GREE
Change for Life

Service Manual

Models: GWH09RB-K3DNA2G(Cold Plasma)(WIFI)
GWH09RB-K3DNA3G(Cold Plasma)(WIFI)
GWH09RB-K3DNA9G(Cold Plasma)(WIFI)
GWH09RB-K3DNA5G(Cold Plasma)(WIFI)
GWH12RB-K3DNA2G(Cold Plasma)(WIFI)
GWH12RB-K3DNA3G(Cold Plasma)(WIFI)
GWH12RB-K3DNA5G(Cold Plasma)(WIFI)
GWH12RB-K3DNA9G(Cold Plasma)(WIFI)
(Refrigerant:R410A)

GREE ELECTRIC APPLIANCES,INC.OF ZHUHAI

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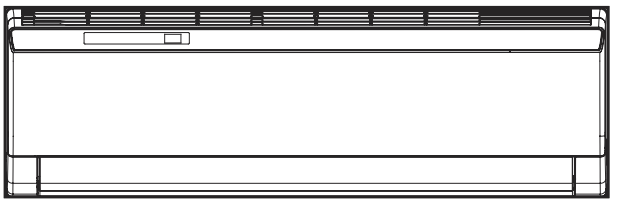
Part Ⅰ : Technical Information

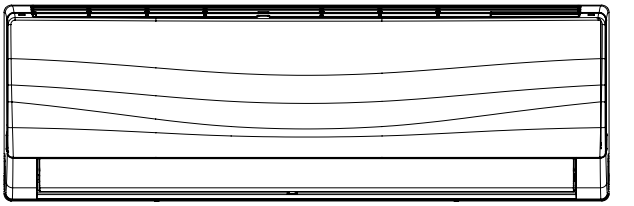
1. Summary

Indoor Unit

GWH09RB-K3DNA2G/I(Cold Plasma)(WIFI)
GWC24QE-K3NNB4F/I(Cold Plasma)(WIFI)



GWH12RB-K3DNA3G/I(Cold Plasma)(WIFI)
GWH09RB-K3DNA3G/I(Cold Plasma)(WIFI)



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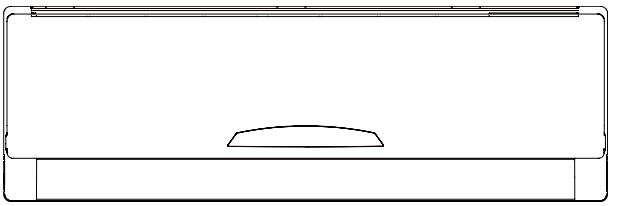
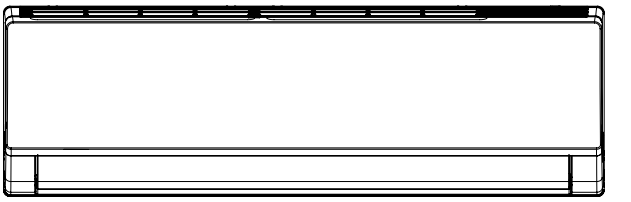
GWH12RB-K3DNA5G/I(Cold Plasma)(WIFI)

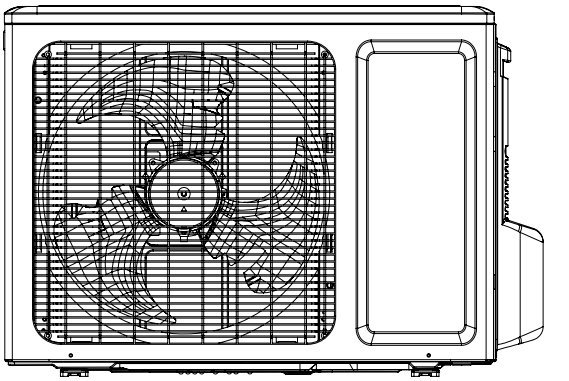


GWH09RB-K3DNA9G/I(Cold Plasma)(WIFI)
GWH12RB-K3DNA9G/I(Cold Plasma)(WIFI)



Outdoor Unit

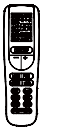
GWH09MB-K3DNE3G/O
GWH12MB-K3DNE3G/O



Remote Controller

GWH09RB-K3DNA2G/I(Cold Plasma)(WIFI)	YV1F7
GWH12RB-K3DNA2G/I(Cold Plasma)(WIFI)	
GWH12RB-K3DNA3G/I(Cold Plasma)(WIFI)	
GWH09RB-K3DNA5G/I(Cold Plasma)(WIFI)	
GWH12RB-K3DNA5G/I(Cold Plasma)(WIFI)	
GWH09RB-K3DNA9G/I(Cold Plasma)(WIFI)	YAA1FB
GWH09RB-K3DNA3G/I(Cold Plasma)(WIFI)	
GWH12RB-K3DNA9G/I(Cold Plasma)(WIFI)	

YAA1FB



YV1F7

2. Specifications

2.1 Specification Sheet

Model			GWH09RB-K3DNA9G (Cold Plasma)(WIFI)	GWH09RB-K3DNA3G(Cold Plasma)(WIFI) GWH09RB-K3DNA5G(WIFI) GWH09RB-K3DNA2G(Cold Plasma)(WIFI)
Product Code			CB314000601	CB302003103 CB304002603 CB301002301
Power Supply	Rated Voltage	V~	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Power Supply Mode			Outdoor	Outdoor
Cooling Capacity		W	2600(600~3200)	2600(600~3200)
Heating Capacity		W	3000(800~3600)	3000(800~3600)
Cooling Power Input		W	870(185~1300)	870(185~1300)
Heating Power Input		W	900(220~1400)	900(220~1400)
Cooling Power Current		A	3.80	3.80
Heating Power Current		A	3.92	3.92
Rated Input		W	1400	1400
Rated Current		A	6.69	6.69
Air Flow Volume(SH/H/M/L/SL)		m^3/h	600/500/400/300/-	600/500/400/300/-
Dehumidifying Volume		L/h	0.8	0.8
EER		W/W	2.99	2.99
COP		W/W	3.33	3.33
SEER		W/W	6.1	6.10
HSPF		W/W	4.0	4.00
Application Area		m^2	12-18	12-18
Indoor Unit	Model of indoor unit		GWH09RB-K3DNA9G/I (Cold Plasma)(WIFI)	GWH09RB-K3DNA3G/I (Cold Plasma)(WIFI) GWH09RB-K3DNA5G/I(WIFI) GWH09RB-K3DNA2G/I(Cold Plasma)(WIFI)
	Indoor Unit Product Code		CB314N00600	CB302N03103 CB304N02603 CB301N02301
	Fan Type		Cross-flow	Cross-flow
	Diameter Length(DXL)	mm	Φ92X645	Φ92X645
	Fan Motor Cooling Speed(SH/H/M/L/SL)	r/min	1260/1050/900/690/-	1260/1050/950/750/-
	Fan Motor Heating Speed(SH/H/M/L/SL)	r/min	1320/1200/1000/910/-	1320/1150/1050/950/-
	Output of Fan Motor	W	20	20
	Fan Motor RLA	A	0.10	0.10
	Fan Motor Capacitor	μF	1	1
	Evaporator Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Row-fin Gap	mm	2-1.4	2-1.4
	Coil Length (LXDXW)	mm	636X25.4X267	636X25.4X267
	Swing Motor Model		MP24AA	MP24AA
	Output of Swing Motor	W	1.5	1.5
	Fuse	A	3.15	3.15
	Sound Pressure Level (SH/H/M/L/SL)	dB (A)	42/39/34/28/-	42/39/34/28/-
	Sound Power Level (SH/H/M/L/SL)	dB (A)	52/49/44/38/-	52/49/44/38/-
	Dimension (WXHXD)	mm	848X274X189	848X274X189
	Dimension of Carton Box (LXWXH)	mm	923X356X264	923X356X264
	Dimension of Package (LXWXH)	mm	926X359X279	926X359X279
	Net Weight	kg	10	9.5
	Gross Weight	kg	12	11.5

Outdoor Unit	Model of Outdoor Unit		GWH09MB-K3DNE3G/O	GWH09MB-K3DNE3G/O
	Outdoor Unit Product Code		CB404W03601	CB404W03600
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO., LTD.	ZHUHAI LANDA COMPRESSOR CO., LTD.
	Compressor Model		QXA-A091zE190A	QXA-A091zE190A
	Compressor Oil		RB68EP	RB68EP
	Compressor Type		Rotary	Rotary
	L.R.A.	A	16.5	16.5
	Compressor RLA	A	4.5	4.5
	Compressor Power Input	W	942	942
	Overload Protector		1NT11L-6233	1NT11L-6233
	Throttling Method		Electron expansion valve	Electron expansion valve
	Operation Temp	°C	16~30	16~30
	Ambient Temp (Cooling)	°C	-15~48	-15~48
	Ambient Temp (Heating)	°C	-20~24	-20~24
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Rows-fin Gap	mm	1-1.4	1-1.4
	Coil Length (LXDXW)	mm	710X19.05X508	710X19.05X508
	Fan Motor Speed	rpm	900/650	900/650
	Output of Fan Motor	W	30	30
	Fan Motor RLA	A	0.15	0.15
	Fan Motor Capacitor	μF	/	/
	Air Flow Volume of Outdoor Unit	m^3/h	1600	1600
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	Φ400	Φ400
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IP24	IP24
	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)	51/-/-	51/-/-
	Sound Power Level (H/M/L)	dB (A)	61/-/-	61/-/-
	Dimension (WXHXD)	mm	776X540X320	776X540X320
	Dimension of Carton Box (LXWXH)	mm	848X360X580	848X360X580
	Dimension of Package (LXWXH)	mm	851X363X595	851X363X595
	Net Weight	kg	28	28
	Gross Weight	kg	31	31
	Refrigerant		R410A	R410A
	Refrigerant Charge	kg	0.70	0.70
Connection Pipe	Length	m	5	5
	Gas Additional Charge	g/m	20	20
	Outer Diameter Liquid Pipe	mm	Φ6	Φ6
	Outer Diameter Gas Pipe	mm	Φ9.52	Φ9.52
	Max Distance Height	m	10	10
	Max Distance Length	m	15	15
	Note: The connection pipe applies metric diameter.			

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

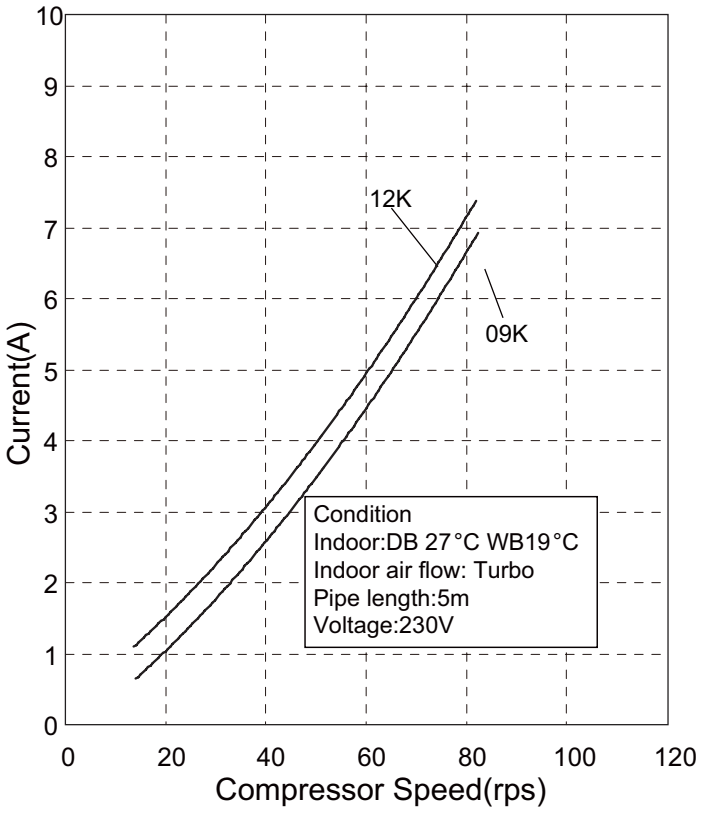
Model			GWH12RB-K3DNA3G(Cold Plasma)(WIFI) GWH12RB-K3DNA5G(Cold Plasma)(WIFI) GWH12RB-K3DNA2G(Cold Plasma)(WIFI	GWH12RB-K3DNA9G (Cold Plasma)(WIFI)
Product Code			CB302003202 CB304002702 CB301002401	CB314000701
Power Supply	Rated Voltage	V~	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Power Supply Mode			Outdoor	Outdoor
Cooling Capacity		W	3500(600~3900)	3500(600~3900)
Heating Capacity		W	4000(880~4400)	4000(880~4400)
Cooling Power Input		W	1170(185~1400)	1170(185~1400)
Heating Power Input		W	1200(250~1550)	1200(250~1550)
Cooling Power Current		A	5.20	5.2
Heating Power Current		A	5.30	5.3
Rated Input		W	1550	1600
Rated Current		A	7.80	7.8
Air Flow Volume(SH/H/M/L/SL)		m^3/h	600/500/400/300/-	600/500/400/300/-
Dehumidifying Volume		L/h	1.2	1.2
EER		W/W	2.99	2.99
COP		W/W	3.33	3.33
SEER		W/W	6.10	6.1
HSPF		W/W	4.00	4.0
Application Area		m^2	16-24	16-24
Indoor Unit	Model of indoor unit		GWH12RB-K3DNA3G/I (Cold Plasma)(WIFI) GWH12RB-K3DNA5G/I (Cold Plasma)(WIFI) GWH12RB-K3DNA2G/I (Cold Plasma)(WIFI)	GWH12RB-K3DNA9G/I (Cold Plasma)(WIFI)
	Indoor Unit Product Code		CB302N03202 CB304N02702 CB301N02401	CB314N00700
	Fan Type		Cross-flow	Cross-flow
	Diameter Length(DXL)	mm	Φ92X645	Φ92X645
	Fan Motor Cooling Speed(SH/H/M/L/SL)	r/min	1290/1070/900/730/-	1290/1070/900/690/-
	Fan Motor Heating Speed(SH/H/M/L/SL)	r/min	1320/1150/1050/920/-	1280/1050/980/920/-
	Output of Fan Motor	W	20	20
	Fan Motor RLA	A	0.10	0.10
	Fan Motor Capacitor	μF	1	1
	Evaporator Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Row-fin Gap	mm	2-1.4	2-1.4
	Coil Length (LXDXW)	mm	636X25.4X267	636X25.4X267
	Swing Motor Model		MP24AA	MP24AA
	Output of Swing Motor	W	1.5	1.5
	Fuse	A	3.15	3.15
	Sound Pressure Level (SH/H/M/L/SL)	dB (A)	42/40/35/30/-	42/35/32/23/-
	Sound Power Level (SH/H/M/L/SL)	dB (A)	52/50/45/40/-	52/50/45/40/-
	Dimension (WXHXD)	mm	848X274X189	848X274X189
	Dimension of Carton Box (LXWXH)	mm	923X356X264	923X356X264
	Dimension of Package (LXWXH)	mm	926X359X279	926X359X279
	Net Weight	kg	10	10
	Gross Weight	kg	12	12

Outdoor Unit	Model of Outdoor Unit		GWH12MB-K3DNE3G/O	GWH12MB-K3DNE3G/O
	Outdoor Unit Product Code		CB404W03500	CB404W03501
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO., LTD.	ZHUHAI LANDA COMPRESSOR CO., LTD.
	Compressor Model		QXA-A091zE190A	QXA-A091zE190A
	Compressor Oil		RB68EP	RB68EP
	Compressor Type		Rotary	Rotary
	L.R.A.	A	16.5	16.5
	Compressor RLA	A	4.5	4.5
	Compressor Power Input	W	942	942
	Overload Protector		1NT11L-6233	1NT11L-6233
	Throttling Method		Electron expansion valve	Electron expansion valve
	Operation Temp	°C	16~30	16~30
	Ambient Temp (Cooling)	°C	-15~48	-15~48
	Ambient Temp (Heating)	°C	-20~24	-20~24
	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	695X38.1X506	695X38.1X506
	Fan Motor Speed	rpm	900/650	900/650
	Output of Fan Motor	W	30	30
	Fan Motor RLA	A	0.15	0.15
	Fan Motor Capacitor	μF	/	/
	Air Flow Volume of Outdoor Unit	m^3/h	1600	1600
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	Φ400	Φ400
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IP24	IP24
	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)	53/-/-	51/-/-
	Sound Power Level (H/M/L)	dB (A)	63/-/-	63/-/-
	Dimension (WXHXD)	mm	776X540X320	776X540X320
	Dimension of Carton Box (LXWXH)	mm	848X360X580	848X360X580
	Dimension of Package (LXWXH)	mm	851X363X595	851X363X595
	Net Weight	kg	29	29
	Gross Weight	kg	32	32
	Refrigerant		R410A	R410A
	Refrigerant Charge	kg	0.85	0.85
Connection Pipe	Length	m	5	5
	Gas Additional Charge	g/m	20	20
	Outer Diameter Liquid Pipe	mm	Φ6	Φ6
	Outer Diameter Gas Pipe	mm	Φ9.52	Φ9.52
	Max Distance Height	m	10	10
	Max Distance Length	m	15	15
	Note: The connection pipe applies metric diameter.			

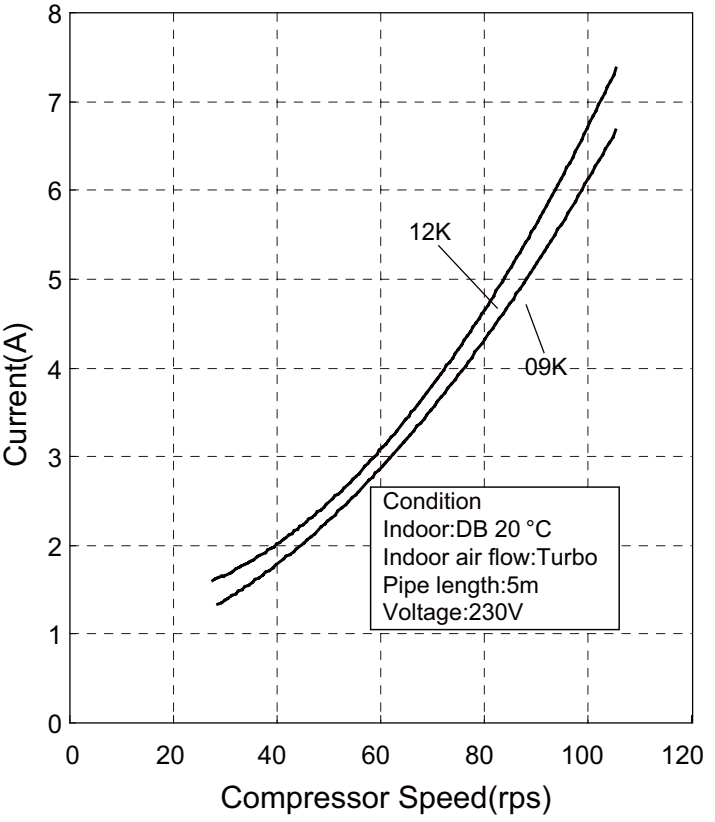
The above data is subject to change without notice; please refer to the nameplate of the unit.

2.2 Operation Characteristic Curve

Cooling

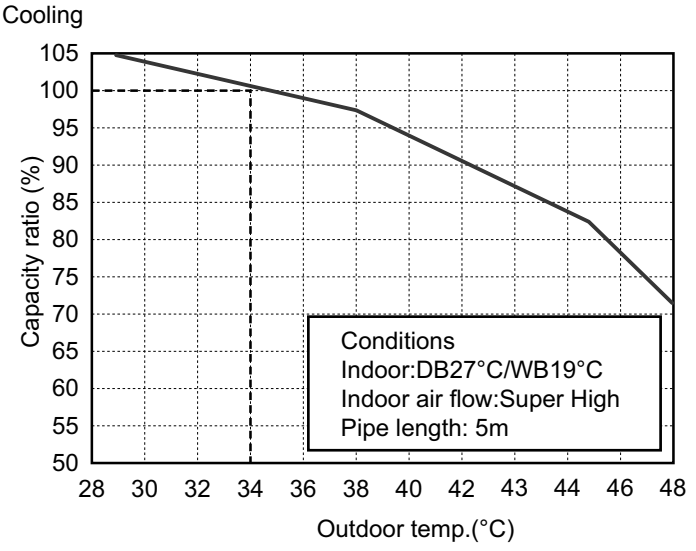


Heating

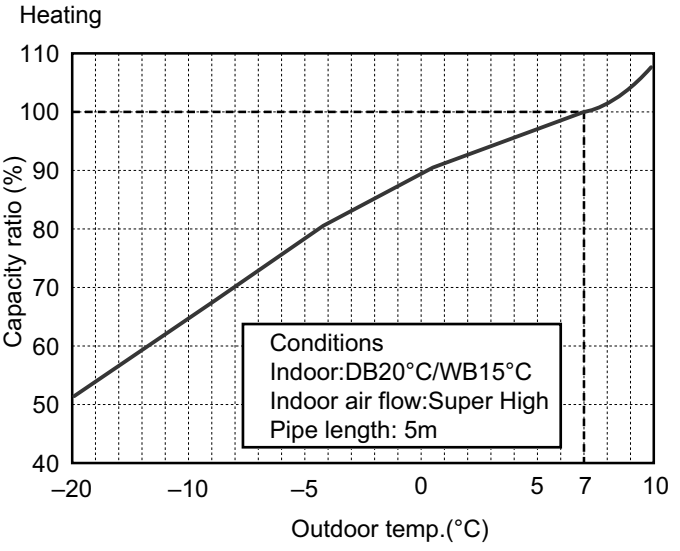


2.3 Capacity Variation Ratio According to Temperature

Cooling



Heating



2.4 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 frequency (Hz)
Indoor	Outdoor		P (MPa)	T1 (°C)	T2 (°C)			
27/19	35/24	09K	0.8 to 1.0	12 to 15	65 to 38	Super High	High	54
		12K		11 to 14	64 to 37	Super High	High	60

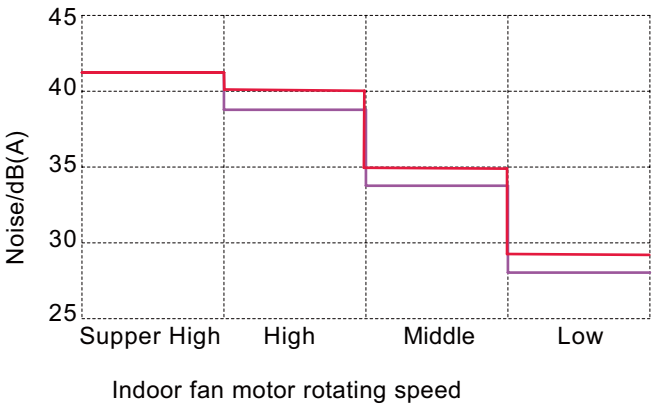
Heating:

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 frequency (Hz)
Indoor	Outdoor		P (MPa)	T1 (°C)	T2 (°C)			
20/15	7/6	09K	2.2 to 2.4	35 to 63	2 to 5	Super High	High	62
		12K		35 to 65	2 to 5	Super High	High	66

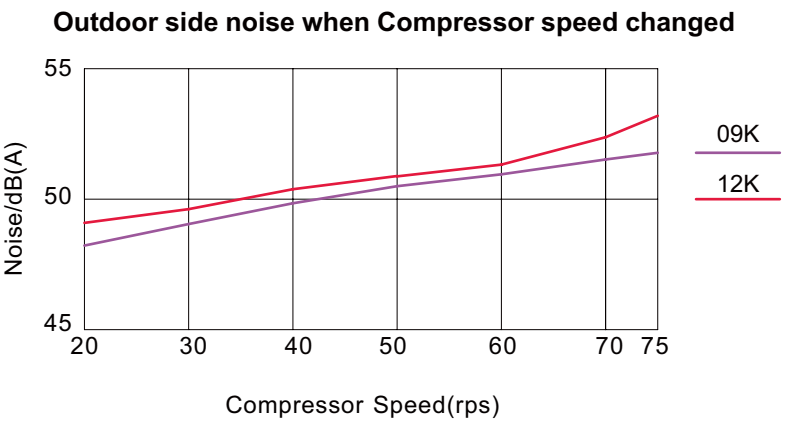
Instruction:
T1: Inlet and outlet pipe temperature of evaporator
T2: Inlet and outlet pipe temperature of condenser
P: Pressure at the side of big valve
Connection pipe length: 5 m.

2.5 Noise Curve

Indoor side noise when blowing

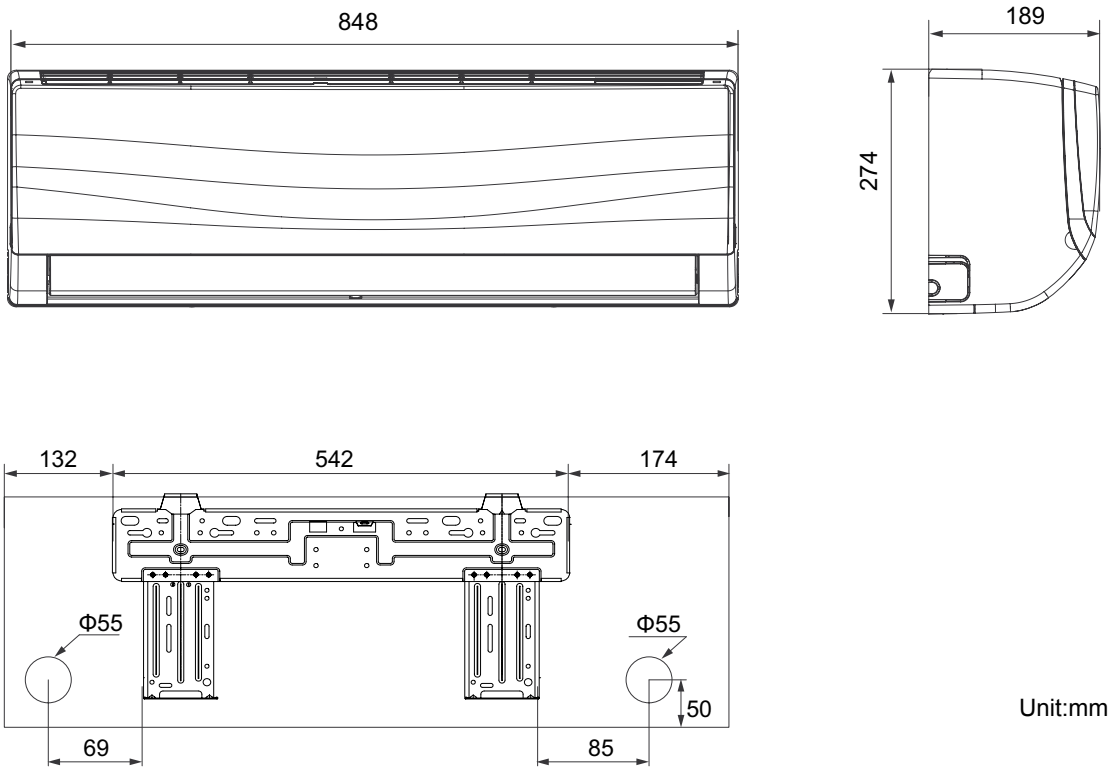


Outdoor side noise when Compressor speed changed



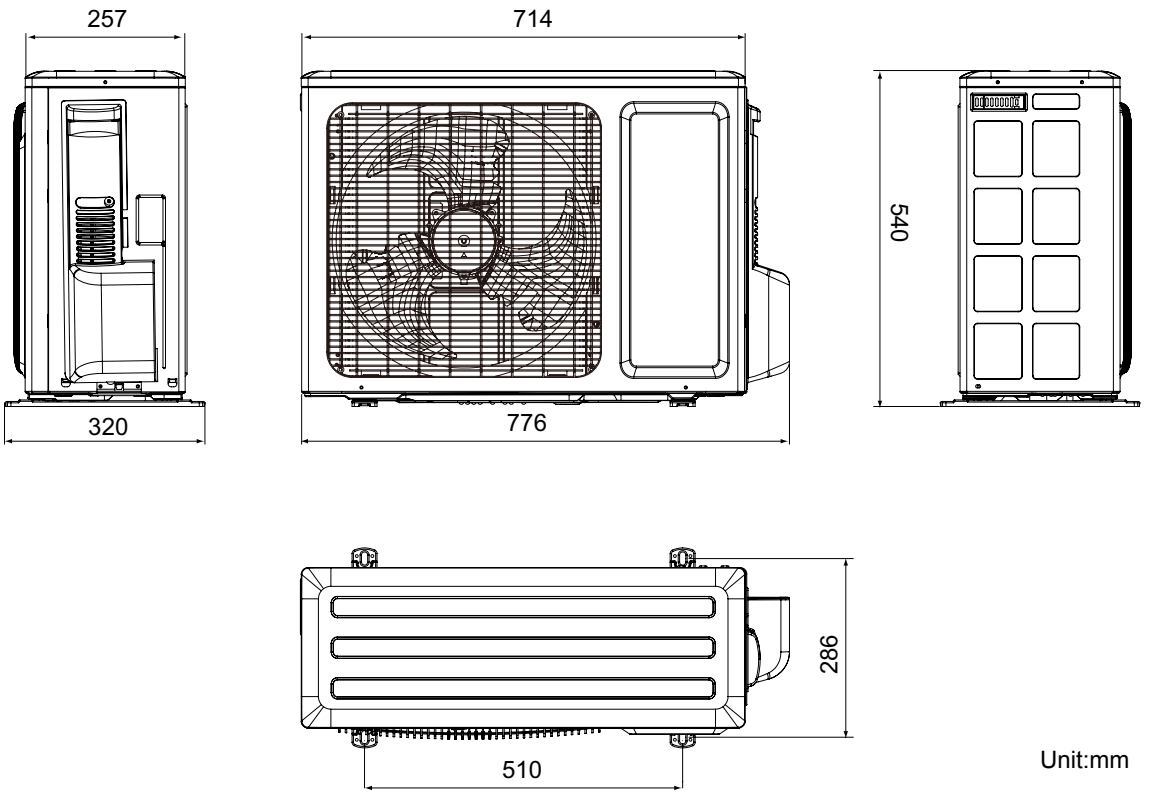
3. Outline Dimension Diagram

3.1 Indoor Unit



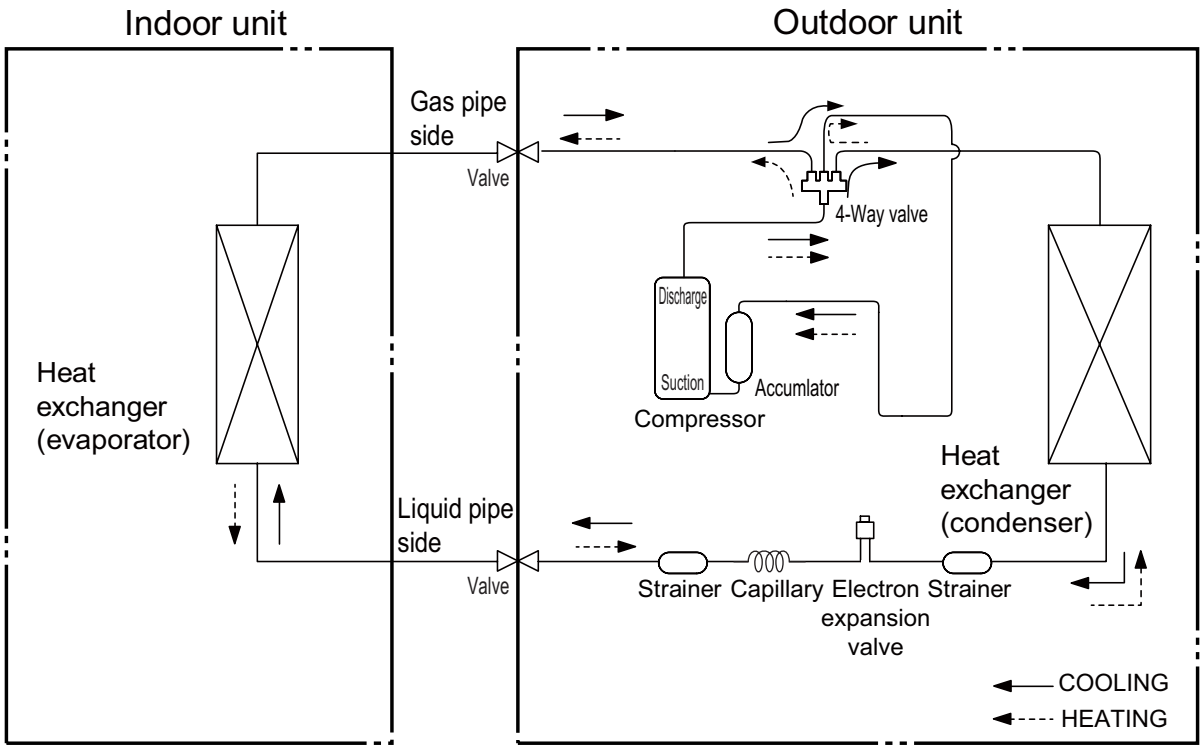
Unit:mm

3.2 Outoor Unit



Unit:mm

4. Refrigerant System Diagram



Connection pipe specification:
Liquid pipe:1/4" (6mm)
Gas pipe:3/8" (9.52mm)

