scenes.



4.Menu functions

Menu functions (Share, Set, History, Feedback)

(1) Share: To share quick configuration information and unit's information, including local export and local import.

For local import, you just need to tap "Local import" and wait for the data download.

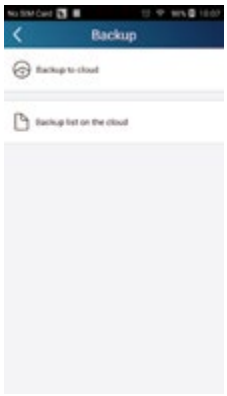
Local export

Step 1: Export local data to another smart phone.

Enter menu page on the left side and tap "Share" to enter the page "Share". Then tap "Local export".

Step 2: Another smart phone to be imported.
Tap the model name and wait for the download.

Notice:
This function requires that the two phones are of the same operating system. They are either Android phones or Apple phones,and are connecting to the same wireless router.
(2) Backup: To keep backup of the quick configuration information and unit's information, including backup to cloud and backup list on the cloud.
Backup to cloud
Enter the menu page on the left and tap "Backup".



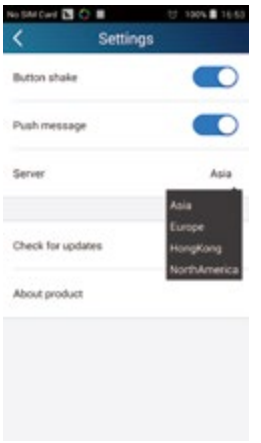
Tap "Backup to cloud" and then tap "Yes". Then wait for the data download.

Select "Backup list on the cloud". Then backup records will appear. Tap "Record" to download data and recover data to local unit.

(3) Settings

User can set vibration, message alerts, server, updates, etc. The server setting here must be the same as the server setting in "Configuration" mentioned before.

Otherwise, remote control will be invalid.



(4) Help

Please refer to “Help” of APP for the instruction of the latest functions.

6.4 Brief Description of Modes and Functions

● Indoor Unit

1.Temperature Parameters

Indoor preset temperature (Tpreset)

Indoor ambient temperature (Tamb.)

2.Basic functions (The temperature in this manual is expressed by Centigrade. If Fahrenheit is used, the switchover between them Tf=TcX1.8+32.)

Once the compressor is energized, there should be a minimum interval of 3 minutes between two start-ups. But if the unit is de-energized and then energized, the compressor can restart within 3 minutes.

(1)Cooling mode

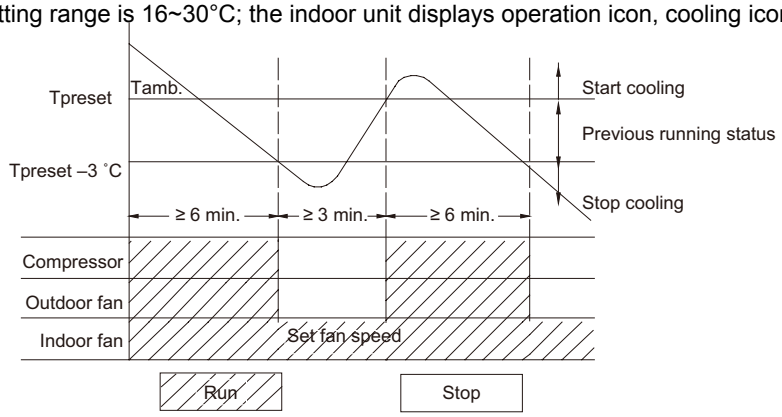
① Cooling conditions and process

When Tamb. ≥Tpreset, the unit starts cooling operation. In this case, the compressor and the outdoor fan operate and the indoor fan operates at set speed.

When Tamb. ≤Tpreset-3°C, the compressor and the outdoor fan stop while the indoor fan runs at set speed.

When Tpreset-3°C<Tamb.<Tpreset, the unit will maintain its previous running status.

In cooling mode, temperature setting range is 16~30°C; the indoor unit displays operation icon, cooling icon and set temperature.



② When outdoor unit has malfunction or stops for protection, indoor unit will keep previous operation status and display malfunction code.

③ The protection status is as the same as the cooling mode.

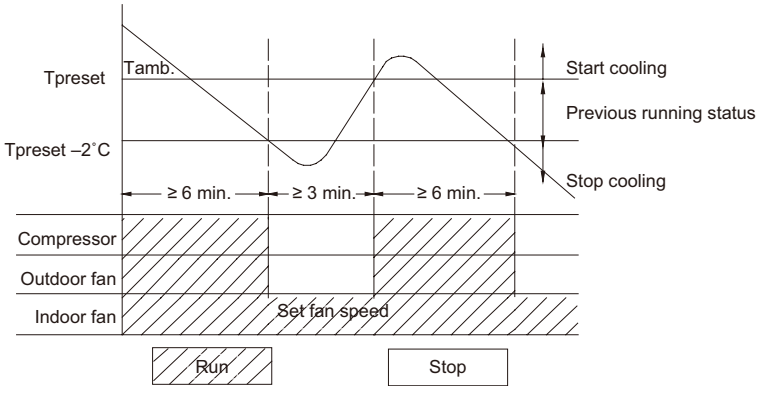
(2)Dry Mode

When Tamb.>Tpreset, the unit operates in cooling mode. Meanwhile, compressor and outdoor fan operate, and indoor fan operates at set fan speed (low fan speed, quiet fan speed or auto quiet fan speed).

When Tpreset-2°C<Tamb. ≤Tpreset, the unit keeps previous operation status.

When Tamb.≤Tpreset-2°C, compressor, outdoor fan and indoor fan operate at set fan speed (low fan speed, quiet fan speed or auto quiet fan speed).

Under this mode, the temperature setting range is 16~30°C. Display displays operation icon, drying icon and set temperature.



(3)Heating mode (not available for cooling only type)

① Heating conditions and process

When Tamb. ≤Tpreset+2°C, the unit starts heating operation. In this case, compressor and outdoor fan operate simultaneously; the indoor fan operates at cold-air prevention mode.

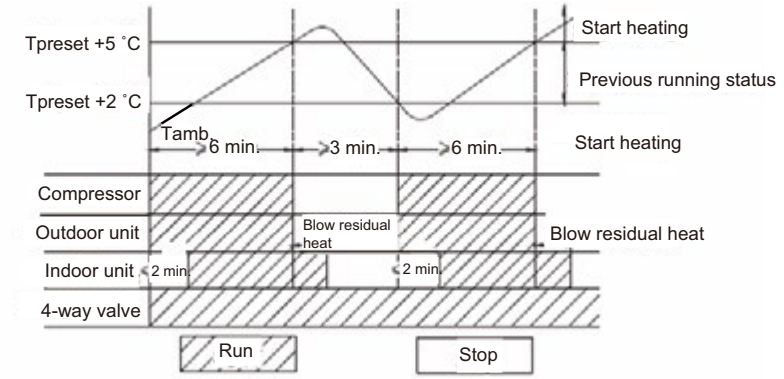
When Tamb.≥Tpreset+5°C, the compressor and outdoor fan stop operation; the indoor fan blows residual heat.

When Tpreset+2°C<Tamb.<Tpreset +5°C, the unit will maintain its previous running status.

Under this mode, temperature setting range is 16~30°C; the indoor unit displays operation icon, heating icon and set temperature.

② Defrosting and Oil Return

When receiving the signal of defrosting and oil return, the horizontal louver(big one) will rotate to the position where the angle is



minimum and the other horizontal louver(small one) will close. In 10 seconds later, indoor fan will stop operation. During defrosting, oil return and 5 minutes after quit, all indoor pipe temperature sensors will not be detected. When receiving oil return signal or defrosting signal sent by outdoor unit, Heating indicator on indoor unit is off for 0.5s and then blinks for 10s.

③ Blow residual heat

In heating mode, when temperature reaches the set temperature, the compressor and outdoor fan will stop.

The horizontal louver (big one) will rotate to the default position for cooling and the other one (small one) will close. Indoor unit will operate at set speed for 60s and then stop operation.

When the unit is in heating mode or auto heating mode, and also the compressor and indoor fan are operating, if turning off the unit,compressor and outdoor fan will stop. Horizontal louver (big one) will rotate to the position where gentle wind is blown out (default position for cooling) and the other horizontal louver (small one) will close. Indoor unit will operate at low speed for 10 seconds and then the unit will be turned off.

(4)Fan Mode

In this mode, indoor fan operates at set speed while compressor and outdoor fan stop operation. The set temperature range is 16~30°C. Operation icon and set temperature are displayed.

(5)Auto Mode

In this mode, operation mode (Cool, Heat, Fan) will be automatically selected according to change of ambient temperature. Operation icon, actual operation icon and set temperature will be displayed. There is 30s delay for protection when changing mode. The protection function is as the same as that under each mode.

① When Tamb.≥26°C the unit will operate at cooling mode, the default set temperature is 25°C.

② When Tamb. ≤21°C the unit will operate at heating mode, the default set temperature is 20°C if the cooling only unit operates at fan mode, the default set temperature is 25°C;

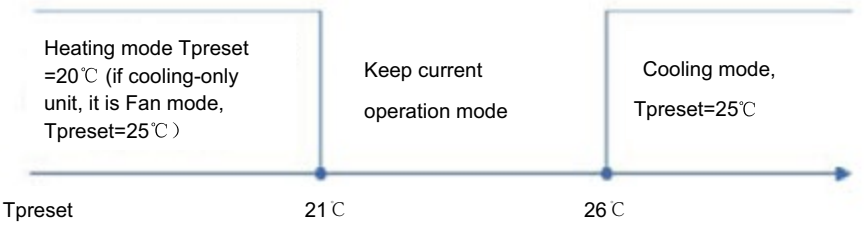
③ When 22°C≤Tamb.≤25°C and the unit is turned on for the first time, if it changes to auto mode from other mode, the previous operation mode will be maintained; If it changes to auto mode from dry mode, the unit will operate at fan mode.

④ When the unit operates at auto mode, the frequency of compressor is as the same as that under cooling mode, while it is as the same as that under heating mode.

Protection function

A. Under cooling mode, the protection function is as the same as that under cooling mode.

B. Under heating mode, the protection function is as the same as that under heating mode.



(6) “8°C” Heating

Under heating mode, press buttons “Temp” and “Clock” simultaneously, the 8°C heating function will be activated and “cold air prevention” will be shielded.

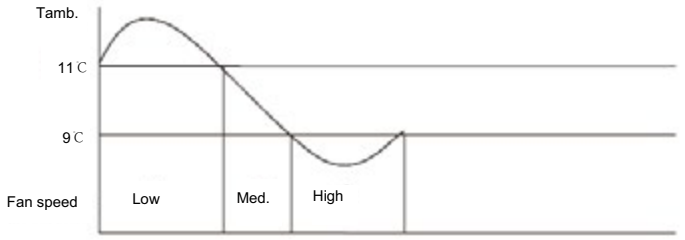
① 8°C heating can’t co-exist with sleep function. If 8°C heating function is set, it can be cancelled by pressing sleep button, In that case, the set temperature will be that before entering 8 heating; If sleep function is set, press buttons “Temp” and “Clock” simultaneously to activate 8°C function and cancel sleep function at the same time.

② Set temperature is 8°C and it is displayed on the indoor display panel.

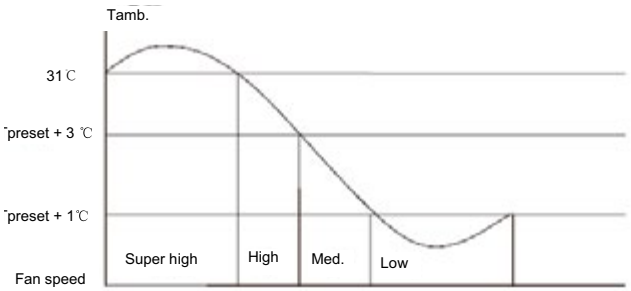
③ In this mode, TURBO can’t be set and fan speed can’t be adjusted.

④ In this mode, when compressor operates, fan speed will be adjusted as follows; when compressor stops operation, indoor unit will

operate at blowing residual heat.
When Tindoor amb. ≤9°C, indoor fan operates at high fan speed;
When 9°C ＜ Tindoor amb. ＜ 11°C, indoor fan operates at medium fan speed;
When Tindoor amb.≥11°C, indoor fan operates at low fan speed;
When changing among low high, medium, and low speeds, the minimum operation time is 210 seconds.
⑤ The unit with memory function can memorize 8°C heating mode.



(7)Energysaving Function
① In cooling mode, when receiving command of energysaving sent by remote control, the controller enters energysaving mode; If the unit is under energysaving mode already, such command will not be executed.
② When remote control is set to display set temperature, “dual 8”nixie tube displays “SE”.
③ In this mode, when compressor operates, fan speed will be adjusted according to auto fan mode under energysaving operation; when compressor stops operation, indoor fan will operate at low speed.
a. When Tamb.≥31°C, indoor fan will operate at super high speed;
b. When 31°C>Tamb.≥Tpreset+3°C, indoor fan will operate at high speed;
c. When Tpreset+1<Tamb.<Tpreset+3°C indoor fan will operate at medium speed;
d. When Tamb.≤Tpreset+1°C indoor fan will operate at low speed;
Note: The switchover among superhigh speed, high speed, medium speed and low speed requires minimum 210seconds of operation.



④ In this mode, set temperature will be automatically adjusted according to actual operation conditions.
3.Other Control
(1)Clock Timer
Timer ON
If timer ON is set during operation of the unit, the unit will continue to operate. If timer ON is set at unit OFF, upon ON time reaches the unit will start to operate according to previous setting status.
Timer OFF
If timer OFF is set at unit OFF, the system will keep standby status. If timer OFF is set at unit ON, upon OFF time reaches the unit will stop operation.
Timer Change
Although timer has been set, the unit still can be turned on/off by pressing ON/OFF button of the remote controller. You can also set the timer once again, and then the unit will operate according to the last setting.
If timer ON and timer OFF are set at the same time during operation of the unit, the unit will keep operating at current status till OFF time reaches.
If timer ON and timer OFF are set at the same time at unit OFF, the unit will keep off status till ON time reaches.
Each day in future, the system will operate according to preset mode till OFF time reaches and stop operation till ON time reaches. If ON time and OFF time are the same, OFF command will prevail.
(2)Auto Button
If this button is pressed, the unit will operate in AUTO mode and indoor fan will operate at auto speed; meanwhile, the swing motor operates. Press this button again to turn off the unit.
(3)Buzzer
Upon energization or availably operating the unit or remote controller, the buzzer will give out a beep.
(4)Sleep Function

In SLEEP mode, the unit will automatically select appropriate sleep curve to operate according to different temperature setting.

(5)Turbo Function

This function can be set in cooling or heating mode to quickly cool or heat the room.

(6)X-FAN Function

① When the unit is operating at COOL or DRY mode(it is not available under AUTO, HEAT, FAN modes), the X-FAN function can be turned on/off. When it is turned on,once pressing ON/OFF button to turn off the unit, indoor fan will continue operation at low speed for 2 minutes. Within the 2 minutes, horizontal louver will keep its previous status while cold plasma and static dedusting will be forced to be turned on and other loads will be turned off. Then the complete unit will be turned off; When X-FAN function is set to be off,once pressing ON./OFF button, the complete unit will be turned on immediately.

② During X-FAN operation, press X-FAN button, the indoor fan, horizontal louver, cold plasma and static-dedusting will be turned off immediately.

(7)Control of Indoor Fan

Indoor fan can be set by remote control within the range of Mute, Fan speed 1, Fan speed 2, Fan speed 3, Fan speed 4, Fan speed 5 and Turbo and Fan will operate at low, med. high or super high speed accordingly. And also, auto fan speed can be set. Under auto fan speed mode, indoor fan will automatically select high, med., low or mute speed according to change of ambient temperature.

① Under Auto Heat mode or regular Heat mode, auto fan speed will be as follows:

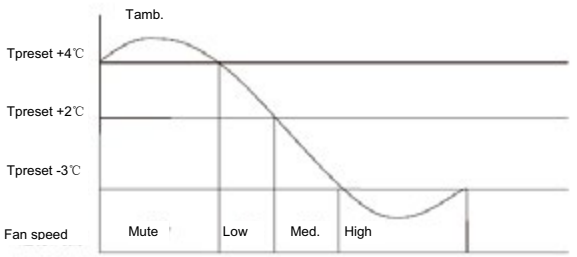
When Tamb.<Tpreset-3°C, indoor fan will operate at high speed;

When Tpreset-3°C≤Tamb.<Tpreset+2°C indoor fan will operate at med. speed;

When Tpreset+2°C≤Tamb.<Tpreset+4°C, indoor fan will operate at low fan speed;

When Tamb≥Tpreset+4°C indoor fan will operate at mute.

Control Diagram of Auto Fan Speed under HEAT Mode



② Under FAN or COOL mode: if it is auto cooling mode or regular cooling mode, auto fan speed will be as follows:

When Tamb.≥Tpreset+3°C, indoor fan will operate at high speed;

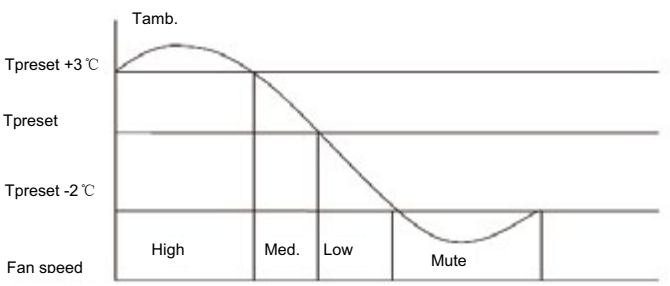
When Tpreset<Tamb.<Tpreset+3°C indoor fan will operate at med. speed;

When Tpreset-2°C<Tamb.≤Tpreset, indoor fan will operate at low speed;

When Tamb.≤Tpreset-2°C indoor fan will operate at mute;

③ There is no auto fan speed under DRY mode

Note: Fan speed “High”, “Med.” and “Low” are respectively corresponding to “Fan speed 5”, “Fan speed 3” and “Fan speed 1”. There is 210 seconds delay for fan speed switchover of auto fan.



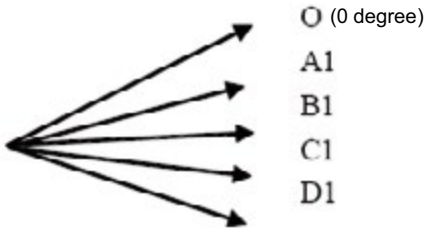
(8)Vertical Swing

① Small Horizontal Louver

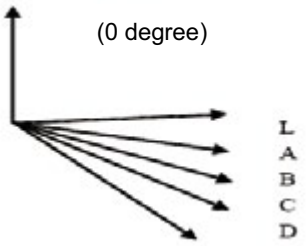
After energization, vertical swing motor will firstly have the horizontal louver rotate anticlockwise to position O to close air outlet. If swing function has not been set after startup of the unit, horizontal louver will turn clockwise to position D1 in HEAT mode. If swing function is set when starting up the unit, the horizontal louver will swing between O and D1.There are 7 swing status of horizontal louver: Positions O, A1, B1, C1 and D1, swing between O and D1 and stop at any position between L and D (angles between O and D1 are equiangular). Upon turning off the unit, the horizontal louver will close at position O. Swing function is available only when swing function is set and indoor fan is operating.

Note:

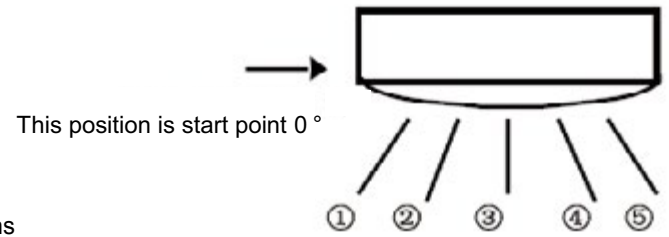
a. If the position is set between O and D1, A 1and C1 or B1 and D1 by remote controller, the horizontal louver will swing between O and D1.
b. For model 9K/12K, only when big horizontal louver rotates to the second position for heating(62°of corresponding angle), this louver will be activated. For model 18K, only when big horizontal louver rotates to the first position for heating(63°of corresponding angle), this louver will be activated,For model 24K, only when big horizontal louver rotates to the first position for heating(40°of corresponding angle), this louver will be activated.
c. Under cooling mode, this horizontal louver will be always in the position O.



② Big Horizontal Louver
After energization, up & down swing motor will firstly have the horizontal louver rotate anticlockwise to position O to close air outlet. If swing function has not been set after startup of the unit, horizontal louver will turn clockwise to position D in HEAT mode, or turn clockwise to level position L in other modes. If swing function is set when starting up the unit, the horizontal louver will swing between L and D.There are 7 swing status of horizontal louver: Positions L, A, B, C and D, swing between L and D and stop at any position between L and D (angles between L and D are equiangular). Upon turning off the unit, the horizontal louver will close at position O.
Note: If the position is set between L and B, A and C or B and D by remote controller, the horizontal louver will swing between L and D.



(9)Horizontal Swing
Upon energization, the vertical louver will be reset to the start position firstly and then stop in the middle position. When setting horizontal swing, there are 7 status: Position ① , Position ② , Position ③ , Positon ④ , Position ⑤ , swing between ① and ⑤ and stop at any position between ① and ⑤ . If setting horizontal swing during operation of the unit, the horizontal swing motor will drive the louver to swing horizontally. When cancelling horizontal swing or it is not set when turning on the unit, the louver will stop in the current.



(10)Display
① Operation and Mode Icons
Upon energization, the unit will display all icons within 3 seconds. Under standby state, LED lamp of standby is on. If the unit is turned on by remote controller, LED lamp of operation is on; meanwhile, the mark of current running mode will be displayed. If the light button is turned off, no mark will be displayed.
② Display of Nixie Tube on Indoor Unit
When energized & started for the first time, the indoor unit defaults to displaying current set temperature (16~30°C). When set temperature display is set by remote controller, it will display set temperature; when room temperature display is set, it will display room or outdoor temperature. After that, when operating the remote controller for other settings, the temperature display method will keep original. When operating the remote controller during room temperature display, the set temperature will be displayed for 5 seconds firstly and then room temperature display returns. If there is malfunction, corresponding malfunction code will be displayed. For example, if ambient temperature sensor has malfunction, “F1” will be displayed; if indoor pipe temperature has malfunction, “F2”

will be displayed; if jumper cap has malfunction, “C5” will be displayed.

(11)Memory Function

① Memory when power failure upon turning on the unit

◆ Memory content: ON status, mode, up&down swing, light, set temperature, set fan speed, general timer, Fahrenheit/ Centigrade

◆ General timer can be memorized. Timer will be recalculated from the time of energization.

◆ Clock timer can’t be memorized.

② Memory when power failure upon turning off the unit

◆ Memory content: ON status, mode, up&down swing, light, set temperature, set fan speed, general timer, Fahrenheit/ Centigrade

◆ General timer can be memorized. Timer will be recalculated from the time of energization.

◆ Clock timer can’t be memorized.

(12)I Feel function

When I FEEL command is received by controller, and also the ambient temperature is received from remote control, the controller will operate according to the ambient temperature sent by the remote controller (For cold blow prevention, the unit operates according to the ambient temperature sensed by the air conditioner). The remote controller will send ambient temperature data to the controller for every 10 minutes. When the data has not been received for 11 minutes, the unit will operate according to the temperature sensed by the air conditioner. If I FEEL function is not selected, the ambient temperature will be that sensed by the air conditioner. Ambient temperature of I FEEL displayed by controller is 1 ~59°C.

(13)Health and Cold Plasma Function

When the unit is operating, turn health or cold plasma to be ON/OFF by health button in remote control (if there is no such button in remote control, the health is on as default). Only when health or cold plasma is turned on and indoor fan is operation, such function can be activated.

(14)Static Dedusting Function

When the unit is operating, turn static dedusting ON/OFF by health button in remote control (if there is no such button in remote control, the health is on as default). Only when static dedusting is turned on and indoor fan is operation, such function can be activated.

(15)Fahrenheit Display

Nixie tube displays current set temperature. If remote signal is Fahrenheit, the temperature will be displayed in Fahrenheit. The set temperature range is 16~30°C. Under Auto mode, in COOL operation and FAN operation, 25°C will be displayed, while in HEAT operation and FAN operation, 20°C will be displayed. For cooling-only controller, only 25°C will be displayed.

(16)Locked protection to Indoor Fan Motor

If the indoor fan motor keeps low rotation speed for a continuous period of time after startup, the unit will stop operation and display“H6”.

(17)Mute Mode

① Auto Mute: When selecting fan speed of auto mute, the fan speed will be adjusted according to change of ambient temperature; when temperature meets the requirement of the setting, the unit will operate at lowest speed.

② Mute mode: When selecting fan speed of mute, the unit will directly operate at lowest fan speed.

This position is start point

(18)Compulsive Defrosting Function

① Start up compulsory defrosting function

Under ON status, set heating mode with remote controller and adjust the temperature to 16℃ . Press “+, -, +, -, +,-” button successively within 5s and the complete unit will enter into compulsory defrosting status. Meanwhile, heating indicator on indoor unit will ON 10s and OFF 0.5s successively. (Note: If complete unit has malfunction or stops operation due to protection, compulsory defrosting function can be started up after malfunction or protection is resumed.

② Exit compulsory defrosting mode

After compulsory defrosting is started up, the complete unit will exit defrosting operation according to the actual defrosting result, and the complete unit will resume normal heating operation.

(19)Refrigerant Recycling Function

① Enter refrigerant recycling function

Within 5min after energizing(unit ON or OFF status is ok), continuously press LIGHT button for 3 times within 3s to enter refrigerant Recycling mode; Fo is displayed and refrigerant recycling function is started, Ar this moment, the maintenance people closes liquid Valve. After 5min,stick the thimble of maintenance valve with a tool. If there is no refrigerant spraying out, close the gas valve Immediately and then turn off the unit to remove the connection pipe.

② Exit refrigerant recycling function

After entering refrigerant recycling mode, when receive any remote control signal or enter refrigerant recycling mode for 25min, the Unit will exit refrigerant recycling mode automatically. If the unit is in standby mode before refrigerant recycling, it will be still in standby mode after finishing refrigerant recycling; If the unit is in ON status before refrigerant recycling, it will still run in original operation mode.

● Outdoor Unit

1. Compensation function of input parameters
According to the structure of wall-mounting unit, considering the comfortability for operation, indoor ambient temperature when the compressor is at OFF status is higher than set temperature under heating mode.
2. Control of detecting the availability of parameters
For ensuring the safety and reliability of operation, please insert the outdoor discharge temperature sensor into the corresponding temperature sensor bushing to make sure that the control system can detect system discharge temperature accurately. Otherwise, the unit will stop operation and it displays malfunction of discharge temperature sensor (discharge temperature sensor hasn't been inserted well), which can only be resumed by pressing ON/OFF button on remote controller. Basic functions:
3. Cooling mode
3.1 Working condition and process for cooling
3.1.1 If compressor is at OFF status, and $〔T_{preset}-(T_{indoor\ amb.}-\Delta T_{indoor\ amb.\ compensation\ of\ cooling})〕 \leq 0℃$, the unit operates in cooling mode;
3.1.2 During cooling operation, if $0℃ \leq 〔T_{preset}-(T_{indoor\ amb.}-\Delta T_{indoor\ amb.\ compensation\ of\ cooling})〕 < 3℃$, the unit still operates in cooling mode;
3.1.3 During cooling operation, if $3℃ \leq 〔T_{preset}-(T_{indoor\ amb.}-\Delta T_{indoor\ amb.\ compensation\ of\ cooling})〕$, the unit stops operation when reaching the temperature point in cooling.
3.2 Temperature setting range:
3.2.1 If $T_{outdoor\ amb.} \geq T_{cooling\ temperature(low\ temperature)}$, the temperature setting range is 16-30℃ (cooling in room temperature);
3.2.2 If $T_{outdoor\ amb.} < T_{cooling\ temperature(low\ temperature)}$, the temperature setting range is 25-30℃. That is: the lower limit of set temperature for outdoor unit is 25℃.
4. Dry mode
4.1 Working conditioner and process for drying is same as that for cooling mode;
4.2 Temperature setting range is 16-30℃;
5. Fan mode
5.1 Compressor, outdoor fan and 4-way valve are all turned off;
5.2 Temperature setting range is 16-30℃.
6. Heating ode
6.1 Working conditioner and process of heating: ($T_{indoor\ amb.}$ is the actual temperature detected by indoor ambient temperature sensor; $\Delta T_{indoor\ amb.\ compensation\ of\ heating}$ is indoor ambient temperature compensation during heating operation).
6.1.1 If compressor is at OFF status, and $〔T_{indoor\ amb.}-\Delta T_{indoor\ amb.\ compensation\ of\ heating}〕-T_{preset} \leq -1℃$, the unit operates in heating mode.
6.1.2 During heating operation, if $0℃ \leq 〔(T_{indoor\ amb.}-\Delta T_{indoor\ amb.\ compensation\ of\ heating})-T_{preset}〕 < 2℃$, the unit still operates in heating mode.
6.1.3 During heating mode, if $2℃ \leq 〔(T_{indoor\ amb.}-\Delta T_{indoor\ amb.\ compensation\ of\ heating})-T_{preset}〕$, the unit stops operation when reaching the temperature point in heating.
6.2 Under this mode, the temperature setting range is 16-30℃.
7. Defrosting control （heating mode）
7.1 If it turns to defrosting time and it detected that the defrosting temperature is satisfied for 3mins successively, the unit turns into defrosting process.
7.2 Defrosting-starting: compressor stops operation and restart it up after 55s delayed,
7.3 Defrosting-ending: Compressor stops operation and it starts up after 55s delayed.
7.4 When any one of below defrosting-ending conditions is satisfied, the unit will quit from defrosting operation:
7.4.1 $T_{outdoor\ tube} \geq T_{quit\ temperature\ 1}$ for defrosting;
7.4.2 Defrosting operation time is reached $T_{max.defrosting\ time.}$
8. Control of compressor
8.1Frequecny of compressor intangibly controls the frequency according to the relation between ambient temperature and set temperature, and the change speed of ambient temperature;
8.2 Under cooling, heating or drying mode, compressor will be started up after outdoor fan is started for 5s.
8.3 At the OFF status, stop operation because of protection and switchover to fan mode, the compressor stops operation immediately.
8.4 Under each mode: Once the compressor is started up, it can be stopped only after operation.
8.5 Under each mode, one the compressor is stopped, it can be restarted up only after 3min delayed
9. Control of outdoor fan
9.1 When turn off the unit by remote controller, stop operation because of protection or stop operation after reaching the temperature point, outdoor can stop operation only after the compressor is stopped for 1min;
9.2 Under fan mode: outdoor fan stops operation.
9.3 defrosting-starting: enter into defrosting. Outdoor fan stops operation after compressor stops for 50s.
9.4 Defrosting-ending: quit defrosting. When the compressor stops operation, the outdoor fan operates.
10. Control of 4-way valve
10.1 4-way valve status under cooling, drying and fan modes: OFF;
10.2 When the unit turned on and operated in heating mode, the 4-way valve is energized immediately.
10.3 If turn off unit or switch to other mode in heating mode, the 4-way valve is de-energized after the compressor stops for 2min;
10.4 When the unit is turned off because of each protection, the 4-way valve is de-energized after 4 mins delayed.
10.5 Defrosting-starting: enter into defrosting. After the compressor stops for 50s, the 4-way valve will be de-energized.
10.6 Defrosting-ending: quit defrosting. After the compressor stops for 50s, the 4-way valve is energized.
11. Freeze protection
11.1 Under cooling or drying mode, if it's detected that $T_{inner\ tube} < 0$ for 3min successively, the unit will stop operation due to freeze protection. If $T_{limit\ temperature\ of\ freeze\ protection} < T_{inner\ tube}$, and compressor stops for 3min, the complete can resume operation;

11.2 Under cooling or drying mode, if $T_{inner\ tube}$ <6, the operation frequency of compressor may increase or decrease;
11.2.1 If the unit is stopped because of freeze protection for 6 times successively, it can't resume operation automatically and the malfunction will be displayed continuously, which can only be resumed by pressing ON/OFF button. During operation, if operation time of compressor is over, the times of stop operation because of freeze protection will be cleared. If turn off the unit or switch to fan/heating mode, malfunction and times of malfunction is eliminated immediately.
12. Overload protection
12.1 Overload protection under cooling or drying mode: If $T_{overload\ stop\ operation\ temp.\ in\ cooling} \leq T_{outdoor\ tube}$, the unit stops operation because of overload in cooling; if $T_{outdoor\ tube} < T_{overload\ limit\text{-}frequecny\ temp\ in\ cooling}$ and the compressor has stopped for 3min, the complete unit can resume operation.
12.2 Under cooling or drying mode, if $T_{overload\ limit\text{-}frequecny\ temp.\ in\ cooling} \leq T_{outdoor\ tube}$, the frequency of compressor may increase or decrease;
12.3 Overload protection under heating mode: If $T_{overload\ stop\ operation\ temp.\ in\ heating} \leq T_{indoor\ tube}$, the unit stops operation because of overload in heating; if $T_{indoor\ tube} < T_{overload\ limit\text{-}frequecny\ temp.\ in\ heating}$ and the compressor has stopped for 3min, the complete unit can resume operation.
12.4 Under heating mode. If $T_{overload\ limit\text{-}frequecny\ temp.\ in\ heating} \leq T_{indoor\ tube}$, operation frequency of compressor may increase or decrease;
12.5 If the unit is stopped because of overload protection for 6 times successively, it can't resume operation automatically and the malfunction will be displayed continuously, which can only be resumed by pressing ON/OFF button. During operation, if operation time of compressor is over, the times of stop operation because of overload protection will be cleared. If turn off the unit, fan or switch to fan/heating mode, malfunction and times of malfunction is eliminated immediately.
13. Discharge temperature protection of compressor
13.1 If $T_{stop\ operation\ temperature\ for\ discharge} \leq T_{discharge}$, the unit stops operation because of discharge protection; If $T_{discharge} < T_{limit\text{-}frequecny\ temperature\ for\ discharge}$ and compressor has stopped for 3min, the complete unit can resume operation;
13.2 If $T_{normal\ speed\ decrease\text{-}frequency\ for\ discharge} \leq T_{discharge}$, operation frequency of compressor may decrease or increase;
13.3 If the unit is stopped because of discharge protection of compressor for 6 times successively, it can't resume operation automatically, which can only be resumed by pressing ON/OFF button. During operation, if operation time of compressor is over, the times of stop operation because of discharge protection will be cleared. If turn off the unit, or switch to fan/heating mode, malfunction and times of malfunction is eliminated immediately.
14. Current protection function
14.1.1 18K: If $13A \leq I_{AC\ current,}$ operation frequency of compressor may decrease or increase;
14.1.2 24K: If $18A \leq I_{AC\ current,}$ operation frequency of compressor may decrease or increase;
14.2.1 18K If $17A \leq I_{AC\ current,}$ the system will stop operation because of overcurrent; the complete unit can resume operation only after the compressor stops for 3min;
14.2.2 24K If $22A \leq I_{AC\ current,}$ the system will stop operation because of overcurrent; the complete unit can resume operation only after the compressor stops for 3min;
14.3 If the unit is stopped because of overcurrent for 6 times successively, it can't resume operation automatically, which can only be resumed by pressing ON/OFF button. During operation, if operation time of compressor is over, the times of stop operation because of overcurrent protection will be cleared.
15. Voltage drop protection
During operation of compressor, if the voltage is decreasing quickly, the system may stop operation and voltage drop malfunction is caused. 3min later, the system will be restarted up automatically.
16. Communication malfunction
When it hasn't received the correct signal from indoor unit for 3min, the unit will stop operation because if communication malfunction; If communication malfunction is eliminated and compressor has stopped for 3in, the complete unit can resume operation.
17. OPM module protection
After compressor is turned on, if the overcurrent happens for IPM module, or control voltage is too low because of abnormal causes, IPM will detect module protection signal immediately. Once it detected the module protection signal, the unit will stop operation because of module protection. If module protection is resumed and compressor has stopped for 3min, the complete unit will resume operation.
If the unit is stopped because of module protection for 3 times successively, the unit can resume operation automatically unless press ON/OFF button. If the operation time for compressor is over, the times of stop operation because of module protection will be cleared.
18. Overheat protection of module
18.1 If $T_{normal\ speed\ frequency\text{-}decreasing\ temp.\ of\ module} \leq T_{module}$, the operation frequency of compressor may decrease or increase;
18.2 If $T_{stop\ operation\ temperature\ of\ module} \leq T_{module}$, the syste will stop operation for protection. If $T_{module} < T_{frequency\text{-}limiting\ temperature\ of\ module}$ and compressor has stopped for 3min, the complete unit will resume operation;
18.3 If the unit is stopped because of overheating of compressor module for 6 times successively, it can't resume operation automatically, which can only be resumed by pressing ON/OFF button. During operation, if operation time of compressor is over, the times of stop operation because of compressor overheating protection will be cleared. If turn off the unit, or switch to fan mode, times of malfunction is eliminated immediately.
19. Overload protection of compressor
19.1 If it detected that the overload switch for compressor is open for 3min successively, the complete unit will stop operation for protection;
19.2 If overload protection is resumed and compressor has stopped for 3min, the complete unit can resume operation;
19.3 If the unit stops operation because of overload protection for compressor for 3times successively, it can't resume operation automatically, which can only be resumed by pressing ON/OFF button. After compressor has operated for 30min, overload protection times for compressor will be eliminated.

