DAIKIN

R410A serie split

Service Manual

MODEL

FTKS18SL216/RKS18SL216
FTXS18SL216/RXS18SL216
FTKS24SL216/RKS24SL216
FTXS24SL216/RXS24SL216

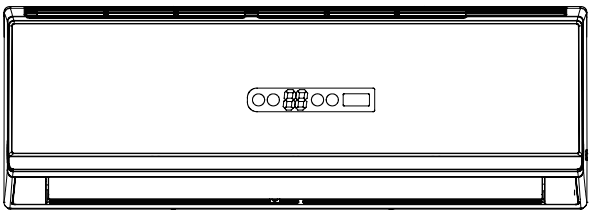
Table of Contents

Part Ⅰ : Technical Information

1. Summary

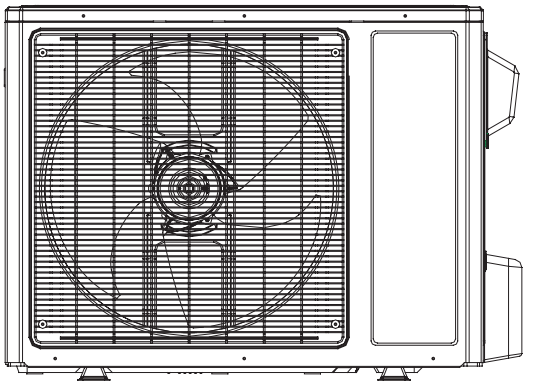
Indoor Unit:

FTKS18SL216
FTXS18SL216
FTKS24SL216
FTXS24SL216



Outdoor Unit:

RKS18SL216
RXS18SL216
RKS24SL216
RXS24SL216



Remote Controller:

YU1F

2. Specifications

2.1 Specification Sheet

Model			FTKS18SL216/RKS18SL216	FTXS18SL216/RXS18SL216
Product Code			CB459004600_L75033	CB459004200_L84775
Power Supply	Rated Voltage	V~	208/230	208/230
	Rated Frequency	Hz	60	60
	Phases		1	1
Power Supply Mode			Outdoor	Outdoor
Cooling Capacity(Min~Max)		Btu/h	18000(3412~20472)	18000(3412~20472)
Heating Capacity(Min~Max)		Btu/h	/	19800(3412~21837)
Cooling Power Input(Min~Max)		W	1820(80~2350)	1820(80~2350)
Heating Power Input(Min~Max)		W	/	2090(220~2350)
Cooling Power Current		A	8.1	8.1
Heating Power Current		A	/	8.5
Rated Input		W	2350	2350
Rated Current		A	12	12
Air Flow Volume(SH/H/M/L)		CFM	500/441/383/294	500/441/383/294
Dehumidifying Volume		Pint/h	3.80	3.80
EER		(Btu/h)/W	9.89	9.89
COP		(Btu/h)/W	/	9.47
SEER			18.00	18.00
HSPF			/	9.00
Application Area		yd^2	27.50-40.66	27.50-40.66
Indoor Unit	Model of indoor unit		FTKS18SL216	FTXS18SL216
	Indoor Unit Product Code		CB459N04600_L75033	CB459N04200_L84775
	Fan Type		Cross-flow	Cross-flow
	Diameter Length(DXL)	inch	Φ4 3/16X27 13/16	Φ4 3/16X27 13/16
	Fan Motor Cooling Speed(SH/H/M/L)	r/min	1350/1200/1050/900	1350/1200/1050/900
	Fan Motor Heating Speed(SH/H/M/L)	r/min	/	1300/1200/1100/900
	Output of Fan Motor	W	35	35
	Fan Motor RLA	A	0.37	0.37
	Fan Motor Capacitor	μF	2.5	2.5
	Evaporator Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	inch	Φ5/16	Φ5/16
	Row-fin Gap	inch	2-1/16	2-1/16
	Coil Length (LXDXW)	inch	28 1/8X1X12	28 1/8X1X12
	Swing Motor Model		MP35CJ	MP35CJ
	Output of Swing Motor	W	2.5	2.5
	Fuse	A	3.15	3.15
	Sound Pressure Level(SH/H//M/L)	dB (A)	47/44/40/35	47/44/40/35
	Sound Power Level(SH/H//M/L)	dB (A)	57/54/50/45	57/54/50/45
	Dimension (WXHXD)	inch	38 3/16X11 13/16X8 13/16	38 3/16X11 13/16X8 13/16
	Dimension of Carton Box (LXWXH)	inch	40 7/8X15X12	40 7/8X15X12
	Dimension of Package (LXWXH)	inch	41X15X12 5/8	41X15X12 5/8
	Net Weight	lb	30.9	30.9
	Gross Weight	lb	37.5	37.5

Outdoor Unit	Model of Outdoor Unit		RKS18SL216	RXS18SL216
	Outdoor Unit Product Code		CB425W07500_L75033	CB425W07400_L84775
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO.,LTD	ZHUHAI LANDA COMPRESSOR CO.,LTD
	Compressor Model		QXA-B141zF030A	QXA-B141zF030A
	Compressor Oil		RB68EP	RB68EP
	Compressor Type		Rotary	Rotary
	Compressor Locked Rotor Amp (L.R.A)	A	25	25
	Compressor RLA	A	12.08	12.08
	Compressor Power Input	W	1440	1440
	Overload Protector		1NT11L-6233 or KSD115^{O}C or HPC115/95U1	1NT11L-6233 or KSD115^{O}C or HPC115/95U1
	Throttling Method		Electron expansion valve	Electron expansion valve
	Operation temp	ºF	60.8~86	60.8~86
	Ambient temp (cooling)	ºF	0~115	0~115
	Ambient temp (heating)	ºF	/	-4~75
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	inch	Φ5/16	Φ3/8
	Rows-fin Gap	inch	1-1/16	1-1/16
	Coil Length (LXDXW)	inch	34 11/16X26X7/8	33 5/8X26X7/8
	Fan Motor Speed	rpm	800	800
	Output of Fan Motor	W	60	60
	Fan Motor RLA	A	0.52	0.52
	Fan Motor Capacitor	μF	/	/
	Air Flow Volume of Outdoor Unit	CFM	1883	1883
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	inch	Φ20 1/2	Φ20 1/2
	Defrosting Method		/	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	ISPG	550	550
	Permissible Excessive Operating Pressure for the Suction Side	ISPG	240	240
	Sound Pressure Level (H/M/L)	dB (A)	57/-/-	57/-/-
	Sound Power Level (H/M/L)	dB (A)	67/-/-	67/-/-
	Dimension (WXHXD)	inch	38X27 9/16X15 5/8	38X27 9/16X15 5/8
	Dimension of Carton Box (LXWXH)	inch	40 3/8X17 7/8X29	40 3/8X17 7/8X29
	Dimension of Package (LXWXH)	inch	40 1/2X18X29 1/2	40 1/2X18X29 1/2
	Net Weight	lb	91.5	97
	Gross Weight	lb	101.4	106.9
	Refrigerant		R410A	R410A
	Refrigerant Charge	oz	33.51	45.86
Connection Pipe	Length	ft	24.6	24.6
	Gas Additional Charge	oz/ft	0.16	0.2
	Outer Diameter Liquid Pipe	inch	Φ1/4	Φ1/4
	Outer Diameter Gas Pipe	inch	Φ1/2	Φ1/2
	Max Distance Height	ft	65	65
	Max Distance Length	ft	100	100
	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			FTKS24SL216/RKS24SL216
Product Code			CB459004700_L75033
Power Supply	Rated Voltage	V~	208/230
	Rated Frequency	Hz	60
	Phases		1
Power Supply Mode			Outdoor
Cooling Capacity(Min~Max)		Btu/h	22000(8630~23200)
Heating Capacity(Min~Max)		Btu/h	/
Cooling Power Input(Min~Max)		W	2260(600~27000)
Heating Power Input(Min~Max)		W	/
Cooling Power Current		A	10.03
Heating Power Current		A	/
Rated Input		W	2700
Rated Current		A	11.98
Air Flow Volume(SH/H/M/L)		CFM	1200/1050/900/750
Dehumidifying Volume		Pint/h	2.5
EER		(Btu/h)/W	9.73
COP		(Btu/h)/W	/
SEER			18
HSPF			/
Application Area		yd^2	32.29-50.23
Indoor Unit	Model of indoor unit		FTKS24SL216
	Indoor Unit Product Code		CB459N04700_L75033
	Fan Type		Cross-flow
	Diameter Length(DXL)	inch	Φ4 1/4X32 11/16
	Fan Motor Cooling Speed(SH/H/M/L)	r/min	1300/1150/1000/850
	Fan Motor Heating Speed(SH/H/M/L)	r/min	/
	Output of Fan Motor	W	30
	Fan Motor RLA	A	0.32
	Fan Motor Capacitor	μF	3
	Evaporator Form		Aluminum Fin-copper Tube
	Pipe Diameter	inch	Φ5/16
	Row-fin Gap	inch	2-1/16
	Coil Length (LXDXW)	inch	33 1/4X1X13 1/2
	Swing Motor Model		MP35CJ
	Output of Swing Motor	W	2.5
	Fuse	A	3.15
	Sound Pressure Level(SH/H//M/L)	dB (A)	49/46/42/36
	Sound Power Level(SH/H//M/L)	dB (A)	59/56/52/46
	Dimension (WXHXD)	inch	42 7/16X12 13/16X9 11/16
	Dimension of Carton Box (LXWXH)	inch	45X16 1/8X13 3/16
	Dimension of Package (LXWXH)	inch	45 3/16X16 1/4X13 3/4
	Net Weight	lb	38.58
	Gross Weight	lb	45.19

Outdoor Unit	Model of Outdoor Unit		RKS24SL216
	Outdoor Unit Product Code		CB425W07600_L75033
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO.,LTD
	Compressor Model		QXA-B141zF030A
	Compressor Oil		RB68EP
	Compressor Type		Rotary
	Compressor Locked Rotor Amp (L.R.A)	A	25
	Compressor RLA	A	11.29
	Compressor Power Input	W	1440
	Overload Protector		1NT11L-6233 or KSD115℃ or HPC115/95U1
	Throttling Method		Electron expansion valve
	Operation temp	ºF	60.8~86
	Ambient temp (cooling)	ºF	0~115
	Ambient temp (heating)	ºF	/
	Condenser Form		Aluminum Fin-copper Tube
	Pipe Diameter	inch	Φ3/8
	Rows-fin Gap	inch	2-1/16
	Coil Length (LXDXW)	inch	33 5/16X1 3/4X26
	Fan Motor Speed	rpm	800
	Output of Fan Motor	W	60
	Fan Motor RLA	A	0.4
	Fan Motor Capacitor	μF	/
	Air Flow Volume of Outdoor Unit	CFM	3200
	Fan Type		Axial-flow
	Fan Diameter	inch	Φ20 1/2
	Defrosting Method		/
	Climate Type		T1
	Isolation		I
	Moisture Protection		IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	ISPG	550
	Permissible Excessive Operating Pressure for the Suction Side	ISPG	240
	Sound Pressure Level (H/M/L)	dB (A)	58/-/-
	Sound Power Level (H/M/L)	dB (A)	68/-/-
	Dimension (WXHXD)	inch	38X27 9/16X15 5/8
	Dimension of Carton Box (LXWXH)	inch	40 3/8X17 7/8X29
	Dimension of Package (LXWXH)	inch	40 1/2X18X29 1/2
	Net Weight	lb	101.41
	Gross Weight	lb	111.33
	Refrigerant		R410A
	Refrigerant Charge	oz	56.4
Connection Pipe	Length	ft	24.6
	Gas Additional Charge	oz/ft	0.2
	Outer Diameter Liquid Pipe	inch	Φ1/4
	Outer Diameter Gas Pipe	inch	Φ5/8
	Max Distance Height	ft	32.8
	Max Distance Length	ft	82
	Note:The connection pipe applies metric diameter.		

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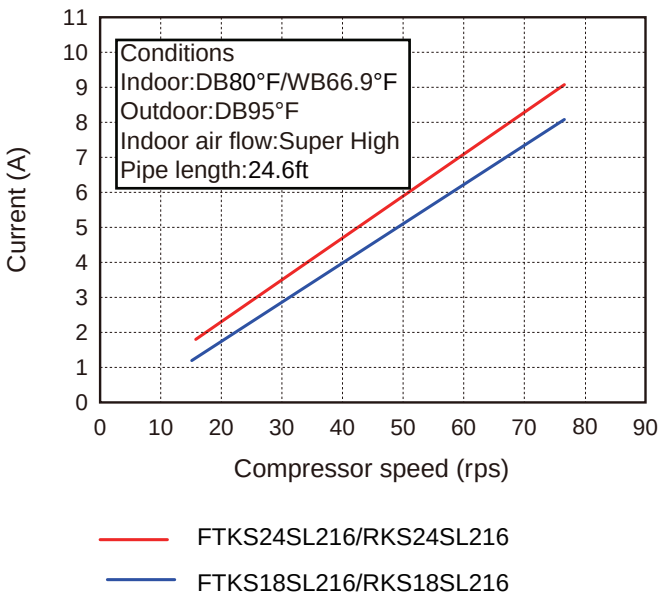
Model			FTXS24SL216/RXS24SL216
Product Code			CB459004300_L84775
Power Supply	Rated Voltage	V~	208/230
	Rated Frequency	Hz	60
	Phases		1
Power Supply Mode			Outdoor
Cooling Capacity(Min~Max)		Btu/h	22000(8630~23200)
Heating Capacity(Min~Max)		Btu/h	24000(8650~26000)
Cooling Power Input(Min~Max)		W	2260(600~27000)
Heating Power Input(Min~Max)		W	2300(610~2750)
Cooling Power Current		A	10.03
Heating Power Current		A	10.20
Rated Input		W	2750
Rated Current		A	11.98
Air Flow Volume(SH/H/M/L)		CFM	1200/1050/900/750
Dehumidifying Volume		Pint/h	2.5
EER		(Btu/h)/W	9.73
COP		(Btu/h)/W	10.40
SEER			18.00
HSPF			10.00
Application Area		yd^2	32.29-50.23
Indoor Unit	Model of indoor unit		FTXS24SL216
	Indoor Unit Product Code		CB459N04300_L84775
	Fan Type		Cross-flow
	Diameter Length(DXL)	inch	Φ4 1/4X32 11/16
	Fan Motor Cooling Speed(SH/H/M/L)	r/min	1300/1150/1000/850
	Fan Motor Heating Speed(SH/H/M/L)	r/min	1300/1150/1000/850
	Output of Fan Motor	W	30
	Fan Motor RLA	A	0.32
	Fan Motor Capacitor	μF	3
	Evaporator Form		Aluminum Fin-copper Tube
	Pipe Diameter	inch	Φ5/16
	Row-fin Gap	inch	2-1/16
	Coil Length (LXDXW)	inch	33 1/4X1X13 1/2
	Swing Motor Model		MP35CJ
	Output of Swing Motor	W	2.5
	Fuse	A	3.15
	Sound Pressure Level(SH/H//M/L)	dB (A)	49/46/42/36
	Sound Power Level(SH/H//M/L)	dB (A)	59/56/52/46
	Dimension (WXHXD)	inch	42 7/16X12 13/16X9 11/16
	Dimension of Carton Box (LXWXH)	inch	45X16 1/8X13 3/16
	Dimension of Package (LXWXH)	inch	45 3/16X16 1/4X13 3/4
	Net Weight	lb	38.58
	Gross Weight	lb	45.19

Outdoor Unit	Model of Outdoor Unit		RXS24SL216
	Outdoor Unit Product Code		CB425W07700_L84775
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO.,LTD
	Compressor Model		QXA-B141zF030A
	Compressor Oil		RB68EP
	Compressor Type		Rotary
	Compressor Locked Rotor Amp (L.R.A)	A	25
	Compressor RLA	A	12.18
	Compressor Power Input	W	1440
	Overload Protector		NT11L-6233 or KSD115℃ or HPC115/95U1
	Throttling Method		Electron expansion valve
	Operation temp	ºF	60.8~86
	Ambient temp (cooling)	ºF	0~115
	Ambient temp (heating)	ºF	-4~75
	Condenser Form		Aluminum Fin-copper Tube
	Pipe Diameter	inch	Φ3/8
	Rows-fin Gap	inch	2-1/16
	Coil Length (LXDXW)	inch	33 5/16X1 3/4X26
	Fan Motor Speed	rpm	800
	Output of Fan Motor	W	60
	Fan Motor RLA	A	0.4
	Fan Motor Capacitor	μF	/
	Air Flow Volume of Outdoor Unit	CFM	3200
	Fan Type		Axial-flow
	Fan Diameter	inch	Φ20 1/2
	Defrosting Method		Automatic Defrosting
	Climate Type		T1
	Isolation		I
	Moisture Protection		IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	ISPG	550
	Permissible Excessive Operating Pressure for the Suction Side	ISPG	240
	Sound Pressure Level (H/M/L)	dB (A)	58/-/-
	Sound Power Level (H/M/L)	dB (A)	68/-/-
	Dimension (WXHXD)	inch	38X27 9/16X15 5/8
	Dimension of Carton Box (LXWXH)	inch	40 3/8X17 7/8X29
	Dimension of Package (LXWXH)	inch	40 1/2X18X29 1/2
	Net Weight	lb	103.62
	Gross Weight	lb	113.54
	Refrigerant		R410A
	Refrigerant Charge	oz	56.4
Connection Pipe	Length	ft	24.6
	Gas Additional Charge	oz/ft	0.2
	Outer Diameter Liquid Pipe	inch	Φ1/4
	Outer Diameter Gas Pipe	inch	Φ5/8
	Max Distance Height	ft	32.8
	Max Distance Length	ft	82
	Note:The connection pipe applies metric diameter.		

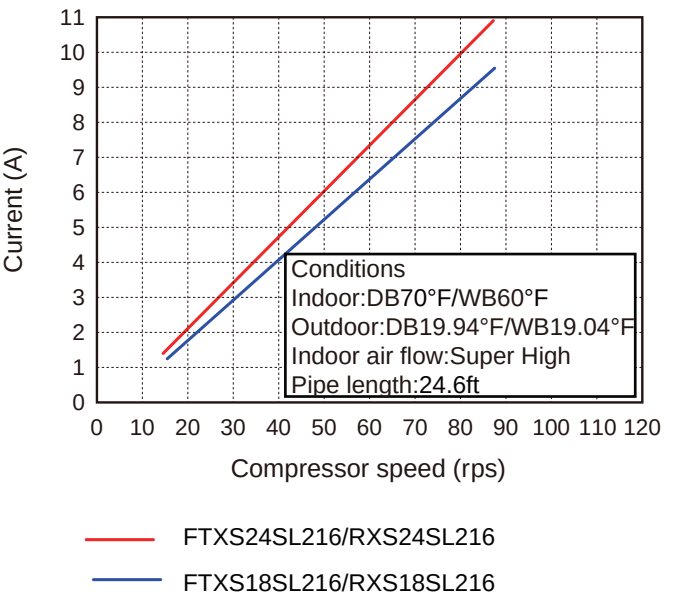
The above data is subject to change without notice; please refer to the nameplate of the unit.

2.2 Operation Characteristic Curve

Cooling

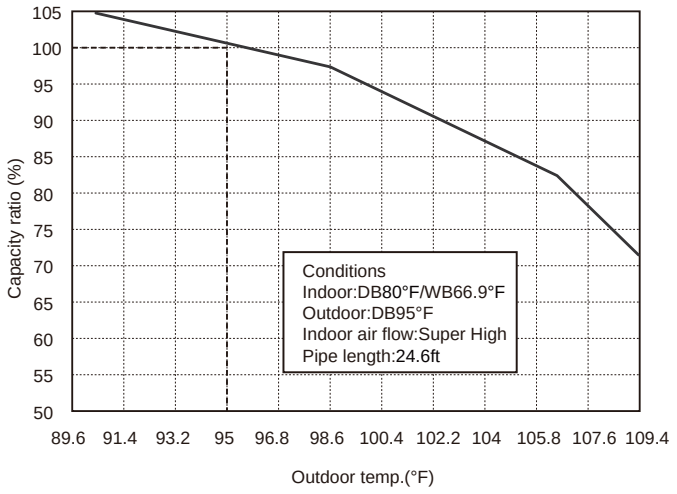


Heating

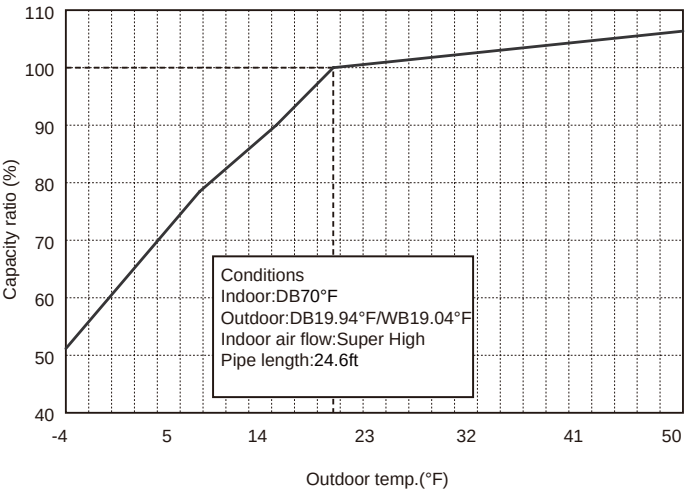


2.3 Capacity Variation Ratio According to Temperature

Cooling

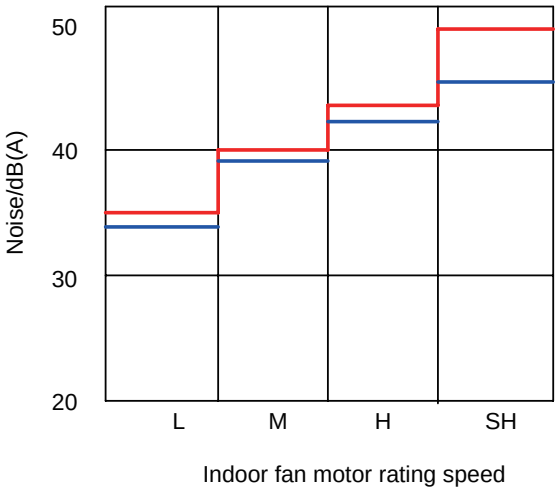


Heating



2.4 Noise Curve

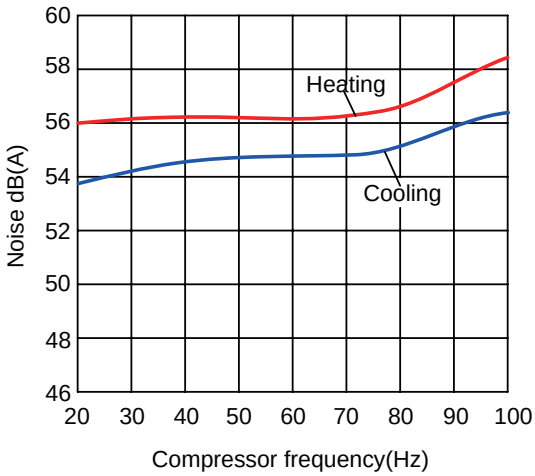
Indoor side noise



FTXS24SL216
FTKS24SL216

FTKS18SL216
FTXS18SL216

Outdoor side noise



RXS24SL216
RXS18SL216

RKS18SL216
RKS24SL216

2.5 Cooling and Heating Data Sheet in Rated Frequency

Cooling:

Rated cooling condition(°F) (DB/WB)		Model	Pressure of gas pipe connecting indoor and outdoor unit	Inlet and outlet pipe temperature of heat exchanger		Fan speed of indoor unit	Fan speed of outdoor unit	Compressor revolution (rps)
Indoor	Outdoor		P (PSIG)	T1 (°F)	T2 (°F)			
80/66.9	95/-	FTKS18SL216/ RKS18SL216	130~142	in:46.4~51.8 out:51.8~57.2	in:167~181.4 out:98.6~118.4	Super High	High	73
80/66.9	95/-	FTKS24SL216/ RKS24SL216	130~142	in:46.4~51.8 out:51.8~57.2	in:167~181.4 out:98.6~118.4	Super High	High	75

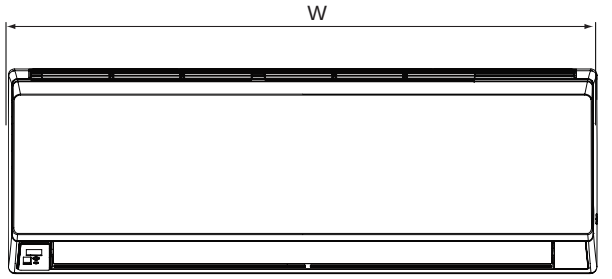
Heating:

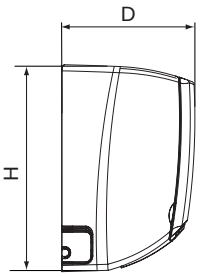
Rated heating condition(°F) (DB/WB)		Model	Pressure of gas pipe connecting indoor and outdoor unit	Inlet and outlet pipe temperature of heat exchanger		Fan speed of indoor unit	Fan speed of outdoor unit	Compressor revolution (rps)
Indoor	Outdoor		P (PSIG)	T1 (°F)	T2 (°F)			
70/60	19.94/19.04	FTXS18SL216/ RXS18SL216	507~550	in:167~181.4 out:98.6~113	in:33.8~37.4 out:35.6~42.8	Super High	High	75
70/60	19.94/19.04	FTXS24SL216/ RXS24SL216	507~550	in:167~181.4 out:98.6~113	in:33.8~37.4 out:35.6~42.8	Super High	High	80

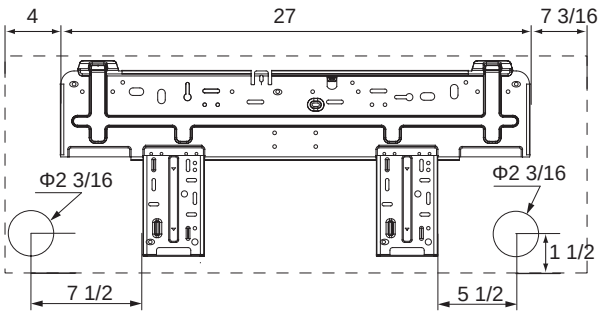
Instruction:
T1: Inlet and outlet pipe temperature of evaporator
T2: Inlet and outlet pipe temperature of condenser
P: Pressure at the side of big valve
Connection pipe length: 24.6ft.

3. Outline Dimension Diagram

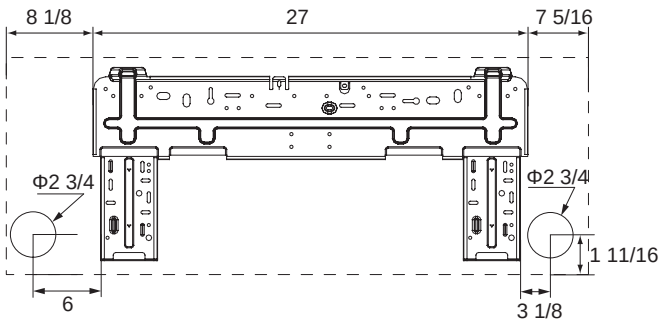
3.1 Indoor Unit







FTKS18SL216
FTXS18SL216



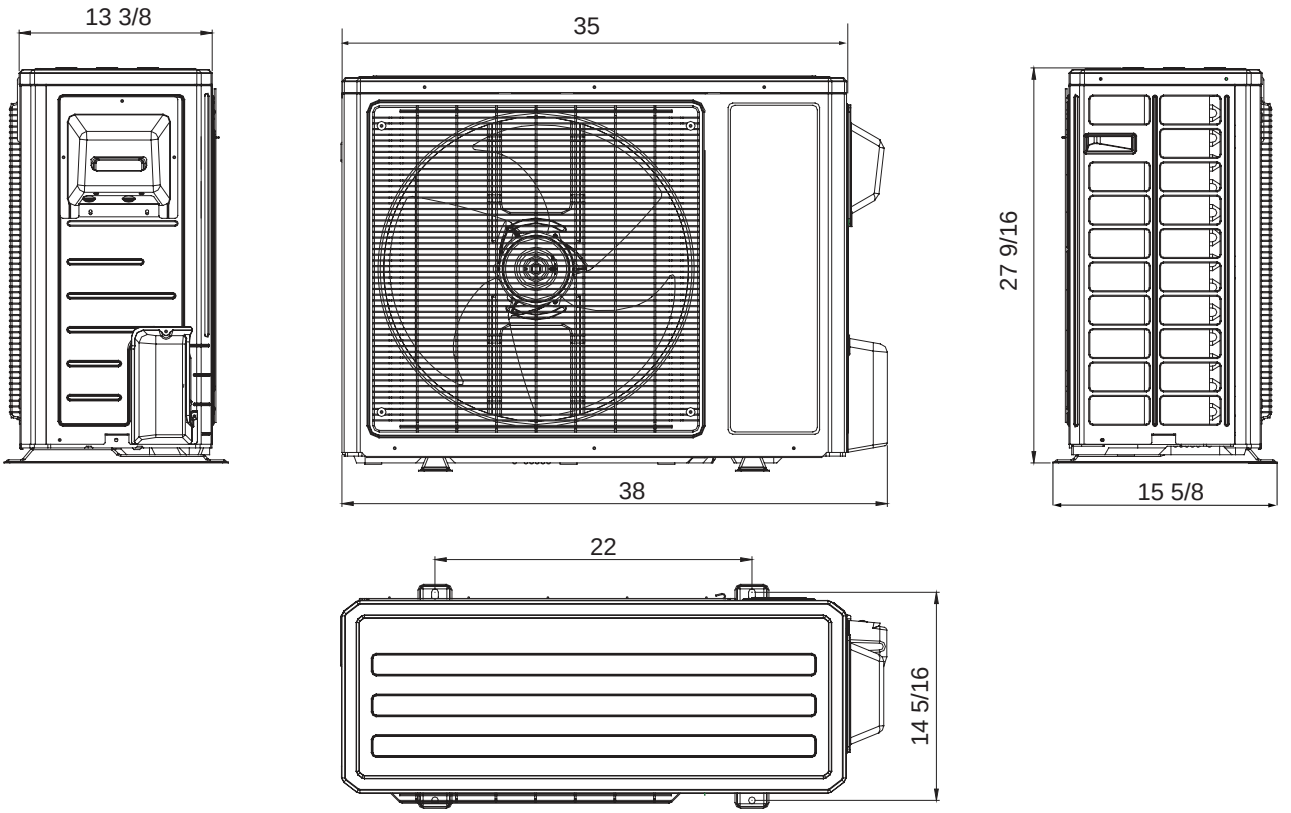
FTKS24SL216
FTXS24SL216

Unit:inch

Models	W	H	D
FTKS18SL216 FTXS18SL216	38 3/16	11 13/16	8 13/16
FTKS24SL216 FTXS24SL216	42 7/16	12 13/16	9 11/16

3.2 Outdoor Unit

RKS18SL216
RXS18SL216
RKS24SL216
RXS24SL216

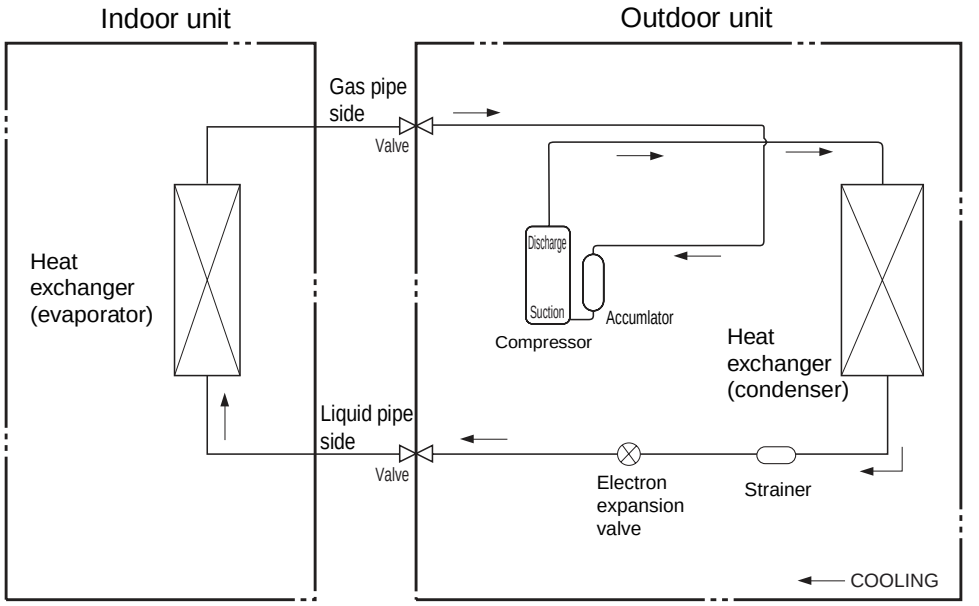


Unit: inch

4. Refrigerant System Diagram

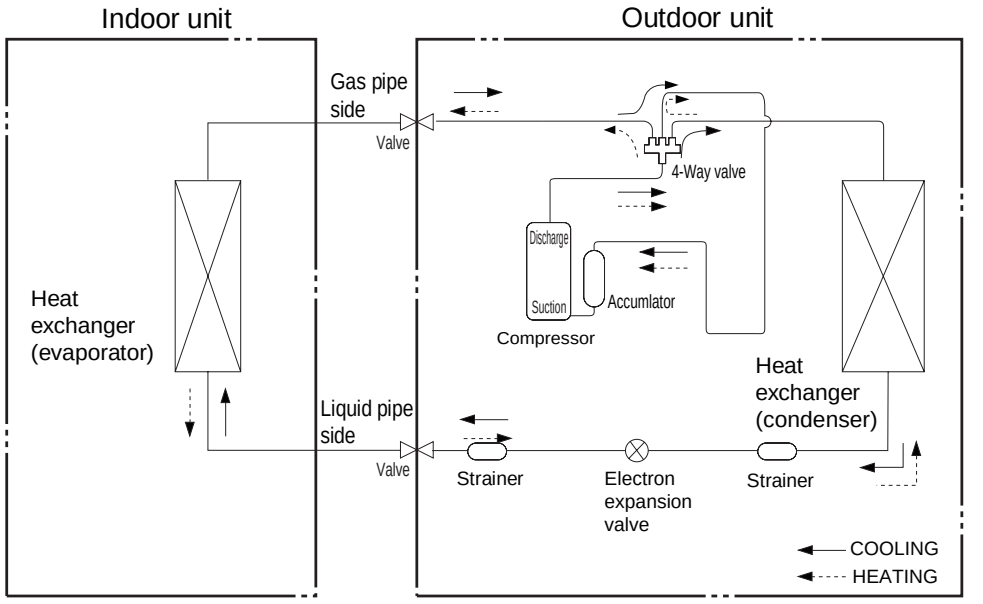
FTKS18SL216/RKS18SL216

FTKS24SL216/RKS24SL216



FTXS18SL216/RXS18SL216

FTXS24SL216/RXS24SL216



Connection pipe specification:
Liquid pipe:1/4"
Gas pipe:1/2" for FTKS18SL216/RKS18SL216 FTXS18SL216/RXS18SL216
Gas pipe:5/8" for FTKS24SL216/RKS24SL216 FTXS24SL216/RXS24SL216

5. Electrical Part

5.1 Wiring Diagram

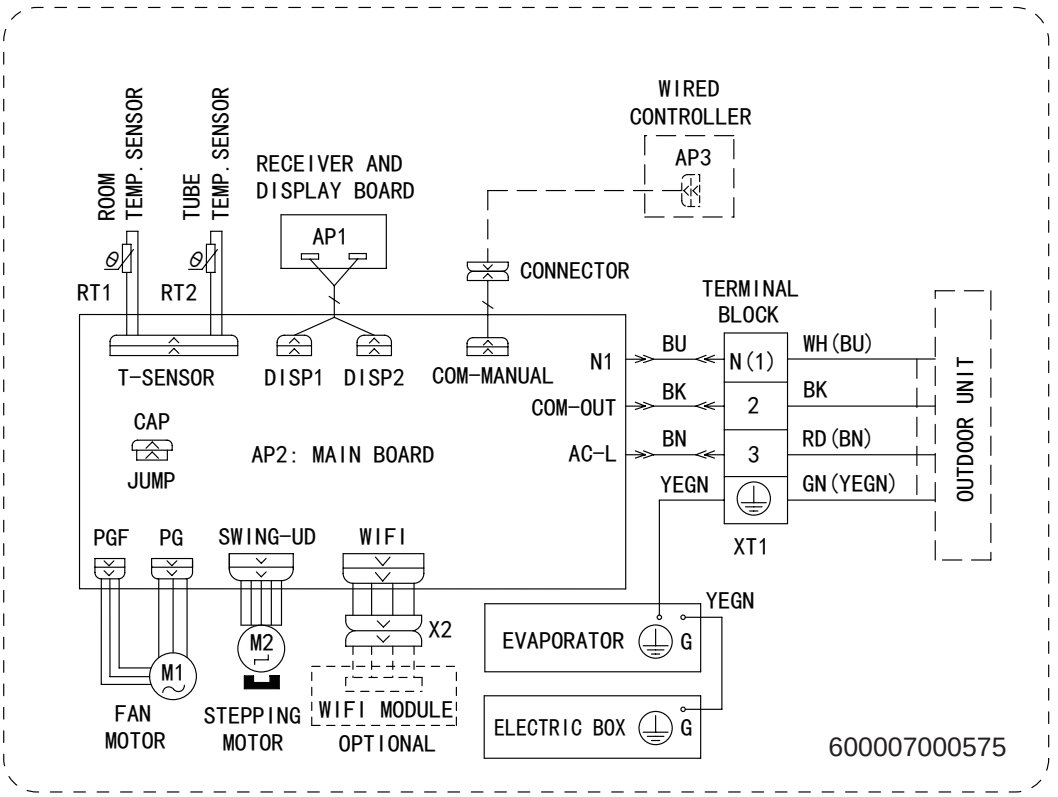
● Instruction

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.