5. Electrical Part

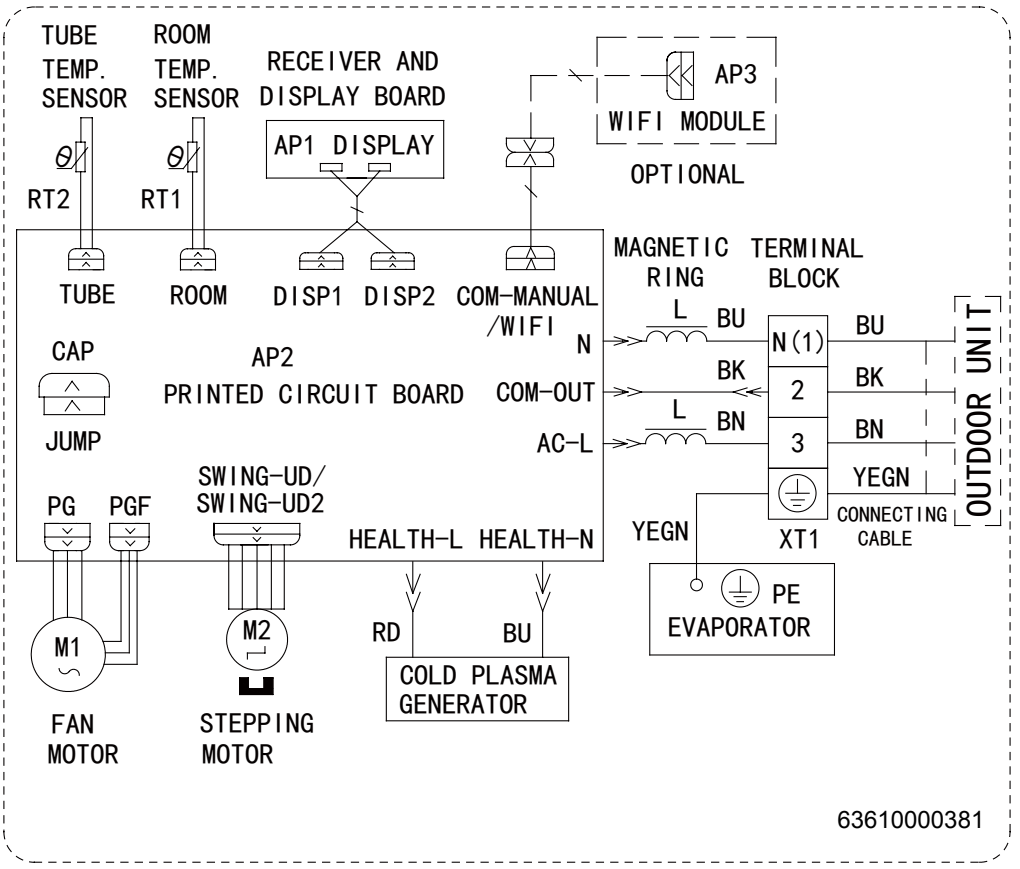
5.1 Wiring Diagram

●Instruction

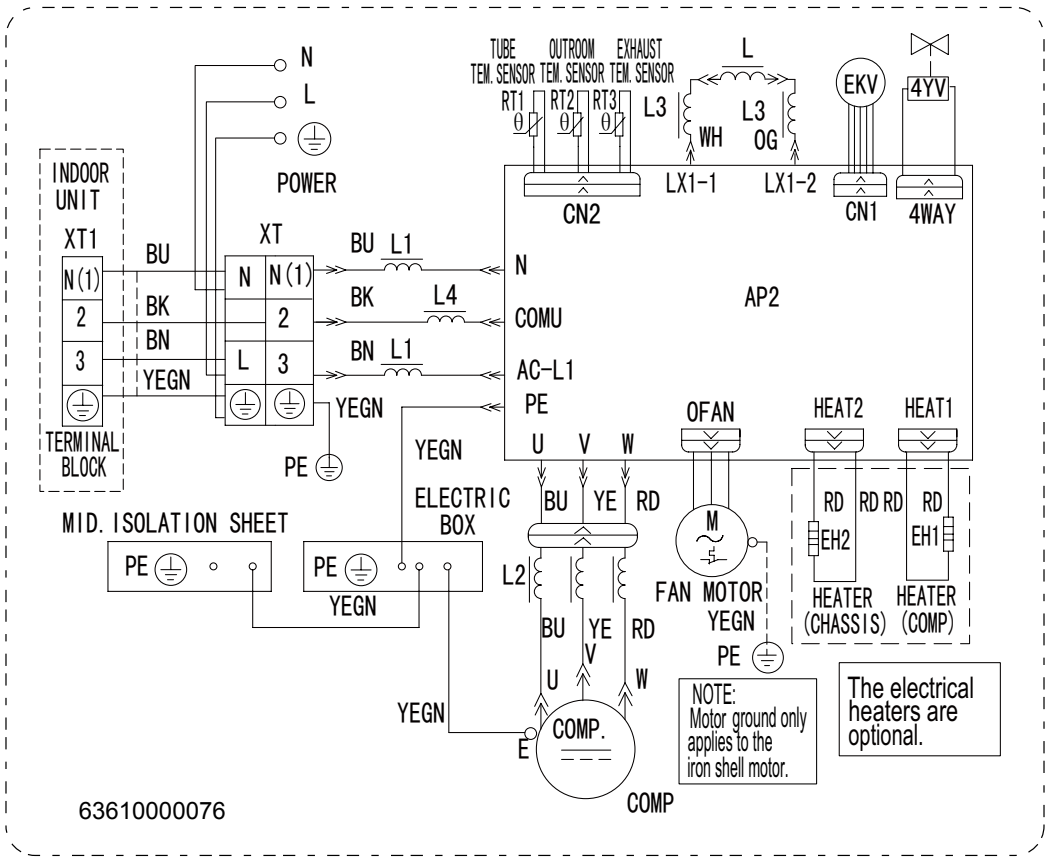
Symbol	Symbol Color	Symbol	Symbol Color	Symbol	Name
WH	White	GN	Green	CAP	Jumper cap
YE	Yellow	BN	Brown	COMP	Compressor
RD	Red	BU	Blue	⏚	Grounding wire
YEGN	Yellow/Green	BK	Black	/	/
VT	Violet	OG	Orange	/	/

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

● Indoor Unit



● Outdoor Unit

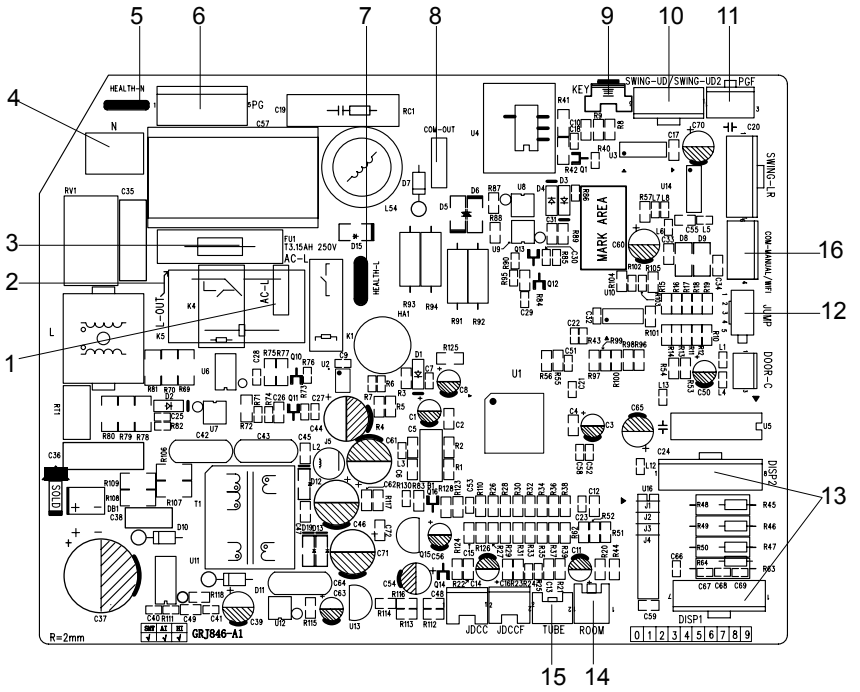


These circuit diagrams are subject to change without notice, please refer to the one supplied with the unit.

5.2 PCB Printed Diagram

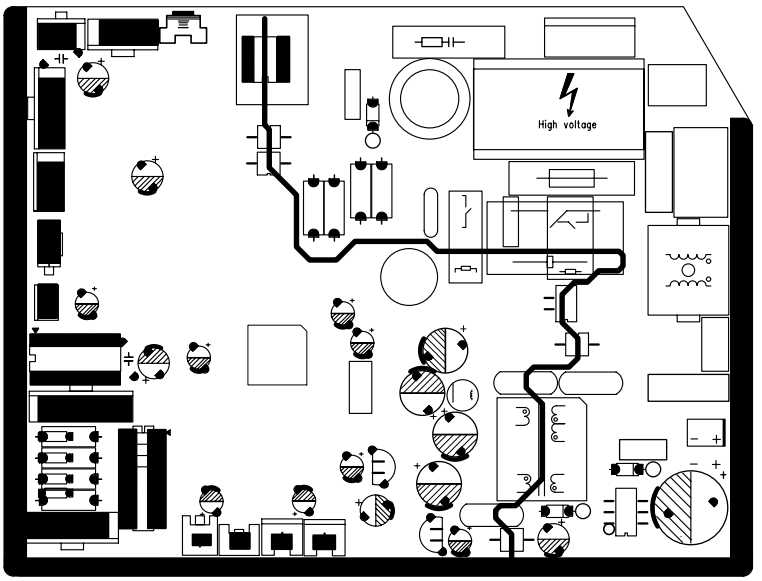
Indoor Unit

● Top view



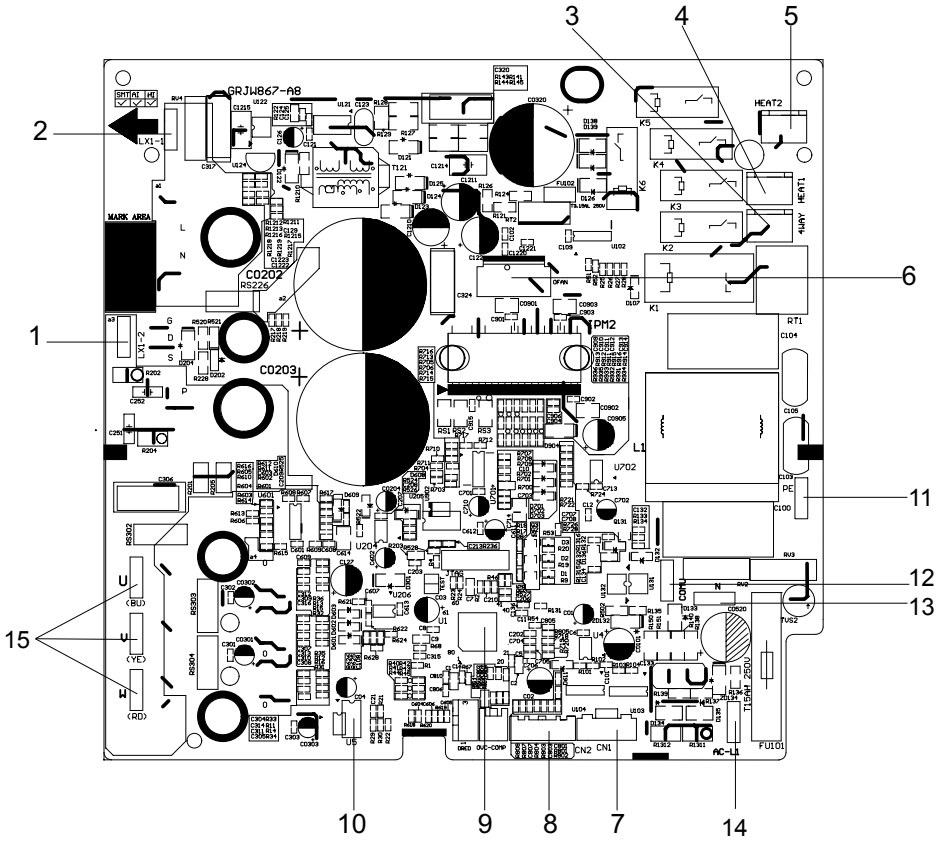
No.	Name
1	Interface of live wire
2	Interface of live wire for outdoor control
3	Fuse
4	Interface of neutral wire
5	Interface of neutral wire for health function
6	Control interface of PG motor
7	Interface of live wire for health function
8	Interface of indoor unit and outdoor unit communication
9	Auto button
10	Up & down swing
11	Feedback interface of indoor fan
12	Jump
13	Interface of display
14	Ambient temperature sensor interface
15	Indoor tube temperature sensor interface
16	Detecting plate(WIFI)

● Bottom view



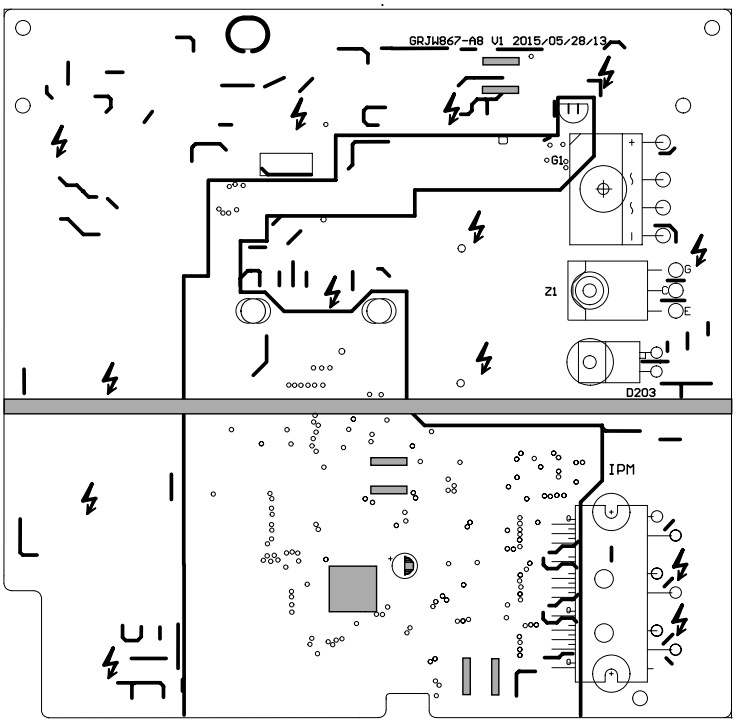
Outdoor Unit

● Top view



No.	Name
1	Inductance pin2
2	Inductance pin1
3	Four-wayvalve
4	Compressor electric heater
5	Chassis electric heater
6	Fan neilsbed
7	Electric expansion valve
8	Temp. sensor
9	Main chip
10	EEPROM
11	Earthing wire
12	Interface of communication wire
13	Neutral wire
14	Live wire
15	Interface of compressor wire

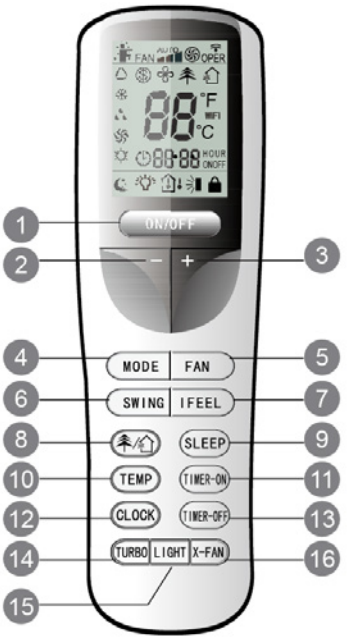
● Bottom view



6. Function and Control YAA1FB

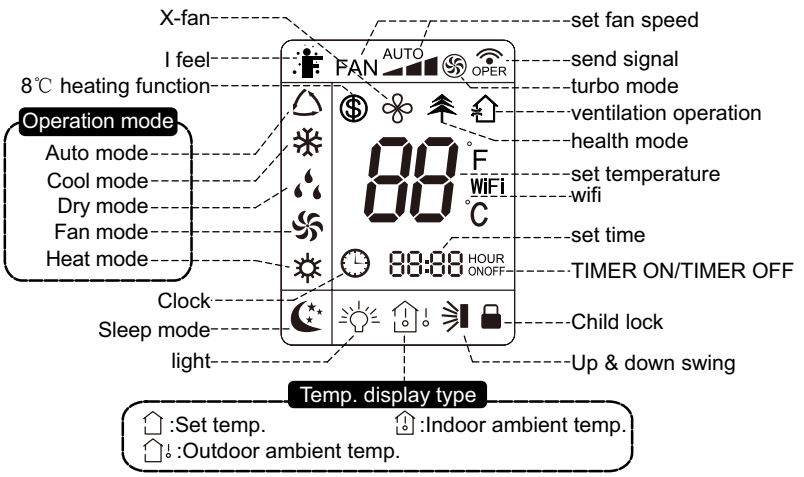
6.1 Remote Controller Introduction

Buttons on Remote Controller



1. ON/OFF button
2. - button
3. + button
4. MODE button
5. FAN button
6. SWING button
7. I FEEL button
8. 🌲/🏠 button
9. SLEEP button
10. TEMP button
11. TIMER-ON button
12. CLOCK button
13. TIMER-OFF button
14. TURBO button
15. LIGHT button
16. X-FAN 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 doesnt 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.

● Under off status, set temperature and clock icon will be displayed on the display of remote controller (If timer on, timer off and light functions are set, the corresponding icons will be displayed on the display of remote controller at the same time); Under on status, the display will show the corresponding set function icons.

1. ON/OFF Button

Press this button to turn on the unit. Press this button again to turn off the unit.

2. - Button

Press this button to decrease set temperature. Holding it down above 2 seconds rapidly decreases set temperature. In AUTO mode, set temperature is not adjustable.

3. + Button

Press this button to increase set temperature. Holding it down above 2 seconds rapidly increases set temperature. In AUTO mode, set temperature is not adjustable.

4. MODE Button

Each time you press this button, a mode is selected in a sequence that goes from AUTO, COOL, DRY, FAN, and HEAT*, as the following:

*Note:Only for models with heating function.

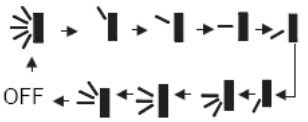
After energization, AUTO mode is defaulted. In AUTO mode, the set temperature will not be displayed on the LCD, and the unit will automatically select the suitable operation mode in accordance with the room temperature to make indoor room comfortable.
(As for cooling only unit, it wont have any action when it receives the signal of heating operation.)

5. FAN Button

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

6. SWING Button

Press this button to set up &down swing angle, which circularly changes as below:



This remote controller is universal. If any command , or is sent out, the unit will carry out the command as indicates the guide louver swings as:

7. I FEEL Button

Press this button to turn on I FEEL function. The unit automatically adjust temperature according to the sensed temperature. Press this button again to cancel I FEEL function.

8. / Button

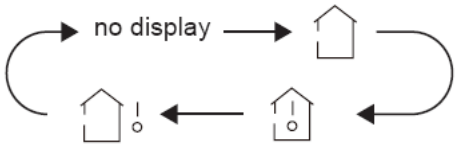
Press this button to achieve the on and off of healthy and scavenging functions in operation status. Press this button for the first time to start scavenging function; LCD displays "". Press the button for the second time to start healthy and scavenging functions simultaneously; LCD displays "" and "".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

9. SLEEP Button

Press this button to go into the SLEEP operation mode. Press it again to cancel this function. This function is available in COOL, HEAT (Only for models with heating function) or DRY mode to maintain the most comfortable temperature for you.

10. TEMP Button

Press this button can see indoor set temperature, indoor ambient temperature or outdoor ambient temperature on indoor units display. Temperature is set circularly by remote controller as below:



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

11. TIMER-ON Button

Press this button to initiate the auto-ON timer. To cancel the auto-timer program, simply press this button again.

After press of this button, disappears and "ON" blinks. 00:00 is displayed for ON time setting. Within 5 seconds, press + or - button to adjust the time value. Every press of either button changes the time setting by 1 minute. Holding down either button rapidly changes the time setting by 1 minute and then 10 minutes. Within 5 Seconds after setting,press TIMER ON button to confirm.

12. CLOCK Button

Press CLOCK button,blinking. Within 5 seconds, pressing + or - button adjusts the present time. Holding down either button above 2 seconds increases or decreases the time by 1 minute every 0.5 second and then by 10 minutes every 0.5 second. During blinking after setting, press CLOCK button again to confirm the setting, and then will be constantly displayed.

13. TIMER-OFF Button

Press this button to initiate the auto-off timer. To cancel the auto-timer program, simply press the button again. TIMER OFF setting is the same as TIMER ON.

14. TURBO Button

Press this button to activate / deactivate the Turbo function which enables the unit to reach the preset temperature in the shortest time. In COOL mode, the unit will blow strong cooling air at super high fan speed. In HEAT mode, the unit will blow strong heating air at super high fan speed.

15. LIGHT Button

Press LIGHT button to turn on the displays light and press this button again to turn off the displays light. If the light is turned on, is displayed. If the light is turned off, disappears.

16. X-FAN Button

Pressing X-FAN button in COOL or DRY mode, the icon is displayed and the indoor fan will continue operation for 10 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.

17. Combination of "+" and "-" buttons: About lock

Press "+" and "-" buttons simultaneously to lock or unlock the keypad. If the remote controller is locked, is displayed. In this case, pressing any button, blinks three times.

18. Combination of "MODE" and "-" buttons:About switch between Fahrenheit and centigrade

At unit OFF, press "MODE" and "-" buttons simultaneously to switch between °C and °F.

19. Combination of "TEMP" and "CLOCK" buttons:About Energy-saving Function

Press "TEMP" and "CLOCK" simultaneously in COOL mode to start energy-saving function.Nixie tube on the remote controller displays "SE". Repeat the operation to quit the function.

20. Combination of "TEMP" and "CLOCK" buttons:About 8°C Heating Function

Press "TEMP" and "CLOCK" simultaneously in HEAT mode to start 8°C Heating Function Nixie tube on the remote controller displays "" and a selected temperature of "8°C".(46°F if Fahrenheit is adopted). Repeat the operation to quit the function.

21. About Back-lighting Function

The unit lights for 4s when energizing for the first time, and 3s for later press.

22.Combination of "MODE" and "TURBO" buttons:About WIFI Function

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.

23. About HEALTH function (COLD PLASMA)

Turn on the unit, start up the fan (Breezing and X-FAN are excluded) and press HEATLTH button on remote controller to start health function (If there is not HEALTH button on remote controller, the unit defaults health function ON.)

24. Operation guide

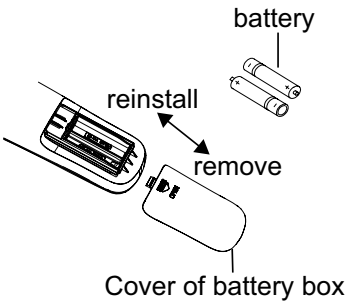
1. After putting through the power, press "ON/OFF" button on remote controller to turn on the air conditioner.
2. Press "MODE" button to select your required mode: AUTO, COOL, DRY, FAN,HEAT.
3. Press "+" or "-" button to set your required temperature. (Temperature cant be adjusted under auto mode).
4. 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.

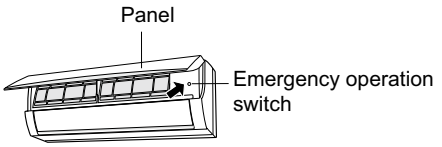
● Replace new batteries of the same model when replacement is required.

● When you dont use remote controller for a long time, please take out the batteries.

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

Emergency Operation

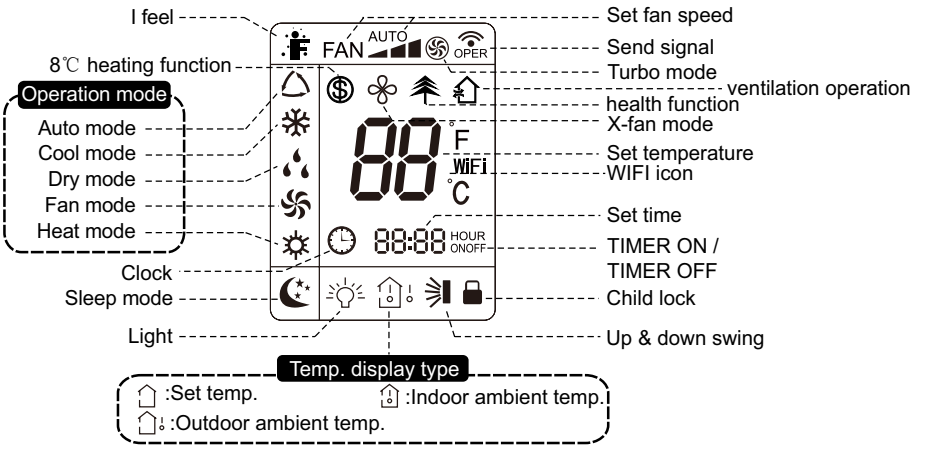
If remote controller is lost or damaged, please use auxiliary button to turn on or turn off the air conditioner. The operation in details are as below: As shown in the fig. Open panel, press aux. button to turn on or turn off the air conditioner. When the air conditioner is turned on, it will operate under auto mode.



Buttons on remote controller YV1F7

1. ON/OFF button
2. ▲ button
3. MODE button
4. SWING button
5. ▼ button
6. FAN button
7. TIMER OFF button
8. CLOCK button
9. TIMER ON button
10. SLEEP button
11. TEMP button
12. TURBO button
13. X-FAN | button
14. I FEEL button
15. / 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.
- Under off status, set temperature and clock icon will be displayed on the display of remote controller (If timer on, timer off and light functions are set, the corre-sponding icons will be displayed on the display of remote controller at the same time); Under on status, the display will show the corresponding set function icons.

1. ON/OFF button

Press this button to turn on the unit. Press this button again to turn off the unit.

2. ▲ button

Press this button to increase set temperature. Holding it down above 2 seconds rapidly increases set temperature. In AUTO mode, set temperature is not adjustable.

3. MODE button

Each time you press this button,a mode is selected in a sequence that goes from AUTO, COOL, DRY, FAN, and HEAT *, as the following:

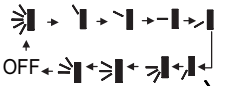
AUTO ▶ COOL ▶ DRY ▶ FAN ▶HEAT*

* Note: Only for models with heating function.

After energization, AUTO mode is defaulted. In AUTO mode, the set temperature will not be displayed on the LCD, and the unit will automatically select the suitable operation mode in accordance with the room temperature to make indoor room comfortable.

4. SWING button

Press this button to set up & down swing angle, which circularly changes as below:



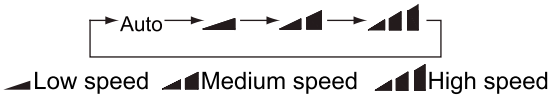
This remote controller is universal . If any command , or is sent out,the unit will carry out the command as indicates the guide louver swings as:

5. ▼button

Press this button to decrease set temperature. Holding it down above 2 seconds rapidly decreases set temperature. In AUTO mode, set temperature is not adjustable.

6. FAN button

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



7. TIMER OFF button

Press this button to initiate the auto-off timer. To cancel the auto-timer program, simply press the button again.TIMER OFF setting is the same as TIMER ON.

8. CLOCK button

Press CLOCK button, blinking. Within 5 seconds, pressing ▲ or▼ button adjusts the present time. Holding down either button above 2 seconds increases or decreases the time by 1 minute every 0.5 second and then by 10 minutes every 0.5 second. During blinking after setting, press CLOCK button again to confirm the setting, and then will be constantly displayed.

9. TIMER ON button

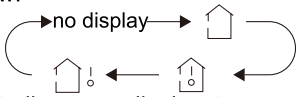
Press this button to initiate the auto-ON timer. To cancel the auto-timer program, simply press this button again.After press of this button, disappears and "ON "blinks. 0 0:00 is displayed for ON timesetting. Within 5 seconds, press ▲ or ▼ button to adjust the time value. Every press of either button changes the time setting by 1 minute. Holding down either button rapidly changes the time setting by 1 minute and then 10 minutes. Within 5 Seconds after setting, press TIMER ON button to confirm.

10. SLEEP button

Press this button to go into the SLEEP operation mode. Press it again to cancel this function. This function is available in COOL, HEAT (Only for models with heating function) to maintain the most comfortable temperature for you.

11. TEMP button

Press this button, you can see indoor set temperature, indoor ambient temperature on indoor unit's display. The setting on remote controller is selected circularly as below:



When selecting " " with remote controller or no display, temperature indicator on indoor unit displays set temperature; When selecting " " with remote controller, temperatureindicator on indoor unit displays indoor ambient temperature; 3s later or within 3s itreceives other remote controller signal that will return to display the setting temperature.

Caution:

• This model hasn't outdoor ambient temperature display function. While remote controllercan operate " " and indoor unit displays set temperature.

• It's defaulted to display set temperature when turning on the unit.

• Only for the models with temperature indicator on indoor unit.

12. TURBO button

Press this button to activate / deactivate the Turbo function which enables the unit to reach the preset temperature in the shortest time. In COOL mode, the unit will blow strong cooling air at super high fan speed. In HEAT mode, the unit will blow strong heating air at super high fan speed.

13. X-FAN / button

X-FAN function: In COOL or DRY mode, the icon is displayed and the indoor fan willcontinue operation for 2 minutes in order to dry the indoor unit even though you haveturned off the unit. After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO, FAN or HEAT mode.

function: turn on the display's light and press this button again to turn off the display's light. If the light is turned on, is displayed. If the light is turned off, disappears.

14. I FEEL button

Press this button to turn on I FEEL function. The unit automatically adjust temperature according to the sensed temperature. Press this button again to cancel I FEEL function.

15. / button

Press this button to achieve the on and off of healthy and scavenging functions inoperation 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 scavengingfunctions simultaneously; LCD displays " " and " ". Press this button for the third time to quit healthy and scavenging functions simultaneously. Press the button for the fourth time to start healthy function; LCD display " ". Press this button again to repeat the operation above. (This function is applicable to partial of models)

Function introduction for combination buttons

Combination of "▲" and " ▼" buttons: About lock

Press "▲" and "▼" buttons simultaneously to lock or unlock the keypad. If the remote controller is locked, is displayed. In this case, pressing any button, blinks three times.

Combination of "MODE" and "▼" buttons:
About switch between Fahrenheit and centigrade

At unit OFF, press "MODE" and "▼" buttons simultaneously to switch between ℃ and ℉ .

Combination of "TEMP" and "CLOCK" buttons:
About Energy-saving Function

Press "TEMP" and "CLOCK" simultaneously in COOL mode to start energy-saving function.Nixie tube on the remote controller displays "SE". Repeat the operation to quit the function.

Combination of "TEMP" and "CLOCK" buttons:
About 8℃ Heating Function

Press "TEMP" and "CLOCK" simultaneously in HEAT mode to start 8℃ Heating Function Nixie tube on the remote controller displays " " and a selected temperature of "8℃ ".(46 ℉ if Fahrenheit is adopted). Repeat the operation to quit the function.

About Back-lighting Function

The unit lights for 4s when energizing for the first time, and 3s for later press.

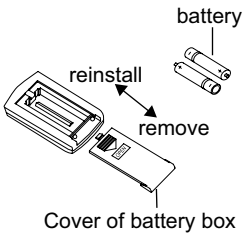
Combination of "MODE" and "TURBO" buttons:About WIFI Function

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.

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 show 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

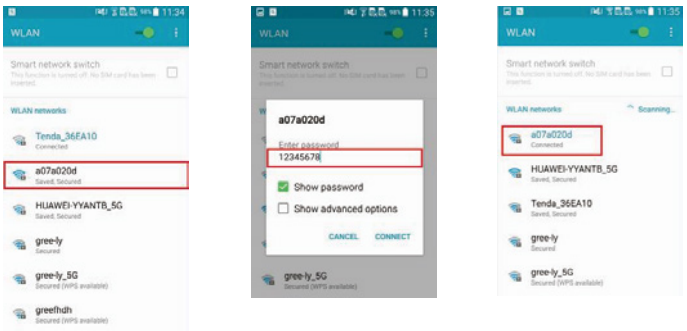
Scan the following QR code with your smart phone and download Wifi Smart.

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

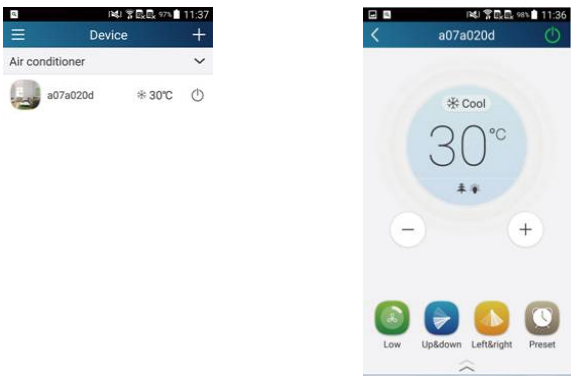
Configuration

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 hotspotStep 1: Air conditioner wifi is set to 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. Click this air conditioner to enter and realize short-distance control, as shown below. Please refer to "Functions introduction" for specific control methods.



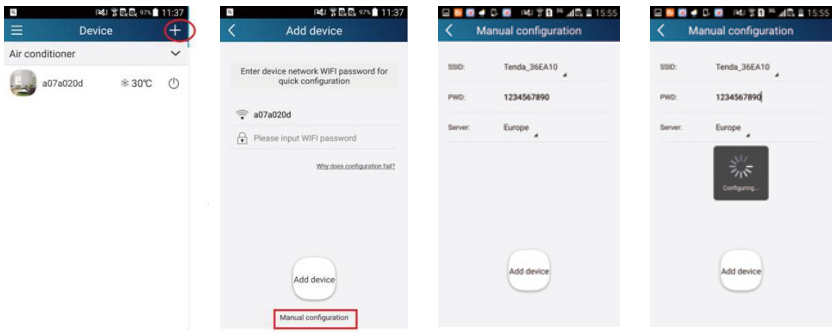
NOTE:One AC can be controlled by 4 cell phone in maximun at the same time.

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

Step 1: Under short-distance control, return to the homepage "Home Control". Tap + at the top right corner of the homepage "Home control". Select "Add device" and enter the page of "Add device". Tap "Manual configuration" and enter the page "Manual configuration".

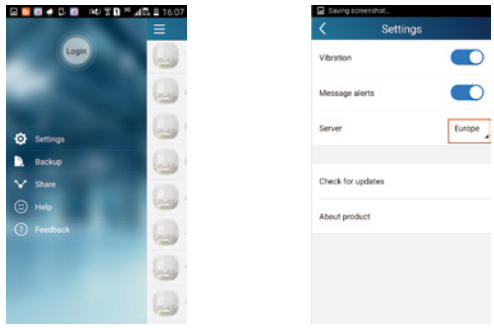
Step 2: Select the correct network name and enter the password,select the server (The server setting here must keep the same as the server setting in "Settings" mentioned below.Otherwise, remote control will be failed.),then tap the button "Add device" for configuration. If configuration succeeds, App will notify user that configuration is successful and return to homepage.

NOTICE:
Please select the encrypt mode "empty" if your wifi has been set without password.

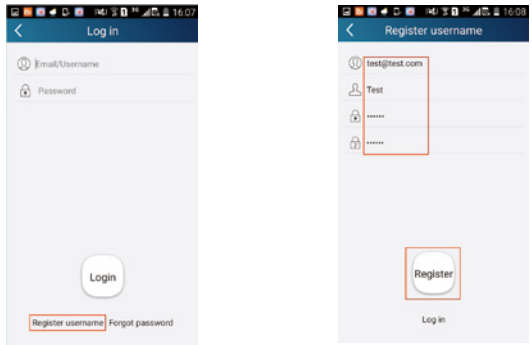


Functions introduction

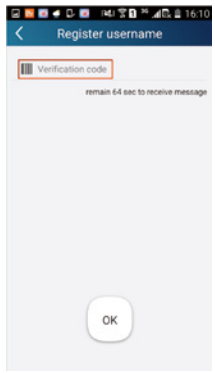
1.User registration
Purpose: To realize long-distance control
Operation instruction: For the first time login, you have to register a new username. If you already have a username, skip the registration step and enter email address and password on the "Login Page" to log in. If password is forgotton,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



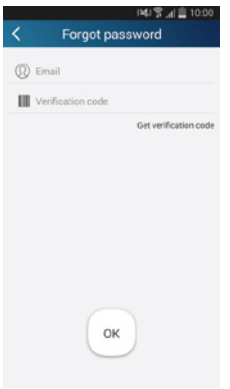
(2) Account login: Slide the page "Device". and enter the page "Menu" on the left. Tap "Login" to enter the page "Register username". New user must first register a username. Tap "Register".