Part Ⅱ : Installation and Maintenance

7. Notes for Installation and Maintenance

Safety Precautions: Important!

Please read the safety precautions carefully before installation and maintenance.
The following contents are very important for installation and maintenance.

Please follow the instructions below.

●The installation or maintenance must accord with the instructions.
●Comply with all national electrical codes and local electrical codes.
●Pay attention to the warnings and cautions in this manual.
●All installation and maintenance shall be performed by distributor or qualified person.
●All electric work must be performed by a licensed technician according to local regulations and the instructions given in this manual.
●Be caution during installation and maintenance. Prohibit incorrect operation to prevent electric shock, casualty and other accidents.

Warnings

Electrical Safety Precautions:

1. Cut off the power supply of air conditioner before checking and maintenance.
2. The air condition must apply specialized circuit and prohibit share the same circuit with other appliances.
3. The air conditioner should be installed in suitable location and ensure the power plug is touchable.
4. Make sure each wiring terminal is connected firmly during installation and maintenance.
5. Have the unit adequately grounded. The grounding wire can't be used for other purposes.
6. Must apply protective accessories such as protective boards, cable-cross loop and wire clip.
7. The live wire, neutral wire and grounding wire of power supply must be corresponding to the live wire, neutral wire and grounding wire of the air conditioner.
8. The power cord and power connection wires can't be pressed by hard objects.
9. If power cord or connection wire is broken, it must be replaced by a qualified person.
10. If the power cord or connection wire is not long enough, please get the specialized power cord or connection wire from the manufacture or distributor. Prohibit prolong the wire by yourself.
11. For the air conditioner without plug, an air switch must be installed in the circuit. The air switch should be all-pole parting and the contact parting distance should be more than 3mm.
12. Make sure all wires and pipes are connected properly and the valves are opened before energizing.
13. Check if there is electric leakage on the unit body. If yes, please eliminate the electric leakage.
14. Replace the fuse with a new one of the same specification if it is burnt down; don't replace it with a cooper wire or conducting wire.
15. If the unit is to be installed in a humid place, the circuit breaker must be installed.

Installation Safety Precautions:

1. Select the installation location according to the requirement of this manual.(See the requirements in installation part)
2. Handle unit transportation with care; the unit should not be carried by only one person if it is more than 20kg.
3. When installing the indoor unit and outdoor unit, a sufficient fixing bolt must be installed; make sure the installation support is firm.
4. Ware safety belt if the height of working is above 2m.
5. Use equipped components or appointed components during installation.
6. Make sure no foreign objects are left in the unit after finishing installation.

Refrigerant Safety Precautions:

1. Avoid contact between refrigerant and fire as it generates poisonous gas; Prohibit prolong the connection pipe by welding.
2. Apply specified refrigerant only. Never have it mixed with any other refrigerant. Never have air remain in the refrigerant line as it may lead to rupture or other hazards.
3. Make sure no refrigerant gas is leaking out when installation is completed.
4. If there is refrigerant leakage, please take sufficient measure to minimize the density of refrigerant.
5. Never touch the refrigerant piping or compressor without wearing glove to avoid scald or frostbite.

Improper installation may lead to fire hazard, explosion, electric shock or injury.

Safety Precautions for Installing and Relocating the Unit:

To ensure safety, please be mindful of the following precautions.

Warnings

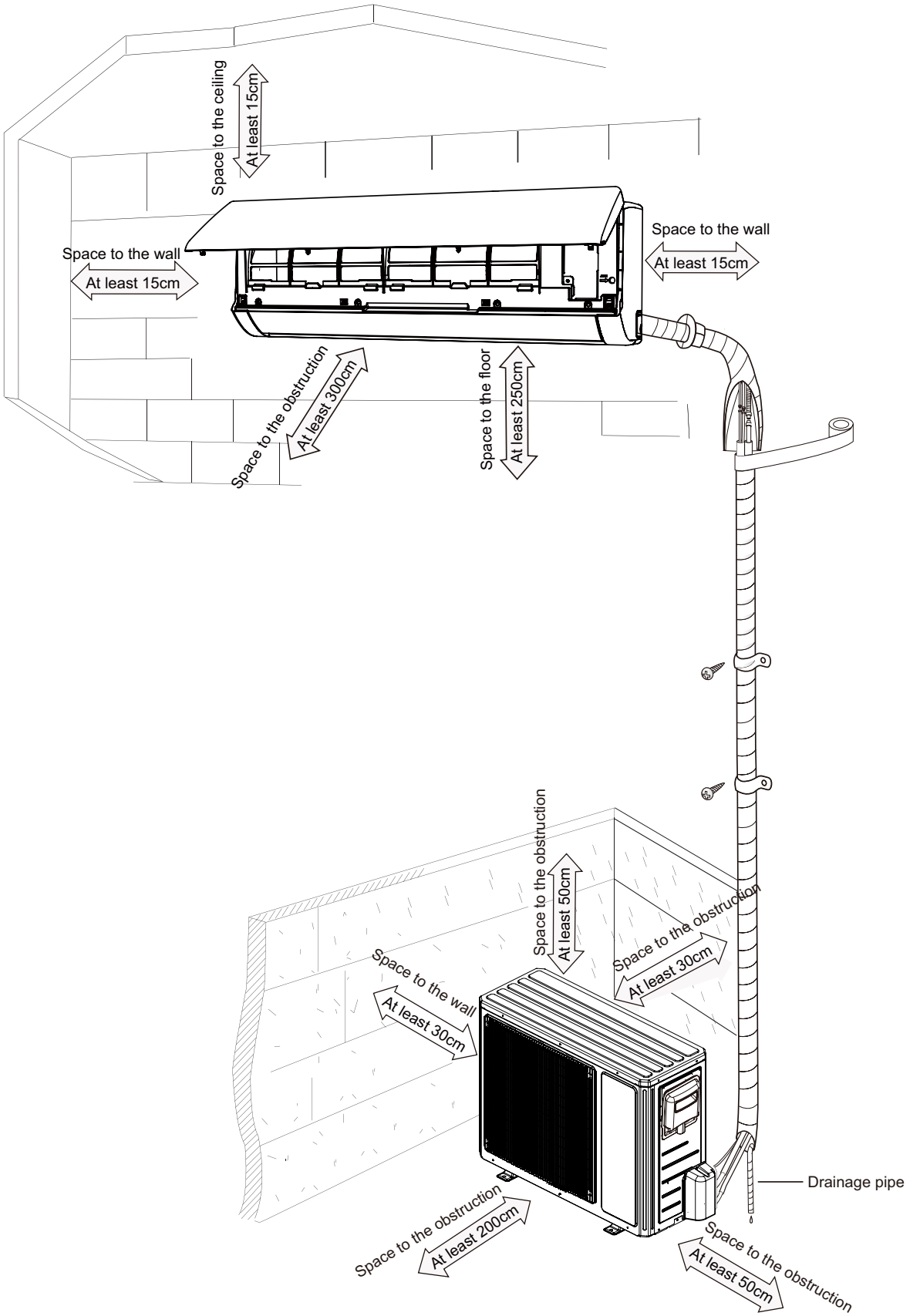
1. When installing or relocating the unit, be sure to keep the refrigerant circuit free from air or substances other than the specified refrigerant.
Any presence of air or other foreign substance in the refrigerant circuit will cause system pressure rise or compressor rupture, resulting in injury.
2.When installing or moving this unit, do not charge the refrigerant which is not comply with that on the nameplate or unqualified refrigerant.
Otherwise, it may cause abnormal operation, wrong action, mechanical malfunction or even series safety accident.
3.When refrigerant needs to be recovered during relocating or repairing the unit, be sure that the unit is running in cooling mode.Then, fully close the valve at high pressure side (liquid valve).About 30-40 seconds later, fully close the valve at low pressure side (gas valve), immediately stop the unit and disconnect power. Please note that the time for refrigerant recovery should not exceed 1 minute.
If refrigerant recovery takes too much time, air may be sucked in and cause pressure rise or compressor rupture, resulting in injury.
4.During refrigerant recovery, make sure that liquid valve and gas valve are fully closed and power is disconnected before detaching the connection pipe.
If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.
5.When installing the unit, make sure that connection pipe is securely connected before the compressor starts running.
If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.
6.Prohibit installing the unit at the place where there may be leaked corrosive gas or flammable gas.
If there leaked gas around the unit, it may cause explosion and other accidents.
7.Do not use extension cords for electrical connections. If the electric wire is not long enough, please contact a local service center authorized and ask for a proper electric wire.
Poor connections may lead to electric shock or fire.
8.Use the specified types of wires for electrical connections between the indoor and outdoor units. Firmly clamp the wires so that their terminals receive no external stresses.
Electric wires with insufficient capacity, wrong wire connections and insecure wire terminals may cause electric shock or fire.

Main Tools for Installation and Maintenance

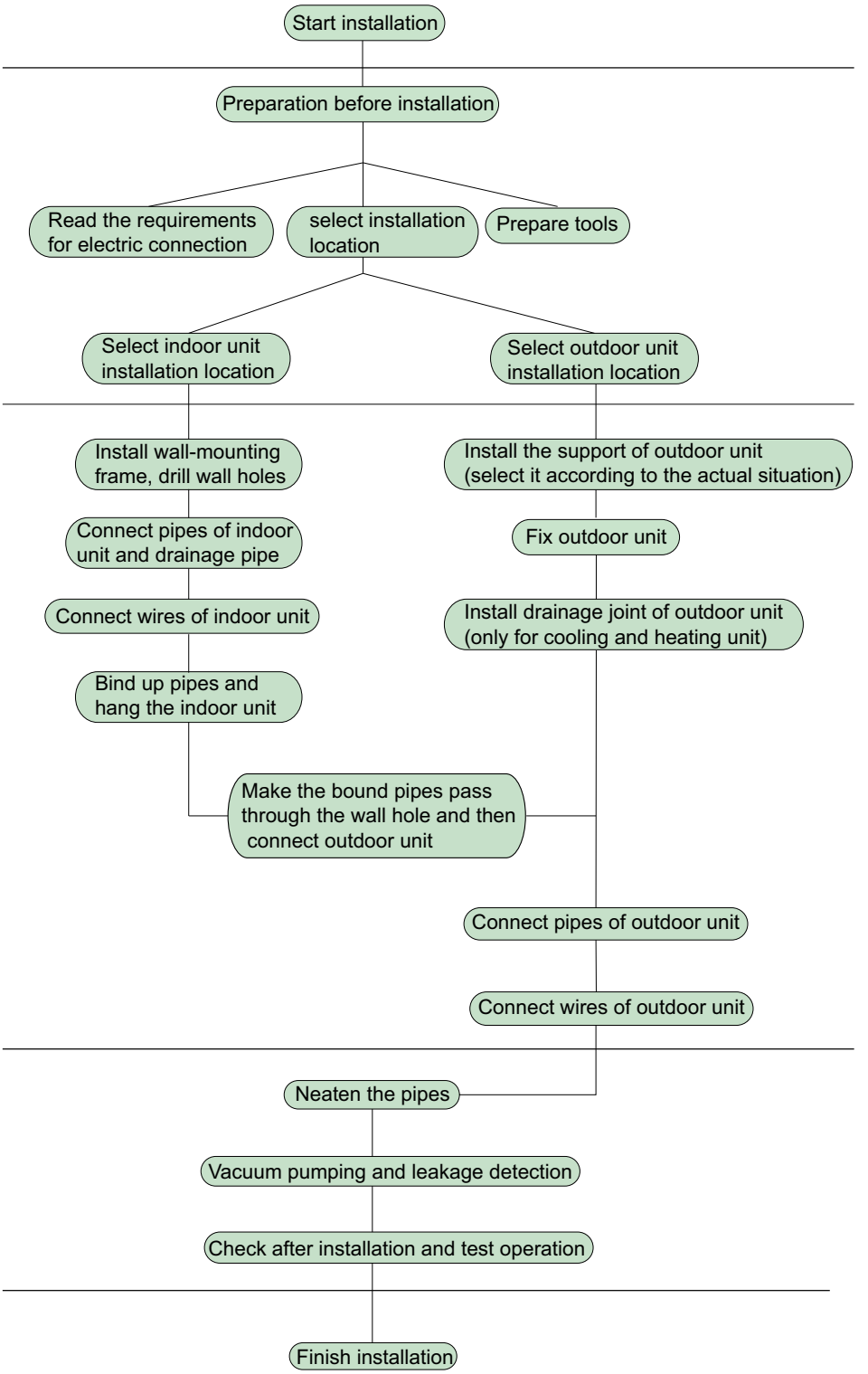
1. Level meter, measuring tape 	**2. Screw driver** 	**3. Impact drill, drill head, electric drill** 
4. Electroprobe 	**5. Universal meter** 	**6. Torque wrench, open-end wrench, inner hexagon spanner** 
7. Electronic leakage detector 	**8. Vacuum pump** 	**9. Pressure meter** 
10. Pipe pliers, pipe cutter   	**11. Pipe expander, pipe bender**  	**12. Soldering appliance, refrigerant container**  

8. Installation

8.1 Installation Dimension Diagram



Installation procedures



Note: this flow is only for reference; please find the more detailed installation steps in this section.

8.2 Installation Parts-checking

No.	Name	No.	Name
1	Indoor unit	8	Sealing gum
2	Outdoor unit	9	Wrapping tape
3	Connection pipe	10	Support of outdoor unit
4	Drainage pipe	11	Fixing screw
5	Wall-mounting frame	12	Drainage plug(cooling and heating unit)
6	Connecting cable(power cord)	13	Owner's manual, remote controller
7	Wall pipe		

⚠ **Note:**

1. Please contact the local agent for installation.
2. Don't use unqualified power cord.

8.3 Selection of Installation Location

1. Basic Requirement:

Installing the unit in the following places may cause malfunction. If it is unavoidable, please consult the local dealer:
(1) The place with strong heat sources, vapors, flammable or explosive gas, or volatile objects spread in the air.
(2) The place with high-frequency devices (such as welding machine, medical equipment).
(3) The place near coast area.
(4) The place with oil or fumes in the air.
(5) The place with sulfureted gas.
(6) Other places with special circumstances.
(7) The appliance shall not be installed in the laundry.

2. Indoor Unit:

(1) There should be no obstruction near air inlet and air outlet.
(2) Select a location where the condensation water can be dispersed easily and wont affect other people.
(3) Select a location which is convenient to connect the outdoor unit and near the power socket.
(4) Select a location which is out of reach for children.
(5) The location should be able to withstand the weight of indoor unit and wont increase noise and vibration.
(6) The appliance must be installed 2.5m above floor.
(7) Dont install the indoor unit right above the electric appliance.
(8) Please try your best to keep way from fluorescent lamp.

3. Outdoor Unit:

(1) Select a location where the noise and outflow air emitted by the outdoor unit will not affect neighborhood.
(2) The location should be well ventilated and dry, in which the outdoor unit wont be exposed directly to sunlight or strong wind.
(3) The location should be able to withstand the weight of outdoor unit.
(4) Make sure that the installation follows the requirement of installation dimension diagram.
(5) Select a location which is out of reach for children and far away from animals or plants.If it is unavoidable, please add fence for safety purpose.

8.4 Electric Connection Requirement

1. Safety Precaution

(1) Must follow the electric safety regulations when installing the unit.
(2) According to the local safety regulations, use qualified power supply circuit and air switch.
(3) Make sure the power supply matches with the requirement of air conditioner. Unstable power supply or incorrect wiring may result in electric shock,fire hazard or malfunction. Please install proper power supply cables before using the air conditioner.
(4) Properly connect the live wire, neutral wire and grounding wire of power socket.
(5) Be sure to cut off the power supply before proceeding any work related to electricity and safety.
(6) Do not put through the power before finishing installation.
(7) If the supply cord is damaged,it must be replaced by the manufacturer,its service agent or similarly qualified persons in order to avoid a hazard.
(8) The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.
(9) The appliance shall be installed in accordance with national wiring regulations.

2. Grounding Requirement:

(1) The air conditioner is first class electric appliance. It must be properly grounding with specialized grounding device by a professional. Please make sure it is always grounded effectively, otherwise it may cause electric shock.
(2) The yellow-green wire in air conditioner is grounding wire, which can't be used for other purposes.
(3) The grounding resistance should comply with national electric safety regulations.
(4) The appliance must be positioned so that the plug is accessible.
(5) An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.
(6) Including an air switch with suitable capacity, please note the following table. Air switch should be included magnet buckle and heating buckle function, it can protect the circuit-short and overload. (Caution: please do not use the fuse only for protect the circuit)

Air-conditioner	Air switch capacity
18K	16A
24K	25A

8.5 Installation of Indoor Unit

1. Choosing Installation location

Recommend the installation location to the client and then confirm it with the client.

2. Install Wall-mounting Frame

(1) Hang the wall-mounting frame on the wall; adjust it in horizontal position with the level meter and then point out the screw fixing holes on the wall.
(2) Drill the screw fixing holes on the wall with impact drill (the specification of drill head should be the same as the plastic expansion particle) and then fill the plastic expansion particles

in the holes.
(3) Fix the wall-mounting frame on the wall with tapping screws (ST4.2X25TA) and then check if the frame is firmly installed by pulling the frame. If the plastic expansion particle is loose, please drill another fixing hole nearby.

3. Install Wall-mounting Frame

(1) Choose the position of piping hole according to the direction of outlet pipe. The position of piping hole should be a little lower than the wall-mounted frame.(As show in Fig.1)

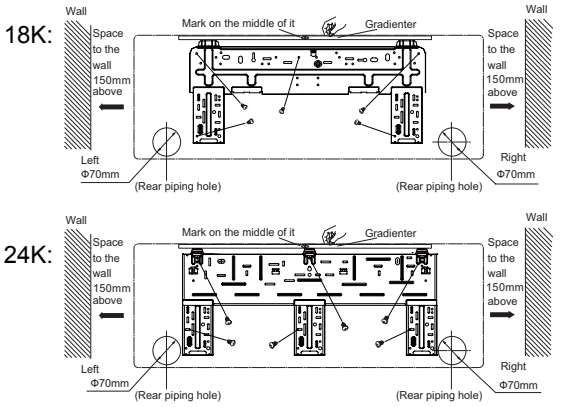


Fig.1

(2) Open a piping hole with the diameter Φ70mm on the selected outlet pipe position.In order to drain smoothly, slant the piping hole on the wall slightly downward to the outdoor side with the gradient of 5-10°.(As show in Fig.2)

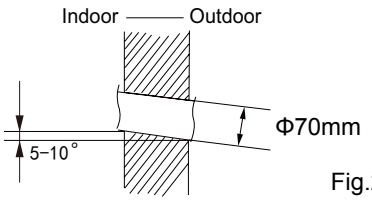


Fig.2

⚠ **Note:**

(1) Pay attention to dust prevention and take relevant safety measures when opening the hole.
(2) The plastic expansion particles are not provided and should be bought locally.

4. Outlet Pipe

(1) The pipe can be led out in the direction of right, rear right, left or rear left.(As show in Fig.3)
(2) When selecting leading out the pipe from left or right, please cut off the corresponding hole on the bottom case.(As show in Fig.4)

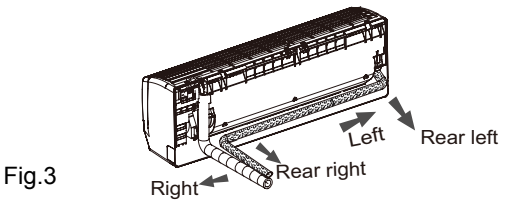


Fig.3

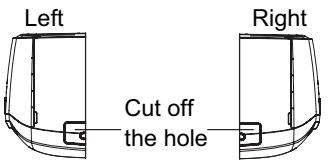


Fig.4

5. Connect the Pipe of Indoor Unit

(1) Aim the pipe joint at the corresponding bellmouth.(As show in Fig.5)
(2) Pretightening the union nut with hand.
(3) Adjust the torque force by referring to the following sheet. Place the open-end wrench on the pipe joint and place the torque wrench on the union nut. Tighten the union nut with torque wrench.(As show in Fig.6)
(4) Wrap the indoor pipe and joint of connection pipe with insulating pipe, and then wrap it with tape.(As show in Fig.7)

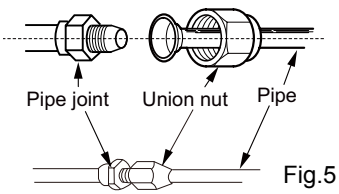


Fig.5

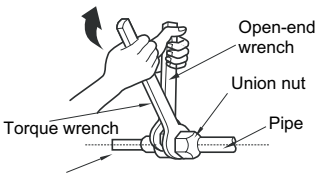


Fig.6

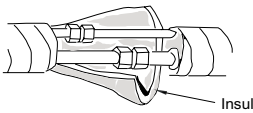


Fig.7

Refer to the following table for wrench moment of force:

Hex nut diameter(mm)	Tightening torque(N·m)
Φ6	15~20
Φ9.52	30~40
Φ12	45~55
Φ16	60~65
Φ19	70~75

6. Install Drain Hose

(1) Connect the drain hose to the outlet pipe of indoor unit.(As show in Fig.8)
(2) Bind the joint with tape.(As show in Fig.9)

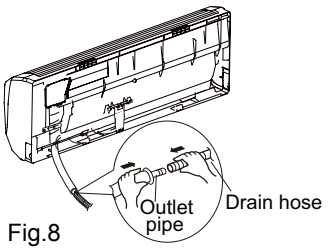


Fig.8

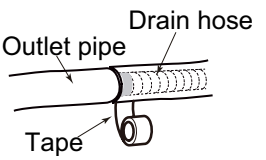


Fig.9

⚠ **Note:**

(1) Add insulating pipe in the indoor drain hose in order to prevent condensation.
(2) The plastic expansion particles are not provided.
(As show in Fig.10)

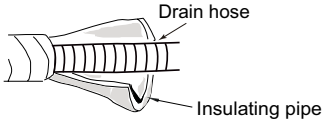


Fig.10

7. Connect Wire of Indoor Unit

(1) Open the panel, remove the screw on the wiring cover and then take down the cover.(As show in Fig.11)

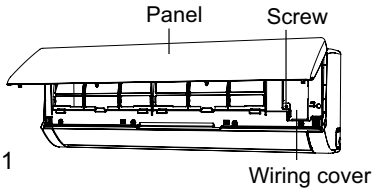


Fig.11

(2) Make the power connection wire go through the cable-cross hole at the back of indoor unit and then pull it out from the front side.(As show in Fig.12)

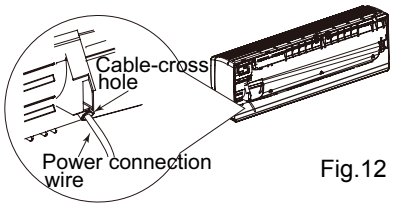
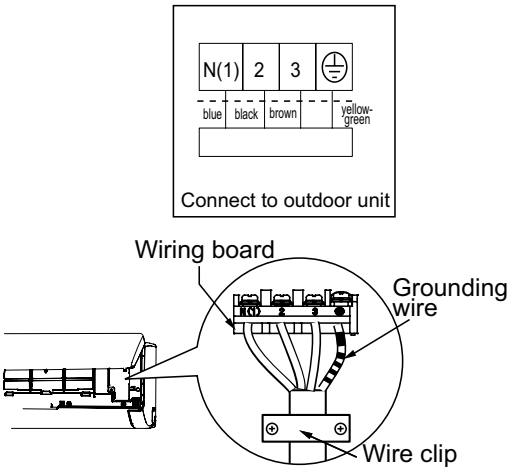


Fig.12

(3) Remove the wire clip; connect the power connection wire to the wiring terminal according to the color; tighten the screw and then fix the power connection wire with wire clip.(As show in Fig.13)



Note: The wiring connect is for reference only, please refer to the actual one.

Fig.13

(4) Put wiring cover back and then tighten the screw.
(5) Close the panel.

⚠ **Note:**

(1) All wires of indoor unit and outdoor unit should be connected by a professional.
(2) If the length of power connection wire is insufficient, please contact the supplier for a new one. Avoid extending the wire by yourself.
(3) For the air conditioner with plug, the plug should be reachable after finishing installation.
(4) For the air conditioner without plug, an air switch must be installed in the line. The air switch should be all-pole parting and the contact parting distance should be more than 3mm.

8. Bind Up Pipe

(1) Bind up the connection pipe, power cord and drain hose with the band.(As show in Fig.14)
(2) Reserve a certain length of drain hose and power cord for installation when binding them. When binding to a certain degree, separate the indoor power and then separate the drain hose.(As show in Fig.15)
(3) Bind them evenly.
(4) The liquid pipe and gas pipe should be bound separately at the end.

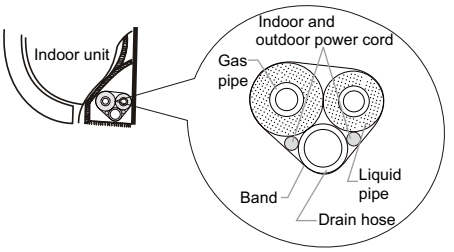


Fig.14

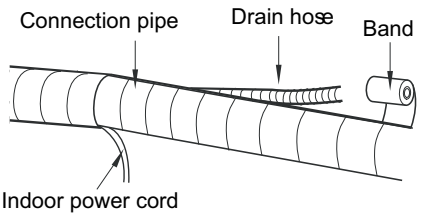


Fig.15

⚠ **Note:**

(1) The power cord and control wire can't be crossed or winding.
(2) The drain hose should be bound at the bottom.

9. Hang the Indoor Unit

(1) Put the bound pipes in the wall pipe and then make them pass through the wall hole.
(2) Hang the indoor unit on the wall-mounting frame.
(3) Stuff the gap between pipes and wall hole with sealing gum.
(4) Fix the wall pipe. (As show in Fig.16)
(5) Check if the indoor unit is installed firmly and closed to the wall.(As show in Fig.17)

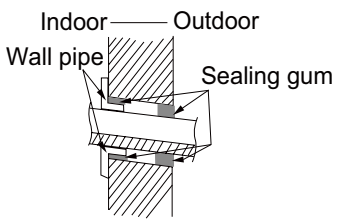
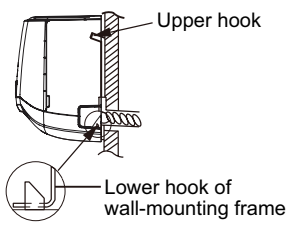


Fig.16

Fig.17



⚠ **Note:**

Do not bend the drain hose too excessively in order to prevent blocking.

8.6 Installation of Outdoor Unit

1. Fix the Support of Outdoor Unit(select it according to the actual installation situation)

(1) Select installation location according to the house structure.
(2) Fix the support of outdoor unit on the selected location with expansion screws.

⚠ **Note:**

(1) Take sufficient protective measures when installing the outdoor unit.
(2) Make sure the support can withstand at least four times the unit weight.
(3) The outdoor unit should be installed at least 3cm above the floor in order to install drain joint.(As show in Fig.18)
(4) For the unit with cooling capacity of 2300W~5000W, 6 expansion screws are needed; for the unit with cooling capacity of 6000W~8000W, 8 expansion screws are needed; for the unit with cooling capacity of 10000W~16000W, 10 expansion screws are needed.

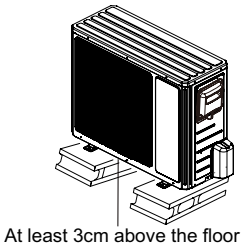


Fig.18

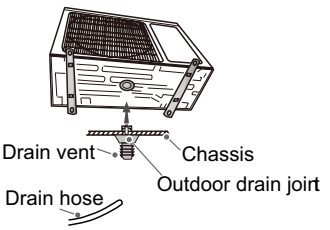


Fig.19

2. Install Drain Joint(only for cooling and heating unit)

(1) Connect the outdoor drain joint into the hole on the chassis.
(2) Connect the drain hose into the drain vent.
(As show in Fig.19)

3. Fix Outdoor Unit

(1) Place the outdoor unit on the support.
(2) Fix the foot holes of outdoor unit with bolts.
(As show in Fig.20)

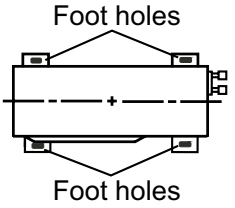


Fig.20

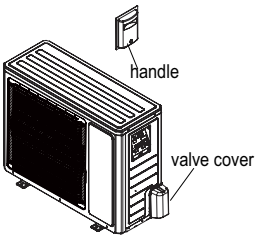


Fig.21

4. Connect Indoor and Outdoor Pipes

(1) Remove the screw on the right handle and valve cover of outdoor unit , then remove the handle and valve cover.(As show in Fig.21)
(2) Remove the screw cap of valve and aim the pipe joint at the bellmouth of pipe.(As show in Fig.22)

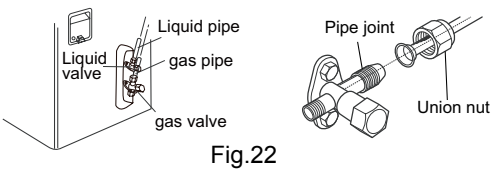


Fig.22

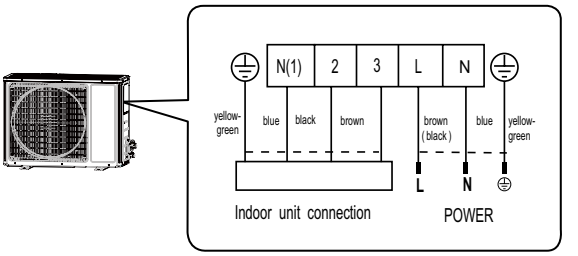
(3) Pretightening the union nut with hand.
(4) Tighten the union nut with torque wrench .