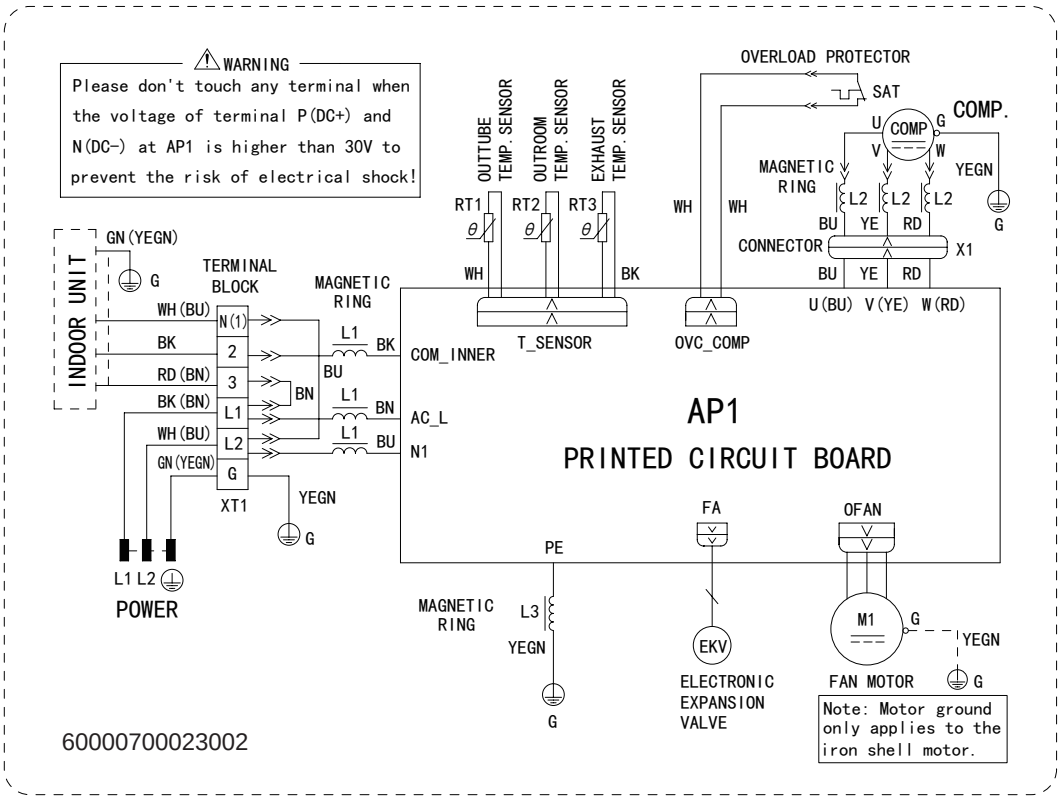
● Indoor Unit

FTKS18SL216
FTXS18SL216
FTKS24SL216
FTXS24SL216

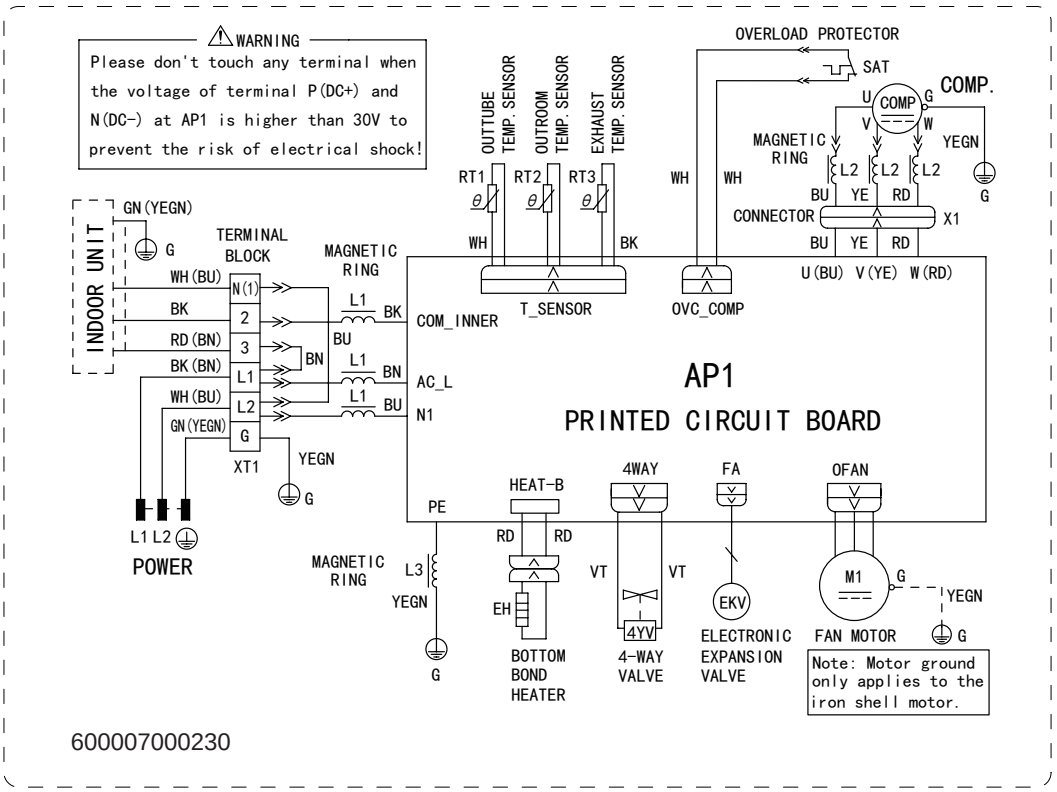


● Outdoor Unit

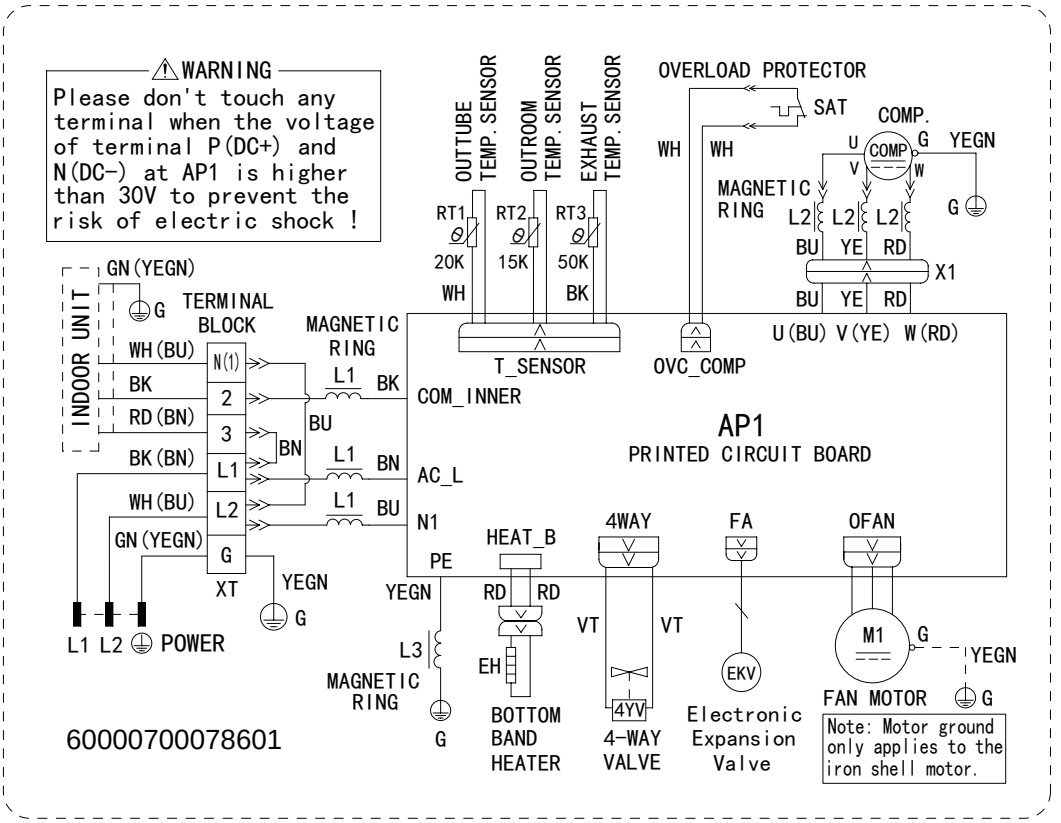
RKS18SL216 RKS24SL216



RXS18SL216



RXS24SL216

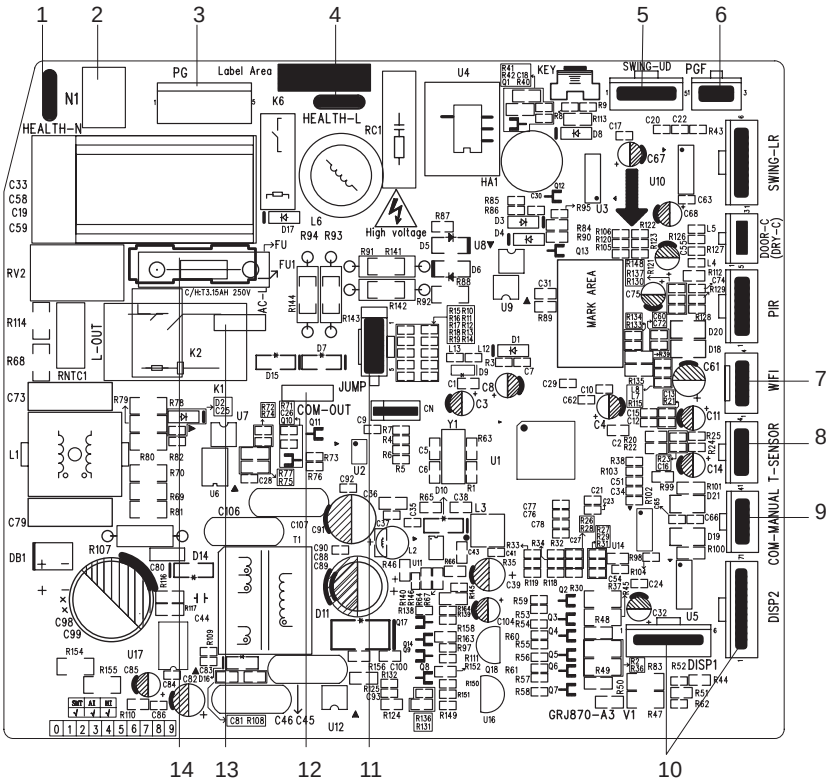


The above data is subject to change without notice. Please refer to the nameplate of the unit.

5.2 PCB Printed Diagram

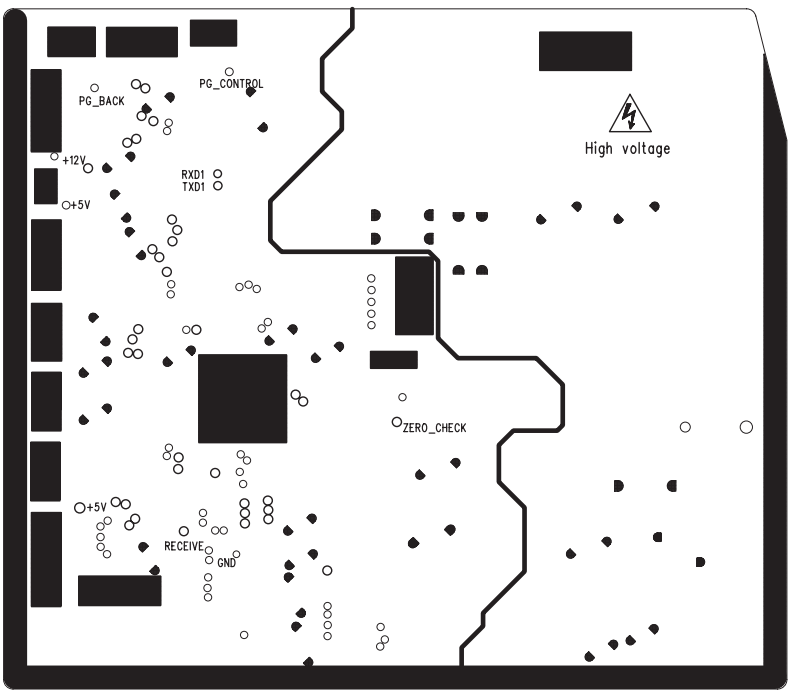
Indoor Unit

● Top view



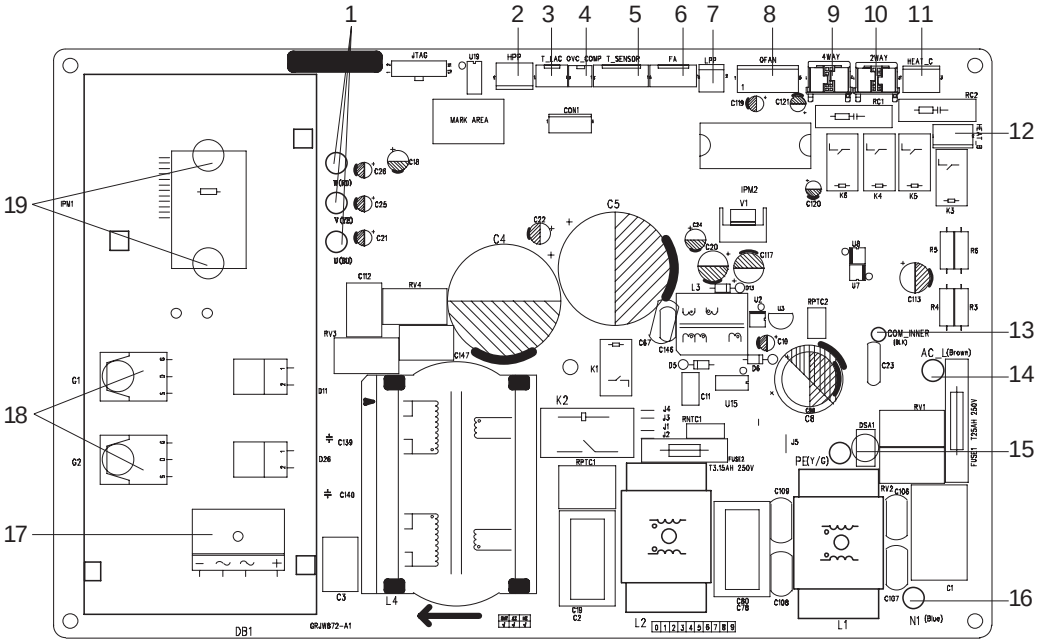
No.	Name
1	Neutral wire interface of cold plasma(only for the mode with this function)
2	Neutral wire interface of power supply
3	Interface of indoor fan
4	Interface of health function live wire(only for the mode with this function)
5	Interface of up&down swing motor
6	Interface of PG feedback
7	WIFI
8	Temperature sensor
9	Wired controller
10	Interface of diaplay
11	Jumper cap
12	Communication wire
13	Live wire
14	Fuse

● Bottom view



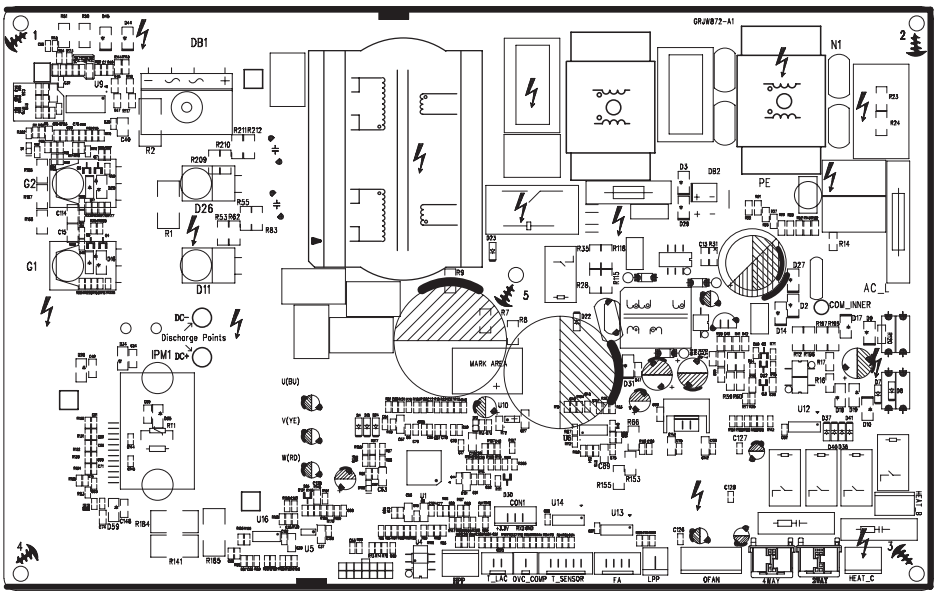
Outdoor Unit

● Top view



1	Interface of compressor
2	High pressure protection of system
3	Low-temperature cooling temperature sensor
4	Overload protection of compressor
5	Interface of temperature sensor
6	Electronic expansion valve
7	Low pressure protection of system
8	Interface of fan
9	Interface of 4-way valve
10	Interface of 2-way valve
11	Electric heating belt of chassis
12	lectric heating belt of chassis
13	Communication interface for indoor unit and outdoor unit
14	Live wire
15	Earthing wire
16	Neutral wire
17	Rectifier
18	IGBT
19	IPM1

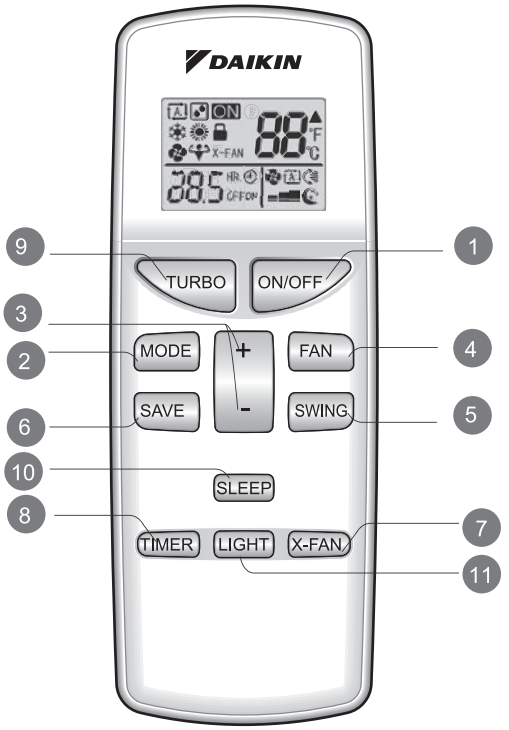
● Bottom view



6. Function and Control

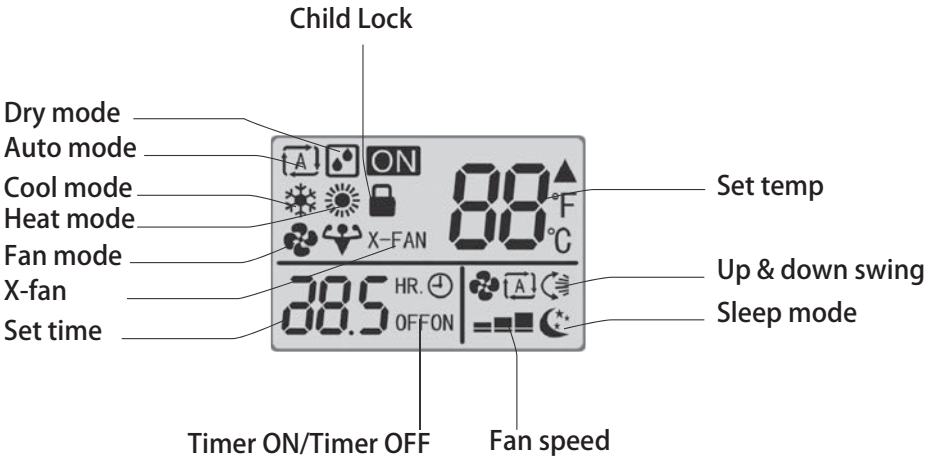
6.1 Remote Controller Introduction

Buttons on Remote Controller



1. ON/OFF button
2. MODE button
3. +/- button
4. FAN button
5. SWING button
6. SAVE button
7. X-FAN button
8. TIMER button
9. TURBO button
10. SLEEP button
11. LIGHT button

Introduction for Icons on Display Screen



Introduction for Buttons on Remote Controller

Note:

● After putting through power, air conditioner will give out a sound and operation indicator " ⏻ " is ON (red indicator). You can operate the air conditioner throughthe remote controller.

● At ON status, after each pressing button on remote controller, the signal icon " ▲ " on remote controller will flash once. Air conditioner will give out a sound, which indicates the signal has been sent to air conditioner.

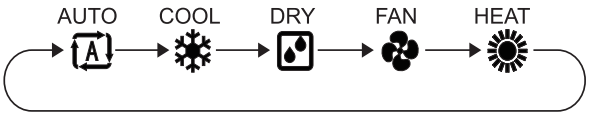
● At OFF status, display screen on remote controller displays set temperature.At on status, display screen on remote controller displays the corresponding startup function's icon.

1. ON/OFF button

Press this button can turn on or turn off the air conditioner. After turning on the unit, operation indicator " ⏻ " on indoor unit is ON (green indicator. Color may be different for different models)and indoor unit gives out a sound.

2.MODE button

Press this button can select your required operation mode.



● After selecting auto mode, air conditioner will operate automatically according to ambient temperature. Set temperature can't be adjusted and also can't be displayed. Press "FAN" button can adjust fan speed. Press "SWING" button can turn on or turn off auto swing.

● After selecting cool mode, air conditioner operates under cool mode. Cool indicator " ❄ " on indoor unit is ON. You can press "+" or "-" button to adjust set temperature. Press "FAN" button can adjust fan speed. Press "SWING" button can turn on or turn off auto swing.

● After selecting dry mode, air conditioner operates under dry mode at low speed. Under dry mode, fan speed can't be adjusted. Press "SWING" button can turn on or turn off auto swing.

● After selecting fan mode, air conditioner operates only under fan mode. Press "FAN" button can adjust fan speed. Press "SWING" button can turn on or turn off auto swing.

● After selecting heat mode, air conditioner operates under heat mode. Heat indicator " ☼ " on indoor unit is ON. You can press "+" or "-" button to adjust set temperature. Press "FAN" button to adjust fan speed. Press "SWING" button can turn on or turn off auto swing. (Cooling only unit can't receive the signal for heating mode.)

Note:

For preventing cold wind, after starting up heating mode, indoor fan will blow fan afterdelaying 1-5min. (Details time is decided by indoor ambient temperature) Temperature setting range on remote controller: 16℃-30℃. Fan speed setting range: auto, low speed, medium speed and high speed.

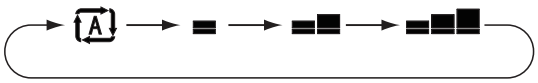
3. "+" or "-" button

● After each pressing of "+" or "-" button, it can increase or decrease set temperature 1℃. Hold "+" or "-" button, 2s later, set temperature on remote controller will change quickly. After reaching to your required time, loosen the button. Temperature indicator on indoor unit will also change accordingly. (Temperature can't be adjusted under auto mode)

● Under TIMER ON, TIMER OFF or Clock setting, you can press "+"or "-" button to adjust time. (Refer to TIMER button for details)

4. FAN button

Press this button you can select the fan speed in sequence: auto (AUTO), low speed (▬), medium speed (▬▬), high speed (▬▬▬).



Note:

● Under auto speed, air conditioner will adjust the fan speed (high, medium or low speed) according to ambient temperature.

● Low speed under dry mode.

5. SWING button

Press this button to start up or turn off auto swing function. When auto swing function is started up, " " will be shown on remote controller. Horizontal louver of air conditioner will swing up&down automatically at the maximum angle. Press this button again to exit auto swing function.

6. SAVE button

Under cooling mode, press "SAVE" button to start up or turn off SAVE function. When SAVE function is started up, "SE" will be shown on remote controller, and air conditioner will adjust the set temperature automatically according to ex-factory setting to reach to the best energy-saving effect. Press "SAVE" button again to exit SAVE function. (This function is applicable to partial of models.)

Note:

● Under energy-saving function, fan speed is defaulted at auto speed and it can't be adjusted.

● Under energy-saving function, set temperature can't be adjusted. Press "TURBO" button and the remote controller won't send signal.

● Sleep function and energy-saving function can't operate at the same time. If energy-saving function has been set under cooling mode, press sleep button will cancel energy-saving function. If sleep function has been set under cooling mode, start up the energy-saving function will cancel sleep function.

7. X-FAN button

After pressing this button under cooling or dry mode, remote controller displays the character of "X-FAN" and X-FAN function is started up. Press this button again to cancel X-FAN function. The character of "X-FAN" will disappear.

Note:

● After starting up X-FAN function, when turning off the unit, indoor fan will continue to operate for a while at low speed to dry the residual water inside the indoor unit.

● When the unit operates under X-FAN mode, press "X-FAN" button can turn off X-FAN function. Indoor fan stops operation immediately.

8. TIMER button

● At ON status, press this button once can set TIMER OFF. The character of HR. and OFF will flash. Press "+" or "-" button within 5s can adjust the time of TIMER ON. After each pressing of "+" or "-" button, time will increase or decrease half an hour. When holding "+" or "-" button, 2s later, the time will change quickly until to reach to your required time. After that, press "TIMER" button to confirm it. The character of HOUR and OFF won't flash again.Cancel TIMER OFF: Press "TIMER" button again under TIMER OFF status.

● At OFF status, press this button once can set TIMER ON. Please refer to TIMER off for detailed operation. Cancel TIMER ON: Press "TIMER" button again under TIMER ON status.

Note:

● Time setting range: 0.5-24 hours.

● Time interval between two operations can't exceed 5s. Otherwise, remote controller will exit the setting status automatically.

● The TIMER OFF function is resetted when the CHILD LOCK function is unlocked.

9. TURBO button

When pressing this button u nder cooling or heating mo de, the air conditioner will enter into quick cooling or quick heating mode. The "TURBO" icon is displayed on the remote controller. Press this button again to exit turbo fu nction and the "TURBO" icon will disappear on the remote controller.

10.SLEEP button

Press this button under cooling, heating or drying mode can start up sleep function. " " icon will be displayed on remote controller. Press this button again to cancel sleep function. " "icon on remote controller will be displayed.

11. LIGHT button

Press this button to turn o ff the light on the display of the indoor unit. Press this button again to turn on the light on the display of the indoor unit.

Function Introduction for Combination Buttons

1. Child lock function

Press "+" and "-" buttons simultaneously can turn on or turn off child lock function. When child lock function is started up, " " icon will be displayed on remote controller. If operate remote controller, " " icon will flash three times, while remote controller won't send signal.

2. Switchover function for temperature display

After turning off the unit by remote controller, press "-" button and "MODE" button simultaneously to switch between °Cand °F .

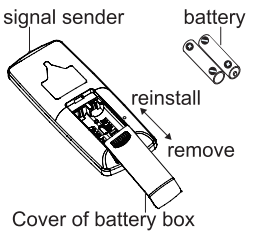
3. Switchover function for temperature display

After turning off the unit by remote controller, press "-" button and "MODE" button simultaneously to switch between °Cand °F .

Operation Guide

1. After putting through the power, press "ON/OFF" button on remote controller toturn 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 highspeed.
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 " ", as shown in the fig, and then push out the cover of battery box along the arrow direction.
2. Replace two 7# (AAA 1.5V) dry batteries, and make sure the position of "+" polar and "-" polar are correct.
3. Reinstall the cover of battery box.

Note:

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

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

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

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

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

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

6.2 Brief Description of Modes and Functions

1.Basic function of system

(1)Cooling mode

(1) Under this mode, fan and swing operates at setting status. Temperature setting range is 60.8~86.0^{O}F.

(2) During malfunction of outdoor unit or the unit is stopped because of protection, indoor unit keeps original operation status.

(2)Drying mode

(1) Under this mode, fan operates at low speed and swing operates at setting status. Temperature setting range is 60.8~86.0^{O}F.

(2) During malfunction of outdoor unit or the unit is stopped because of protection, indoor unit keeps original operation status.

(3) Protection status is same as that under cooling mode.

(4) Sleep function is not available for drying mode.

(3)Heating mode

(1) Under this mode, Temperature setting range is 60.8~86.0^{O}F.

(2) Working condition and process for heating mode:

When turn on the unit under heating mode, indoor unit enters into cold air prevention status. When the unit is stopped or at OFF status, and indoor unit has been started up just now, the unit enters into residual heat-blowing status.

(4)Working method for AUTO mode:

1.Working condition and process for AUTO mode:

a.Under AUTO mode, standard heating Tpreset=68.0^{O}F and standard cooling Tpreset=77.0^{O}F. The unit will switch mode automatically according to ambient temperature.

2.Protection function

a. During cooling operation, protection function is same as that under cooling mode.

b. During heating operation, protection function is same as that under heating mode.

3. Display: Set temperature is the set value under each condition. Ambient temperature is (Tamb.-Tcompensation) for heat pump unit and Tamb. for cooling only unit.

4. If theres I feel function, Tcompensation is 0. Others are same as above.

(5)Fan mode

Under this mode, indoor fan operates at set fan speed. Compressor, outdoor fan, 4-way valve and electric heating tube stop operation. Indoor fan can select to operate at high, medium, low or auto fan speed. Temperature setting range is 60.8~86.0^{O}F.

2. Other control

(1) Buzzer

Upon energization or availably operating the unit or remote controller, the buzzer will give out a beep.

(2) Auto button

If press this auto button when turning off the unit, the complete unit will operate at auto mode. Indoor fan operates at auto fan speed and swing function is turned on. Press this auto button at ON status to turn off the unit.

(3) Auto fan

Heating mode: During auto heating mode or normal heating ode, auto fan speed will adjust the fan speed automatically according to ambient temperature and set temperature.

(4) Sleep

After setting sleep function for a period of time, system will adjust set temperature automatically.

(5) Timer function:

General timer and clock timer functions are compatible by equipping remote controller with different functions.

(6) Memory function

memorize compensation temperature, off-peak energization value.

Memory content: mode, up&down swing, light, set temperature, set fan speed, general timer (clock timer cant be memorized).

After power recovery, the unit will be turned on automatically according to memory content.

(7) Health function

During operation of indoor fan, set health function by remote controller. Turn off the unit will also turn off health function.

Turn on the unit by pressing auto button, and the health is defaulted ON.

(8)I feel control mode

After controller received I feel control signal and ambient temperature sent by remote controller, controller will work according to the ambient temperature sent by remote controller.

(9)Compulsory defrosting function

(1) Start up compulsory defrosting function

Under ON status, set heating mode with remote controller and adjust the temperature to 60.8^{O}F. Press "+, -, +, -, +,-" button successively within 5s and the complete unit will enter into compulsory defrosting status. Meanwhile, heating indicator on indoor unit will ON 10s and OFF 0.5s successively. (Note: If complete unit has malfunction or stops operation due to protection, compulsory defrosting function can be started up after malfunction or protection is resumed.

(2) Exit compulsory defrosting mode

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

(10)Refrigerant recovery function:

(1) Enter refrigerant recycling function

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

(2) Exit refrigerant recycling function

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

(11)Ambient temperature display control mode

1. When user set the remote controller to display set temperature (corresponding remote control code: 01), current set temperature will be displayed.

2. Only when remote control signal is switched to indoor ambient temperature display status (corresponding remote control code: 10) from other display status (corresponding remote control code: 00, 01,11),controller will display indoor ambient temperature for 3s and then turn back to display set temperature.

Under this mode, indoor fan operates at set fan speed. Compressor, outdoor fan, 4-way valve and electric heating tube stop operation. Indoor fan can select to operate at high, medium, low or auto fan speed. Temperature setting range is 60.8~86.0^{O}F.

(12)Off-peak energization function:

Adjust compressors minimum stop time. The original minimum stop time is 180s and then we change to:

The time interval between two start-ups of compressor cant be less than 180+T s(0≤T≤15). T is the variable of controller. Thats to say the minimum stop time of compressor is 180s~195s. Read-in T into memory chip when refurbish the memory chip each time. After power recovery, compressor can only be started up after 180+T s at least.

(13) SE control mode

The unit operates at SE status.

(14) X-fan mode

When X-fan function is turned on, after turn off the unit, indoor fan will still operate at low speed for 2min and then the complete unit will be turned off. When x-fan function is turned off, after turn off the unit, the complete unit will be turned off directly.

(15) 8º heating function

Under heating mode, you can set 8º heating function by remote controller. The system will operate at 8ºset temperature.

(16) Turbo fan control function

Set turbo function under cooling or heating mode to enter into turbo fan speed. Press fan speed button to cancel turbo wind.

No turbo function under auto, dry or fan mode.

Outdoor Units

1. Input Parameter Compensation and Calibration

(1) Check the ambient temperature compensation function Indoor ambient temperature compensation function.

a. In cooling mode, the indoor ambient temperature participating in computing control = ($T_{\text{indoor ambient temperature}} - \Delta T_{\text{cooling indoor ambient temperature compensation}}$)

b. In heating mode, the indoor ambient temperature participating in computing control= ($T_{\text{indoor ambient temperature}} - \Delta T_{\text{heating indoor ambient temperature compensation}}$)

(2) Check effective judgment controls of parameters

Effective judgment function of the outdoor exhaust temperature thermo-bulb When conditions a and b are satisfied, the outdoor exhaust temperature thermo-bulb is judged not to be connected into place, the mainboard of outer units will display failure of the outdoor exhaust temperature thermo-bulb (not connected into place), stop the machine for repairing, and resume the machine by remote controls of ON/OFF.

a. Judgment of exhaust detection temperature change:

After the compressor starts up and runs for 10 minutes, if the compressor frequency f ≥ 40Hz, and the rising value Texhaust ($T_{\text{exhaust (after start-up for 10 minutes)}} - T_{\text{exhaust (before start-up)}}$) <35.6ºF , the outdoor exhaust temperature thermo-bulb can be judged not to be connected into place (judging once when the power is on the first time).

b. Comparative judgment of exhaust detection temperature and condenser detection temperature ($T_{\text{pipe temperature}} = T_{\text{outdoor pipe temperature in cooling mode}}$, $T_{\text{pipe temperature}} = T_{\text{indoor pipe temperature in heating mode}}$): After the compressor starts up and runs for 10 minutes, if the compressor frequency f ≥ 40Hz, and $T_{\text{pipe temperature}} \geq (T_{\text{exhaust}+37.4})$, the outdoor exhaust temperature thermobulb can be judged not to be connected into place (judging once when power is on the first time).

2. Basic Functions

(1) Cooling Mode

1. Conditions and processes of cooling operation:

(1) If the compressor is shut down, and [Tsetup – ($T_{\text{indoor ambient temperature}} - \Delta T_{\text{cooling indoor ambient temperature compensation}}$)] ≤ 32.9ºF , start up the machine for cooling, the cooling operation will start;

(2) During operations of cooling, if 32ºF ≤ [Tsetup – ($T_{\text{indoor ambient temperature}} - \Delta T_{\text{cooling indoor ambient temperature compensation}}$)] < 35.6ºF , the cooling operation will be still running;

(3) During operations of cooling, if 35.6ºF ≤ [Tsetup – ($T_{\text{indoor ambient temperature}} - \Delta T_{\text{cooling indoor ambient temperature compensation}}$)], the cooling operation will stop after reaching the temperature point.

2. Temperature setting range

(1) If $T_{\text{outdoor ambient temperature}} \geq [T_{\text{low-temperature cooling temperature}}]$, the temperature can be set at: 60.8~86ºF (Cooling at room temperature);

(2) If $T_{\text{outdoor ambient temperature}} < [T_{\text{low-temperature cooling temperature}}]$, the temperature can be set at: 77~86ºF (Cooling at low temperature), that is, the minimum setting temperature for outer units judgment is 77ºF .

(2) Dehumidifying Mode

1. Conditions and processes of dehumidifying operations: Same as the cooling mode;
2. The temperature setting range is: 60.8~86ºF;

(3) Air-supplying Mode

1. The compressor, outdoor fans and four-way valves are switched off;
2. The temperature setting range is: 60.8~86ºF.

(4) Heating Mode

1. Conditions and processes of heating operations: (Tindoor ambient temperature is the actual detection temperature of indoor environment thermo-bulb, Theating indoor ambient temperature compensation is the indoor ambient temperature compensation during heating operations)

(1) If the compressor is shut down, and [($T_{\text{indoor ambient temperature}} - \Delta T_{\text{heating indoor ambient temperature compensation}}$) –$T_{\text{setup}}$] ≤ 32.9ºF , start the machine to enter into heating operations for heating;

(2) During operations of heating, if 32ºF ≤ [($T_{\text{indoor ambient temperature}} - \Delta T_{\text{heating indoor ambient temperature compensation}}$) –$T_{\text{setup}}$] < 35.6ºF , the heating operation will be still running;

(3) During operations of heating, if 35.6ºF ≤ [($T_{\text{indoor ambient temperature}} - \Delta T_{\text{heating indoor ambient temperature compensation}}$) –$T_{\text{setup}}$], the heating operation will stop after reaching the temperature point.

2. The temperature setting range in this mode is: 60.8~86ºF .

3. Special Functions

Defrosting Control

① Conditions for starting defrosting

After the time for defrosting is judged to be satisfied, if the temperature for defrosting is satisfied after detections for continuous 3minutes, the defrosting operation will start.

② Conditions of finishing defrosting

The defrosting operation can exit when any of the conditions below is satisfied:

③ $T_{outdoor\ pipe\ temperature} \geq (T_{outdoor\ ambient\ temperature} - [T_{temperature\ 1\ of\ finishing\ defrosting}]$;

④ The continuous running time of defrosting reaches [tmax. defrosting time].