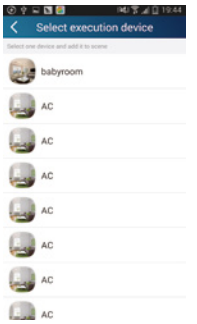
(3) Enter your email address. Wait until you receive the verification code. Enter the code and then tap "OK" to log in. Username will appear. As shown here, the username is "test".



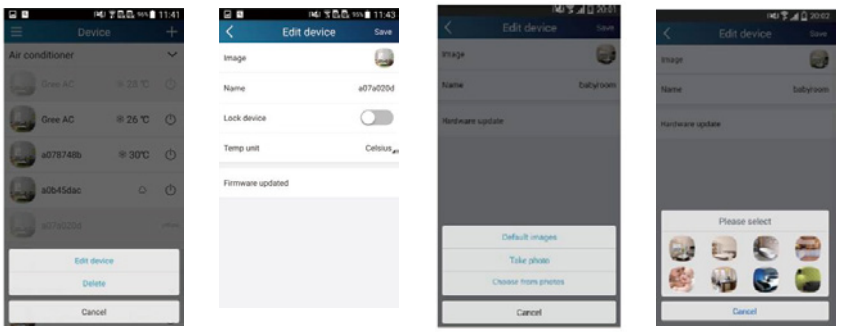
(4) If password is forgotten, you can reset the password with your email address.
Tap "Forgot password" and enter the page "Forgot password". Tap "Get verification code" to get a email verification code. Enter a new password and tap "OK" to log in.



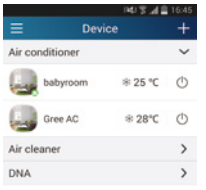
2.Personal settings
Purpose: Set name (device name, preset name, etc.) and images (device image) in order to identify a user easily.
(1) Set device name
After quick configuration, a list of controllable smart devices will be generated. Default name for air conditioner is the last 8 numbers of the air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



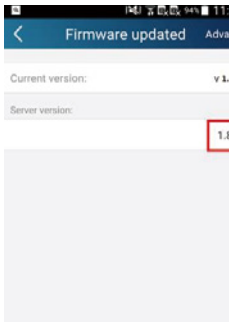
Step 1: Tap and hold "babyroom" to enter the page "Edit device". Tap "Image" to select the source of image. Select from "Default images" or "Take photo" or "Choose from photos" and save an image.



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 other smart phone cant search the device now. Tap "Temp unit" to change the temperature unit.

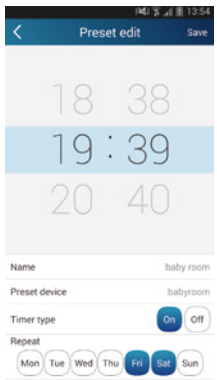


Step 3: Tap "Firmware updated" to upgrade the Firmware of the device, Tap"1.8" the device will upgraded auto.

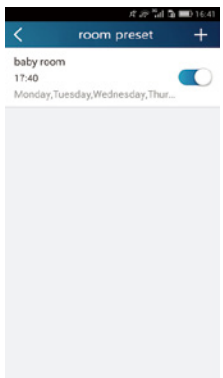


(2) Set preset name

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.



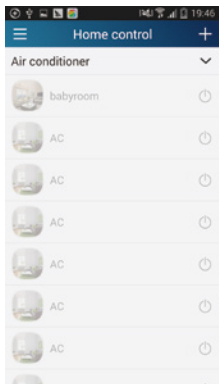
(3) Set device image

Please refer to step 1 in 2(1)

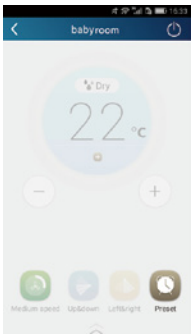
3.Control functions

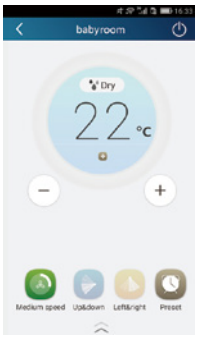
(1) Common control functions: General control on the operation of smart devices (On/Off, temperature, fan speed, mode, etc.) and the setting of advanced functions (air exchange, dry, health, light, sleep, energy saving upper limit).

Step 1: General control Enter the homepage "Home control" first. Take "baby home"as an example.

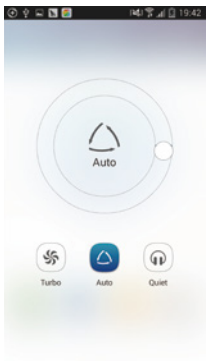


Tap "babyroom" and enter the page of air conditioner control. Tap ⏻ to turn on the control switch.

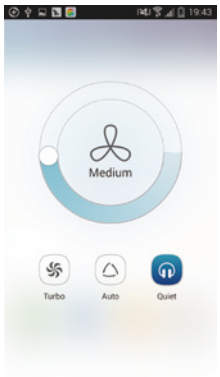


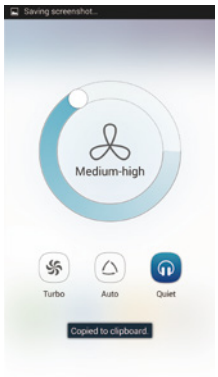


Tap + or − to increase or decrease temperature. Tap Dry to change working mode. Tap Medium speed to enter the page of fan speed adjustment.

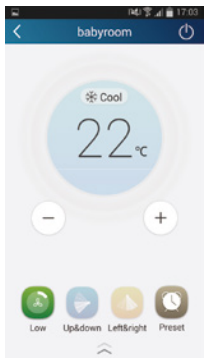


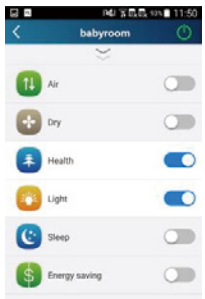
Tap Auto and go around the circle to adjust fan speed.



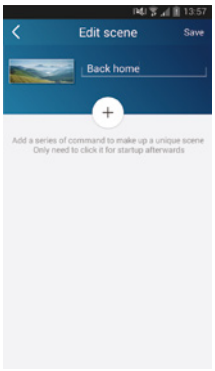


Step 2: Advanced settings Tap ^^ to enter advanced settings. You may select "Air", "Dry", "Health", "Light", "Sleep" or "Energy saving".

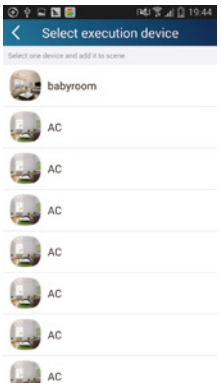


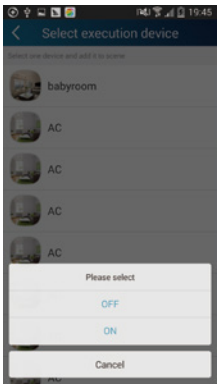


(2) Advanced control functions: Set scene; Preset; Link: Infrared control (only applicable to smart phone with infrared emitter)
Set scene: Preset the operation of several smart devices by one tap.
On the page "Home control", tap the image of "Home control" to enter the page "Edit scene".

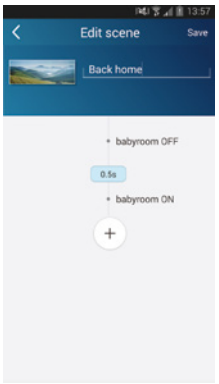


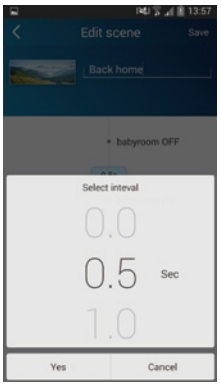
Tap "Add scene" and edit the scene name, for example, "Back home". Add execution devices.
Tap to add commands. On the page "Select execution device", select the air conditioner named "babyroom". Then select "ON" or "OFF".



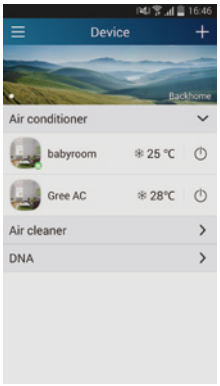


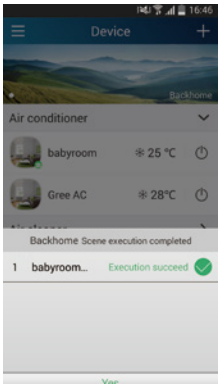
Continue to select the next execution device as instructed above. Tap to set the interval.





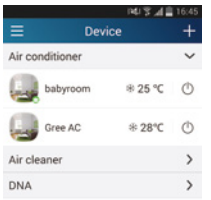
Tap "Save". Then the scene "Back home" will be in execution. You may view the execution condition of the scene.

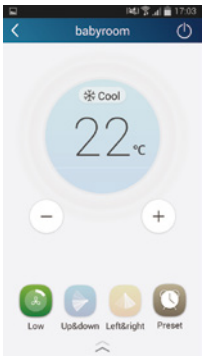




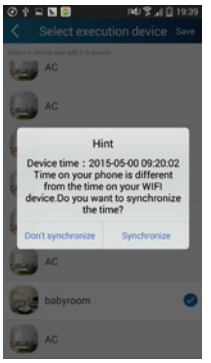
(3) Preset includes single-device preset and multi-device preset Single-device preset: This can preset a certain device to be On/Off at a specific time.
On the homepage "Device", take air conditioner "babyroom" as an example.Tap

at the bottom of the page "babyroom". Then you will enter the page "Preset edit".

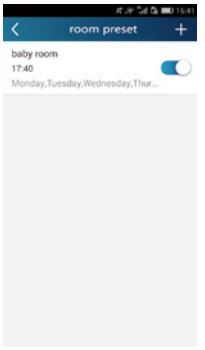




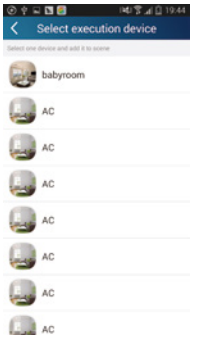
Slide up and down to set the time. If you want to synchronize the time, tap " synchronize".



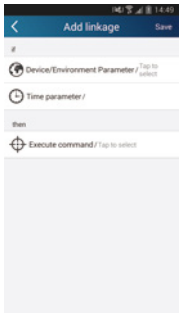
Tap "Name" to customize the preset name.
Preset device cant be selected and it will default to "babyroom". Select "On" for the timer type. Select repeating days to complete the preset.

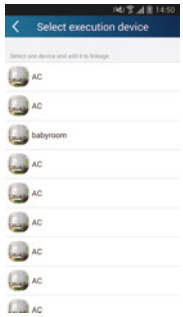


Multi-device preset: This can preset multiple devices to execute a command at a specific time.
Please refer to the instructions as how to set preset time, name, timer type and repeating days for a single device.
Tap "Preset device" to select one or more devices. Then return to the page "Device".

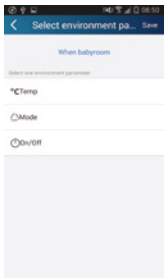


(4) Link(This function is applicable to partial of models)
set in the master device, slave devices will execute commands to realize devices Select a master device. When the environment has satisfied the parameters as linkage.
Step 1: Set the parameters of master device (Select master device, select environment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

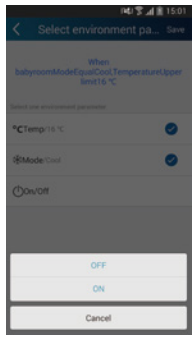




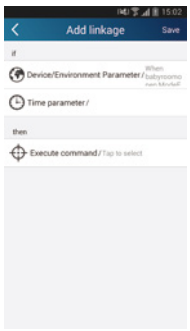
Enter the page "Select environment parameters".

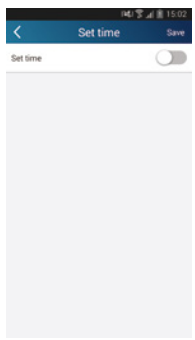


Tap "Temperature" to enter the page "Select temperature parameter". Slide up or down to adjust temperature. Tap "Upper limit" or "Lower limit".
Tap "Mode" and "On/Off" to select the status of master device. Then tap "Save".

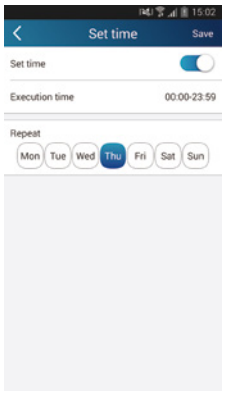


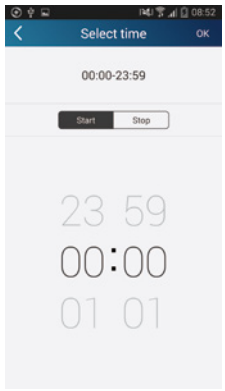
Step 2: Set time parameter for linkage. Tap "Time parameter" to enter the page "Set time". Slide rightwards to turn on the setting time.



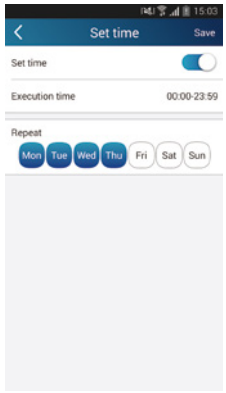


Tap "Execution time"; Then tap "Start" and "Stop" to set start time and stop time respectively. Tap "OK" at the top right corner to save the setting.

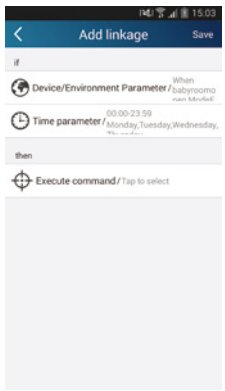




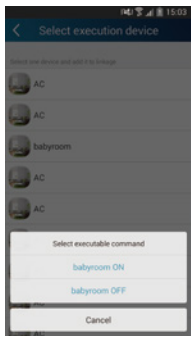
Tap the days below "Repeat" to select the repeating days. Then tap "Save".

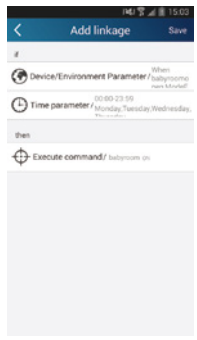


Step 3: Select "Execute command"
Tap "Execute command" and enter the page "Select device".

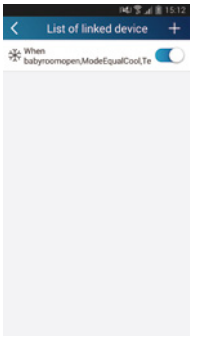


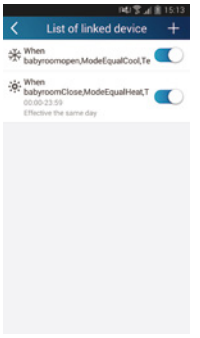
Tap the name of device that you want to control. Tap "ON" or "OFF" and then tap "Save" to complete the linkage.





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

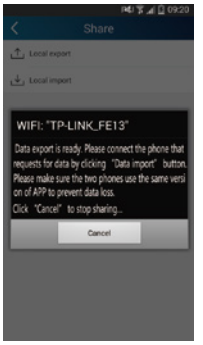




(5) Infrared control (only applicable to smart phone with infrared emitter).
Function: Smart phone can be used as a remote controller.
Tap + at the top right corner of the homepage "Device". Select "Infrared" and enter the page "Remote controller". Tap ^ and slide up to enter the page of advanced functions.

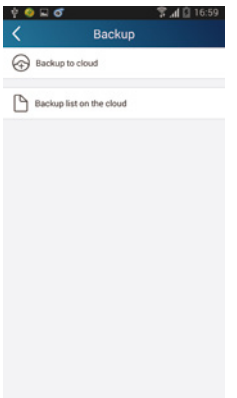
Tap ⏻ to turn on the device. Tap Mode to select mode. Tap ◎ to adjust fan speed and swing angle. Tap "Health", "Energy saving", "Sleep" etc. to set advanced functions.
Tap "Sleep" to enter the page "Sleep". You can select "Traditional sleep", "Expert sleep" or "DIY sleep". Tap "DIY sleep" and then tap 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 units 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".

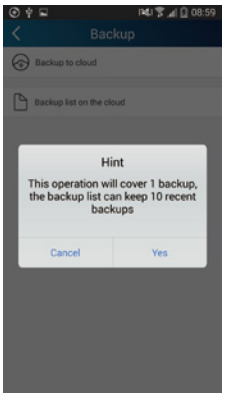


Step 2: Another smart phone to be imported.
Tap the model name and wait for the download.

(2) Backup: To keep backup of the quick configuration information and units 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.

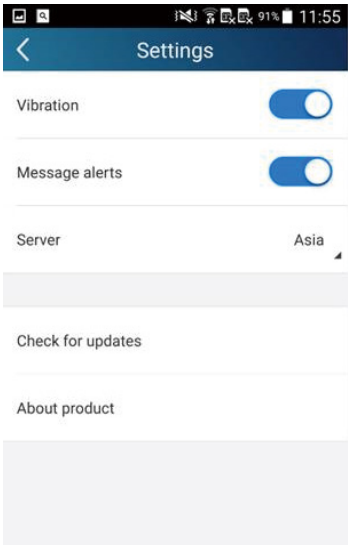


Select "Backup list on the cloud". Then backup records will appear. Tap "Record" to download data and recover data to local unit.

(3) Settings

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

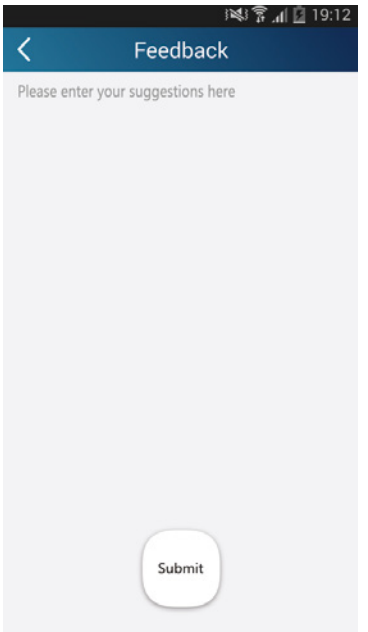
Otherwise, remote control will be invalid.



(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

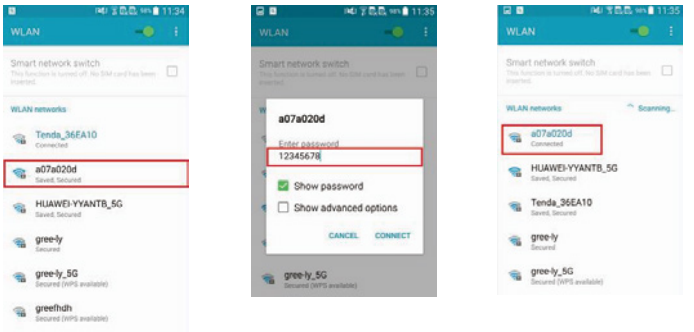
Scan the following QR code with your smart phone and download Wifi Smart.

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

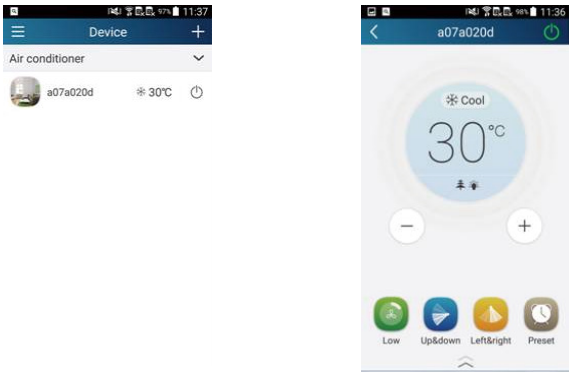
Configuration

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 hotspotStep 1: Air conditioner wifi is set to 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. Click this air conditioner to enter and realize short-distance control, as shown below. Please refer to "Functions introduction" for specific control methods.

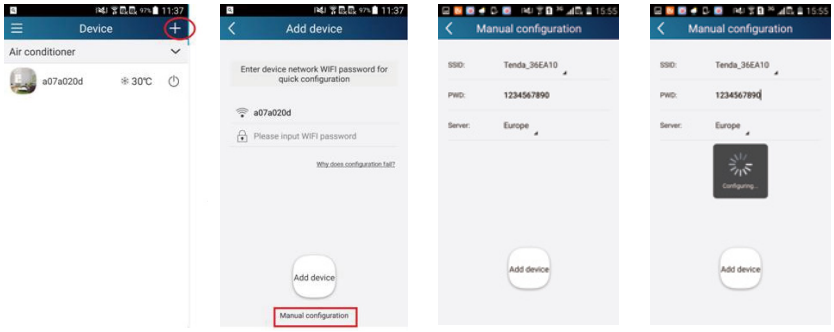


NOTE:One AC can be controlled by 4 cell phone in maximun at the same time.

2.Short-distance and long-distance control setting for air conditioner connecting router Step 1: Under short-distance control, return to the homepage "Home Control". Tap + at the top right corner of the homepage "Home control". Select "Add device"and enter the page of "Add device". Tap "Manual configuration" and enter the page "Manual configuration".

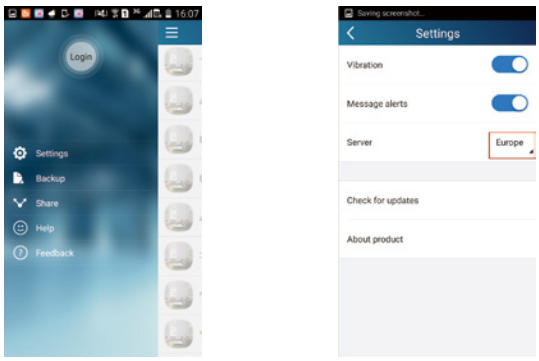
Step 2: Select the correct network name and enter the password,select the server (The server setting here must keep the same as the server setting in "Settings" mentioned below.Otherwise, remote control will be failed.),then tap the button "Add device" for configuration. If configuration succeeds, App will notify user that configuration is successful and return to homepage.

NOTICE:
Please select the encrypt mode "empty" if your wifi has been set without password.

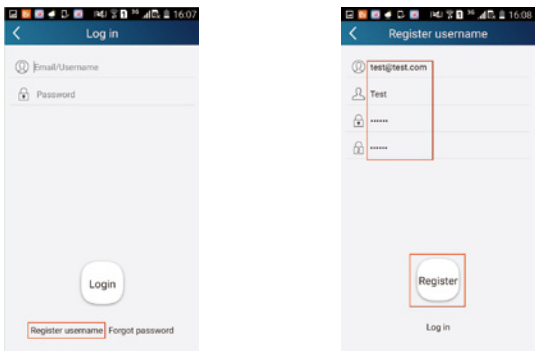


Functions introduction

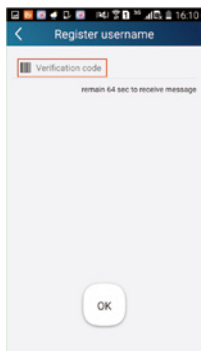
1.User registration
Operation instruction: For the first time login, you have to register a new username. If you already have a username, skip the registration step and enter email address and password on the "Login Page" to log in. If password is forgotton, you can reset the password.
Operation steps: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



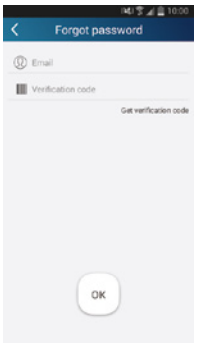
(2) Account login: Slide the page "Device". and enter the page "Menu" on the left. Tap "Login" to enter the page "Register username". New user must first register a username. Tap "Register".



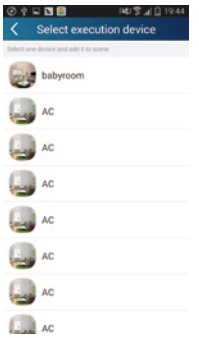
(3) Enter your email address. Wait until you receive the verification code. Enter the code and then tap "OK" to log in. Username will appear. As shown here, the username is "test".



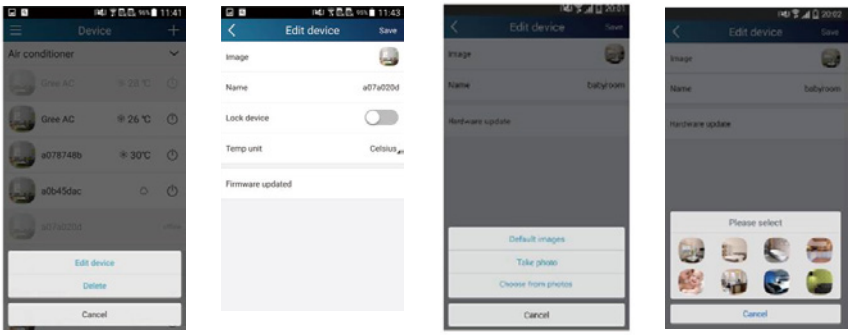
(4) If password is forgotten, you can reset the password with your email address.
Tap "Forgot password" and enter the page "Forgot password". Tap "Get verification code" to get a email verification code. Enter a new password and tap "OK" to log in.



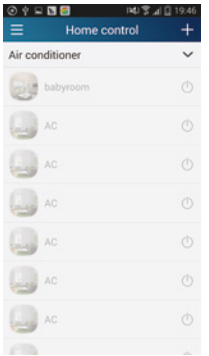
2.Personal settings
Purpose: Set name (device name, preset name, etc.) and images (device image) in order to identify a user easily.
(1) Set device name
After quick configuration, a list of controllable smart devices will be generated. Default name for air conditioner is the last 8 numbers of the air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



Step 1: Tap and hold "babyroom" 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.



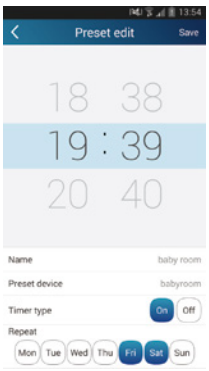
Step 2: Tap "Name" to change device name, Save it and the new device name will
be shown. enable button Lock device to lock the device,other smart phone cant search the device now. Tap "Temp unit" to change the temperature unit.



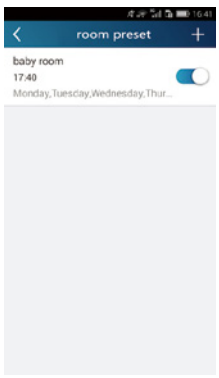
Step 3: Tap "Firmware updated" to upgrade the Firmware of the device, Tap"1.8" the device will upgraded auto.

(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.



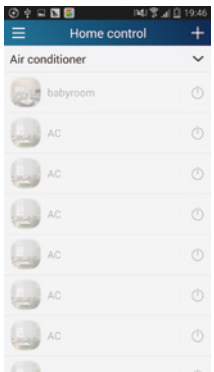
(3) Set device image

Please refer to step 1 in 2(1)

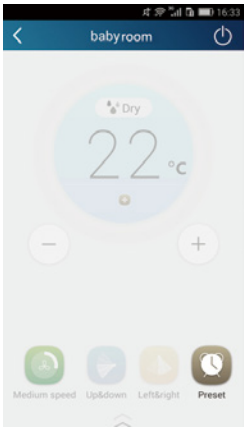
3.Control functions

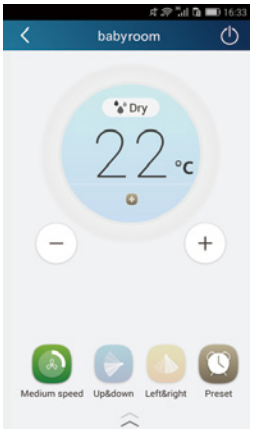
(1) Common control functions: General control on the operation of smart devices (On/Off, temperature, fan speed, mode, etc.) and the setting of advanced functions (air exchange, dry, health, light, sleep, energy saving upper limit).

Step 1: General control Enter the homepage "Device" first. Take "baby home"as an example.

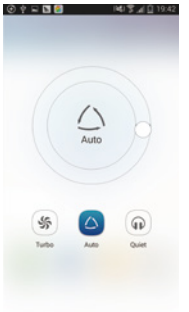


Tap "babyroom" and enter the page of air conditioner control. Tap ⏻ to turn on the control switch.

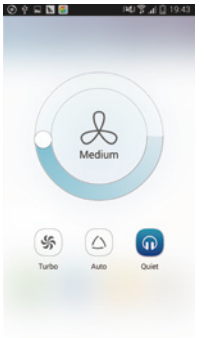


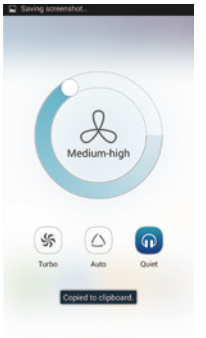


Tap + or − to increase or decrease temperature. Tap Dry to change working mode. Tap Medium speed to enter the page of fan speed adjustment.

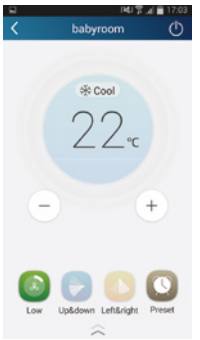


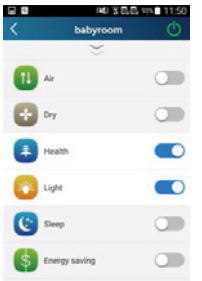
Tap and go around the circle to adjust fan speed.



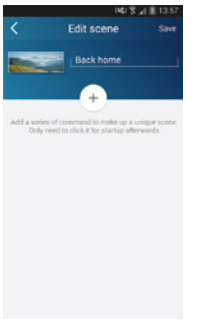


Step 2: Advanced settings Tap ^ to enter advanced settings. You may select "Air", "Dry", "Health", "Light", "Sleep" or "Energy saving".

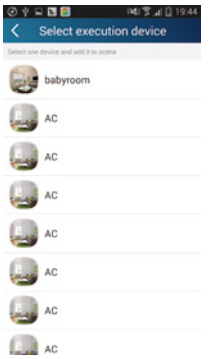


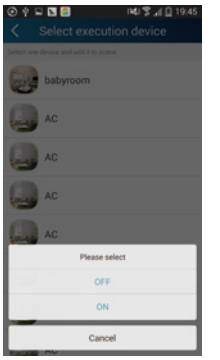


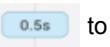
(2) Advanced control functions: Set scene; Preset; Link: Infrared control (only applicable to smart phone with infrared emitter)
Set scene: Preset the operation of several smart devices by one tap.
On the page "Device", tap the image of "Device" to enter the page "Edit scene".

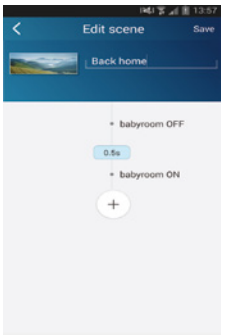


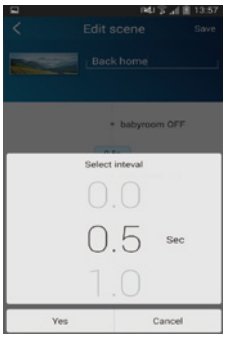
Tap "Add scene" and edit the scene name, for example, "Back home". Add execution devices.
Tap to add commands. On the page "Select execution device", select the air conditioner named "babyroom". Then select "ON" or "OFF".



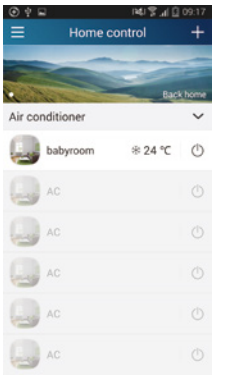


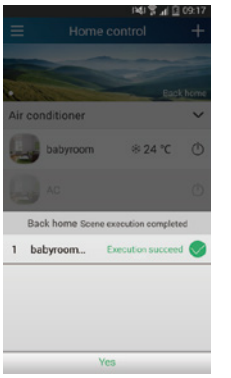
Continue to select the next execution device as instructed above. Tap  to set the interval.



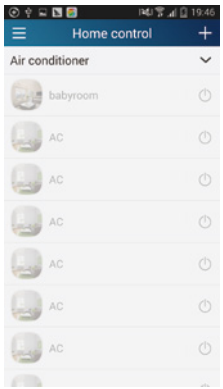


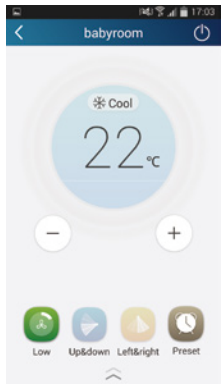
Tap "Save". Tap the scene picture displayed in "Home control" home page to send the command. Then the scene "Back home" will be in execution. You may view the execution condition of the scene.



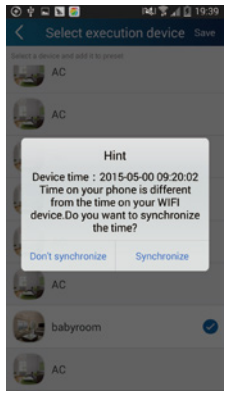


(3) Preset includes single-device preset and multi-device preset
Single-device preset: This can preset a certain device to be On/Off at a specific time.
On the homepage "Device", take air conditioner "babyroom" as an example.
Tap at the bottom of the page "babyroom". Then you will enter the page "Preset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

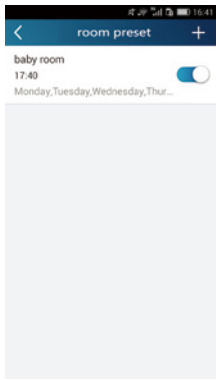




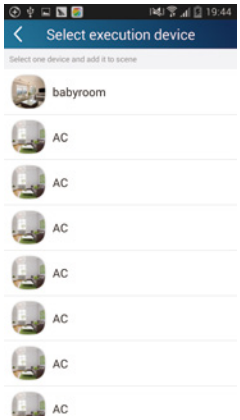
Slide up and down to set the time. If you want to synchronize the time, tap " synchronize".If such "Hint" interface hasnt appeared, please skip this operation procedure.



Tap "Name" to customize the preset name.
Preset device cant 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 "Home control".

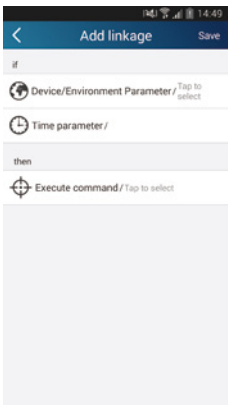


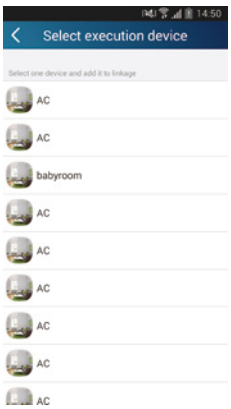
(4) Link(This function is applicable to partial of models)

set in the master device, slave devices will execute commands to realize devices Select a master device. When the environment has satisfied the parameters as 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 parameter" to enter the page "Select device". Take "baby room" as an example. Tap "baby room".