Refer to the following table for wrench moment of force:

Hex nut diameter(mm)	Tightening torque(N·m)
Φ6	15~20
Φ9.52	30~40
Φ12	45~55
Φ16	60~65
Φ19	70~75

5. Connect Outdoor Electric Wire

(1) Remove the wire clip; connect the power connection wire and power cord to the wiring terminal according to the color; fix them with screws.(As show in Fig.23)



Note: the wiring connect is for reference only, please refer to the actual one.

Fig.23

(2) Fix the power connection wire with wire clip .

⚠ **Note:**

(1) After tightening the screw, pull the power cord slightly to check if it is firm.
(2) Never cut the power connection wire to prolong or shorten the distance.

6. Neaten the Pipes

(1) The pipes should be placed along the wall, bent reasonably and hidden possibly. Min. semidiameter of bending the pipe is 10cm.
(2) If the outdoor unit is higher than the wall hole, you must set a U-shaped curve in the pipe before pipe goes into the room, in order to prevent rain from getting into the room.(As show in Fig.24)

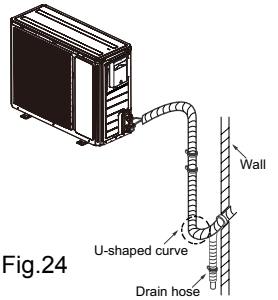


Fig.24

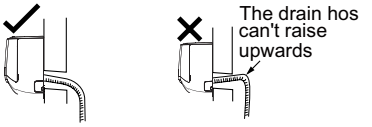


Fig.25

⚠ **Note:**

(1) The through-wall height of drain hose shouldn't be higher than the outlet pipe hole of indoor unit.(As show in Fig.25)
(2) Slant the drain hose slightly downwards. The drain hose can't be curved, raised and fluctuant, etc.(As show in Fig.26)

(3) The water outlet can't be placed in water in order to drain smoothly.(As show in Fig.27)

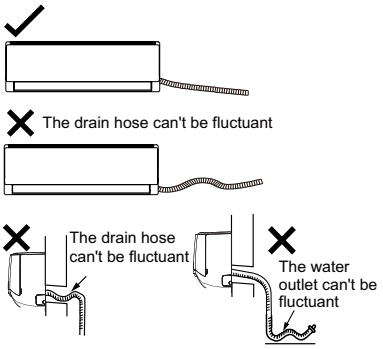


Fig.26

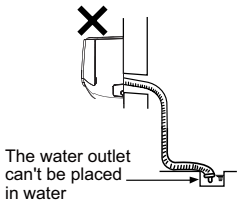


Fig.27

8.7 Vacuum Pumping and Leak Detection

1. Use Vacuum Pump

(1) Remove the valve caps on the liquid valve and gas valve and the nut of refrigerant charging vent.

(2) Connect the charging hose of piezometer to the refrigerant charging vent of gas valve and then connect the other charging hose to the vacuum pump.

(3) Open the piezometer completely and operate for 10-15min to check if the pressure of piezometer remains in -0.1MPa.

(4) Close the vacuum pump and maintain this status for 1-2min to check if the pressure of piezometer remains in -0.1MPa. If the pressure decreases, there may be leakage.

(5) Remove the piezometer, open the valve core of liquid valve and gas valve completely with inner hexagon spanner.

(6) Tighten the screw caps of valves and refrigerant charging vent.(As show in Fig.28)

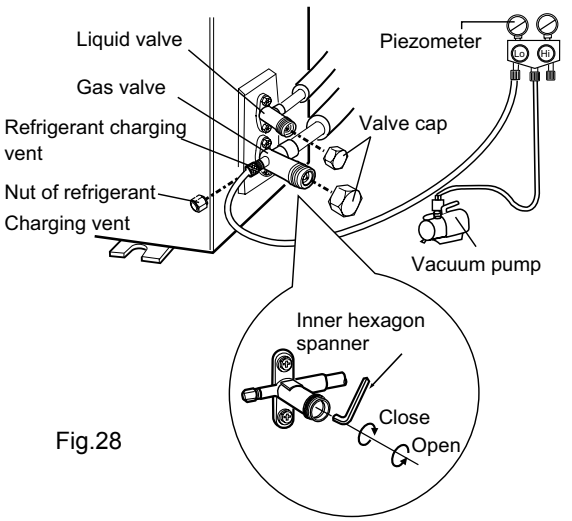


Fig.28

2. Leakage Detection

(1) With leakage detector:

Check if there is leakage with leakage detector.

(2) With soap water:

If leakage detector is not available, please use soap water for leakage detection. Apply soap water at the suspected position and keep the soap water for more than 3min. If there are air bubbles coming out of this position, there's a leakage.

8.8 Check after Installation and Test Operation

1. Check after Installation

Check according to the following requirement after finishing installation.

NO.	Items to be checked	Possible malfunction
1	Has the unit been installed firmly?	The unit may drop, shake or emit noise.
2	Have you done the refrigerant leakage test?	It may cause insufficient cooling (heating) capacity.
3	Is heat insulation of pipeline sufficient?	It may cause condensation and water dripping.
4	Is water drained well?	It may cause condensation and water dripping.
5	Is the voltage of power supply according to the voltage marked on the nameplate?	It may cause malfunction or damage the parts.
6	Is electric wiring and pipeline installed correctly?	It may cause malfunction or damage the parts.
7	Is the unit grounded securely?	It may cause electric leakage.
8	Does the power cord follow the specification?	It may cause malfunction or damage the parts.
9	Is there any obstruction in air inlet and air outlet?	It may cause insufficient cooling (heating) capacity.
10	The dust and sundries caused during installation are removed?	It may cause malfunction or damaging the parts.
11	The gas valve and liquid valve of connection pipe are open completely?	It may cause insufficient cooling (heating) capacity.
12	Is the inlet and outlet of piping hole been covered?	It may cause insufficient cooling (heating) capacity or waster eletricity.

2. Test Operation

(1) Preparation of test operation

● The client approves the air conditioner installation.

● Specify the important notes for air conditioner to the client.

(2) Method of test operation

● Put through the power, press ON/OFF button on the remote controller to start operation.

● Press MODE button to select AUTO, COOL, DRY, FAN and HEAT to check whether the operation is normal or not.

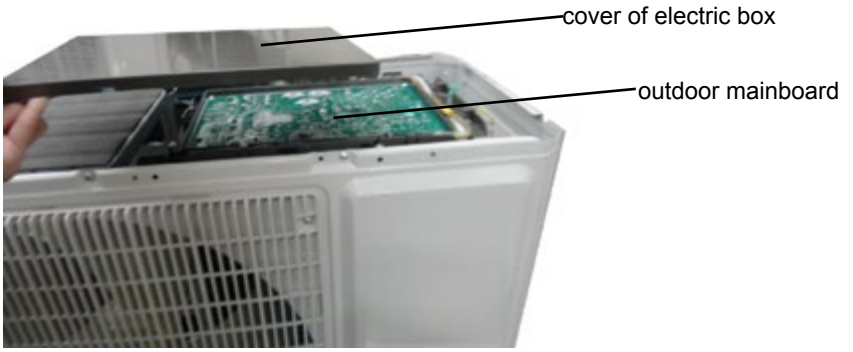
● If the ambient temperature is lower than 16℃ , the air conditioner can't start cooling.

9. Maintenance

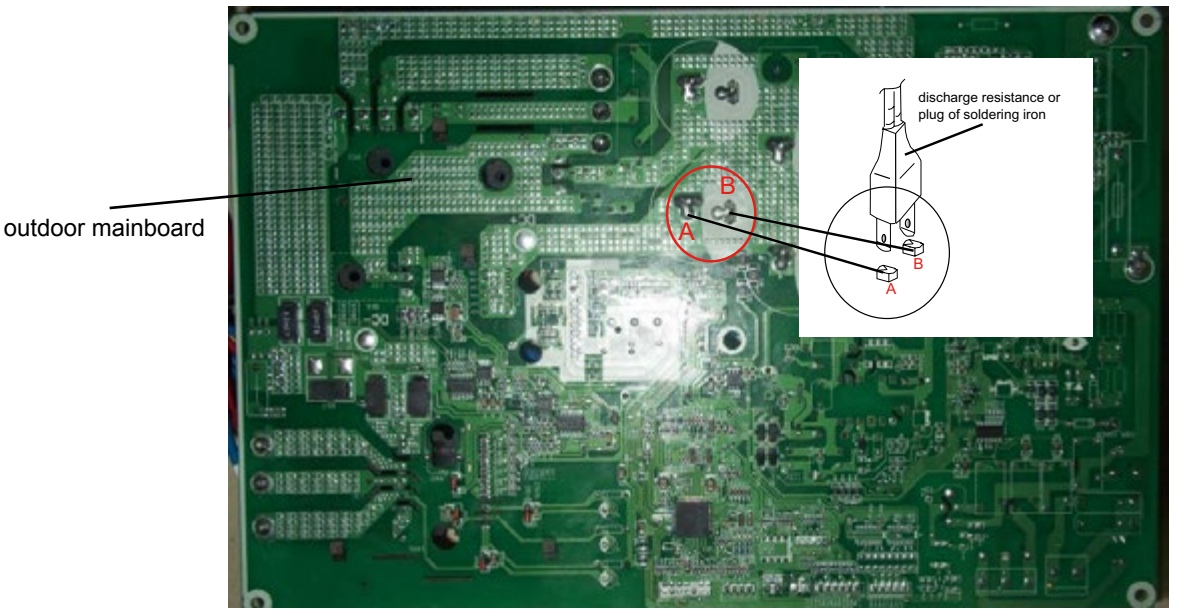
9.1 Precautions before Maintenance

There are high-capacity electrolytic capacitors on the outdoor mainboard. Thus, even the power is cut off, there is high voltage inside the capacitors and it needs more than 20min to reduce the voltage to safety value. Touching the electrolytic capacitor within 20min after cutting the power will cause electric shock. If maintenance is needed, follow the steps below to discharge electricity of electrolytic capacitor after power off.

(1) Open the top cover of outdoor unit and then remove the cover of electric box.



(2) As shown in the fig below, connect the plug of discharge resistance (about 100ohm, 20W) (if there is no discharge resistance, you can use the plug of soldering iron) to point A and B of electrolytic capacitor. There will be sparks when touching them. Press them forcibly for 30s to discharge electricity of electrolytic capacitor.



(3) After finish discharging electricity, measure the voltage between point A and B with universal meter to make sure if electricity discharging is completed, in order to prevent electric shock. If the voltage between the two points is below 20V, you can perform maintenance safely.

9.2 Error Code List

NO.	Malfunction Name	Dual-8 Code Display	Display Method of Outdoor Unit (Indicator has 3 kinds of display status and they will be displayed circularly every 5s.) □OFF ■Illuminated ☆ Blink				A/C status	Possible Causes
			D5 (D40)	D6 (D41)	D16 (D42)	D30 (D43)		
1	High discharge temperature protection of compressor	E4	■	□	■	☆	During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.	Please refer to the malfunction analysis (discharge protection, overload).
2	Overcurrent protection	E5	□	■	☆	□	During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.	1. Supply voltage is unstable; 2. Supply voltage is too low and load is too high; 3. Evaporator is dirty.
3	Communi-cation Malfunction	E6	□	□	□	☆	During cooling operation,compressor stops while indoor fan motor operates. During heating operation, the complete unit stops.	Refer to the corresponding malfunction analysis.
4	High temperature resistant protection	E8	■	□	■	■	During cooling operation: compressor will stop while indoor fan will operate. During heating operation, the complete unit stops.	Refer to the malfunction analysis (overload, high temperature resistant).
5	PG motor (indoor fan motor) does not operate	H6					Indoor fan, outdoor fan, compressor and electric heat tube stop operation. Horizontal louver stops at the current position.	1. The feedback terminal of PG motor is not connected tightly. 2. The control terminal of PG motor isnot connected tightly. 3. Fan blade rotates unsmoothly. 4. Malfunctionof moto.r 5. Controller is damaged.
6	Malfunction protection of jumper cap	C5					Operation of remote controller or control panel is available, but the unit won't act.	1. There's not jumper cap on the controller. 2. Jumper cap is not inserted properly and tightly 3. Jumper cap is damaged. 4. Controller is damaged.
7	Indoor ambient temperature sensor is open/short circuited	F1					During cooling and drying operation, indoor unit operates while other loads will stop; during heating operation, the complete unit will stop operation.	1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3.Indoor ambient temperature sensor is damaged(Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
8	Indoor evaporator temperature sensor is open/short circuited	F2					The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
9	Outdoor ambient temperature sensor is open/short circuited	F3	□	□	☆	■	During cooling and drying operating, compressor stops while indoor fan operates; During heating operation, the complete unit will stop operation	Outdoor temperature sensor hasnt been connected well or is damaged. Please check it by referring to the resistance table for temperature sensor)

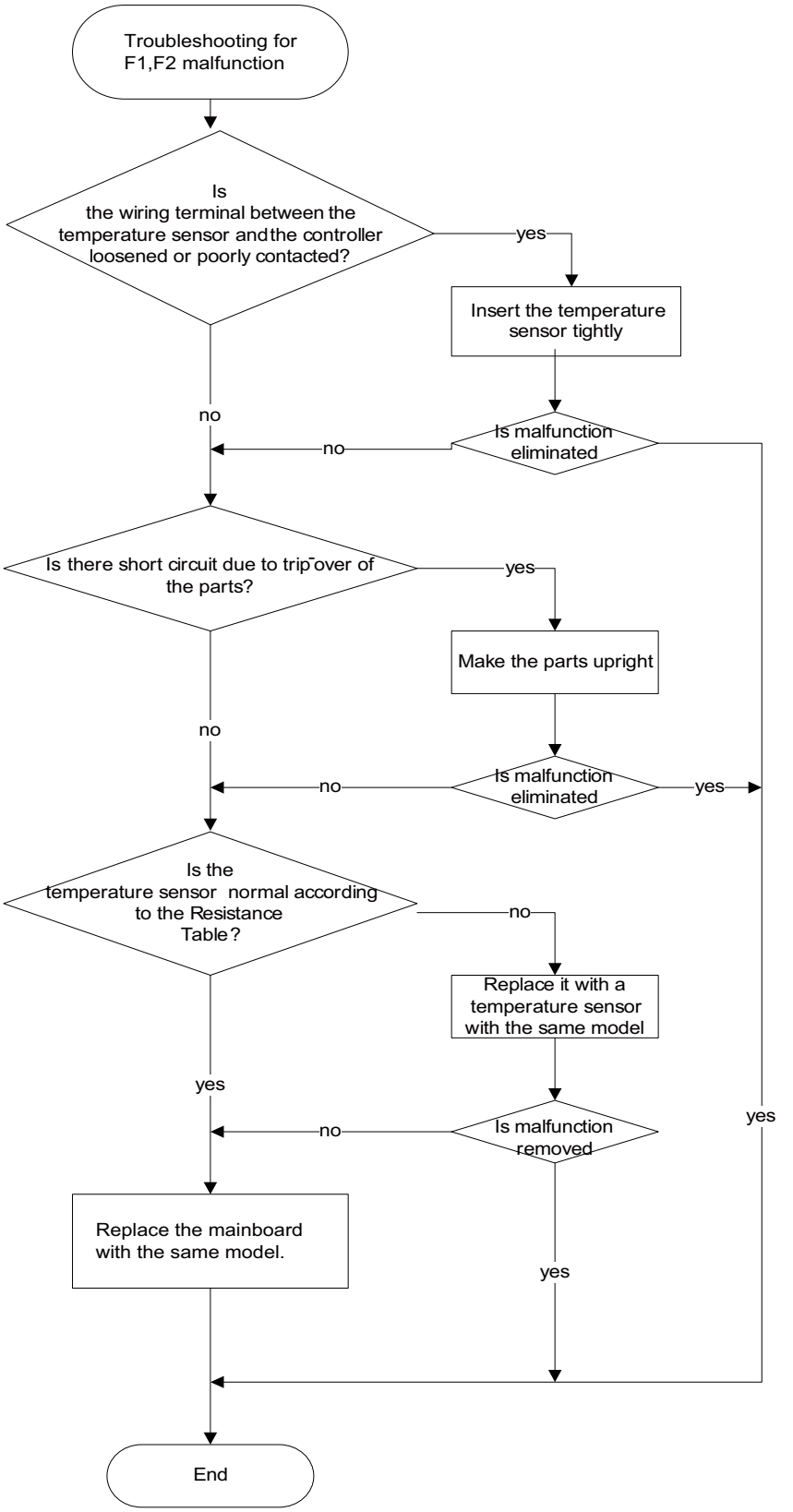
10	Outdoor condenser temperature sensor is open/short circuited	F4	□	□	☆	□	During cooling and drying operation, compressor stops while indoor fan will operate; During heating operation, the complete unit will stop operation.	Outdoor temperature sensor hasnt been connected well or is damaged. Please check it by referring to the resistance table for temperature sensor)
11	Outdoor discharge temperature sensor is open/short circuited	F5	□	□	☆	☆	During cooling and drying operation, compressor will sop after operating for about 3 mins, while indoor fan will operate; During heating operation, the complete unit will stop after operating for about 3 mins.	1.Outdoor temperature sensor hasnt been connected well or is damaged. Please check it by referring to the resistance table for temperature sensor) 2.The head of temperature sensor hasnt been inserted into the copper tube
12	Voltage for DC bus-bar is too high	PH	□	■	□	☆	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	1. Measure the voltage of position L and N on wiring board (XT), if the voltage is higher than 265VAC, turn on the unit after the supply voltage is increased to the normal range. 2.If the AC input is normal, measure the voltage of electrolytic capacitor C on control panel (AP1), if its normal, theres malfunction for the circuit, please replace the control panel (AP1)
13	Malfunction of complete units current detection	U5	□	■	☆	■	During cooling and drying operation, the compressor will stop while indoor fan will operate; During heating operating, the complete unit will stop operation.	Theres circuit malfunction on outdoor units control panel AP1, please replace the outdoor units control panel AP1.
14	Overcurrent protection of phase current for compressor	P5	□	☆	□	□	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	Refer to the malfunction analysis (IPM protection, loss of synchronism protection and overcurrent protection of phase current for compressor.
15	Defrosting	Heating indicator off for 0.5s and then blinks for 10s					Defrosting will occur in heating mode. Compressor will operate while indoor fan will stop operation.	Its the normal state
16	Overload protection for compressor	H3	□	☆	☆	□	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	1. Wiring terminal OVC-COMP is loosened. In normal state, the resistance for this terminal should be less than 1ohm. 2.Refer to the malfunction analysis (discharge protection, overload)
17	IPM protection	H5	□	☆	□	■	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	Refer to the malfunction analysis (IPM protection, loss of synchronism protection and overcurrent protection of phase current for compressor.
18	PFC protection	HC	□	■	☆	☆	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	Refer to the malfunction analysis
19	Desynchron-izing of compressor	H7	□	☆	■	☆	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	Refer to the malfunction analysis (IPM protection, loss of synchronism protection and overcurrent protection of phase current for compressor.
20	Failure start-up	LC	□	☆	□	☆	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	Refer to the malfunction analysis
21	Malfunction of phase current detection circuit for compressor	U1	□	☆	■	□	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	Replace outdoor control panel AP1
22	EEPROM malfunction	EE	□	□	□	■	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	Replace outdoor control panel AP1
23	Charging malfunction of capacitor	PU	□	■	□	■	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	Refer to the part three—charging malfunction analysis of capacitor

24	Malfunction of module temperature sensor circuit	P7	□	□	■	☆	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	Replace outdoor control panel AP1
25	Module high temperature protection	P8	■	□	☆	■	During cooling operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	After the complete unit is de-energized for 20mins, check whether the thermal grease on IPM Module of outdoor control panel AP1 is sufficient and whether the radiator is inserted tightly. If its no use, please replace control panel AP1.
26	Malfunction of voltage dropping for DC bus-bar	U3	□	■	■	■	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	Supply voltage is unstable
27	Voltage of DC bus-bar is too low	PL	□	■	■	□	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	1. Measure the voltage of position L and N on wiring board (XT), if the voltage is higher than 150VAC, turn on the unit after the supply voltage is increased to the normal range. 2.If the AC input is normal, measure the voltage of electrolytic capacitor C on control panel (AP1), if its normal, theres malfunction for the circuit, please replace the control panel (AP1)
28	Limit/ decrease frequency due to high temperature of module	EU	■	■	■	☆	All loads operate normally, while operation frequency for compressor is decreased	Discharging after the complete unit is de-energized for 20mins, check whether the thermal grease on IPM Module of outdoor control panel AP1 is sufficient and whether the radiator is inserted tightly. If its no use, please replace control panel AP1.
29	The four-way valve is abnormal	U7	■	□	☆	□	If this malfunction occurs during heating operation, the complete unit will stop operation.	1.Supply voltage is lower than AC175V; 2.Wiring terminal 4V is loosened or broken; 3.4V is damaged, please replace 4V.
30	Fan module protection	L3	■	□	□	□	Cooling:outdoor fan motor,compressor stop running;indoor fan works. Heating:outdoor fan motor,compressor,indoor fan motor stop running.	1.The wire terminal of outdoor fan motor is loosed,fix the terminal. 2.Motor damaged,replace the motor. 3.Fan motor module on mainboard is damaged;replace the mainboard AP1.
31	Malfunction of detecting plate(WIFI)	JF						Refer to the malfunction analysis

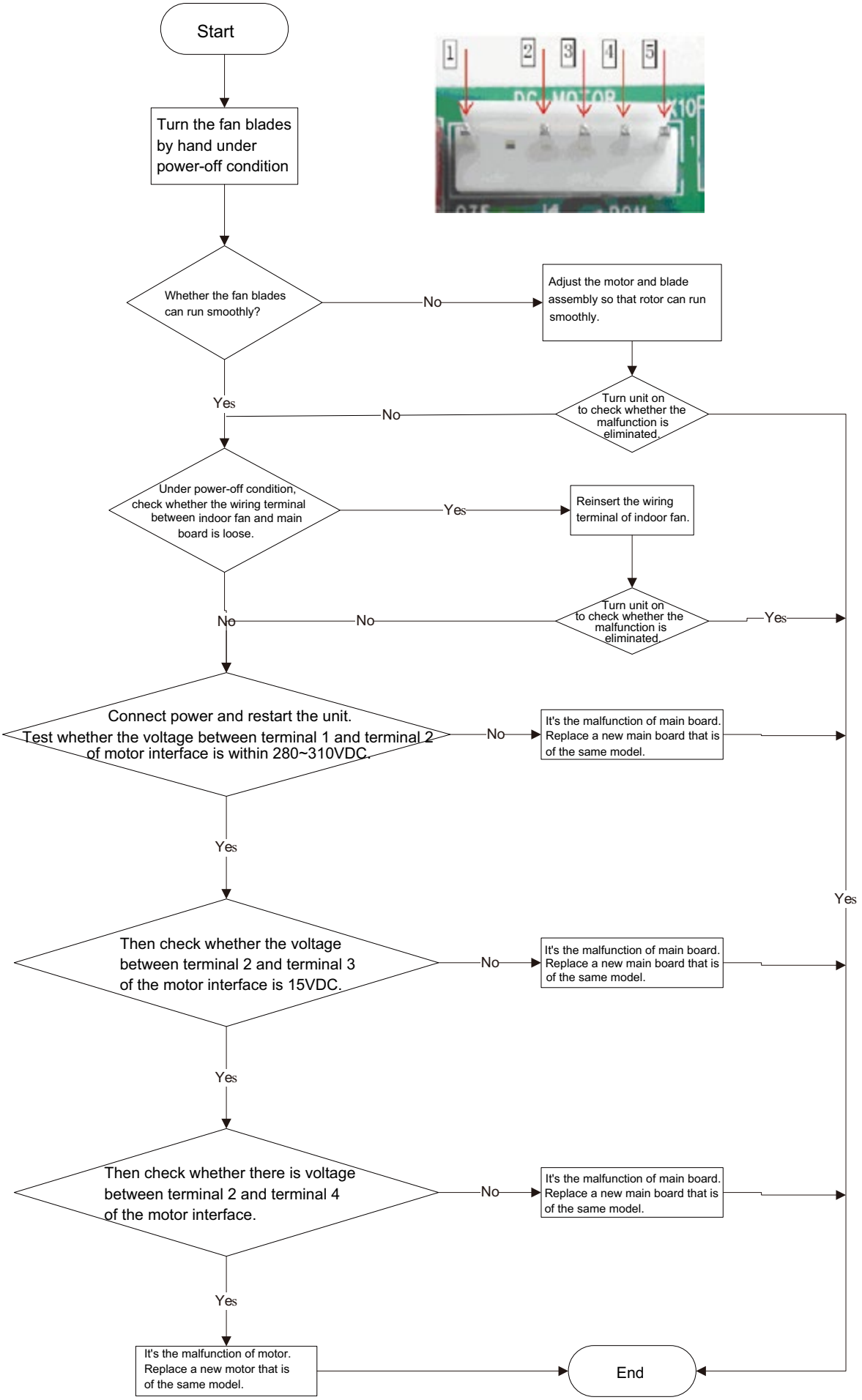
9.3 Troubleshooting for Main Malfunction

●Indoor unit:

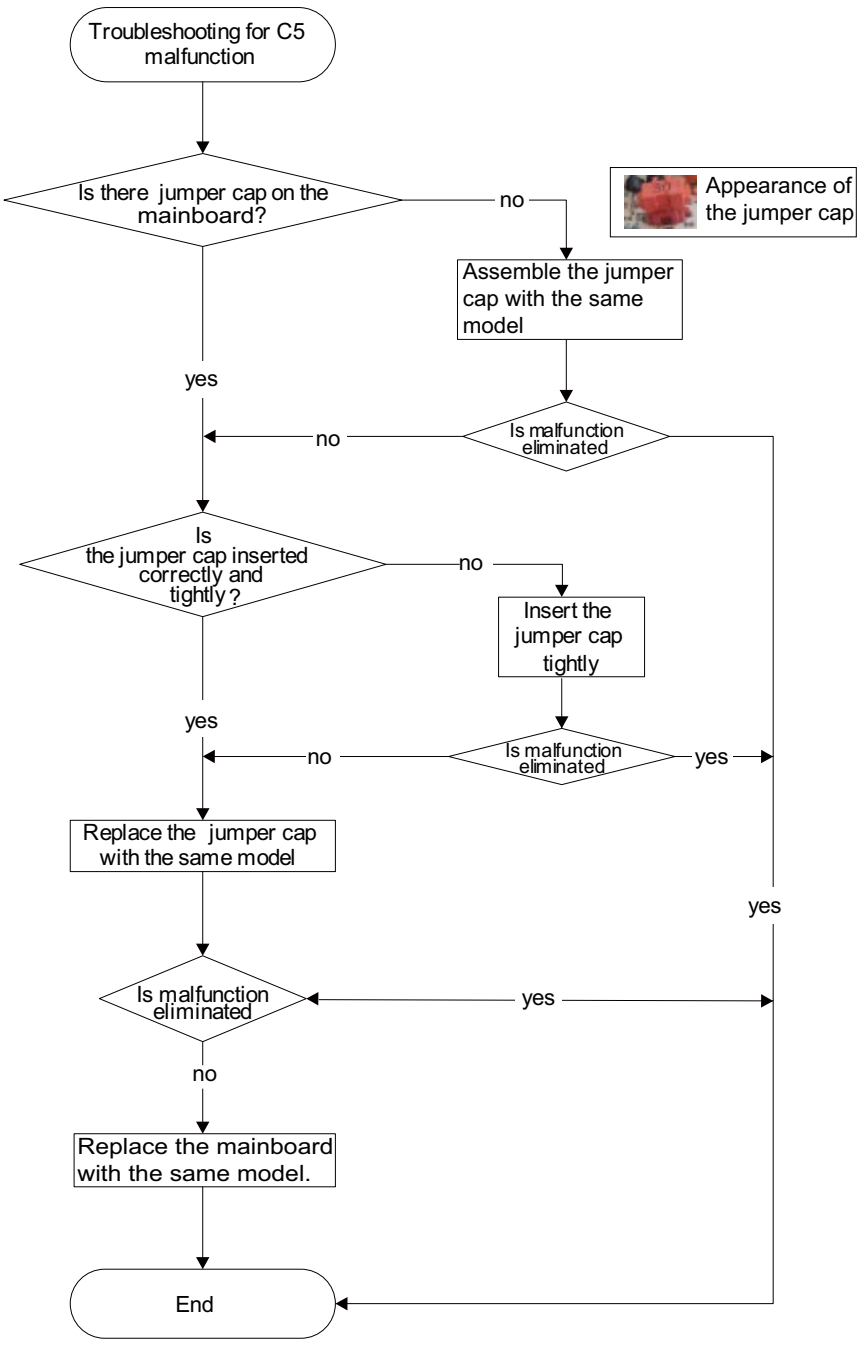
1. Malfunction of Temperature Sensor F1, F2



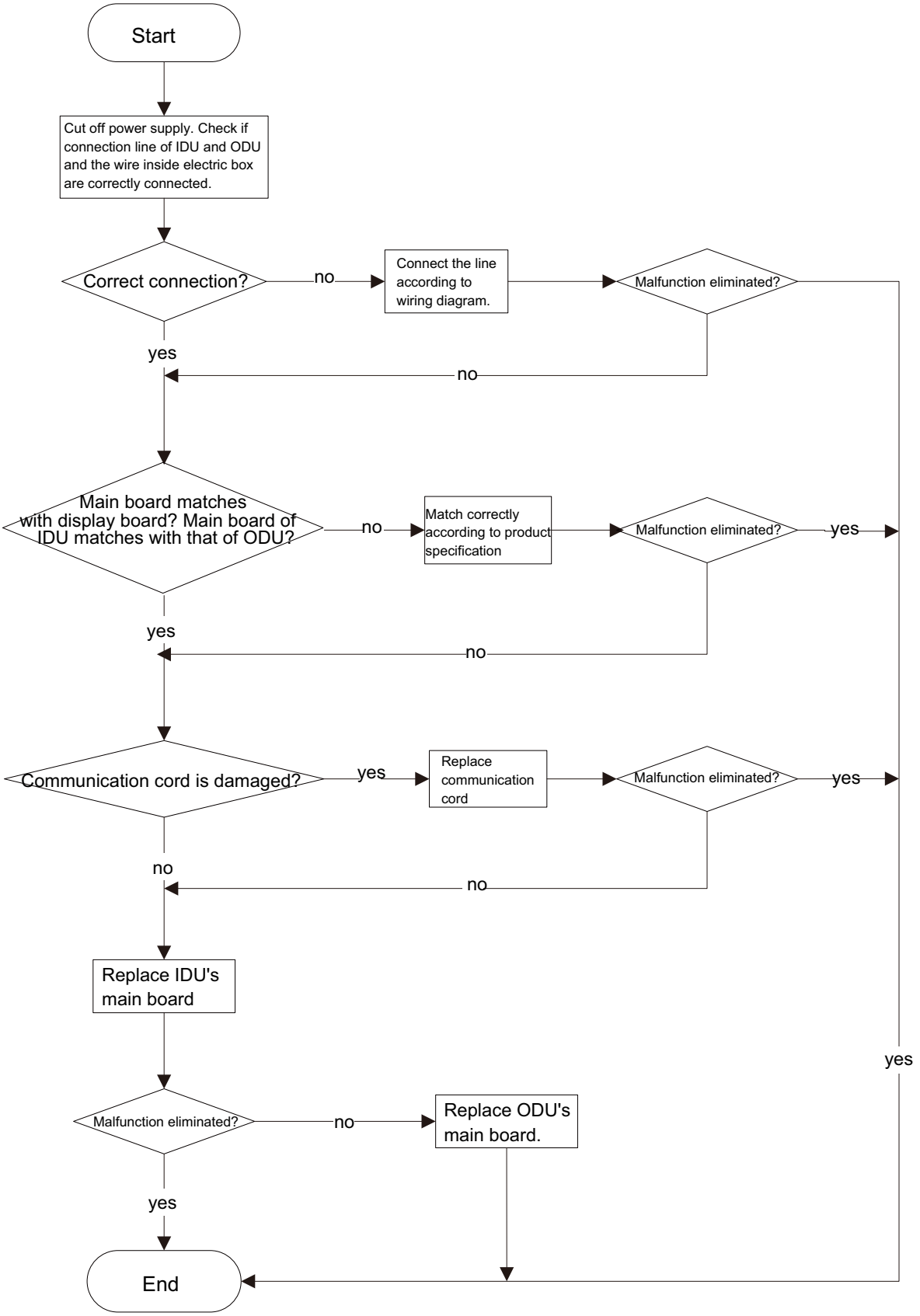
2. Malfunction of Blocked Protection of IDU Fan Motor H6