4. Control Logic

(1) Compressor Control

Start the compressor after starting cooling, heating, dehumidifying operations, and the outer fans start for 5s; When the machine is shutdown, in safety stops and when switching to air-supplying mode, the compressor will stop immediately. In all modes: once the compressor starts up, it will not be allowed to stop until having run for the [tmin. compressor running time] (Note: including cases of shutdown when the temperature point is reached; except the cases requiring stopping the compressor such as fault protection, remote shutdown, mode switching etc.); In all modes: once the compressor stops, it will be allowed be restart after 3-minute delay (Note: The indoor units have a function of power memory, the machine can be restarted after remote shutdown and powering up again without delay).

1. Cooling mode

Start the machine to enter into cooling operation for cooling, the compressor is switched on.

2. Dehumidifying mode

Same as the cooling mode.

3. Air-supplying mode

The compressor is switched off.

4. Heating mode

(1) Start the machine to enter into heating operation for heating, the compressor is switched on.

(2) Defrosting:

a. Defrosting starts: the compressor is shut down, and restarts it after 55-second delay.

b. Defrosting ends: the compressor stops, then starts it after 55-second delay.

(2) Outer Fans Control

Notes:

Only the outer fans run for at least 80s in each air flow speed can the air flow be switched;

After the outer fans run compulsively in high speed for 80s when the machine starts up, control the air flow according to the logic.

After remote shutdown, safety stops, and when the machine stops after reaching the temperature point, as well as after the compressor stops, extend 1 minute, the outer fans will stop (During the period in the 1 minute, the air flow of outer fans can be changed according to the outdoor ambient temperature changes); When running with force, the outdoor fans shall run in the highest air flow.

(3) 4-way valve control

1. The 4-way valve control under the modes of Cooling, dehumidification and supplying air: closing;

2. The status of 4-way valve control under the heating mode: getting power;

(1) 4-way valve power control under heating mode

a. Starts the machine under heating mode, the 4-way valve will get power immediately.

(2) 4-way valve power turn-off control under heating mode

a. When you should turn off the power or switch to other mode under heating mode, the power of 4-way valve will be cut after 2 minutes of the compressor stopped.

b. When all kinds of protection stops, the power of 4-way valve will be cut after delaying 4 minutes.

(3) Defrosting control under heating mode:

a. Defrosting begins: The power of 4-way valve will be cut after 50s of entering into the defrosting compressor.

b. Defrosting stops: The 4-way valve will get power after 50s of exiting the defrosting compressor.

(4) Evaporator frozen-preventing protection function

At the mode of Cooling, dehumidifying:

Evaporator frozen-preventing protection function is allowed to begin after 6 min of starting the compressor.

1. Starting estimation:

After the compressor stopped working for 180s, if $T_{inner\ pipe} > [T_{frozen\text{-}preventing\ frequency\text{-}limited\ temperature}$ (the temperature of hysteresis is 35.6ºF)], the machine is only allowed to start for operating, otherwise it should not be started, and should be stopped to treat according to the frozen-preventing protection: Clear the trouble under the mode of power turn-off / heating, and the protection times are not counted.

2. Frequency limited

$[T_{frozen\text{-}preventing\ normal\ speed\ frequency\text{-}reducing\ temperature}] \leq [T_{inner\ pipe\ T\ frozen\text{-}preventing\ frequency\text{-}limited\ temperature}]$, you should limit the frequency raising of compressor.

3. Reducing frequency at normal speed:

If $[T_{frozen\text{-}preventing\ high\ speed\ frequency\text{-}reducing\ temperature}] \leq [T_{inner\ pipe\ T\ frozen\text{-}preventing\ normal\ speed\ frequency\text{-}reducing\ temperature}]$, you should adjust the compressor frequency by reducing 8Hz/90s till the lower limit;

4. Reducing frequency at high speed:

If $[T_{frozen\text{-}preventing\ power\ turn\text{-}off\ temperature}] \leq T_{inner\ pipe}$ $[T_{frozen\text{-}preventing\ high\ speed\ frequency\text{-}reducing\ temperature}]$ you should adjust the compressor frequency by reducing 30Hz/90s till the lower limit;

5. Power turn-off:

If the $T_{inner\ pipe} < [T_{frozen\text{-}preventing\ power\ turn\text{-}off\ temperature}]$, then frozen-preventing protect to stop the machine; If $T[_{frozen\text{-}preventing\ frequency\text{-}limited\ temperature}] < T_{inner\ pipe}$, and the compressor has stopped working for 3 minutes, the whole machine should be allowed to operate.

6. If the frozen-preventing protection power turn-off continuously occurs for six times, it should not be resumed automatically, and you should press the ON/OFF button to resume if the fault keeps on. During the process of running, if the running time of compressor exceeds the t evaporator frozen-preventing protection times zero clearing time , the times of frozen-preventing power turn-off should be cleared to recount. The mode of stopping the machine or transferring to supply air will clear the trouble times immediately (if the trouble can not be resumed, mode transferring will not clear it).

(5) Overload protection function

Overload protection function at the mode of Cooling and dehumidifying

1. Starting estimation:

After the compressor stopped working for 180s, if $T_{outer\ pipe} < [T_{Cooling\ overload\ frequency\text{-}limited\ temperature}]$ (the temperature of hysteresis is 35.6ºF), the machine is allowed to start, otherwise it should not be started, and should be stopped to treat according to the overload protection: Clear the trouble at the mode of power turn-off / heating, and the protection times are not counted.

2. Frequency limited

If $[T_{Cooling\ overload\ frequency\text{-}limited\ temperature}] \leq [T_{outer\ pipe\ T\ Cooling\ overload\ frequency\ reducing\ temperature\ at\ normal\ speed}]$, you should limit the frequency raising of compressor.

3. Reducing frequency at normal speed and power turn-off:

If $[T_{Cooling\ overload\ frequency\ reducing\ temperature\ at\ high\ speed}] \leq T_{outer\ pipe} < [T_{Cooling\ overload\ power\ turn\text{-}off\ temperature}]$, you should adjust the compressor frequency by reducing 8Hz/90s till the lower limit; After it was running 90s at the lower limit, if $[T_{Cooling\ overload\ frequency\ reducing\ temperature\ at\ normal\ speed}] \leq T_{outer\ pipe}$, then Cooling overload protects machine stopping;

4. Reducing frequency at high speed and stop machine:

If $[T_{Cooling\ overload\ frequency\ reducing\ temperature\ at\ high\ speed}] \leq T_{outer\ pipe}$ $[T_{Cooling\ overload\ power\ turn\text{-}off\ temperature}]$, you should adjust the compressor frequency by reducing 30Hz/90s till the lower limit; After it was running 90s at the lower limit, if $[T_{Cooling\ overload\ frequency\ reducing\ temperature\ at\ normal\ speed}] \leq [T_{outer\ pipe}]$, then Cooling overload protects machine stopping;

5. Power turn-off:

If the $[T_{Cooling\ overload\ power\ turn\text{-}off\ temperature}] \leq T_{outer\ pipe}$, then Cooling overload protects machine stopping; If $[T_{outer\ pipe}] < [T_{Cooling\ overload\ frequency\text{-}limited\ temperature}]$and the compressor has been stopped working for 3 minutes, the machine should be allowed to operate.

6. If the Cooling overload protection power turn-off continuously occurs for six times, it should not be resumed automatically, and you should press the ON/OFF button to resume if the fault keeps on. During the process of running, if the running time of compressor exceeds the t overload protection times zero clearing time , the times of overload protection power turn-off should be cleared to recount. The mode of stopping the machine or transferring to supply air will clear the trouble times immediately (if the trouble can not be resumed, transferring mode will not clear it).

Overload protection function at the mode of heating

Starting estimation :

After the compressor stopped working for 180s, if T inner pipe T heating overload frequency-limited temperature (the temperature of hysteresis is 35.6ºF), the machine is allowed to start, otherwise it should not be started, and should be stopped to treat according to the overload protection:

Clear the trouble at the mode of power turn-off / heating, and the protection times are not counted.

1. Frequency limited

If [$T_{heating\ overload\ frequency\text{-}limited\ temperature}$]≤$T_{inner\ pipe}$ <[$T_{heating\ overload\ frequency\ reducing\ temperature\ at\ normal\ speed}$] , you should limit the frequency raising of compressor.

2. Reducing frequency at normal speed and stopping machine:

If T[heating overload frequency reducing temperature at normal speed]≤$T_{inner\ pipe}$<[$T_{heating\ overload\ frequency\ reducing\ temperature\ at\ high\ speed}$], you should adjust the compressor frequency by reducing 8Hz/90s till the lower limit; After it was running 90s at the lower limit, if T heating overload frequency reducing temperature at normal speed ≤T inner pipe, then overload protects machine stopping;

3. Reducing frequency at high speed and power turn-off:

If [$T_{heating\ overload\ frequency\ reducing\ temperature\ at\ high\ speed}$]≤$T_{inner\ pipe}$<[$T_{heating\ overload\ power\ turn\text{-}off\ temperature}$], you should adjust the compressor frequency by reducing 30Hz/90s till the lower limit; After it was running 90s at the lower limit, if T heating overload frequency reducing temperature at normal speed ≤T outer pipe, then Cooling overload protects machine stopping;

4. Power turn-off:

If the [$T_{heating\ overload\ power\ turn\text{-}off\ temperature}$] ≤$T_{inner\ pipe}$, then overload protects machine stopping; If T inner pipe T heating overload frequency-limited temperature and the compressor has been stopped working for 3 minutes, the machine should be allowed to operate.

5. If the overload protection power turn-off continuously occurs for six times, it should not be resumed automatically, and you should press the ON/OFF button to resume if the fault keeps on. During the process of running, if the running time of compressor exceeds the t overload protection times zero clearing time , the times of overload protection power turn-off should be cleared to recount. The mode of stopping the machine or transferring to supply air will clear the trouble times immediately (if the trouble can not be resumed, transferring mode will not clear it). Protective function for discharge temperature of compressor

1. Starting estimation:

After the compressor stopped working for 180s, if $T_{Discharge}$ <$T_{Discharge\ limited\ temperature}$ (the temperature of hysteresis is 35.6ºF), the machine is allowed to start, otherwise it should not be started, and should be stopped to treat according to the discharge temperature:

The machine should be stopped or transferred to supply air, the trouble should be cleared immediately, and the protection times are not counted.

2. Frequency limited

If [$T_{Limited\ frequency\ temperature\ during\ discharging}$] ≤$T_{Discharge}$<[$T_{frequency\ reducing\ temperature\ at\ normal\ speed\ during\ discharging}$] , you should limit the frequency raising of compressor.

3. Reducing frequency at normal speed and stopping machine:

If [$T_{frequency\ reducing\ temperature\ at\ normal\ speed\ during\ discharging}$] ≤$T_{Discharge}$<[$T_{frequency\ reducing\ temperature\ at\ high\ speed\ during\ discharging}$], you should adjust the compressor frequency by reducing 8Hz/90s till the lower limit; After it was running 90s at the lower limit, if [$T_{frequency\ reducing\ temperature\ at\ normal\ speed\ during\ discharging}$] ≤$T_{Discharge}$, you should discharge to protect machine stopping;

4. Reducing frequency at high speed and power turn-off:

If [$T_{frequency\ reducing\ temperature\ at\ high\ speed\ during\ discharging}$] ≤$T_{Discharge}$ <[$T_{Stop\ temperature\ during\ discharging}$], you should adjust

the compressor frequency by reducing 30Hz/90s till the lower limit; After it was running 90s at the lower limit, if [$T_{frequency\ reducing\ temperature\ at\ normal\ speed\ during\ discharging}$] ≤$T_{Discharge}$, you should discharge to protect machine stopping;

5. Power turn-off:

If the [$T_{Power\ turn\text{-}off\ temperature\ during\ discharging}$] ≤$T_{Discharge}$, you should discharge to protect machine stopping; If [$T_{Discharge}$]<[$T_{Limited\ frequency\ temperature\ during\ discharging}$] and the compressor has been stopped for 3 minutes, the machine should be allowed to operate.

6. If the discharging temperature protection of compressor continuously occurs for six times, it should not be resumed automatically, and you should press the ON/OFF button to resume. During the process of running, if the running time of compressor exceeds the t Protection times clearing of discharge , the discharge protection is cleared to recount. Stopped or transferred to supply air mode will clear the trouble times immediately (if the trouble can not be resumed, mode transferring also will not clear it).

7. Frequency limited

If [$I_{Limited\ frequency\ when\ overcurrent}$] ≤$I_{AC\ Electric\ current}$ <[$I_{frequency\ reducing\ when\ overcurrent}$], you should limit the frequency raising of compressor.

8. Reducing frequency:

If [$I_{Frequency\ reducing\ when\ overcurrent}$] ≤[$I_{AC\ Electric\ current\ I\ Power\ turn\text{-}off\ when\ overcurrent}$] , you should reduce the compressor frequency till the lower limit or exit the frequency reducing condition;

9. Power turn-off:

If [$I_{Power\ turn\text{-}off\ machine\ when\ overcurrent}$] ≤[$I_{AC\ Electric\ current}$] , you should carry out the overcurrent stopping protection; If I $_{AC\ Electric\ current}$<[$T_{\ Limited\ frequency\ when\ overcurrent}$] and the compressor has been stopped for 3 minutes, the machine should be allowed to operate.

10. If the overcurrent protection continuously occurs for six times, it should not be resumed automatically, and you should press the ON/OFF button to resume. During the process of running, if the running time of compressor exceeds the [$t_{\ Protection\ times\ clearing\ of\ over\ current}$] , the discharge protection is cleared to recount.

(6)Voltage sag protection

After start the compressor, if the time of DC link Voltage sag [$U_{\text{Sagging protection voltage}}$] is measured to be less than t Voltage sag protection time , the machine should be stop at once, hand on the voltage sag trouble, reboot automatically after 30 minutes.

(7)Communication fault

When you have not received any correct signal from the inner machine in three minutes, the machine will stop for communication fault. When you have not received any correct signal from driver IC (aim to the controller for the separating of main control IC and driver IC), and the machine will stop for communication fault. If the communication is resumed, the machine will be allowed to operate.

(8)Module protection

Testing the module protective signal immediately after started, once the module protective signal is measured, stop the machine with module protection immediately. If the module protection is resumed, the machine will be allowed to operate. If the module protection continuously occurs for three times, it should not be resumed automatically, and you should press the ON/OFF button to resume. If the running time of compressor exceeds the [$t_{\text{Protection times clearing of module}}$] , the module protection is cleared to recount.

(9)Module overheating protection

1. Starting estimation:

After the compressor stopped working for 180s, if T_{Module}<[$T_{\text{Module frequency limited temperature}}$](the temperature of hysteresis is 35.6ºF), the machine is allowed to start, otherwise it should not be started, and should be stopped to treat according to the module overheating protection: The machine should be stopped or transferred to supply air, the trouble should be cleared immediately, and the protection times are not counted.

2. Frequency limited

If [$T_{\text{Limited frequency temperature of module}}$] ≤$T_{\text{Module}}$ <[$T_{\text{frequency reducing temperature at normal speed of module}}$] , you should limit the frequency raising of compressor.

3. Reducing frequency at normal speed and power turn-off:

If [$T_{\text{frequency reducing temperature at normal speed of module}}$] ≤$T_{\text{Module}}$<[$T_{\text{frequency reducing temperature at high speed of module}}$], you should adjust the compressor frequency by reducing 8Hz/90s till the lower limit; After it was running 90s at the lower limit, if [$T_{\text{frequency reducing temperature at normal speed of module}}$] ≤T Module, you should stop the machine for module overheating protection;

4. Reducing frequency at high speed and power turn-off:

If [$T_{\text{frequency reducing temperature at high speed of module}}$]≤$T_{\text{Module}}$ <[$T_{\text{Power turn-off temperature of module}}$] you should adjust the compressor frequency by reducing 30Hz/90s till the lower limit; After it was running 90s at the lower limit, if [$T_{\text{frequency reducing temperature at normal speed of module}}$] ≤$T_{\text{Module}}$, you should stop the machine for module overheating protection;

5. Power turn-off:

If the [$T_{\text{Power turn-off temperature of module}}$] ≤$T_{\text{Module}}$, you should stop the machine for module overheating protection; If T_{Module} <[$T_{\text{Limited frequency temperature of module}}$] and the compressor has been stopped for 3 minutes, the machine should be allowed to operate.

6. If protection continuously occurs for six times, it should not be resumed automatically, and you should press the ON/OFF button to resume. During the process of running, if the running time of compressor exceeds the [$t_{\text{Protection times clearing of module}}$] , the discharge protection is cleared to recount. Stopped or transferred to supply air mode will clear the trouble times immediately (if the trouble can not be resumed, mode transferring also will not clear it).

(10)Compressor overloads protection

If you measure the compressor overload switch action in 3s, the compressor should be stopped for overloading. The machine should be allowed to operate after overload protection was measured to resume. If the overloading protection continuously occurs for three times, it should not be resumed automatically, and you should press the ON/OFF button to resume. The protection times of compressor is allowed to clear after the compressor run [$t_{\text{Protection times clearing of compressor overloading}}$] 30 minutes.

(11)Phase current overcurrent protection of compressor

During the running process of compressor, you could measure the phase current of the compressor, and control it according to the following steps:

1. Frequency limited

If [$I_{\text{Limited frequency phase current}}$] ≤[$I_{\text{Phase current T frequency reducing phase current}}$] , you should limit the frequency raising of compressor.

2. Reducing Frequency

If [$I_{\text{Frequency Reducing Phase Current}}$]≤I Phase Current<[$I_{\text{Power Turn-Off Phase Current}}$], the compressor shall continue to reduce frequency till the lowest frequency limit or out of the condition of reducing frequency;

3. Power turn-off

If [$I_{\text{Phase Current}}$]≥[$I_{\text{Power Turn-Off Phase Current}}$], the compressor phase current shall stop working for overcurrent protection; if [$I_{\text{Phase Current}}$]≤[$I_{\text{Frequency Reducing Phase Current}}$], and the compressor have stopped working for 3 min, the machine shall be allowed to operate;

4. If the overcurrent protection of compressor phase current continuously occurs for six times, it should not be resumed automatically, and you should press the ON/OFF button to resume. During the process of running, if the running time of compressor exceeds the [$t_{\text{Clearing Time of Compressor Phase Current Times}}$] , the overcurrent protection is cleared to recount.

(12) Starting-up Failure Protection for Compressor

Stop the compressor after its starting-up fails, restart it after 20s if the fault doesnt shows, and if they are all failing for the successive start 3 times, it shall be reported as Starting-up Failure, and then restart up it after 3 min. When it still not be able to operate through carry out the above process for 5 times, it is available if press ON/OFF. And the compressor should be cleared the times after it run 2 min.

(13) Out-of-Step Protection for Compressor

The out-of-step protection signal should be detected immediately after starting-up compressor, and once find the out-of-step protection signal, the out-of-step protection shall be stopped; if it can run for lasting power turn-off 3 min, the machine shall be allowed to operate. If it still cant run automatically when the out-of-step protection for compressor happens to stop working for 6 times in succession, it needs to press ON/OFF to operate. And if the running time is more than 10 min, the power turn-off times for out-of-step protection shall be cleared and recounted.

(14) Voltage Abnormity Protection for DC Bus

To detect voltage abnormity protection for dc bus after completing the pre-charge:

1.Over-High Voltage Protection for DC Bus:

If it found the DCbus voltage U_{DC} >[UDC $_{Jiekuangchun\ Protection}$], turn off PFC and stop the compressor at once, and it shall show the DC over-high voltage failure; it should clear out the failure when the voltage dropped to U_{DC} <[UDC $_{Jiekuangchun\ Recovery}$] and the compressor stopped for 3 min.

2.Over-Low Voltage Protection for DC Bus:

If it found the DC bus voltage U_{DC} <[$U_{DC\ Wantuochun\ Protection}$], turn off PFC and stop the compressor at once, and it shall show the DC over-low voltage; and it should clear out the failure when the voltage raised to U_{DC} >[$U_{DC\ Wantuochun\ Recovery}$] and the compressor stopped for 3 min.

3.To detect voltage abnormity protect for DC bus when getting electricity:

If it found the DC bus voltage U_{DC} >[$U_{DC——Over\text{-}High\ Voltage}$], turn off the relay at once, and shows voltage abnormity failure for DC Bus. And the failure cant recover except to break off and get the electricity.

(15)Abnormity Protection for Four-way Valve

Under the model of heating operation in good condition: the compressor is detected [$T_{Inner\ Tube}$ <($T_{Inner\ Ring}$-$T_{Abnormity\ Temperature\ Difference\ For\ Four\text{-}Way\ Valve\ Reversion}$)], during the running, it should be regarded as four-way valve reversion abnormity. And then it can run if stop the reversion abnormity protection for four-way valve 3 min; and if it still cant run when the reversion abnormity protection for four-way valve happens to stop working for 3 times in succession, it is available if presses ON/OFF.

Attention: the protection shall be shielded during the testing mode and defrosting process, and it shall be cleared out the failure and its times immediately when turning off or delivering wind / cooling / dehumidifying mode conversed (the inverted mode dont clear out the failure when it cant recover to operate).

(16) PFC Protection

1. After start up the PFC, it should detect the protection signal of PFC immediately; under the condition of PFC protection, it should turn off the PFC and compressor at one time;
2. It shows the failure is cleared out if PFC Protection stopped working 3 min and recovers to run automatically;
3. If it still cant run when it occurs PFC protection for 3 times in succession, it is available if presses ON/OFF; and clear the PFC Protection times when start up PFC for 10min.

(17) Failure Detection for Sensor

1. Outdoor Ambient Sensor: detect the failure of sensor at all times.
2. Outdoor Tube Sensor: You should not detect the failure of outdoor tube sensor within 10 minutes heating operation compressor except the defrosting, and you could detect it at other time.
3. Outdoor Exhaust Sensor:

(a) The compressor only detect the sensor failure after it start up 3 min in normal mode;

(b) It should detect the exhaust sensor failure immediately in the testing mode.

4. Module Temperature Sensor:

(a) Short-Circuit Detection: the compressor should be detected immediately when the module temperature sensor occurs short-circuits;

(b) Open-Circuit Detection: the compressor should be detected on open-circuit when it runs 3min (it neednt 30s avoiding the module over-heated).

(c) Detect the sensor failure at all times in the testing mode.

5. Disposal for Sensor Protection

(1) When the short-circuit of sensor is detected within 30s, It is regarded as the temperature of sensor over-high (or infinitely high), and now according to the over-high sensor, the machine should carry out the corresponding protection to stop working, and show the corresponding temperature shutdown protection and sensor failure at the same time (for example: the compressor stops immediately when the outdoor tube sensor short-circuit, and the machine shall show the overload protection and outdoor tube sensor failure).

(2) When the open-circuit of sensor is detected within 30s, The protection shall be stopped and it shall show the corresponding sensor failure.

6. Electric Heating Function of Chassis

(1) When Toutdoor amb.≤32ºF , the electric heating of chassis will operate;

(2) When Toutdoor amb.>35.6ºF , the electric heating of chassis will stop operation;

(3)When 32ºF <Toutdoor amb.≤35.6ºF, the electric heating of chassis will keep original status.

7. Electric Heating Function of Compressor

(1) When Toutdoor amb.≤≤23ºF , compressor stops operation, while the electric heating of compressor starts operation;

(2) When Toutdoor amb.>28.4ºF , the electric heating of compressor stops operation;

(3) When 23ºF <Toutdoor amb.≤28.4ºF , the electric heating of compressor will keep original status.

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 1/8 inch.
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 44.09lb.
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 78 3/4 inch.
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

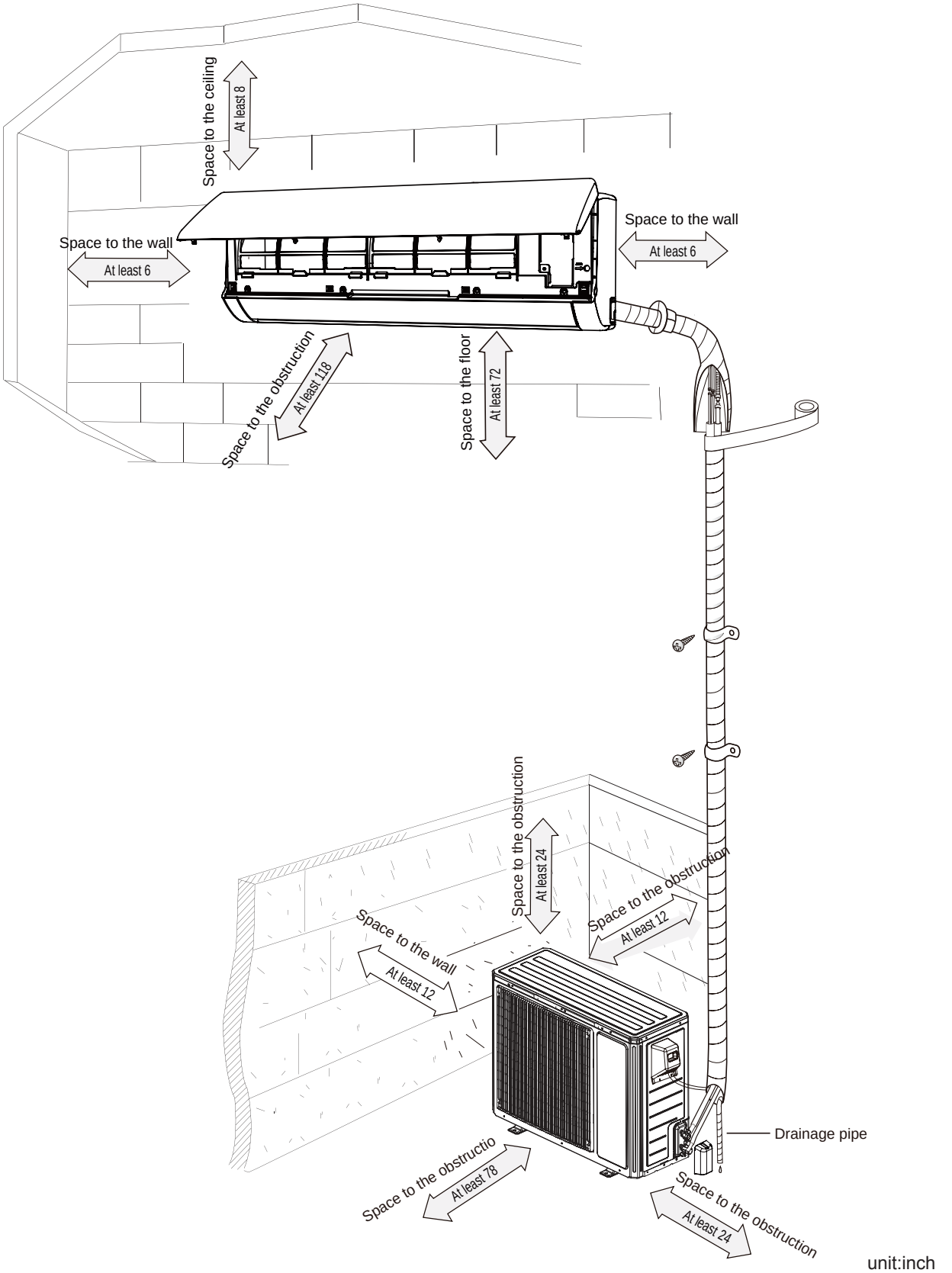
1. When installing or relocating the unit, be sure to keep the refrigerant circuit free from air or substances other than the specified refrigerant.
Any presence of air or other foreign substance in the refrigerant circuit will cause system pressure rise or compressor rupture, resulting in injury.
2.When 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**  

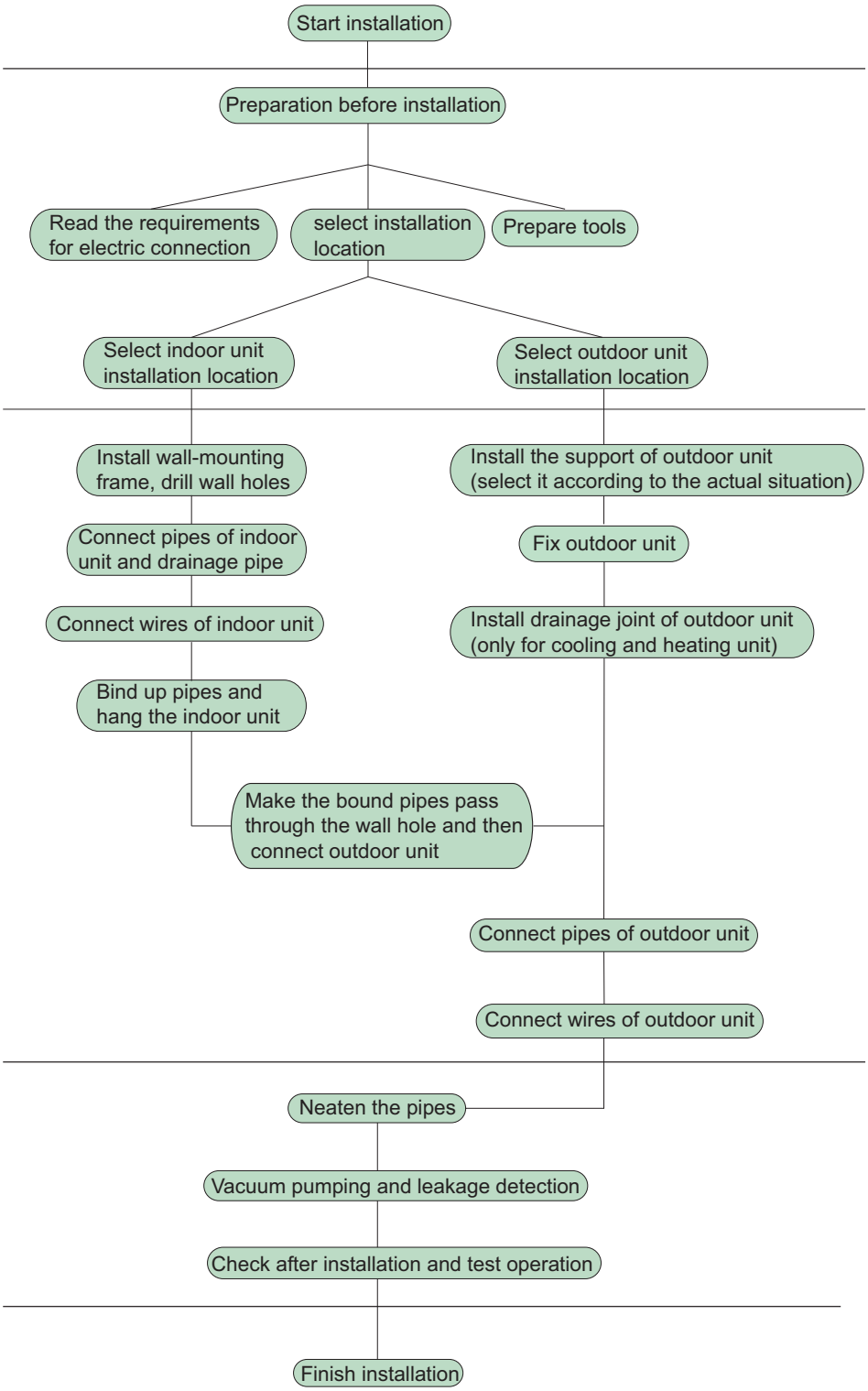
8. Installation

8.1 Installation Dimension Diagram



unit:inch

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.
(7) Do not use the unit in the immediate surroundings of a laundry a bath ashower or a swimming pool.

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 72inch above floor.
(7) Dont install the indoor unit right above the electric appliance.
(8) Please try your best to keep way from fluorescent lamp.

3. Outdoor Unit:
(1) Select a location where the noise and outflow air emitted by the outdoor unit will not affect neighborhood.
(2) The location should be well ventilated and away from 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 Requirements for Electric Connection

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

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 1/8 inch in all poles should be connected in fixed wiring.

Air-conditioner	Air switch capacity
All models	25A

8.5 Installation of Indoor Unit

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

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

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

3. Install Wall-mounting Frame

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

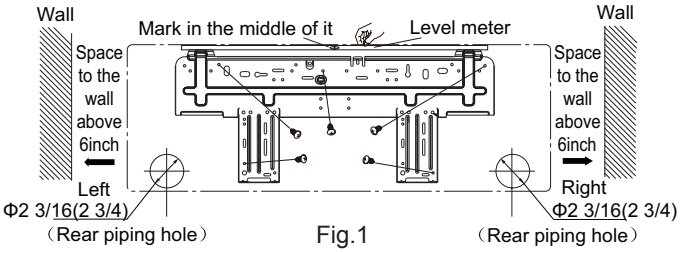


Fig.1

(2) Open a piping hole with the diameter of Φ2 3/16(Φ2 3/4) inch 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)

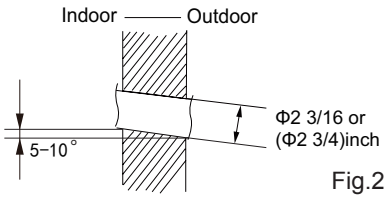


Fig.2

⚠ **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)

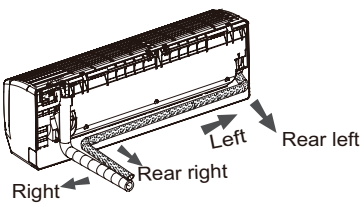


Fig.3

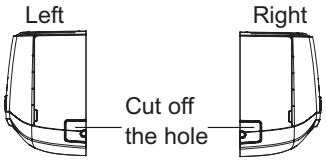


Fig.4

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)

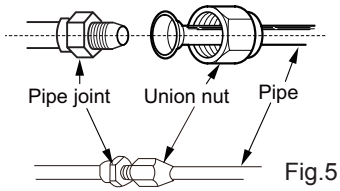


Fig.5

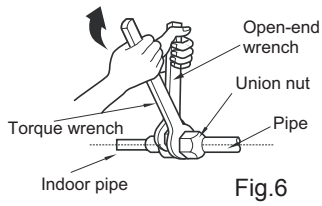


Fig.6

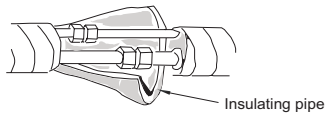


Fig.7

Refer to the following table for wrench moment of force:

Hex nut diameter(inch)	Tightening torque(ft·lbf)
Φ1/4	11.10~14.75
Φ3/8	22.12~29.50
Φ1/2	33.19~40.56
Φ5/8	44.24~47.94
Φ3/4	51.32~55.31

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)

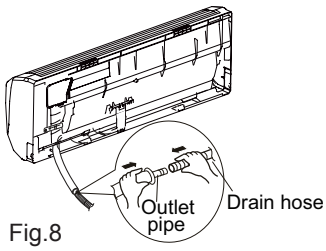


Fig.8

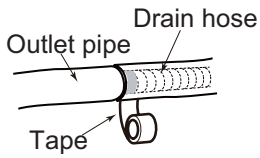


Fig.9

⚠ **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)

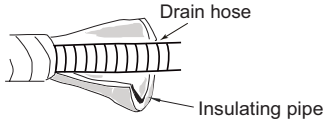


Fig.10

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)

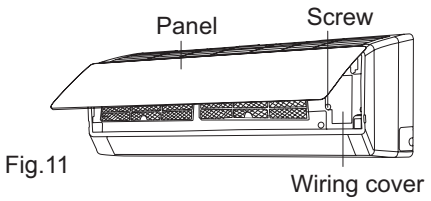


Fig.11

(2) Fix the wire crossing board on connection wire sleeve at the bottom case; let the connection wire sleeve go through the wire crossing hole at the back of indoor unit, and then pull it out from the front.(As show in Fig.12)

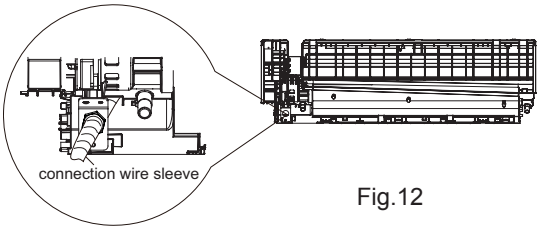
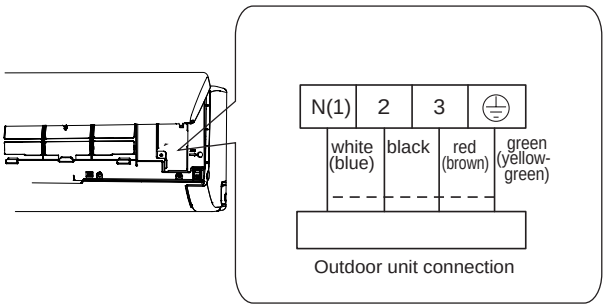


Fig.12

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



Note: the wiring board 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.

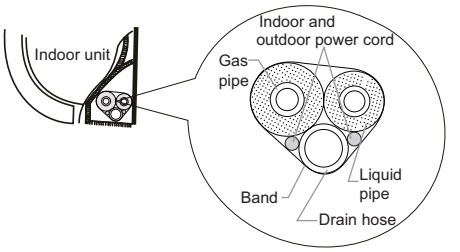


Fig.14

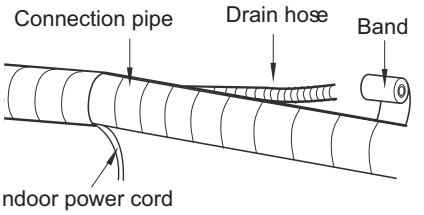


Fig.15

⚠ **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)

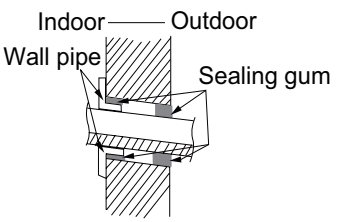
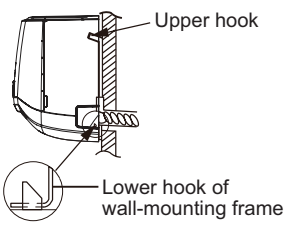


Fig.16

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 1 3/16 inch above the floor in order to install drain joint.(As show in Fig.18)
(4) For the unit with cooling capacity of 2300W~5000W, 6 expansion screws are needed; for the unit with cooling capacity of 6000W~8000W, 8 expansion screws are needed; for the unit with cooling capacity of 10000W~16000W, 10 expansion screws are needed.