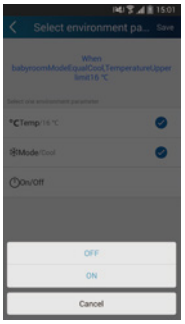




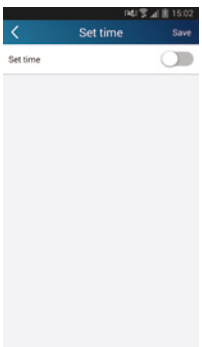
Enter the page "Select environment parameters".

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

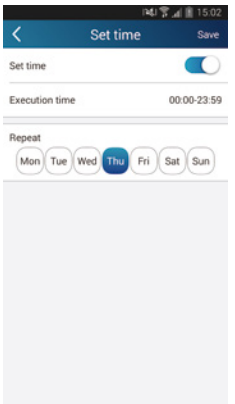
Tap "Mode" and "On/Off" to select the status of master device. Then tap "Save".

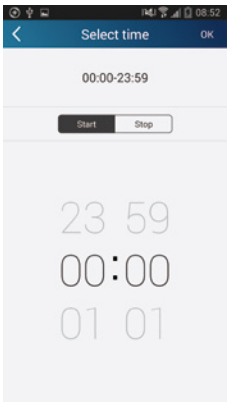


Step 2: Set time parameter for linkage. Tap "Time parameter" to enter the page "Set time". Slide rightwards to turn on the setting time.

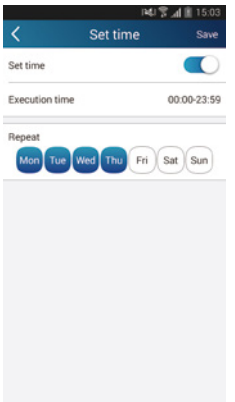


Tap "Execution time"; Then tap "Start" and "Stop" to set start time and stop time respectively. Tap "OK" at the top right corner to save the setting.

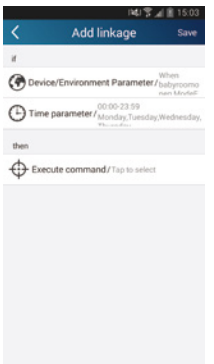




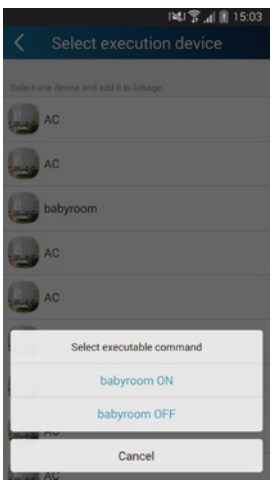
Tap the days below "Repeat" to select the repeating days. Then tap "Save".

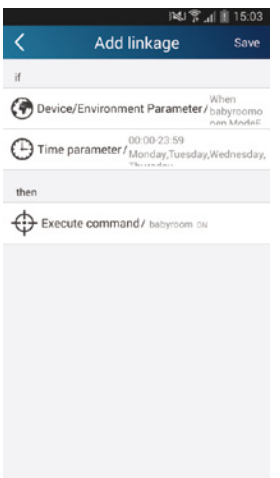


Step 3: Select "Execute command"
Tap "Execute command" and enter the page "Select device".

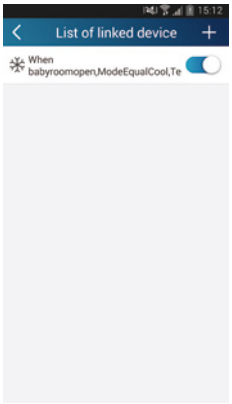


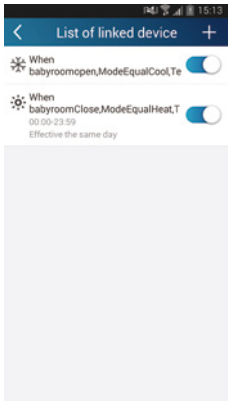
Tap the name of device that you want to control. Tap "ON" or "OFF" and then tap "Save" to complete the linkage.



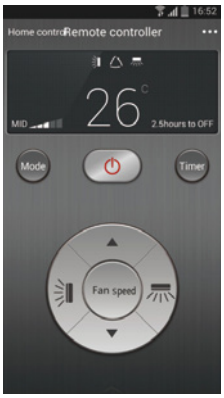


Tap "Save" and then repeat the above steps to set linkage of several scenes.





(5) Infrared control (only applicable to smart phone with infrared emitter).
Function: Smart phone can be used as a r emote 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.

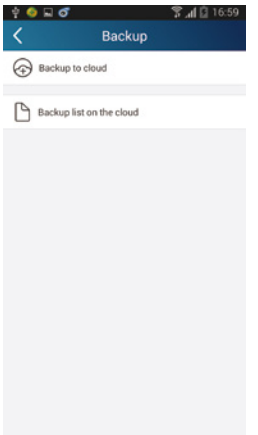


Tap ⏻ to turn on the device. Tap Mode t o select mode. Tap ✣ to adjust fan speed . Tap "Health", "Energy saving", "Sleep" etc. to set advanced functions.
Tap "Sleep" to enter the page "Sleep". You can select "Traditional sleep", "Expert sleep" or "DIY sleep". Tap "DIY sleep" and then tap the left and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

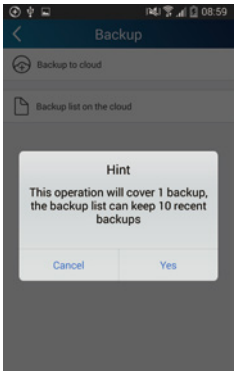
4.Menu functions
Menu functions (Share, Set, History, Feedback)
(1) Share: To share quick configuration information and units information, including local export and local import.
For local import, you just need to tap "Local import" and wait for the data download.
Local export
Step 1: Export local data 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.

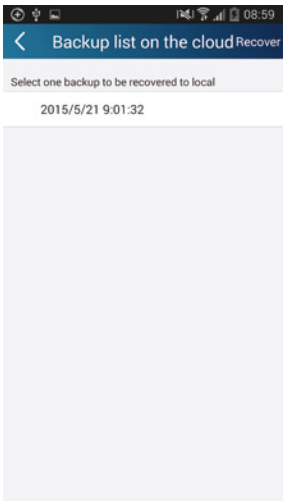
(2) Backup: To keep backup of the quick configuration information and units information, including backup to cloud and backup list on the cloud.
Backup to cloud
Enter the "Menu" on the left and tap "Backup".



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



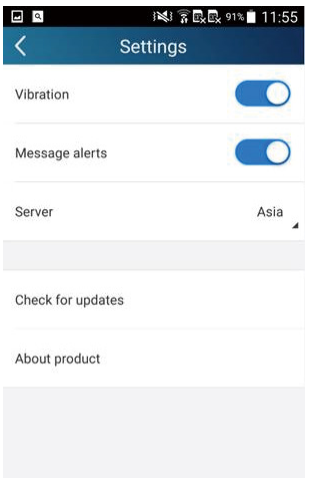
Select "Backup list on the cloud". Then backup records will appear. Tap "Record" to download data and recover data to local unit.



(3) Settings

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

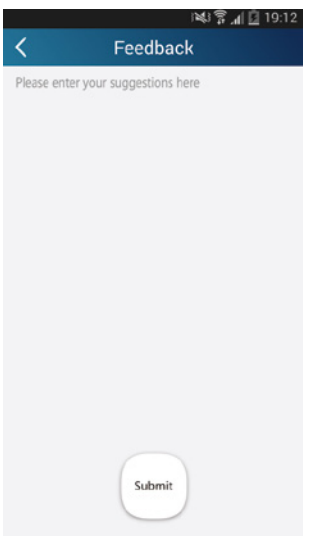
Otherwise, remote control will be invalid.



(4) Feedback

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

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



6.4 Brief Description of Modes and Functions

1. Temperature Parameters

◆ Indoor preset temperature (T_{preset})

◆ Indoor ambient temperature ($T_{amb.}$)

2. Basic Functions

Once energized, in no case should the compressor be restarted within less than 3 minutes. In the situation that memory function is available, for the first energization, if the compressor is at stop before de-energization, the compressor will be started without a 3-minute lag; if the compressor is in operation before de-energization, the compressor will be started with a 3-minute lag; and once started, the compressor will not be stopped within 6 minutes regardless of changes in room temperature;

(1)COOL Mode

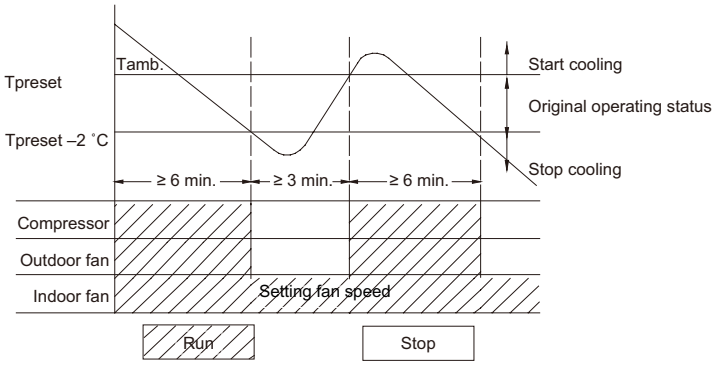
① The condition and process of cooling

If $T_{amb.} \geq T_{preset}$ COOL mode will act, the compressor and outdoor fan will run, and the indoor fan will run at the set speed.

If $T_{amb.} \leq T_{preset}-2°C$,the compressor will stop, the outdoor fan will delay 30 seconds to stop, and the indoor fan will run at the set speed.

If $T_{preset}-2°C \leq T_{amb.} \leq T_{preset}$,the unit will keep running in the previous mode.

In this mode, the reversal valve will not be powered on and the temperature setting range is 16~30°C.



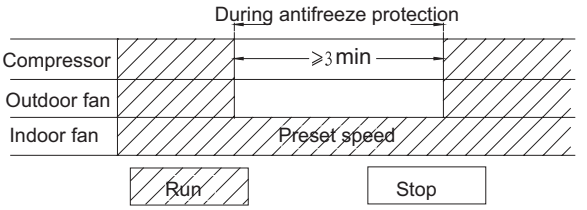
② Protection function

◆ Overcurrent protection

If total current is high, the compressor will run in limited frequency. If total current is too high, the compressor will stop, the outdoor fan will delay 30 seconds to stop, indoor unit will display E5 and outdoor yellow light will blink 5 times.

◆ Antifreezing protection

When the antifreezing protection is detected, the compressor will stop, the outdoor fan will stop after 30 seconds, and the indoor fan and swing motor will keep running in the original mode. When antifreezing protection is eliminated and the compressor has stopped for 3 minutes, the compressor will resume running in the original mode.



(2)Dehumidifying Mode

① Working conditions and process of dehumidifying

If $T_{amb.} > T_{preset,}$ the unit will enter cooling and dehumidifying mode, in which case the compressor and the outdoor fan will operate and the indoor fan will run at low speed.

If $T_{preset}-2°C \leq T_{amb.} \leq T_{preset}$, the compressor remains at its original operation state.

If $T_{amb.} < T_{preset}-2°C$, the compressor will stop, the outdoor fan will stop with a time lag of 30s, and the indoor fan will operate at low speed.

② Protection

Protection is the same as that under the cooling mode.

(3) HEAT Mode

① The condition and process of heating

If $T_{amb} \leq T_{preset}+2°C$, HEAT mode will act, the compressor, outdoor fan and reversal valve will run, the indoor fan will delay 3min to stop at the latest.

If $T_{preset}+2°C < T_{amb} < T_{preset}+5°C$,the unit will keep running in the original mode.

If $T_{amb.} \geq T_{preset}+5°C$, the compressor will stop, the outdoor fan will delay 30sec to stop and indoor fan will blow 60S at low speed, the fan speed cannot be shifted within blow residual heat.

◆ In this mode, the temperature setting range is 16~30°C.

◆ The air conditioner will adjust the running frequency of the compressor automatically according to the change of ambient temperature.

◆ When the unit is turned off in HEAT mode, or switched to other mode from HEAT mode, the four-way valve will be powered off after

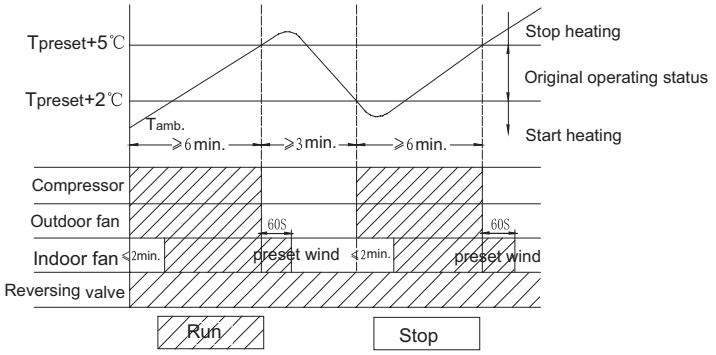
the compressor stops.

◆ When compressor is running (not including each malfunction and protection):

a.When outdoor ambient temperature≥20°C and indoor fan speed is low or medium, the fan speed will turn to high; if indoor fan speed is high or super high, it will keep the same.

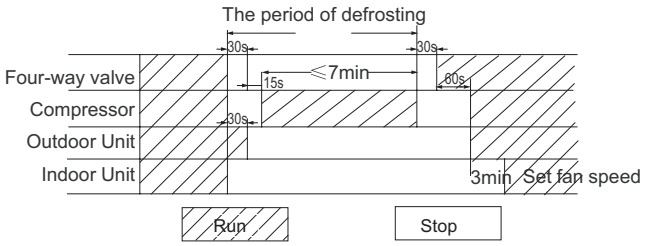
b.When outdoor ambient temperature≤18°C, the fan speed will resume set fan speed.

c. When 18°C ＜ outdoor ambient temperature ＜ 20°C, it will run at present fan speed (set fan speed or high fan speed); but when first exiting cold air prevention after entering heating mode, it will run in set fan speed.



② The condition and process of defrosting

When frost is detected in the condenser, the system will enter into defrosting state. When defrosting starts, the compressor and indoor fan will stop, and the outdoor fan and four-way valve will delay 30 seconds to stop. The compressor will start after 15 seconds and then defrosting will be started. When the compressor has run for 7 minutes or defrosting is finished, the compressor will stop. After 30 seconds the four-way valve opens and after another 60 seconds, the compressor and outdoor fan resume running. Theindoor fan will delay 3 minutes to run at the latest .The Heat indicator will be off for 0.5 second in each 10 seconds during defrosting.



③ Protection function

◆ Anti-cold-wind protection

In HEAT mode, in order to prevent the indoor unit from blowing out cold wind, each time the compressor starts, the indoor fan will delay 3 minutes after the compressor to run at the latest and it can adjust fan speed automatically when temperature is low.

◆ Cold air prevention

The unit is started under heating mode (the compressor is ON):

① In the case of $T_{indoor\ amb.}$ <24°C: if T_{tube}≤40°C and the indoor fan is at stop state, the indoor fan will begin to run at low speed with a time lag of 2 minutes. Within 2 minutes, if T_{tube}>40°C, the indoor fan also will run at low speed; and after1-minute operation at low speed, the indoor fan will be converted tooperation at preset speed. Within 1-minute low speed operation or 2-minute non-operation, if T_{tube}≤42°C, the fan will run at present speed.

② In the case of $T_{indoor\ amb.}$≥24°C: if T_{tube}≤42°C, the indoor fan will run at low speed, and afterone minute, the indoorfan will be converted to preset speed. Within one-minute low speed operation, if T_{tube}>42°C, the indoor fan will beconvertedto preset speed.

Note: T indoor amb. indicated in ① and ② refers to, under initially heating mode, the indoor ambient temperature before the command to start the compressor is performed according to the program, or after the unit is withdrawn from defrost, the indoor ambient temperature before the defrost symbol is cleared.

◆ Total current up and frequency down protection

If the total current I_{total}≤W, frequency rise will be allowed; if I_{total}≥X, frequency rise will not be allowed; if I_{total}≥Y, the compressor will run at reduced frequency; and if I_{total}≥Z, the compressor will stop and the outdoor fan will stop with a time lag of 30s.

(4) Fan Mode

Under the mode, the indoor fan will run at preset speed and the compressor, the outdoor fan, the four-way valve and the electric heater will stop.

Under the mode, temperature can be set within a range of 16~30°C.

(5) AUTO Mode

① Operation way of AUTO mode

a.When $T_{ambient}$≥26°C, it will run in cooling mode. The implied set temperature is 25°C (note: the set temperature sending to outdoor unit is 25°C).

b.For heating and cooling unit, when $T_{ambient}$≤(19°C+$T_{supplementary}$), it will run in heating mode. The implied set temperature is 20°C; for cooling only unit, when $T_{ambient}$≤22°C, it will run in fan mode and the displayed set temperature is 25°C.

c.For heating and cooling unit, when (19°C+$T_{supplementary}$) ＜ $T_{indoor\ ambient}$ ＜ 26°C (for cooling only unit, 22°C ＜ $T_{indoor\ ambient}$ ＜ 26°C), it will keep the original running mode. If the unit is energized for the first time, it will run in fan mode.

② Protection

a. In cooling operation, protection is the sam e as that under the cooling mode;

b. In heating operation, protection is the same as that under the heating mode;

c. When ambient temperature changes, operation mode will be converted preferentially. Once started, the compressor will remain unchanged for at least 6 minutes.

(6) Common Protection Functions and Fault Display under COOL, HEAT, DRY and AUTO Modes

① Overload protection

Ttube: measured temperature of outdoor heat exchanger under cooling mode; and measured temperature of indoor heat exchanger under heating mode.

1) Cooling overload

a.If T_{tube}≤52°C, the unit will return to its original operation state.

b.If T_{tube}≥55°C, frequency rise is not allowed.

c.If T_{tube}≥58°C, the compressor will run at reduced frequency.

d.If T_{tube}≥62°C, the compressor will stop and the indoor fan will run at preset speed.

2) Heating overload

a.If T_{tube}≤50°C, the unit will return to its original operation state.

b.If T_{tube}≥53°C, frequency rise is not allowed.

c.If T_{tube}≥56°C, the compressor will run at reduced frequency.

d.If T_{tube}≥60°C, the compressor will stop and the indoor fan will blow residue heat and then stop.

② Exhaust temperature protection of compressor

If exhaust temperature≥98°C, frequency is not allowed to rise.

If exhaust temperature≥103°C, the compressor will run at reduced frequency.

If exhaust temperature≥110°C, the compressor will stop.

If exhaust temperature≤90°C and the compressor has stayed at stop for at least 3 minutes, the compressor will resume its operation.

③ Communication fault

If the unit fails to receive correct signals for durative 3 minutes, communication fault can be justified and the whole system will stop.

④ Module protection

Under module protection mode, the compressor will stop. When the compressor remains at stop for at least 3 minutes, the compressor will resume its operation. If module protection occurs six times in succession, the compressor will not be started again.

⑤ Overload protection

If temperature sensed by the overload sensor is over 115°C, the compressor will stop and the outdoor fan will stop with a time lag of 30 seconds. If temperature is below 95°C, the overload protection will be relieved.

⑥ If voltage on the DC bus is below 150V or over 420V, the compressor will stop and the outdoor fan will stop with a time lag of 30 seconds. When voltage on the DC bus returns to its normal value and the compressor has stayed at stop for at least 3 minutes, the compressor will resume its operation.

⑦ Faults of temperature sensors

Designation of sensors	Faults
Indoor ambient temperature	The sensor is detected to be open-circuited or short-circuited for successive 5 seconds
Indoor tube temperature	The sensor is detected to be open-circuited or short-circuited for successive 5 seconds
Outdoor ambient temperature	The sensor is detected to be open-circuited or short-circuited for successive 30 seconds
Outdoor tube temperature	The sensor is detected to be open-circuited or short-circuited for successive 30 seconds, and no detection is performed within 10 minutes after defrost begins.
Exhaust	After the compressor has operated for 3 minutes, the sensor is detected to be open-circuited or short-circuited for successive 30 seconds.
Overload	After the compressor has operated for 3 minutes, the sensor is detected to be open-circuited or short-circuited for successive 30 seconds.

3. Other Controls

(1) ON/OFF

Press the remote button ON/OFF: the on-off state will be changed once each time you press the button.

(2) Mode Selection

Press the remote button MODE, then select and show in the following ways: AUTO, COOL, DRY, FAN, HEAT, AUTO.

(3) Temperature Setting Option Button

Each time you press the remote button TEMP+ or TEMP-, the setting temperature will be up or down by 1. Regulating Range: 16~30°C, the button is useless under the AUTO mode.

(4) Time Switch

You should start and stop the machine according to the setting time by remote control.

(5) SLEEP State Control

a. When the air conditioner is under the mode of COOL, and the SLEEP mode has been set well, after the SLEEP state keeps about 1 hour, the pre-setting T will raise 1°C, and it will raise 1°C again after 2 hours, so it raise 2°C in 2 hours, then it will run on at the setting temperature and wind speed.

b. When the air conditioner is under the mode of HEAT, and the Timer has been set well, after the SLEEP state keeps about 1 hour, the pre-setting T will reduce 1°C, and it will reduce 1°C again after 2 hours, so it reduce 2°C in 2 hours, then it will run on at the setting temperature and wind speed.

c. The setting temperature keeps the same under the FAN mode and AUTO mode.

(6) Indoor Fan Control

Indoor fan could be set at ultra-high, high, medium, low speed by wireless remote controller and operated as that speed.

Auto fan speed could be set as well, indoor fan will operate under auto fan speed as following:

① Under heating mode: auto speed under heating or auto heating mode:

a. When $T_{amb.} \leq T_{preset}+1°C$, indoor fan will operate at high speed;

b. When $T_{preset}+1°C < T_{amb.} < T_{preset}+3°C$, indoor fan will operate at medium speed;

c. When $T_{amb.} \geq T_{preset}+3°C$, indoor fan will operate at low speed;

There should be at least 180s operation time during switchover of each speed.

② Under cooling mode: auto speed under cooling or auto cooling mode:

a. When $T_{amb.} < T_{preset}+2°C$, indoor fan will operate at high speed;

b. When $T_{preset} < T_{amb.} < T_{preset}+2°C$, indoor fan will operate at medium speed;

c. When $T_{amb.} \leq T_{preset}$, indoor fan will operate at low speed;

There should be at least 180s operation time during switchover of each speed.

(7) Buzzer Control

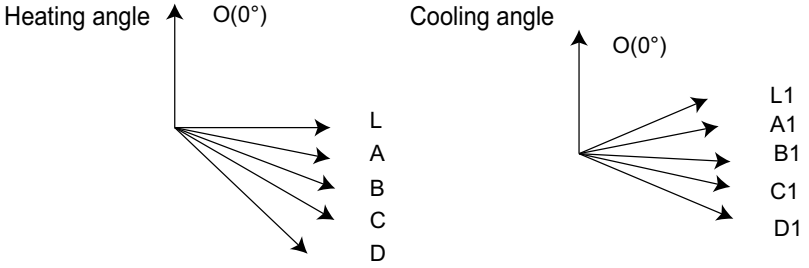
The buzzer will send a “Di” sound when the air conditioner is powered up or received the information sent by the remote control or there is a button input, the single tube cooler doesnt receive the remote control ON signal under the mode of heating mode.

(8) Auto Button

If the controller is on, it will stop by pressing the button, and if the controller is off, it will be automatic running state by pressing the button, swing on and light on, and the main unit will run based on the remote control if there is remote control order.

(9) Up-and-Down Swinging Control

When power on, the up-and-down motor will firstly move the air deflector to o counter-clockwise, close the air outlet. After starting the machine, if you dont set the swinging function, heating mode and auto-heating mode, the up-and-down air deflector will move to D clockwise; under other modes, the up-and-down air deflector will move to L1. If you set the swinging function when you start the machine, then the wind blade will swing between L and D. The air deflector has 7 swinging states: Location L, Location A, Location B, Location C, Location D, Location L to Location D, stop at any location between L-D (the included angle between L~D is the same). The air deflector will be closed at 0 Location, and the swinging is effectual only on condition that setting the swinging order and the inner fan is running. The indoor fan and compressor may get the power when air deflector is on the default location.



(10) Display

① Operation pattern and mode pattern display

All the display patterns will display for a time when the power on, the operation indication pattern will display in red under standby status. When the machine is start by remote control, the indication pattern will light and display the current operation mode (the mode light includes: Cooling, heating and dehumidify). If you close the light key, all the display patterns will close.

② Double-8 display

According to the different setting of remote control, the nixie light may display the current temperature (the temperature scope is from 16~30°C) and indoor ambient temperature. The heating and air supply temperature will display 25°C under auto-mode, the temperature will display 20°C under the auto-heating mode, and the temperature will display H1 under the defrosting mode.(If you set the fahrenheit temperature display, the nixie light will display according to fahrenheit temperature)

(11) Protection Function and Failure Display

E2: Freeze-proofing protection

E4: Exhausting protection

E5: Overcurrent protection

E6: Communication failure

F1: Indoor ambient sensor start and short circuit (continuously measured failure in 5s)

F2: Indoor evaporator sensor start and short circuit (continuously measured failure in 5s)

F3: Outdoor ambient sensor start and short circuit (continuously measured failure in 30s)
F4: Outdoor condenser sensor start and short circuit (continuously measured failure in 30s, and dont measure within 10 minutes after defrosted)
F5: Outdoor exhausting sensor start and short circuit (continuously measured failure in 30s after the compressor operated 3 minutes)
H3: Overload protection of compressor
H5: Module protection
PH: High-voltage protection
PL: Low-voltage protection
P1: Nominal cooling and heating test
P2: Maximum cooling and heating test
P3: Medium cooling and heating test
P0: Minimum cooling and heating test.

(12) Drying Function

You may start or stop the drying function under the modes of cooling and dehumidify at the starting status (The modes of automatism, heating and air supply do not have drying function). When you start the drying function, after stop the machine by pressing the switch button, you should keep running the inner fans for 2 minutes under low air damper (The swing will operate as the former status within 2 minutes, and other load is stopped), then stop the entire machine; When you stop the drying function, press the switch button will stop the machine directly.

When you start the drying function, operating the drying button will stop the inner fans and close the guide louver.

(13)Memory Function

When interrupting the power supply memory content: mode, swing function, light, set temperature and wind speed.After interrupted the power supply, the machine will start when recovering the power according to the memory contentautomatically.

(14)Electric heating band control of outdoor unit

① Compressor electric heating band control:

a) Start condition: the compressor is in off status and the $T_{\text{outdoor ambient temperature}} \leq -5°C$.

b) Stop condition: the band is off when either of the below condition is met:

1.The compressor is in on status;

2.The compressor is in off status and the $T_{\text{outdoor ambient temperature}} \geq -5°C$.

c) When outdoor ambient temperature sensor is in malfunction status, the electric heating band stops operation.

② Condenser electric heating band control:

1.When $T_{\text{outdoor ambient}} \leq 1°C$, the electric heating band starts working;

2. When enter defrosting and defrosting is finished, the chassis electric heating band starts working for 3min as the compressor starts. After the compressor starts for 3min and $T_{\text{outdoor ambient}} \geq 3°C$, the electric heating band stops operation.

3.When $T_{\text{outdoor ambient}} \geq 3°C$, the condenser electric heating band doesnt work.

4.When $1°C < T_{\text{outdoor ambient}} < 3°C$, the condenser electric heating band keeps the previous status.

When outdoor ambient temperature sensor is in malfunction status, the electric heating band stops operation; the electric heating band can work again after 2min of last stop.

(15)Compulsory defrosting function

① Start up compulsory defrosting function

Under ON status, set heating mode with remote controller and adjust the temperature to 16°C. Press “+, -, +, -, +,-” button successively within 5s and the complete unit will enter into compulsory defrosting status. Meanwhile, heating indicator 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.

(16)Refrigerant recovery function (applicable for moving the unit or maintaining the unit)

① Start up refrigerant recovery function

Set cooling mode with remote controller within 5min after energization, adjust temperature at 16°C and press light button on remote controller for 3 times successively to any one indoor unit within 3s and then the complete unit will enter into refrigerant recovery status. All indoor units display Fo. Maintenance person close all liquid valves. After 5min, withstand the thimble of all checking valves with tools one by one. If theres no refrigerant spraying out, close corresponding valve immediately, turn off the unit with remote controller and then remove the connection pipe.

② Exit refrigerant recovery function

During refrigerant recovery process, if any one indoor unit receives any remote control signal or refrigerant recovery function has operates for about 25min, refrigerant recovery function will be exited automatically. If the complete unit is at standby status before refrigerant recovery, the complete unit will still at standby status after refrigerant recovery. If the complete unit is at ON status, the unit will operate according to original operation mode.

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 cant 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 cant 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; dont 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.

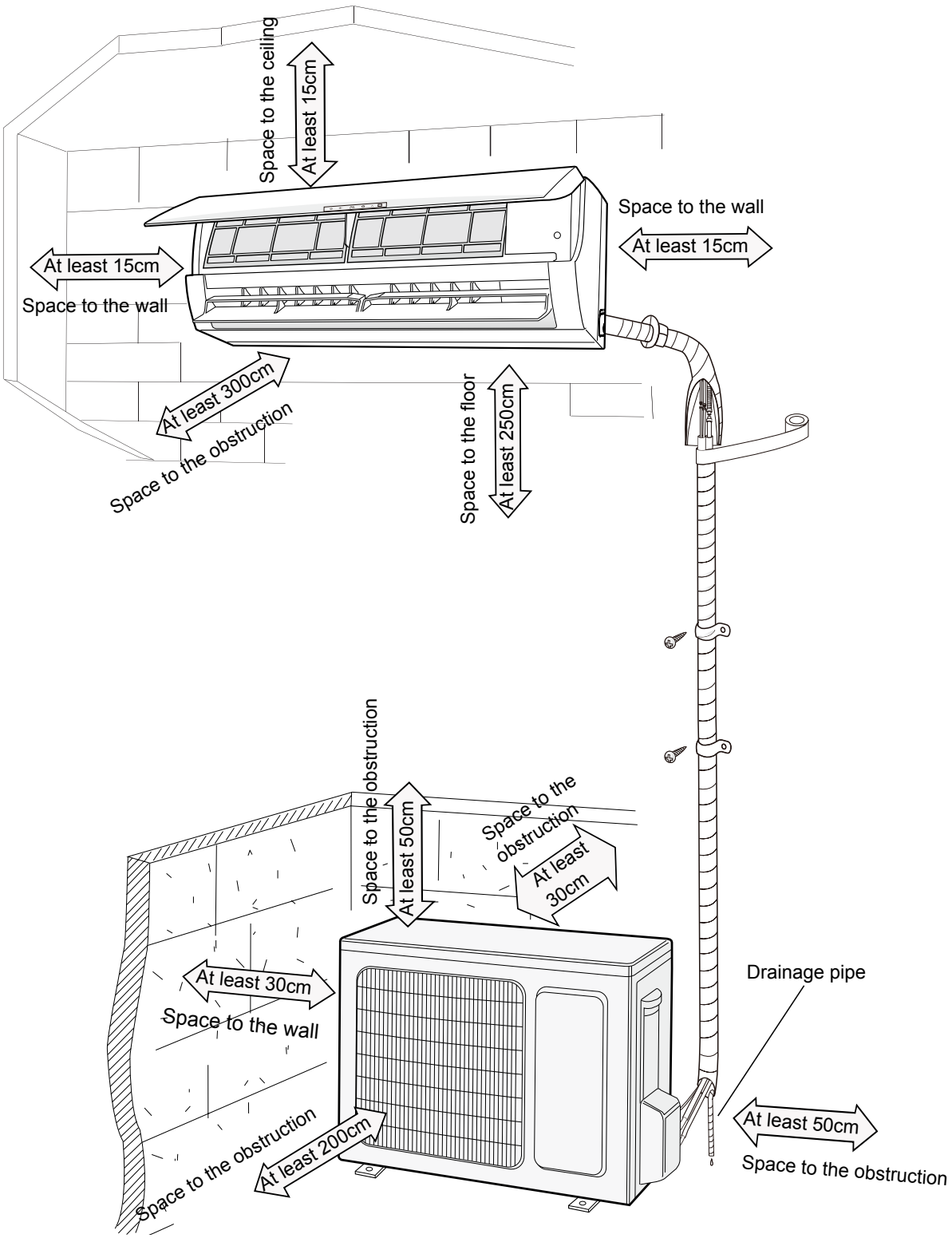
Electric wires with insufficient capacity, wrong wire connections and insecure wire terminals may cause electric shock or fire.

Main Tools for Installation and Maintenance

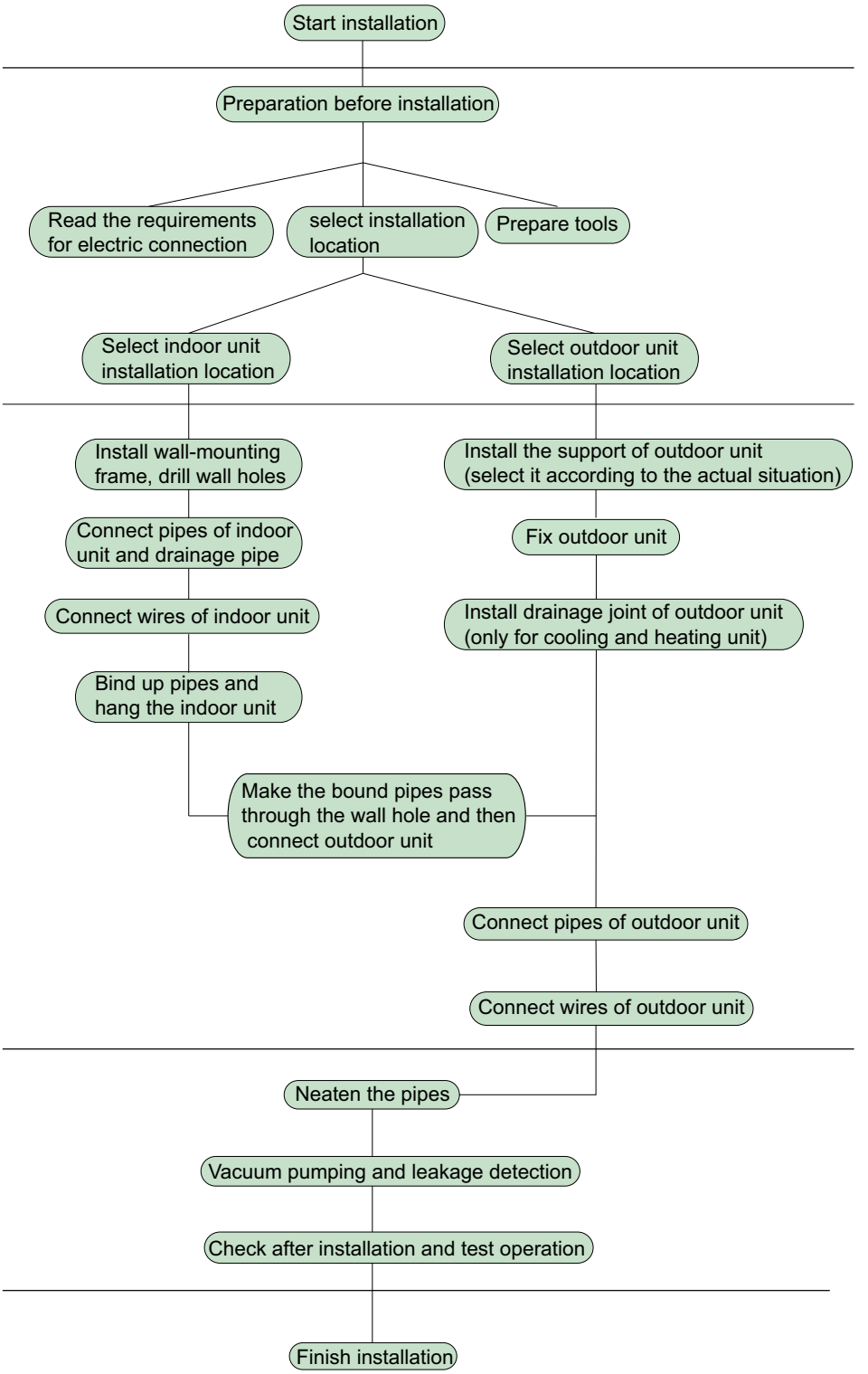
1. Level meter, measuring tape	**2. Screw driver**	**3. Impact drill, drill head, electric drill**
4. Electroprobe	**5. Universal meter**	**6. Torque wrench, open-end wrench, inner hexagon spanner**
7. Electronic leakage detector	**8. Vacuum pump**	**9. Pressure meter**
10. Pipe pliers, pipe cutter	**11. 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	Owners manual, remote controller
7	Wall pipe		

⚠ **Note:**
1.Please contact the local agent for installation.
2.Dont 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.