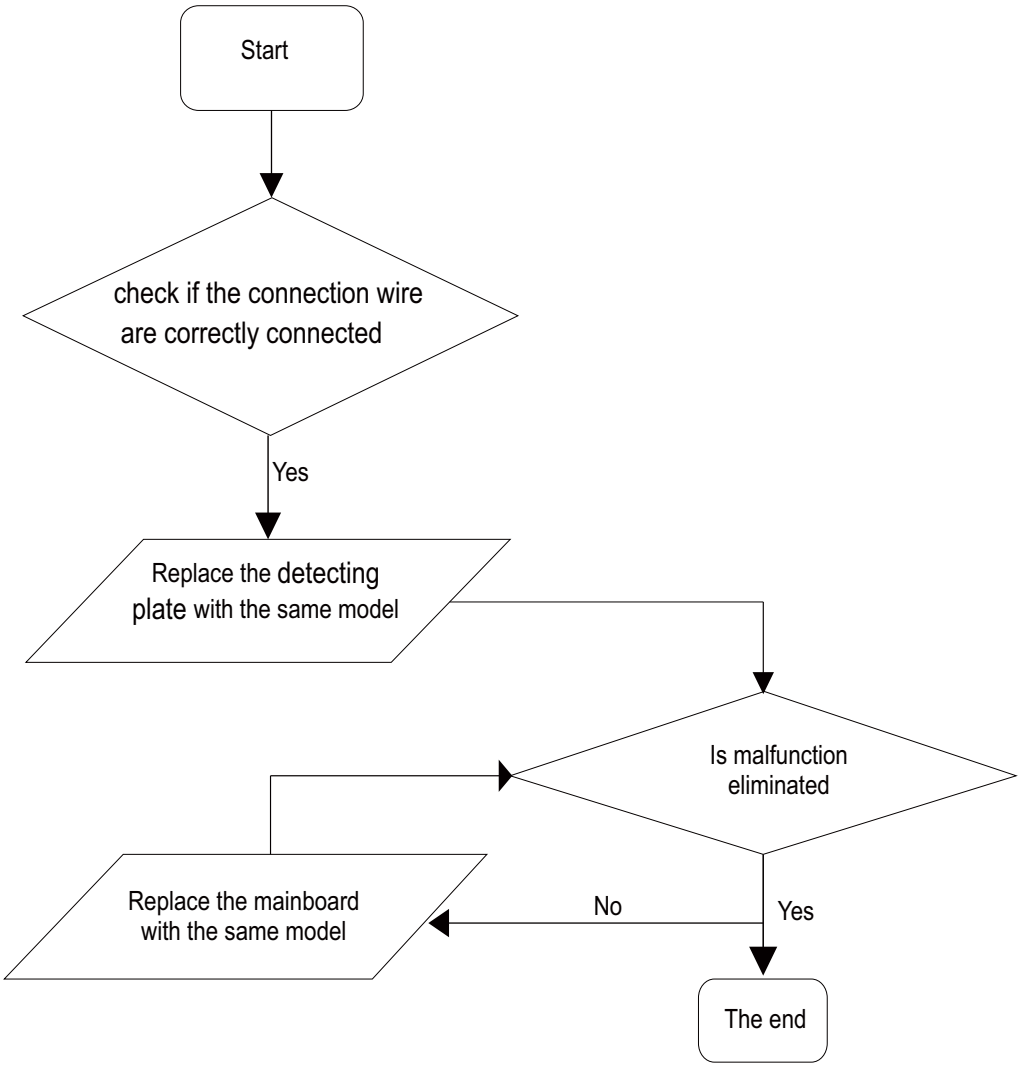
3. Malfunction of Protection of Jumper Cap C5



4. Communication malfunction E6

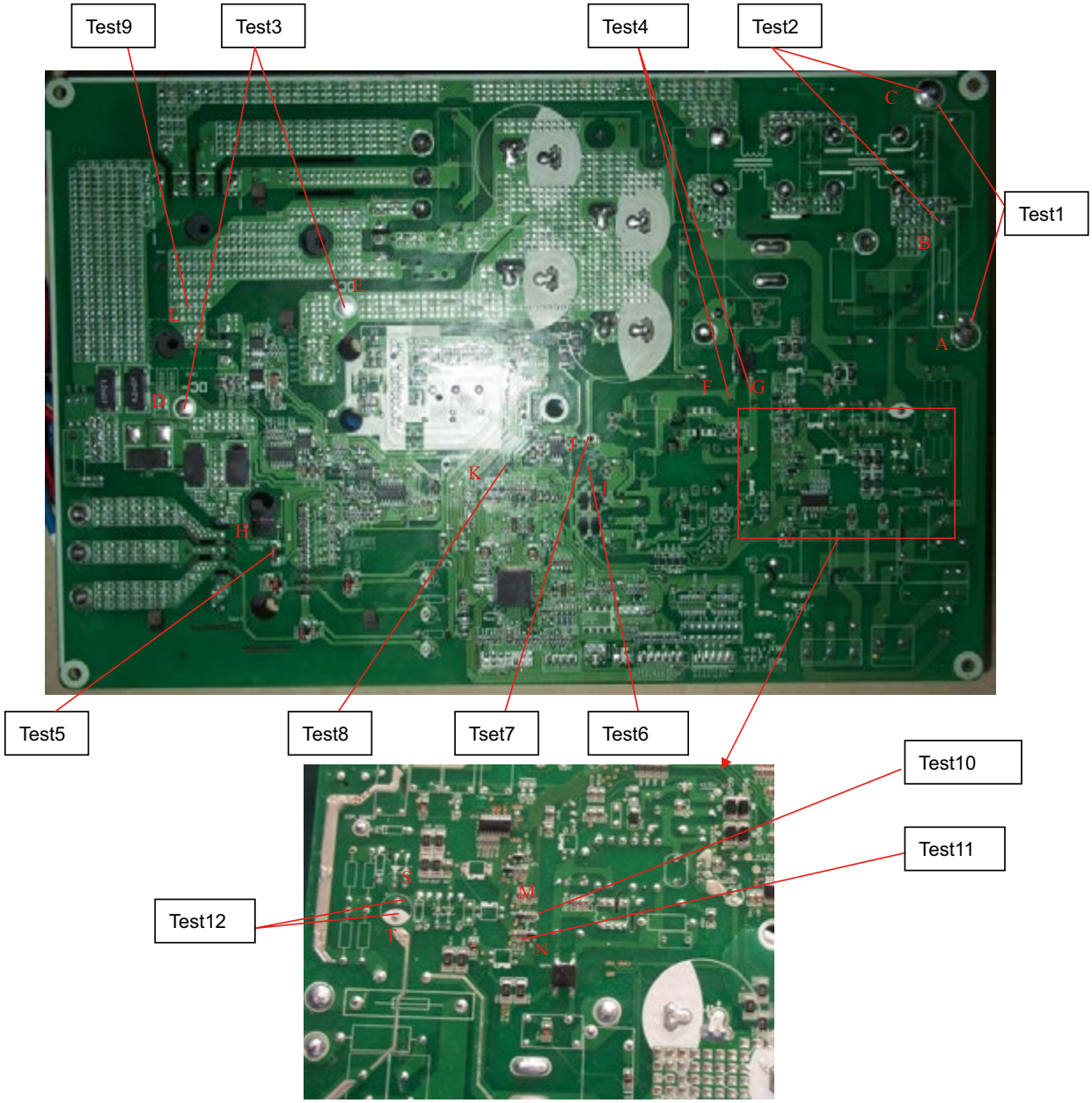


5. Malfunction of detecting plate(WIFI) JF



●Outdoor unit:

1.Key detection point



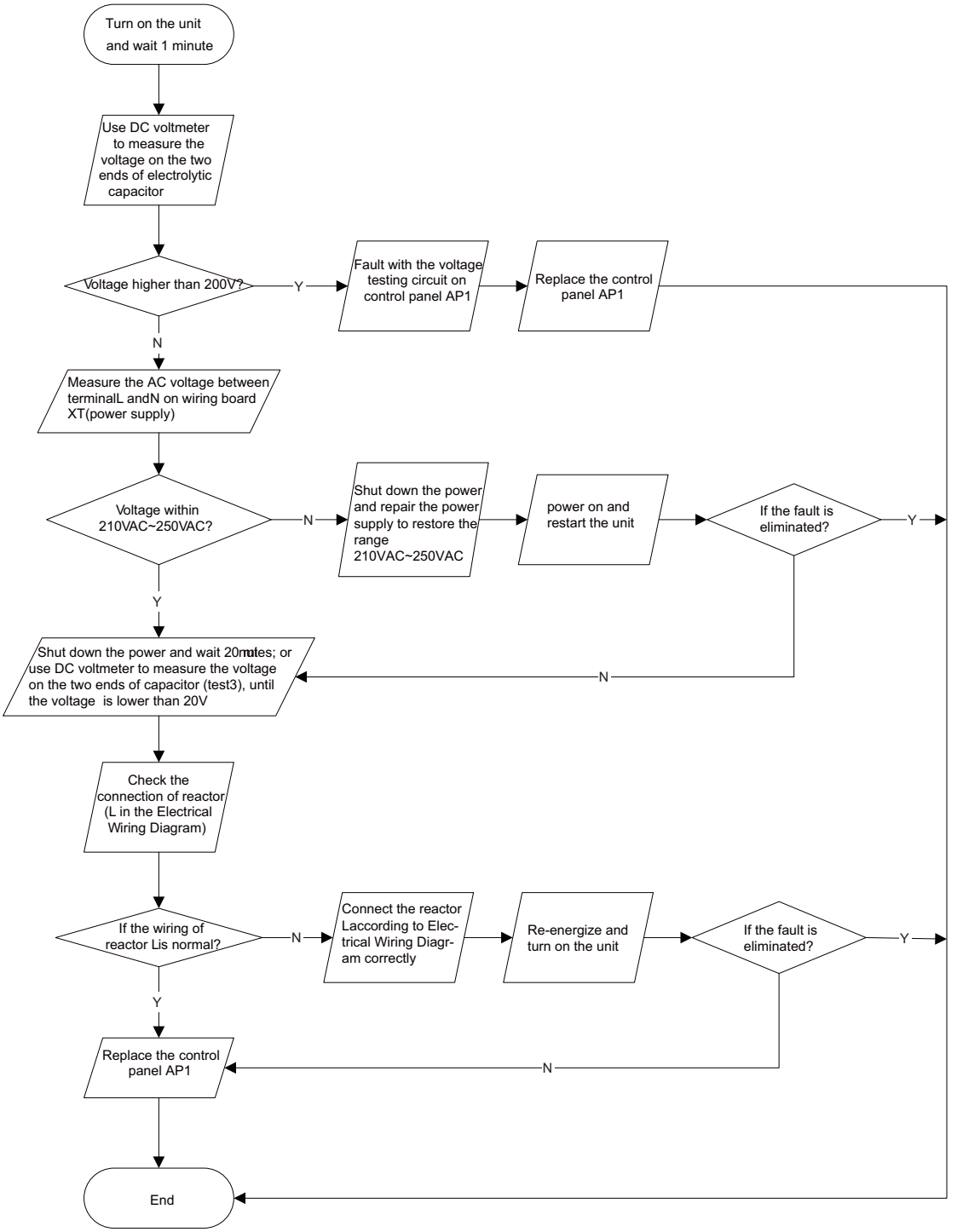
Test NO	Test point	Corresponding component	Test value under normal condition
Test 1	Between A and C	Neutral and live wires	160V~265V
Test 2	Between B and C	Neutral and live wires	160V~265V
Test 3	Between D and E	DC busbar electrolytic capacitor	DC 180V~380V
Test 4	Between F and G	Electrolytic capacitor of power	DC 180V~380V
Test 5	Two ends of diode D15	D15(IPM modular +15V power supply)	DC 14.5V~15.6V
Test 6	Two ends of electrolytic capacitor C715	C715(+12V power supply)	DC 12V~13V
Test 7	Two ends of electrolytic capacitor C710	C710(+5V power supply)	DC 5V
Test 8	Two ends of electrolytic capacitor C226	C226(+3.3V power supply)	DC 3.3V
Test 9	Two ends of chip capacitor C912	C912(+17V power supply)	DC 15V~18V
Test 10	Between M to GND	Point M of R75 to ground (signal sending port of ODU)	Fluctuate between 0~3.3V
Test 11	Between N to GND	Point N of R123 to ground (signal receiving port of ODU)	Fluctuate between 0~3.3V
Test 12	Between S and T	Power supply of communication ring	DC 56V

2.Capacity charging malfunction (outdoor unit malfunction) (AP1 below is control board of outdoor unit)

Main detection point:

- Detect if the voltage of L and N terminal of wiring board is between 210AC-240AC by alternating voltage meter;
- Is reactor (L) well connected? Is connection wire loosened or pull-out? Is reactor (L) damaged?

Malfunction diagnosis process:

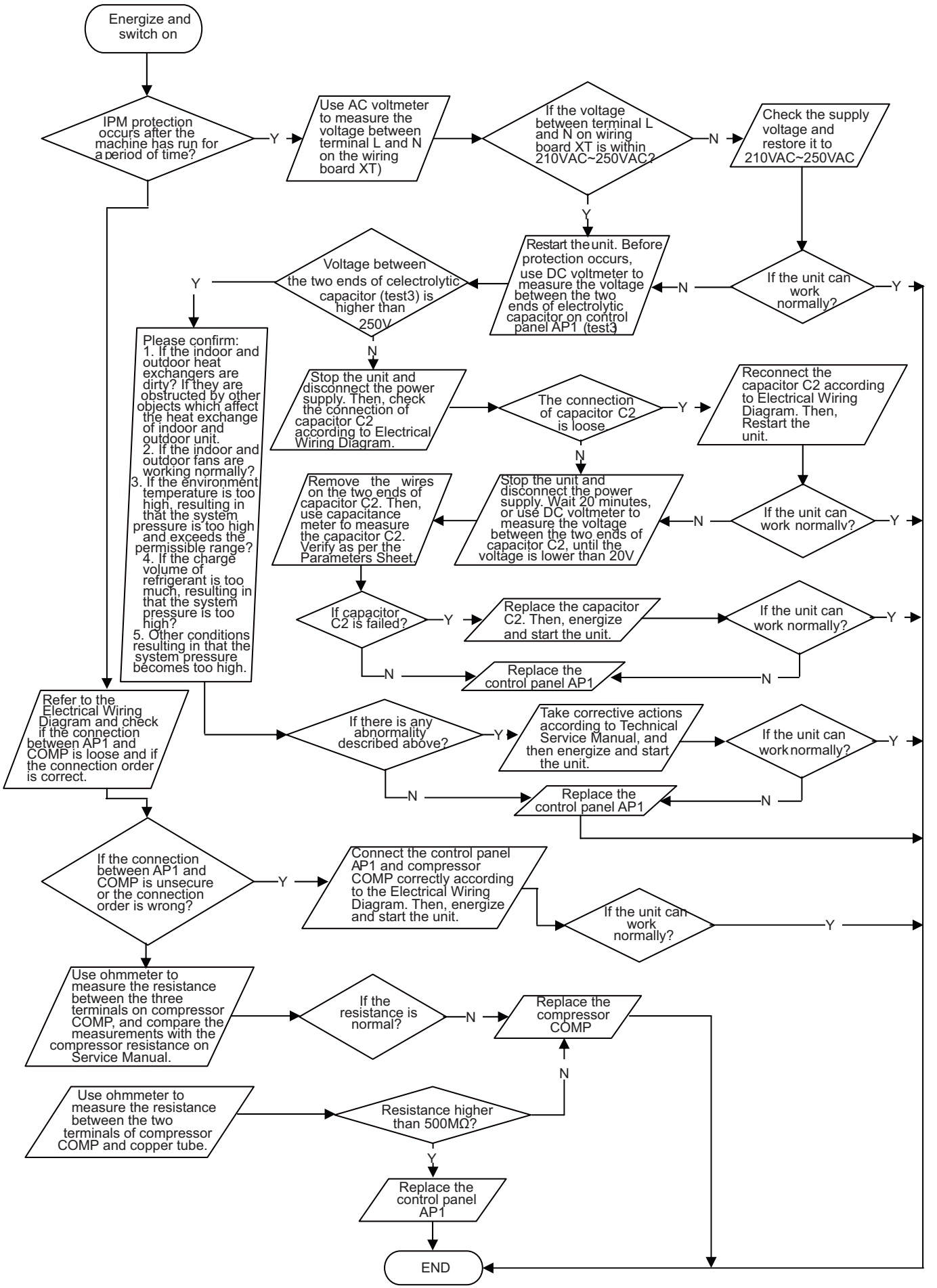


3.IPM protection, desynchronizing malfunction, phase current of compressor is overcurrent (AP1 below is control board of outdoor unit)

Main detection point:

- If control board AP1 and compressor COMP is well connected? If they are loosened? If the connection sequence is correct?
- Is voltage input in the normal range (Test the voltage between L, N of wiring board XT by DC voltage meter)?
- If coil resistance of compressor is normal? Is compressor coil insulating to copper pipe well?
- If the work load of unit is heavy? If radiating of unit is well?
- If the refrigerant charging is appropriate?

Malfunction diagnosis process:

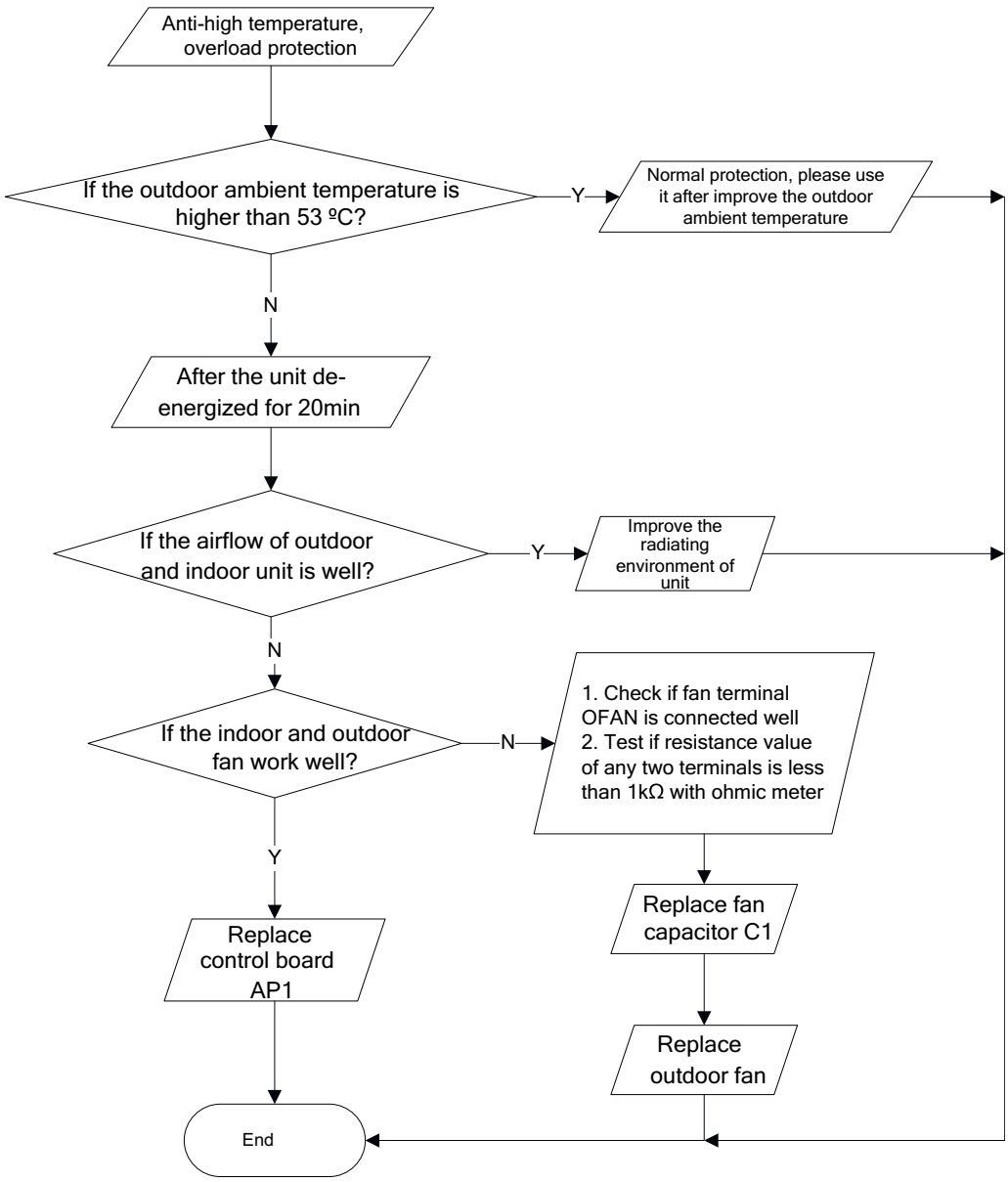

Energize and switch on
IPM protection occurs after the machine has run for a period of time?
Y
Use AC voltmeter to measure the voltage between terminal L and N on the wiring board XT)
If the voltage between terminal L and N on wiring board XT is within 210VAC~250VAC?
N
Check the supply voltage and restore it to 210VAC~250VAC
Y
Restart the unit. Before protection occurs, use DC voltmeter to measure the voltage between the two ends of electrolytic capacitor on control panel AP1 (test3)
N
If the unit can work normally?
Y
Voltage between the two ends of celectrolytic capacitor (test3) is higher than 250V
Y
N
Please confirm:
1. If the indoor and outdoor heat exchangers are dirty? If they are obstructed by other objects which affect the heat exchange of indoor and outdoor unit.
2. If the indoor and outdoor fans are working normally?
3. If the environment temperature is too high, resulting in that the system pressure is too high and exceeds the permissible range?
4. If the charge volume of refrigerant is too much, resulting in that the system pressure is too high?
5. Other conditions resulting in that the system pressure becomes too high.
Stop the unit and disconnect the power supply. Then, check the connection of capacitor C2 according to Electrical Wiring Diagram.
The connection of capacitor C2 is loose
Y
Reconnect the capacitor C2 according to Electrical Wiring Diagram. Then, Restart the unit.
N
Stop the unit and disconnect the power supply. Wait 20 minutes, or use DC voltmeter to measure the voltage between the two ends of capacitor C2, until the voltage is lower than 20V
N
If the unit can work normallv?
Y
Remove the wires on the two ends of capacitor C2. Then, use capacitance meter to measure the capacitor C2. Verify as per the Parameters Sheet.
If capacitor C2 is failed?
Y
Replace the capacitor C2. Then, energize and start the unit.
If the unit can work normally?
Y
N
Replace the control panel AP1
N
Refer to the Electrical Wiring Diagram and check if the connection between AP1 and COMP is loose and if the connection order is correct.
If there is any abnormality described above?
Y
Take corrective actions according to Technical Service Manual, and then energize and start the unit.
If the unit can work normally?
Y
N
Replace the control panel AP1
N
If the connection between AP1 and COMP is unsecure or the connection order is wrong?
Y
Connect the control panel AP1 and compressor COMP correctly according to the Electrical Wiring Diagram. Then, energize and start the unit.
If the unit can work normally?
Y
Use ohmmeter to measure the resistance between the three terminals on compressor COMP, and compare the measurements with the compressor resistance on Service Manual.
If the resistance is normal?
N
Replace the compressor COMP
N
Use ohmmeter to measure the resistance between the two terminals of compressor COMP and copper tube.
Resistance higher than 500MΩ?
Y
Replace the control panel AP1
END

4.Diagnosis for anti-high temperature, overload protection (AP1 below is control board of outdoor unit)

Main detection point:

- If the outdoor ambient temperature is in normal range;
- If the indoor and outdoor fan is running normal;
- If the radiating environment of indoor and outdoor unit is well.

Malfunction diagnosis process:

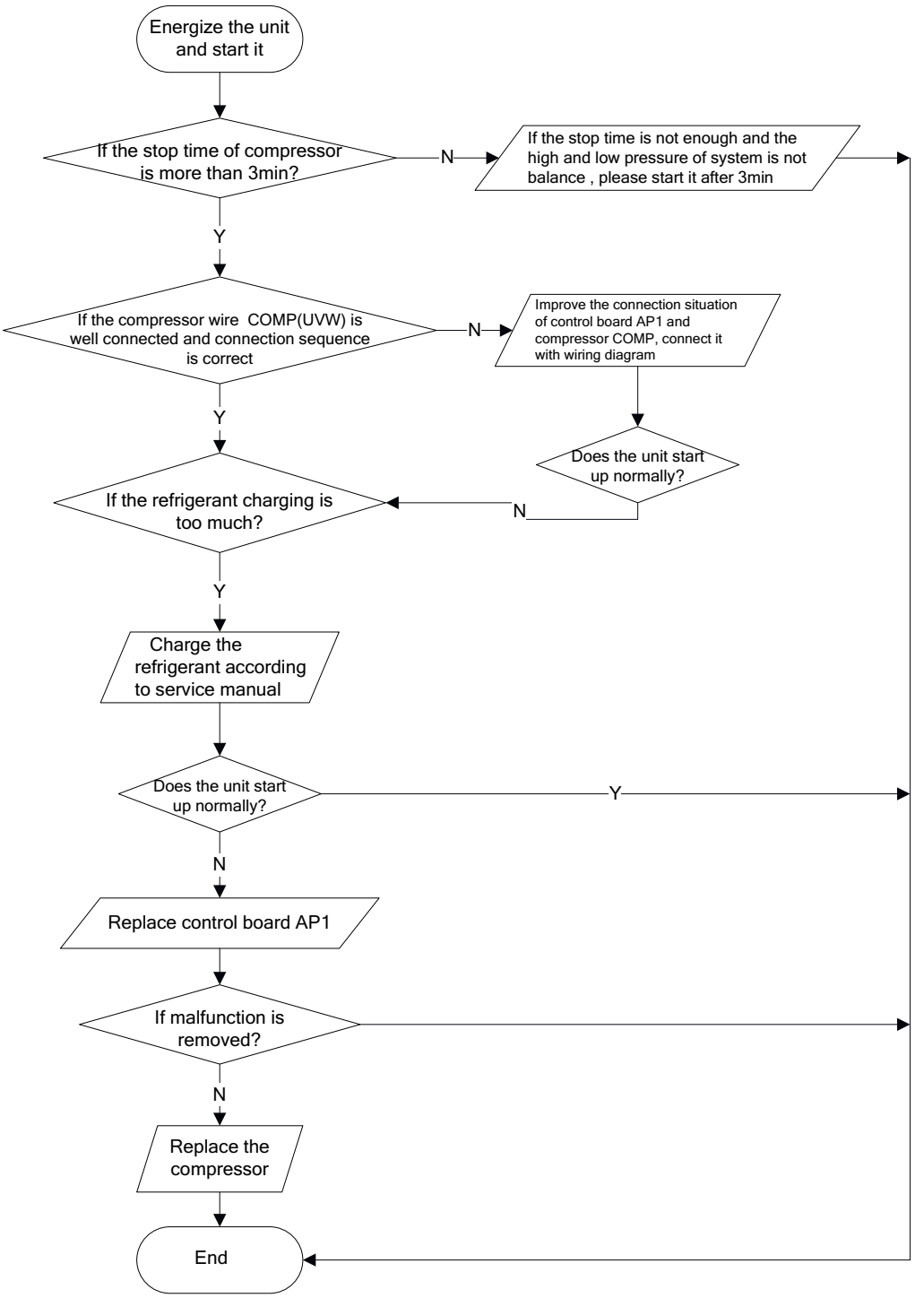


5.Diagnosis for failure start up malfunction (AP1 below is control board of outdoor unit)

Main detection point:

- If the compressor wiring is correct?
- If the stop time of compressor is enough?
- If the compressor is damaged?
- If the refrigerant charging is too much?

Malfunction diagnosis process:

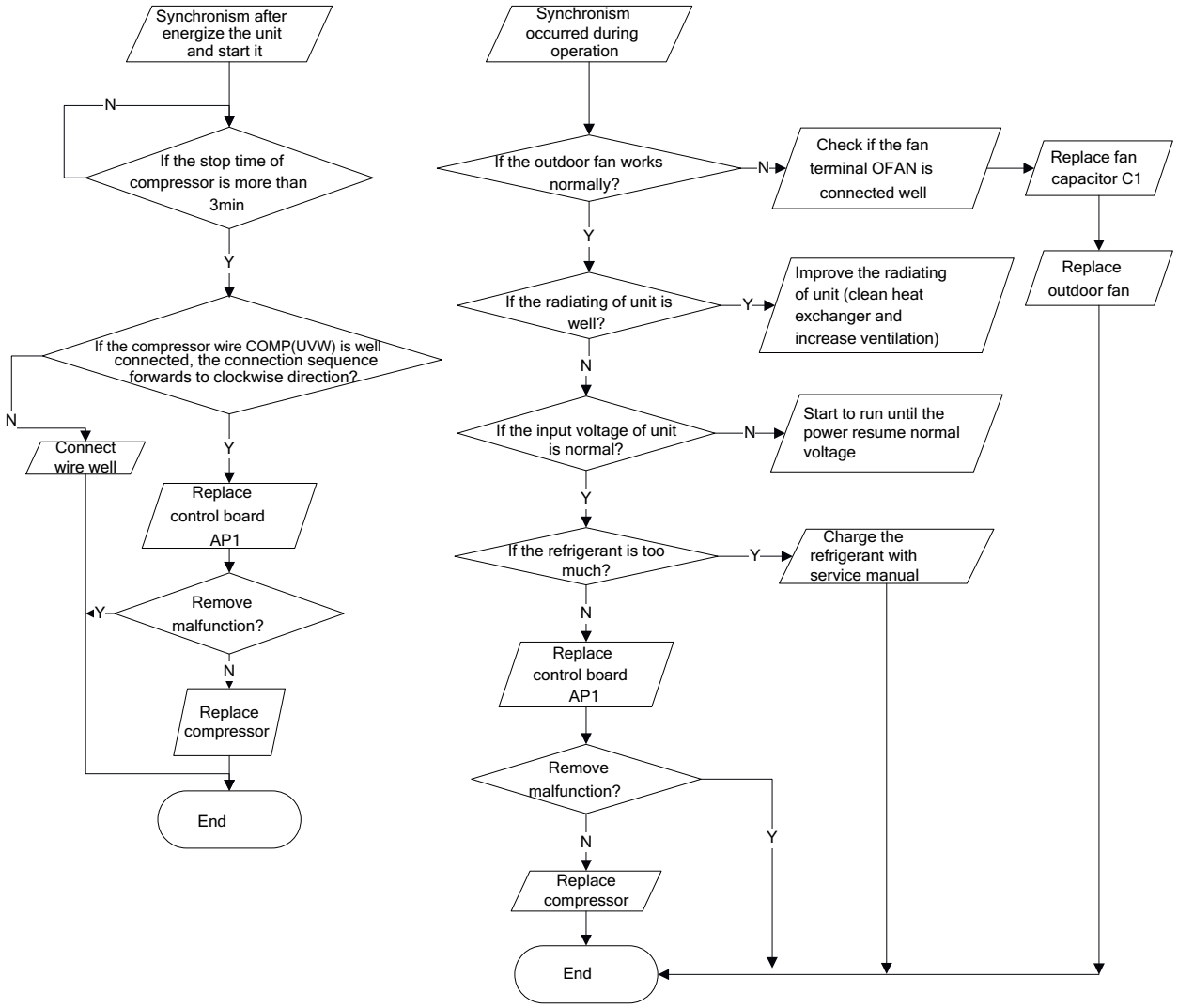


6. Diagnosis for compressor synchronism (AP1 below is control board of outdoor unit)

Main detection point:

- If the system pressure is over-high?
- If the work voltage is over-low?