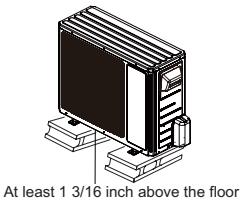


Fig.18

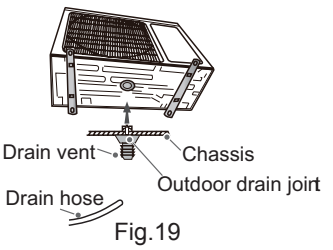


Fig.19

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

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

3. Fix Outdoor Unit

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

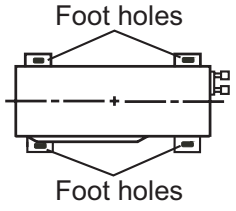


Fig.20

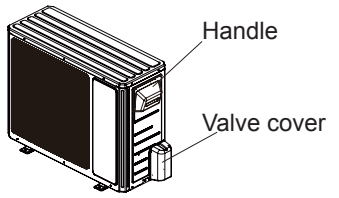
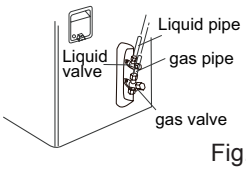


Fig.21

4. Connect Indoor and Outdoor Pipes

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



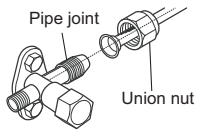


Fig.22

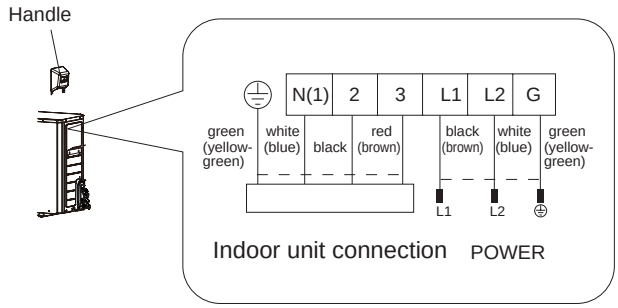
(3) Pretightening the union nut with hand.
(4) Tighten the union nut with torque wrench .

Refer to the following table for wrench moment of force:

Hex nut diameter(inch)	Tightening torque(ft·lbf)
Φ1/4	11.10~14.75
Φ3/8	22.12~29.50
Φ1/2	33.19~40.56
Φ5/8	44.24~47.94
Φ3/4	51.32~55.31

5. Connect Outdoor Electric Wire

(1) Let the connection wire sleeve go through the two holes of baffle; tighten the connection joint of sleeve and baffle; 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 board is for reference only,please refer to the actual one.

Fig.23

(2) Fix the power connection wire and power cord with wire clip.
(3) Fix the stopper on handle with screw.

⚠ **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 3 15/16inch.
(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)

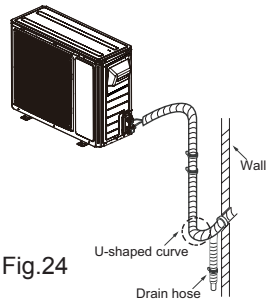


Fig.24

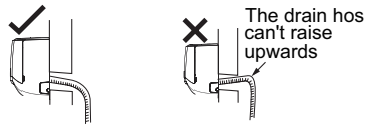


Fig.25

⚠ **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)

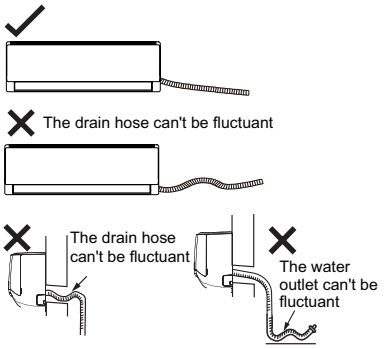


Fig.26

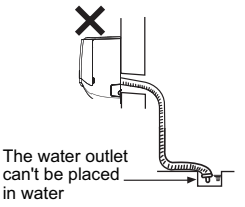


Fig.27

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 -14.5ISP.

(4) Close the vacuum pump and maintain this status for 1-2min to check if the pressure of piezometer remains in -14.5ISP. 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)

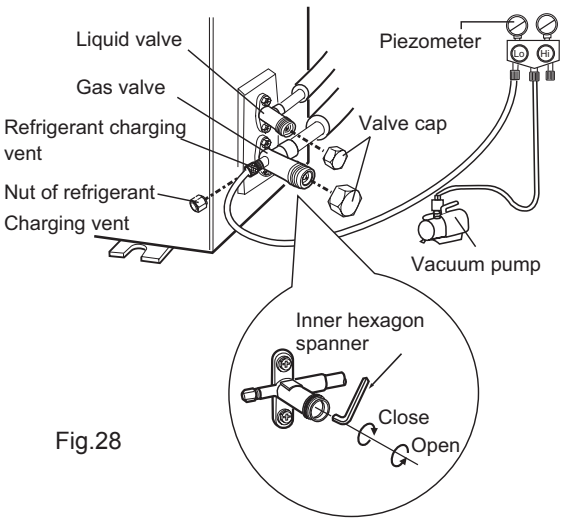


Fig.28

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.

8.9 Wired Controller

If the product you bought is equipped with wired controller, please refer to the following introductions of wired controller.

1.Displaying Part

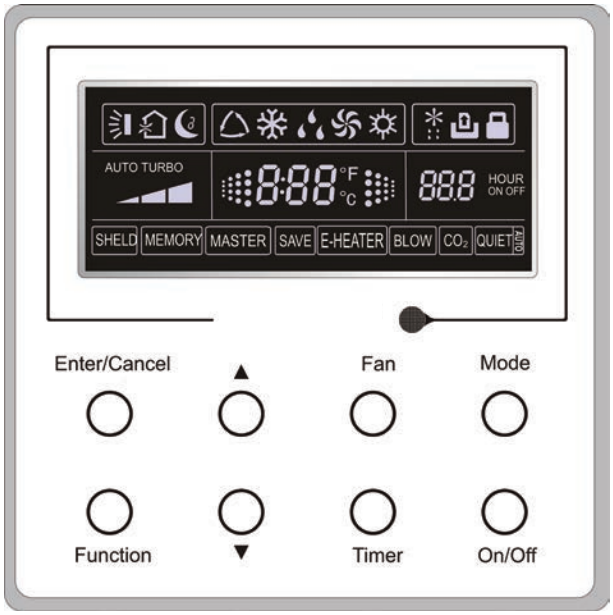


Fig1.1.1 Outline of wired controller

1.1 LCD Display of Wired Controller

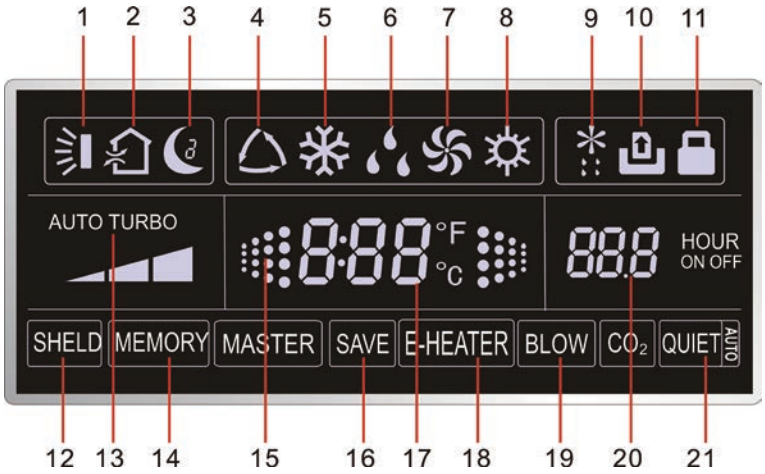


Fig.1.1.2 LCD display

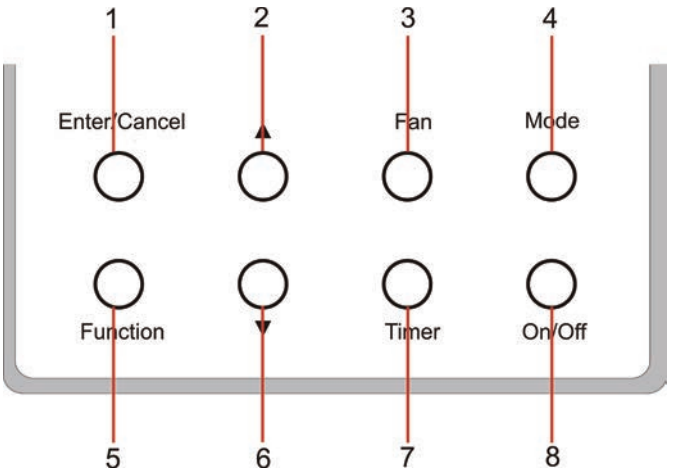
1.2 Instruction to LCD Display

No.	Symbols	Description
1		Swing function
2		Air exchange function (this function is yet unavailable for this unit)
3		Sleep function (Only sleep 1)
4		Each kind of running mode of indoor unit (auto mode)
5		Cooling mode
6		Dry mode
7		Fan mode
8		Heating mode
9		Defrosting function for the outdoor unit
10		Gate-control function (this function is yet unavailable for this unit)

11		Lock function
12	SHIELD	Shield functions (Button operation, temperature setting, On/Off operation,Mode setting are disabled by the remote monitoring system.)
13	TURBO	Turbo function state
14	MEMORY	Memory function (The indoor unit resumes the original setting state after power failure and then power recovery)
15		It blinks under on state of the unit without operation of any button
16	SAVE	Energy-saving function
17		Ambient/setting temperature value
18	E-HEATER	Electric auxiliary heating function(this function is yet unavailable for this unit)
19	BLOW	Blow function
20		Timing value
21	QUIET	Quiet function (two types: quiet and auto quiet)(this function is yet unavailable for this unit).

2 Buttons

2.1 Layout of Buttons



2.2 Functions of Buttons

No.	Name	Function
1	Enter/Cancel	Function selection and cancellation.
2	▲	① Running temperature setting of the indoor unit, range:16~30°C. ② Timer setting, range:0.5-24 hr.
6	▼	
3	Fan	Setting of the high/middle/low/auto fan speed.
4	Mode	Setting of the Cooling/Heating/Fan/Dry/Auto mode of the indoor unit.
6	Function	Switchover among the functions of Turbo/Save/E-heater/Blow etc.
7	Timer	Timer setting.
8	On/Off	Turn on/off the indoor unit.
4+2	▲+Mode	Press them for 5s under off state of the unit to enter/cancel the Memory function(If memory is set, indoor unit after power failure and then power recovery will resume the original setting state. If not, the indoor unit is defaulted to be off after power recovery. Memory off is default before delivery.).
3+6	Fan+▼	By pressing them at the same time under off state of the unit,  will be displayed on the wired controller for the cooling only unit, while  will be displayed on the wired controller for the cooling and heating unit.
2+6	▲+▼	Upon startup of the unit without malfunction or under off state of the unit,press them at the same time for 5s to enter the lock state, in which case,any other buttons won't respond the press. Repress them for 5s to quit this state.

3 Operation Instructions

3.1 On/Off

Press On/Off to turn on the unit and turn it off by another press.

Note: The state shown in Fig.3.1.1 indicates the “Off” state of the unit after power on. The state shown in Fig.3.1.2 indicates the “On” state of the unit after power on.

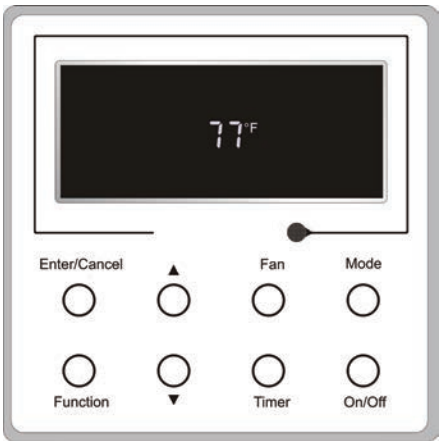


Fig.3.1.1 “Off” State

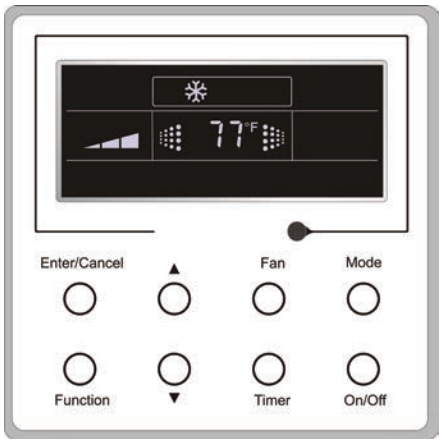
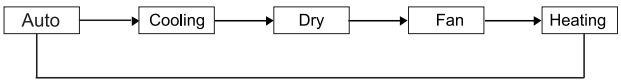


Fig.3.1.2 “On” State

3.2 Mode Setting

Under ON state of the unit, press the Mode to switch the operation modes as the following sequence: Auto–Cooling–Dry–Fan–Heating.



3.3 Temperature Setting

Press ▲or ▼ to increase/decrease the preset temperature. If pressing either of them continuously, the temperature will be increased or decreased by 1°C every 0.5s,as shown in Fig.3.3.1.

In the Cooling, Dry, Fan or Heating mode, the temperature setting range is 16~30°C(61~86°F).

In the Auto mode, the setting temperature is unadjustable.

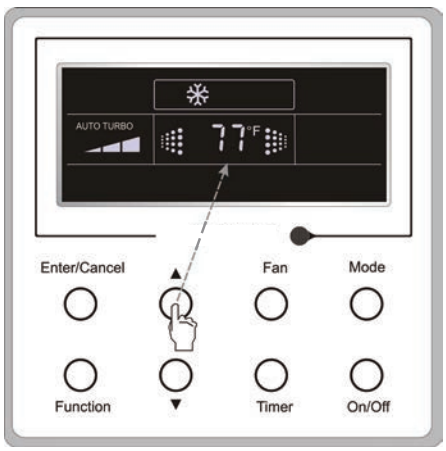


Fig.3.3.1

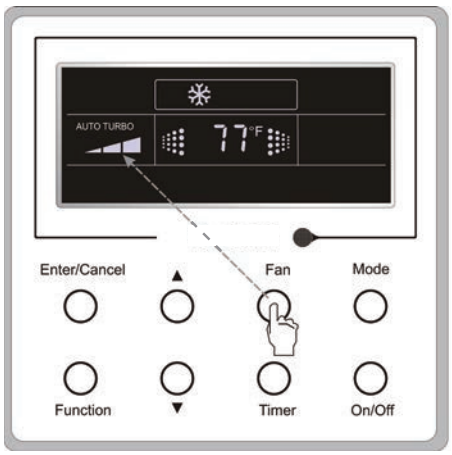
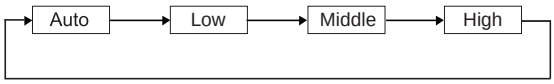


Fig.3.4.1

3.4 Fan Setting

Under the “On” state of the unit, press Fan and then fan speed of the indoor unit will change circularly as shown in Fig.3.4.1.



3.5 Timer Setting

Under on-state of the unit, Press Timer button to set timer off of the unit. Under off-state of the unit, press Timer button to set timer on of the unit in the same way.

• Timer on setting:

Under off-state of the unit without timer setting, if Timer button is pressed, LCD will display xx.Hour,with ON blinking. In this case, press▲ or ▼ button to adjust timer on and then press Timer to confirm.

• Timer off setting:

Under on-state of the unit without timer setting, if Timer button is pressed, LCD will display xx. Hour,with OFF blinking. In this case, press▲ or ▼ button to adjust timer on and then press Timer to confirm.

• Cancel timer:

After setting of timer, if Timer button is pressed, LCD won't display xx. Hour so that timer setting is canceled.

Timer off setting under the "On" state of the unit is shown as Fig.3.5.1.

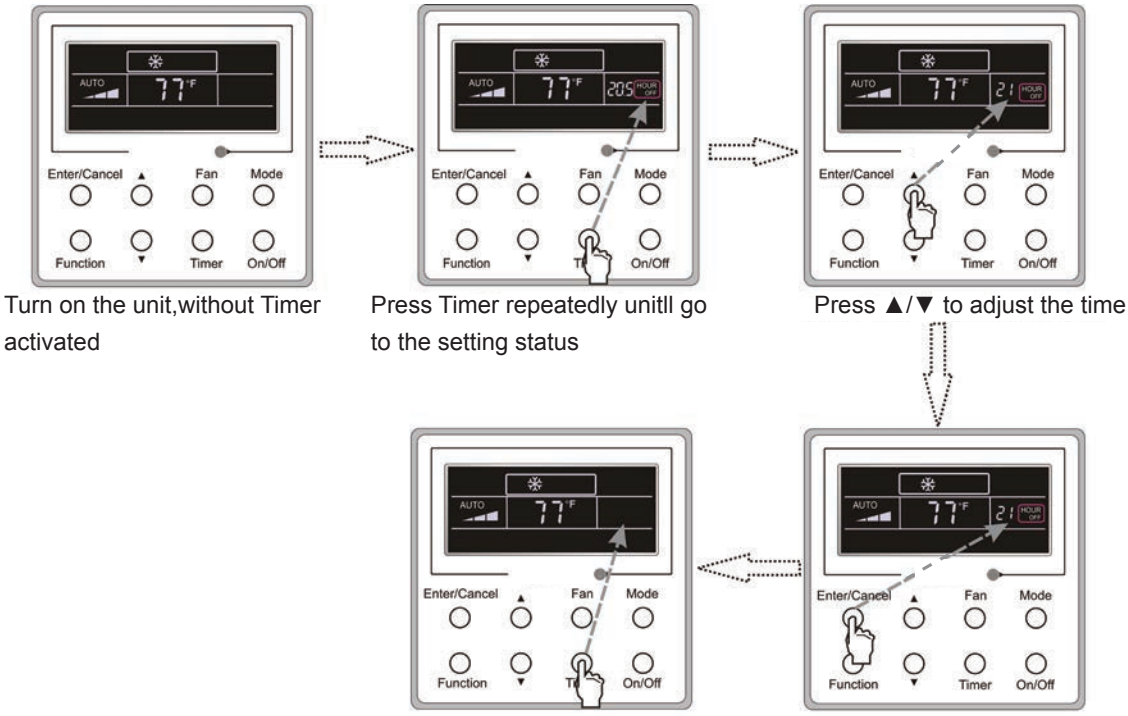


Fig.3.5.1 Timer off Setting under the "On" State of the Unit

Timer on setting under the "Off" state of the unit is shown as Fig.3.5.2.

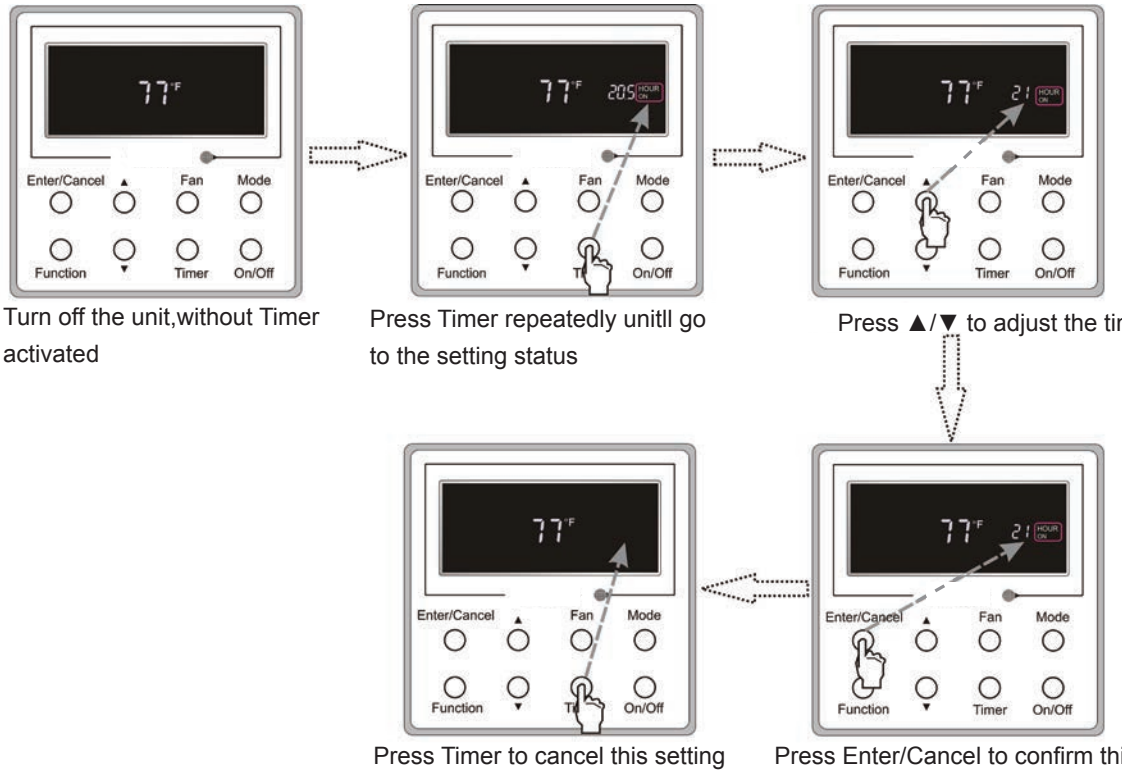


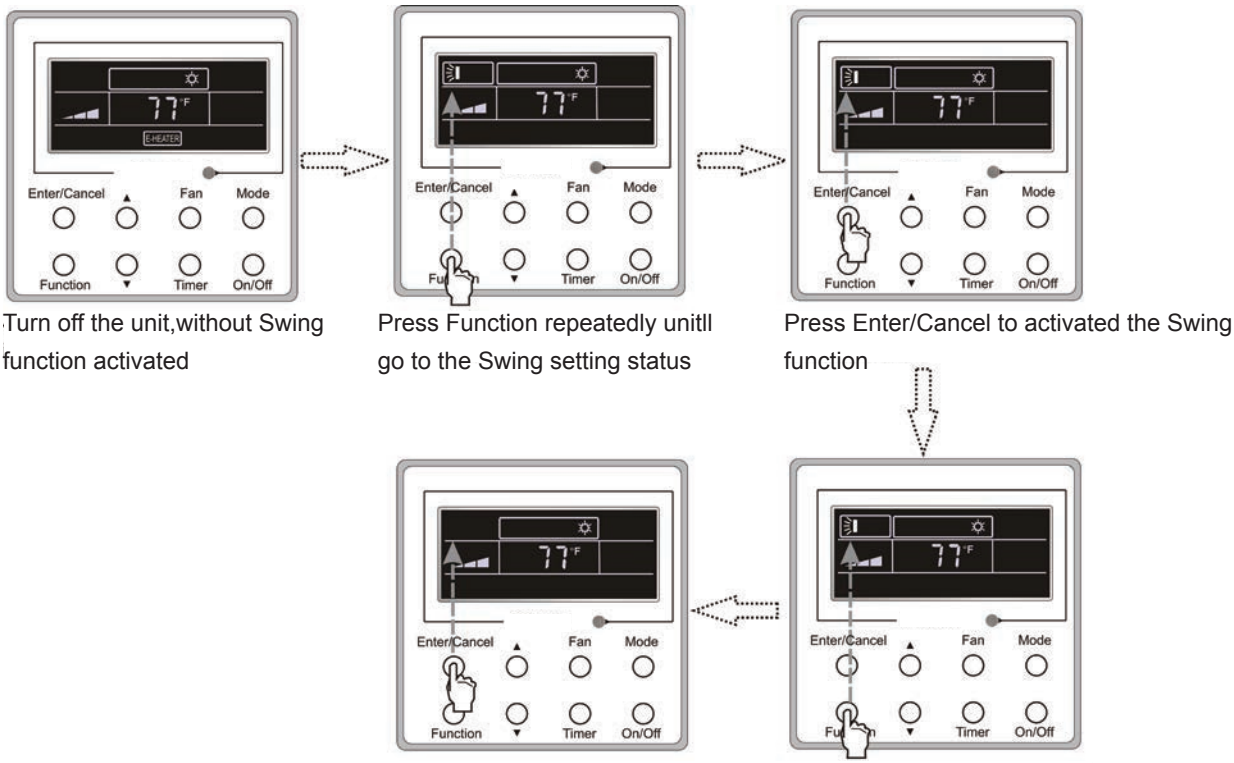
Fig.3.5.2 Timer on Setting under the "Off" State of the Unit

Timer range: 0.5-24hr. Every press of ▲or ▼ will make the set time increased or decreased by 0.5hr. If either of them is pressed continuously, the set time will increase/ decrease by 0.5hr every 0.5s.

3.6 Swing Setting

Swing On: Press Function under on state of the unit to activate the swing function. In this case, will blink,After that,press Enter/Cancel to make a confirmation.

Swing Off: When the Swing function is on, press Function to enter the Swing setting interface,with blinking. After that, press Enter/Cancel to cancel this function. Swing setting is shown as Fig.3.6.1.



Turn off the unit,without Swing function activated

Press Function repeatedly unitll go to the Swing setting status

Press Enter/Cancel to activated the Swing function

Press Enter/Cancel to cancel this setting

Press Function repeatedly unitll go to the Swing function again

Fig.3.6.1 Swing Setting

Notes:

(1)Sleep, Turbo or Blow setting is the same as the Swing setting.

(2)After the setting has been done, it has to press the key “Enter/Cancel” to back to the setting status or quit automatically five seconds later.

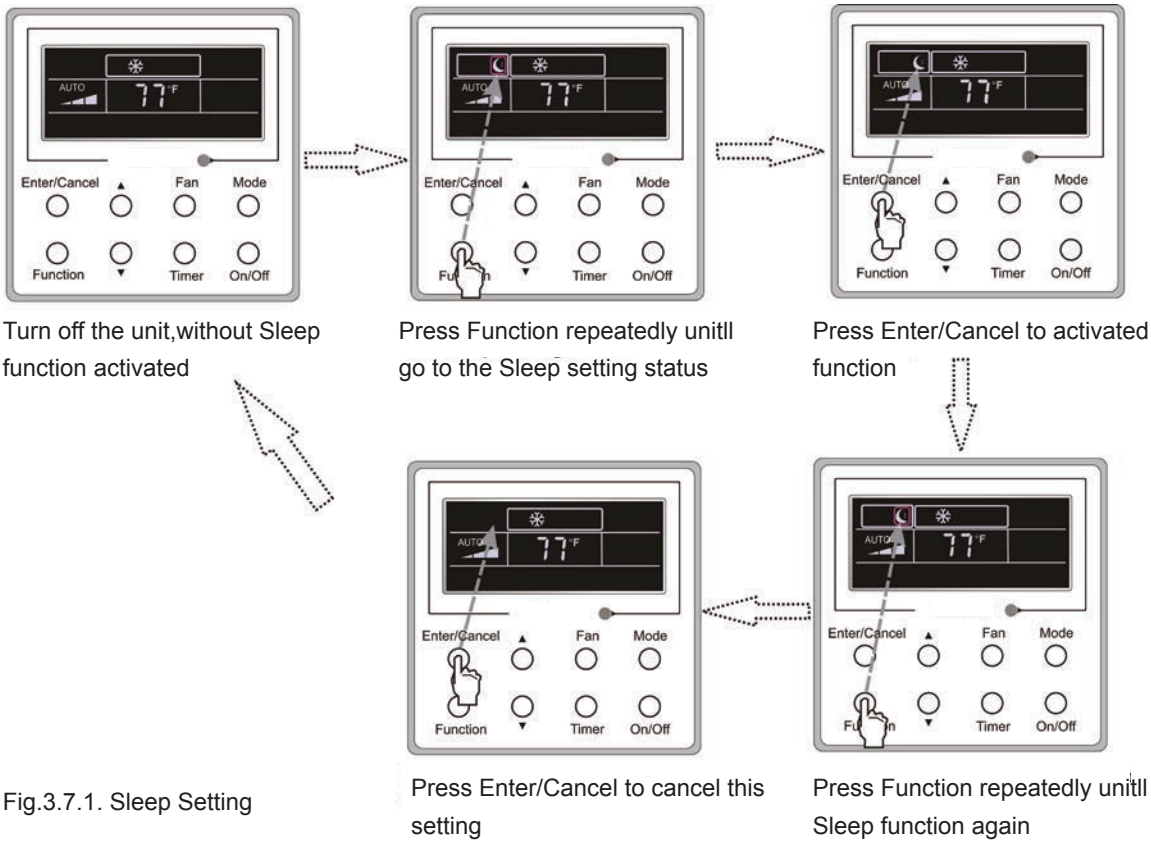
3.7 Sleep Setting

Sleep on: Press Function under the On state of the unit till the unit enters the Sleep setting state. After that, press Enter/Cancel to confirm this setting.

Sleep off: When the Sleep function is activated, press Function to enter the Sleep setting status. After that, press Enter/Cancel to cancel this function.

In the Cooling or Dry mode, the temperature will increase by 1°C(1~2°F) after the unit runs under Sleep1 for 1hr and 1°C(1~2°F) after another 1hr.After that, the unit will run at this temperature.

In the Heating mode, the temperature will decrease by 1°C(1~2°F) after the unit runs under Sleep 1 for 1hr and 1°C(1~2°F) after another 1hr. After that, the unit will run at this temperature.



Turn off the unit,without Sleep function activated

Press Function repeatedly unitll go to the Sleep setting status

Press Enter/Cancel to activated the Sleep function

Press Enter/Cancel to cancel this setting

Press Function repeatedly unitll go to the Sleep function again

Fig.3.7.1. Sleep Setting

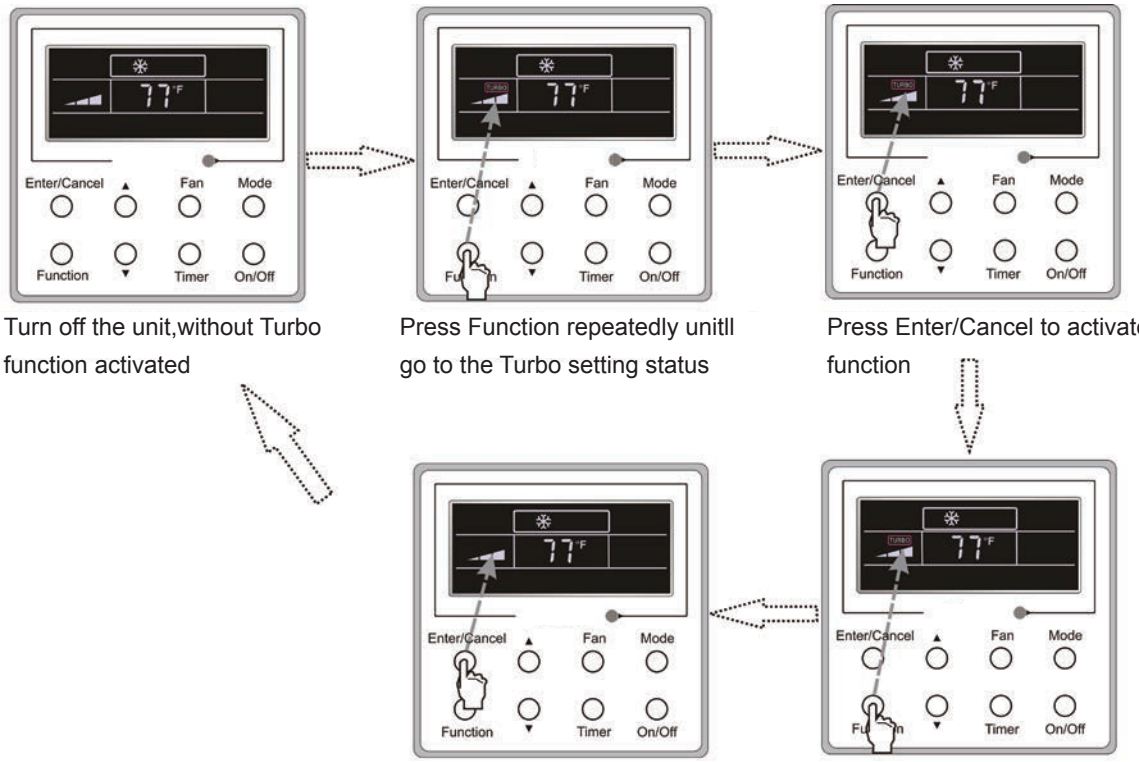
3.8 Turbo Setting

Turbo function: The unit at the high fan speed can realize quick cooling or heating so that the room temperature can quickly approach the setting value.

In the Cooling or Heating mode, press Function till the unit enters the Turbo setting status and then press Enter/Cancel to confirm the setting.

When the Turbo function is activated, press Function to enter the Turbo setting status and then press Enter/Cancel to cancel this function.

Turbo function setting is as shown in Fig.3.8.1.



Turn off the unit,without Turbo function activated

Press Function repeatedly unitll go to the Turbo setting status

Press Enter/Cancel to activated the Turbo function

Press Enter/Cancel to cancel this setting

Press Function repeatedly unitll go to the Turbo function again

Fig.3.8.1 Turbo Setting

3.9 E-heater Setting

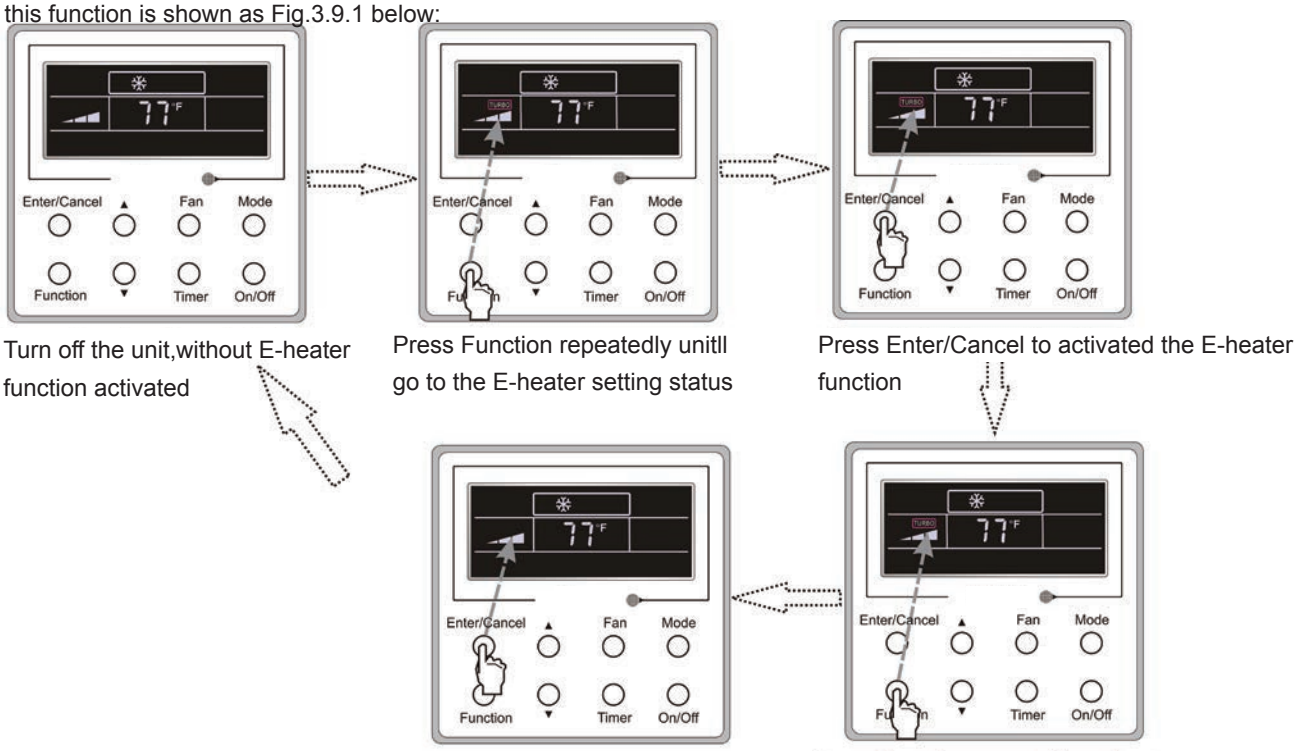
E-heater (auxiliary electric heating function): In the Heating mode, E-heater is allowed to be turned on for improvement of effciency.

Once the wired controller or the remote controller enters the Heating mode, this function will be turned on automatically.

Press Function in the Heating mode to enter the E-heater setting interface and then press Enter/Cancel to cancel this function.

Press Function to enter the E-heater setting status, if the E-heater function is not activated, and then press Enter/Cancel to activate it.