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) The appliance shall not be installed in the laundry.

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.

Air-conditioner	Air switch capacity
09/12K	10A

(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) For appliances with type Y attachment,the instructions shall contain the substance of thefollowing.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.

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 cant 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)

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)

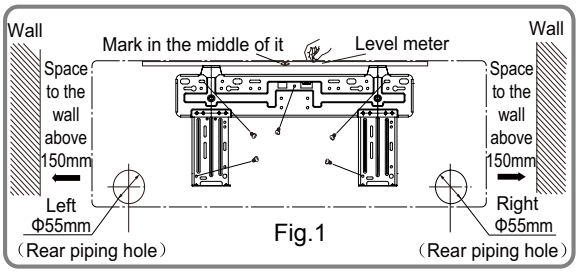


Fig.1

(2) Open a piping hole with the diameter of Φ55mm 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)

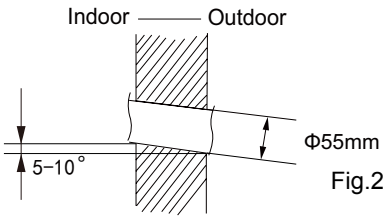


Fig.2

⚠ **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)

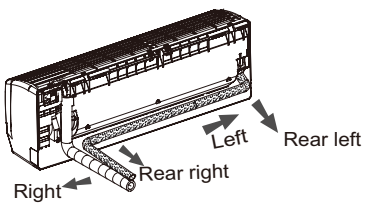


Fig.3

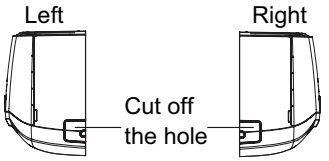


Fig.4

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)

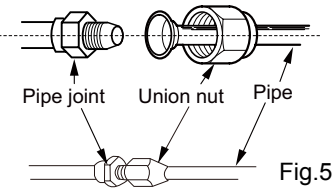


Fig.5

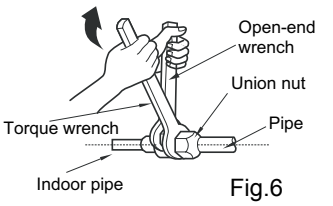


Fig.6

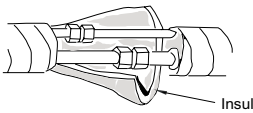


Fig.7

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)

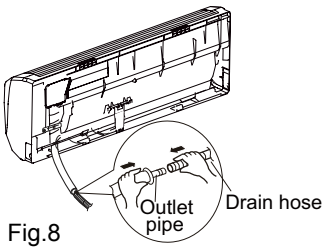


Fig.8

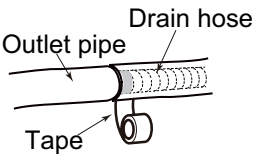


Fig.9

⚠ **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)

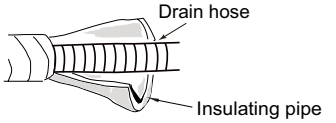


Fig.10

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)

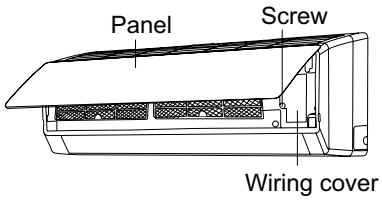


Fig.11

(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)

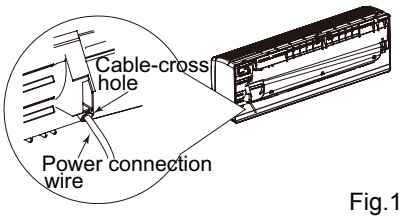
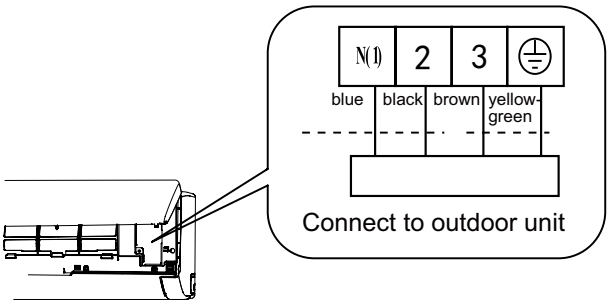


Fig.12

(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.

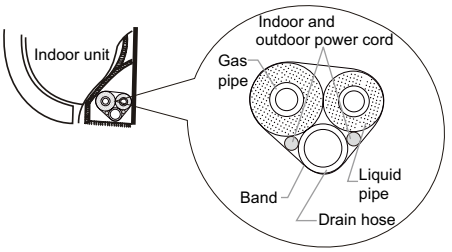


Fig.14

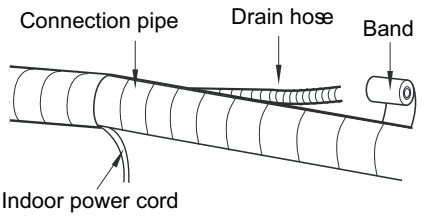


Fig.15

⚠ **Note:**

(1) The power cord and control wire cant 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)

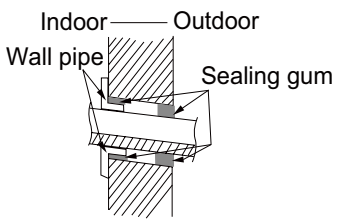
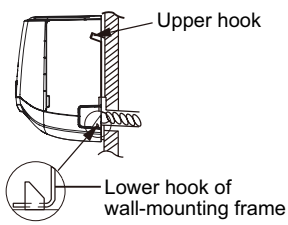


Fig.16

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.

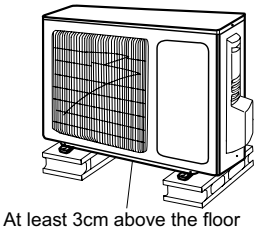


Fig.18

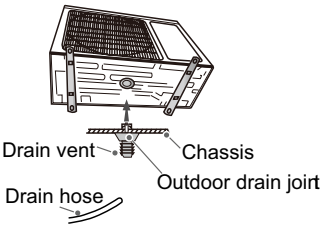


Fig.19

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)

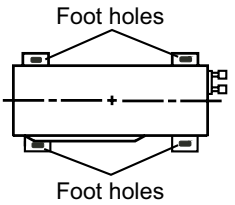


Fig.20

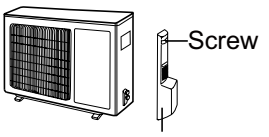


Fig.21

4. Connect Indoor and Outdoor Pipes

(1) Remove the screw on the right handle of outdoor unit and then remove the handle.(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)

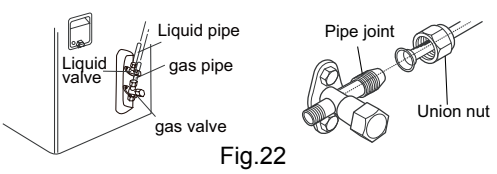


Fig.22

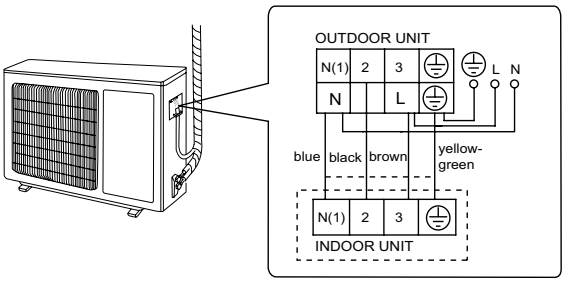
(3) Pretightening the union nut with hand.
(4) Tighten the union nut with torque wrench .

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)

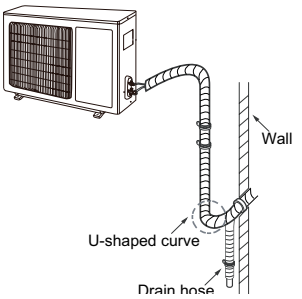


Fig.24

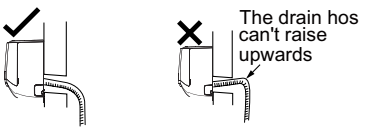


Fig.25

⚠ **Note:**

(1) The through-wall height of drain hose shouldnt 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 cant be curved, raised and fluctuant, etc.(As show in Fig.26)

(3) The water outlet cant be placed in water in order to drain smoothly.(As show in Fig.27)

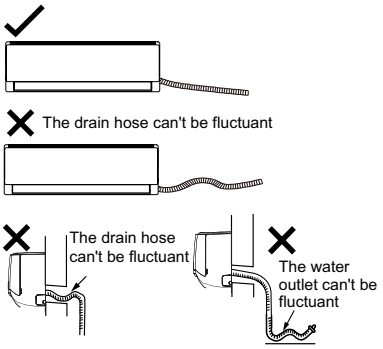


Fig.26

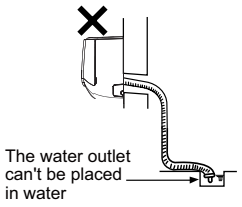


Fig.27

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)

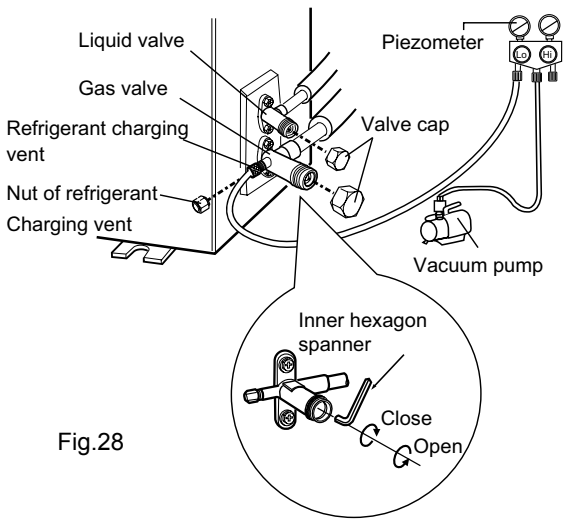


Fig.28

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, theres 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 cant start cooling.

9. Maintenance

9.1 Error Code List

NO.	Malfunction Name	Display Method of Indoor Unit				Display Method of Outdoor Unit			A/C status	Possible Causes
		Dual-8 Code Display	Indicator Display (during blinking, ON 0.5s and OFF 0.5s)			Indicator has 3 kinds of display status and during blinking, ON 0.5s and OFF 0.5s				
			Operation Indicator	Cool Indicator	Heating Indicator	Yellow Indicator	Red Indicator	Green Indicator		
1	High pressure protection of system	E1							During cooling and drying operation, except indoor fan operates, all loads stop operation. During heating operation, the complete unit stops.	Possible reasons: 1. Refrigerant was superabundant; 2. Poor heat exchange (including filth blockage of heat exchanger and bad radiating environment); Ambient temperature is too high.
2	Antifreezing protection	E2				OFF 1S and blink 3 times			During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates.	1. Poor air-return in indoor unit; 2. Fan speed is abnormal; 3. Evaporator is dirty.
3	In defect of refrigerant	F0					OFF 1S and blink 9 times		The Dual-8 Code Display will show F0 and the complete unit stops.	1.In defect of refrigerant; 2.Indoor evaporator temperature sensor works abnormally; 3.The unit has been plugged up somewhere.
4	High discharge temperature protection of compressor	E4				OFF 1S and blink 7 times			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).
5	Overcurrent protection	E5				OFF 1S and blink 5 times			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.
6	Communi-cation Malfunction	E6				Always on			During cooling operation, compressor stops while indoor fan motor operates. During heating operation, the complete unit stops.	Refer to the corresponding malfunction analysis.
7	High temperature resistant protection	E8				OFF 1S and blink 6 times			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).
8	EEPROM malfunction	EE				OFF 1S and blink 11 times			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
9	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.
10	Malfunction protection of jumper cap	C5							Wireless remote receiver and button are effective, but can not dispose the related command	1. No jumper cap insert on mainboard. 2. Incorrect insert of jumper cap. 3. Jumper cap damaged. 4. Abnormal detecting circuit of mainboard.

NO.	Malfunction Name	Display Method of Indoor Unit				Display Method of Outdoor Unit			A/C status	Possible Causes
		Dual-8 Code Display	Indicator Display (during blinking, ON 0.5s and OFF 0.5s)			Indicator has 3 kinds of display status and during blinking, ON 0.5s and OFF 0.5s				
			Operation Indicator	Cool Indicator	Heating Indicator	Yellow Indicator	Red Indicator	Green Indicator		
11	Gathering refrigerant	Fo				OFF 1S and blink 17 times			When the outdoor unit receive signal of Gathering refrigerant ,the system will be forced to run under cooling mode for gathering refrigerant	Nominal cooling mode
12	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. Loosening or bad contact of indoor ambient temp. sensor and mainboard terminal. 2. Components in mainboard fell down leads short circuit. 3. Indoor ambient temp. sensor damaged.(check with sensor resistance value chart) 4. Mainboard damaged.
13	Indoor evaporator temperature sensor is open/short circuited	F2							AC stops operation once reaches the setting temperature. Cooling, drying: internal fan motor stops operation while other loads stop operation; heating: AC stop operation	1. Loosening or bad contact of Indoor evaporator temp. sensor and mainboard terminal. 2. Components on the mainboard fall down leads short circuit. 3. Indoor evaporator temp. sensor damaged.(check temp. sensor value chart for testing) 4. Mainboard damaged.
14	Outdoor ambient temperature sensor is open/short circuited	F3					OFF 1S and blink 6 times		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)
15	Outdoor condenser temperature sensor is open/short circuited	F4					OFF 1S and blink 5 times		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)
16	Outdoor discharge temperature sensor is open/short circuited	F5					OFF 1S and blink 7 times		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
17	Limit/ decrease frequency due to overload	F6					OFF 1S and blink 3 times		All loads operate normally, while operation frequency for compressor is decreased	Refer to the malfunction analysis (overload, high temperature resistant)
18	Decrease frequency due to overcurrent	F8					OFF 1S and blink once		All loads operate normally, while operation frequency for compressor is decreased	The input supply voltage is too low; System pressure is too high and overload

NO.	Malfunction Name	Display Method of Indoor Unit				Display Method of Outdoor Unit			A/C status	Possible Causes
		Dual-8 Code Display	Indicator Display (during blinking, ON 0.5s and OFF 0.5s)			Indicator has 3 kinds of display status and during blinking, ON 0.5s and OFF 0.5s				
			Operation Indicator	Cool Indicator	Heating Indicator	Yellow Indicator	Red Indicator	Green Indicator		
19	Decrease frequency due to high air discharge	F9					OFF 1S and blink twice		All loads operate normally, while operation frequency for compressor is decreased	Overload or temperature is too high; Refrigerant is insufficient; Malfunction of electric expansion valve (EKV)
20	Limit/ decrease frequency due to antifreezing	FH					OFF 1S and blink 4 times		All loads operate normally, while operation frequency for compressor is decreased	Poor air-return in indoor unit or fan speed is too low
21	Voltage for DC bus-bar is too high	PH				OFF 1S and blink 13 times			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)
22	Voltage of DC bus-bar is too low	PL				OFF 1S and blink 12 times			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)
23	Compressor Min frequence in test state	P0								Showing during min. cooling or min. heating test
24	Compressor rated frequence in test state	P1								Showing during nominal cooling or nominal heating test
25	Compressor maximum frequence in test state	P2								Showing during max. cooling or max. heating test

NO.	Malfunction Name	Display Method of Indoor Unit				Display Method of Outdoor Unit			A/C status	Possible Causes
		Dual-8 Code Display	Indicator Display (during blinking, ON 0.5s and OFF 0.5s)			Indicator has 3 kinds of display status and during blinking, ON 0.5s and OFF 0.5s				
			Operation Indicator	Cool Indicator	Heating Indicator	Yellow Indicator	Red Indicator	Green Indicator		
26	Compressor intermediate frequence in test state	P3								Showing during middle cooling or middle heating test
27	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.
28	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
29	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
30	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.
31	Decrease frequency due to high temperature resistant during heating operation	H0							All loads operate normally, while operation frequency for compressor is decreased	Refer to the malfunction analysis (overload, high temperature resistant)
32	Static dedusting protection	H2								
33	Overload protection for compressor	H3				OFF 1S and blink 8 times			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)

NO.	Malfunction Name	Display Method of Indoor Unit				Display Method of Outdoor Unit			A/C status	Possible Causes
		Dual-8 Code Display	Indicator Display (during blinking, ON 0.5s and OFF 0.5s)			Indicator has 3 kinds of display status and during blinking, ON 0.5s and OFF 0.5s				
			Operation Indicator	Cool Indicator	Heating Indicator	Yellow Indicator	Red Indicator	Green Indicator		
34	System is abnormal	H4				OFF 1S and blink 6 times			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 (overload, high temperature resistant)
35	IPM protection	H5				OFF 1S and blink 4 times			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.
36	Module temperature is too high	H5				OFF 1S and blink 10 times				
37	Internal motor (fan motor) do not operate	H6							Internal fan motor, external fan motor, compressor and electric heater stop operation,guide louver stops at present location.	1. Bad contact of DC motor feedback terminal. 2. Bad contact of DC motor control end. 3. Fan motor is stalling. 4. Motor malfunction. 5. Malfunction of mainboard rev detecting circuit.
38	Desynchro-nizing 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.
39	PFC protection	HC				OFF 1S and blink 14 times			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
40	Outdoor DC fan motor malfunction	L3					OFF 1S and blink 14 times		Outdoor DC fan motor malfunction lead to compressor stop operation,	DC fan motor malfunction or system blocked or the connector loosed
41	power protection	L9				OFF 1S and blink 9 times			compressor stop operation and Outdoor fan motor will stop 30s latter , 3 minutes latter fan motor and compressor will restart	To protect the electronical components when detect high power
42	Indoor unit and outdoor unit doesn't match	LP				OFF 1S and blink 16 times			compressor and Outdoor fan motor can’t work	Indoor unit and outdoor unit doesn't match
43	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

NO.	Malfunction Name	Display Method of Indoor Unit				Display Method of Outdoor Unit			A/C status	Possible Causes
		Dual-8 Code Display	Indicator Display (during blinking, ON 0.5s and OFF 0.5s)			Indicator has 3 kinds of display status and during blinking, ON 0.5s and OFF 0.5s				
			Operation Indicator	Cool Indicator	Heating Indicator	Yellow Indicator	Red Indicator	Green Indicator		
44	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
45	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
46	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.
47	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.
48	Zero-crossing malfunction of outdoor unit	U9							During cooling operation, compressor will stop while indoor fan will operate; during heating,the complete unit will stop operation.	Replace outdoor control panel AP1
49	Malfunction of zero-cross detection circuit	U8							The complete unit stops	1.Power supply is abnormal; 2.Detection circuit of indoor control mainboard is abnormal.
50	Compressor running					OFF 1S and blink once				
51	The temperature for turning on the unit is reached						OFF 1S and blink 8 times			
52	Frequency limiting (module temperature)						OFF 1S and blink 11 times			

NO.	Malfunction Name	Display Method of Indoor Unit				Display Method of Outdoor Unit			A/C status	Possible Causes
		Dual-8 Code Display	Indicator Display (during blinking, ON 0.5s and OFF 0.5s)			Indicator has 3 kinds of display status and during blinking, ON 0.5s and OFF 0.5s				
			Operation Indicator	Cool Indicator	Heating Indicator	Yellow Indicator	Red Indicator	Green Indicator		
53	Normal communica-tion							OFF 0.5S and blink once		
54	Defrosting				OFF 3S and blink once (during blinking, ON 10s and OFF 0.5s)	OFF 1S and blink twice			Defrosting will occur in heating mode. Compressor will operate while indoor fan will stop operation.	Its the normal state
55	Frequency limiting (power)						OFF 1S and blin 13 times			
56	Malfunction of detecting plate(WIFI)	JF								

9.2 Procedure of Troubleshooting

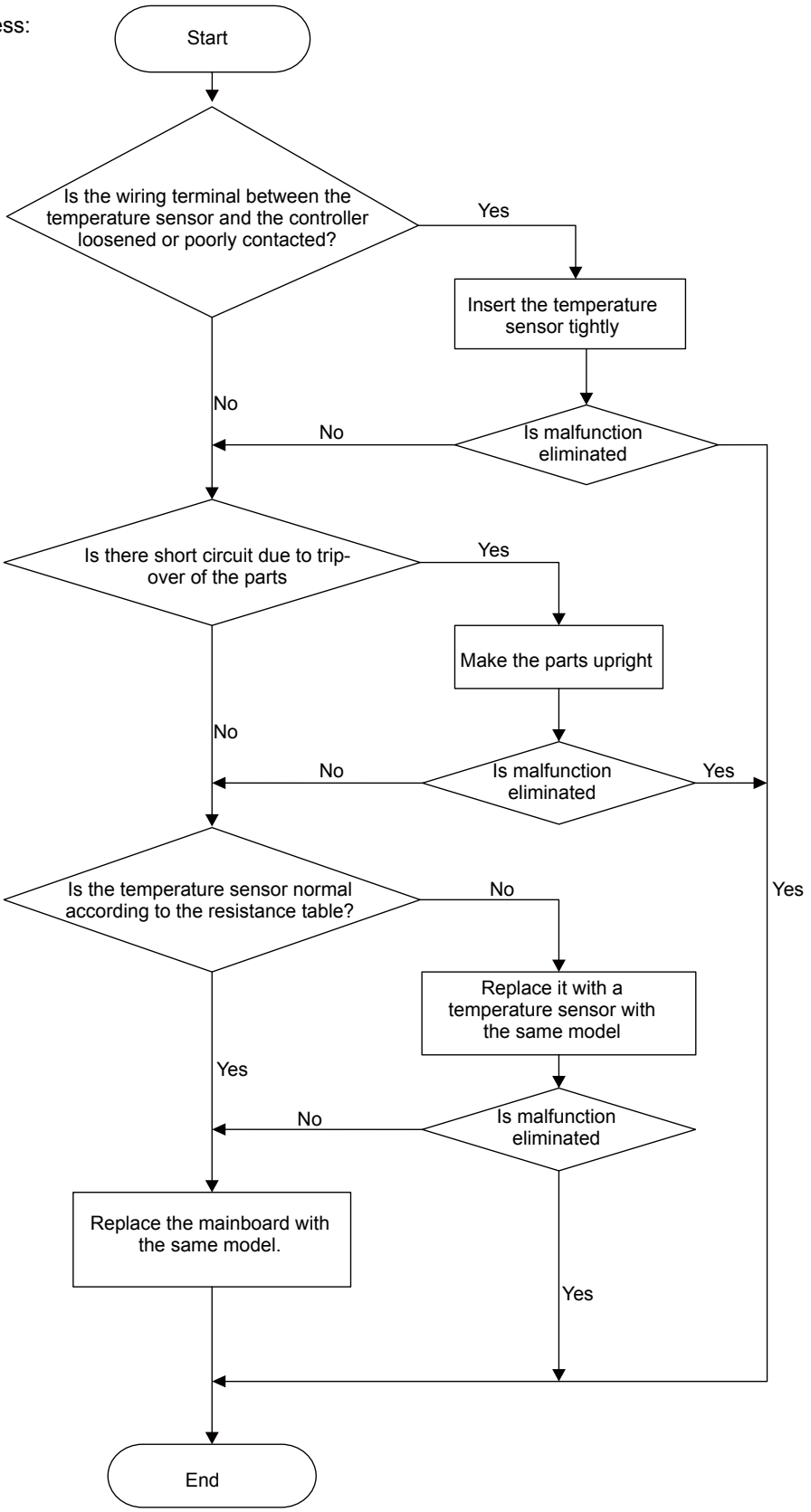
Indoor Unit

1. Malfunction of Temperature Sensor F1, F2

Main detection points:

- Is the wiring terminal between the temperature sensor and the controller loosened or poorly contacted?
- Is there short circuit due to trip-over of the parts?
- Is the temperature sensor broken?
- Is mainboard broken?

Malfunction diagnosis process:

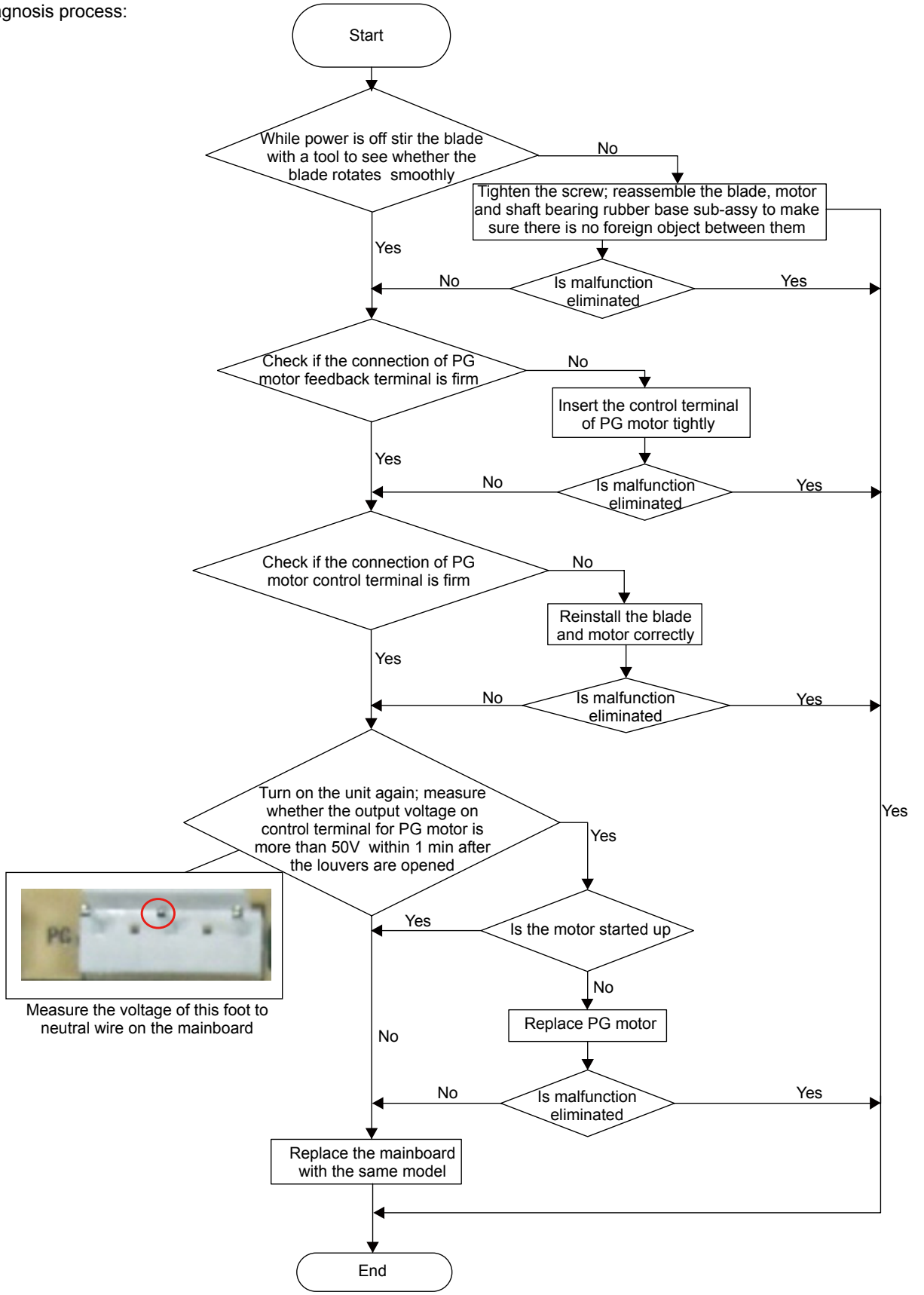


2. Malfunction of Blocked Protection of IDU Fan Motor H6

Main detection points:

- SmoothlyIs the control terminal of PG motor connected tightly?
- SmoothlyIs the feedback interface of PG motor connected tightly?
- The fan motor cant operate?
- The motor is broken?
- Detectioncircuit of the mainboard is defined abnormal?

Malfunction diagnosis process:

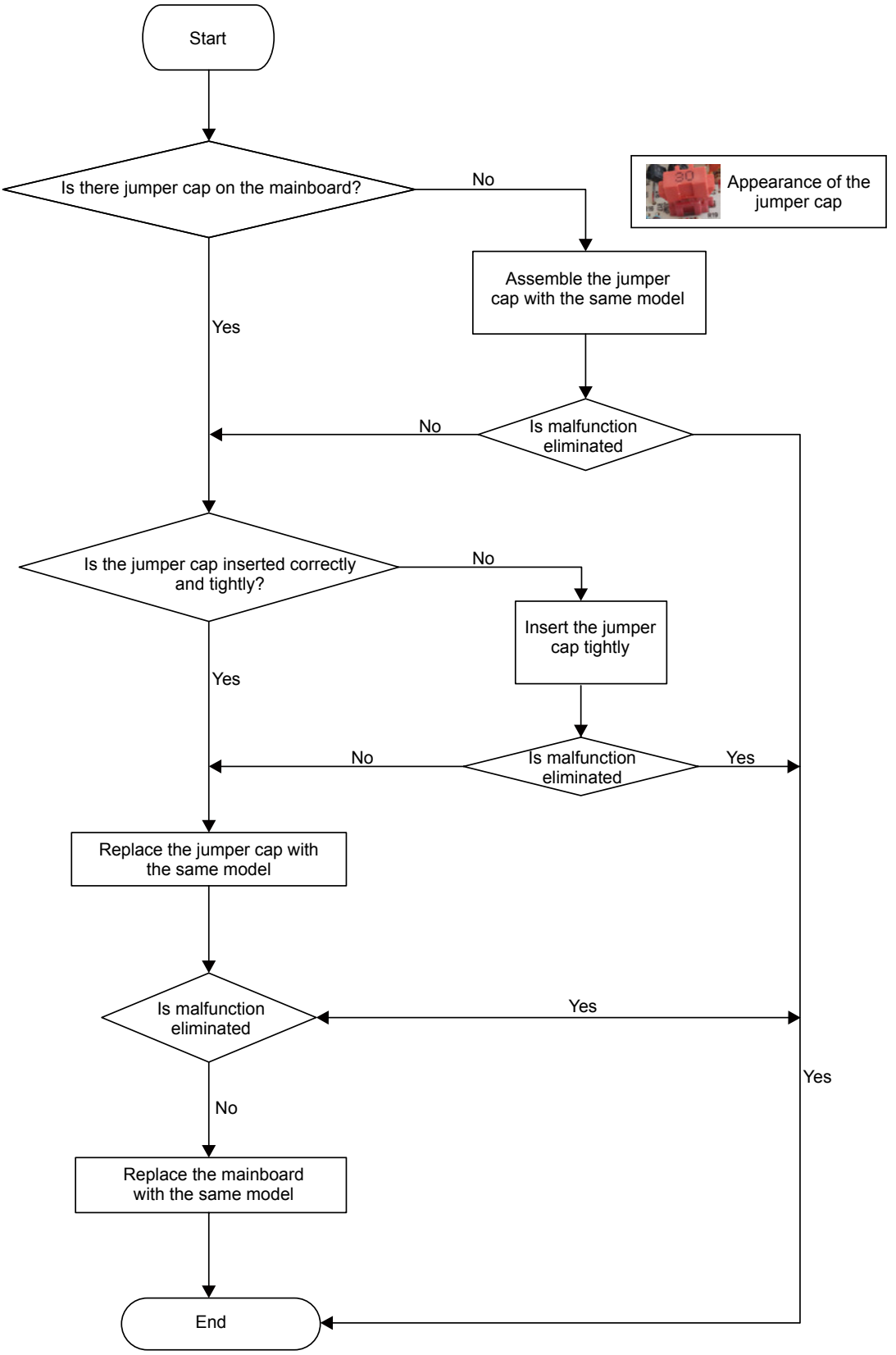


3. Malfunction of Protection of Jumper Cap C5

Main detection points:

- Is there jumper cap on the mainboard?
- Is the jumper cap inserted correctly and tightly?
- The jumper is broken?
- The motor is broken?
- Detection circuit of the mainboard is defined abnormal?