Malfunction diagnosis process:

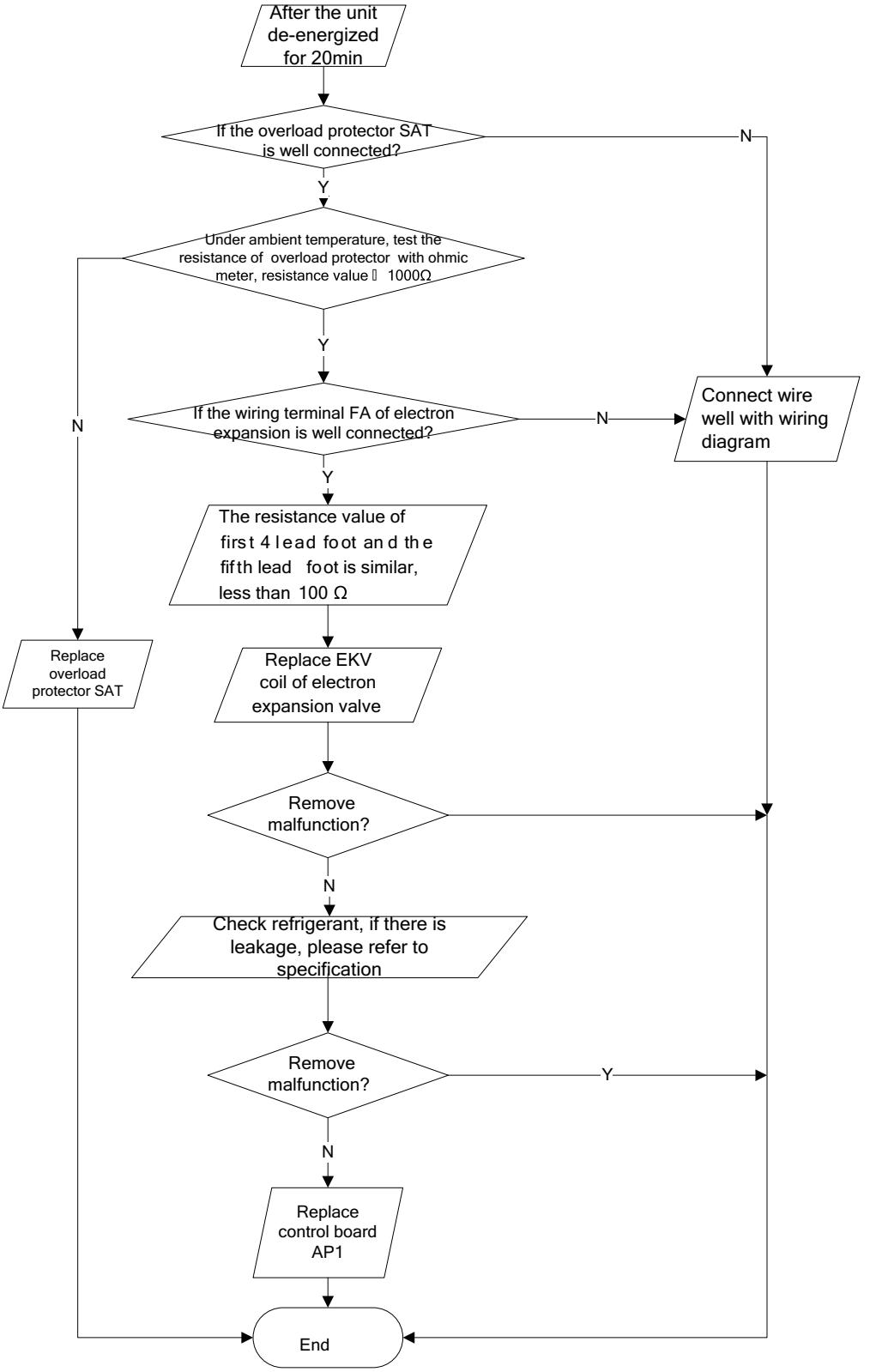


7.Diagnosis for overload and discharge malfunction (AP1 below is control board of outdoor unit)

Main detection point:

- If the electron expansion valve is connected well? Is the expansion valve damaged?
- If the refrigerant is leakage?
- If the overload protector is damaged?

Malfunction diagnosis process:

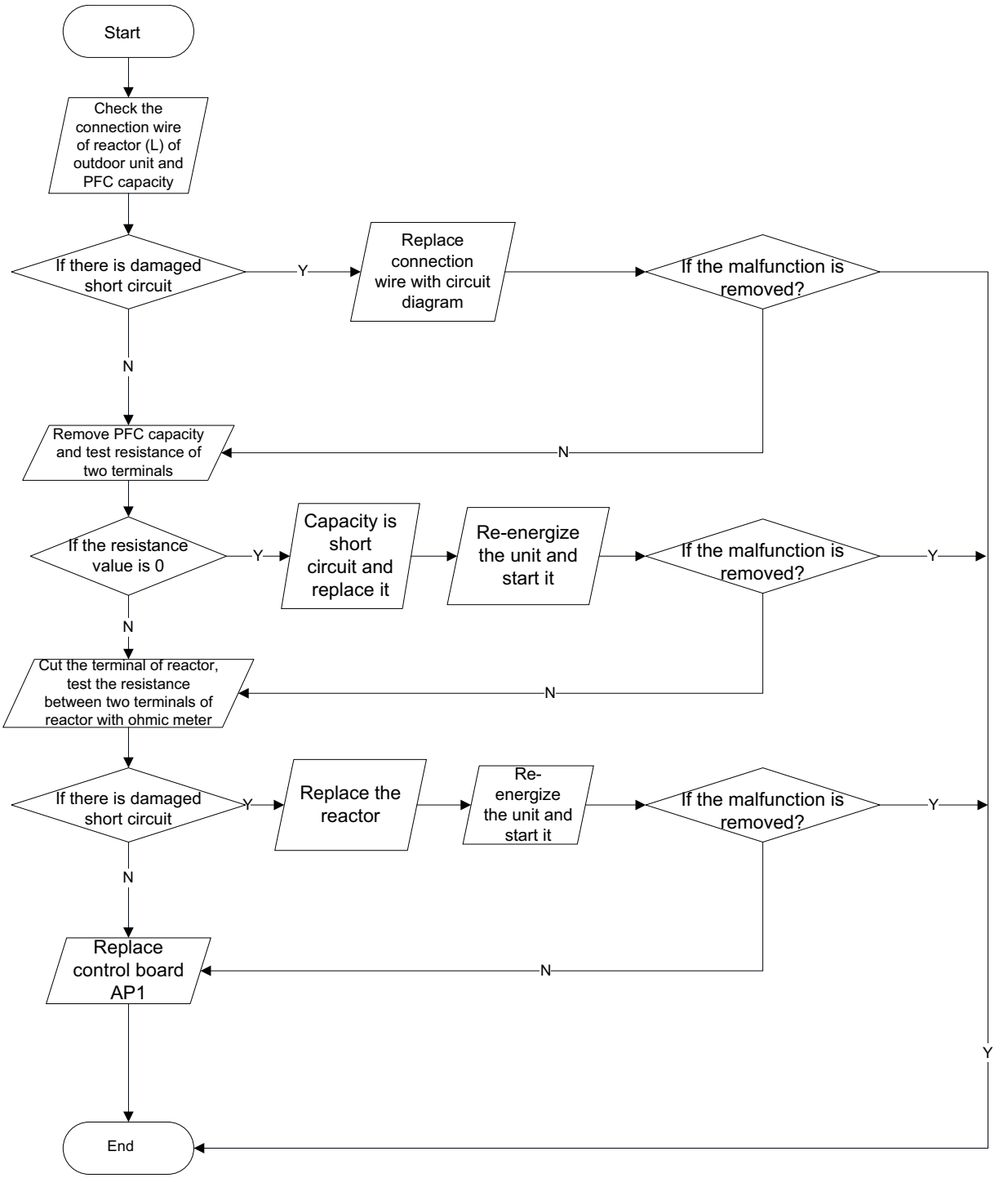


8.PFC (correction for power factor) malfunction (outdoor unit malfunction) (AP1 below is control board of outdoor unit)

Main detection point:

● Check if reactor (L) of outdoor unit and PFC capacity are damaged.

Malfunction diagnosis process:

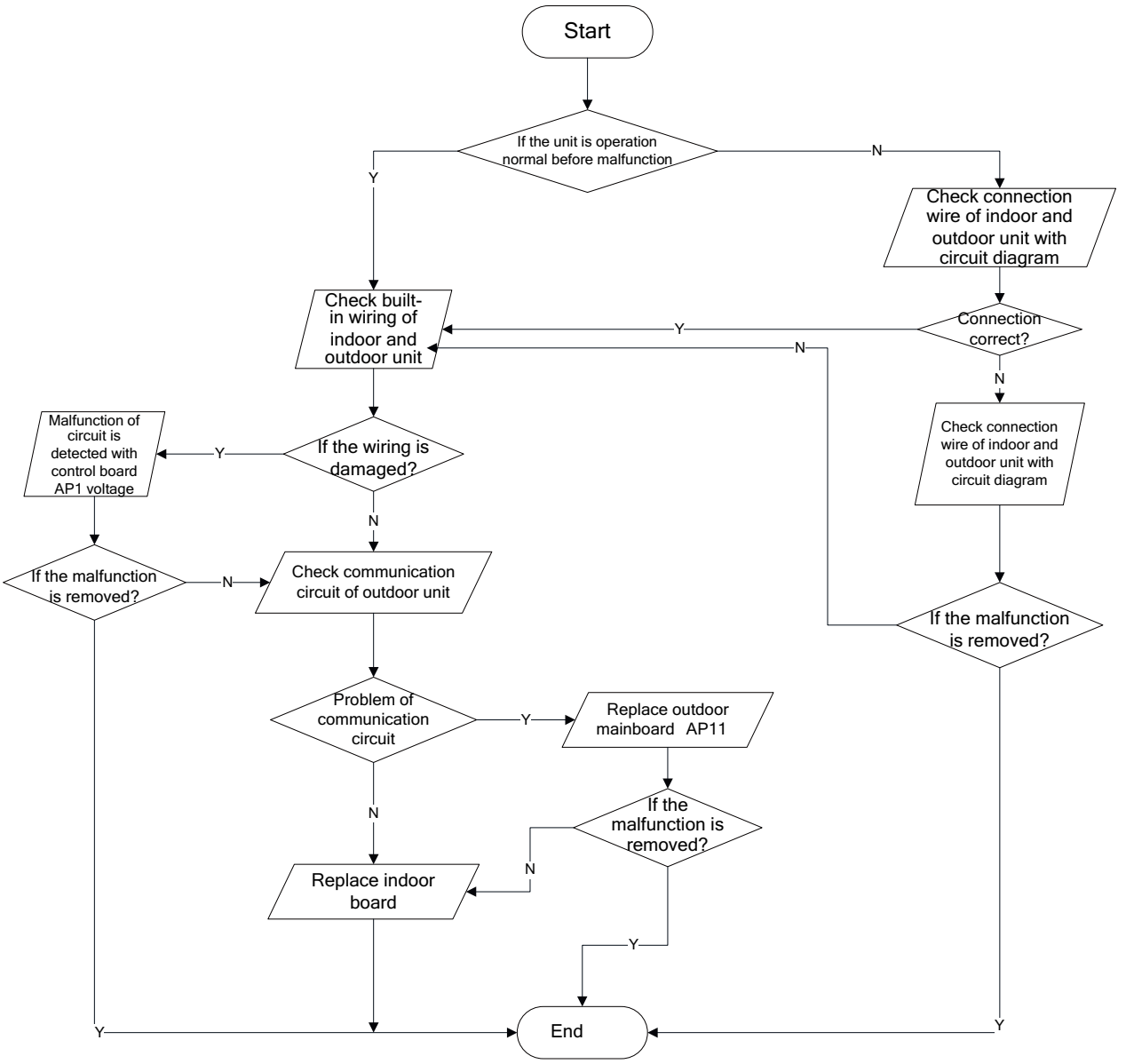


9.Communication malfunction (AP1 below is control board of outdoor unit)

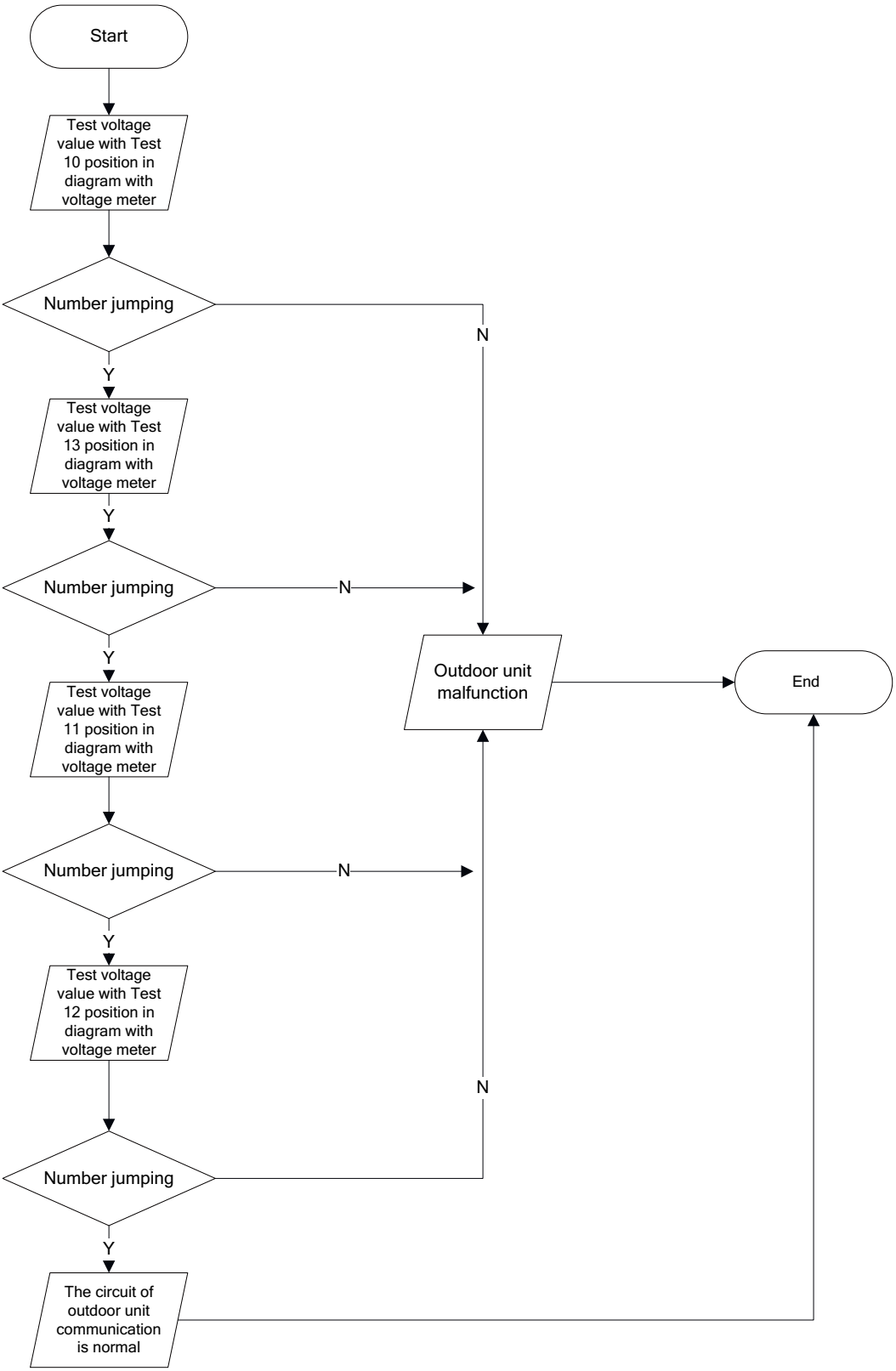
Main detection point:

● Check if the connection wire and the built-in wiring of indoor and outdoor unit is connected well and no damaged;
● If the communication circuit of indoor mainboard is damaged? If the communication circuit of outdoor mainboard (AP1) is damaged

Malfunction diagnosis process:



10.Diagnosis process for outdoor communication circuit



9.4 Troubleshooting for Normal Malfunction

1. Air conditioner can't be started up

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
No power supply, or poor connection for power plug	After energization, operation indicator isn't bright and the buzzer can't give out sound	Confirm whether it's due to power failure. If yes, wait for power recovery. If not, check power supply circuit and make sure the power plug is connected well.
Wrong wire connection between indoor unit and outdoor unit, or poor connection for wiring terminals	Under normal power supply circumstances, operation indicator isn't bright after energization	Check the circuit according to circuit diagram and connect wires correctly. Make sure all wiring terminals are connected firmly
Electric leakage for air conditioner	After energization, room circuit breaker trips off at once	Make sure the air conditioner is grounded reliably Make sure wires of air conditioner is connected correctly Check the wiring inside air conditioner. Check whether the insulation layer of power cord is damaged; if yes, place the power cord.
Model selection for air switch is improper	After energization, air switch trips off	Select proper air switch
Malfunction of remote controller	After energization, operation indicator is bright, while no display on remote controller or buttons have no action.	Replace batteries for remote controller Repair or replace remote controller

2. Poor cooling (heating) for air conditioner

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Set temperature is improper	Observe the set temperature on remote controller	Adjust the set temperature
Rotation speed of the IDU fan motor is set too low	Small wind blow	Set the fan speed at high or medium
Filter of indoor unit is blocked	Check the filter to see it's blocked	Clean the filter
Installation position for indoor unit and outdoor unit is improper	Check whether the installation postion is proper according to installation requirement for air conditioner	Adjust the installation position, and install the rainproof and sunproof for outdoor unit
Refrigerant is leaking	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Unit's pressure is much lower than regulated range	Find out the leakage causes and deal with it. Add refrigerant.
Malfunction of 4-way valve	Blow cold wind during heating	Replace the 4-way valve
Malfunction of capillary	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Unit't pressure is much lower than regulated range. If refrigerant isn't leaking, part of capillary is blocked	Replace the capillary
Flow volume of valve is insufficient	The pressure of valves is much lower than that stated in the specification	Open the valve completely
Malfunction of horizontal louver	Horizontal louver can't swing	Refer to point 3 of maintenance method for details
Malfunction of the IDU fan motor	The IDU fan motor can't operate	Refer to troubleshooting for H6 for maintenance method in details
Malfunction of the ODU fan motor	The ODU fan motor can't operate	Refer to point 4 of maintenance method for details
Malfunction of compressor	Compressor can't operate	Refer to point 5 of maintenance method for details

3. Horizontal louver can't swing

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Stepping motor is damaged	Stepping motor can't operate	Repair or replace stepping motor
Main board is damaged	Others are all normal, while horizontal louver can't operate	Replace the main board with the same model

4. ODU Fan motor can't operate

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Capacity of the ODU fan motor is damaged	Measure the capacity of fan capacitor with an universal meter and find that the capacity is out of the deviation range indicated on the nameplate of fan capacitor.	Replace the capacity of fan
Power voltage is a little low or high	Use universal meter to measure the power supply voltage. The voltage is a little high or low	Suggest to equip with voltage regulator
Motor of outdoor unit is damaged	When unit is on, cooling/heating performance is bad and ODU compressor generates a lot of noise and heat.	Change compressor oil and refrigerant. If no better, replace the compressor with a new one

5. Compressor can't operate

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Capacity of compressor is damaged	Measure the capacity of fan capacitor with an universal meter and find that the capacity is out of the deviation range indicated on the nameplate of fan capacitor.	Replace the compressor capacitor
Power voltage is a little low or high	Use universal meter to measure the power supply voltage. The voltage is a little high or low	Suggest to equip with voltage regulator
Coil of compressor is burnt out	Use universal meter to measure the resistance between compressor terminals and it's 0	Repair or replace compressor
Cylinder of compressor is blocked	Compressor can't operate	Repair or replace compressor

6. Air conditioner is leaking

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Drain pipe is blocked	Water leaking from indoor unit	Eliminate the foreign objects inside the drain pipe
Drain pipe is broken	Water leaking from drain pipe	Replace drain pipe
Wrapping is not tight	Water leaking from the pipe connection place of indoor unit	Wrap it again and bundle it tightly

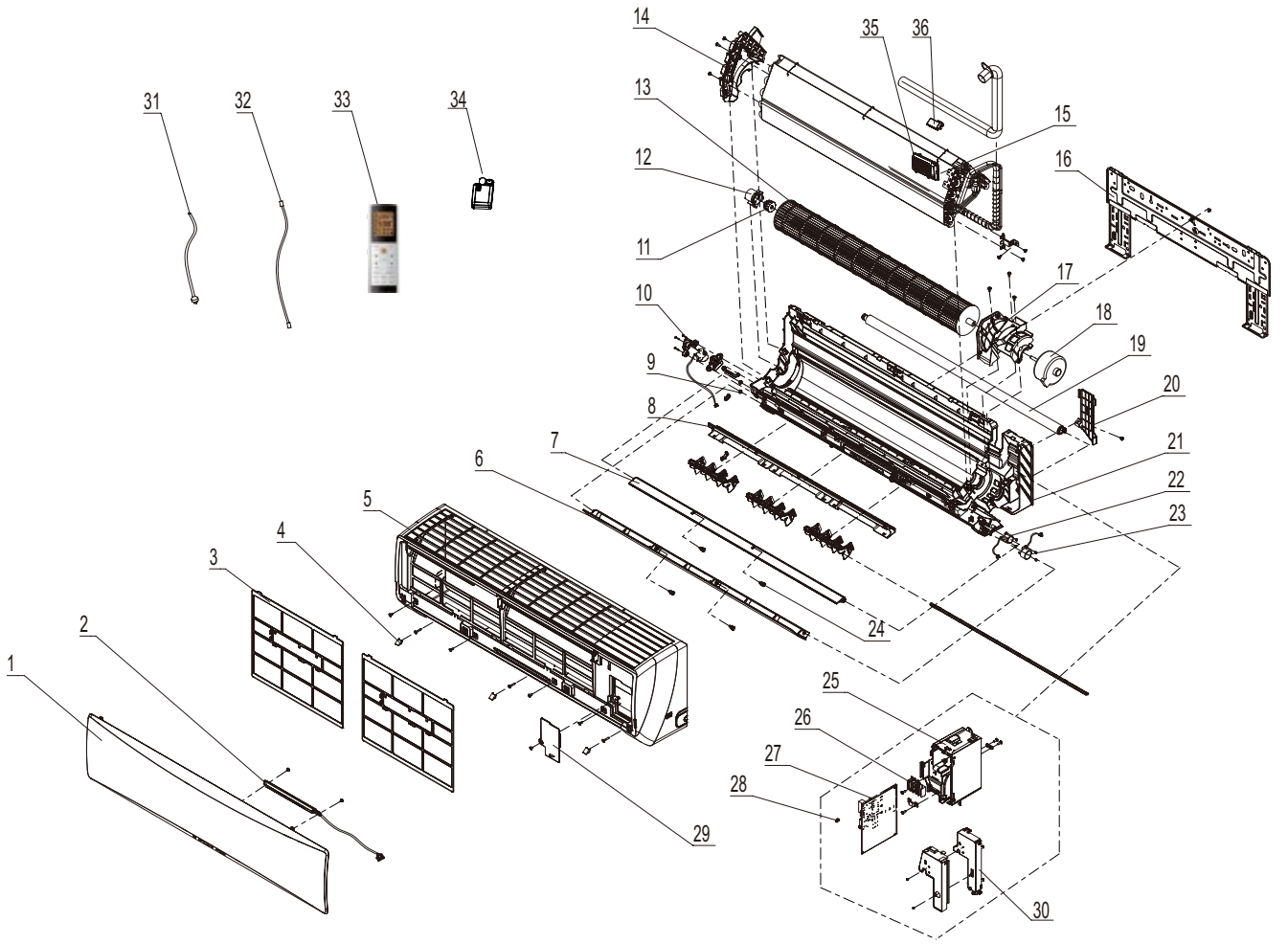
7. Abnormal sound and vibration

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
When turn on or turn off the unit, the panel and other parts will expand and there's abnormal sound	There's the sound of "PAPA"	Normal phenomenon. Abnormal sound will disappear after a few minutes.
When turn on or turn off the unit, there's abnormal sound due to flow of refrigerant inside air conditioner	Water-running sound can be heard	Normal phenomenon. Abnormal sound will disappear after a few minutes.
Foreign objects inside the indoor unit or there're parts touching together inside the indoor unit	There's abnormal sound fro indoor unit	Remove foreign objects. Adjust all parts' position of indoor unit, tighten screws and stick damping plaster between connected parts
Foreign objects inside the outdoor unit or there're parts touching together inside the outdoor unit	There's abnormal sound fro outdoor unit	Remove foreign objects. Adjust all parts' position of outdoor unit, tighten screws and stick damping plaster between connected parts
Short circuit inside the magnetic coil	During heating, the way valve has abnormal electromagnetic sound	Replace magnetic coil
Abnormal shake of compressor	Outdoor unit gives out abnormal sound	Adjust the support foot mat of compressor, tighten the bolts
Abnormal sound inside the compressor	Abnormal sound inside the compressor	If add too much refrigerant during maintenance, please reduce refrigerant properly. Replace compressor for other circumstances.

10. Exploded View and Parts List

10.1 Indoor Unit

(1) 18K Unit



The component picture is only for reference; please refer to the actual product.

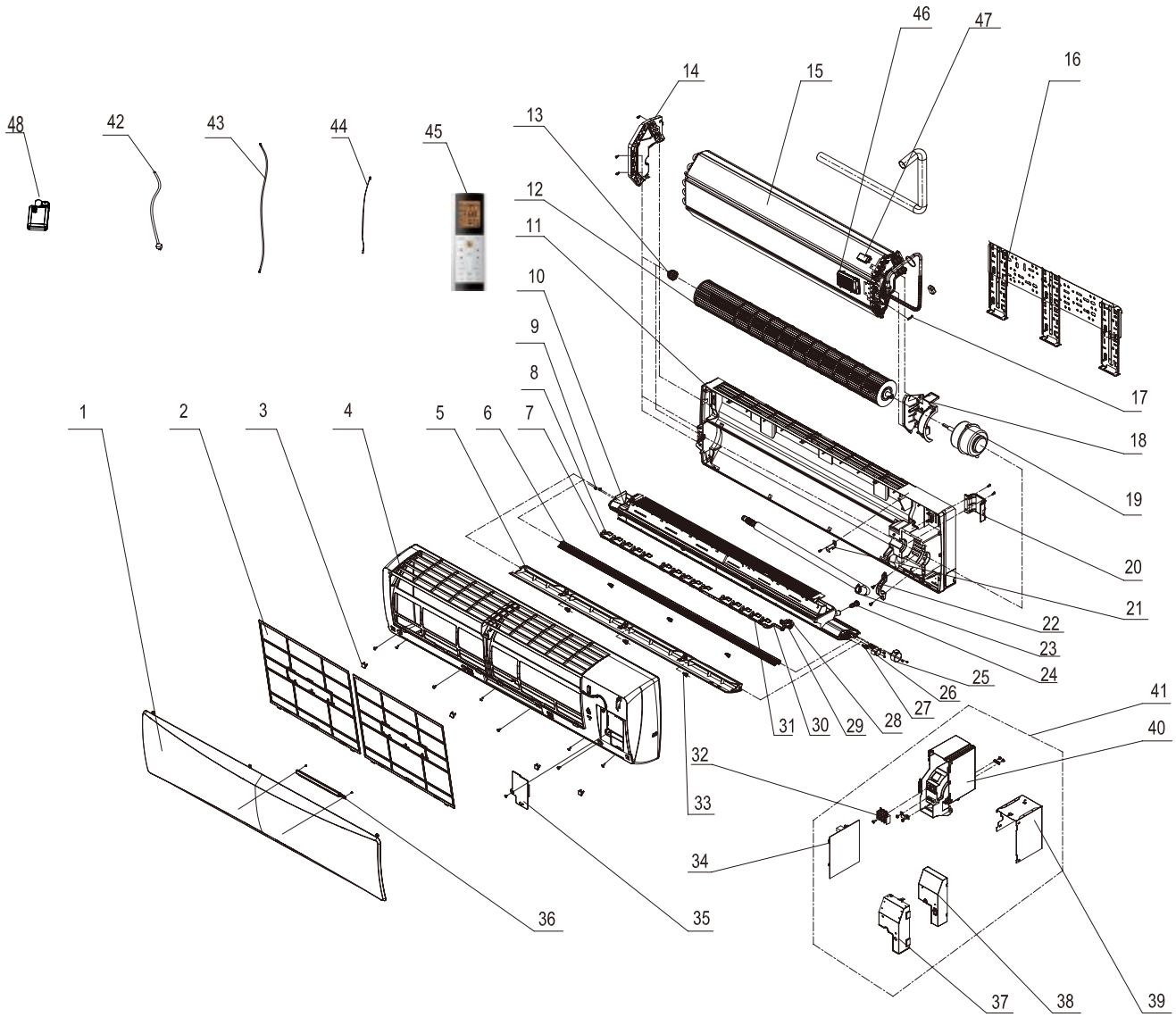
No.	Description	Part Code		Qty
		GWH18TC-S3DBA3E/I		
	Product Code	CB412N03201	CB412N03202	
1	Front Panel	20022287	20022287	1
2	Display Board	30565210	30565210	1
3	Filter Sub-Assy	1112209105	1112209105	2
4	Screw Cover	242520179	242520179	3
5	Front Case	2001282101	2001282101	1
6	Guide Louver	1051222501	1051222501	1
7	Guide Louver (small)	1051222601	1051222601	1
8	Helicoid Tongue	2611236701	2611236701	1
9	Left Axile Bush	1051203701	1051203701	2
10	Stepping Motor	1501208602	1501208602	1
11	O-Gasket of Cross Fan Bearing	76512203	76512203	1
12	Ring of Bearing	26152025	26152025	1
13	Cross Flow Fan	10352045	10352045	1
14	Evaporator Support	24212139	24212139	1
15	Evaporator Assy	0100238603	0100238603	1
16	Wall Mounting Frame	01252123	01252123	1
17	Motor Press Plate	26112330	26112330	1
18	Fan Motor	1501212701	1501212701	1
19	Drainage Hose	0523001406	0523001406	1
20	Connecting pipe clamp	26112188	26112188	1
21	Rear Case assy	22202361	22202361	1
22	Stepping Motor	1501208603	/1501208603	1
23	Stepping Motor	1521212901	1521212901	1
24	Axile Bush	10542036	10542036	4
25	Electric Box Assy	10000203973	10000203973	1
26	Terminal Board	42011233	42011233	1
27	Main Board	30138001027	30138001027	1
28	Jumper	4202300112	4202300112	1
29	Electric Box Cover2	2012214204	2012214204	1
30	Electric Box Cover	2012240901	2012240901	1
31	Power Cord	/	/	/
32	Connecting Cable	4002052317	4002052317	0
33	Remote Controller	30510119	30510119	1
34	Detecting plate(WIFI)	30070060	30110144	1
35	Electrostatic Duster	11012027	11012027	1
36	Cold Plasma Generator	1114001601	1114001601	1

Above data is subject to change without notice.

No.	Description	Part Code		Qty
		GWH18TC-S3DBA2E/I	GWH18TC-S3DBA1E/I	
	Product Code	CB411N03800	CB148N09001	
1	Front Panel	20022272T	20012820T	1
2	Display Board	30565209	30565141	1
3	Filter Sub-Assy	1112209105	1112209105	2
4	Screw Cover	242520179	24252016	3
5	Front Case	2001282101	20012821	1
6	Guide Louver	1051222501	10512225	1
7	Guide Louver (small)	1051222601	1051222601	1
8	Helicoid Tongue	2611236701	2611236701	1
9	Left Axile Bush	1051203701	1051203701	2
10	Stepping Motor	1501208602	1521212901	1
11	O-Gasket of Cross Fan Bearing	76512203	76512203	1
12	Ring of Bearing	26152025	26152025	1
13	Cross Flow Fan	10352045	10352045	1
14	Evaporator Support	24212139	24212139	1
15	Evaporator Assy	0100238603	0100238603	1
16	Wall Mounting Frame	01252123	01252123	1
17	Motor Press Plate	26112330	26112330	1
18	Fan Motor	1501212701	1501212701	1
19	Drainage Hose	0523001406	0523001406	1
20	Connecting pipe clamp	26112188	26112188	1
21	Rear Case assy	22202361	22202361	1
22	Stepping Motor	1501208603	1501208603	1
23	Stepping Motor	1521212901	1521212901	1
24	Axile Bush	10542036	10542036	4
25	Electric Box Assy	10000204415	10000203673	1
26	Terminal Board	42011233	42011233	1
27	Main Board	30138001027	30138001027	1
28	Jumper	4202300112	4202300112	1
29	Electric Box Cover2	2012214204	2012214204	1
30	Electric Box Cover	2012240901	2012240901	1
31	Power Cord	/	/	/
32	Connecting Cable	4002052317	4002052317	0
33	Remote Controller	30510119	30510119	1
34	Detecting plate(WIFI)	30110144	30110144	1
35	Electrostatic Duster	11012027	11012027	1
36	Cold Plasma Generator	1114001601	1114001601	1

Above data is subject to change without notice.

(2) 24K Unit



The component picture is only for reference; please refer to the actual product.