The setting of this function is shown as Fig.3.9.1 below:



Turn off the unit,without E-heater function activated

Press Function repeatedly unitll go to the E-heater setting status

Press Enter/Cancel to activated the E-heater function

Press Function repeatedly unitll go to the E-heater setting function again

Press Enter/Cancel to cancel this setting

Fig.3.9.1 E-heater Setting

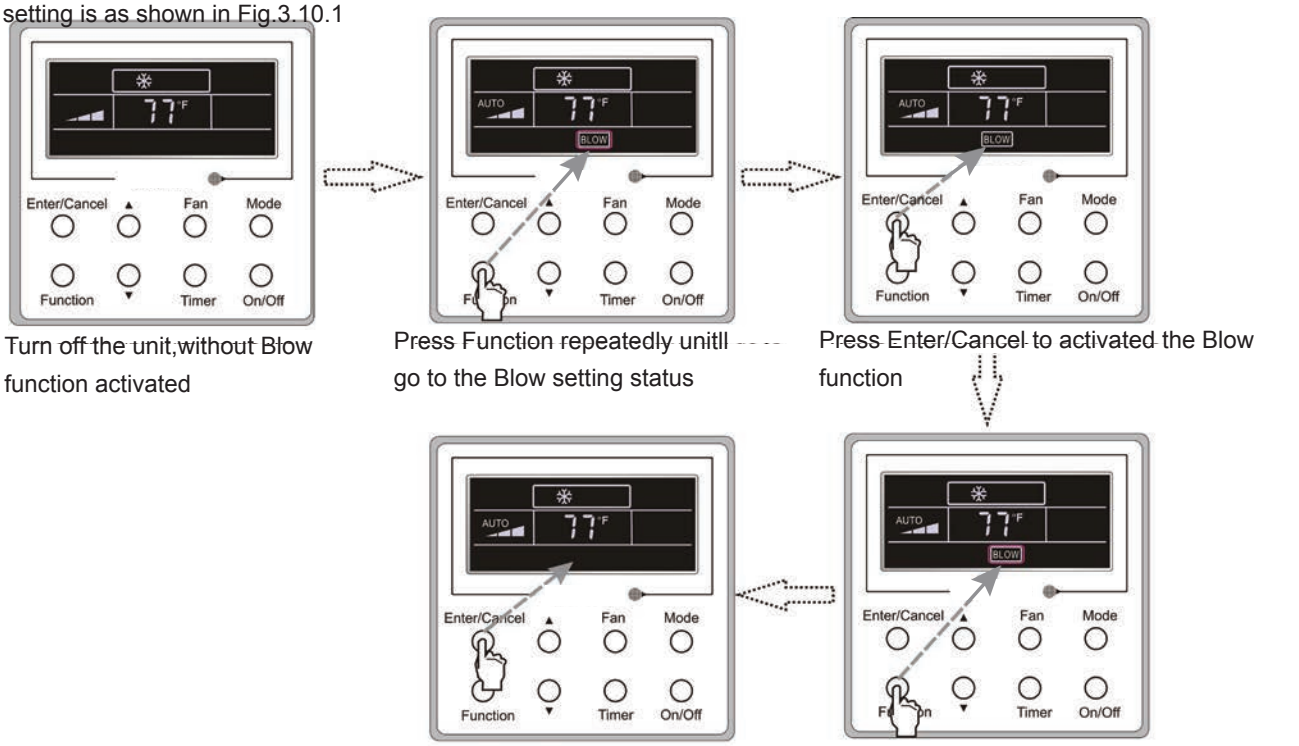
3.10 Blow Setting

Blow function: After the unit is turned off, the water in evaporator of indoor unit will be automatically evaporated to avoid mildew.

In the Cooling or Dry mode, press Function till the unit enters the Blow setting status and then press Enter/Cancel to active this function.

When the Blow function is activated, press Function to the Blow setting status and then press Enter/Cancel to cancel this function.

Blow function setting is as shown in Fig.3.10.1



Turn off the unit,without Blow function activated

Press Function repeatedly unitll go to the Blow setting status

Press Enter/Cancel to activated the Blow function

Press Function repeatedly unitll go to the Blow setting function again

Press Enter/Cancel to cancel this setting

Fig.3.9.1 E-heater Setting

Notes:

(1)When the Blow function is activated, if turning off the unit by pressing On/Off or by the remote controller, the indoor fan will run at the low fan speed for 2 min, with “BLOW” displayed on the LCD. While, if the Blow function is deactivated, the indoor fan will be turned off directly.

(2)Blow function is unavailable in the Fan or Heating mode.

3.11 Other Functions

a. Lock

Upon startup of the unit without malfunction or under the “Off” state of the unit, press ▲ and ▼ at the same time for 5s till the wired controller enters the Lock function. In this case, LCD displays .

After that, repress these two buttons at the same time for 5s to quit this function.

Under the Lock state, any other button press won’t get any response.

b. Memory

Memory switchover: Under the “Off” state of the unit, press Mode and ▲ at the same time for 5s to switch memory states between memory on and memory off. When this function is activated, Memory will be displayed. If this function is not set, the unit will be under the “Off” state after power failure and then power recovery.

Memory recovery: If this function has been set for the wired controller, the wired controller after power failure will resume its original running state upon power recovery. Memory contents: On/Off, Mode, set temperature, set fan speed and Lock function.

4. Installation and Dismantlement

4.1 Connection of the Signal Line of the Wired Controller

● Open the cover of the electric control box of the indoor unit.

● Let the single line of the wired controller through the rubber ring.

● Connect the signal line of the wired control to the 4-pin socket of the indoor unit PCB.

● Tighten the signal wire with ties.

● The communication distance between the main board and the wired controller can be up to 20 meters (the standard distance is 8 meters)

4.2 Installation of the Wired Controller

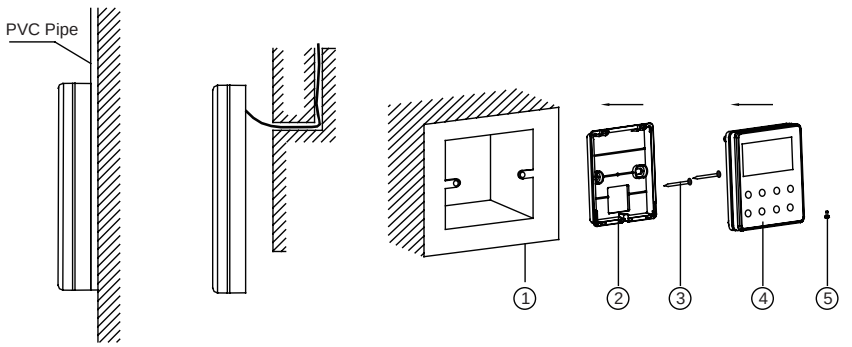


Fig.4.1 Accessories for the Installation of the Wired Controller

No.	1	2	3	4	5
Name	Socket box embedded in the wall	Soleplate of the Wired Controller	Screw M4X25	Front Panel of the Wired Controller	Screw ST 2.9X6

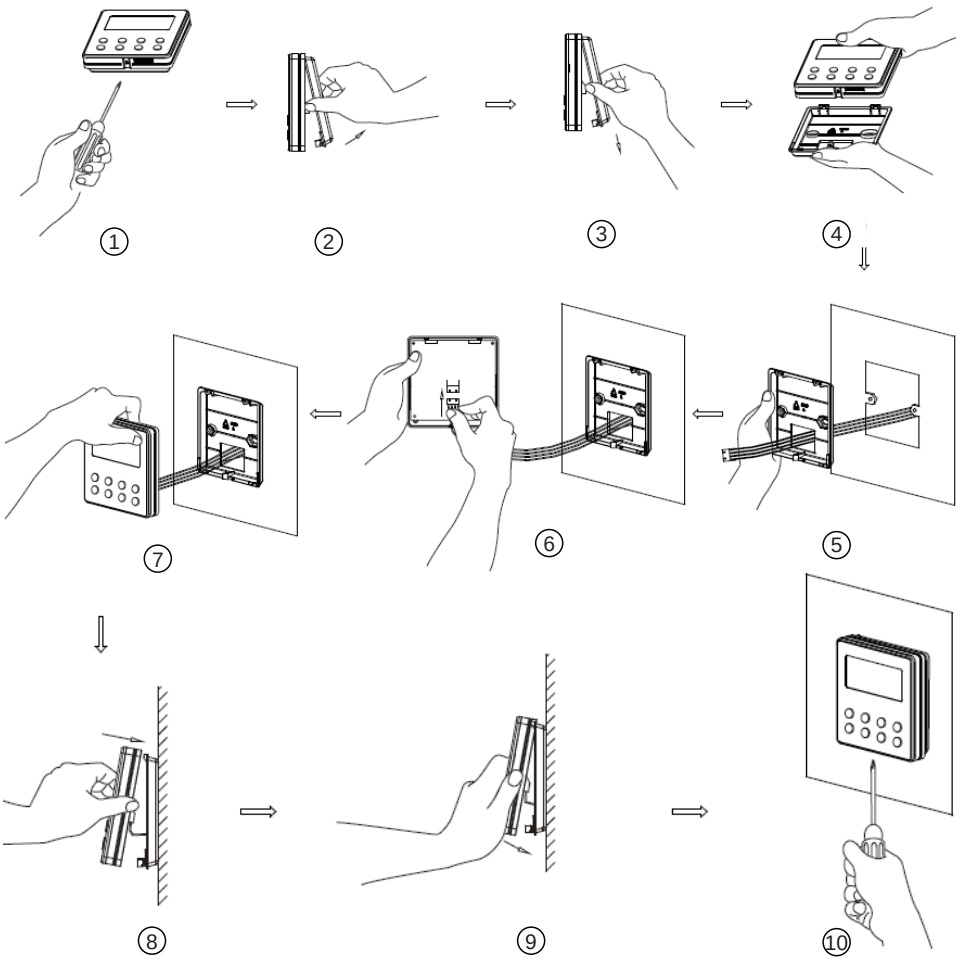


Fig.4.2

Fig.4.2 shows the installation steps of the wired controller, but there are some issues that need your attention.

(1) Prior to the installation, please firstly cut off the power supply of the wire buried in the installation hole, that is, no operation is allowed with electricity during the whole installation.

(2) Pull out the four-core twisted pair line from the installation holes and then let it go through the rectangular hole behind the soleplate of the wired controller.

(3) Stick the soleplate of the wire controller to the wall over the installation hole and then fix it with screws M4X25.

(4) Insert the four-core twisted pair line into the slot of the wired controller and then buckle the front panel and the soleplate of the wired controller together.

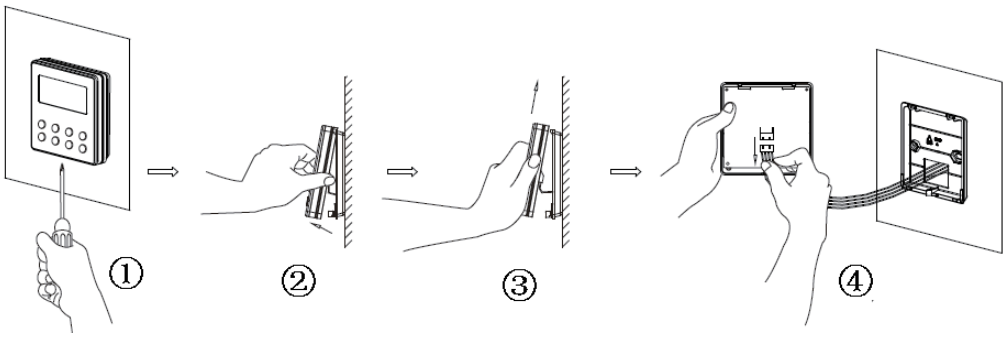
(5) Finally, fix the front panel and the soleplate of the wired controller tightly by screws ST2.9X6.

⚠CAUTION!

Please pay special attention to the followings during the connection to avoid the malfunction of the air conditioning unit due to electromagnetic interference.

(1) Separate the signal and communication lines of the wired controller from the power cord and connection lines between the indoor and outdoor unit, with a minimum interval of 20cm, otherwise the communication of the unit will probably work abnormally.

(2) If the air conditioning unit is installed where is vulnerable to electromagnetic interference,then the signal and communication lines of the wired controller must be the shielding twisted pair lines.



5 Errors Display

If there is an error occurring during the operation of the system, the error code will be displayed on the LCD, as show in Fig.5.1. If multi errors occur at the same time, their codes will be displayed circularly.

Note: In event of any error, please turn off the unit and contact the professionally skilled personnel.

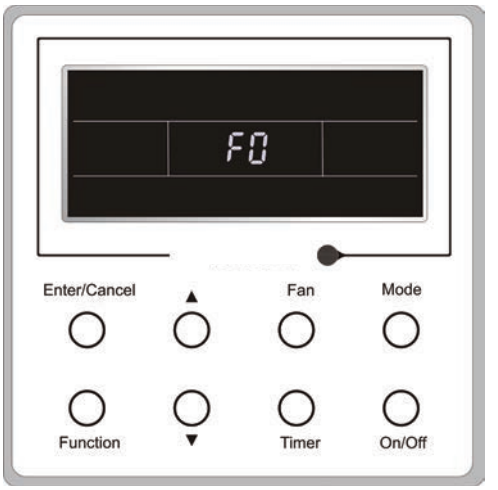


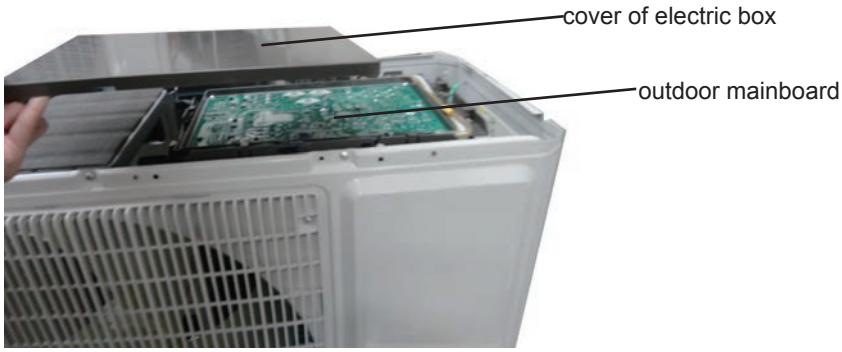
Fig.5.1

9. Maintenance

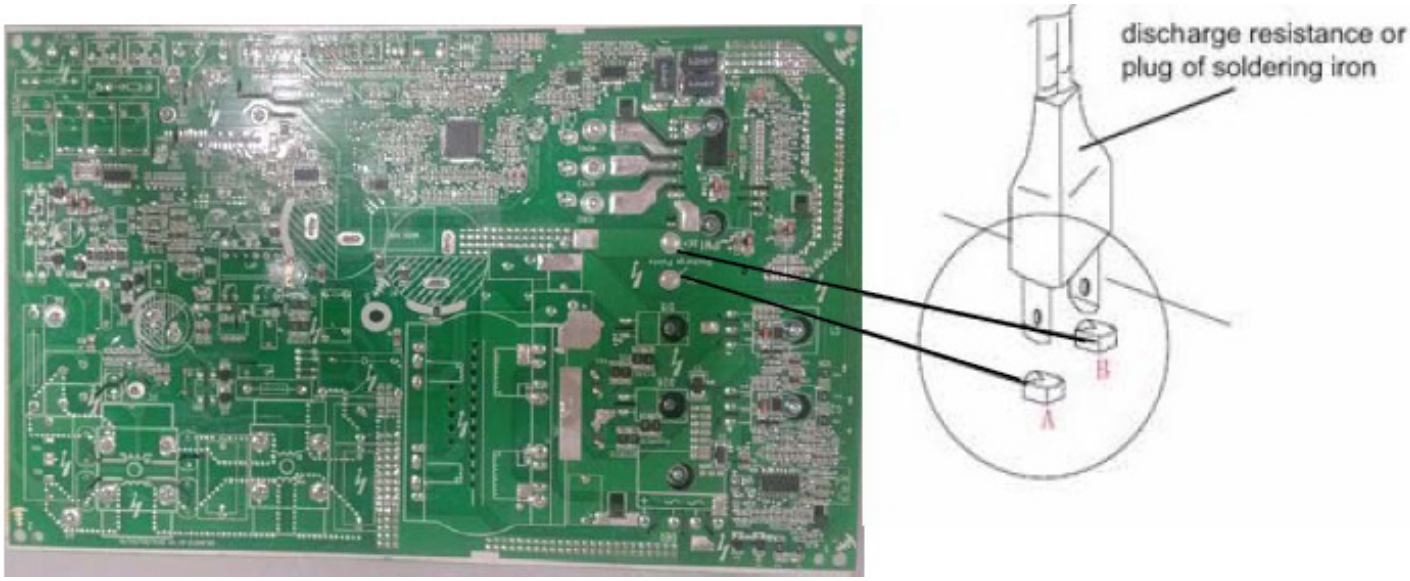
9.1 Precautions before Maintenance

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

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



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



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

9.2 Error Code List

NO.	Name of malfunction	Indoor unit displaying method				Outdoor unit display(LEDs have 3 status)□OFF ■ON ☆ Blinks				AC status	Malfunctions
		Double 8 code display	Indicator display(LED blinks 0.5s-ON/0.5s-OFF) (Only for the mode with this function)								
			Running LED	Cooling LED	Heating LED	D40/D5	D41/D6	D42/ D16	D43/ D30		
1	System high pressure protection	E1	3s off blink once							cooling,dehumidifying,except the indoor fam motor is runnig,others will stop to run. heating;all stop running	High pressure of system,might be: 1.Refrigerant is too much; 2.Poor heating exchanging for units(including heat exchanger is dirty and unit heating radiating ambient is poor); 3.Ambient temp.is too high.
2	Anti-freezing protection	E2	3s off blink twice							cooling,dehumidifying,compressor,outdoor fan motor will stop running,indoor fan motor will keep running.	1.Poor indoor unit air returning; 2.Indoor fan motor rotating speed abnormal; 3.Evaporator is dirty;
3	Compressor air exhaust high temp. protection	E4	3s off blink four times							cooling,dehumidifying,compressor,outdoor fan motor will stop running,indoor fan motor works. heating:all stop running.	Pls refer to rtouble shoot (air exhaust protection,overload)
4	AC overload protection	E5	Off 3s blink 5 times							Cooling,dehumidifying,compressor,outdoor fan motor will stop,indoor fan will work. heating;all will stop	1.power supply is stable,fluctuation is too much 2.Power supply is too low,overload is too much.
5	Indoor and outdoor units communication malfunction	E6	Off 3s blink 6 times							Cooling,compressor will stop,indoor fan motor works,Heating:all will stop	Please refer to troubleshooting
6	Anti-high temp. protection	E8	Off 3s blink 8 times							Cooling,compressor will stop,indoor fan motor works,Heating:all will stop	Please refer to troubleshooting
7	Indoor unit motor no feedback	H6	Off 3s blink 11 times							Whole unit will stop to run	1.Poor insert for GPF 2.Indoor control board AP1 malfunction 3.Indoor motor M1 malfunction
8	Jump wire cap malfunction protection	C5	Off 3s blink 15 times							Whole unit will stop to run	Indoor control board AP1 jump cap poor connected,please reinsert or replace the jump cap.
9	Indoor ambient sensor open circuit,short circuit	F1		Off 3s blink once						Cooling,dehumidifying:indoor fan motor is runing,other overloads will stop;Heating,whole unit will stop to run.	1.Room temp.sensor is not connected with the control panel AP1 2.Room temp.sensor is damaged
10	Indoor evaporator sensor ciruit open,short circuit	F2		Off 3s blink twice						Cooling,dehumidifying;indoor fan motor runing,other overload will stop;Heating,whole unit will stop.	1,Tube temp.sensor is not connected with the conrtol panel AP1 2.Tube tmep.sensor is damaged
11	Outdoor ambient sensor circuit open,circuit short	F3		Off 3s blinks three times						Cooling,dehumidifying;compressor will stop,indoor fan motor will work.Heat:all will stop	Outdoorroom temp.sensor hasn't connected well,or damaged,please refer to the sensor resistance value for checking.
12	Outdoor condemsor sensor open circuit,short circuit	F4		Off 3s blinks 4 times						Cooling,dehumidifying;compressor will stop,indoor fan motor will work.Heat:all will stop	Outdoorroom temp.sensor hasn't connected well,or damaged,please refer to the sensor resistance value for checking.
13	Malfunction of detecting plate(WIFI)	JF									

14	Outdoor air exhaust sensor open circuit,short circuit	F5		Off 3s blinks 5 times						Cooling,dehumidifying;after runing for 3mins later,the compressor will stop to run,indoor fan motor will start to run.heating:after run 3 mins later,all will stop to run.	1.Exhaust temp sensor hasn't connected well,or damaged,plwease refer to the sensor resistance value for checking. 2.Sensor head hasn't insert into the copper tube.
15	Overload limit/ descending frequency	F6		Off 3s blinks 6 times						Overload mormal operation,compressor is runing,frequency descending	Please refer to troubleshooting
16	Over current need frequency descending	F8		Off 3s blinks 8 times						Overload mormal operation,compressor is runing,frequency descending	1.Input power supply is too low 2.System voltage is too high,over is too much
17	Air exhaust over high need frequency descending	F9		Off 3s blinks 9 times						Overload mormal operation,compressor is runing,frequency descending	1.Overload is too much,ambient temp.is too high 2.Refrigerant is short 3.Electric expansion malfunction
18	DC generatrix voltage is too high	PH		Off 3s blink 11 times						Cooling,dehumidifying,co mpressor stop running,Fan motor works. Heating: all will stop	1.Testing wire terminal L and N position.If higher than 265VAC,please cut off the power supply and restart until back to normal 2.If input voltage is normal, testing the voltage of electrolytic capacitor on AP1 after turn on the unit.There may be some problem and replace the AP1 if the electrolytic capacitor voltage range at 200-280V
19	Complete unit current detection malfunction	U5		Off 3s and blink 13 times						Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	The circuit on AP1 has malfunction, replace the outdoor unit AP1
20	Compressor current overcurrent protection	P5		Off 3s blink 15 times						Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Please refer to troubleshooting(IPM protection, compressor lose steps, compressor current overcurrent protection)
21	Defrosting				Off 3s and blink once (during blinking, ON 10s and Off 05s)					Defrosting will occur in heating mode.Compressor will operate while indoor fan will stop.	It's the normal state
22	Compressor overload protection	H3			Off 3s blink 3 times					Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	1. Wire terminal OVCCOMP loosen or circuit,has problem, the resistance of SAT should be lower than 1 ohm. 2.Please refer to troubleshooting(exhaust/ overload protection)
23	IPM protection	H5			Off 3s blink 5 times					Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Pls refer to troubleshooting
24	PFC protection	HC			Off 3s blink 6 times					Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Pls refer to troubleshooting

25	Compressor lose steps	H7			Off 3s blink 7 times					Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Pls refer to troubleshooting
26	Heating, anti-high temp. declines	H0			Off 3s blink 10 times					Overload normal works,compressor running,frequency declines	Pls refer to troubleshooting
27	Startsup fail	Lc			Off 3s blink 11 times					Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Pls refer to troubleshooting
28	Compressor current testing circuit malfunction	U1			Off 3s blink 13 times						Replace the outdoor control board AP1
29	EEPROM malfunction	EE			Off 3s blink 15 times					Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Replace the outdoor control board AP1
30	Capacitor charge malfunction	PU			Off 3s blink 17 times					Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Pls refer to Part 3 capacitor charging fault of troubleshooting
31	Module sensor circuit diagram	P7			Off 3s blink 18 times					Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Replace the outdoor control board AP1
32	Module temp. over high protection	P8			Off 3s blink 19 times					Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	To check whether the ambient Temp. of IPM is too high or the heat-sinhing of IPM is dirty else replace the outdoor baord AP1
33	DC Bus voltage dips	U3			Off 3s blink 20 times					Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Power voltage is not stable
34	Low DC Bus voltage protection	PL			Off 3s blink 21 times					Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	1.Check the Input voltage if the Voltage is lower than 150VAC,restart the machine when the power supply is mormal. 2.Checking the reactor L connection.
35	IPM temp.is too high limit/ decrease frequency	EU								Over load normal works,compressor runing frequency declines	Whole unit break for 20 mins and discharge,to check the outdoor control board AP1's IPM module coolant whether is short,the radiator is tightened. If above phenomenon is not OK,Please improve or replace the control board AP1
36	Four-way valve abnormal	U7								This malfunction happened,only in heating mode,all will stop to run.	1.Power supply voltage is lower than AC175V 2.Wire terminal 4V loosen or wire break 3.4V damaged,replace 4V
37	Outdoor unit zero-cross detecting error									Cooling:compressor will stop,indoor fan motor works. Heating:all will stop.	Replace the outdoor control board AP1
38	Outdoor DC fan motor malfunction	L3								Outdoor DC fan motor malfunction lead to compressor stop operation	DC fan motor malfunction or system blocked or the connector loosed

9.3 Troubleshooting for Main Malfunction

●Indoor unit:

1. Malfunction of Temperature Sensor F1, F2

Main detection points:

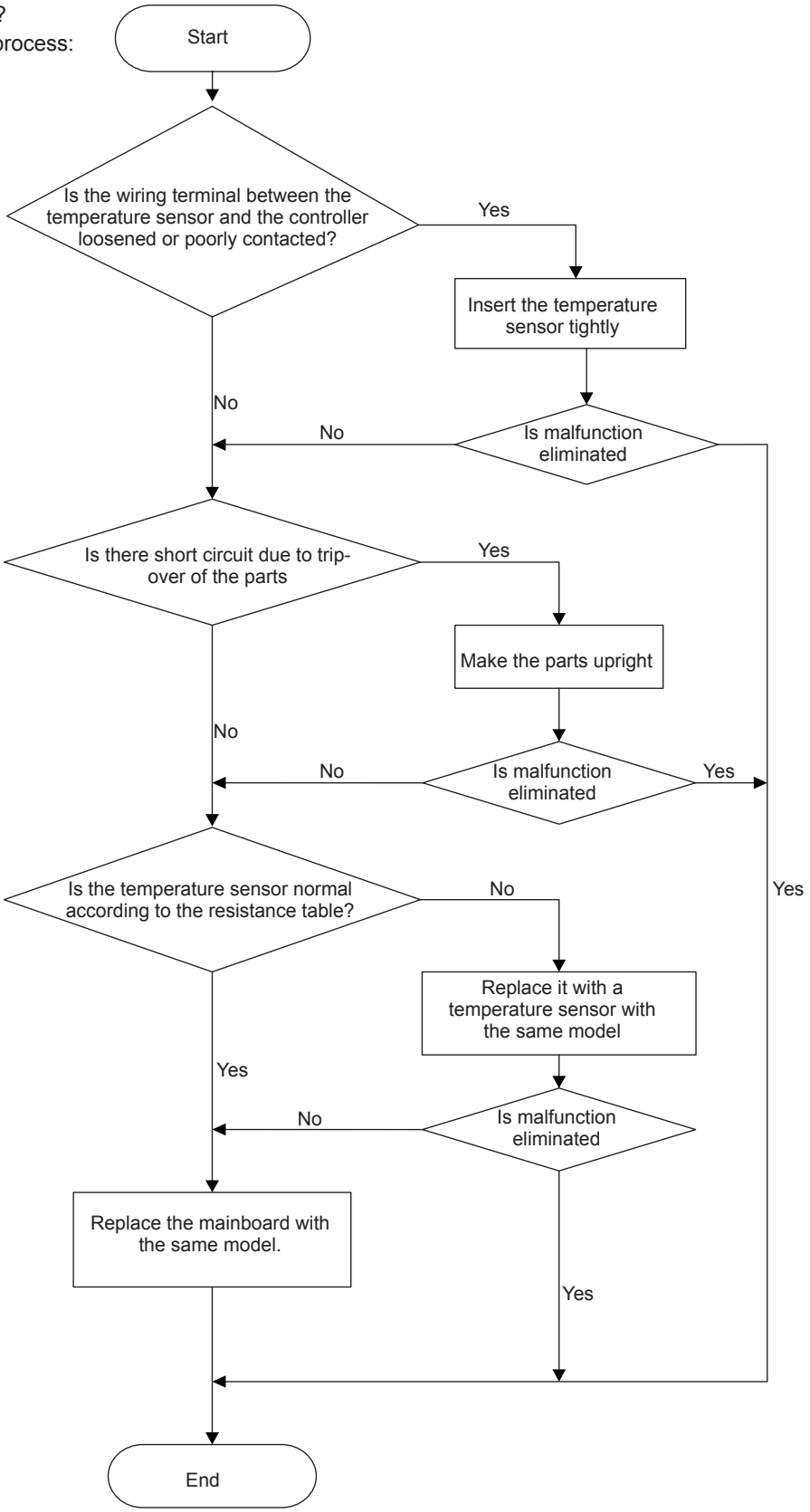
● Is the wiring terminal between the temperature sensor and the controller loosened or poorly contacted?

● Is there short circuit due to trip-over of the parts?

● Is the temperature sensor broken?

● Is mainboard broken?

Malfunction diagnosis process:

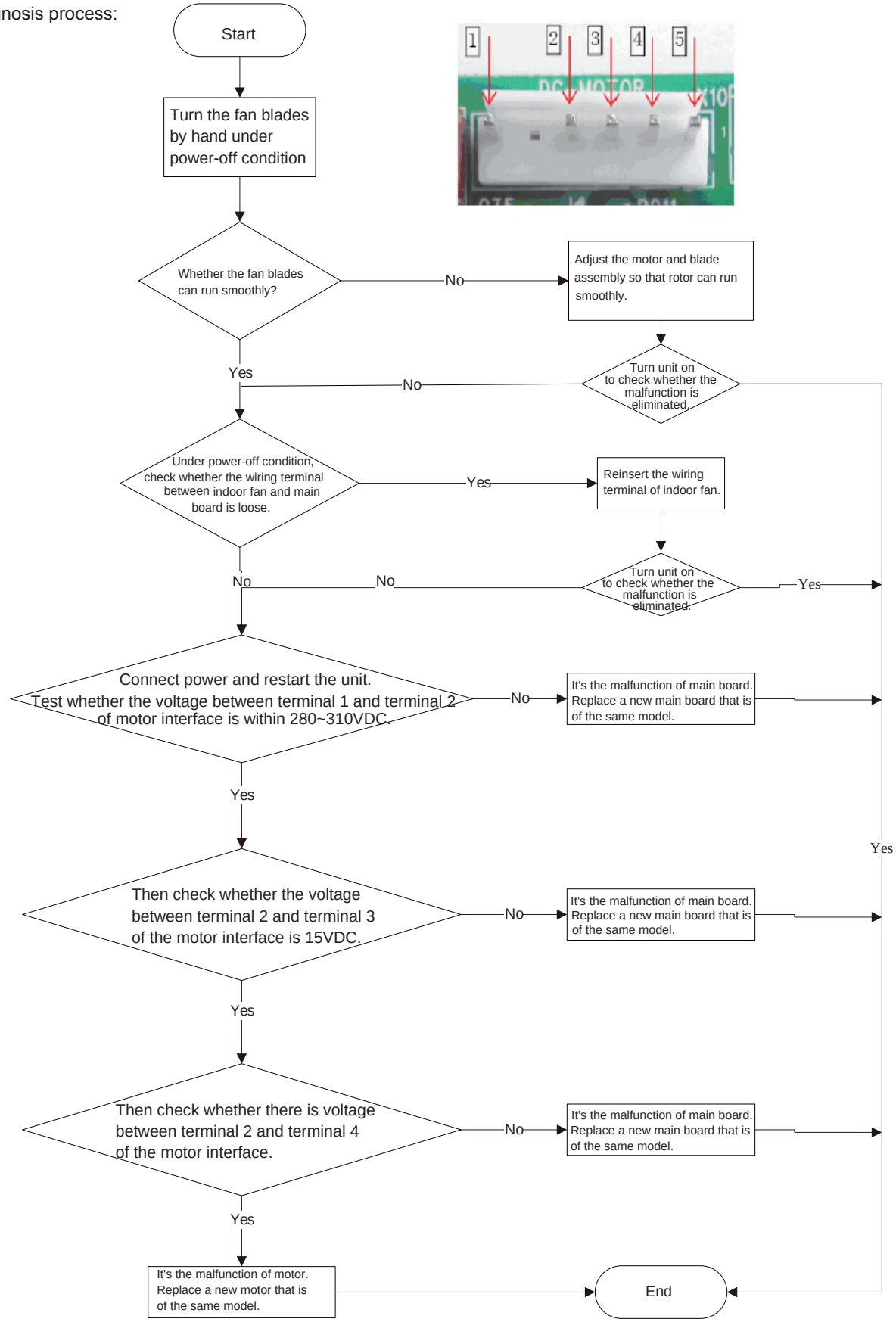


2. Malfunction of Blocked Protection of IDU Fan Motor H6

Main detection points:

- Smoothlyls the control terminal of PG motor connected tightly?
- Smoothlyls 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:

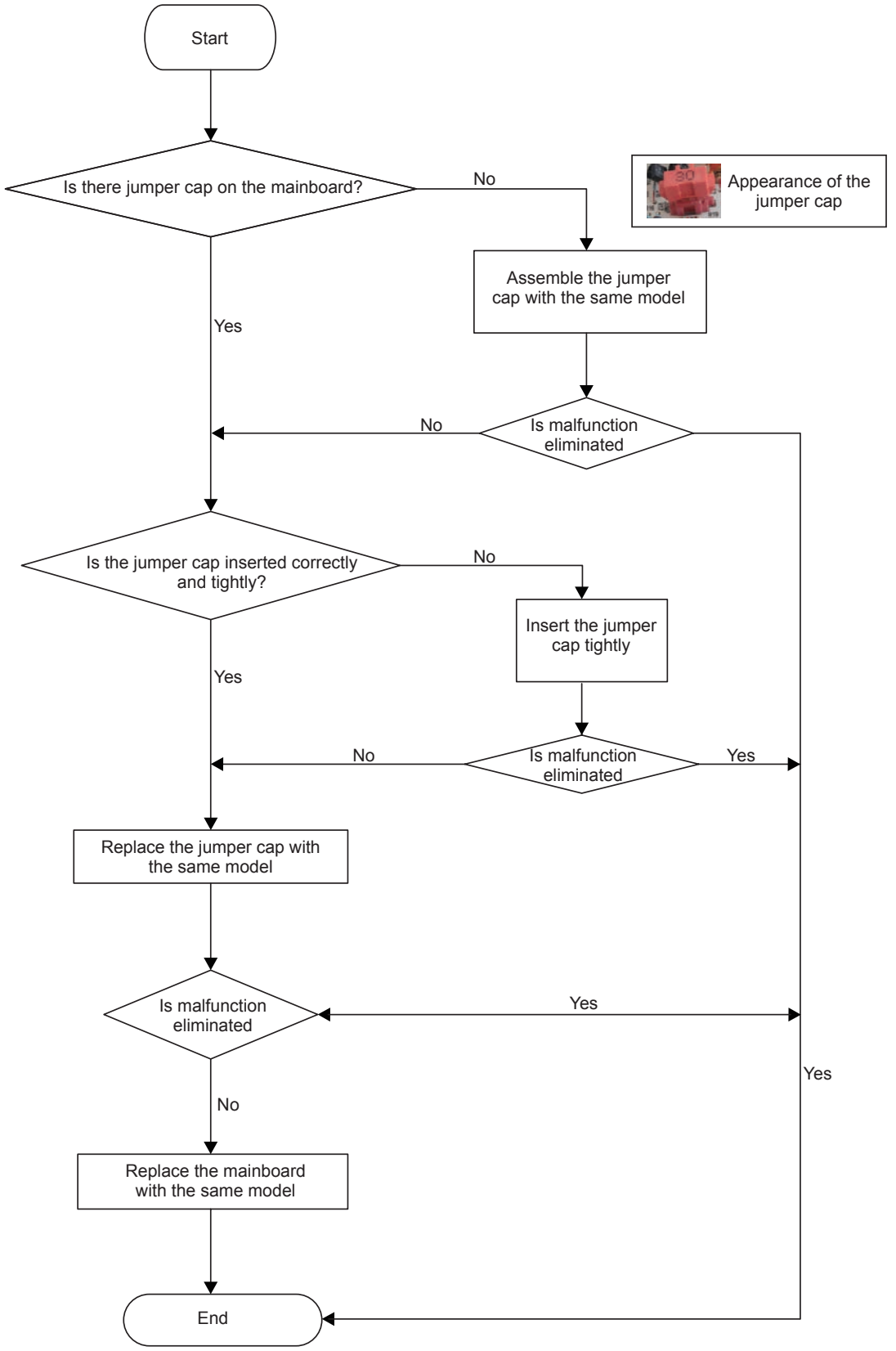


3. Malfunction of Protection of Jumper Cap C5

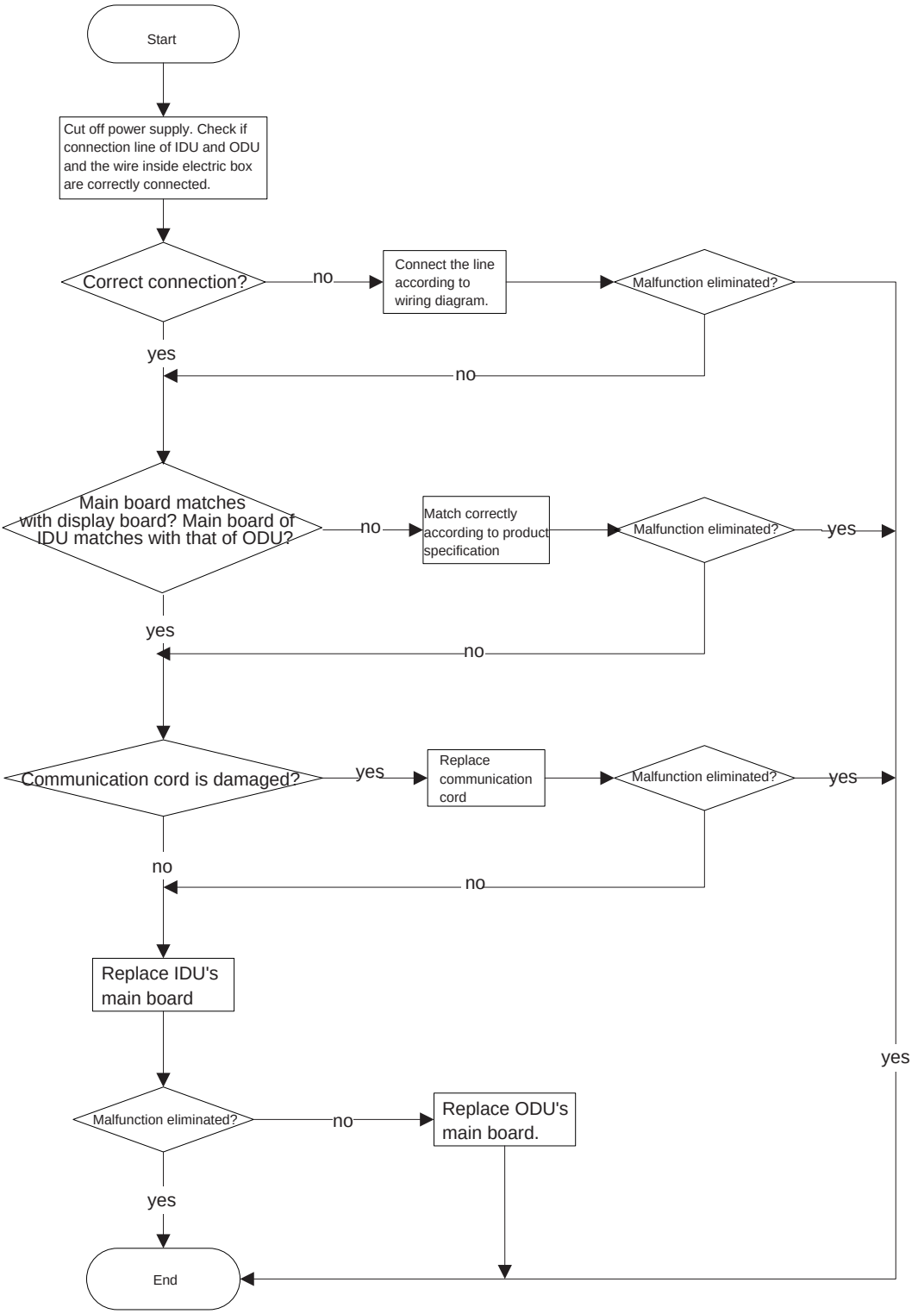
Main detection points:

- 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?