Malfunction diagnosis process:



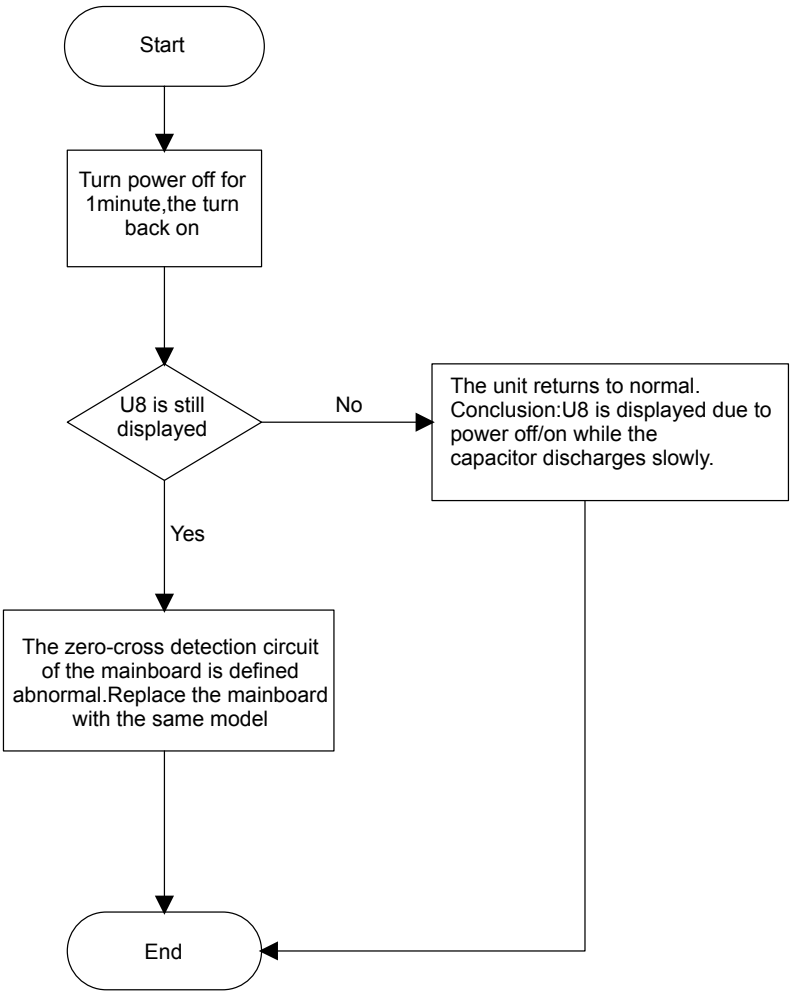
4. Malfunction of Zero-crossing Inspection Circuit Malfunction of the IDU Fan Motor U8

Main detection points:

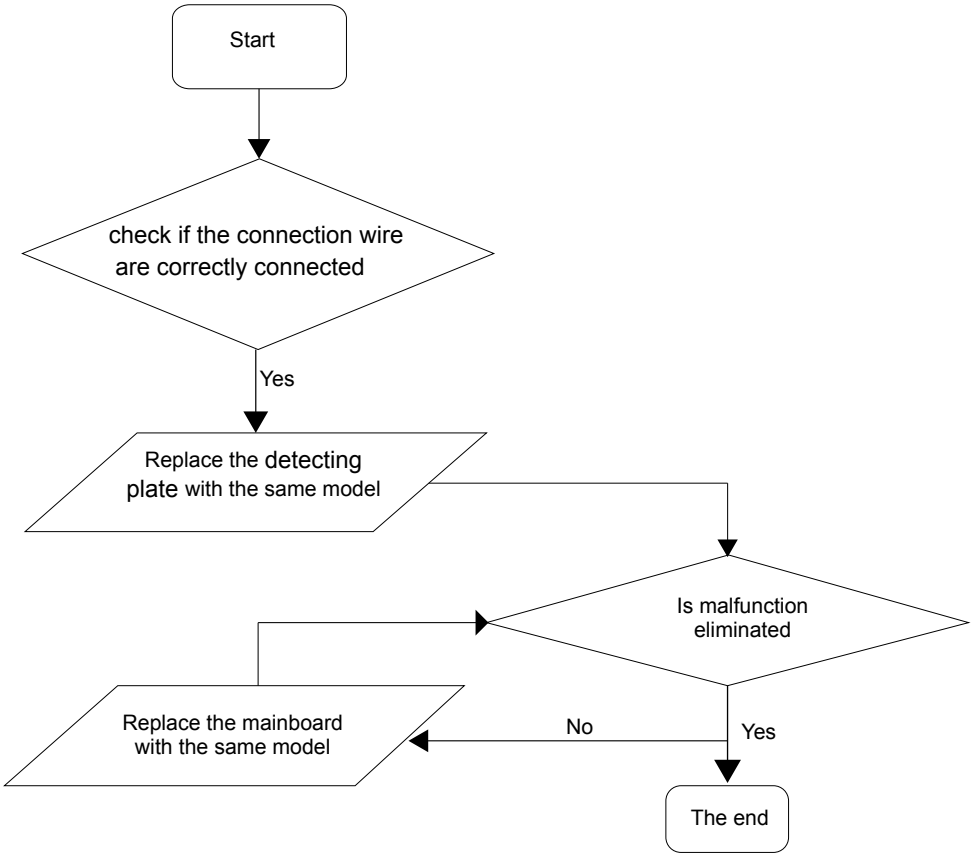
● Instant energization afte de-energization while the capacitordischarges slowly?

● The zero-cross detectioncircuit of the mainboard is defined abnormal?

Malfunction diagnosis process:



5.Malfunction of detecting plate(WIFI) JF



Outdoor Unit

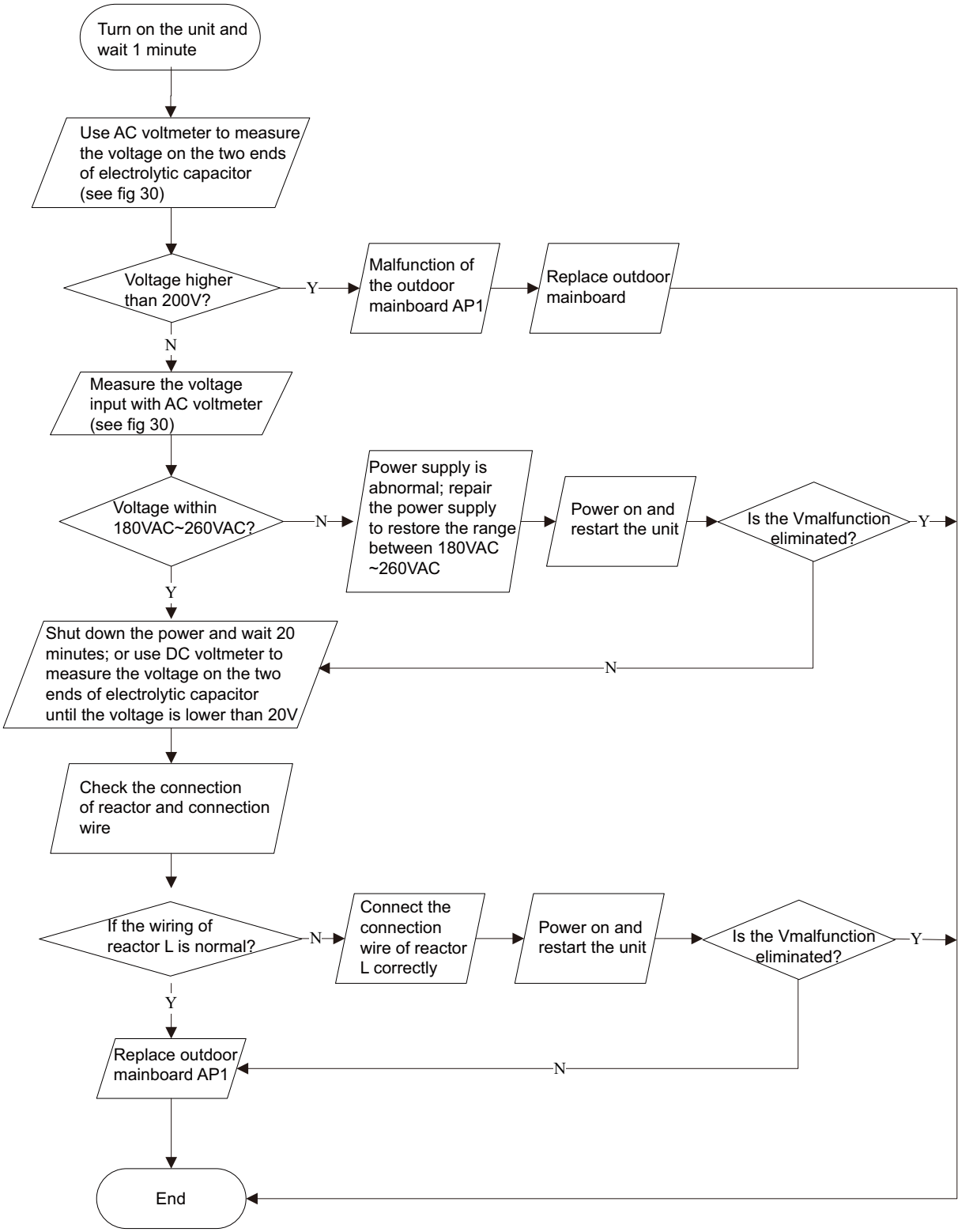
1. Capacity charging malfunction (outdoor unit malfunction) (AP1 below means control board of outdoor unit)

Main detection points:

● Detect if the voltage of L and N terminal of XT wiring board is between 210VAC-240VAC by alternating voltage meter;

● Is reactor (L) well connected? Is connection wire loosened or pulled out? Is reactor (L) damaged?

Malfunction diagnosis process:



2. IPM protection(H5), desynchronizing malfunction(H7), overcurrent of compressor phase current (P5) (AP1 below means control board of outdoor unit)

Main detection points:

● Is voltage input within the normal range

● If the control board AP1 is well connected with compressor COMP? If they are loosened? If the connection sequence is correct?

● Heat exchange of unit is not good (heat exchanger is dirty and unit radiating environment is bad);

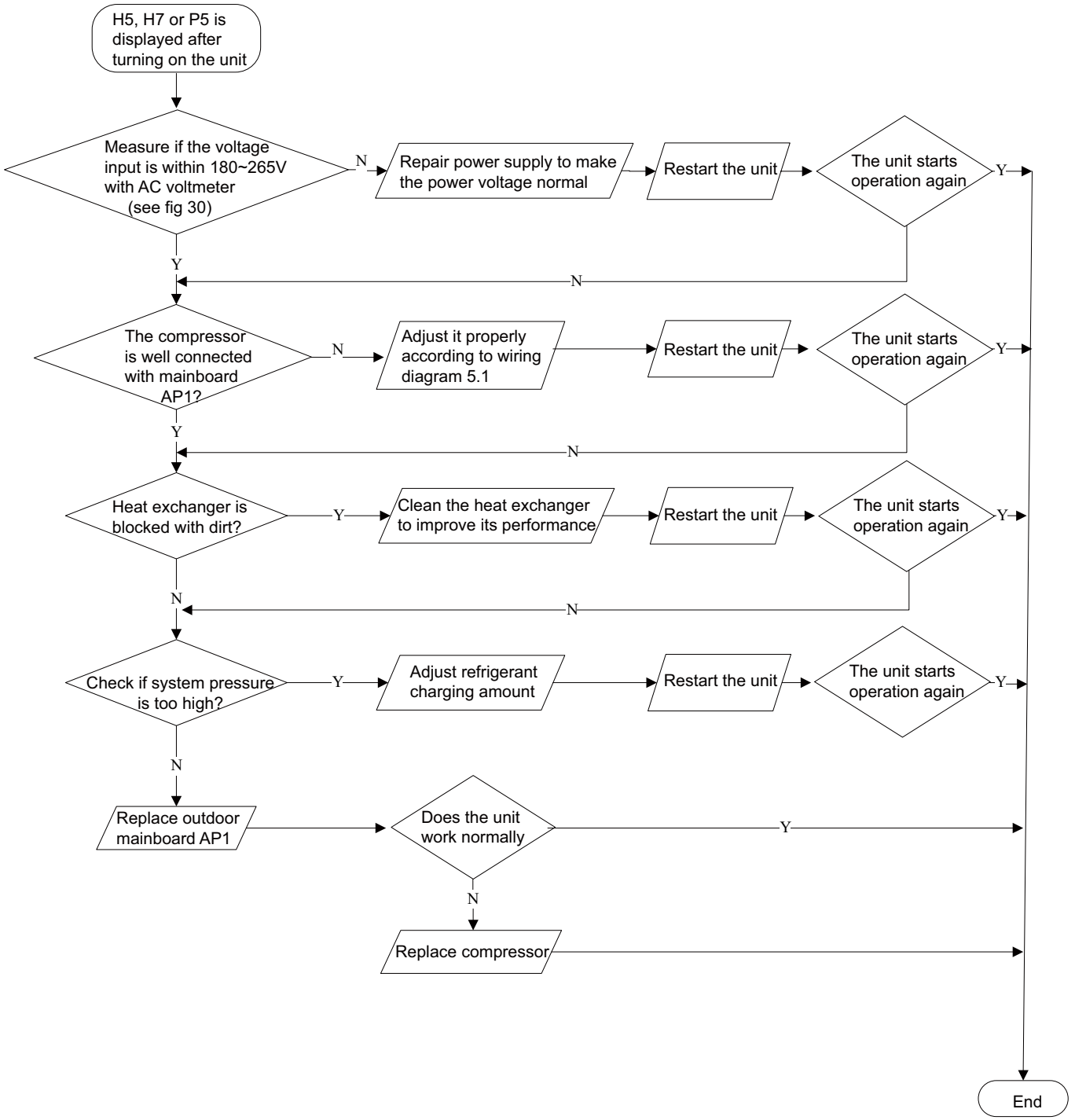
● If the system pressure is too high?

● If the refrigerant charging amount is appropriate?

● 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 good?

Malfunction diagnosis process:



3. High temperature and overload protection (E8)(AP1 below means control board of outdoor unit) E8

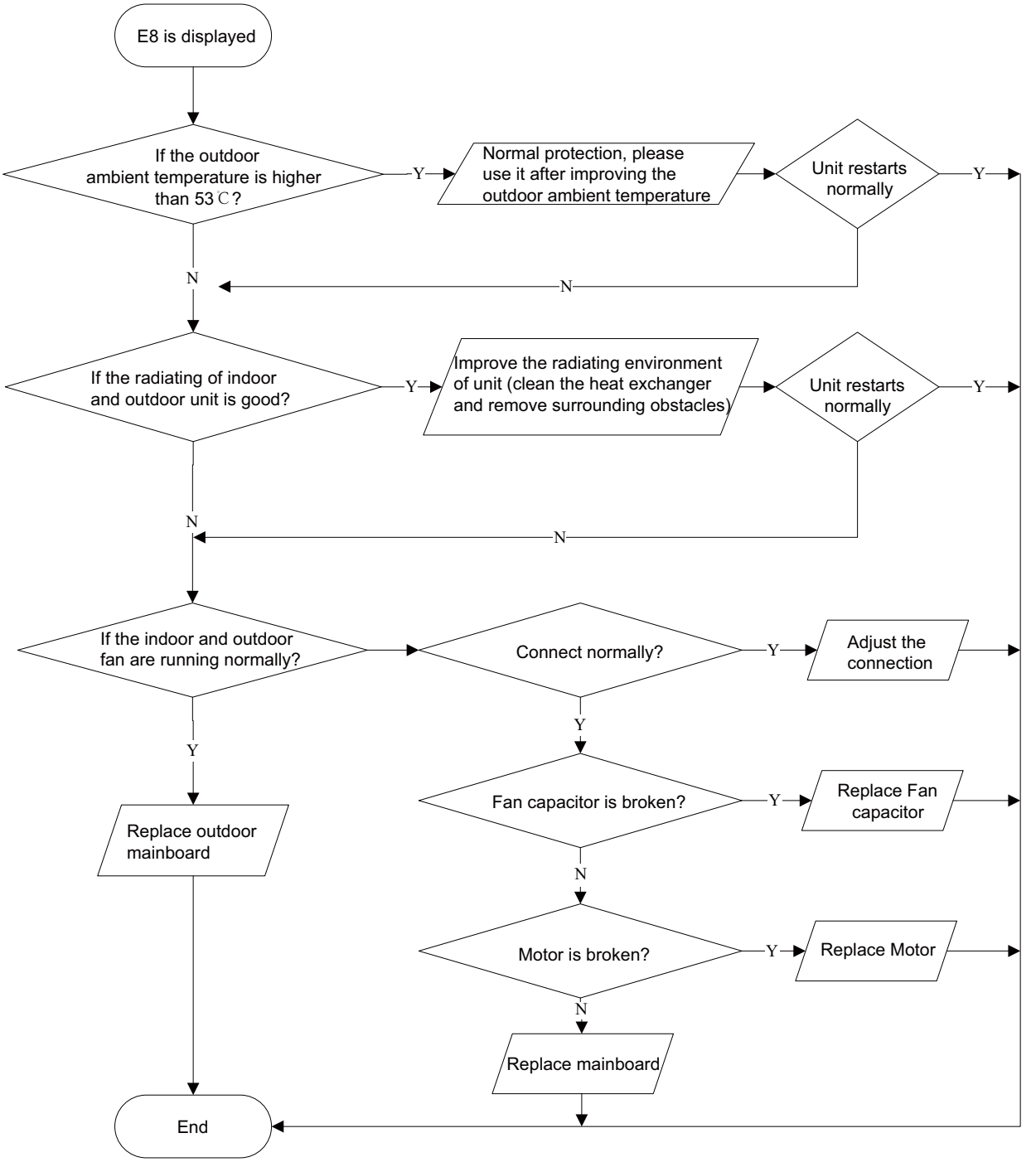
Main detection points:

● If the outdoor ambient temperature is in normal range;

● If the indoor and outdoor fan are running normally;

● If the radiating environment of indoor and outdoor unit is good.

Malfunction diagnosis process:

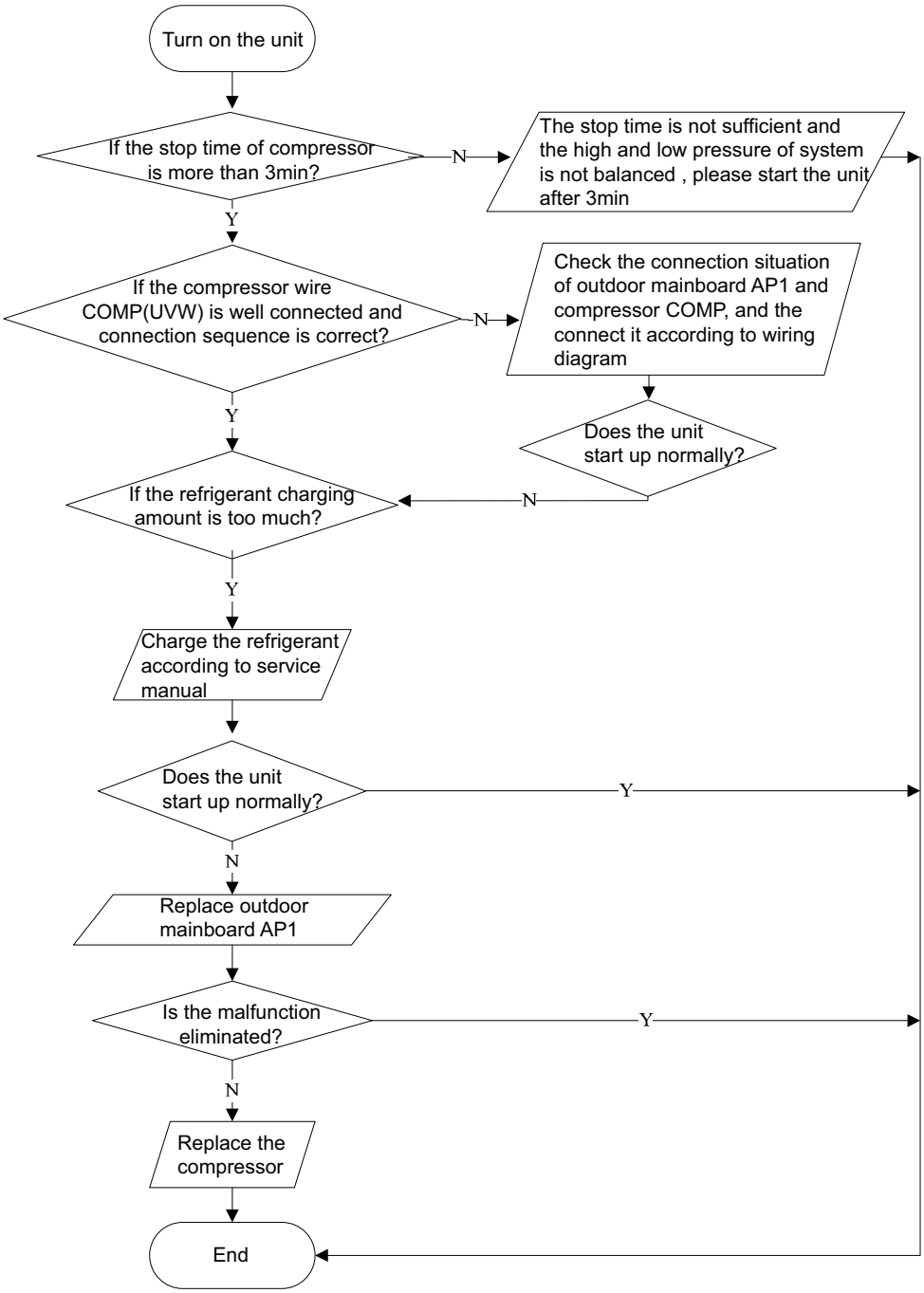


4. Start-up failure (LC) (AP1 below means control board of outdoor unit)

Main detection points:

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

Malfunction diagnosis process:

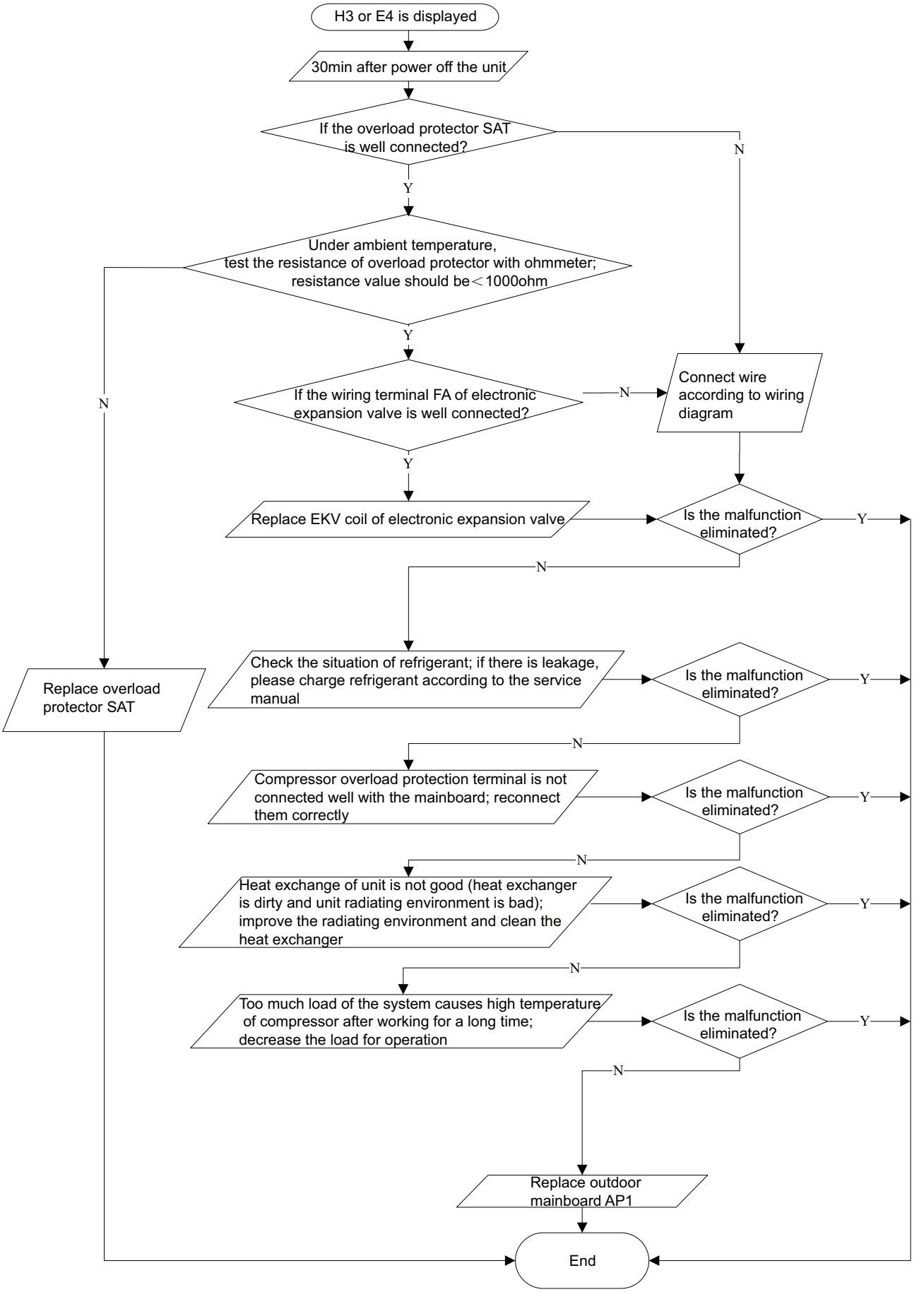


5. Overload and high discharge temperature malfunction H3/E4

Main detection points:

● If the electronic expansion valve is connected well? Is the electronic expansion valve damaged?
● If the refrigerant is leaked?
● The compressor overload protection terminal is not connected well with the mainboard?
● If the overload protector is damaged?
● Heat exchange of unit is not good? (heat exchanger is dirty and unit radiating environment is bad)
● Too much load of the system causes high temperature of compressor after working for a long time?
● Malfunction of discharge temperature sensor?

Malfunction diagnosis process:


H3 or E4 is displayed
30min after power off the unit
If the overload protector SAT is well connected?
N
Y
Under ambient temperature, test the resistance of overload protector with ohmmeter; resistance value should be＜1000ohm
Y
N
If the wiring terminal FA of electronic expansion valve is well connected?
N
Connect wire according to wiring diagram
Y
Replace EKV coil of electronic expansion valve
Is the malfunction eliminated?
Y
N
Replace overload protector SAT
Check the situation of refrigerant; if there is leakage, please charge refrigerant according to the service manual
Is the malfunction eliminated?
Y
N
Compressor overload protection terminal is not connected well with the mainboard; reconnect them correctly
Is the malfunction eliminated?
Y
N
Heat exchange of unit is not good (heat exchanger is dirty and unit radiating environment is bad); improve the radiating environment and clean the heat exchanger
Is the malfunction eliminated?
Y
N
Too much load of the system causes high temperature of compressor after working for a long time; decrease the load for operation
Is the malfunction eliminated?
Y
N
Replace outdoor mainboard AP1
End

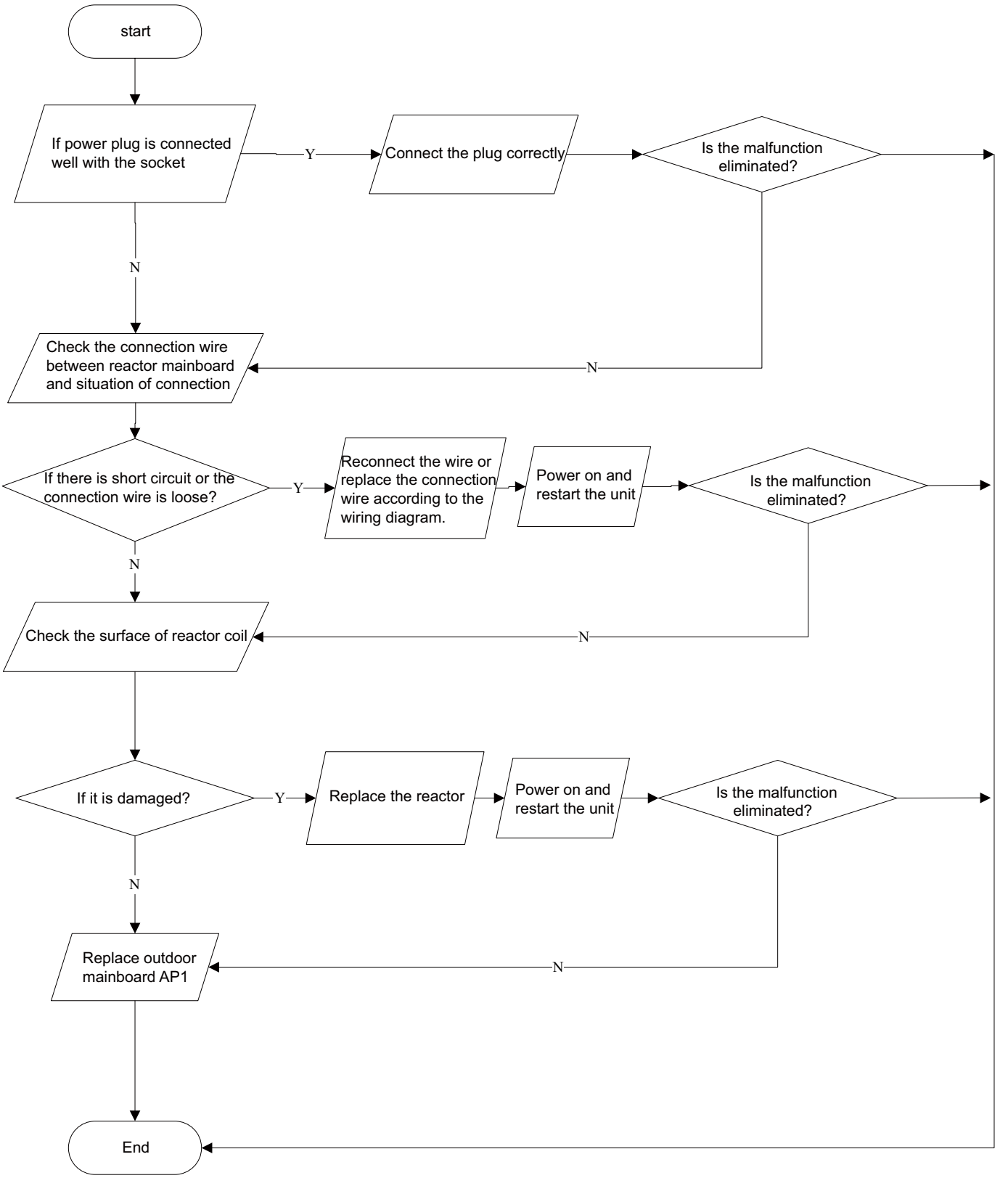
6. PFC (correction for power factor) malfunction (outdoor unit malfunction)

Main detection points:

● Check if power plug is connected well with the socket

● Check if the reactor of outdoor unit is damaged?

Malfunction diagnosis process:



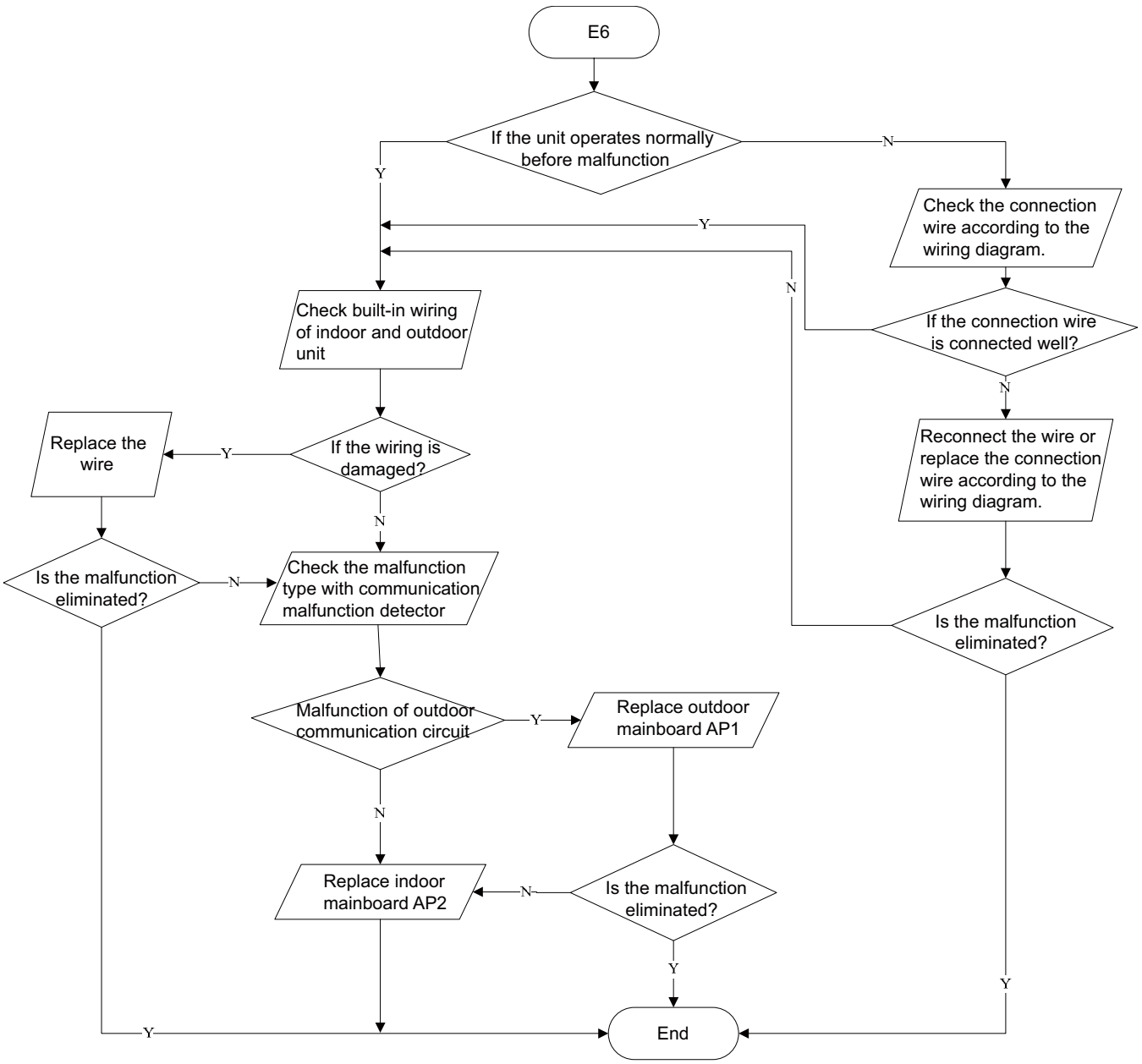
7. Communication malfunction (E6)

Main detection points:

● Check if the connection wire and the built-in wiring of indoor and outdoor unit are connected well and without damage;

● If the communication circuit of indoor mainboard is damaged? If the communication circuit of outdoor mainboard (AP1) is damaged?