No.	Description	Part Code		Qty
		GWH24TD-S3DBA3E/I	GWH24TD-S3DBA2E/I	
	Product Code	CB412N03101	CB411N04000	
1	Front Panel Assy	20022299	20022305	1
2	Filter Sub-Assy	11122136	11122136	2
5	Screw Cover	242520054	242520054	4
4	Front Case Sub-assy	20022298	20022298	1
5	Guide Louver	1051223601	1051223601	1
6	Small Guide Louver	1051223701	1051223701	1
7	Swing Lever2	1058211601	1058211601	1
8	Air Louver	10512252	10512252	15
9	Left Axile Bush	1051203701	1051203701	2
10	Water Tray Assy	20182148	20182148	1
11	Rear Case Sub-Assy	20022551	20022551	1
12	Cross Flow Fan	10352420	10352420	1
13	O-Gasket of Cross Fan Bearing	76512203	76512203	1
14	Left Evaporator Support	24212041	24212041	1
15	Evaporator Assy	01002000025	01002000025	1
16	Wall Mounting Frame	01252398	01252398	1
17	Sensor Insert	42020063	42020063	1
18	Right Support of Evaporator	2421204201	2421204201	1
19	Fan Motor	1501213401	1501213401	1
20	Pipe Clamp	26112071	26112071	1
21	Fixed Clip (Evaporator)	26112324	26112324	1
22	Motor Fixed Clip	26112325	26112325	1
23	Drainage Hose	0523001403	0523001403	1
24	Rubber Plug (Water Tray)	76712012	76712012	1
25	Step Motor	1521212602	1521212602	1
26	Step Motor	1521240208	1521240208	1
27	Crank	73012021	73012021	2
28	Step Motor	1521212301	1521212301	1
29	Motor Holder	26152046	26152046	1
30	Swing Lever 3	1058211701	1058211701	1
31	Swing Lever 1	1058211501	1058211501	1
32	Terminal Board	42011233	42011233	1
33	Axile Bush	1054203602	1054203602	6
34	Main Board	30138001027	30138001027	1
35	Electric Box Cover2	2012214204	2012214204	1
36	Display Board	30565210	30565209	1
37	Shield Cover of Electric Box Cover	01592108	01592108	1
38	Electric Box Cover	20122164	20122164	1
41	Lower Shield of Electric Box	1592108	1592108	1
40	Electric Box	20112140	20112140	1
41	Electric Box Assy	10000203345	100002001162	1
42	Power Cord	/	/	/
43	Connecting Cable	4002052317	4002052317	1
44	Ambient Temperature Sensor	390000451	390000451	1
45	Remote Controller	30510119	30510119	1
46	Electrostatic Dedust	11012027	11012027	1
47	Cold Plasma	1114001601	1114001601	1
48	Detecting plate(WIFI)	30070060	30070060	1

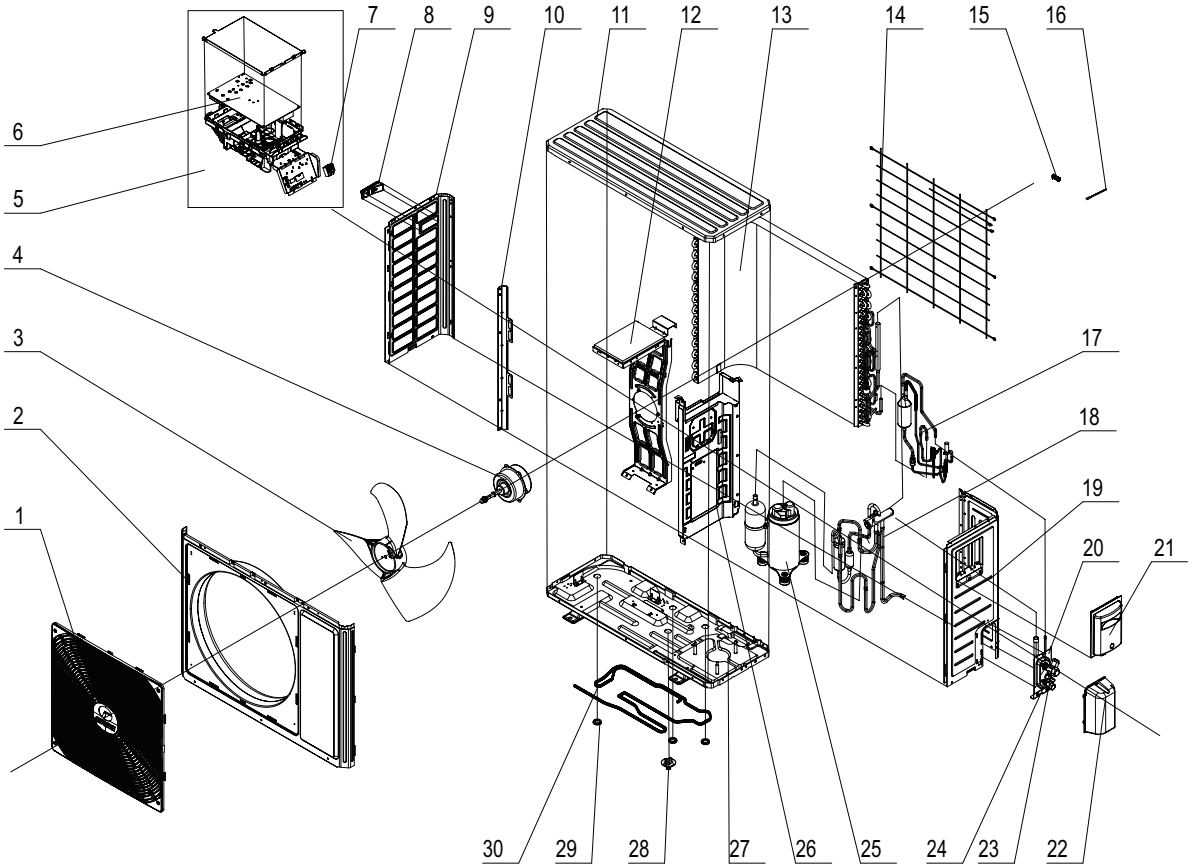
Above data is subject to change without notice.

No.	Description	Part Code	Qty
		GWH24TD-S3DBA1E/I	
	Product Code	CB148N08901	
1	Front Panel Assy	20012894T	1
2	Filter Sub-Assy	11122136	2
5	Screw Cover	242520053	4
4	Front Case Sub-assy	20022004	1
5	Guide Louver	10512236	1
6	Small Guide Louver	1051223701	1
7	Swing Lever2	1058211601	1
8	Air Louver	10512252	15
9	Left Axile Bush	1051203701	2
10	Water Tray Assy	20182148	1
11	Rear Case Sub-Assy	22202498	1
12	Cross Flow Fan	10352420	1
13	O-Gasket of Cross Fan Bearing	76512203	1
14	Left Evaporator Support	24212041	1
15	Evaporator Assy	01002000025	1
16	Wall Mounting Frame	01252398	1
17	Sensor Insert	42020063	1
18	Right Support of Evaporator	2421204201	1
19	Fan Motor	1501213401	1
20	Pipe Clamp	26112071	1
21	Fixed Clip (Evaporator)	26112324	1
22	Motor Fixed Clip	26112325	1
23	Drainage Hose	0523001403	1
24	Rubber Plug (Water Tray)	76712012	1
25	Step Motor	1521212602	1
26	Step Motor	1521240208	1
27	Crank	73012021	2
28	Step Motor	1521212301	1
29	Motor Holder	26152046	1
30	Swing Lever 3	1058211701	1
31	Swing Lever 1	1058211501	1
32	Terminal Board	42011233	1
33	Axile Bush	1054203602	6
34	Main Board	30138001027	1
35	Electric Box Cover2	20122142	1
36	Display Board	30565141	1
37	Shield Cover of Electric Box Cover	01592108	1
38	Electric Box Cover	20122164	1
41	Lower Shield of Electric Box	1592108	1
40	Electric Box	20112140	1
41	Electric Box Assy	100002001370	1
42	Power Cord	/	/
43	Connecting Cable	4002052317	1
44	Ambient Temperature Sensor	390000451	1
45	Remote Controller	30510119	1
46	Electrostatic Dedust	11012027	1
47	Cold Plasma	1114001601	1
48	Detecting plate(WIFI)	30110144	1

Above data is subject to change without notice.

10.2 Outdoor Unit

GWH18TC-S3DBA3E/O

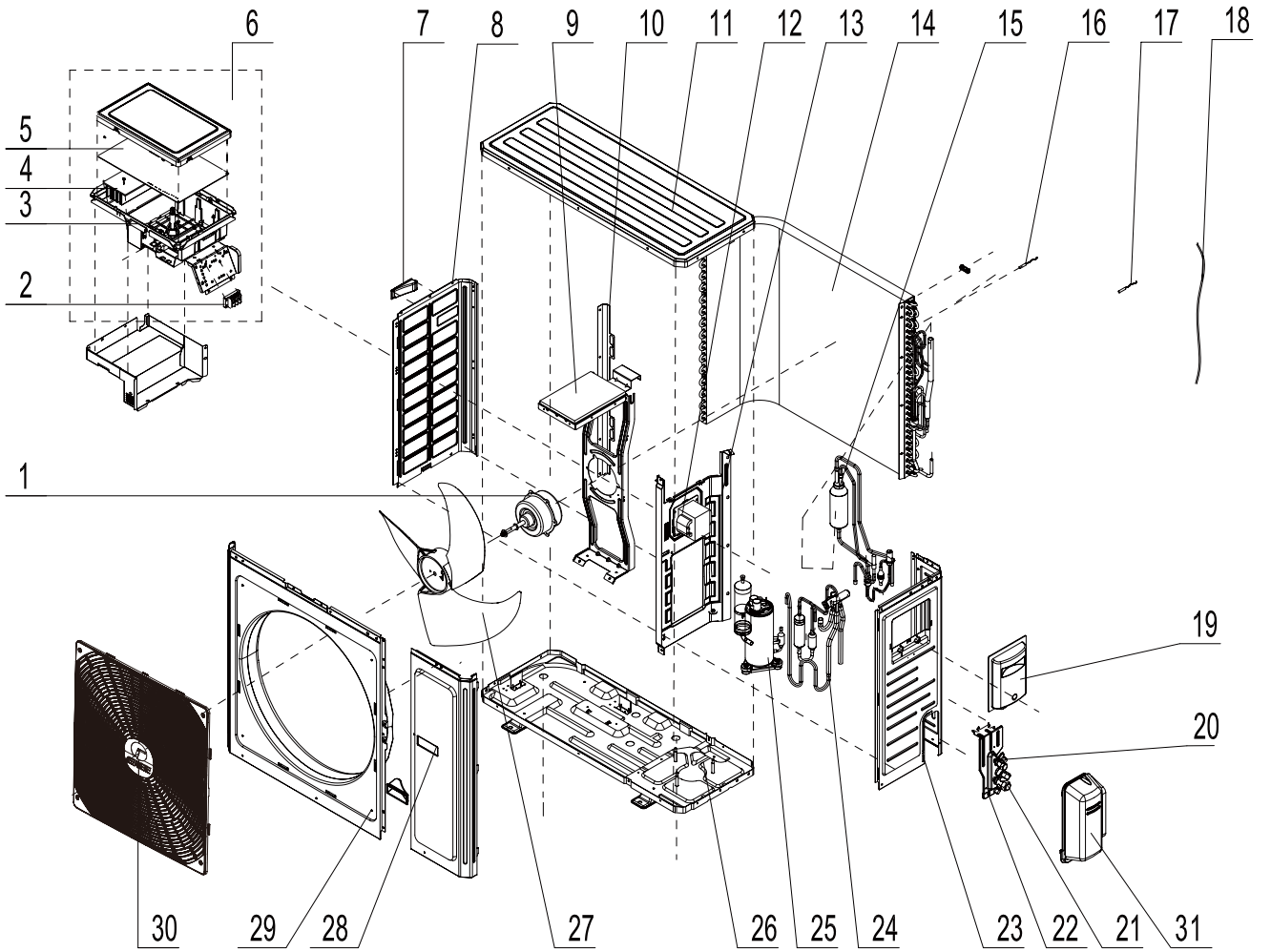


The component picture is only for reference; please refer to the actual product.

No.	Description	Part Code	Qty
		GWH18TC-S3DBA3E/O	
	Product Code	CB412W03200	
1	Front Grill	22413025	1
2	Front Panel	01535013P	1
3	Axial Flow Fan	10335008	1
4	Fan Motor	1501506402	1
5	Electric Box Assy	10000100268	1
6	Main Board	30138000395	1
7	Terminal Board	420101943	1
8	Handle	26233053	1
9	Left Side Plate	01305093P	1
10	Supporting Board(Condenser)	01795010	1
11	Coping	01255005P	1
12	Motor Support Sub-Assy	01705036	1
13	Condenser Assy	0110020007301	1
14	Rear Grill	01473043	1
15	Wiring Clamp	26115004	1
16	Temperature Sensor	3900030901	1
17	Electronic Expansion Valve assy	0713522201	1
18	4-Way Valve Assy	0302552701	1
19	Right Side Plate	0130509402P	1
20	Valve Support Sub-Assy	01705066	1
21	Handle	2623525404	1
22	Valve Cover	22245002	1
23	Cut off Valve	071302392	1
24	Cut off Valve	07130239	1
25	Compressor and Fittings	00105260	1
26	Clapboard Sub-Assy	01235088	1
27	Drainage hole Cap	76713068	1
28	Chassis Sub-assy	02803310P	1
29	Drainage Connecter	06123401	1
30	Electrical Heater (Chassis)	7651000411	1

Above data is subject to change without notice.

GWH24TD-S3DBA3E/O



The component picture is only for reference; please refer to the actual product.

No.	Description	Part Code	Qty
		GWH24TD-S3DBA3E/O	
	Product Code	CB412W03100	
1	Fan Motor	1501403402	1
2	Terminal Board	420101943	1
3	Electric Box Cover	20125002	1
4	Radiator	49015215	1
5	Main Board	30138000101	1
6	Electric Box Assy	10000100269	1
7	Left Handle	26233053	2
8	Left Side Plate	01305043P	1
9	Motor Support Assy	01705038	1
10	Condenser Support Plate	01175092	1
11	Top Cover Sub-Assy	01255015	1
12	Reactor	43130024	1
13	Clapboard Sub-Assy	01235091	1
14	Condenser Assy	0110300010601	1
15	Electronic Expansion Valve assy	07133958	1
16	Temperature Sensor	3900030901	1
17	Temperature Sensor	39000072	1
18	Electrical Heater (Chassis)	7651000411	1
19	Big Handle	26235001	1
20	Cut off Valve Sub-Assy	07133934	1
21	Cut off Valve	0713517901	1
22	Valve Support Sub-Assy	01705061P	1
23	Right Side Plate	01305044P	1
24	4-Way Valve Assy	03025497	1
25	Compressor and Fittings	00105251	1
26	Chassis Sub-assy	02803315P	1
27	Axial Flow Fan	10335014	1
28	Front Side Plate	01305086P	1
29	Cabinet	01435004P	1
30	Front Grill	22415003	1
31	Valve Cover	22245003	1

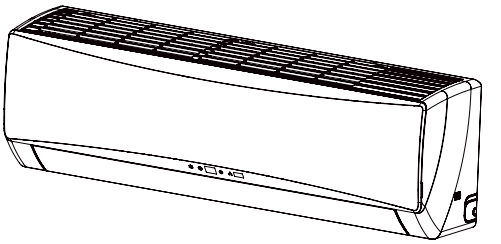
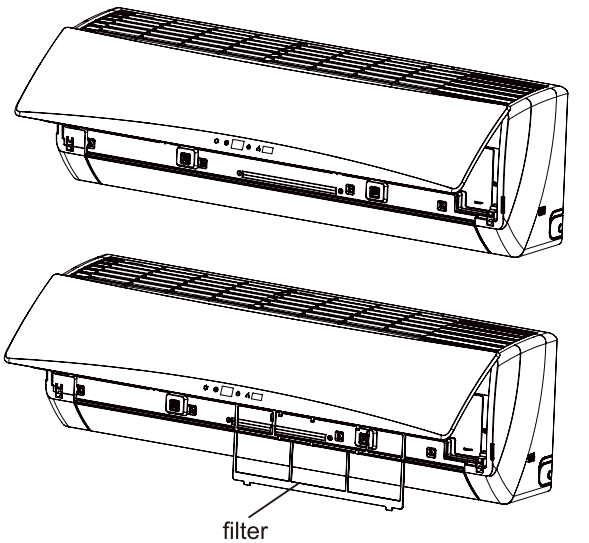
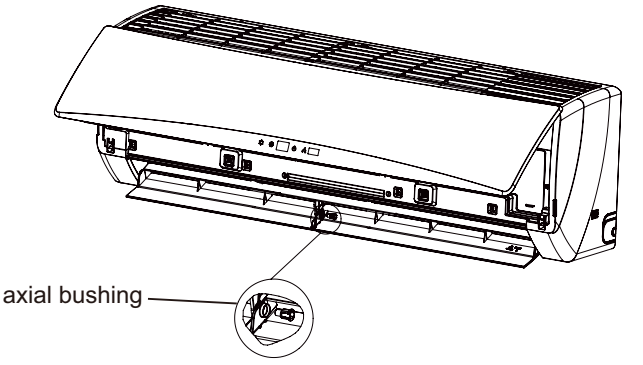
Above data is subject to change without notice.

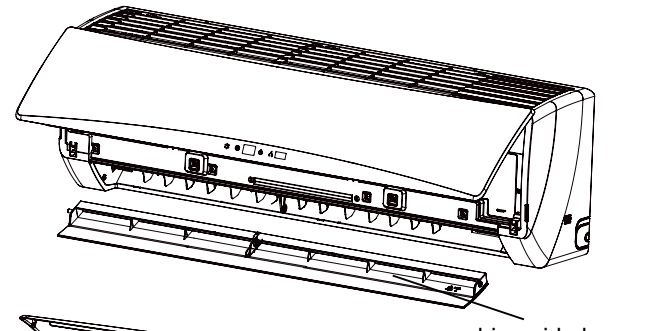
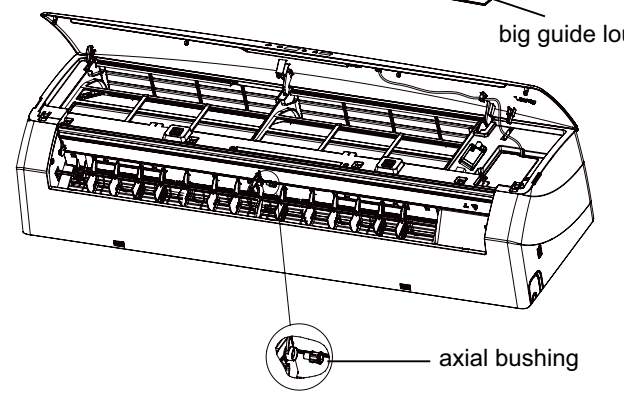
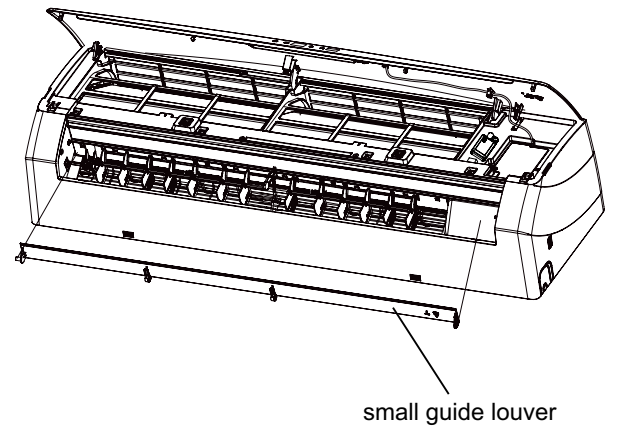
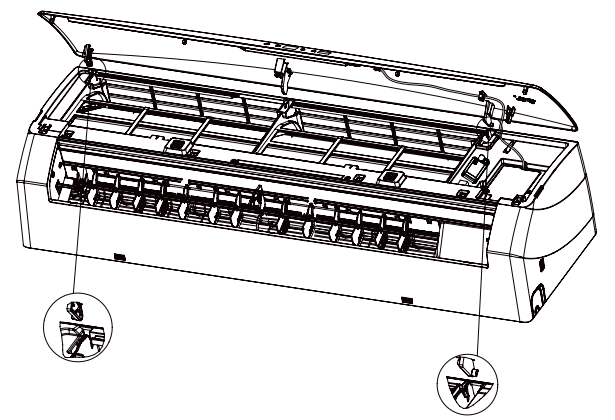
11. Removal Procedure

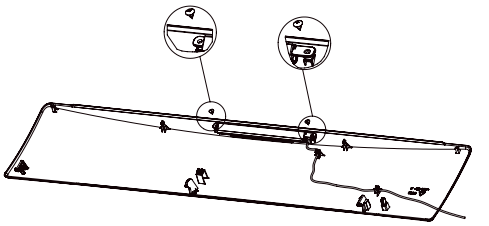
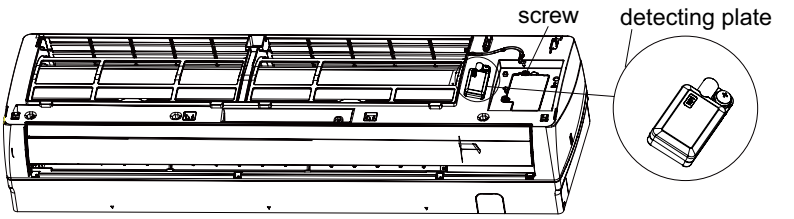
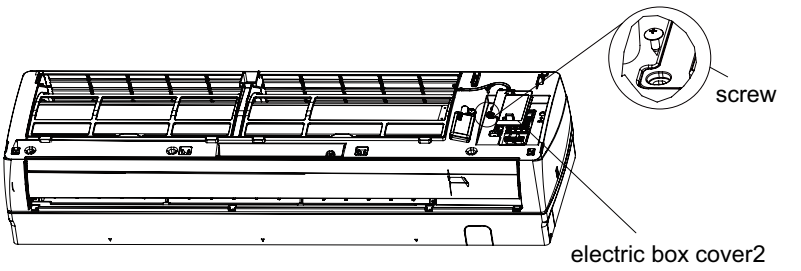
Warning: Be sure to wait for a minimum of 20 minutes after turning off all power supplies and discharge the refrigerant completely before removal.

11.1 Removal Procedure of Indoor Unit

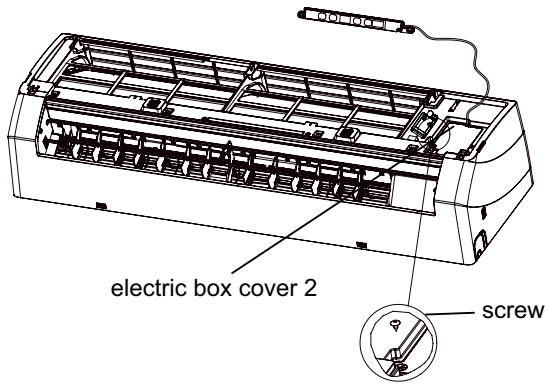
18K

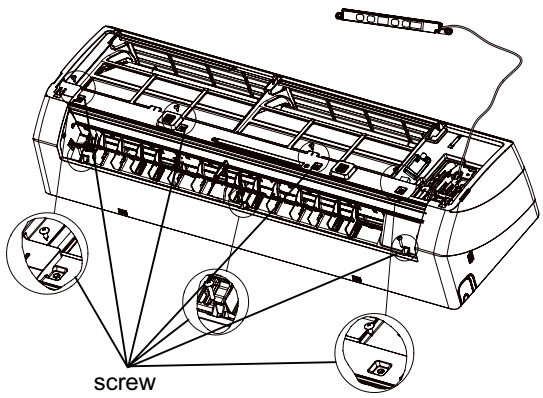
Steps	Procedure	
1. Before disassembling the unit		
	Before disassembling the unit.	
2. Remove filter		
a	Open the panel.	
b	Loosen the clasps on filter, push the filter inward and then pull it upward, then the filter can be removed.	
3.Remove guide louver		
a	Remove the axial bushing of big guidelouver.	

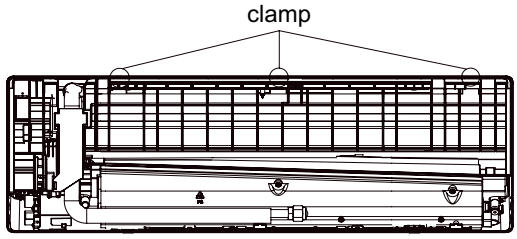
Steps	Procedure	
b	Remove the rotating shaft of big guide louver from the groove, slightly bend thebig guide louver to remove it.	
c	Remove the axial bushing of small guide louver.	
d	Remove the rotating shaft of small guide louver from the groove, slightly bend the small guide louver to remove it.	
4.Remove panel& Remove detecting plate and electric box cover2		
a	Loosen the clamps of the panel to remove the panel.	

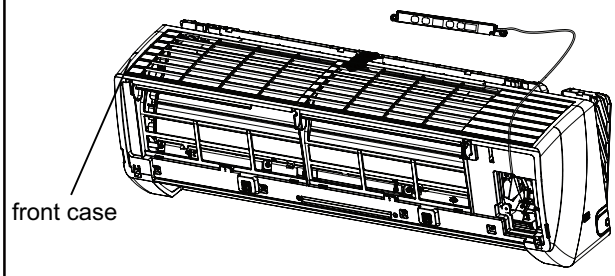
Steps	Procedure	
b	Remove the screws fixing display on the panel, to remove the display.	
c	Remove the screw fixing detecting plate and remove the detecting plate.	
e	Remove the screw fixing electric box cover2 and remove the electric box cover2.	

Steps	Procedure
5.Remove front case	
a	Remove the screws fixing electric box cover 2, to remove the electric box cover 2.
b	Remove the screws fixing front panel, loosen the clamps, to remove the front case.

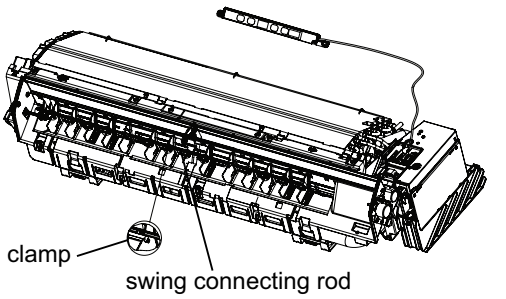


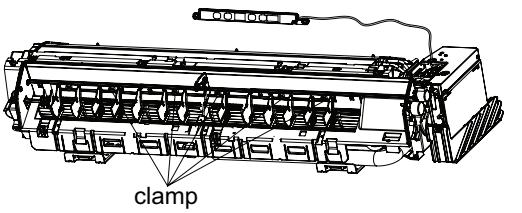


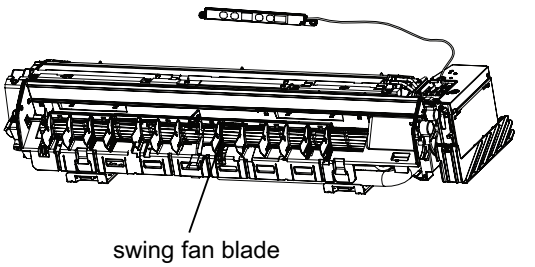


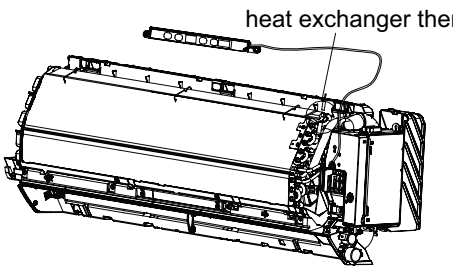


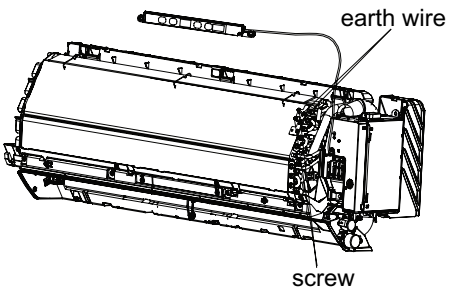
Steps	Procedure
6.Remove swing fan blade	
a	Loosen the clamps fixing swing connecting rod, to remove the swing connecting rod.
b	Remove the clamps fixing swing fan blade, to remove the swing fan blade.
7.Remove electric box sub-assy	
a	Remove the indoor tube temp. sensor.
b	Remove the screws fixing earth wire, to remove the earth wire.

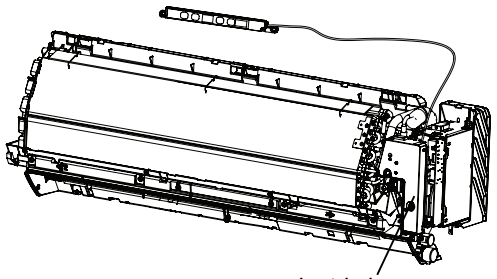
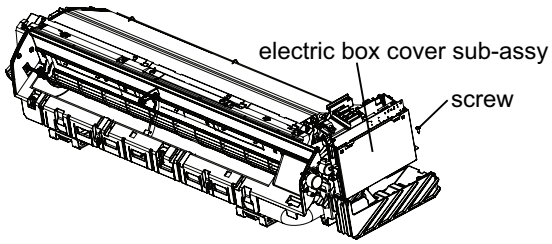
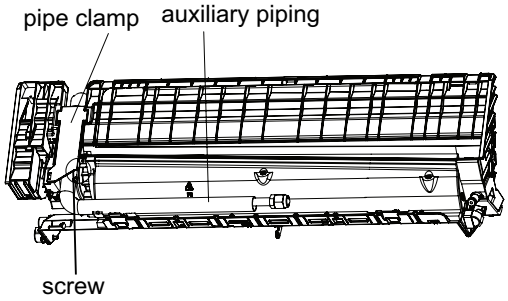
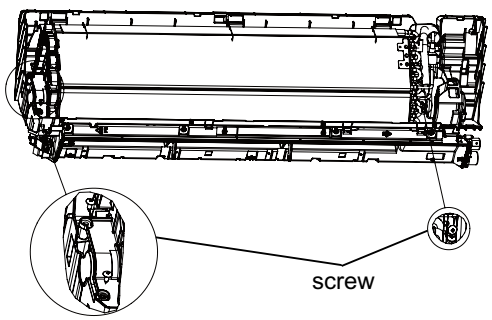


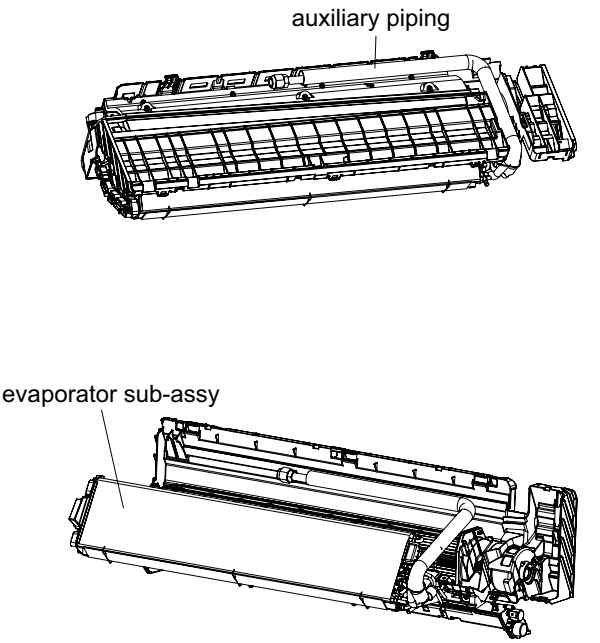
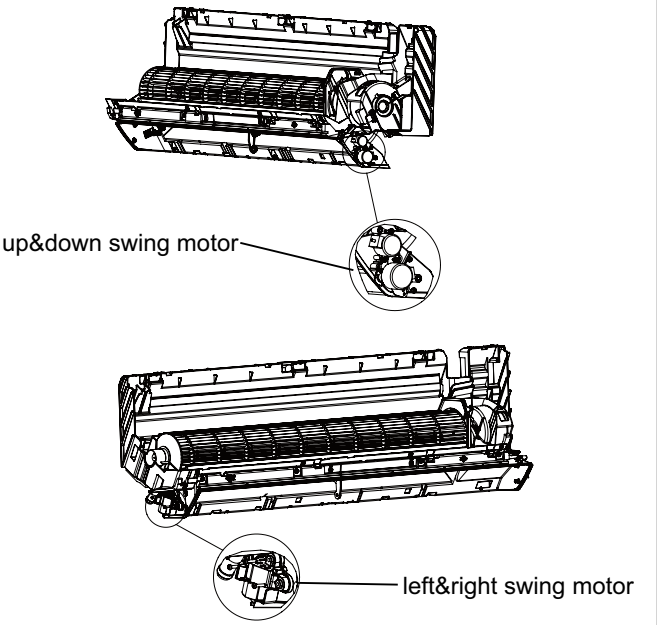


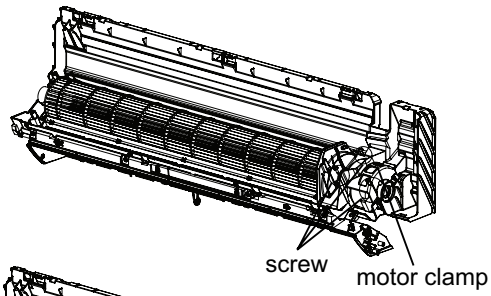
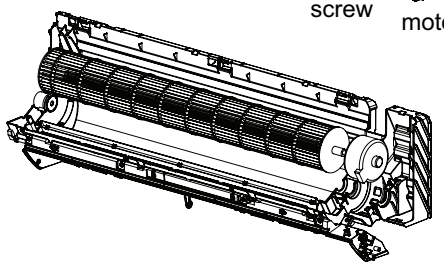
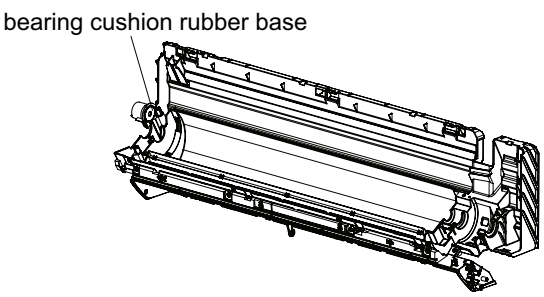
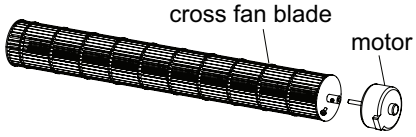