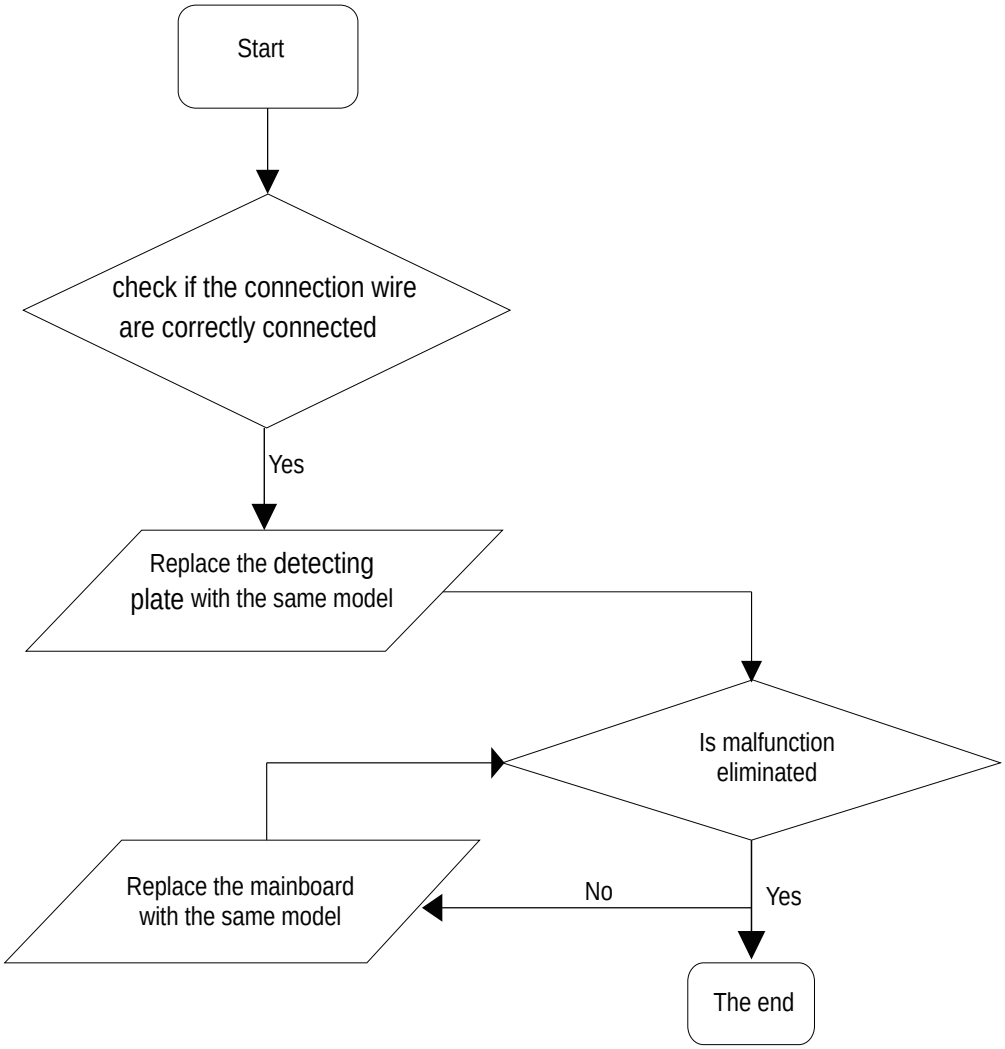
Malfunction diagnosis process:



4. Communication malfunction E6

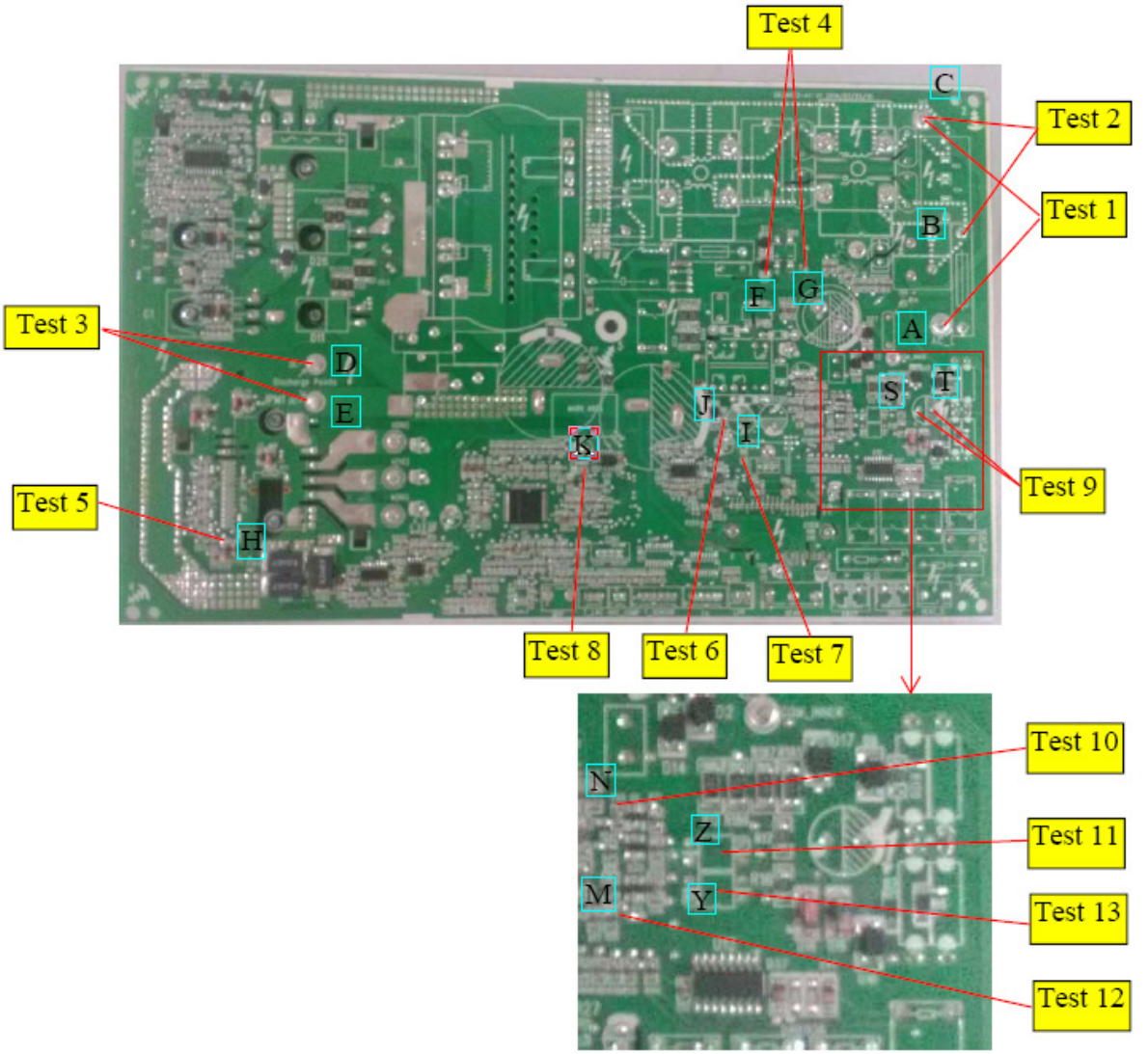


5. Malfunction of detecting plate(WIFI) JF



●Outdoor unit:

Key detection point



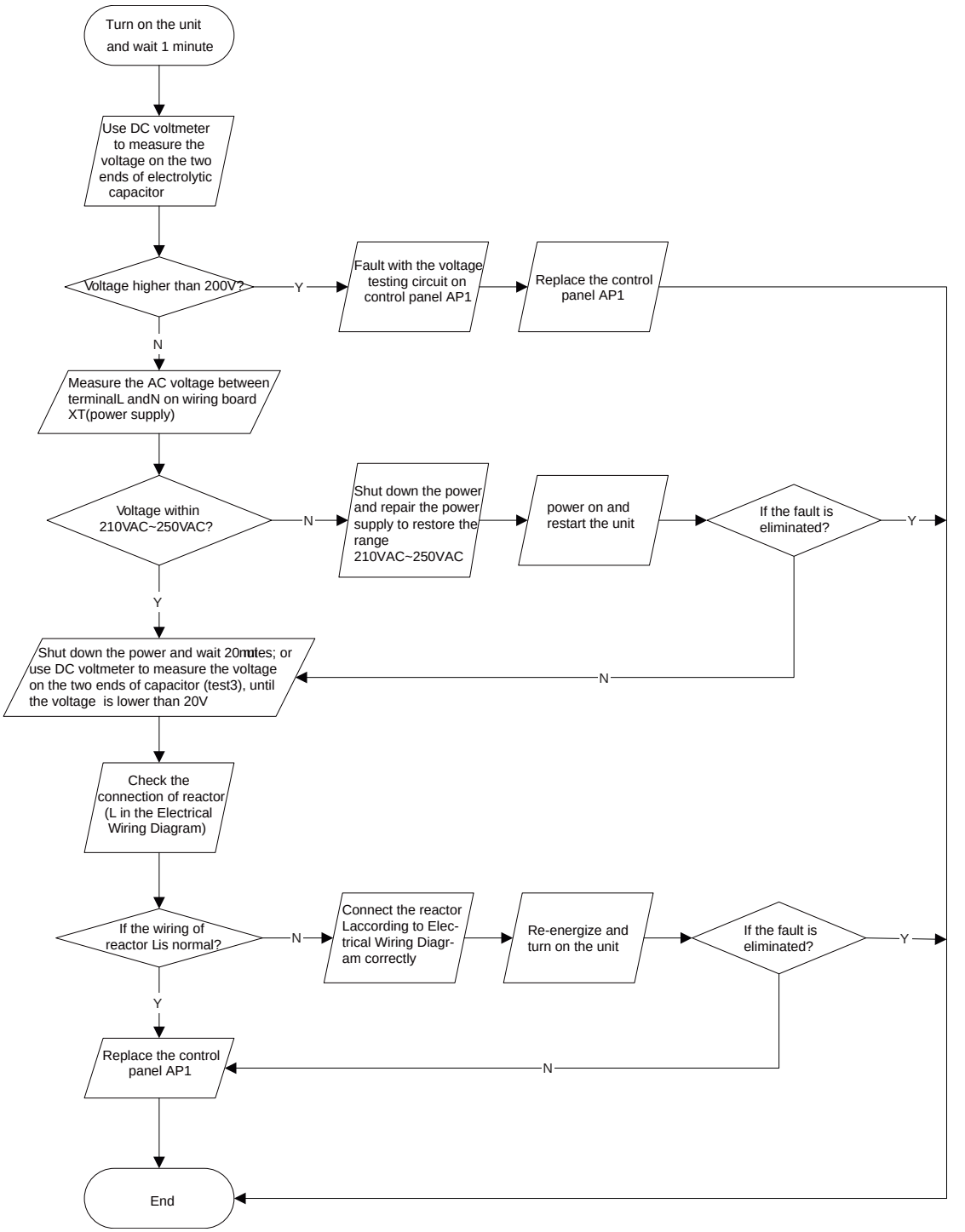
"Test point NO."	Test point	Related elements	Test value under normal condition
Test 1	Between A and C	Neutral wire ,live wire	160V-265V
Test 2	Between B and C	Neutral wire ,live wire	160V-265V
Test 3	Between D and E	Electrolytic capacitor of DC bas bar	DC 180V-380V
Test 4	Between F and G	Electrolytic capacitor of switch power	DC 180V-380V
Test 5	Both ends of diode D59	D59(IPM module +15V)	DC 14.5V-15.5
Test 6	Both ends of electrolytic capacitor C47	C47(+12V power)	DC 12V-13V
Test 7	Both ends of electrolytic capacitor C60	C60(+5V power)	DC 5V
Test 8	Both ends of electrolytic capacitor C73	C73(+3.3V power)	DC 3.3V
Test 9	Between S and T	Communication circular current	DC 56V
Test 10	Between point N and GND	C50 to N terminal (ground) (signal receiving terminal of outdoor unit)	Jumping between 0V and 3.3V
Test 11	U7	Between 1 and 2 at leading foot of U7	Jumping between 0V and 3.3V
Test 12	Between point M and GND	R77 to N terminal (ground) (signal receiving terminal of outdoor unit)	Jumping between 0V and 3.3V
Test 13	U8	Between 3 and 4 at leading foot of U8	Jumping between 0V and 3.3V

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

Main detection point:

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

Malfunction diagnosis process:

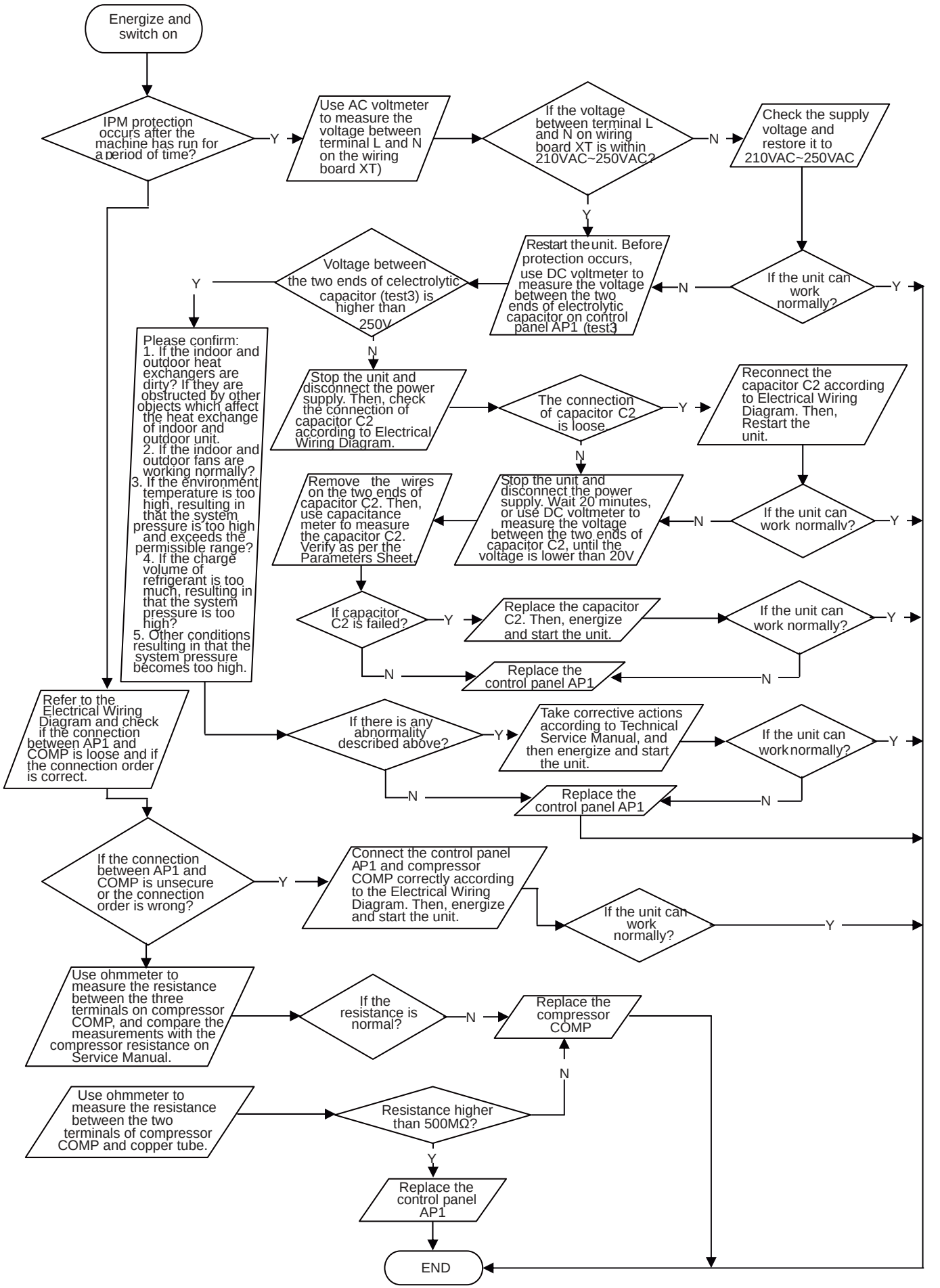


2.IPM protection, desynchronizing malfunction, phase current of compressor is overcurrent (AP1 below is control board of outdoor unit)

Main detection point:

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

Malfunction diagnosis process:

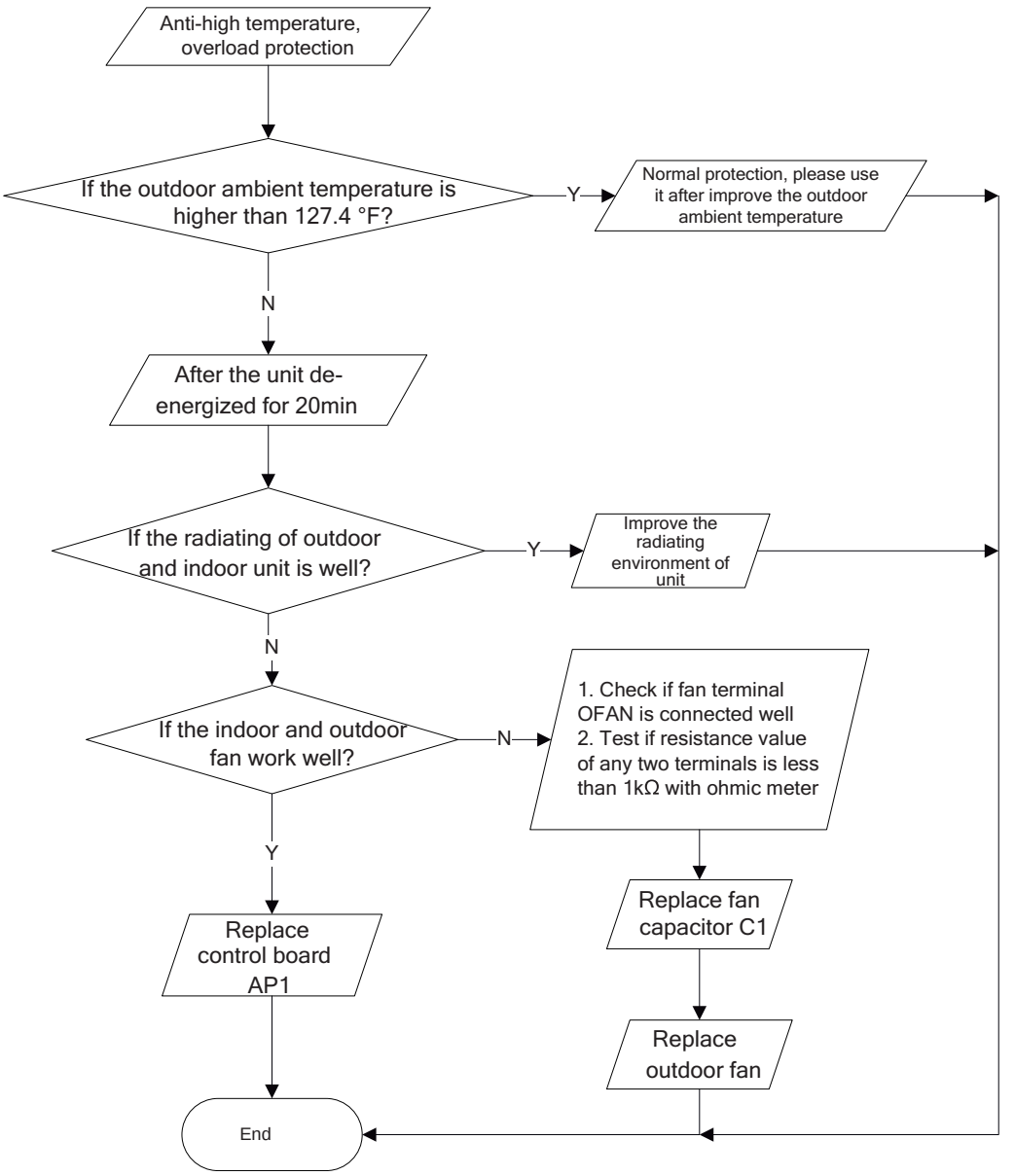

Energize and switch on
IPM protection occurs after the machine has run for a period of time?
Y
Use AC voltmeter to measure the voltage between terminal L and N on the wiring board XT)
If the voltage between terminal L and N on wiring board XT is within 210VAC~250VAC?
N
Check the supply voltage and restore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

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

Main detection point:

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

Malfunction diagnosis process:

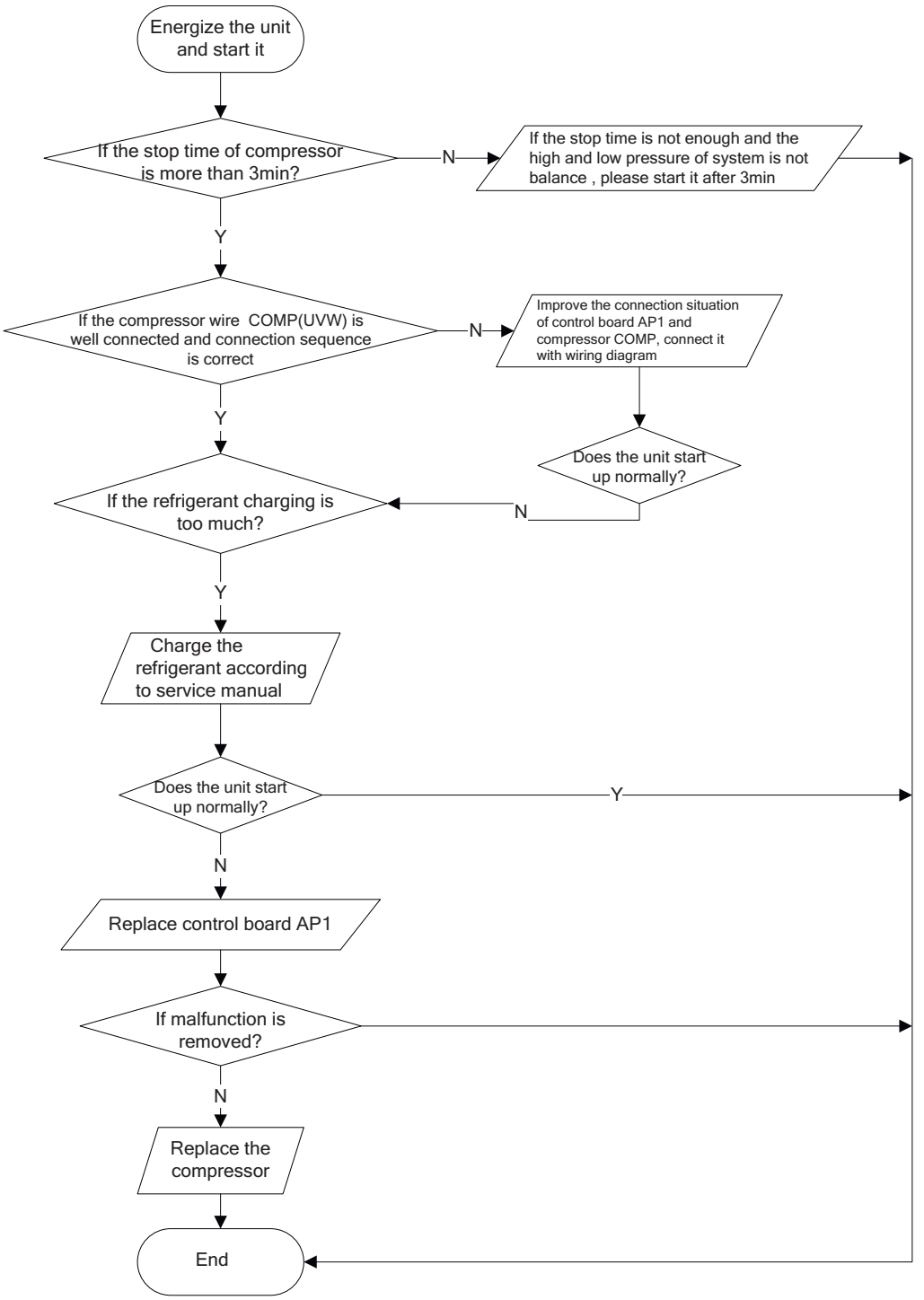


4.Diagnosis for failure start up malfunction (AP1 below is control board of outdoor unit)

Main detection point:

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

Malfunction diagnosis process:

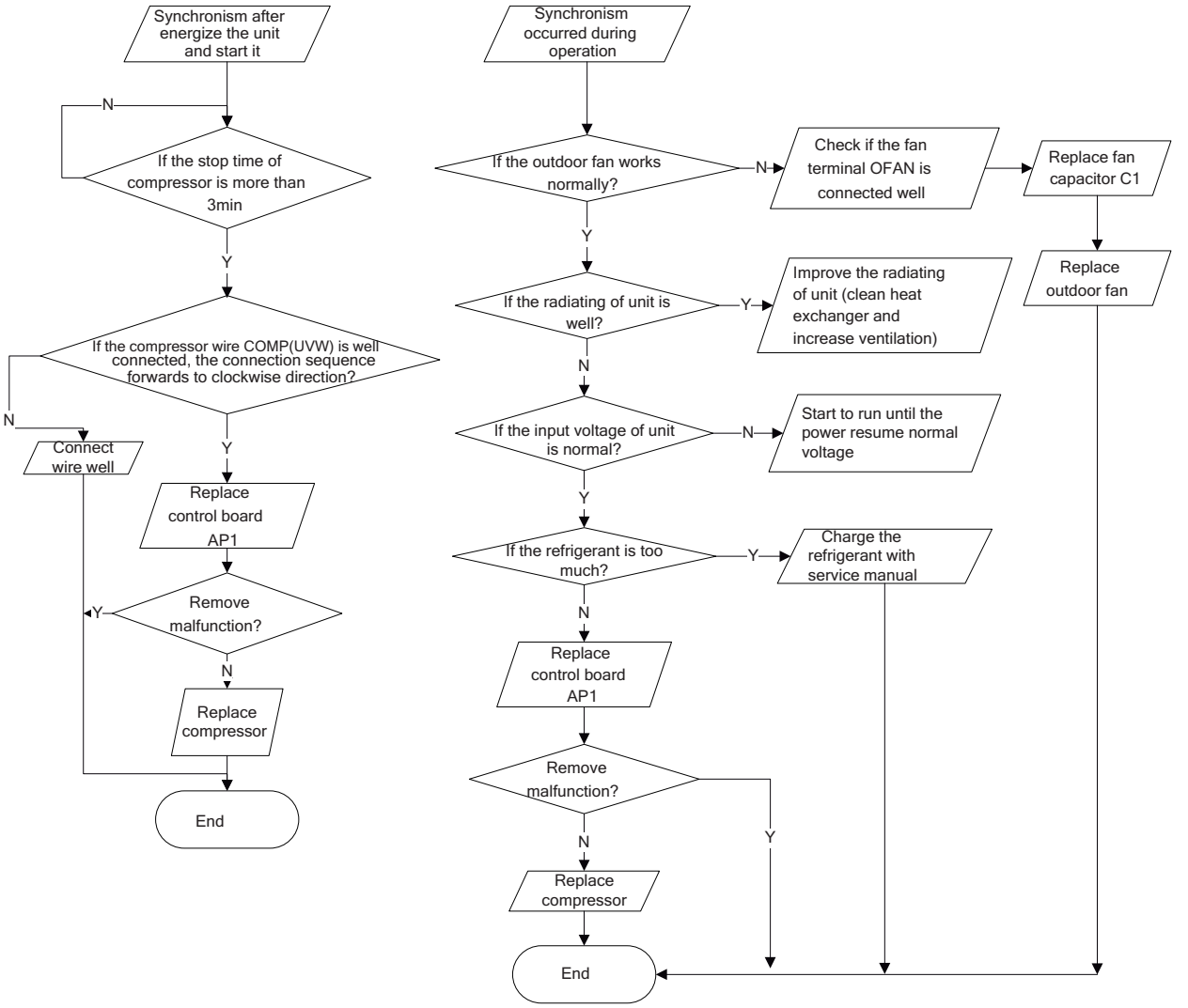


5. Diagnosis for compressor synchronism (AP1 below is control board of outdoor unit)

Main detection point:

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

Malfunction diagnosis process:

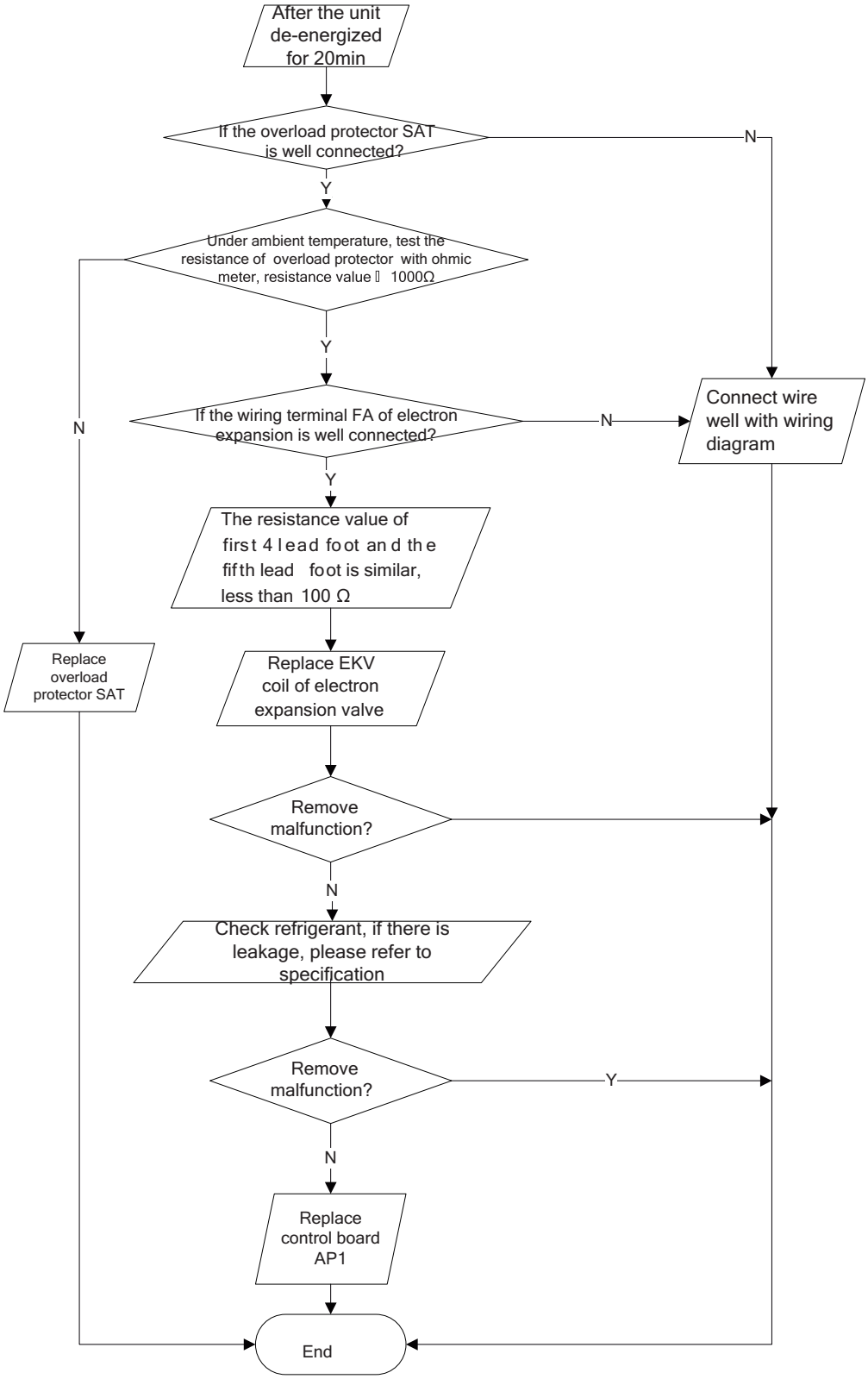


6.Diagnosis for overload and discharge malfunction (AP1 below is control board of outdoor unit)

Main detection point:

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

Malfunction diagnosis process:

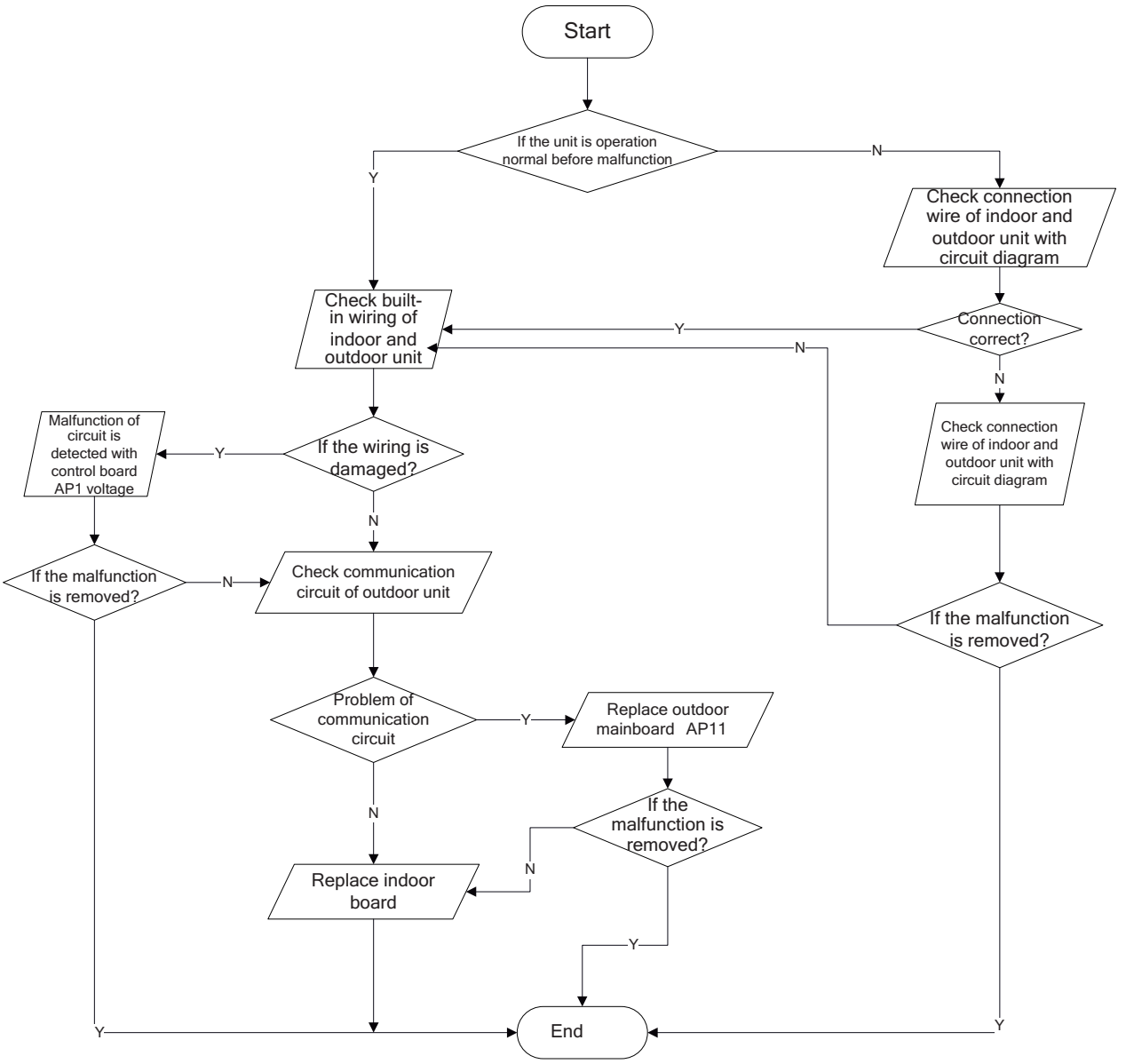


7.Communication malfunction (AP1 below is control board of outdoor unit)