Malfunction diagnosis process:

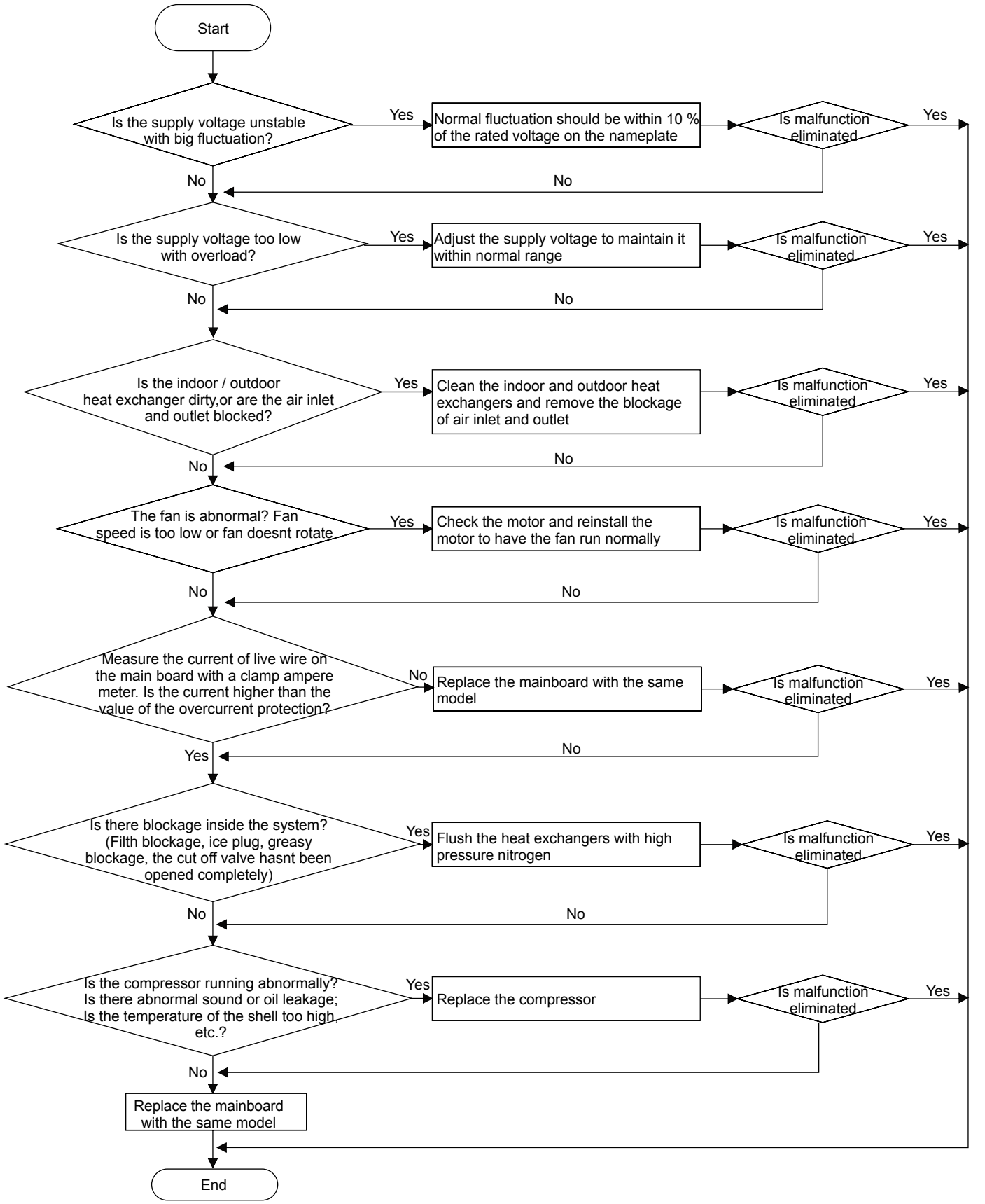


8. Malfunction of Overcurrent Protection E5

Main detection points:

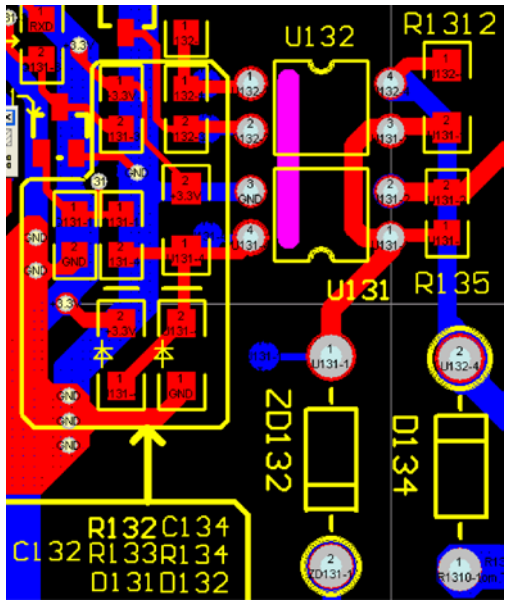
- Is the supply voltage unstable with big fluctuation?
- Is the supply voltage too low with overload?
- Hardware trouble?

Malfunction diagnosis process:

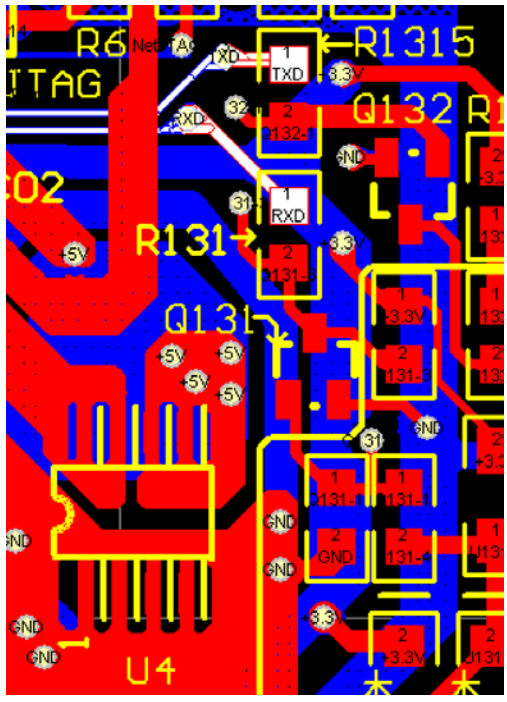


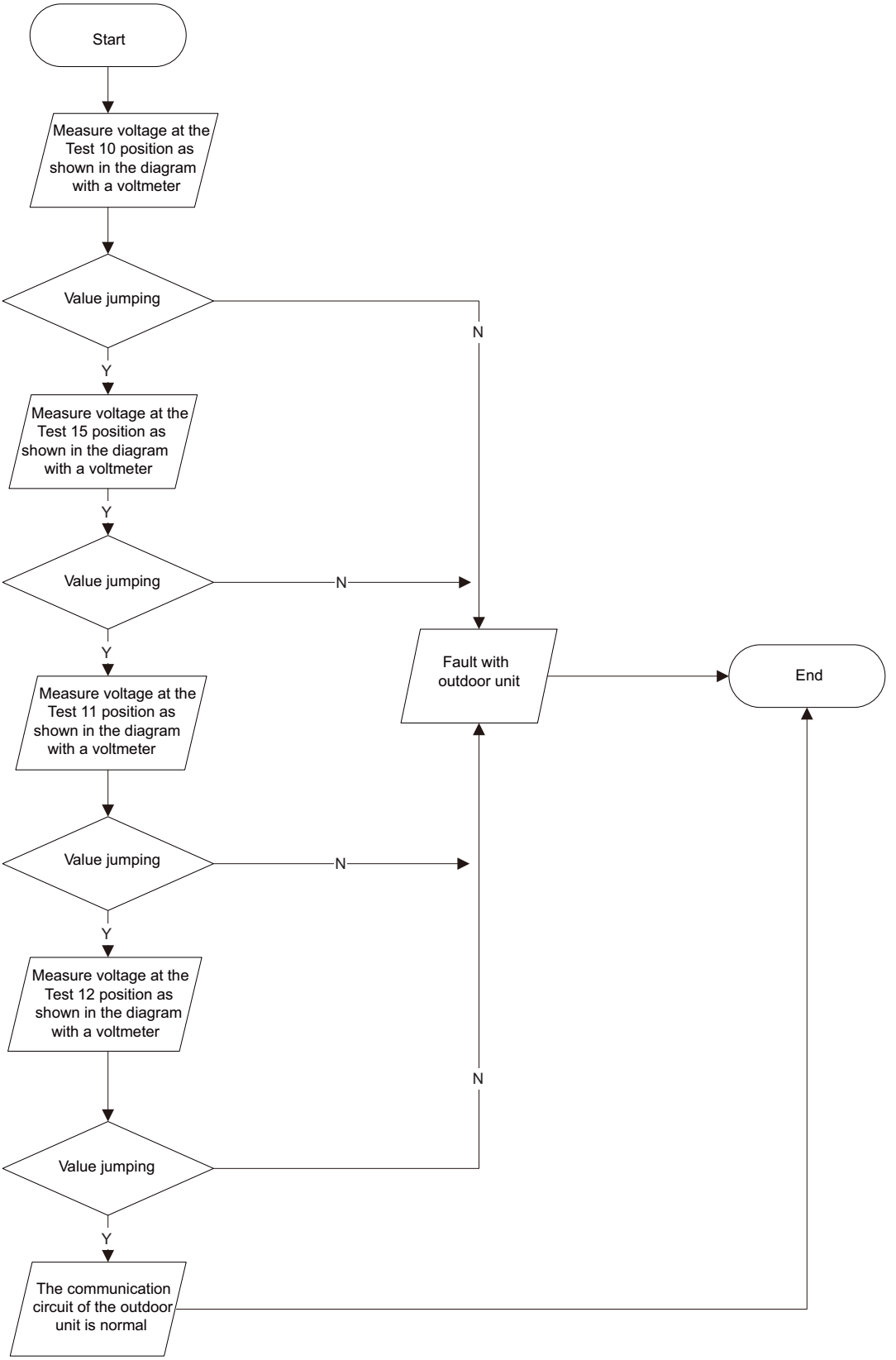
9. Flow chart for outdoor communitcation circuit detecting:

(1) Test the voltage between N point of wiring board and communication cable with universal meter. The voltage shall be variable. Otherwise, it might be malfunction of mainboard of indoor unit, or malfunction of mainboard of outdoor unit, or wrong wire connection of indoor and outdoor unit. Please ensure that there is no malfunction of mainboard of indoor unit, or wrong wire connection of indoor and outdoor unit. After removing the malfunction of indoor unit, remove the malfunction of outdoor unit.
(2) Test the voltage of pin 1 and pin 2 of U132 with universal meter (voltage of both sides of R135). The voltage should be variable. (Test 10) Test the voltage of pin 3 and pin 4 of U132 with universal meter (voltage of both sides of R1312). The voltage should be variable. (Test 15) Otherwise, there is malfunction of mainboard of outdoor unit.



(3) Test the voltage of pin 3 and pin 4 of U131 with universal meter (voltage of both sides of R134). The voltage should be variable. (test 11) Test the voltage of pin 1 and pin 2 of U132 with universal meter (voltage of both sides of C134). The voltage should be variable. (test 12) Otherwise, there is malfunction of mainboard of outdoor unit.
(4) Test the voltage between pin 1 of R135 (white) and pin 1 of U4. The voltage should be variable. Test voltage between pin1 of R131 (white) and pin 1 of U4 with universal meter. The voltage should be variable. Otherwise, there is malfunction of mainboard of outdoor unit.




Start
Measure voltage at the Test 10 position as shown in the diagram with a voltmeter
Value jumping
N
Y
Measure voltage at the Test 15 position as shown in the diagram with a voltmeter
Y
Value jumping
N
Y
Measure voltage at the Test 11 position as shown in the diagram with a voltmeter
Value jumping
N
Y
Measure voltage at the Test 12 position as shown in the diagram with a voltmeter
N
Value jumping
Y
The communication circuit of the outdoor unit is normal
Fault with outdoor unit
End

9.3 Troubleshooting for Normal Malfunction

1. Air Conditioner Cant be Started Up

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
No power supply, or poor connection for power plug	After energization, operation indicator isnt bright and the buzzer cant give out sound	Confirm whether its 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 isnt 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 its 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; Units 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; Unitt pressure is much lower than regulated range. If refrigerant isnt 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 cant swing	Refer to point 3 of maintenance method for details
Malfunction of the IDU fan motor	The IDU fan motor cant operate	Refer to troubleshooting for H6 for maintenance method in details
Malfunction of the ODU fan motor	The ODU fan motor cant operate	Refer to point 4 of maintenance method for details
Malfunction of compressor	Compressor cant operate	Refer to point 5 of maintenance method for details

3. Horizontal Louver Cant 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 cant operate	Repair or replace stepping motor
Main board is damaged	Others are all normal, while horizontal louver cant operate	Replace the main board with the same model

4. Air Conditioner is Leaking

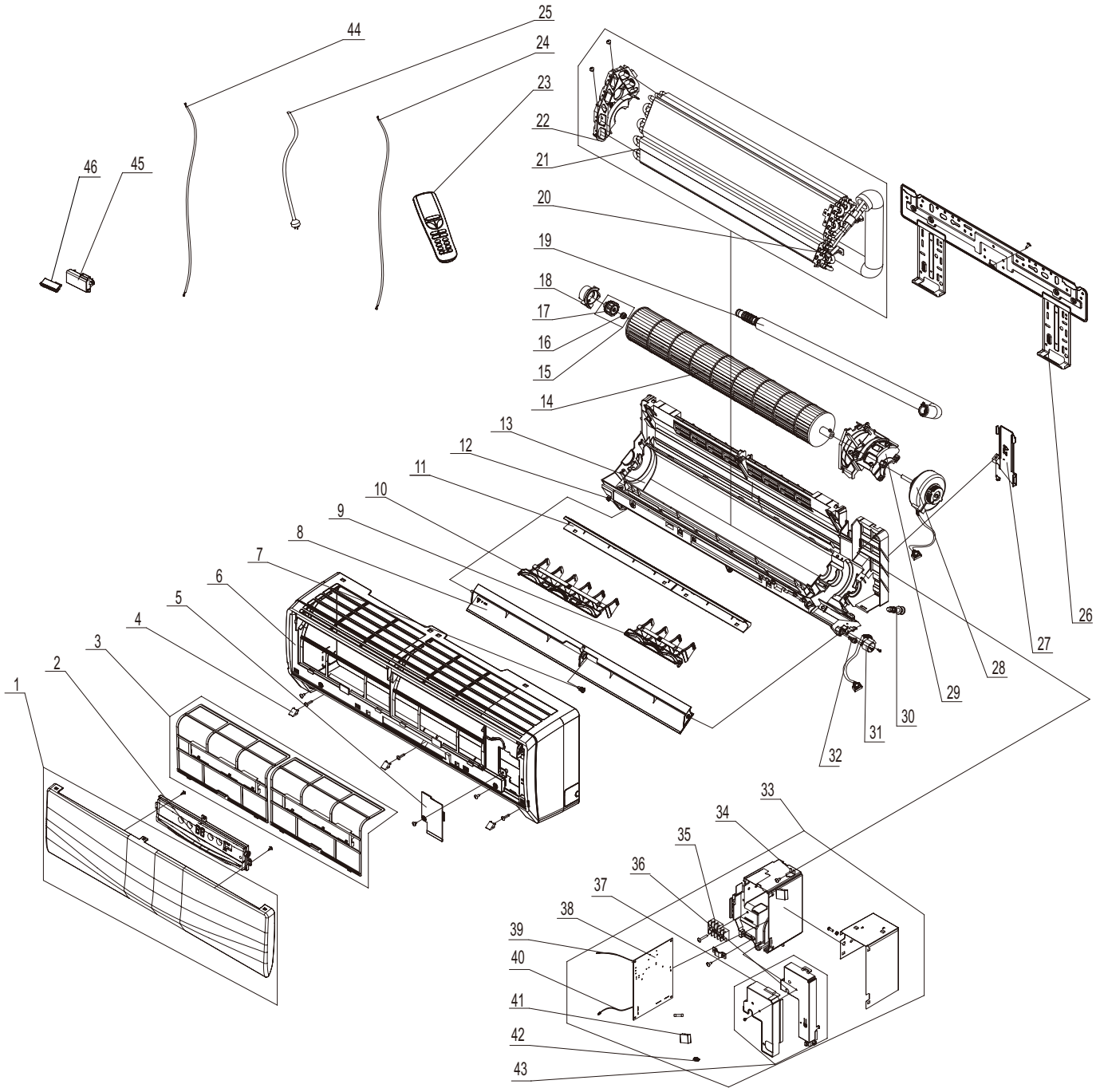
Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Drain pipe is blocked	Water leaking from indoor unit	Eliminate the foreign objects inside the drain pipe
Drain pipe is broken	Water leaking from drain pipe	Replace drain pipe
Wrapping is not tight	Water leaking from the pipe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

5. 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 theres abnormal sound	Theres the sound of "PAPA"	Normal phenomenon. Abnormal sound will disappear after a few minutes.
When turn on or turn off the unit, theres 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 therere parts touching together inside the indoor unit	Theres 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 therere parts touching together inside the outdoor unit	Theres 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



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

NO.	Description	Part Code			Qty
		GWH09RB-K3DNA9G/I	GWH09RB-K3DNA5G/I	GWH09RB-K3DNA3G/I	
	Product Code	CB314N00600	CB304N02603	CB302N03103	
1	Front Panel Assy	20022598S	20012948	20012858	1
2	Display Board	30565257	30565159	30565121	1
3	Filter Sub-Assy	1112220403	1112220403	1112220403	2
4	Screw Cover	24252016	242520179	24252016	1
5	Electric Box Cover2	20122075	2012207512	20122075	1
6	Front Case	2001266502C	2001266501	2001266502C	1
7	Axile Bush	10542036	10542036	10542036	1
8	Guide Louver	10512203	1051220301	10512203	1
9	Air Louver 1	1051215603	1051215603	1051215603	1
10	Air Louver 2	1051215503	1051215503	1051215503	1
11	Helicoid Tongue	2611216302	2611216302	2611216302	1
12	Axile Bush	10542036	10542036	10542036	1
13	Rear Case assy	22202467	22202467	22202467	1
14	Cross Flow Fan	10352017	10352017	10352017	1
15	O-Gasket sub-assy of Bearing	7651205102	7651205102	7651205102	1
16	Fan Bearing	7651221001	7651221001	7651221001	1
17	O-Gasket of Cross Fan Bearing	76512203	76512203	76512203	1
18	Ring of Bearing	26152022	26152022	26152022	1
19	Drainage hose	0523001401	0523001401	0523001401	1
20	Temp Sensor Sleeving	05212423	05212423	05212423	1
21	Evaporator Assy	01100100128	01100100128	01100100128	1
22	Evaporator Support	24212091	24212091	24212091	1
23	Remote Controller	30510125	30510468	30510125	1
24	Connecting Cable	4002052318	4002052317	4002052317	0
25	Power Cord	/	/	/	/
26	Wall Mounting Frame	01252021	01252021	01252021	1
27	Connecting pipe clamp	2611216401	2611216401	2611216401	1
28	Fan Motor	1501208904	150120874	150120874	1
29	Motor Press Plate	26112161	26112161	26112161	1
30	Rubber Plug (Water Tray)	76712012	76712012	76712012	1
31	Stepping Motor	1521212901	1521212901	1521212901	1
32	Crank	10582070	10582070	10582070	1
33	Electric Box Assy	10000202925	10000204013	10000204102	1
34	Electric Box	2011216701	2011208201	2011216701	1
35	Terminal Board	42011233	42011233	42011233	1
36	Electric Box Cover1	22242135	22242135	22242135	1
37	Shield cover of Electric Box	01592119	01592119	01592119	1
38	Main Board	30138000945	30138000945	30138000988	1
39	Temperature Sensor	390000453	390000453	390000453	1
40	Temperature Sensor	390000591	390000591	390000591	1
41	Capacitor CBB61S	33010747	33010747	33010747	1
42	Jumper	4202300130	4202300130	4202300130	1
43	Shield cover of Electric Box sub-assy	01592072	01592072	01592072	1
44	Connecting Cable	4002052318	4002052317	4002052317	0
45	Cold Plasma Generator	1114001602	1114001602	1114001602	1
46	Detecting plate(WIFI)	30070060	30070060	30110144	1

Above data is subject to change without notice.

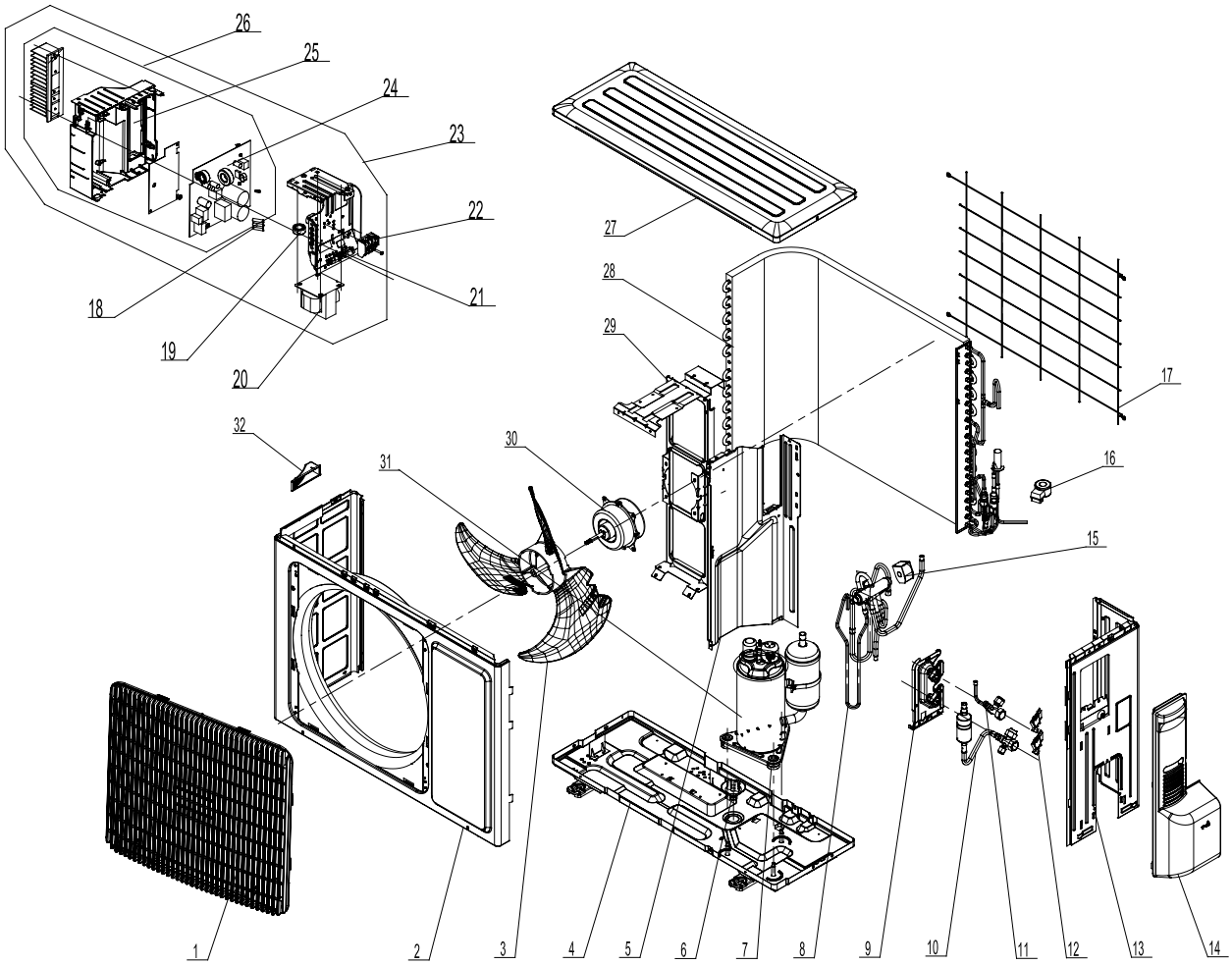
NO.	Description	Part Code			Qty
		GWH12RB-K3DNA3G/I	GWH12RB-K3DNA5G/I	GWH12RB-K3DNA9G/I	
	Product Code	CB302N03202	CB304N02702	CB314N00700	
1	Front Panel Assy	20012858	20012948	20022598S	1
2	Display Board	30565121	30565159	30565257	1
3	Filter Sub-Assy	1112220403	1112220403	1112220403	2
4	Screw Cover	24252016	242520179	24252016	1
5	Electric Box Cover2	20122075	2012207512	20122075	1
6	Front Case	2001266502C	2001266501	2001266502C	1
7	Axile Bush	10542036	10542036	10542036	1
8	Guide Louver	10512203	1051220301	10512203	1
9	Air Louver 1	1051215603	1051215603	1051215603	1
10	Air Louver 2	1051215503	1051215503	1051215503	1
11	Helicoid Tongue	2611216302	2611216302	2611216302	1
12	Axile Bush	10542036	10542036	10542036	1
13	Rear Case assy	22202467	22202467	22202467	1
14	Cross Flow Fan	10352017	10352017	10352017	1
15	O-Gasket sub-assy of Bearing	7651205102	7651205102	7651205102	1
16	Fan Bearing	7651221001	651221001	7651221001	1
17	O-Gasket of Cross Fan Bearing	76512203	76512203	76512203	1
18	Ring of Bearing	26152022	26152022	26152022	1
19	Drainage hose	0523001401	0523001401	0523001401	1
20	Temp Sensor Sleeving	05212423	05212423	05212423	1
21	Evaporator Assy	01100100129	01100100129	01100100129	1
22	Evaporator Support	24212091	24212091	24212091	1
23	Remote Controller	30510468	30510468	30510125	1
24	Connecting Cable	4002052317	4002052317	4002052318	0
25	Power Cord	/	/	/	/
26	Wall Mounting Frame	01252021	01252021	01252021	1
27	Connecting pipe clamp	2611216401	2611216401	2611216401	1
28	Fan Motor	150120874	150120874	1501208904	1
29	Motor Press Plate	26112161	26112161	26112161	1
30	Rubber Plug (Water Tray)	76712012	76712012	76712012	1
31	Stepping Motor	1521212901	1521212901	1521212901	1
32	Crank	10582070	10582070	10582070	1
33	Electric Box Assy	10000203142	10000203140	10000202926	1
34	Electric Box	2011216701	2011208201	2011216701	1
35	Terminal Board	42011233	42011233	42011233	1
36	Electric Box Cover1	22242135	22242135	22242135	1
37	Shield cover of Electric Box	01592119	01592119	01592119	1
38	Main Board	30138000988	30138000945	30138000945	1
39	Temperature Sensor	390000453	390000453	390000453	1
40	Temperature Sensor	390000591	390000591	390000591	1
41	Capacitor CBB61S	33010747	33010747	33010747	1
42	Jumper	4202300119	4202300119	4202300119	1
43	Shield cover of Electric Box sub-assy	01592072	01592072	01592072	1
44	Connecting Cable	4002052317	4002052317	4002052318	0
45	Cold Plasma Generator	1114001602	1114001602	1114001602	1
46	Detecting plate(WIFI)	30070060	30070060	30070060	1

Above data is subject to change without notice.

NO.	Description	Part Code		Qty
		GWH09RB-K3DNA2G/I	GWH12RB-K3DNA2G/I	
	Product Code	CB301N02301	CB301N02401	
1	Front Panel Assy	20022122	20022122	1
2	Display Board	30565120	30565120	1
3	Filter Sub-Assy	1112220403	1112220403	2
4	Screw Cover	242520179	242520179	1
5	Electric Box Cover2	2012207512	2012207512	1
6	Front Case	2001266501C	2001266506	1
7	Axile Bush	10542036	10542036	1
8	Guide Louver	1051220301	1051220301	1
9	Air Louver 1	1051215603	1051215603	1
10	Air Louver 2	1051215503	1051215503	1
11	Helicoid Tongue	2611216302	2611216302	1
12	Axile Bush	10542036	10542036	1
13	Rear Case assy	22202467	22202467	1
14	Cross Flow Fan	10352017	10352017	1
15	O-Gasket sub-assy of Bearing	7651205102	7651205102	1
16	Fan Bearing	7651221001	7651221001	1
17	O-Gasket of Cross Fan Bearing	76512203	76512203	1
18	Ring of Bearing	26152022	26152022	1
19	Drainage hose	0523001401	0523001401	1
20	Temp Sensor Sleeving	05212423	05212423	1
21	Evaporator Assy	01100100128	01100100129	1
22	Evaporator Support	24212091	24212091	1
23	Remote Controller	30510468	30510468	1
24	Connecting Cable	4002052317	4002052317	0
25	Power Cord	/	/	/
26	Wall Mounting Frame	01252021	01252021	1
27	Connecting pipe clamp	2611216401	2611216401	1
28	Fan Motor	150120874	150120874	1
29	Motor Press Plate	26112161	26112161	1
30	Rubber Plug (Water Tray)	76712012	76712012	1
31	Stepping Motor	1521212901	1521212901	1
32	Crank	10582070	10582070	1
33	Electric Box Assy	100002000901	100002000925	1
34	Electric Box	2011208201	2011208201	1
35	Terminal Board	42011233	42011233	1
36	Electric Box Cover1	22242135	22242135	1
37	Shield cover of Electric Box	01592119	01592119	1
38	Main Board	30138000945	30138000945	1
39	Temperature Sensor	390000453	390000453	1
40	Temperature Sensor	390000591	390000591	1
41	Capacitor CBB61S	33010747	33010747	1
42	Jumper	4202300130	4202300119	1
43	Shield cover of Electric Box sub-assy	01592072	01592072	1
44	Connecting Cable	4002052317	4002052317	0
45	Cold Plasma Generator	1114001602	1114001602	1
46	Detecting plate(WIFI)	30110144	30110144	1

Above data is subject to change without notice.

10.2 Outdoor Unit



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

NO.	Description	Part Code		Qty
		GWH09MB-K3DNE3G/O		
	Product Code	CB404W03601	CB404W03600	
1	Front Grill	22413043	22413043	1
2	Front Panel Assy	0153304810	0153304810	1
3	Axial Flow Fan	10333004	10333004	1
4	Chassis Sub-assy	02803037P	0280330401P	1
5	Clapboard Sub-Assy	0123338502	0123338502	1
6	Drainage Connecter	06123401	06123401	1
7	Compressor Gasket	76710302	76710302	3
8	4-Way Valve Assy	03073151	03073151	1
9	Valve Support	0171314201P	0171314201P	1
10	Cut off Valve Assy	07133474	07133474	1
11	Valve	07100003	07100003	1
12	Valve Support Block	26113017	26113017	2
13	Right Side Plate Sub-Assy	0130317801	0130317801	1
14	Big Handle	262334332	262334332	1
15	Magnet Coil	4300040050	4300040050	1
16	Electric Expand Valve Fitting	4300876701	4300876701	1
17	Rear Grill	01473009	01473009	1
18	Temperature Sensor	3900030805	3900030805	1
19	Magnetic Ring	4300040050	49010109	1
20	Reactor	43130184	43130184	1
21	Wire Clamp	71010103	71010103	1
22	Terminal Board	42010313	42010313	1
23	Electric Box Assy	10000100175	10000100126	1
24	Main Board	30138000582	30138000446	1
25	Electric Box	20113032	20113032	1
26	Electric Box Sub-Assy	10000500082	10000500040	1
27	Top Cover Sub-Assy	0125306001P	0125306001P	1
28	Condenser Assy	01100200141	01163812	1
29	Motor Support	01703104	01703104	1
30	Fan Motor	1501308506	1501308506	1
31	Compressor and Fittings	0010389601	0010389603	1
32	Small Handle	26233100	26233100	1

Above data is subject to change without notice.

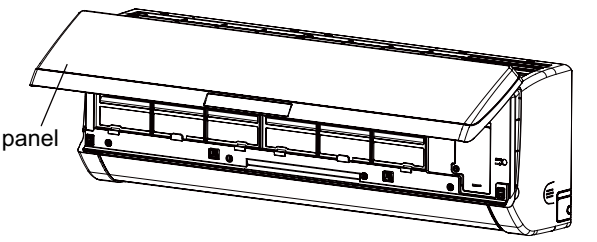
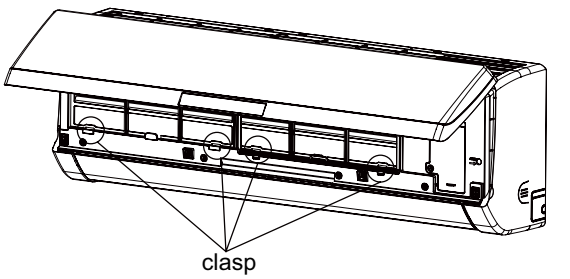
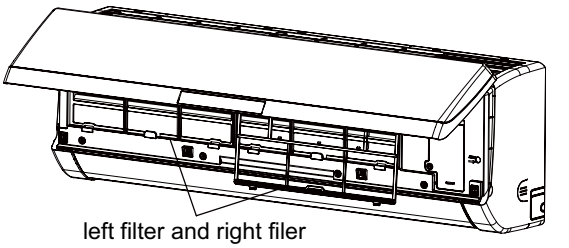
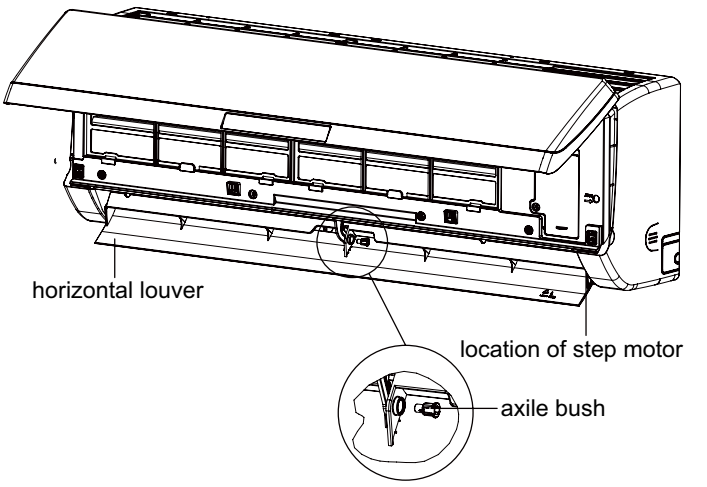
NO.	Description	Part Code		Qty
		GWH12MB-K3DNE3G/O		
	Product Code	CB404W03500	CB404W03501	
1	Front Grill	22413043	22413043	1
2	Front Panel Assy	0153304810	0153304810	1
3	Axial Flow Fan	10333004	10333004	1
4	Chassis Sub-assy	02803304P	02803151P	1
5	Clapboard Sub-Assy	0123338502	0123338502	1
6	Drainage Connecter	06123401	06123401	1
7	Compressor Gasket	76710302	76710302	3
8	4-Way Valve Assy	03073198	03073198	1
9	Valve Support	0171314201P	0171314201P	1
10	Cut off Valve Assy	07133474	07133474	1
11	Valve	07100003	07100003	1
12	Valve Support Block	26113017	26113017	2
13	Right Side Plate Sub-Assy	0130317801	0130317801	1
14	Big Handle	262334332	262334332	1
15	Magnet Coil	4300040050	4300040050	1
16	Electric Expand Valve Fitting	4300876701	4300876701	1
17	Rear Grill	01473009	01473009	1
18	Temperature Sensor	3900030805	3900030805	1
19	Magnetic Ring	49010109	49010109	1
20	Reactor	43130184	43130184	1
21	Wire Clamp	71010003	71010103	1
22	Terminal Board	42010313	42010313	1
23	Electric Box Assy	10000100127	10000100174	1
24	Main Board	30138000583	30138000584	1
25	Electric Box	20113032	20113032	1
26	Electric Box Sub-Assy	10000500042	10000500083	1
27	Top Cover Sub-Assy	0125306001P	0125306001P	1
28	Condenser Assy	01100200142	01100200142	1
29	Motor Support	0170310401	0170310401	1
30	Fan Motor	1501308506	1501308506	1
31	Compressor and Fittings	0010389601	0010389601	1
32	Small Handle	26233100	26233100	1

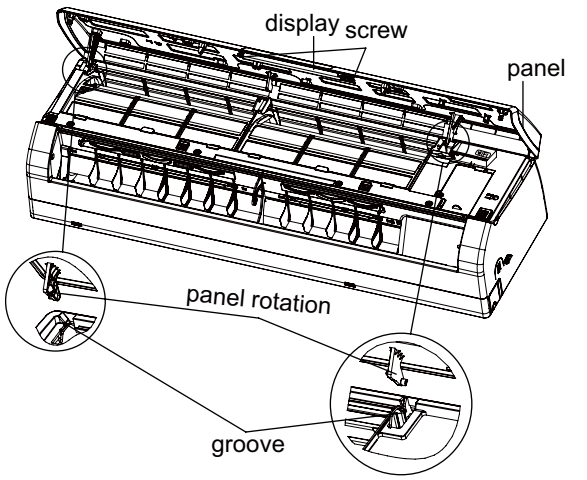
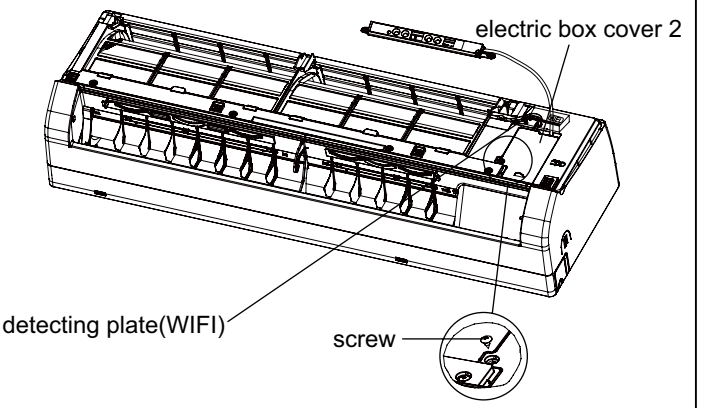
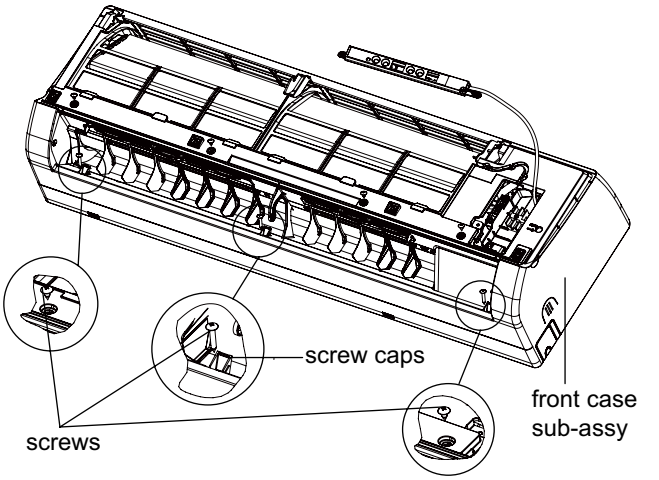
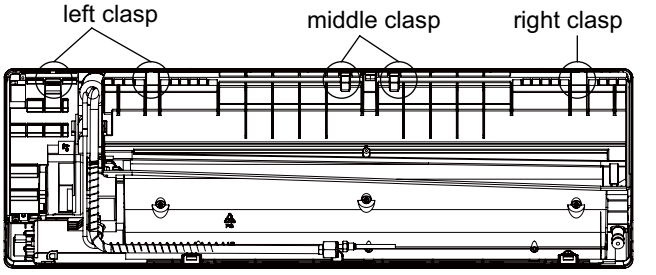
Above data is subject to change without notice.