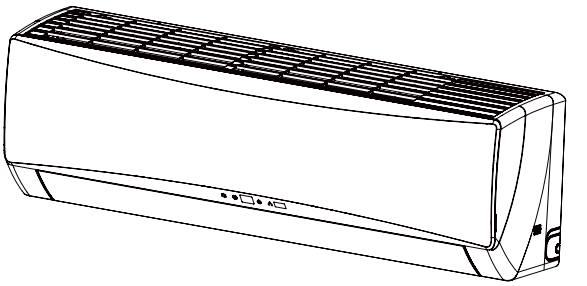
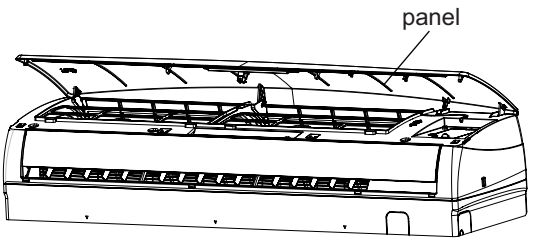
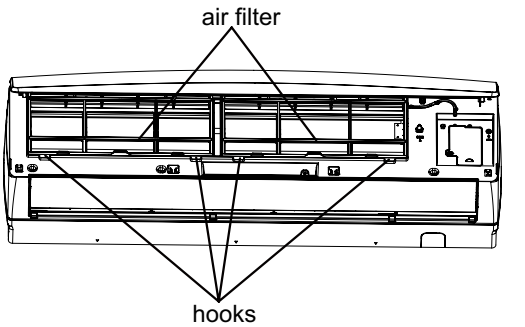
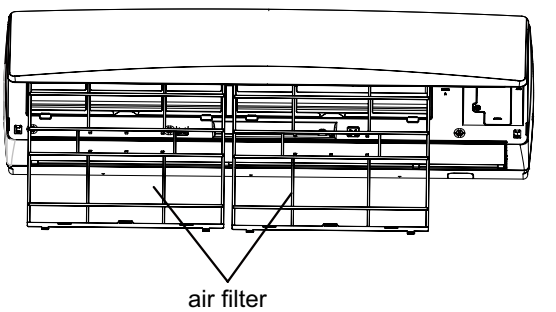


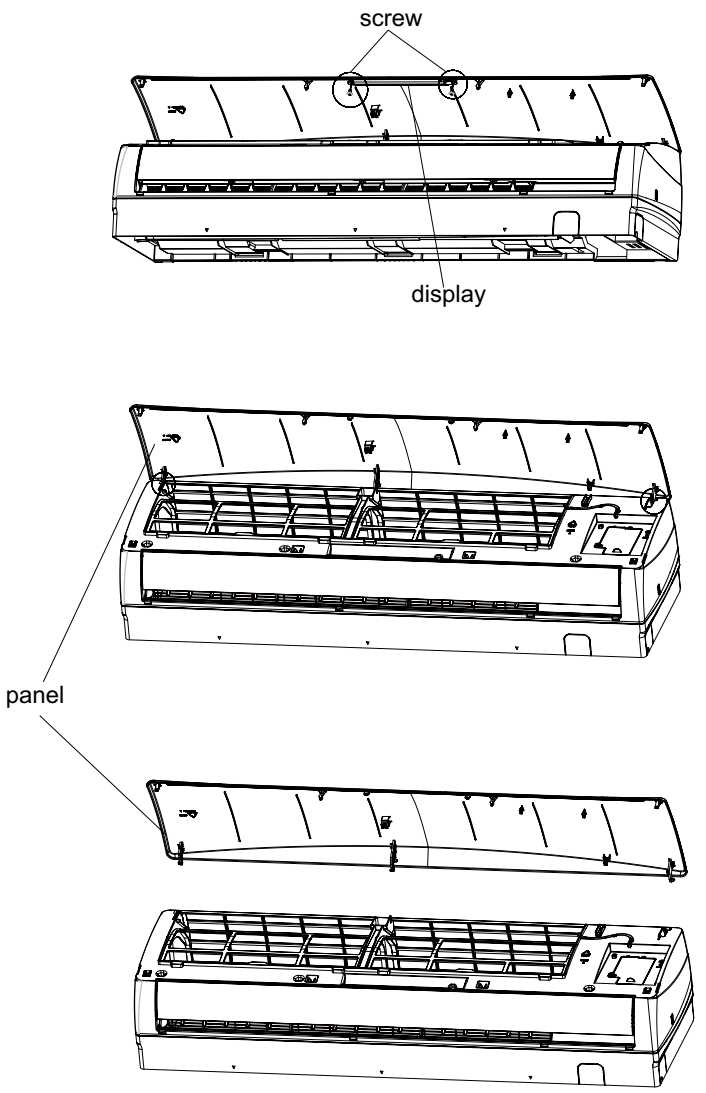
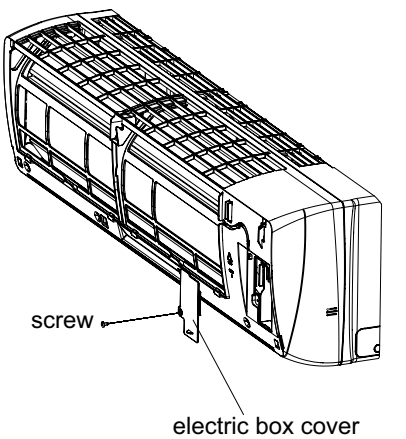
Steps	Procedure	
c	Remove the clamps fixing electric box cover, to remove the cover.	
d	Remove every wiring terminals, and remove the screws fixing electric box cover, to remove the electric box cover sub-assy.	
7.Remove evaporator sub-assy		
a	Remove the screws fixing connection pipe clamp, to remove the connection pipe clamp.	 

Steps	Procedure	
b	Remove the screws fixing evaporator sub-assy, slightly regulate the tube, to remove the evaporator sub-assy.	
8.Remove cross fan blade and motor		
a	Remove the screws fixing up&down swing motor, to remove the motor.	
b	Remove the screws fixing left&right swing motor, to remove the motor.	

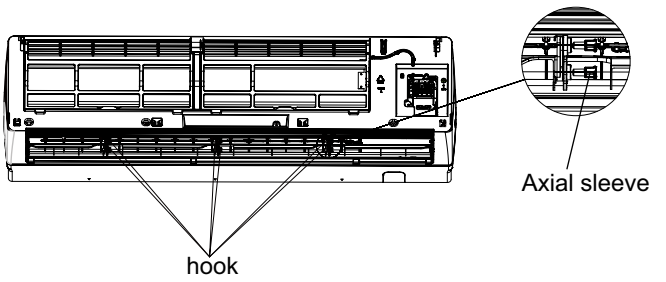
Steps	Procedure	
c	Remove the screws fixing motor clamp, to remove the motor clamp.	
d	Remove the cross fan blade and motor.	
e	Remove the shafting bearing cushion rubber base	
f	Remove the screws fixing cross fan blade and motor, and then remove the motor.	

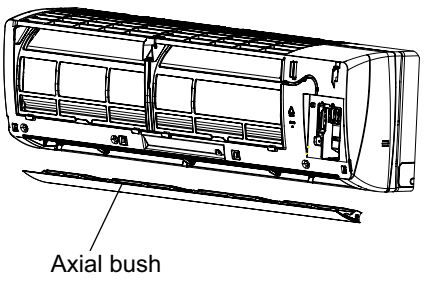
24K

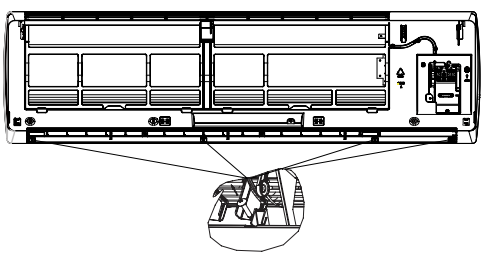
Steps	Procedure
1. Before disassembly of the unit	
Before disassembling the unit.	
2. Remove filter	
a Open the panel.	
b Loosen the clasps on filter, push the filter inward and then pull it upward, then the filter can be removed.	
	

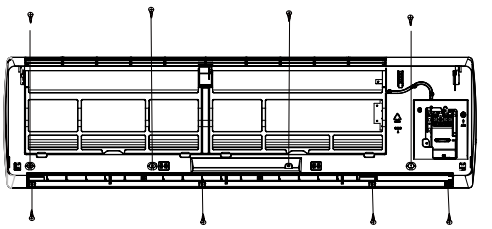
Steps	Procedure
3. Remove the panel	
a	Remove the screws fixing display on the panel, to remove the display.
b	Along the groove fixing front panel, slide the rotor shaft outward to remove the front panel.
c	Remove the panel.
4. Remove electric box cover	
	Unscrew a screw of electric box cover with screwdriver. Then take out the electric box cover.

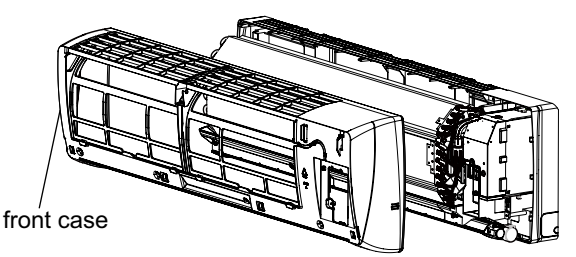
Steps	Procedure
5. Remove Axial bush	
a	Remove the axial bush of horizontal louver to remove the axial bush.
b	Remove Axial bush
6. Remove front case	
a	Remove the screw cover of front case, unscrew the 8 screws of front case with screwdriver.
b	Take out the front case to separate the front case with bottom assembly.



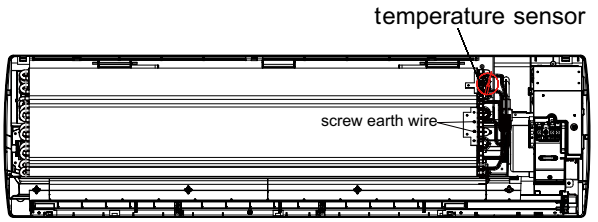


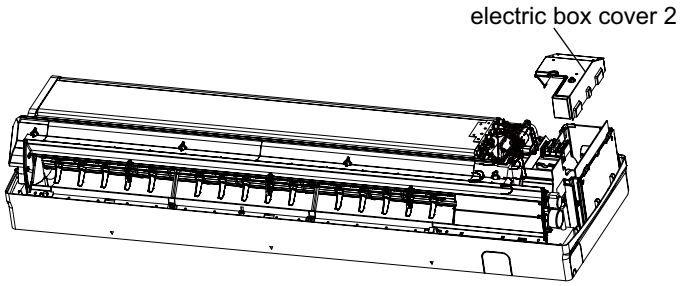


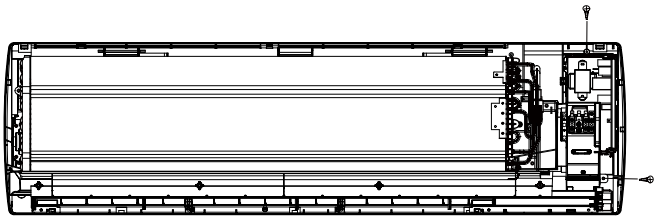


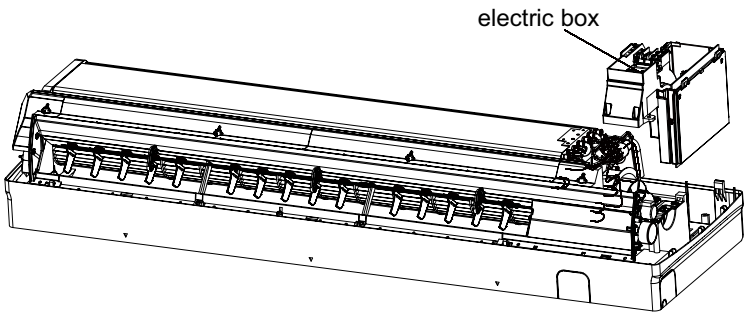


Steps	Procedure
7. Remove electric box	
a	Remove Temperature Sensor; Twist off the earthing screw fixing the evaporator.
b	Remove the screw of electric box.Take out the electric box cover to separate the electric box cover 2.
c	Remove every wiring terminals, and remove the screws fixing electric box to remove the electric box sub-assy.

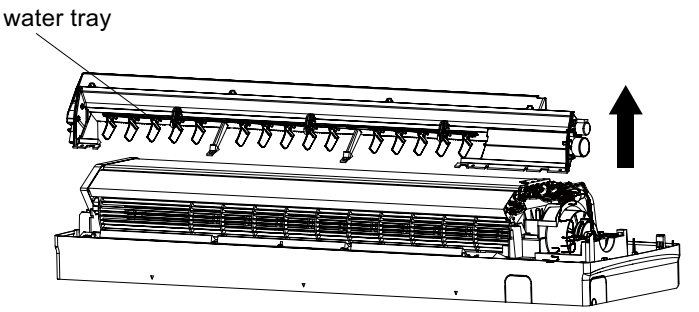


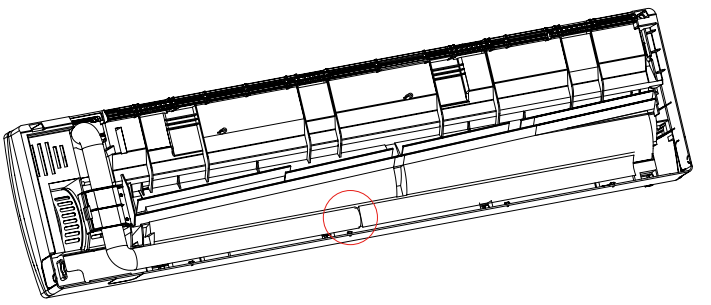


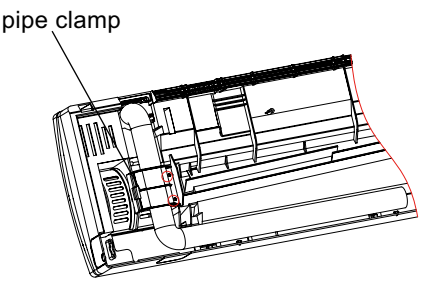


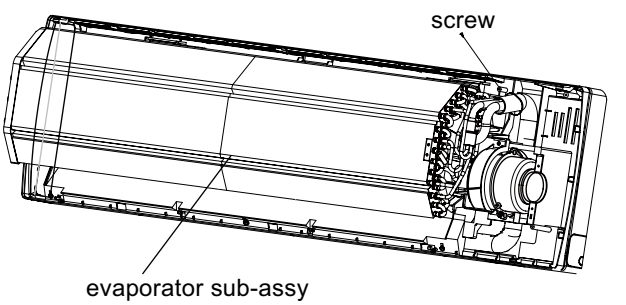


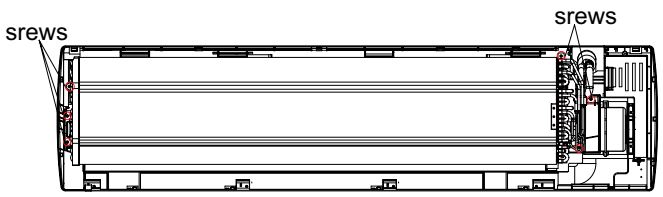
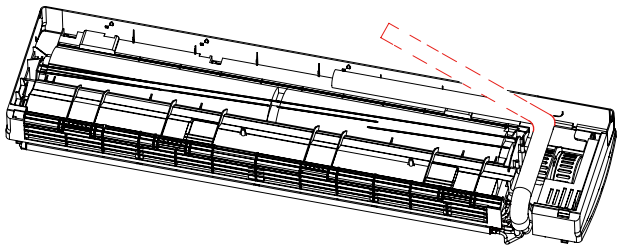
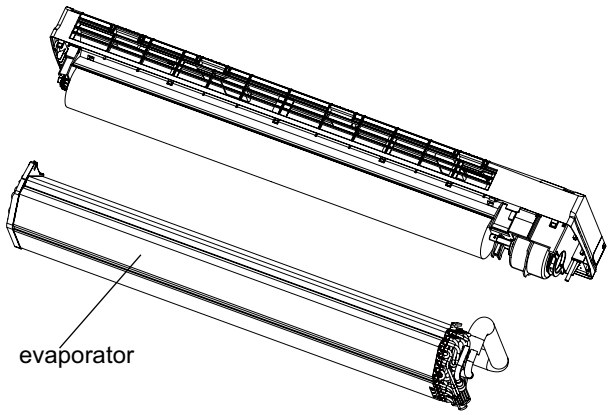
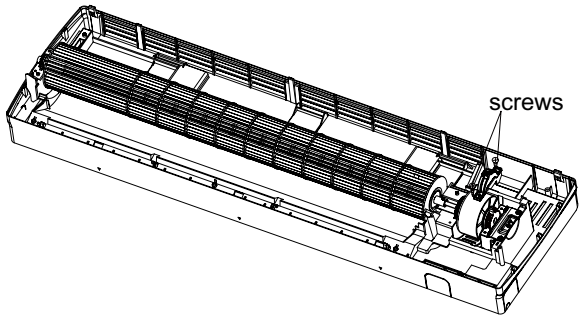
Steps	Procedure
8. Remove evaporator sub-assy	
a	Loosen the clasps connecting the water tray and chassis, and then remove the water tray.
b	Remove the screws fixing connection pipe clamp, to remove the connection pipe clamp.
c	Remove the screws fixing evaporator sub-assy, slightly regulate the tube, to remove the evaporator sub-assy.

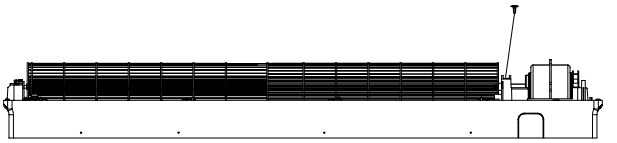
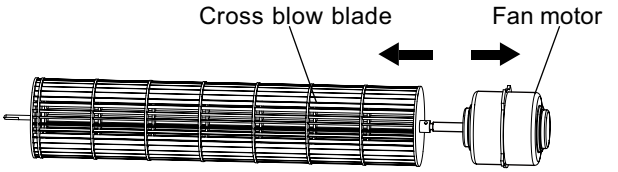
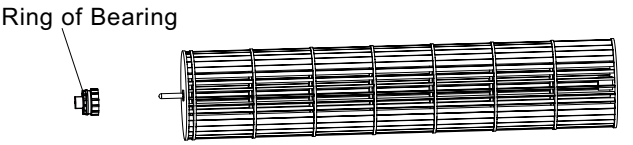






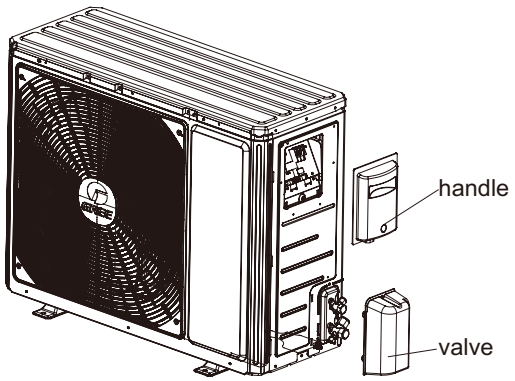
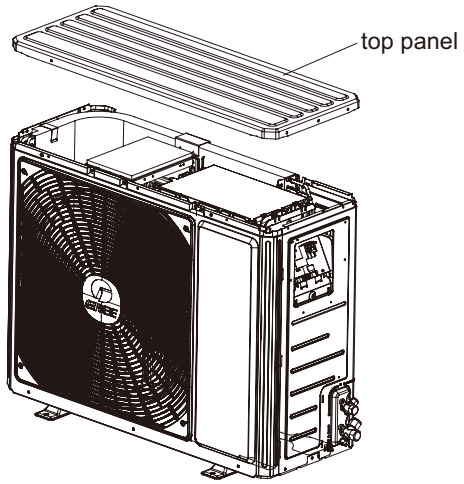
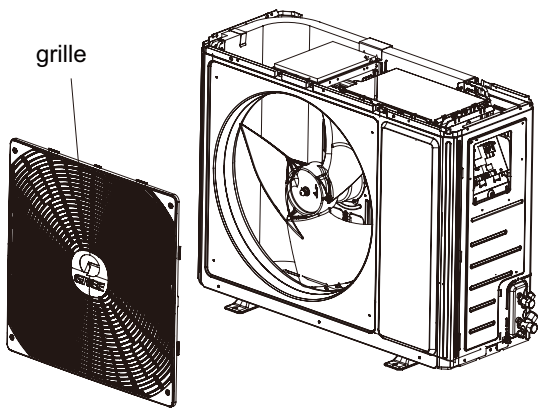


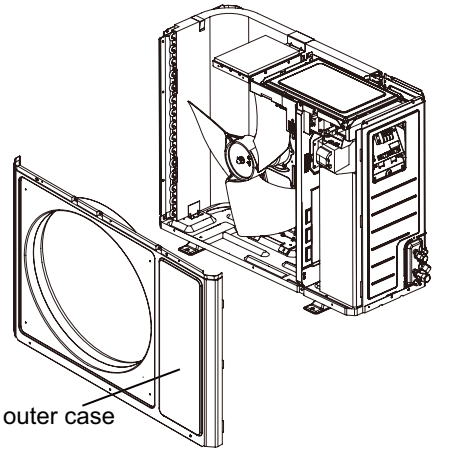
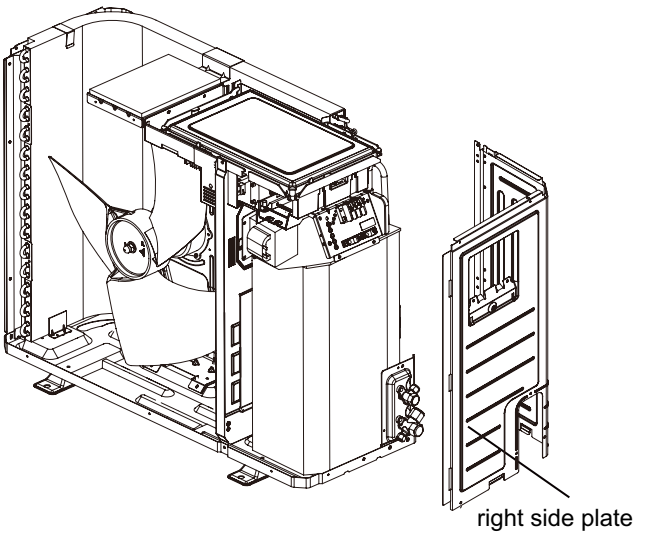
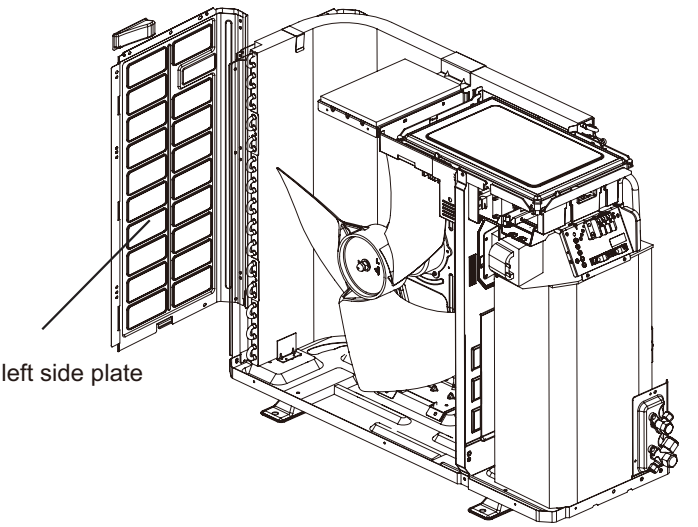
Steps	Procedure	
		
d	Turn over the indoor unit and adjust the pipe line to the position as shown by the broken line.	
e	Lift up the evaporator, and then remove the evaporator.	
9. Remove the cross-flow louver and motor		
a	Remove the 2 screws of step motor with screwdriver, and remove the step motor.	

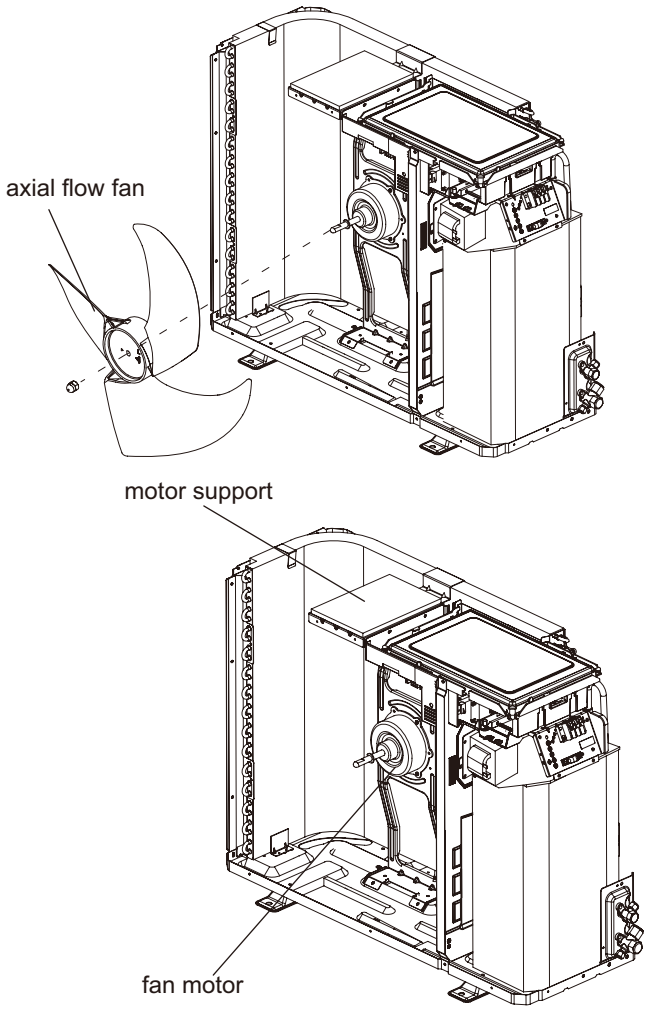
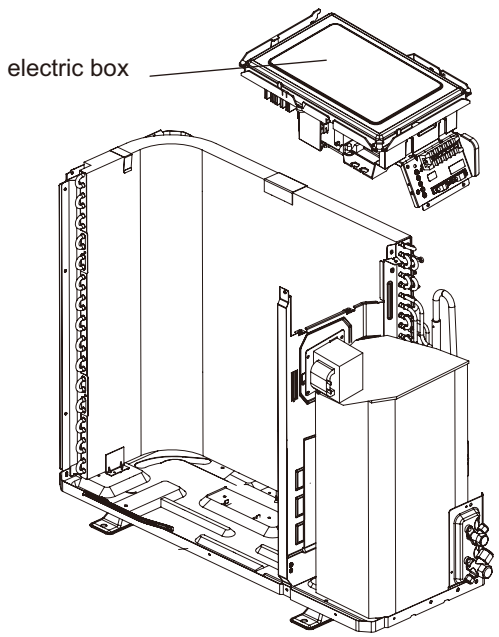
Steps	Procedure	
b	Remove screws fixing cross flow blade and motor.	
c	Remove the motor sub-assy.	
d	Pull out the plug of ring of bearing.	

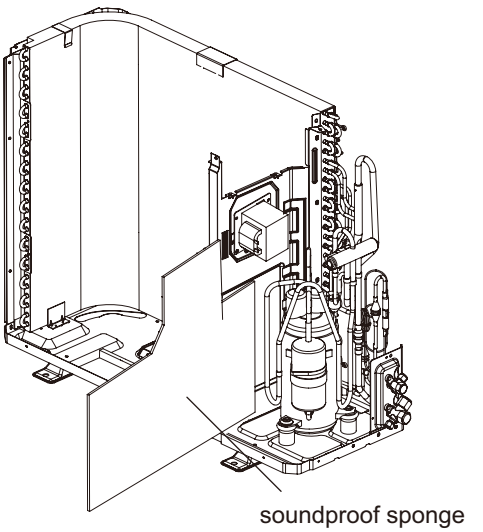
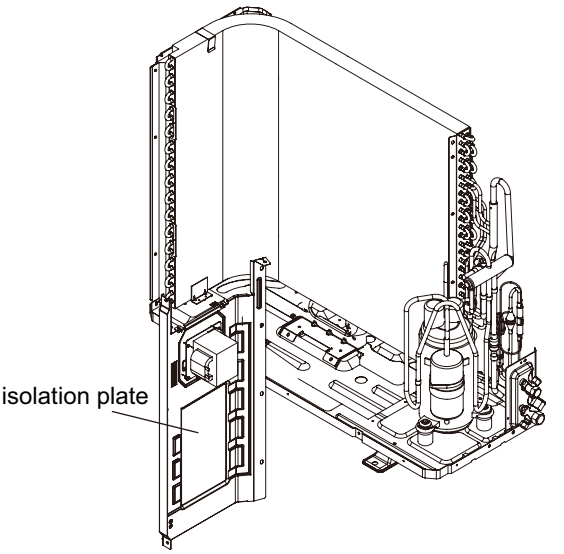
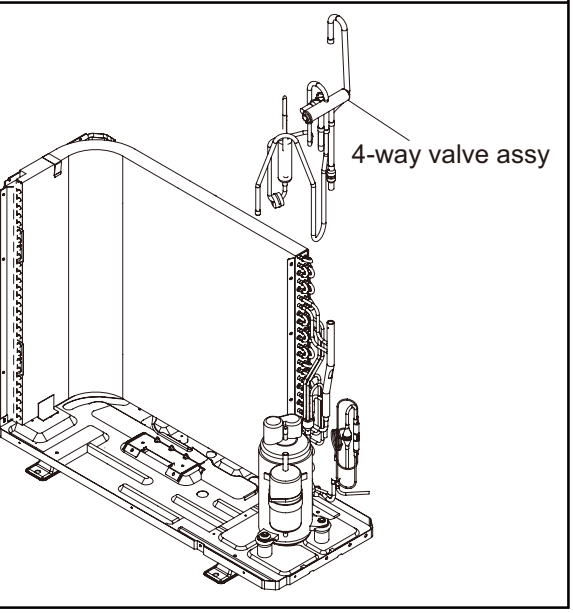
11.2 Removal Procedure of Outdoor Unit

18K

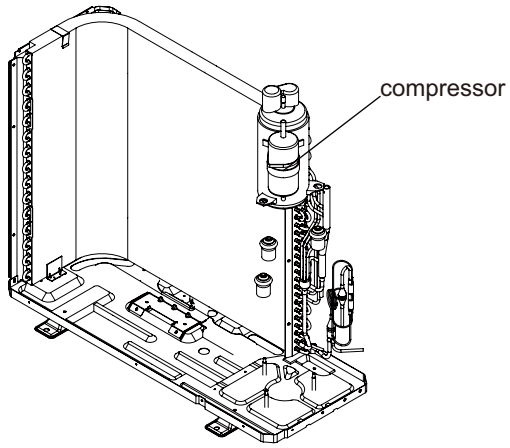
Steps	Procedure	
1. Remove big handle,valve cover and top cover		
	Remove the screw connecting the big handle and right side plate, and then remove the big handle. Remove the screw connecting the valve cover and right side plate, and then remove the valve cover.	
	Remove the screws connecting the top cover with outer case, right side plate and left side plate; lift the top cover upwards to remove it.	
2. Remove grille and outer case		
	Remove the 4 screws connecting the grille and outer case, and then remove the panel grille.	

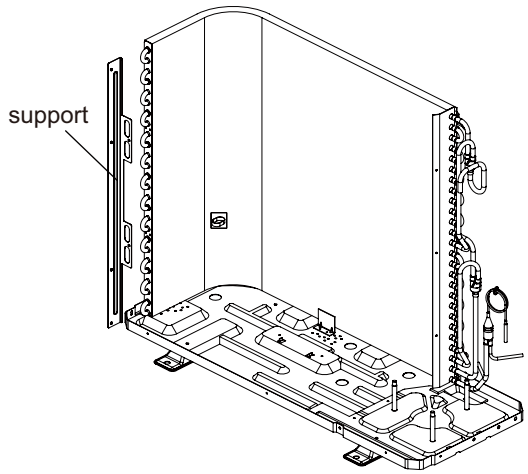
Steps	Procedure	
	Remove the screws connecting the outer case with motor support, isolation plate and chassis; lift the outer case upwards; loosen the clasps of outer case with right side plate and left side plate, and then remove the outer case.	
3. Remove right&left side plate		
	Remove the screws connecting the right side plate with electric box assy, valve support, chassis and condenser side plate, and then remove the right side plate.	
	Remove the screws connecting the left side plate with chassis, and then remove the left side plate.	

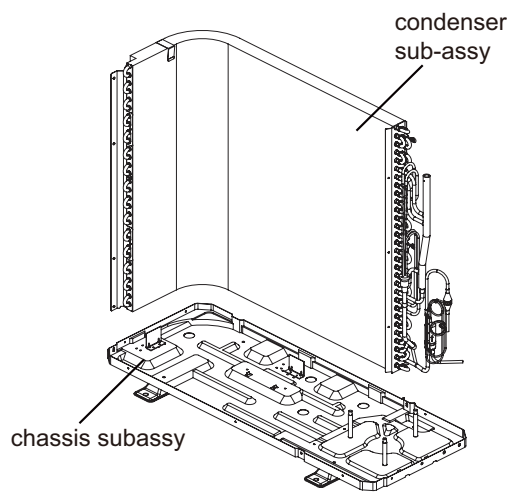
Steps	Procedure
4. Remove axial flow blade	
Remove the nut fixing axial flow blade and then remove the blade. Remove the 6 screws fixing the motor and then remove the motor. Remove the 2 screws connecting the motor support and chassis, and then loosen the stopper to remove the motor support.	
5. Remove electric box	
Remove the screws fixing the electric box sub-assy; loosen the wire bundle; pull out the wiring terminals and then pull the electric box upwards to remove it.	