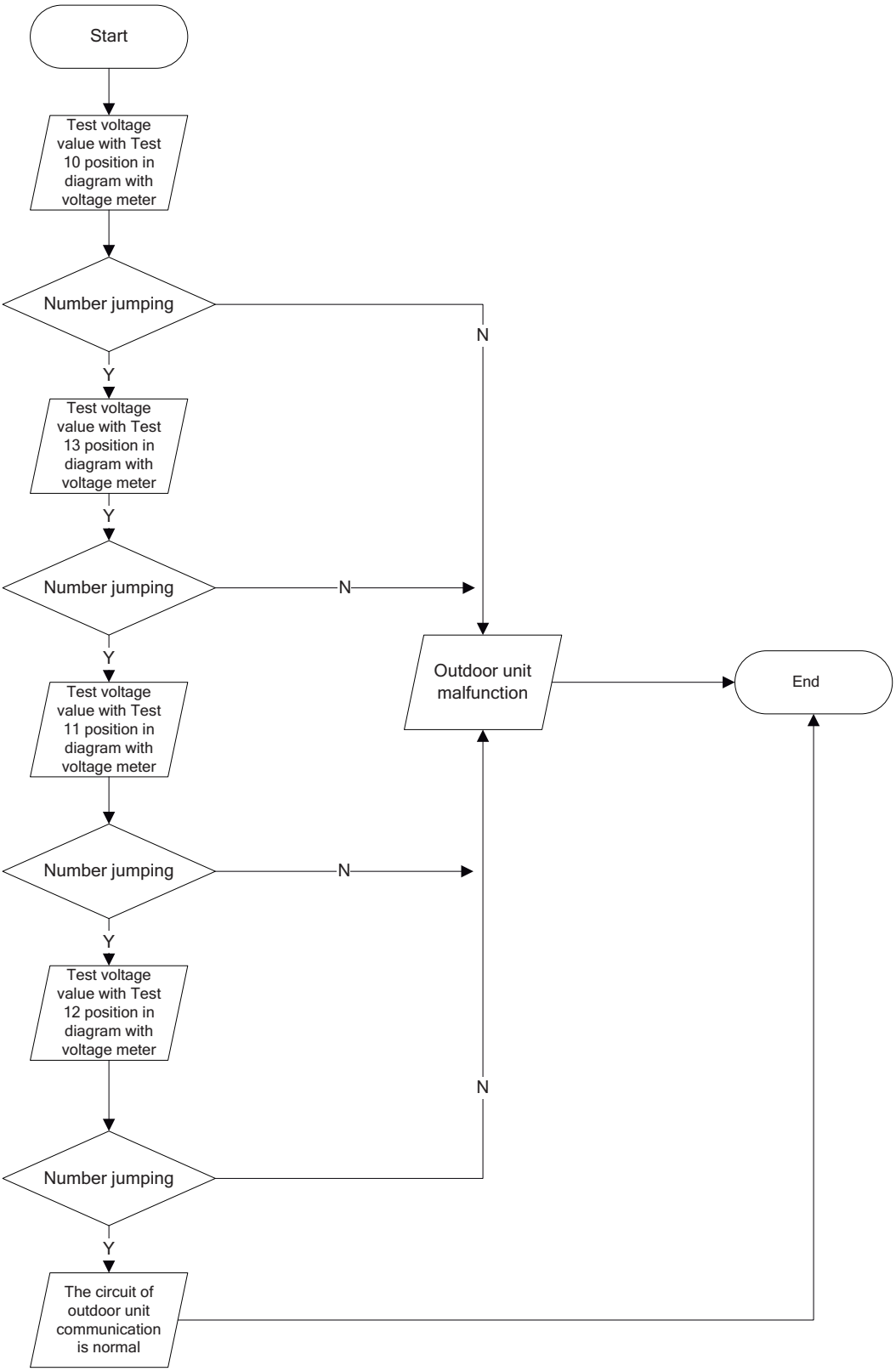
Main detection point:

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

Malfunction diagnosis process:



8.Diagnosis process for outdoor communication circuit



9.4 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. ODU fan motor cant operate

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

5. Compressor cant operate

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Capacity of compressor is damaged	Measure the capacity of fan capacitor with an universal meter and find that the capacity is out of the deviation range indicated on the nameplate of fan capacitor.	Replace the compressor capacitor
Power voltage is a little low or high	Use universal meter to measure the power supply voltage. The voltage is a little high or low	Suggest to equip with voltage regulator
Coil of compressor is burnt out	Use universal meter to measure the resistance between compressor terminals and its 0	Repair or replace compressor
Cylinder of compressor is blocked	Compressor cant operate	Repair or replace compressor

6. Air conditioner is leaking

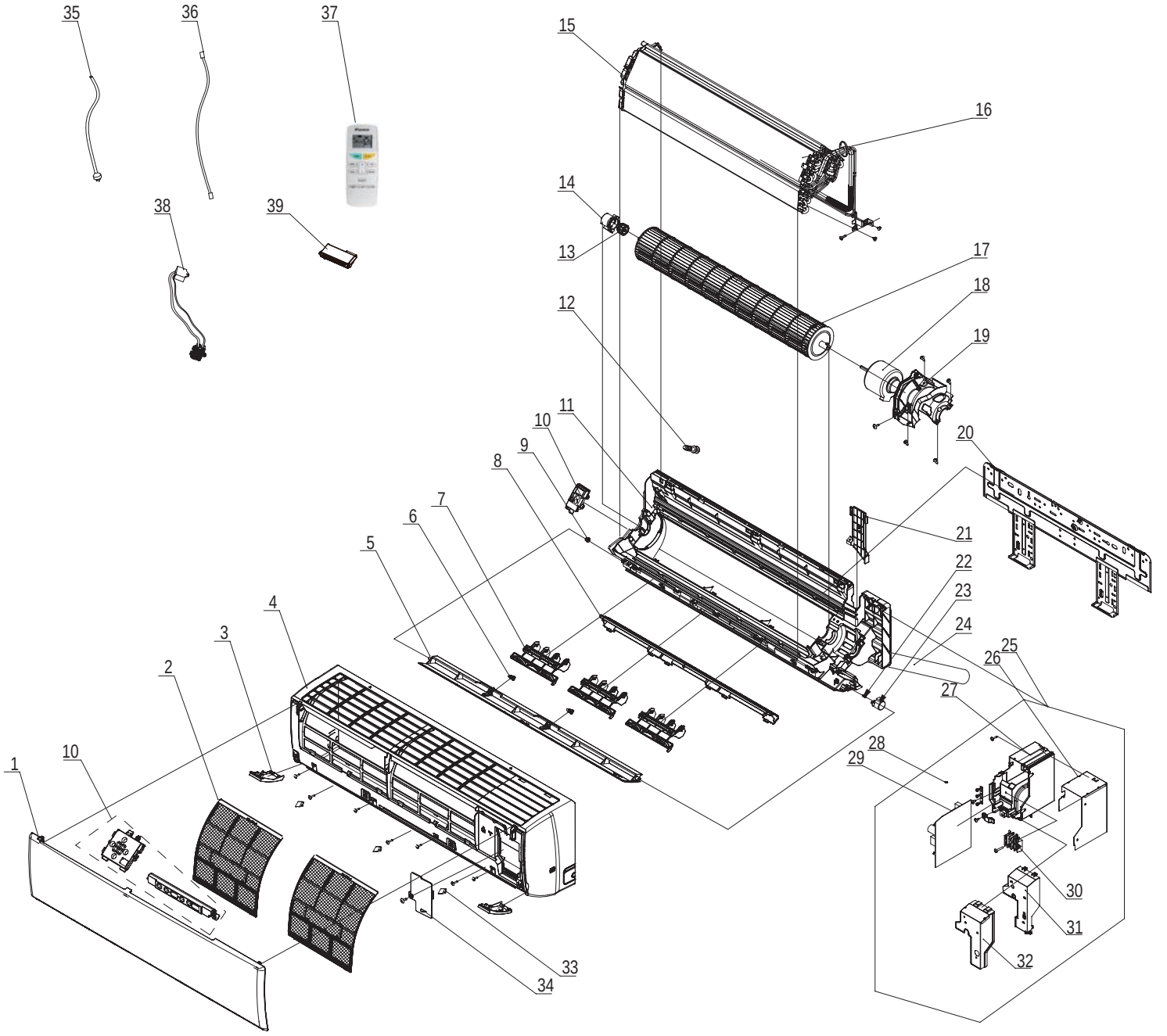
Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Drain pipe is blocked	Water leaking from indoor unit	Eliminate the foreign objects inside the drain pipe
Drain pipe is broken	Water leaking from drain pipe	Replace drain pipe
Wrapping is not tight	Water leaking from the pipe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

7. Abnormal sound and vibration

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
When turn on or turn off the unit, the panel and other parts will expand and 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

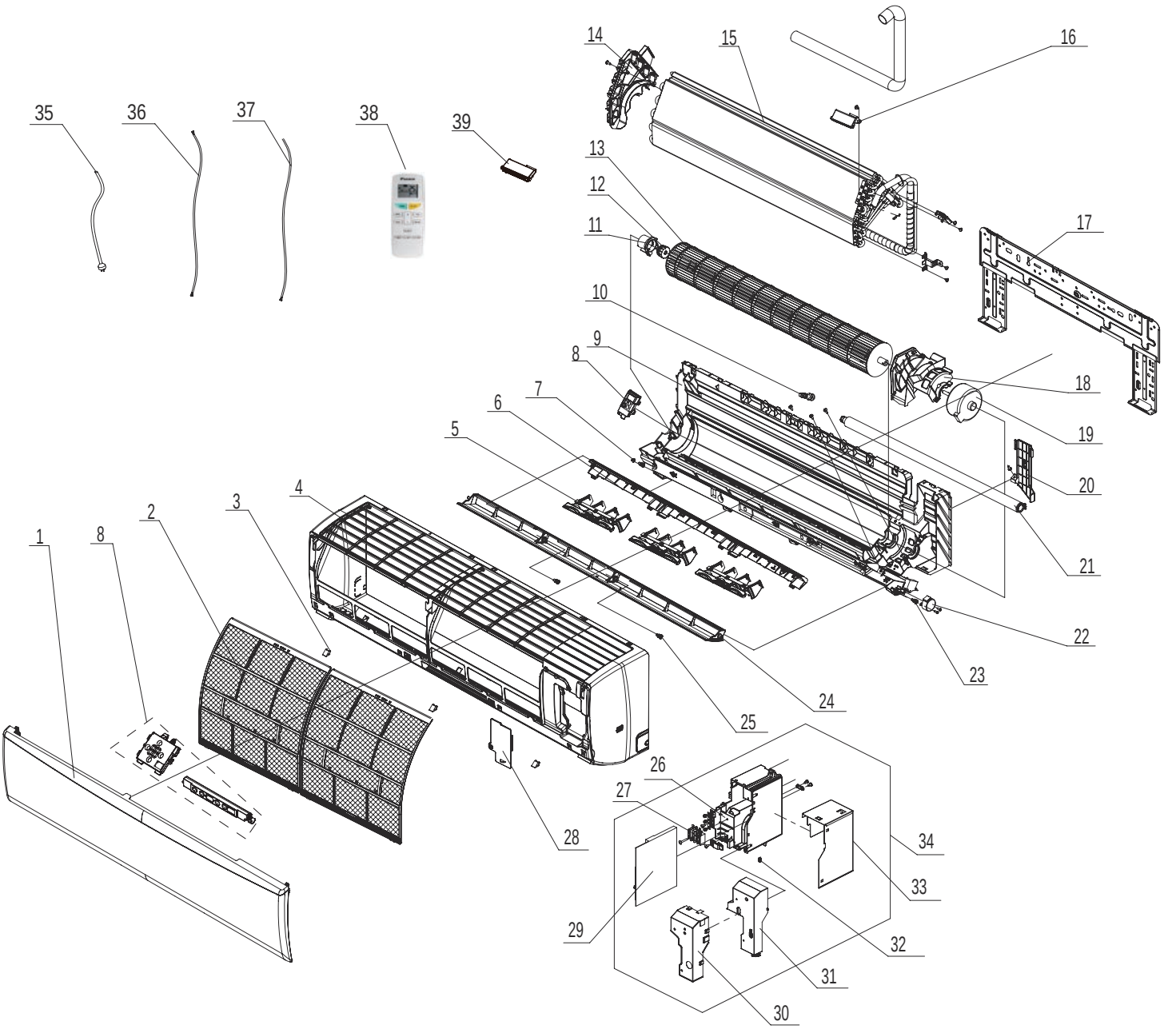
10.1 Indoor Unit



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

NO.	Description	Part Code		Qty
		FTKS18SL216	FTXS18SL216	
	Product Code	CB459N04600_L75033	CB459N04200_L84775	
1	Front Panel	200003000015S	200003000015S	1
2	Filter Sub-Assy	11122089	11122089	2
3	Decoration board(left and right)	20192662	20192662	1
4	Front Case	2002248401	2002248401	1
5	Guide Louver	1051276501	1051276501	1
6	Axile Bush	10542036	10542036	2
7	Air Louver(Manual)	10512732	10512732	3
8	Helicoid Tongue	26112512	26112512	1
9	Left Axile Bush	10512037	10512037	1
10	Display Board	300001000036	300001000036	1
11	Rear Case assy	22202571	22202571	1
12	Rubber Plug (Water Tray)	76712012	76712012	1
13	O-Gasket sub-assy of Bearing	7651205102	7651205102	1
14	O-Gasket of Cross Fan Bearing	76512203	76512203	1
15	Evaporator Support	24212177	24212177	1
16	Evaporator Assy	011001000207	011001000207	1
17	Cross Flow Fan	10352060	10352060	1
18	Fan Motor	1501214503	1501214503	1
19	Motor Press Plate	26112511	26112511	1
20	Wall Mounting Frame	01362026	01362026	1
21	Connecting pipe clamp	2611218801	2611218801	1
22	Crank	73012005	73012005	1
23	Stepping Motor	1521240212	1521240212	1
24	Drainage Hose	05230014	05230014	1
25	Electric Box Assy	100002004017_L75033	100002003962_L84775	1
26	Lower Shield of Electric Box	01592139	01592139	1
27	Electric Box	2011221102	2011221102	1
28	Jumper	4202021919	4202021919	1
29	Main Board	300002000313	300002000312	1
30	Terminal Board	42011233	42011233	1
31	Electric Box Cover	2011220901	2011220901	1
32	Shield Cover of Electric Box	01592139	01592139	1
33	Screw Cover	2425201726	2425201726	3
34	Electric Box Cover2	2011221001	2011221001	1
35	Power Cord	/	/	/
36	Connecting Cable	/	/	/
37	Remote Controller	30510537	30510537	1
38	Cold Plasma Generator	/	/	/
39	Detecting plate(WIFI)	30070077	30070077	1

Above data is subject to change without notice.

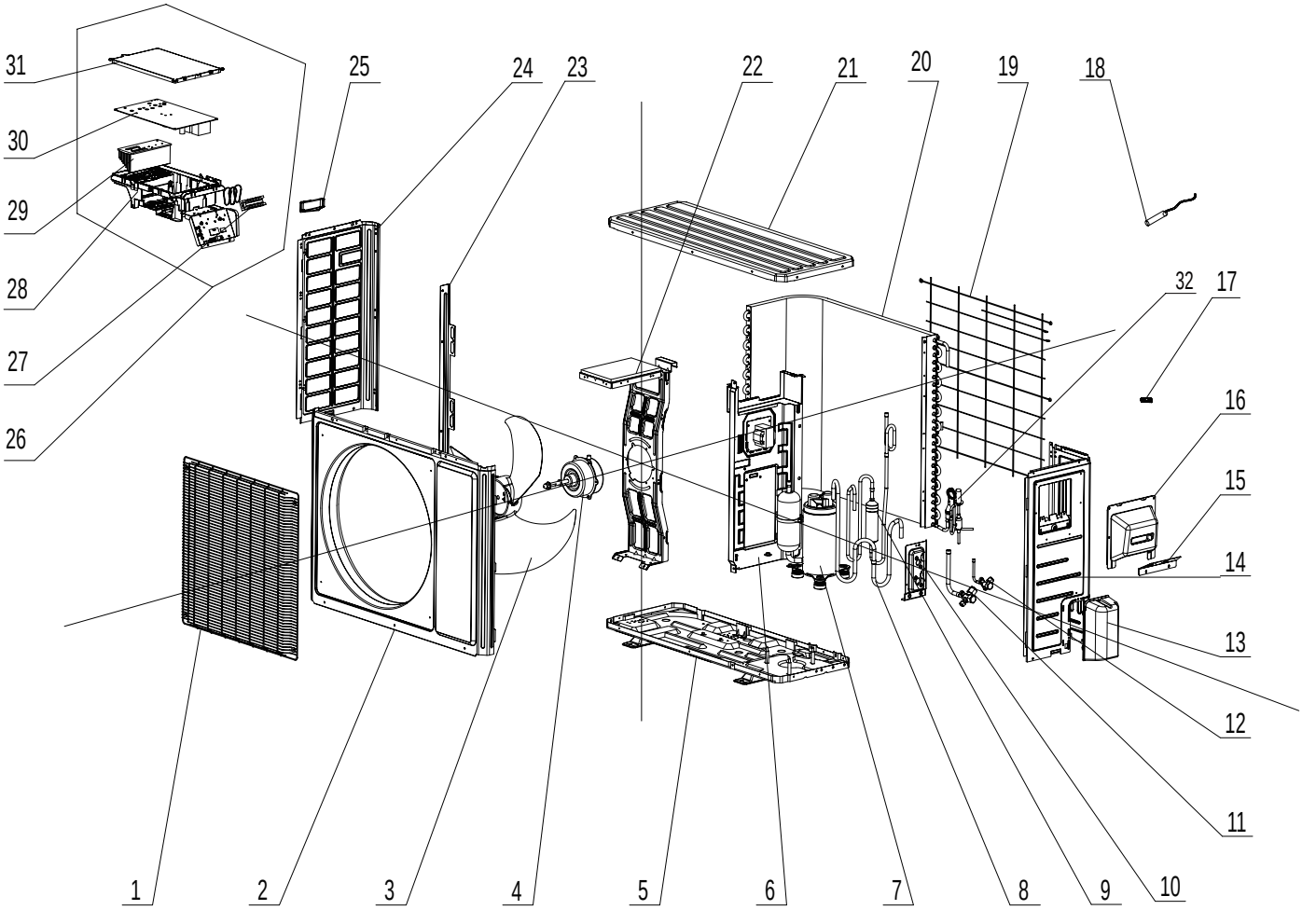


The component picture is only for reference; please refer to the actual product.

No.	Description	Part Code		Qty
		FTKS24SL216	FTXS24SL216	
	Product Code	CB459N04700	CB459N04300_L84775	
1	Front Panel	200003000014	200003000014	1
2	Filter Sub-Assy	11012007	11012007	2
3	Screw Cover	2425245301	2425245301	3
4	Front Case	2002248603	2002248603	1
5	Air Louver(Manual)	10512737	10512737	3
6	Helicoid Tongue	26112513	26112513	1
7	Left Axile Bush	10512037	10512037	1
8	Display Board	300001000036	300001000036	1
9	Rear Case assy	22202570	22202570	1
10	Rubber Plug (Water Tray)	76712012	76712012	1
11	Ring of Bearing	26152025	26152025	1
12	O-Gasket sub-assy of Bearing	7651205102	7651205102	1
13	Cross Flow Fan	10352057	10352057	1
14	Evaporator Support	24212178	24212178	1
15	Evaporator Assy	011001000095	011001000095	1
16	Cold Plasma Generator	/	/	/
17	Wall Mounting Frame	01252229	01252229	1
18	Motor Press Plate	26112515	26112515	1
19	Fan Motor	1501214501	1501214501	1
20	Connecting pipe clamp	26112514	26112514	1
21	Drainage Hose	0523001405	0523001405	1
22	Stepping Motor	1521240212	1521240212	1
23	Crank	73012005	73012005	1
24	Guide Louver	1051232001	1051232001	1
25	Axile Bush	10542036	10542036	2
26	Electric Box	2011221102	2011221102	1
27	Terminal Board	42011233	42011233	1
28	Electric Box Cover2	2011221001	2011221001	1
29	Main Board	300002000314	300002000316	1
30	Shield Cover of Electric Box	01592139	01592139	1
31	Electric Box Cover	2011220901	2011220901	1
32	Jumper	4202021924	4202021924	1
33	Lower Shield of Electric Box	01592139	01592139	1
34	Electric Box Assy	100002003988_L75033	100002003961_L84775	1
35	Power Cord	/	/	/
36	Connecting Cable	/	/	/
37	Temperature Sensor	3900031302	3900031302	1
38	Remote Controller	30510537	30510537	1
39	Detecting plate(WIFI)	30070077	30070077	1

Above data is subject to change without notice.

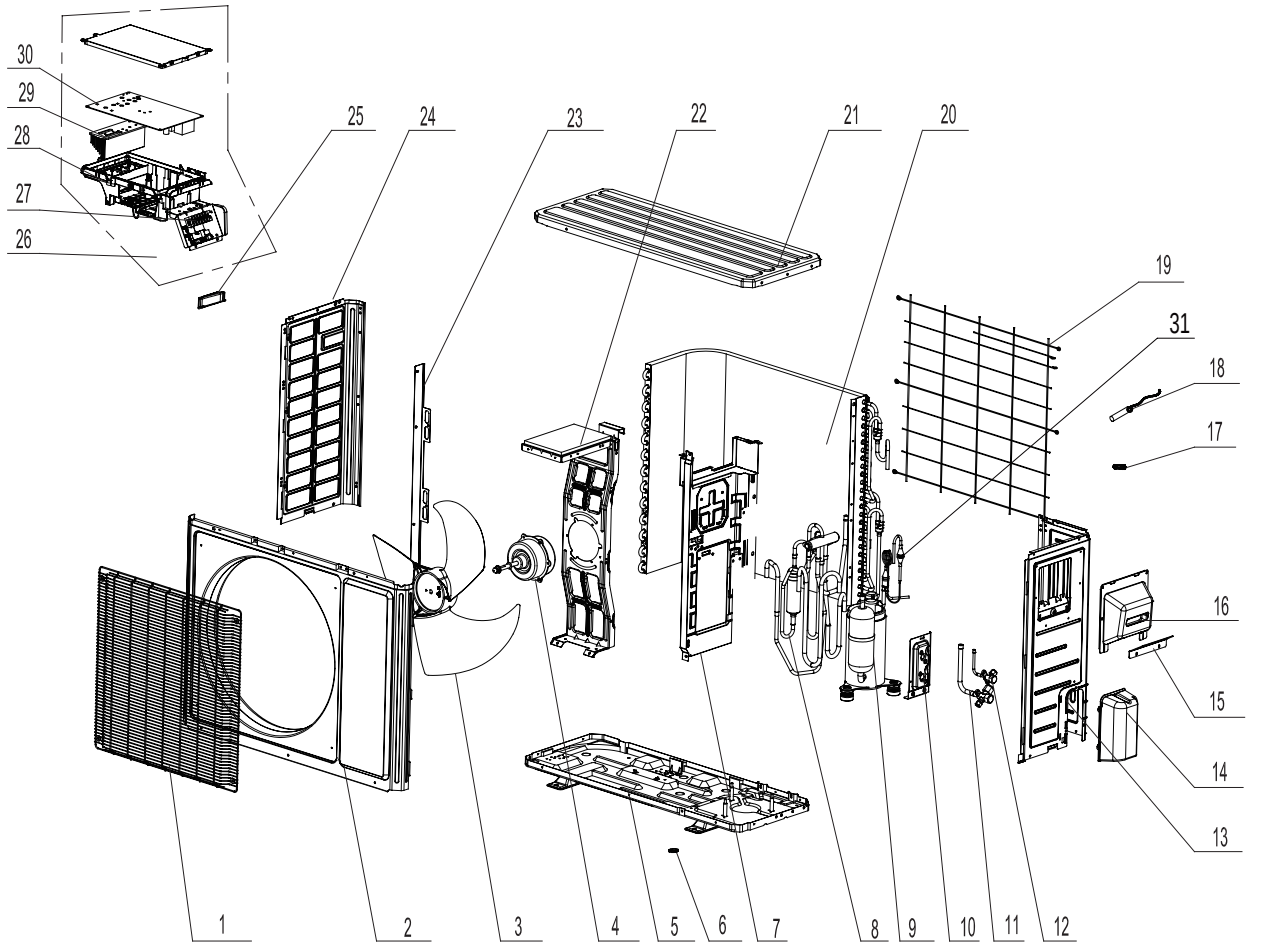
10.2 Outdoor Unit



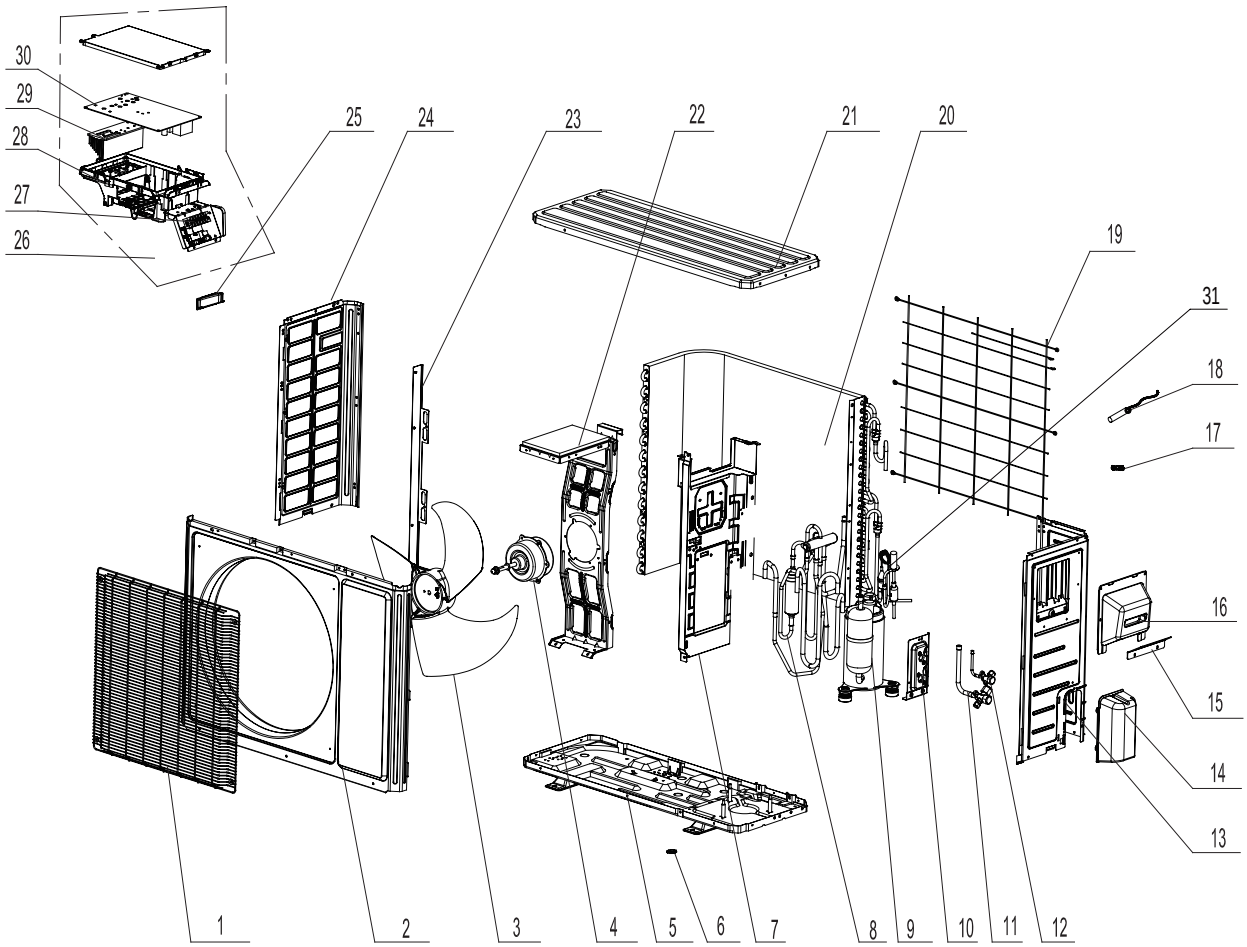
The component picture is only for reference; please refer to the actual product.

NO.	Description	Part Code		Qty
		RKS18SL216	RKS24SL216	
	Product Code	CB425W07500_L75033	CB425W07600_L75033	
1	Front Grill	01473049	01473049	1
2	Cabinet	01433047P	01433047P	1
3	Axial Flow Fan	10335008	10335008	1
4	Fan Motor	1501506402	1501506402	1
5	Chassis Sub-assy	01700000094P	01700000161P01	1
6	Clapboard Assy	01233153	01702100008	1
7	Compressor and Fittings	00105249G	00105249G	1
8	Inhalation Tube Sub-assy	030010000499	030010000130	1
9	Discharge Tube Sub-assy	030013000571	030013000417	1
10	Valve Support Assy	01715010P	01705046	1
11	Cut off Valve Assy	07130239	07133844	1
12	Cut off Valve Sub-Assy	07133204	03005700125	1
13	Valve Cover	22245002	22245002	1
14	Right Side Plate	0130509403P	0130329208	1
15	Retaining Plate	02115006P	02115006P	1
16	Handle Assy	02113109	02113109	1
17	Wire Clamp	71010003	71010003	1
18	Temperature Sensor	3900030901	3900030902	1
19	Rear Grill	01473043	01475020	1
20	Condenser Assy	011002000479	011002000058	1
21	Coping	012049000007P	012049000007P	1
22	Motor Support Sub-Assy	01705043	01705067	1
23	Condenser Support Plate	0117313201	01795031	1
24	Left Side Plate	01305093P	01305093P	1
25	Handle	26233053	26233053	1
26	Electric Box Assy	100002001527	100002001405	1
27	Terminal Board	42010255	42010255	1
28	Electric Box	20113027	20113027	1
29	Main Board	300027000298	300027000302	1
30	Radiator	49013060	49013060	1
31	Insulated Board (Cover of Electric Box)	20113003	20113003	1
32	Electronic Expansion Valve assy	030174000064	030174000008	1

Above data is subject to change without notice.



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



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

No.	Description	Part Code		Qty
		RXS18SL216	RXS24SL216	
	Product Code	CB425W07400_L84775	CB425W07700_L84775	
1	Front Grill	01473049	01473049	1
2	Cabinet	01433047P	01433047P	1
3	Axial Flow Fan	10335008	10335008	1
4	Fan Motor	1501506402	1501506402	1
5	Chassis Sub-assy	01700000093P	01700000161P	1
6	Drainage hole Cap	06813401	06813401	3
7	Clapboard Assy	01233153	01235081	1
8	4-Way Valve Assy	030152000291	030152000073	1
9	Compressor and Fittings	00105249G	00105249G	1
10	Valve Support Assy	01715010P	01705046	1
11	Cut off Valve	07130239	07133844	1
12	Cut off Valve Sub-Assy	07133204	07133843	1
13	Right Side Plate	0130509403P	0130509002P	1
14	Valve Cover	22245002	22245002	1
15	Retaining Plate	02115006P	02115006P	1
16	Handle Assy	02113109	02113109	1
17	Valve Support Block	/	26115007	1
18	Temperature Sensor	3900030901	3900030902	1
19	Rear Grill	01473043	01475020	1
20	Condenser Assy	011002000513	011002000244	1
21	Coping	012049000007P	012049000007P	1
22	Motor Support Sub-Assy	01703154	01705067	1
23	Condenser Support Plate	01173127	01795031	1
24	Left Side Plate	01305093P	01305093P	1
25	Handle	26233053	26233053	1
26	Electric Box Assy	100002001525	100002001406	1
27	Terminal Board	42010255	42010255	1
28	Electric Box	20113027	20113027	1
29	Main Board	300027000297	300027000301	1
30	Radiator	49013076/49013060	49013076/49013060	1
31	Electronic Expansion Valve assy	030026000208	030174000041	1

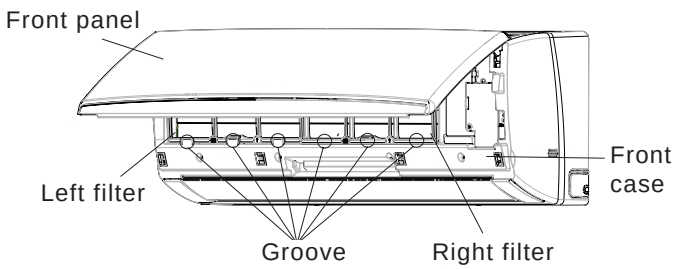
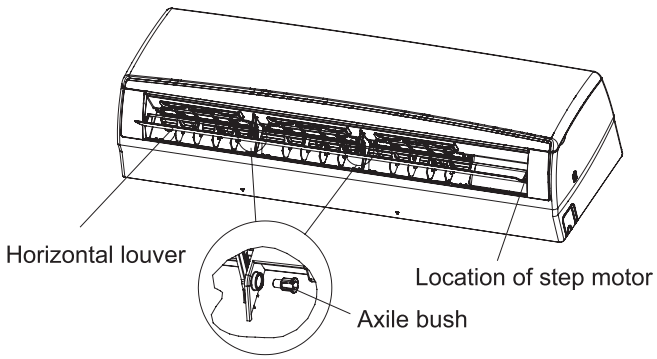
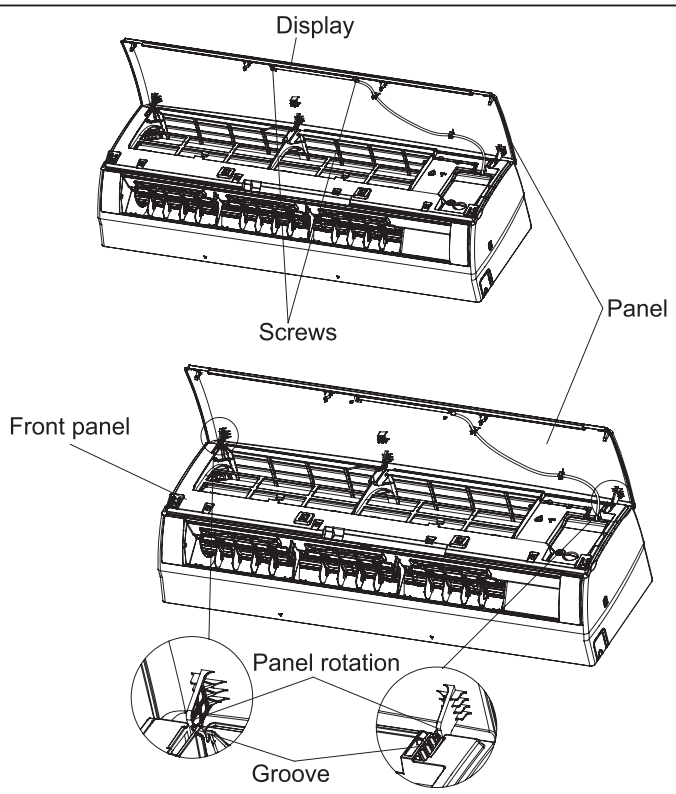
Above data is subject to change without notice.

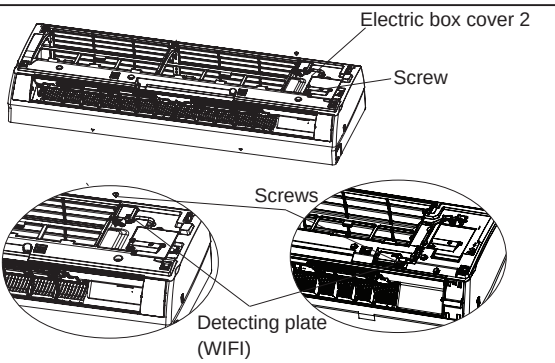
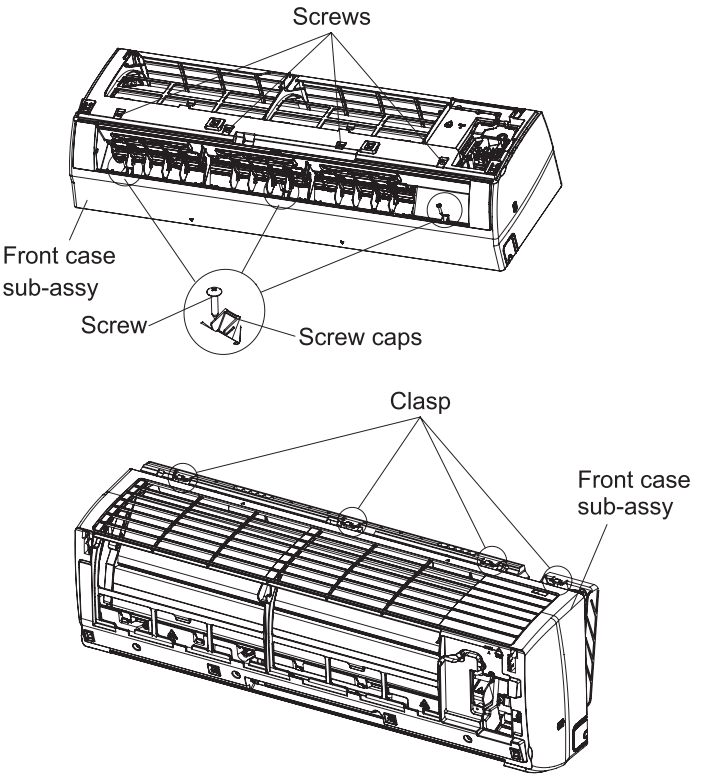
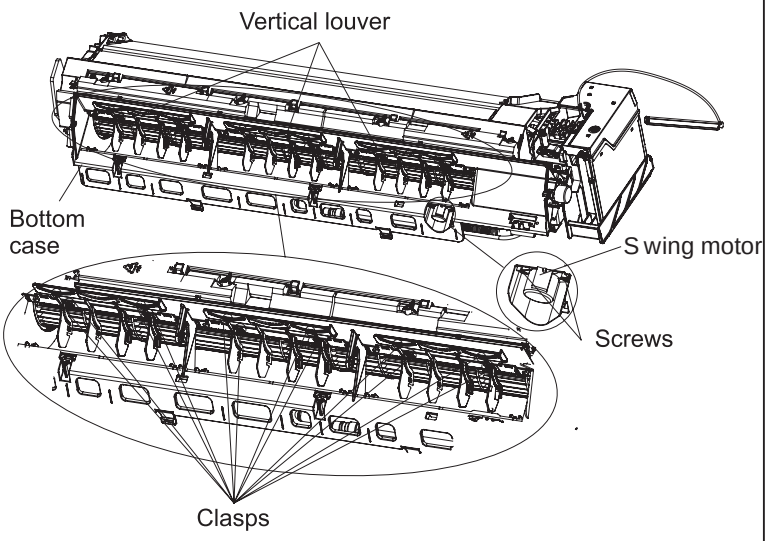
11. Removal Procedure

11.1 Removal Procedure of Indoor Unit

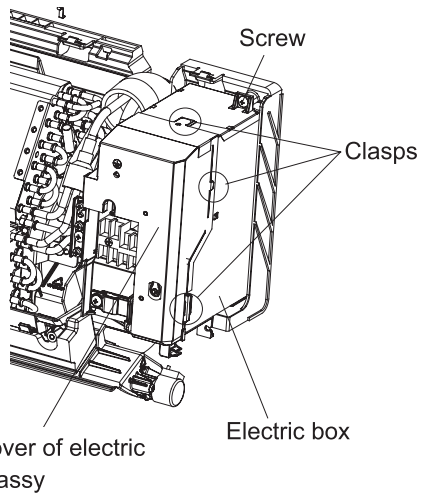
Warning: Be sure to wait for a minimum of 20 minutes after turning off all power supplies and discharge the refrigerant completely before removal.