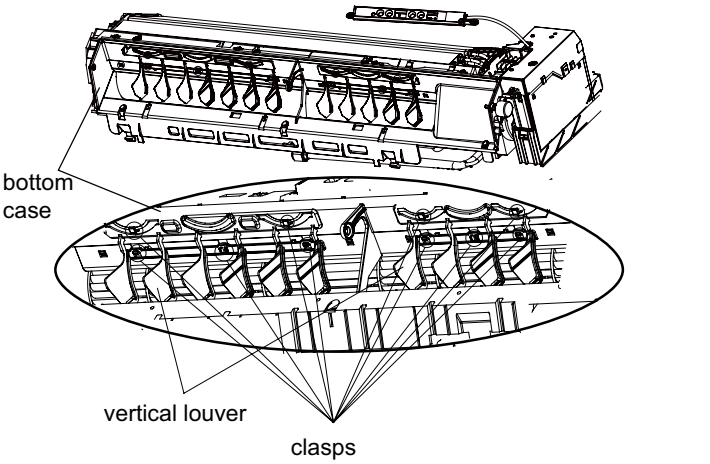
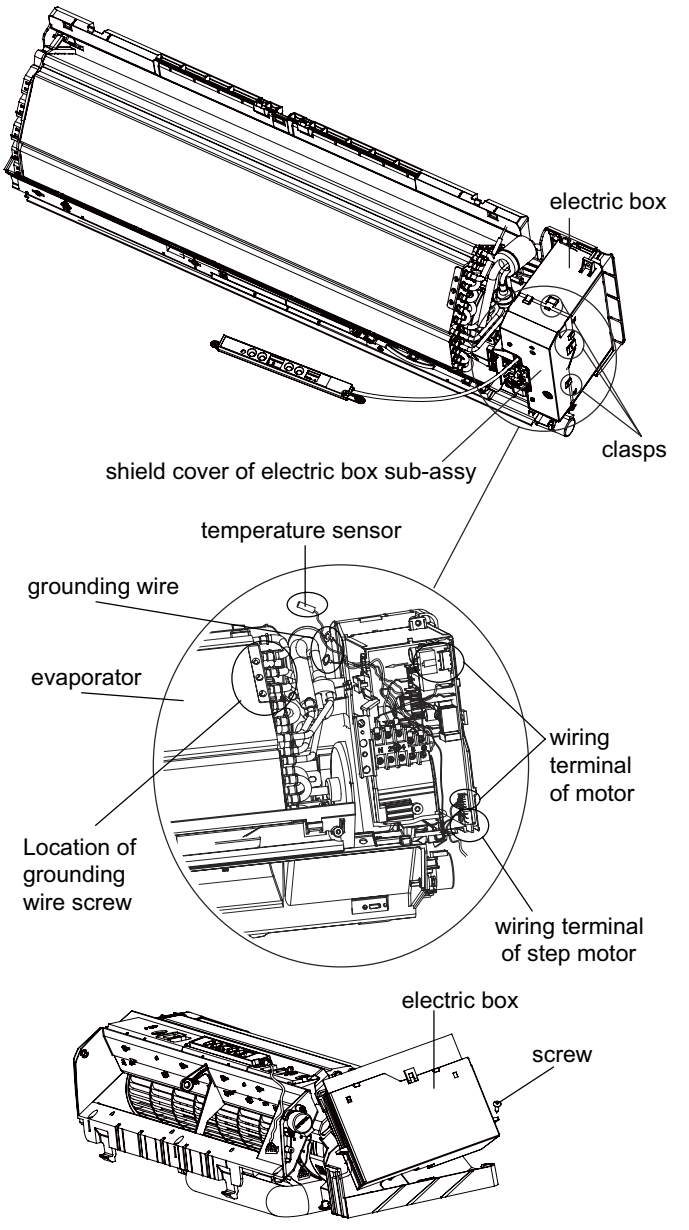
11. Removal Procedure

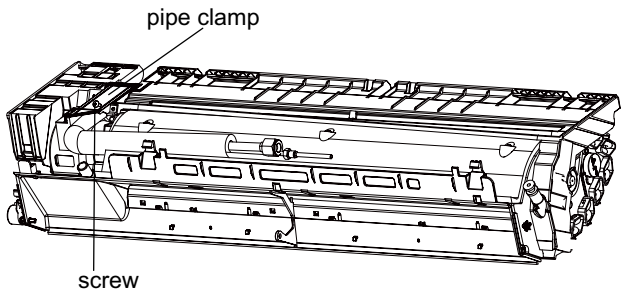
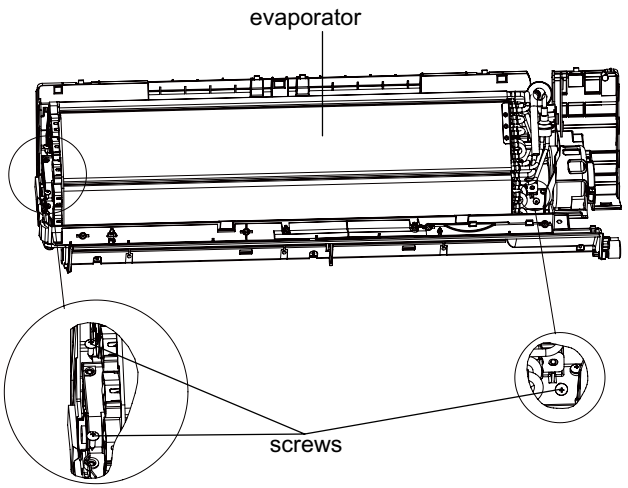
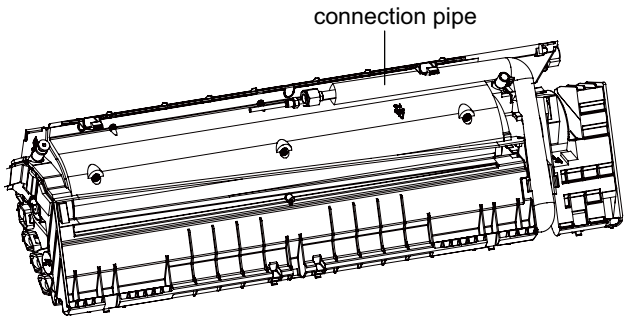
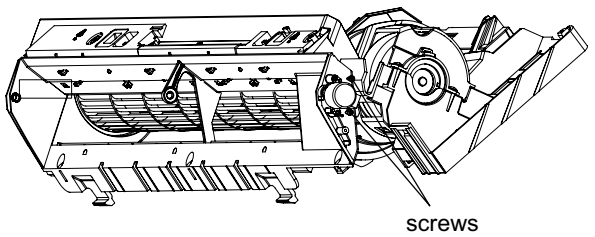
⚠ Warning: Be sure to wait for a minimum of 20 minutes after turning off all power supplies and discharge the refrigerant completely before removal.

11.1 Removal Procedure of Indoor Unit

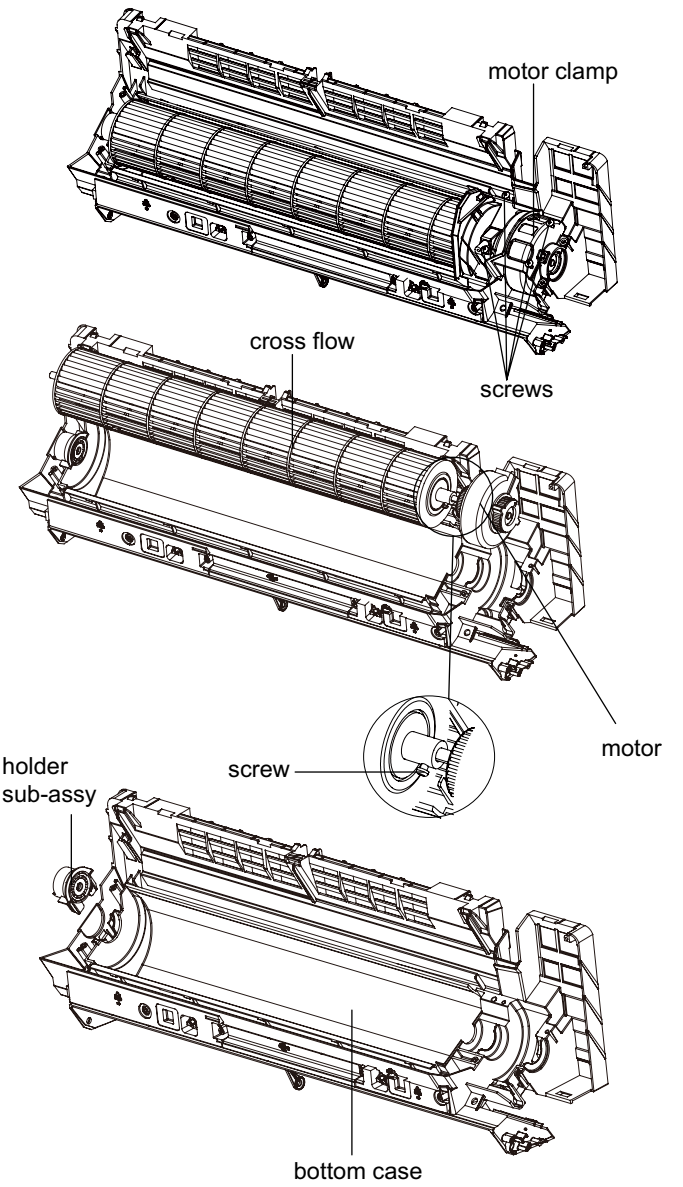
Steps	Procedure	
1. Remove filter		
a	Open the panel.	
b	Loosen the clasp shown in the fig and then pull the left filter and right filer outwards to remove them.	 
2. Remove horizontal louver		
	Push out the axile bush on horizontal louver. Bend the horizontal louver with hand and then separate the horizontal louver from the crankshaft of step motor to remove it.	

Steps	Procedure
3. Remove panel	
	Remove two screws fixing display. Open the front panel; separate the panel rotation shaft from the groove fixing the front panel and then removes the front panel. Note: The display of some models is fixed on the panel; unscrew the screws fixing the display on the panel before removing the panel.
4. Remove electric box cover 2 and detecting plate(WIFI)	
	Remove the screws on the electric box cover 2 and detecting plate(WIFI) to remove the them.
5. Remove front case sub-assy	
a	Remove the screws fixing front case. Note: 1.Open the screw caps before removing the screws around the air outlet. 2.The quantity of screws fixing the front case sub-assy is different for different models.
b	Loosen the clasps at left, middle and right sides of front case. Life the front case sub-assy upwards to remove it.
	

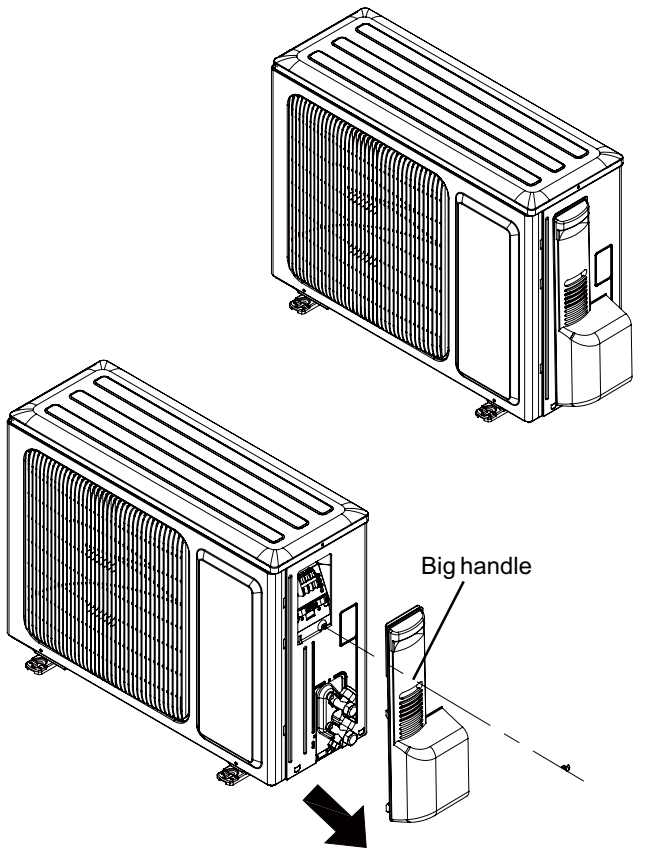
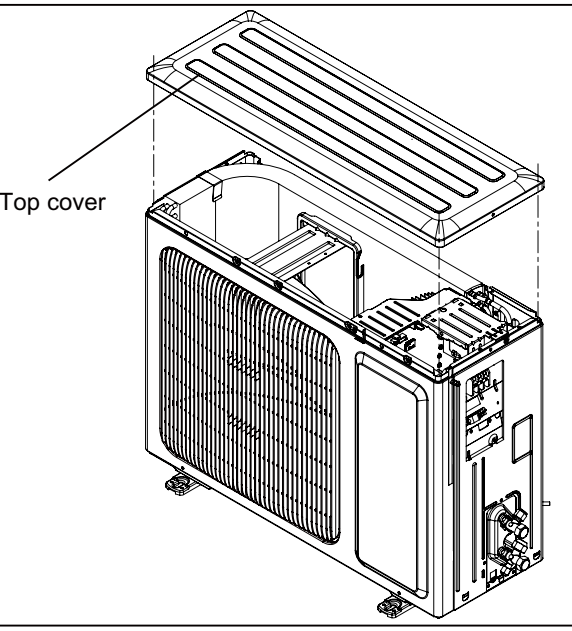
Steps	Procedure
6. Remove vertical louver	
Loosen the connection clasps between vertical louver and bottom case to remove vertical louver.	
7. Remove electric box assy	
a Loosen the connection clasps between shield cover of electric box sub-assy and electric box, and then remove the shield cover of electric box sub-assy.	
b Cut off the tieline which binding the temperature sensor and grounding wire on the evaporator, and then pull out the indoor tube temperature sensor from the evaporator. Remove the screws at the connection place between grounding wire and evaporator. Pull out the wiring terminal of motor and wiring terminal of step motor from the mainboard. Note: 1.Location of tube temperature sensor and tieline on the evaporator is different for different models. 2.When pulling out the wiring terminal, pay attention to loose the clasp and don't pull it so hard.	
c Remove the screw fixing electric box assy and then remove the electric box assy.	

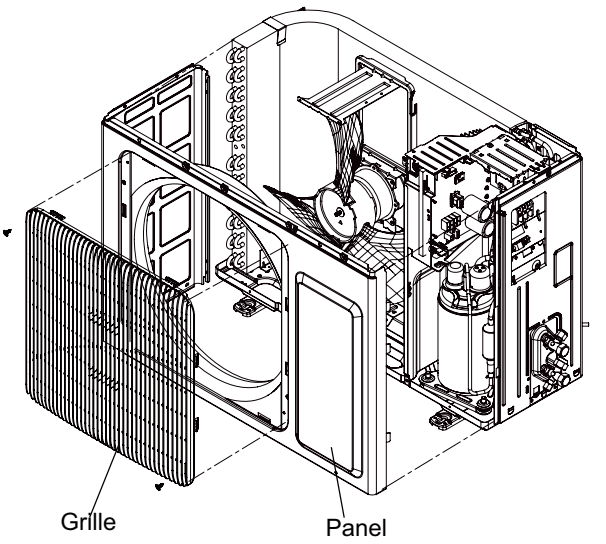
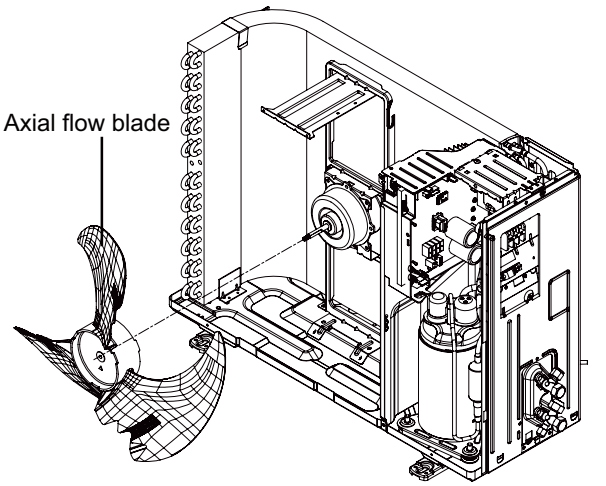
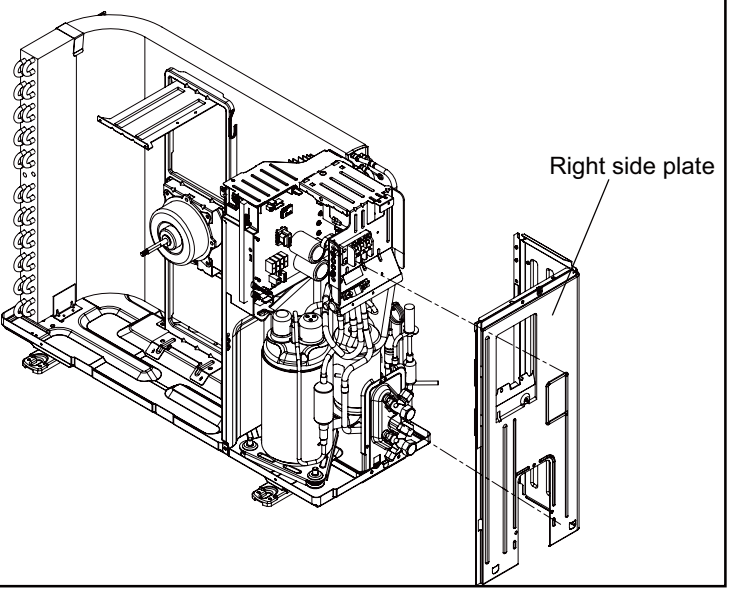
Steps	Procedure	
8. Remove evaporator assy		
a	At the back of the unit, remove the screw fixing connection pipe clamp and then remove the connection pipe clamp.	
b	Remove 3 screws fixing evaporator assy.	
c	Adjust the position of connection pipe on evaporator slightly and then lift the evaporator upwards to remove it.	
9. Remove stepping motor		
	Remove the screw fixing step motor and then remove the step motor.	

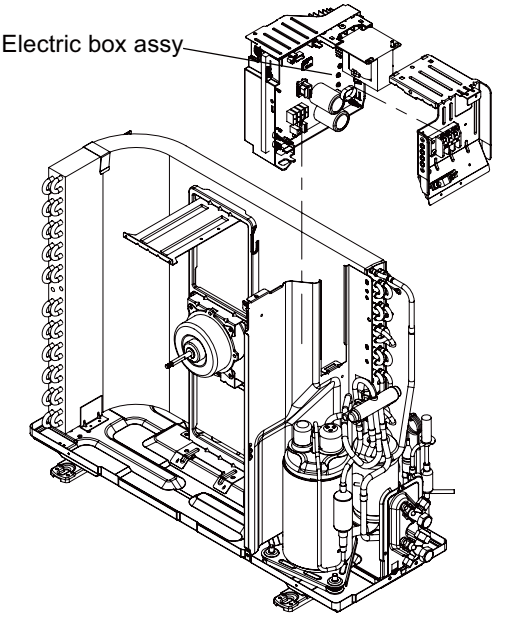
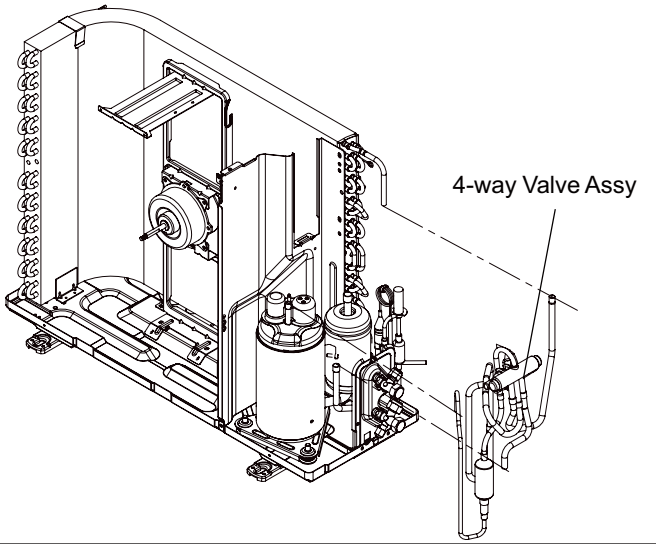
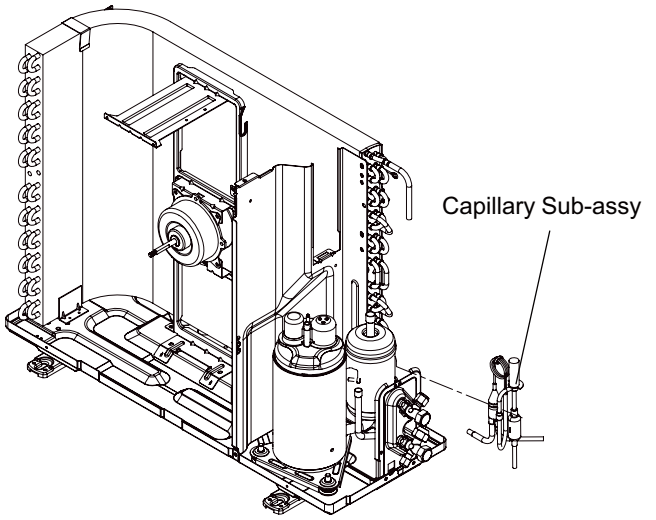
Steps	Procedure
10. Remove motor and cross flow blade	
a	Remove the screws fixing motor clamp and then remove the motor clamp.
b	Remove the screws at the connection place of cross flow blade and motor; lift the motor and cross flow blade upwards to remove them.
c	Remove the bearing holder sub-assy.

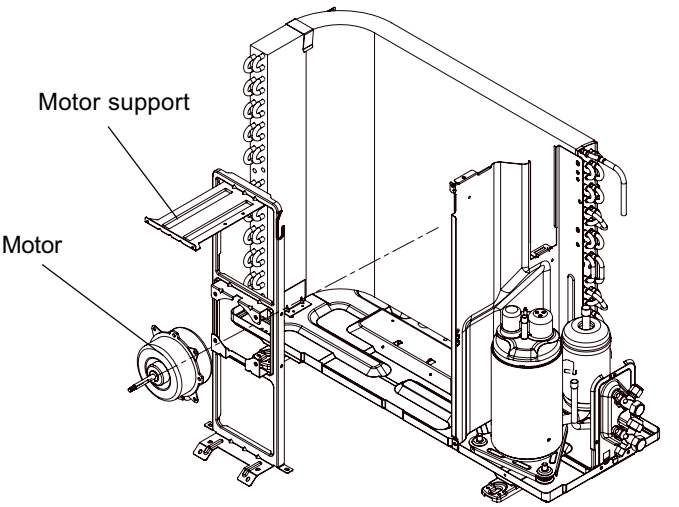
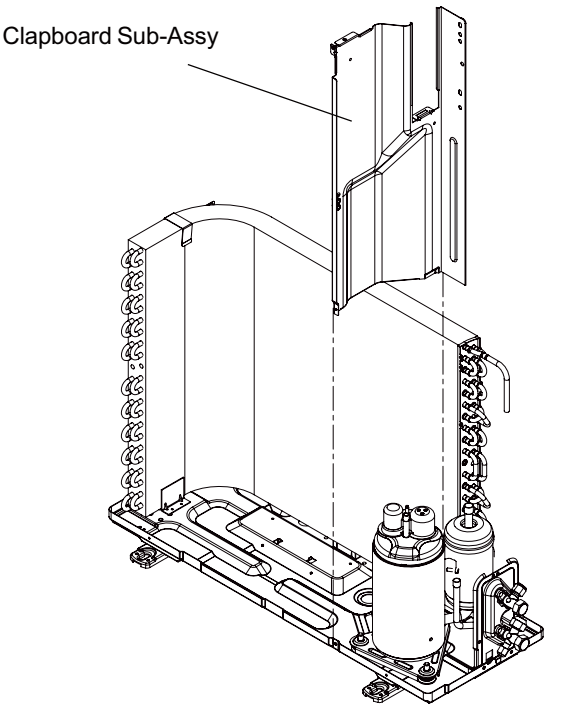


11.2 Removal Procedure of Outdoor Unit

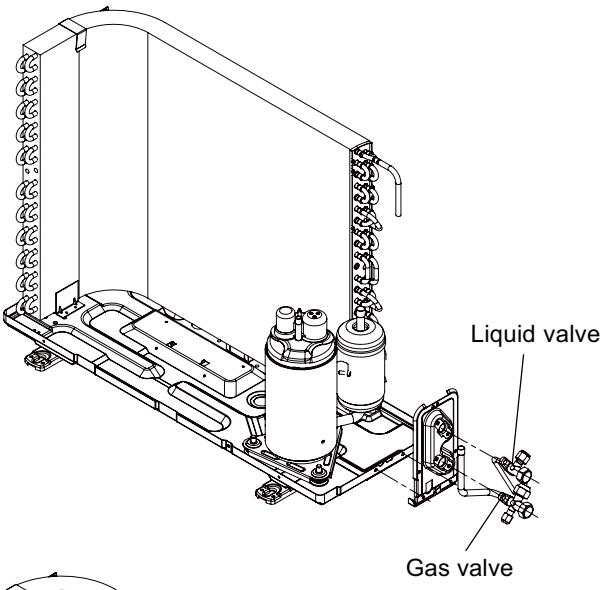
Steps	Procedure
1.Remove big handle	
Before disassamble. Remove 1 connection screw fixing big handleand then removethe big handle.	
2. Remove top cover	
Remove 3 connection screws among top cover plate, front panel and right sideplate. Then remove top cover plate.	

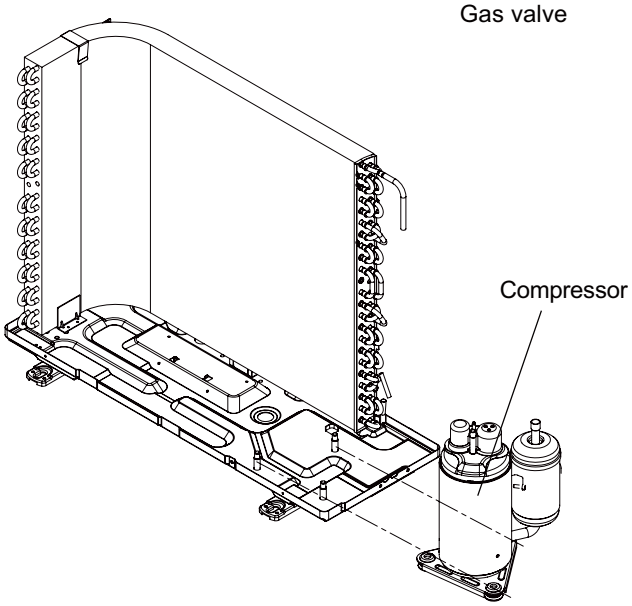
Steps	Procedure
3.Remove grille and front panel	
	Remove connection screws between the front grille and the front panel. Then remove the front grille. Remove connection screws connecting the front panel with the chassis and the motor support, and then remove the front panel.
	
4.Remove axial flow blade	
	Remove the nut fixing the blade and then remove the axial flow blade.
	
5.Remove right side plate	
	Remove connection screws connecting the right side plate with the valve support and the electric box. Then remove the right side plate.
	

Steps	Procedure
6.Remove electric box assy	Electric box assy 
Remove the 2 screws fixing the cover of electric box. Lift to remove the cover. Loosen the wire and disconnect the terminal. Lift to remove the electric box assy.	
7.Remove 4-way valve assy	 4-way Valve Assy
Unscrew the fastening nut of the 4-way Valve Assy coil and remove the coil. Wrap the 4-way Valve Assy with wet cotton and unsolder the 4 weld spots connecting the 4-way Valve Assy to take it out.(Note: Refrigerant should be discharged firstly.) Welding process should be as quickly as possible and keep wrapping cotton wet all the time. Be sure not to burn out the lead-out wire of compressor.	
8.Remove capillary sub-assy	 Capillary Sub-assy
Unsolder weld point of capillary Sub-assy, valve and outlet pipe of condensator. Then remove the capillary Sub-assy. Do not block the capillary when unsoldering it. (Note: before unsoldering,discharge refrigerants completely)	

Steps	Procedure
9.Remove motor and motor support	
	Remove the 4 tapping screws fixing the motor. Pull out the lead-out wire and remove the motor. Remove the 2 tapping screws fixing the motor support. Lift motor support to remove it.
	
10.Remove clapboard sub-assy	
	Loosen the screws of the Clapboard Sub-Assy . The Clapboard Sub-Assy has a hook on the lower side. Lift and pull the Clapboard Sub-Assy to remove.
	

Steps	Procedure
11.Remove Compressor	
a	Remove the 2 screws fixing the gas valve. Unsolder the welding spot connecting gas valve and air return pipe and remove the gas valve. (Note: it is necessary to warp the gas valve when unsoldering the welding spot.) Remove the 2 screws fixing liquid valve. Unsolder the welding spot connecting liquid valve and remove the liquid valve.
b	Remove the 3 footing screws of the compressor and remove the compressor.





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 (°F)	Fahrenheit (°F)	Celsius(°C)	Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius(°C)	Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius(°C)
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 (°F)	Fahrenheit (°F)	Celsius(°C)	Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius(°C)	Fahrenheit display temperature (°F)	Fahrenheit (°F)	Celsius(°C)
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):

● When the length of connection pipe is above 5m, add refrigerant according to the prolonged length of liquid pipe. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe. See the following sheet.

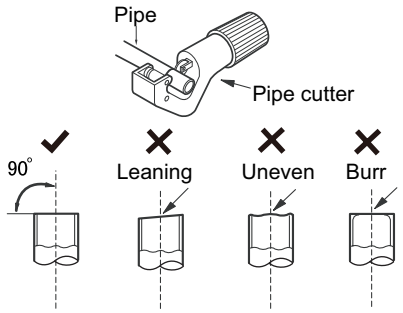
● Additional refrigerant charging amount = prolonged length of liquid pipe X additional refrigerant charging amount per meter

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	20
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

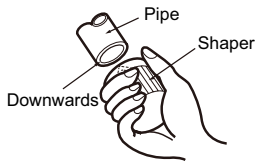
⚠ **Note:**

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



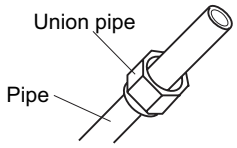
A:Cut the pip
- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.

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.

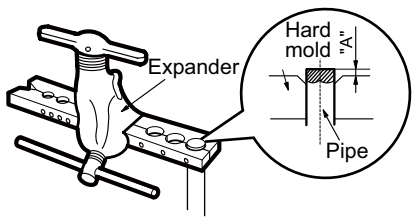


E:Expand the port
- Expand the port with expander.

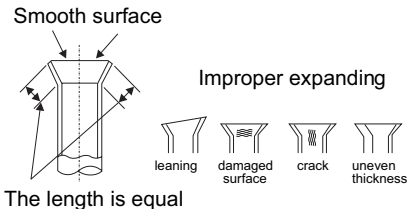
⚠ **Note:**

- "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(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

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