Steps	Procedure
6. Remove the soundproof sponge	
Tear off the sticking stripe and then remove the soundproof sponge.	
7. Remove isolation plate	
Remove the 2 screws connecting the isolation plate and condenser side plate; remove the 3 screws connecting the isolation plate and chassis, and then remove the isolation plate.	
8. Remove 4-way valve assy	
Unsolder the welding joints connecting the 4-way valve assy with capillary sub-assy, compressor and condenser; remove the 4-way valve. Note: Before unsoldering the welding joint, wrap the 4-way valve with a wet cloth completely to avoid damage to the valve caused by high temperature.	

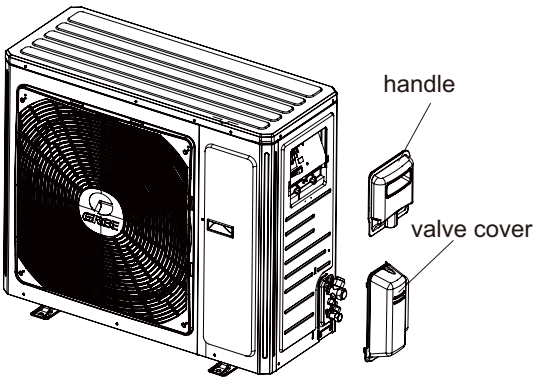
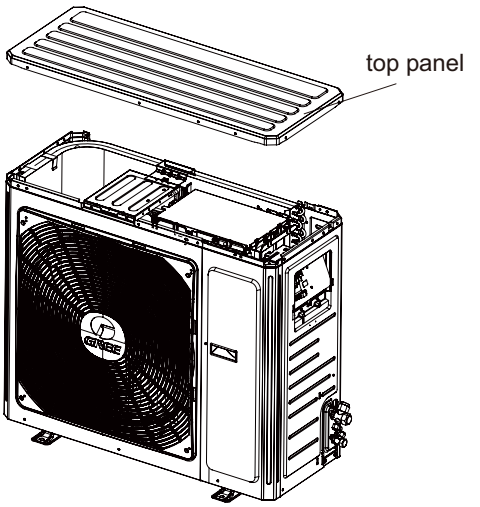
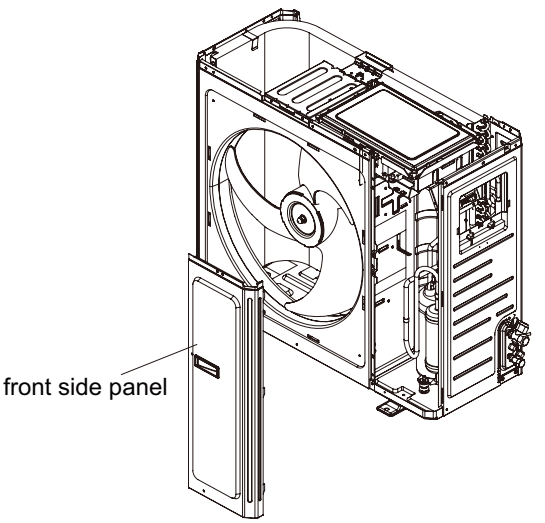
Steps	Procedure
9. Remove compressor	
	Remove the 3 foot nuts fixing compressor and then lift the compressor upwards to remove the compressor and damping cushion. Note: Keep the ports of discharge pipe and suction pipe from foreign objects.
10. Remove condenser sub-assy	
	Remove the screws connecting the support (condenser) and condenser assy,and then remove the support(condenser).
	Remove the 2 screws fixing the condenser and chassis, and then lift the condenser upwards to remove it.

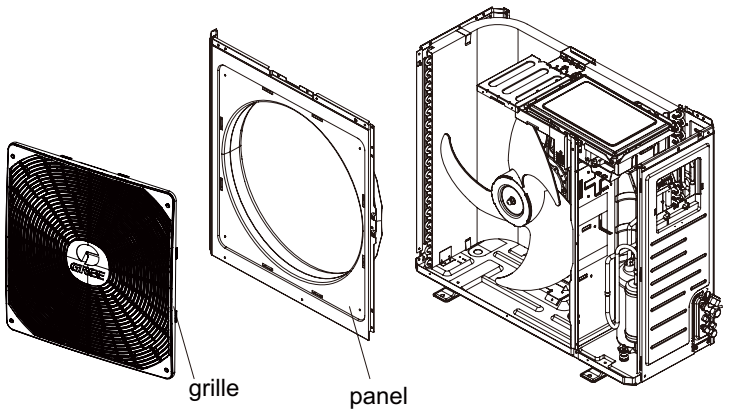
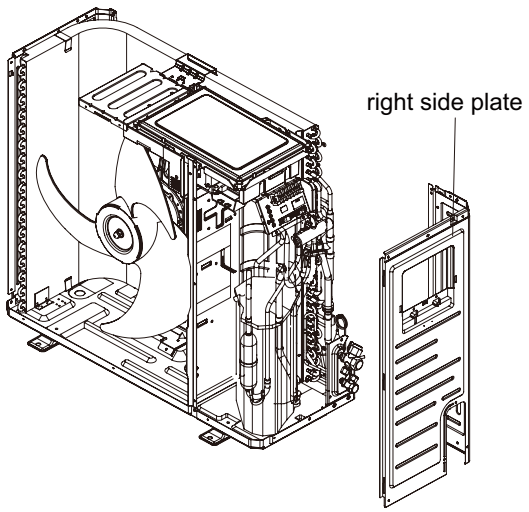
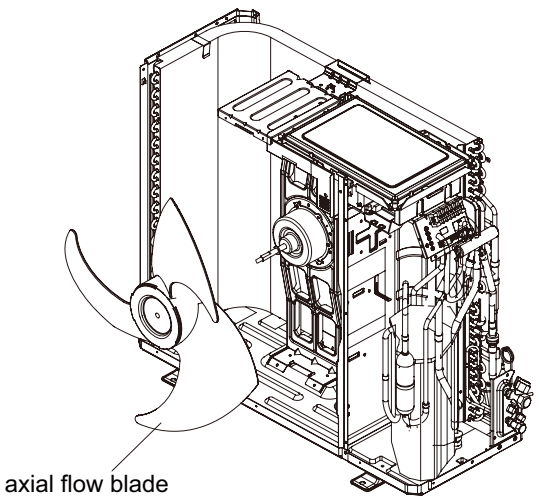




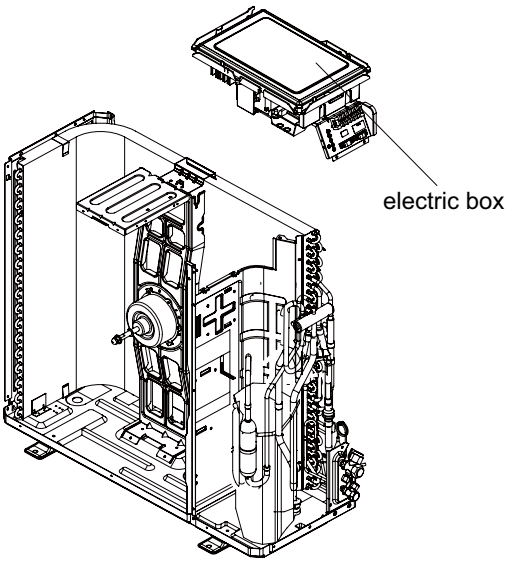


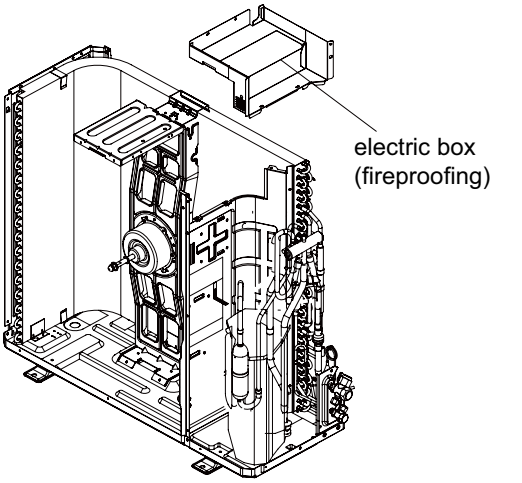
24K
GWH24TD-S3DBA3E/O

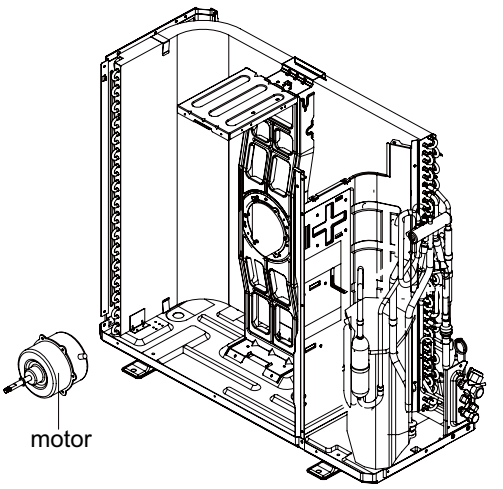
Steps	Procedure
1.Remove handle and valve cover	
Twist off the screws used for fixing the handle，pull the handle up ward to remove it. Remove the screws fixing the valve cover and then remove the valve cover.	
2.Remove top panel	
Remove the screws connecting the top panel with the front panel and left&right side plate, and then remove the top panel.	
3.Remove front side panel	
Loosen the screws connecting the front side panel and chassis. Remove the front side panel.	

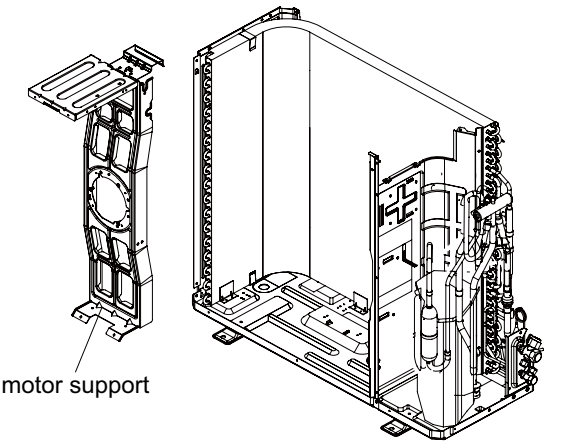
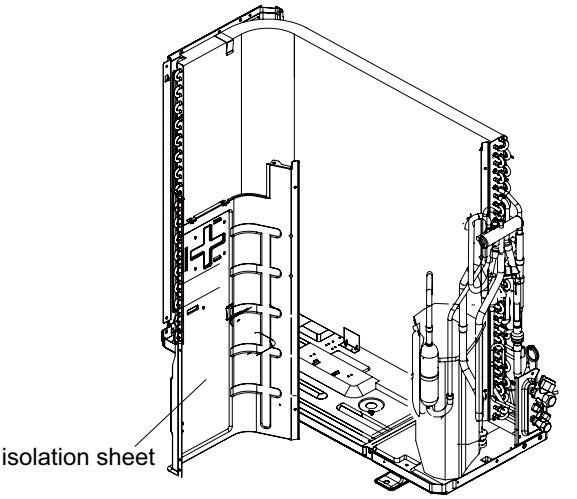
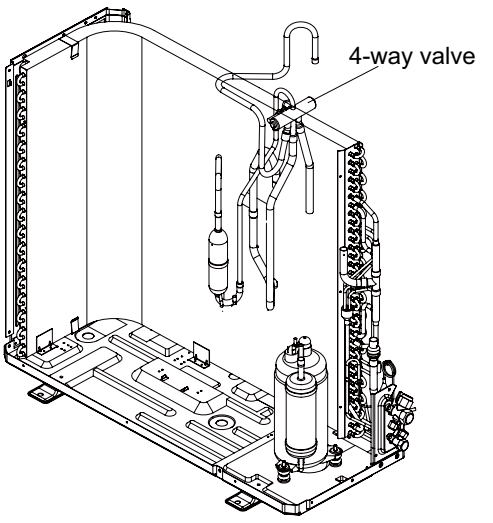
Steps	Procedure
4.Remove grille and panel	
Twist off the screws connecting the grille and panel, and then remove the grille. Twist off the screws connecting the panel, chassis and motor support with screwd-river, and then remove the panel.	
5.Remove right side plate	
Twist off the screws connecting the right side plate and chassis, valve support and condenser, and then remove the right side plate.	
6.Remove axial flow blade	
Twist off the nuts on blade with wrench and then remove the axial flow blade.	

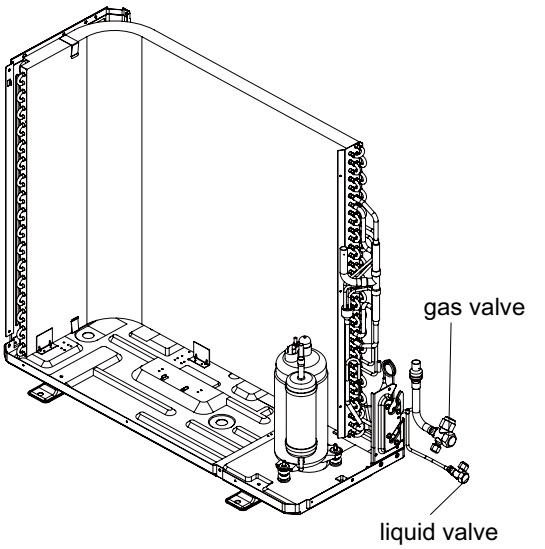
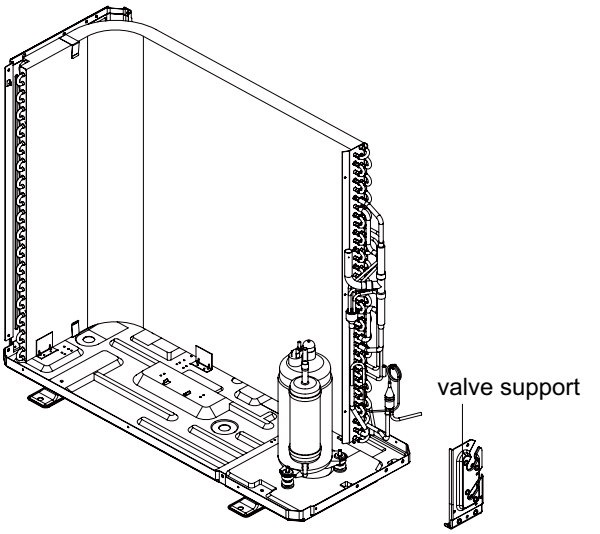
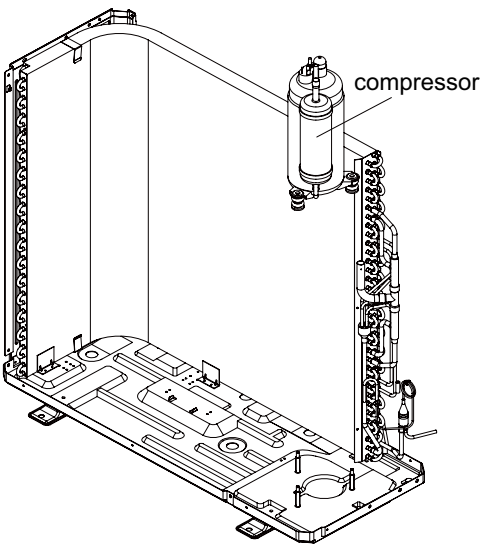
Steps	Procedure
7.Remove electric box	
	Twist off the screws on electric box, cut off the tieline with scissors or pliers, pull out the wiring terminal, pull it upwards to remove the electric box.
	Twist off the screws on electric box (fireproofing) with screwdriver, and then remove the electric box (fireproofing).
8.Remove motor	
	Twist off the tapping screws fixing the motor, pull out the pin of leading wire for motor and then remove the motor.

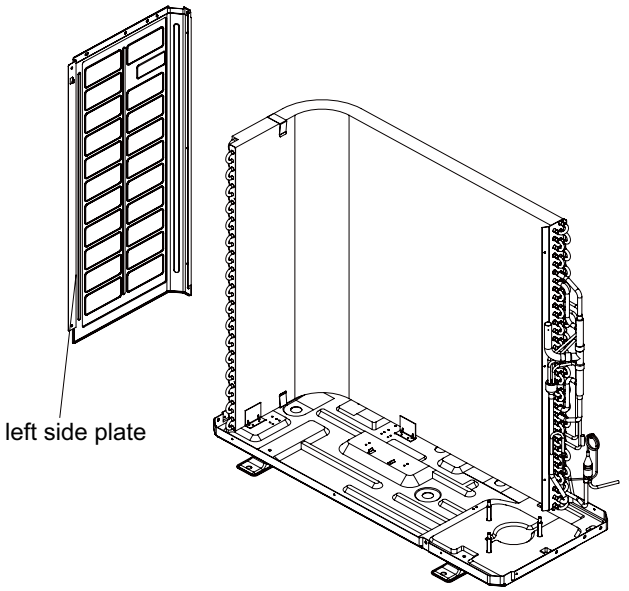
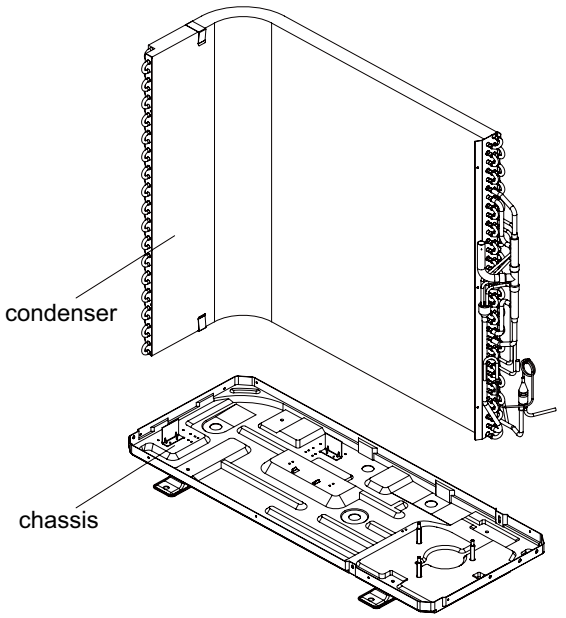






Steps	Procedure
9.Remove motor support	
	Twist off the tapping screws fixingthe motor support, pull it upwardsand then remove the motor support.
	
10.Remove isolation sheet	
	Twist off the screws connecting isolation sheet and end plate of condenser and chassis, and then remove the isolation sheet.
	
11.Remove 4-way valve	
	Unsolder the pipeline between compressor, condenser, gas and liquid valve, and then remove the 4-way valve. (note: release all refrigerant before unsoldering).
	

Steps	Procedure
12.Remove gas valve and liquid valve	
Twist off the 2 bolts fixing the valve sub-assy. Unsolder the soldering joint between gas valve and air-return pipe and then remove the gas valve.(note: when unsoldering the soldering joint, wrap the gas valve with wet cloth completely to avoid the damage to valve, and release all refrigerant completely at first). Unsolder the soldering joint between liquid valve and connection pipe of liquid valve, and then remove the liquid valve.	
13.Remove valve support	
Twist off the screws connecting valve support and chassis, and then remove the valve support.	
14.Remove compressor	
Twist off the 3 foot nuts on compressor and then remove the compressor.	

Steps	Procedure
15.Remove left side plate	
Twist off the screws connecting the left side plate and chassis with screwdriver, and then remove the left side plate.	
16.Remove chassis and condenser	
Pull it upwards to separate the chassis and condenser.	

Appendix:

Appendix 1: Reference Sheet of Celsius and Fahrenheit

Conversion formula for Fahrenheit degree and Celsius degree: Tf=Tcx1.8+32

Set temperature

Fahrenheit display temperature (℉)	Fahrenheit (℉)	Celsius (℃)		Fahrenheit display temperature (℉)	Fahrenheit (℉)	Celsius (℃)		Fahrenheit display temperature (℉)	Fahrenheit (℉)	Celsius (℃)
61	60.8	16		69/70	69.8	21		78/79	78.8	26
62/63	62.6	17		71/72	71.6	22		80/81	80.6	27
64/65	64.4	18		73/74	73.4	23		82/83	82.4	28
66/67	66.2	19		75/76	75.2	24		84/85	84.2	29
68	68	20		77	77	25		86	86	30

Ambient temperature

Fahrenheit display temperature (℉)	Fahrenheit (℉)	Celsius (℃)		Fahrenheit display temperature (℉)	Fahrenheit (℉)	Celsius (℃)		Fahrenheit display temperature (℉)	Fahrenheit (℉)	Celsius (℃)
32/33	32	0		55/56	55.4	13		79/80	78.8	26
34/35	33.8	1		57/58	57.2	14		81	80.6	27
36	35.6	2		59/60	59	15		82/83	82.4	28
37/38	37.4	3		61/62	60.8	16		84/85	84.2	29
39/40	39.2	4		63	62.6	17		86/87	86	30
41/42	41	5		64/65	64.4	18		88/89	87.8	31
43/44	42.8	6		66/67	66.2	19		90	89.6	32
45	44.6	7		68/69	68	20		91/92	91.4	33
46/47	46.4	8		70/71	69.8	21		93/94	93.2	34
48/49	48.2	9		72	71.6	22		95/96	95	35
50/51	50	10		73/74	73.4	23		97/98	96.8	36
52/53	51.8	11		75/76	75.2	24		99	98.6	37
54	53.6	12		77/78	77	25				

Appendix 2: Configuration of Connection Pipe

1.Standard length of connection pipe

● 5m, 7.5m, 8m.

2.Min. length of connection pipe is 3m.

3.Max. length of connection pipe and max. high difference.(More details please refer to the specifications)

4.The additional refrigerant oil and refrigerant charging required after prolonging connection pipe

● After the length of connection pipe is prolonged for 10m at the basis of standard length, you should add 5ml of refrigerant oil for each additional 5m of connection pipe.

● The calculation method of additional refrigerant charging amount (on the basis of liquid pipe):

● Additional refrigerant charging amount = prolonged length of liquid pipe × additional refrigerant charging amount per meter

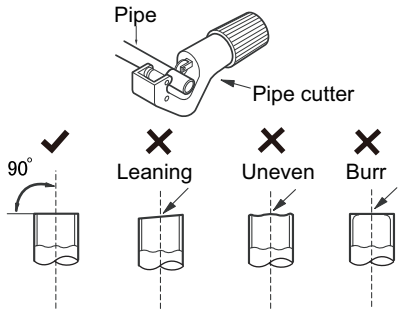
● Basing on the length of standard pipe, add refrigerant according to the requirement as shown in the table. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe. See the following sheet.

Additional refrigerant charging amount for R22, R407C, R410A and R134a			
Diameter of connection pipe		Outdoor unit throttle	
Liquid pipe(mm)	Gas pipe(mm)	Cooling only(g/m)	Cooling and heating(g/m)
Φ6	Φ9.5 or Φ12	15	20
Φ6 or Φ9.5	Φ16 or Φ19	15	50
Φ12	Φ19 or Φ22.2	30	120
Φ16	Φ25.4 or Φ31.8	60	120
Φ19	/	250	250
Φ22.2	/	350	350

Appendix 3: Pipe Expanding Method

⚠ **Note:**

Improper pipe expanding is the main cause of refrigerant leakage.Please expand the pipe according to the following steps:

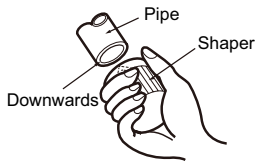


A:Cut the pip

- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.

B:Remove the burrs

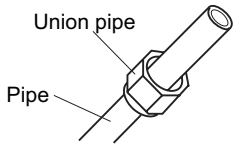
- Remove the burrs with shaper and prevent the burrs from getting into the pipe.



C:Put on suitable insulating pipe

D:Put on the union nut

- Remove the union nut on the indoor connection pipe and outdoor valve; install the union nut on the pipe.



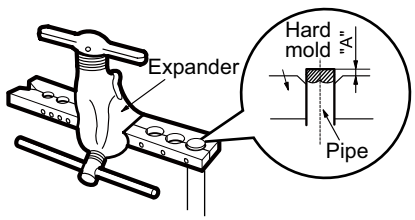
E:Expand the port

- Expand the port with expander.

⚠ **Note:**

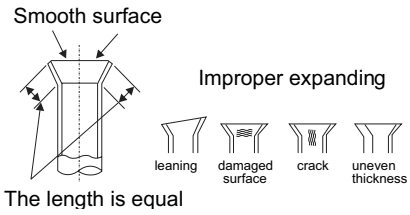
- "A" is different according to the diameter, please refer to the sheet below:

Outer diameter(mm)	A(mm)	
	Max	Min
Φ6 - 6.35 (1/4")	1.3	0.7
Φ9.52 (3/8”)	1.6	1.0
Φ12 - 12.70 (1/2”)	1.8	1.0
Φ16 - 15.88 (5/8”)	2.4	2.2



F:Inspection

- Check the quality of expanding port. If there is any blemish, expand the port again according to the steps above.



Appendix 4: List of Resistance for Temperature Sensor

Resistance Table of Ambient Temperature Sensor for Indoor and Outdoor Units(15K)

Temp(°C)	Resistance(kΩ)		Temp(°C)	Resistance(kΩ)		Temp(°C)	Resistance(kΩ)		Temp(°C)	Resistance(kΩ)
-19	138.1		20	18.75		59	3.848		98	1.071
-18	128.6		21	17.93		60	3.711		99	1.039
-17	121.6		22	17.14		61	3.579		100	1.009
-16	115		23	16.39		62	3.454		101	0.98
-15	108.7		24	15.68		63	3.333		102	0.952
-14	102.9		25	15		64	3.217		103	0.925
-13	97.4		26	14.36		65	3.105		104	0.898
-12	92.22		27	13.74		66	2.998		105	0.873
-11	87.35		28	13.16		67	2.896		106	0.848
-10	82.75		29	12.6		68	2.797		107	0.825
-9	78.43		30	12.07		69	2.702		108	0.802
-8	74.35		31	11.57		70	2.611		109	0.779
-7	70.5		32	11.09		71	2.523		110	0.758
-6	66.88		33	10.63		72	2.439		111	0.737
-5	63.46		34	10.2		73	2.358		112	0.717
-4	60.23		35	9.779		74	2.28		113	0.697
-3	57.18		36	9.382		75	2.206		114	0.678
-2	54.31		37	9.003		76	2.133		115	0.66
-1	51.59		38	8.642		77	2.064		116	0.642
0	49.02		39	8.297		78	1.997		117	0.625
1	46.6		40	7.967		79	1.933		118	0.608
2	44.31		41	7.653		80	1.871		119	0.592
3	42.14		42	7.352		81	1.811		120	0.577
4	40.09		43	7.065		82	1.754		121	0.561
5	38.15		44	6.791		83	1.699		122	0.547
6	36.32		45	6.529		84	1.645		123	0.532
7	34.58		46	6.278		85	1.594		124	0.519
8	32.94		47	6.038		86	1.544		125	0.505
9	31.38		48	5.809		87	1.497		126	0.492
10	29.9		49	5.589		88	1.451		127	0.48
11	28.51		50	5.379		89	1.408		128	0.467
12	27.18		51	5.197		90	1.363		129	0.456
13	25.92		52	4.986		91	1.322		130	0.444
14	24.73		53	4.802		92	1.282		131	0.433
15	23.6		54	4.625		93	1.244		132	0.422
16	22.53		55	4.456		94	1.207		133	0.412
17	21.51		56	4.294		95	1.171		134	0.401
18	20.54		57	4.139		96	1.136		135	0.391
19	19.63		58	3.99		97	1.103		136	0.382

Resistance Table of Tube Temperature Sensors for Indoor and Outdoor(20K)

Temp(°C)	Resistance(kΩ)		Temp(°C)	Resistance(kΩ)		Temp(°C)	Resistance(kΩ)		Temp(°C)	Resistance(kΩ)
-19	181.4		20	25.01		59	5.13		98	1.427
-18	171.4		21	23.9		60	4.948		99	1.386
-17	162.1		22	22.85		61	4.773		100	1.346
-16	153.3		23	21.85		62	4.605		101	1.307
-15	145		24	20.9		63	4.443		102	1.269
-14	137.2		25	20		64	4.289		103	1.233
-13	129.9		26	19.14		65	4.14		104	1.198
-12	123		27	18.13		66	3.998		105	1.164
-11	116.5		28	17.55		67	3.861		106	1.131
-10	110.3		29	16.8		68	3.729		107	1.099
-9	104.6		30	16.1		69	3.603		108	1.069
-8	99.13		31	15.43		70	3.481		109	1.039
-7	94		32	14.79		71	3.364		110	1.01
-6	89.17		33	14.18		72	3.252		111	0.983
-5	84.61		34	13.59		73	3.144		112	0.956
-4	80.31		35	13.04		74	3.04		113	0.93
-3	76.24		36	12.51		75	2.94		114	0.904
-2	72.41		37	12		76	2.844		115	0.88
-1	68.79		38	11.52		77	2.752		116	0.856
0	65.37		39	11.06		78	2.663		117	0.833
1	62.13		40	10.62		79	2.577		118	0.811
2	59.08		41	10.2		80	2.495		119	0.77
3	56.19		42	9.803		81	2.415		120	0.769
4	53.46		43	9.42		82	2.339		121	0.746
5	50.87		44	9.054		83	2.265		122	0.729
6	48.42		45	8.705		84	2.194		123	0.71
7	46.11		46	8.37		85	2.125		124	0.692
8	43.92		47	8.051		86	2.059		125	0.674
9	41.84		48	7.745		87	1.996		126	0.658
10	39.87		49	7.453		88	1.934		127	0.64
11	38.01		50	7.173		89	1.875		128	0.623
12	36.24		51	6.905		90	1.818		129	0.607
13	34.57		52	6.648		91	1.736		130	0.592
14	32.98		53	6.403		92	1.71		131	0.577
15	31.47		54	6.167		93	1.658		132	0.563
16	30.04		55	5.942		94	1.609		133	0.549
17	28.68		56	5.726		95	1.561		134	0.535
18	27.39		57	5.519		96	1.515		135	0.521
19	26.17		58	5.32		97	1.47		136	0.509

Resistance Table of Discharge Temperature Sensor for Outdoor(50K)

Temp(°C)	Resistance(kΩ)		Temp(°C)	Resistance(kΩ)		Temp(°C)	Resistance(kΩ)		Temp(°C)	Resistance(kΩ)
-29	853.5		10	98		49	18.34		88	4.75
-28	799.8		11	93.42		50	17.65		89	4.61
-27	750		12	89.07		51	16.99		90	4.47
-26	703.8		13	84.95		52	16.36		91	4.33
-25	660.8		14	81.05		53	15.75		92	4.20
-24	620.8		15	77.35		54	15.17		93	4.08
-23	580.6		16	73.83		55	14.62		94	3.96
-22	548.9		17	70.5		56	14.09		95	3.84
-21	516.6		18	67.34		57	13.58		96	3.73
-20	486.5		19	64.33		58	13.09		97	3.62
-19	458.3		20	61.48		59	12.62		98	3.51
-18	432		21	58.77		60	12.17		99	3.41
-17	407.4		22	56.19		61	11.74		100	3.32
-16	384.5		23	53.74		62	11.32		101	3.22
-15	362.9		24	51.41		63	10.93		102	3.13
-14	342.8		25	49.19		64	10.54		103	3.04
-13	323.9		26	47.08		65	10.18		104	2.96
-12	306.2		27	45.07		66	9.83		105	2.87
-11	289.6		28	43.16		67	9.49		106	2.79
-10	274		29	41.34		68	9.17		107	2.72
-9	259.3		30	39.61		69	8.85		108	2.64
-8	245.6		31	37.96		70	8.56		109	2.57
-7	232.6		32	36.38		71	8.27		110	2.50
-6	220.5		33	34.88		72	7.99		111	2.43
-5	209		34	33.45		73	7.73		112	2.37
-4	198.3		35	32.09		74	7.47		113	2.30
-3	199.1		36	30.79		75	7.22		114	2.24
-2	178.5		37	29.54		76	7.00		115	2.18
-1	169.5		38	28.36		77	6.76		116	2.12
0	161		39	27.23		78	6.54		117	2.07
1	153		40	26.15		79	6.33		118	2.02
2	145.4		41	25.11		80	6.13		119	1.96
3	138.3		42	24.13		81	5.93		120	1.91
4	131.5		43	23.19		82	5.75		121	1.86
5	125.1		44	22.29		83	5.57		122	1.82
6	119.1		45	21.43		84	5.39		123	1.77
7	113.4		46	20.6		85	5.22		124	1.73
8	108		47	19.81		86	5.06		125	1.68
9	102.8		48	19.06		87	4.90		126	1.64

JF00302686

GREE ELECTRIC APPLIANCES,INC.OF ZHUHAI

Add: West Jinji Rd, Qianshan, Zhuhai, Guangdong, China 519070

Tel: (+86-756) 8522218 Fax: (+86-756) 8669426

Email: gree@gree.com.cn Http://www.gree.com

HONG KONG GREE ELECTRIC APPLIANCES SALES LIMITED

Add: Unit 2612,26/F.,Miramar Tower 132 Nathan Road,TST,Kowloon,HK

Tel: (852) 31658898 Fax: (852) 31651029