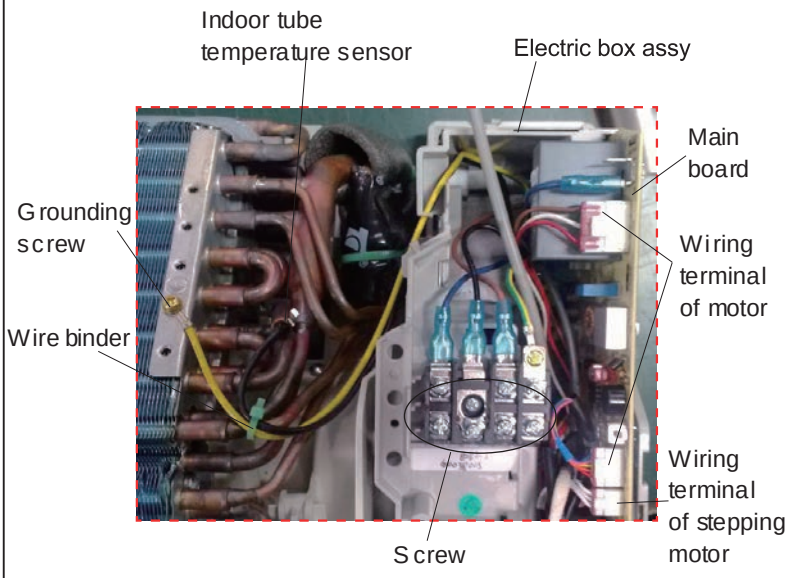
NOTE: Take A1 panel for an example.

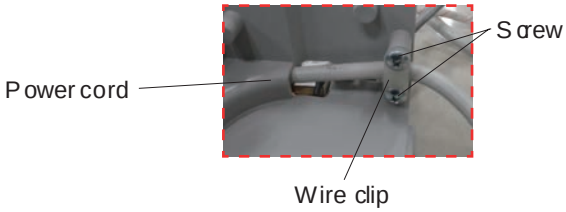
Step	Procedure	
1. Remove filter assy		
	Open the front panel. Push the left and right filters to make them break away from the groove on the front case. Then remove the left and right filters one by one.	
2. Remove horizontal louver		
	Push out the axile bush on horizontal louver. Bend the horizontal louver with hand and then separate the horizontal louver from the crankshaft of step motor to remove it.	
3. Remove panel		
a	Screw off the 2 screws that are locking the display board. Separate the display board from the front panel.	
b	Separate the panel rotation shaft from the groove fixing the front panel and then removes the front panel.	

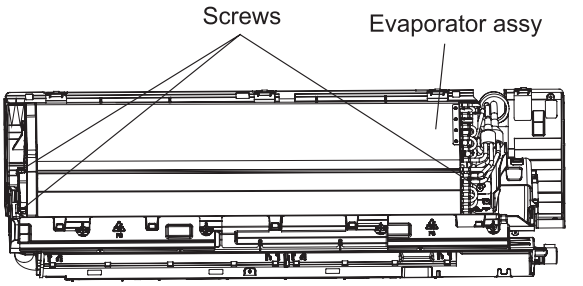
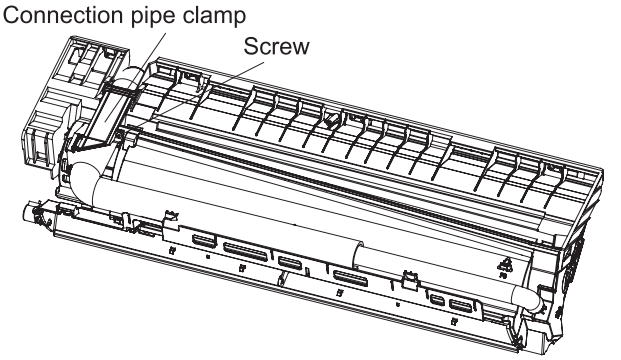
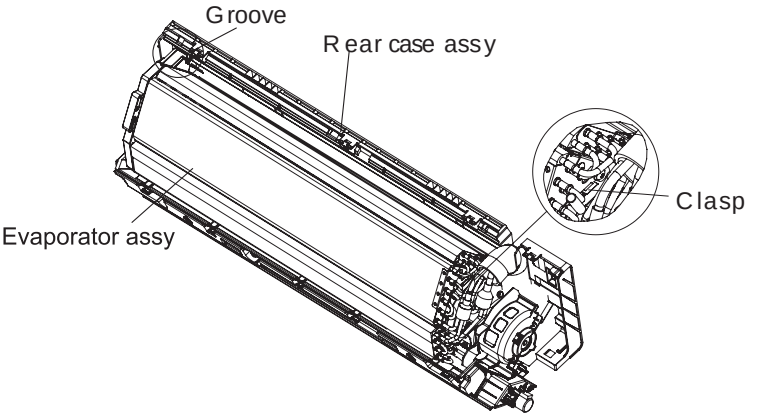
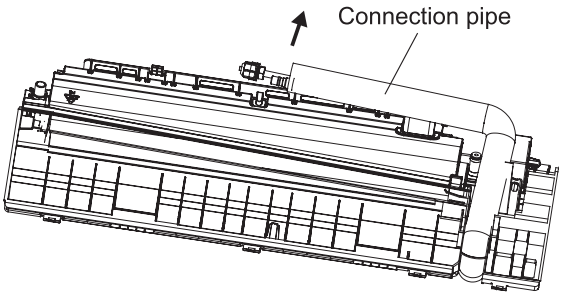
Step	Procedure
4. Remove electric box cover 2 and detecting plate(WIFI)	
Remove the screws on the electric box cover 2 and detecting plate(WIFI), then remove the electric box cover 2 and detecting plate(WIFI).	
5. Remove front case sub-assy	
a Remove the screws fixing front case. Note: 1.Open the screw 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 connection clasps between front case sub-assy and bottom case. Lift up the front case sub-assy and take it out.	
6. Remove vertical louver	
Loosen the connection clasps between vertical louver and bottom case to remove vertical louver. Screw off the screws that are locking the swing motor and take the motor off.	

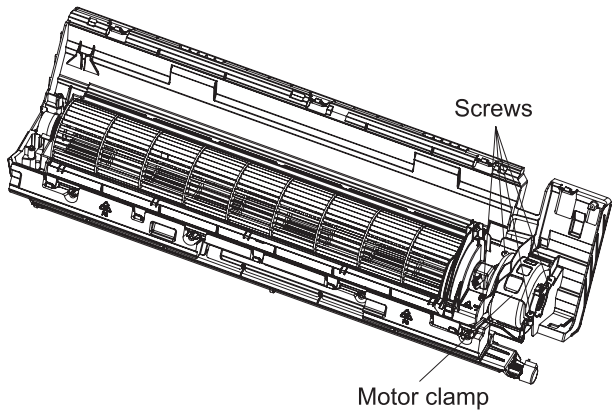
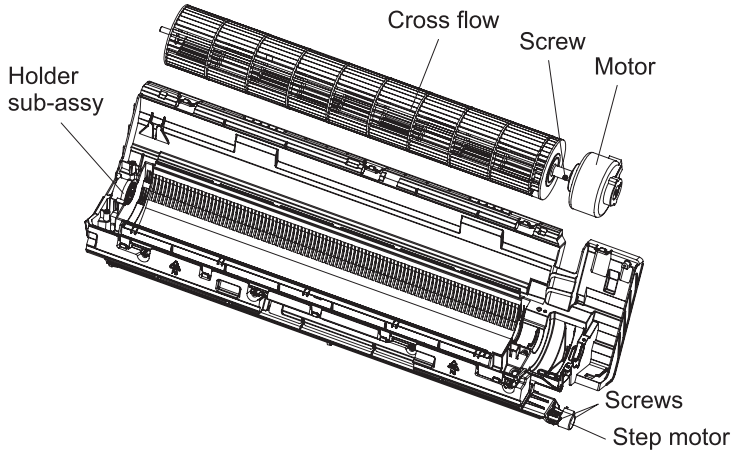
Step	Procedure
7. Remove electric box assy	
a	Loosen the connection clasps between shield cover of electric box sub-assy and electric box, and then remove the shield cover of electric box sub-assy. Remove the screw fixing electric box assy .
b	① Cut off the wire binder and pull out the indoor tube temperature sensor. ② Screw off one grounding screw. ③ Remove the wiring terminals of motor and stepping motor. ④ Remove the electric box assy. ⑤ Screw off the screws that are locking each lead wire.
c	Rotate the electric box assy. Twist off the screws that are locking the wire clip and loosen the power cord. Remove the wiring terminal of power cord. Lift up the main board and take it off.
	Instruction: Some wiring terminal of this product is with lock catch and other devices. The pulling method is as below: 1.Remove the soft sheath for some terminals at first, hold the circlip and then pull out the terminals. 2.Pull out the holder for some terminals at first (holder is not available for some wiring terminal), hold the connector and then pull the terminal.





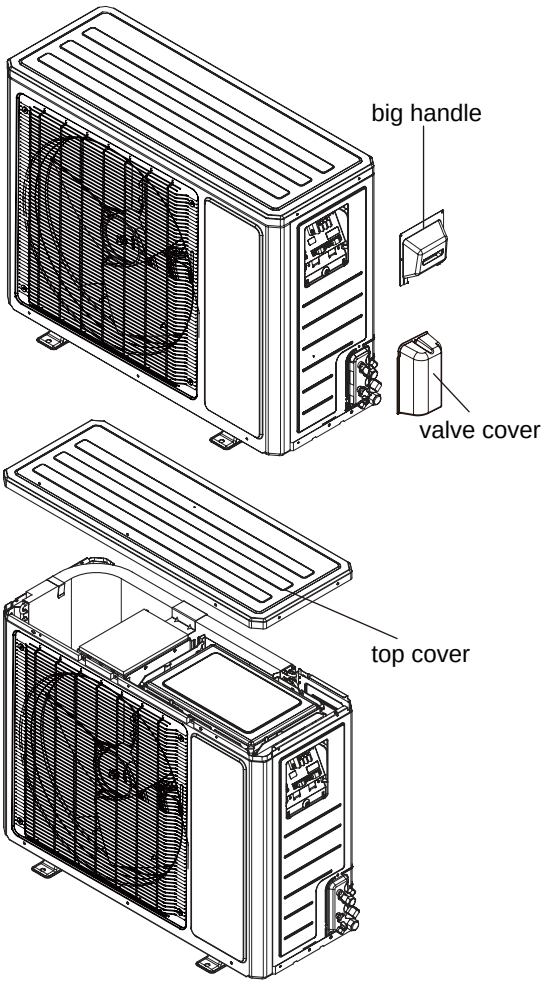
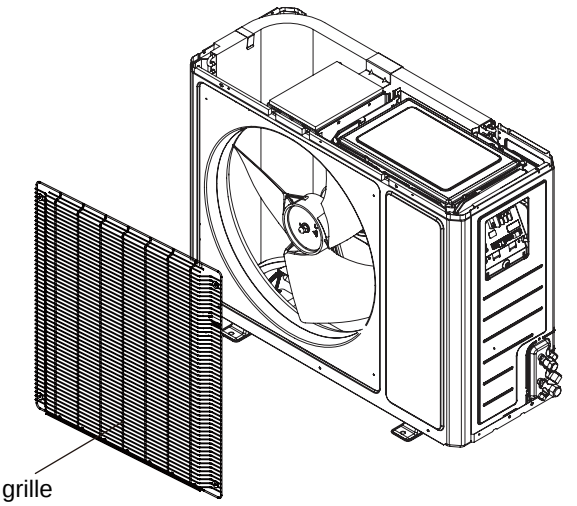


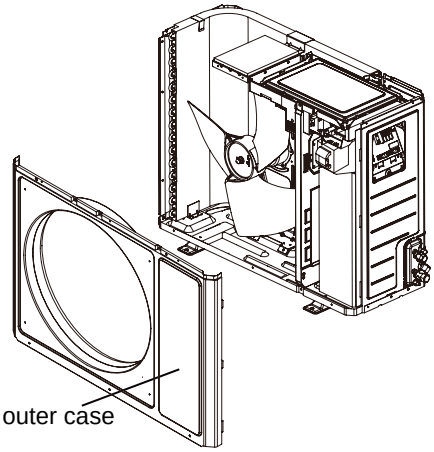
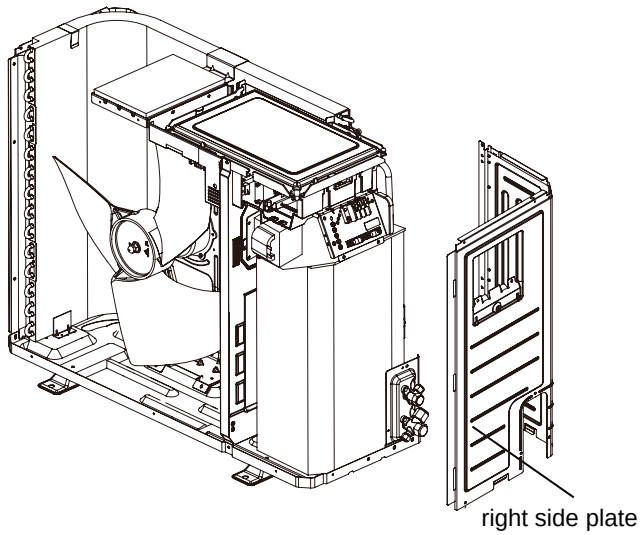
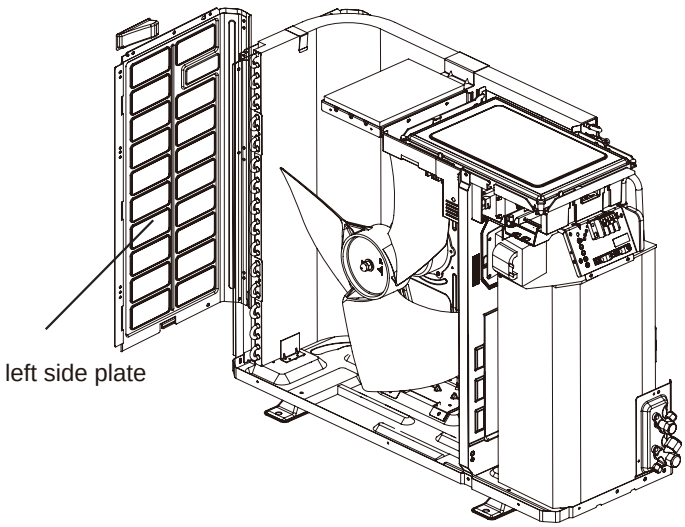
Step	Procedure	
8. Remove evaporator assy		
a	Remove 3 screws fixing evaporator assy.	
b	At the back of the unit, remove the screw fixing connection pipe clamp and then remove the connection pipe clamp.	
c	First remove the left side of evaporator from the groove on the rear case assy. Then remove the right side from the clasp on the rear case assy.	
d	Adjust the position of connection pipe on evaporator slightly and then lift the evaporator upwards to remove it.	

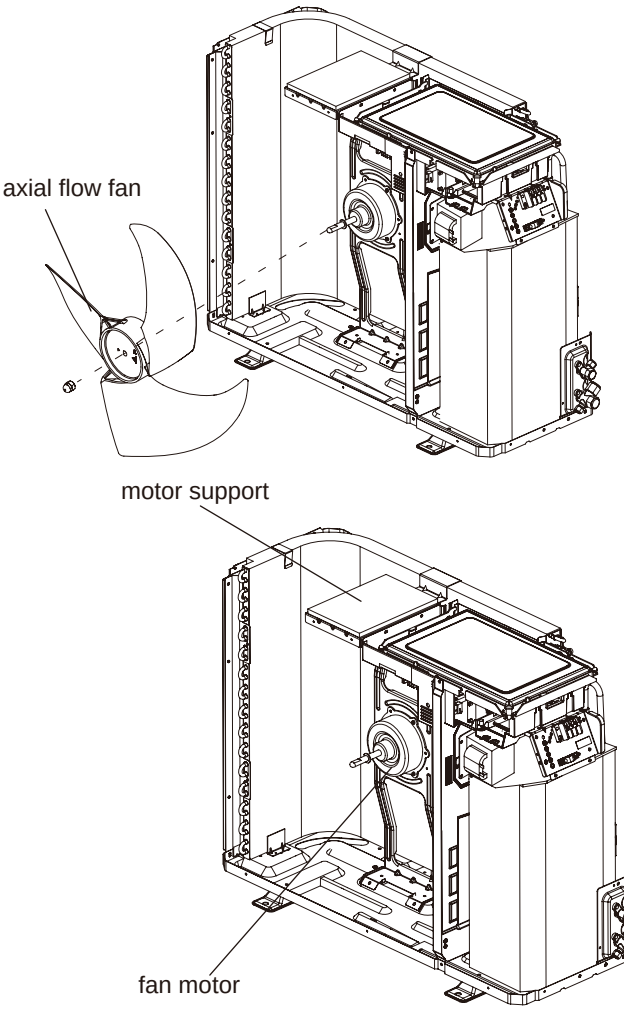
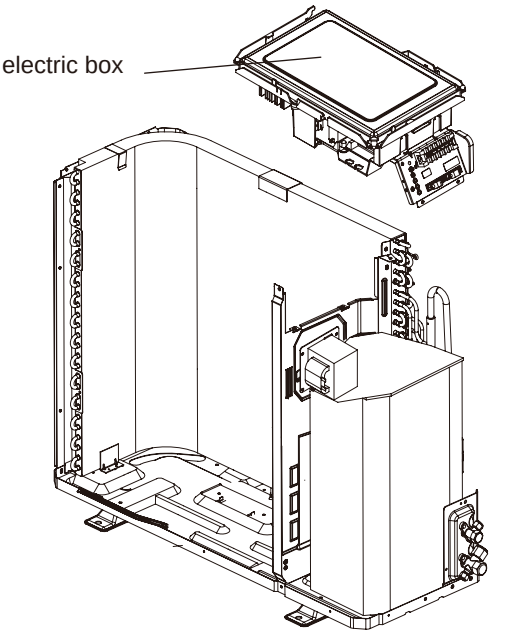
Step	Procedure	
9. Remove motor and cross flow blade		
a	Remove the screws fixing motor clamp and then remove the motor clamp.	
b	Remove the screws at the connection place of cross flow blade and motor; lift the motor and cross flow blade upwards to remove them. Remove the bearing holder sub-assy. Remove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

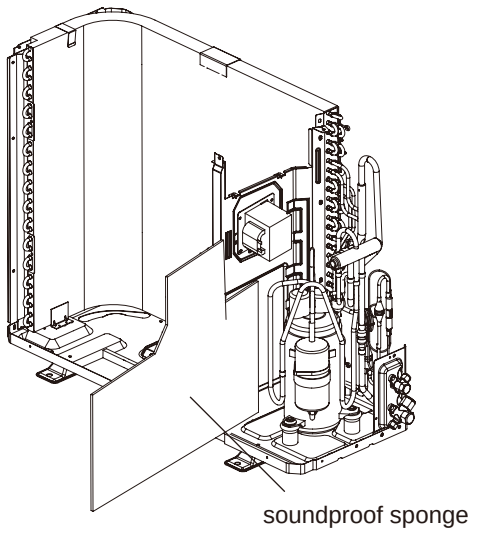
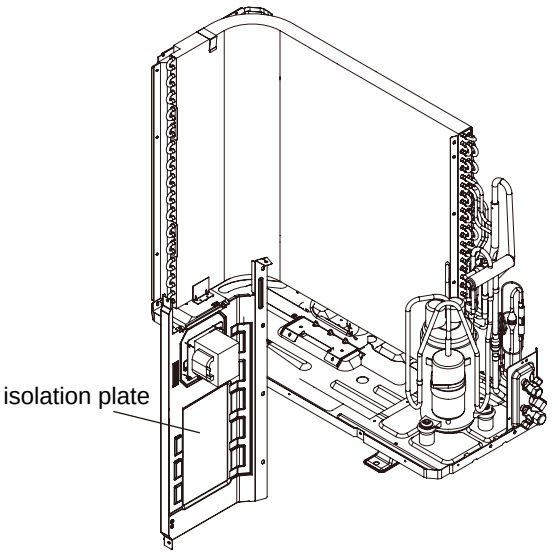
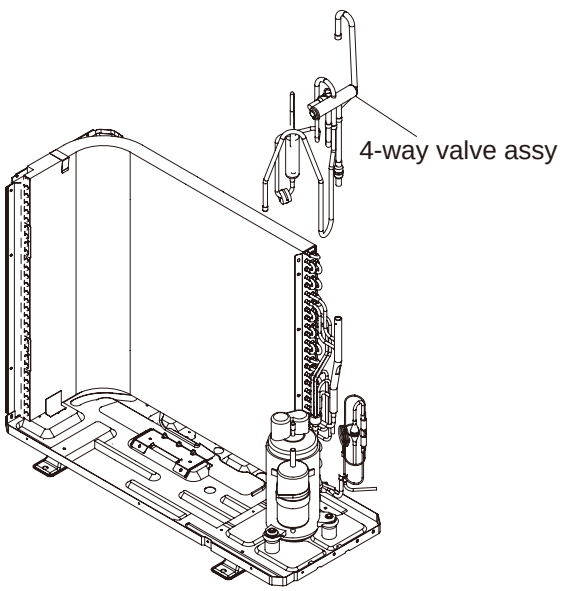
11.2 Removal Procedure of Outdoor Unit

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

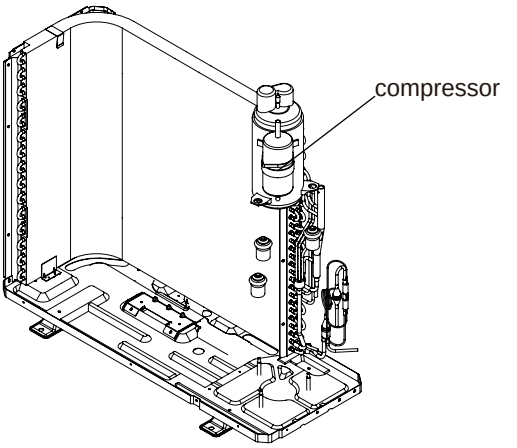
Steps	Procedure	
1. Remove big handle,valve cover and top cover		
a	Remove the screw connecting the big handle and right side plate, and then remove the big handle. Remove the screw connecting the valve cover and right side plate, and then remove the valve cover.	
b	Remove the screws connecting the top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

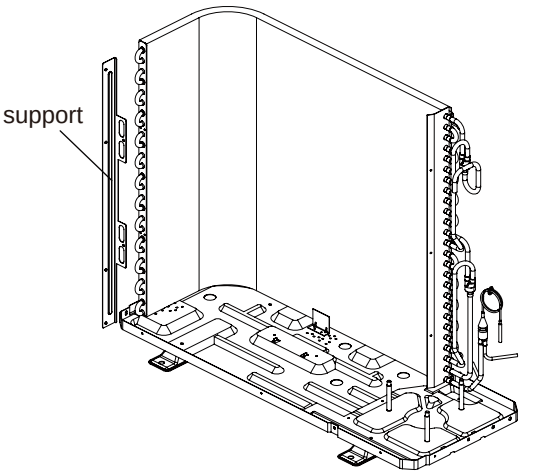
Steps	Procedure	
	Remove the screws connecting the outer case with motor support, isolation plate and chassis; lift the outer case upwards; loosen the clasps of outer case with right side plate and left side plate, and then remove the outer case.	
3. Remove right&left side plate		
a	Remove the screws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

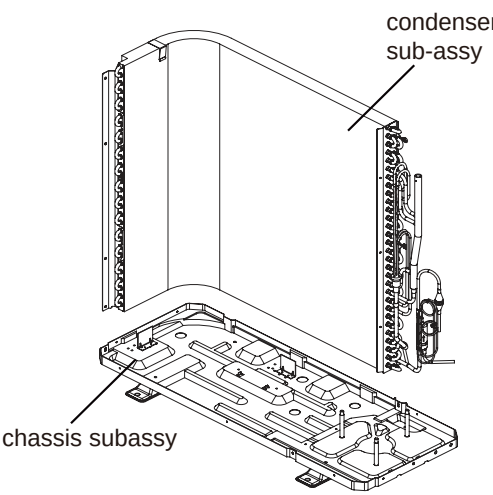
Steps	Procedure
4. Remove axial flow blade	
a	Remove the nut fixing axial flow blade and then remove the blade.
b	Remove the 6 screws fixing the motor and then remove the motor. Remove the 2 screws connecting the motor support and chassis, and then loosen the stopper to remove the motor support.
5. Remove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

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

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







Appendix:

Appendix 1: Reference Sheet of Celsius and Fahrenheit

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

Set temperature

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

Ambient temperature

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

Appendix 2: Configuration of Connection Pipe

1.Standard length of connection pipe

● 16.40ft, 24.61ft, 26.25ft.

2.Min. length of connection pipe is 9.84ft.

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 32.81ft at the basis of standard length, you should add 5ml of refrigerant oil for each additional 16.40ft of connection pipe.

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

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

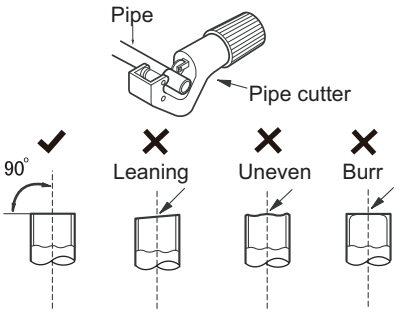
● Additional refrigerant charging amount = prolonged length of liquid pipe X additional refrigerant charging amount per meter

Additional refrigerant charging amount for R22, R407C, R410A and R134a			
Diameter of connection pipe		Outdoor unit throttle	
Liquid pipe(inch)	Gas pipe(inch)	Cooling only(oz/ft.)	Cooling and heating(oz/ft.)
Φ1/4	Φ3/8or Φ1/2	0.53	0.71
Φ1/4 or Φ3/8	Φ5/8 or Φ3/4	0.53	1.76
Φ1/2	Φ3/4 or Φ7/8	1.06	4.23
Φ5/8	Φ1 or Φ1 1/4	2.12	4.23
Φ3/4	/	8.82	8.82
Φ7/8	/	12.35	12.35

Appendix 3: Pipe Expanding Method

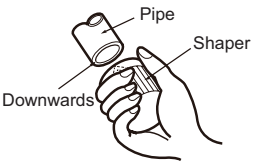
⚠ **Note:**

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



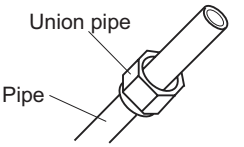
A:Cut the pip
- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.

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.

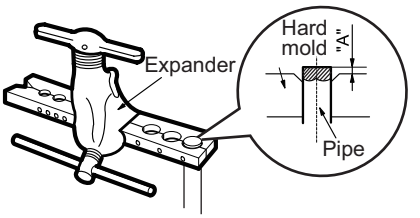


E:Expand the port
- Expand the port with expander.

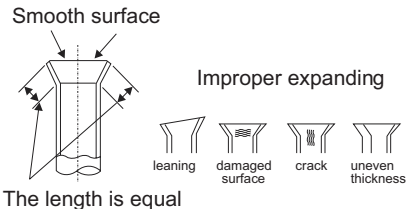
⚠ **Note:**

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

Outer diameter(inch)	A(inch)	
	Max	Min
Φ1/4	2/39	1/36
Φ3/8	1/16	1/51
Φ1/2	1/14	1/51
Φ5/8	5/53	2/23



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



Appendix 4: List of Resistance for Temperature Sensor

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

Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)
-2.2	138.1		68	18.75		138.2	3.848		208.4	1.071
-0.4	128.6		69.8	17.93		140	3.711		210.2	1.039
1.4	121.6		71.6	17.14		141.8	3.579		212	1.009
3.2	115		73.4	16.39		143.6	3.454		213.8	0.98
5	108.7		75.2	15.68		145.4	3.333		215.6	0.952
6.8	102.9		77	15		147.2	3.217		217.4	0.925
8.6	97.4		78.8	14.36		149	3.105		219.2	0.898
10.4	92.22		80.6	13.74		150.8	2.998		221	0.873
12.2	87.35		82.4	13.16		152.6	2.896		222.8	0.848
14	82.75		84.2	12.6		154.4	2.797		224.6	0.825
15.8	78.43		86	12.07		156.2	2.702		226.4	0.802
17.6	74.35		87.8	11.57		158	2.611		228.2	0.779
19.4	70.5		89.6	11.09		159.8	2.523		230	0.758
21.2	66.88		91.4	10.63		161.6	2.439		231.8	0.737
23	63.46		93.2	10.2		163.4	2.358		233.6	0.717
24.8	60.23		95	9.779		165.2	2.28		235.4	0.697
26.6	57.18		96.8	9.382		167	2.206		237.2	0.678
28.4	54.31		98.6	9.003		168.8	2.133		239	0.66
30.2	51.59		100.4	8.642		170.6	2.064		240.8	0.642
32	49.02		102.2	8.297		172.4	1.997		242.6	0.625
33.8	46.6		104	7.967		174.2	1.933		244.4	0.608
35.6	44.31		105.8	7.653		176	1.871		246.2	0.592
37.4	42.14		107.6	7.352		177.8	1.811		248	0.577
39.2	40.09		109.4	7.065		179.6	1.754		249.8	0.561
41	38.15		111.2	6.791		181.4	1.699		251.6	0.547
42.8	36.32		113	6.529		183.2	1.645		253.4	0.532
44.6	34.58		114.8	6.278		185	1.594		255.2	0.519
46.4	32.94		116.6	6.038		186.8	1.544		257	0.505
48.2	31.38		118.4	5.809		188.6	1.497		258.8	0.492
50	29.9		120.2	5.589		190.4	1.451		260.6	0.48
51.8	28.51		122	5.379		192.2	1.408		262.4	0.467
53.6	27.18		123.8	5.197		194	1.363		264.2	0.456
55.4	25.92		125.6	4.986		195.8	1.322		266	0.444
57.2	24.73		127.4	4.802		197.6	1.282		267.8	0.433
59	23.6		129.2	4.625		199.4	1.244		269.6	0.422
60.8	22.53		131	4.456		201.2	1.207		271.4	0.412
62.6	21.51		132.8	4.294		203	1.171		273.2	0.401
64.4	20.54		134.6	4.139		204.8	1.136		275	0.391
66.2	19.63		136.4	3.99		206.6	1.103		276.8	0.382

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

Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)
-2.2	181.4		68	25.01		138.2	5.13		208.4	1.427
-0.4	171.4		69.8	23.9		140	4.948		210.2	1.386
1.4	162.1		71.6	22.85		141.8	4.773		212	1.346
3.2	153.3		73.4	21.85		143.6	4.605		213.8	1.307
5	145		75.2	20.9		145.4	4.443		215.6	1.269
6.8	137.2		77	20		147.2	4.289		217.4	1.233
8.6	129.9		78.8	19.14		149	4.14		219.2	1.198
10.4	123		80.6	18.13		150.8	3.998		221	1.164
12.2	116.5		82.4	17.55		152.6	3.861		222.8	1.131
14	110.3		84.2	16.8		154.4	3.729		224.6	1.099
15.8	104.6		86	16.1		156.2	3.603		226.4	1.069
17.6	99.13		87.8	15.43		158	3.481		228.2	1.039
19.4	94		89.6	14.79		159.8	3.364		230	1.01
21.2	89.17		91.4	14.18		161.6	3.252		231.8	0.983
23	84.61		93.2	13.59		163.4	3.144		233.6	0.956
24.8	80.31		95	13.04		165.2	3.04		235.4	0.93
26.6	76.24		96.8	12.51		167	2.94		237.2	0.904
28.4	72.41		98.6	12		168.8	2.844		239	0.88
30.2	68.79		100.4	11.52		170.6	2.752		240.8	0.856
32	65.37		102.2	11.06		172.4	2.663		242.6	0.833
33.8	62.13		104	10.62		174.2	2.577		244.4	0.811
35.6	59.08		105.8	10.2		176	2.495		246.2	0.77
37.4	56.19		107.6	9.803		177.8	2.415		248	0.769
39.2	53.46		109.4	9.42		179.6	2.339		249.8	0.746
41	50.87		111.2	9.054		181.4	2.265		251.6	0.729
42.8	48.42		113	8.705		183.2	2.194		253.4	0.71
44.6	46.11		114.8	8.37		185	2.125		255.2	0.692
46.4	43.92		116.6	8.051		186.8	2.059		257	0.674
48.2	41.84		118.4	7.745		188.6	1.996		258.8	0.658
50	39.87		120.2	7.453		190.4	1.934		260.6	0.64
51.8	38.01		122	7.173		192.2	1.875		262.4	0.623
53.6	36.24		123.8	6.905		194	1.818		264.2	0.607
55.4	34.57		125.6	6.648		195.8	1.736		266	0.592
57.2	32.98		127.4	6.403		197.6	1.71		267.8	0.577
59	31.47		129.2	6.167		199.4	1.658		269.6	0.563
60.8	30.04		131	5.942		201.2	1.609		271.4	0.549
62.6	28.68		132.8	5.726		203	1.561		273.2	0.535
64.4	27.39		134.6	5.519		204.8	1.515		275	0.521
66.2	26.17		136.4	5.32		206.6	1.47		276.8	0.509

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

Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)
-20.2	853.5		50	98		120.2	18.34		190.4	4.754
-18.4	799.8		51.8	93.42		122	17.65		192.2	4.609
-16.6	750		53.6	89.07		123.8	16.99		194	4.469
-14.8	703.8		55.4	84.95		125.6	16.36		195.8	4.334
-13	660.8		57.2	81.05		127.4	15.75		197.6	4.204
-11.2	620.8		59	77.35		129.2	15.17		199.4	4.079
-9.4	580.6		60.8	73.83		131	14.62		201.2	3.958
-7.6	548.9		62.6	70.5		132.8	14.09		203	3.841
-5.8	516.6		64.4	67.34		134.6	13.58		204.8	3.728
-4	486.5		66.2	64.33		136.4	13.09		206.6	3.619
-2.2	458.3		68	61.48		138.2	12.62		208.4	3.514
-0.4	432		69.8	58.77		140	12.17		210.2	3.413
1.4	407.4		71.6	56.19		141.8	11.74		212	3.315
3.2	384.5		73.4	53.74		143.6	11.32		213.8	3.22
5	362.9		75.2	51.41		145.4	10.93		215.6	3.129
6.8	342.8		77	49.19		147.2	10.54		217.4	3.04
8.6	323.9		78.8	47.08		149	10.18		219.2	2.955
10.4	306.2		80.6	45.07		150.8	9.827		221	2.872
12.2	289.6		82.4	43.16		152.6	9.489		222.8	2.792
14	274		84.2	41.34		154.4	9.165		224.6	2.715
15.8	259.3		86	39.61		156.2	8.854		226.4	2.64
17.6	245.6		87.8	37.96		158	8.555		228.2	2.568
19.4	232.6		89.6	36.38		159.8	8.268		230	2.498
21.2	220.5		91.4	34.88		161.6	7.991		231.8	2.431
23	209		93.2	33.45		163.4	7.726		233.6	2.365
24.8	198.3		95	32.09		165.2	7.47		235.4	2.302
26.6	199.1		96.8	30.79		167	7.224		237.2	2.241
28.4	178.5		98.6	29.54		168.8	6.998		239	2.182
30.2	169.5		100.4	28.36		170.6	6.761		240.8	2.124
32	161		102.2	27.23		172.4	6.542		242.6	2.069
33.8	153		104	26.15		174.2	6.331		244.4	2.015
35.6	145.4		105.8	25.11		176	6.129		246.2	1.963
37.4	138.3		107.6	24.13		177.8	5.933		248	1.912
39.2	131.5		109.4	23.19		179.6	5.746		249.8	1.863
41	125.1		111.2	22.29		181.4	5.565		251.6	1.816
42.8	119.1		113	21.43		183.2	5.39		253.4	1.77
44.6	113.4		114.8	20.6		185	5.222		255.2	1.725
46.4	108		116.6	19.81		186.8	5.06		257	1.682
48.2	102.8		118.4	19.06		188.6	4.904		258.8	1.64

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