GREE
Change for life

Service Manual

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



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1. Summary

Indoor Unit:

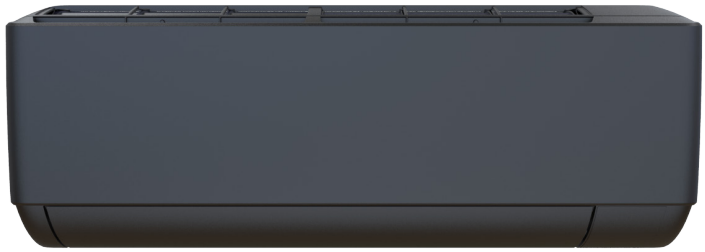
A1 panel



A1 panel



A1 panel

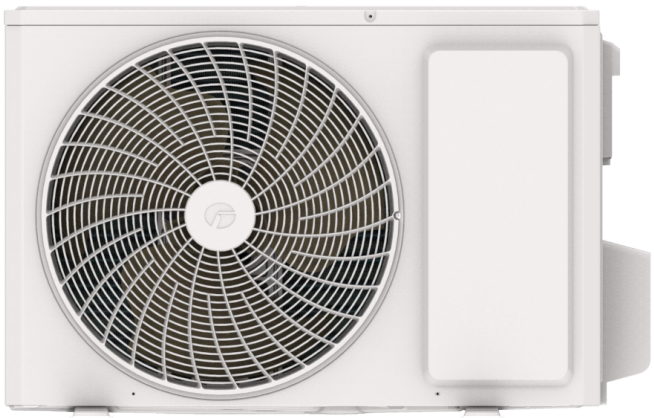


A3 panel

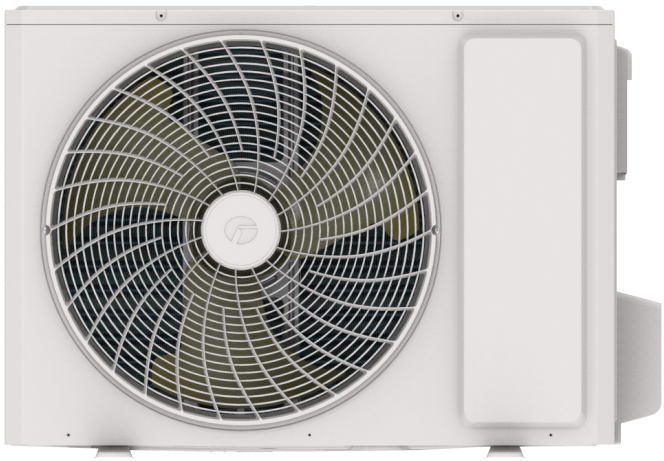


Outdoor Unit:

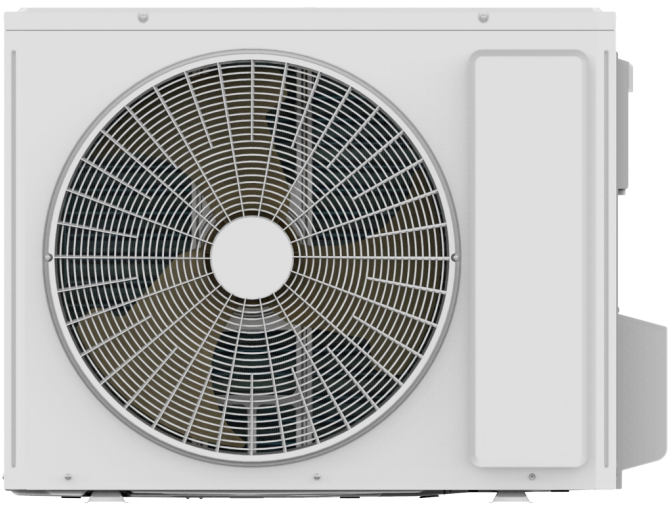
GWH09APAXE-K6DNA3A/O
GWH12APAXE-K6DNA3A/O



GWH09APAXF-S6DBA3A/O
GWH12APAXF-S6DBA3A/O



GWH18APAXH-K6DNA3A/O



Remote Controller:

YBE1FB6



Model list:

No.	Model	Product code	Indoor model	Indoor product code	Outdoor model	Outdoor product code
1	GWH09APAXE-K6DNA3A	CB583000200	GWH09APAXE-K6DNA3A/I	CB583N00200	GWH09APAXE-K6DNA3A/O	CB583W00200
2		CB583000201		CB583N00201		
3	GWH09APAXE-K6DNA1B	CB552000900	GWH09APAXE-K6DNA1B/I	CB552N00900		
4		CB552000901		CB552N00901		
5		CB552000902		CB552N00902		
6	GWH09APAXF-S6DBA3A	CB583000400	GWH09APAXF-S6DBA3A/I	CB583N00400	GWH09APAXF-S6DBA3A/O	CB583W00400
7	GWH12APAXE-K6DNA3A	CB583000100	GWH12APAXE-K6DNA3A/I	CB583N00100	GWH12APAXE-K6DNA3A/O	CB583W00100
8		CB583000101		CB583N00101		
9	GWH12APAXE-K6DNA1B	CB552001100	GWH12APAXE-K6DNA1B/I	CB552N01100		
10		CB552001101		CB552N01101		
11		CB552001102		CB552N01102		
12	GWH12APAXF-S6DBA1A	CB552002500	GWH12APAXF-S6DBA1A/I	CB552N02500	GWH12APAXF-S6DBA3A/O	CB583W00500
13	GWH12APAXF-S6DBA3A	CB583000500	GWH12APAXF-S6DBA3A/I	CB583N00500		
14	GWH18APAXH-K6DNA3A	CB583000300	GWH18APAXH-K6DNA3A/I	CB583N00300	GWH18APAXH-K6DNA3A/O	CB583W00300
15		CB583000301		CB583N00301		
16	GWH18APAXH-K6DNA1A	CB552001000	GWH18APAXH-K6DNA1A/I	CB552N01000		
17		CB552001001		CB552N01001		
18		CB552001002		CB552N01002		

2. Specifications

2.1 Specification Sheet

Model		--	GWH09APAXE-K6DNA3A	GWH09APAXE-K6DNA1B
Product Code		--	CB583000200/CB583000201	CB552000900/CB552000901/ CB552000902
Power Supply	Rated Voltage	V~	220-240	
	Rated Frequency	Hz	50	
	Phases	--	1	
Power Supply Mode		--	Outdoor	
Cooling Capacity		W	2700	
Heating Capacity		W	3600	
Cooling Power Input		W	515	
Heating Power Input		W	720	
Cooling Current Input		A	2.70	
Heating Current Input		A	3.70	
Rated Input		W	1600	
Rated Cooling Current		A	6	
Rated Heating Current		A	7.5	
Air Flow Volume		m^3/h	800/650/600/500/400/300/250/180	
Dehumidifying Volume		L/h	0.80	
EER		W/W	5.24	
COP		W/W	5	
SEER		--	9.72	
SCOP(Average/WarmerColder)		--	5.10/6.3/4.0	
Application Area		m^2	12-18	
Indoor Unit	Model	--	GWH09APAXE-K6DNA3A/I	GWH09APAXE-K6DNA1B/I
	Product Code	--	CB583N00200/CB583N00201	CB552N00900/CB552N00901/ CB552N00902
	Fan Type	--	Cross-flow	
	Fan Diameter Length(D×L)	mm	Φ108×592	
	Cooling Speed	r/min	1100/1000/950/800/750/650/600/500	
	Heating Speed	r/min	1300/1100/950/900/850/800/700	
	Fan Motor Power Output	W	15	
	Fan Motor RLA	A	0.22	
	Fan Motor Capacitor	μF	/	
	Evaporator Form	--	Aluminum Fin-copper Tube	
	Evaporator Pipe Diameter	mm	Φ7	
	Evaporator Row-fin Gap	mm	2-1.3	
	Evaporator Coil Length (L×D×W)	mm	607×25.4×342.9	
	Swing Motor Model	--	MP35CJ/MP24HF	
	Swing Motor Power Output	W	2.5/1.5	
	Fuse Current	A	3.15	
	Sound Pressure Level	dB (A)	Cooling:42/38/36/32/29/26/23/21 Heating:45/41/36/34/32/30/27	
	Sound Power Level	dB (A)	Cooling:57/53/51/47/44/41/38/36 Heating:58/54/49/47/45/43/40	
	Dimension (WXHXD)	mm	770X290X230	
	Dimension of Carton Box (LXWXH)	mm	852X377X320	826X354X285
	Dimension of Package (LXWXH)	mm	855X380X335	831X370X296
	Net Weight	kg	11	10
	Gross Weight	kg	13.5	11.5

Outdoor Unit	Outdoor Unit Model	--	GWH09APAXE-K6DNA3A/O
	Outdoor Unit Product Code	--	CB583W00200
	Compressor Manufacturer	--	Shanghai Highly Electrical Appliances Co.,Ltd.
	Compressor Model	--	GSD098XKUA7JL6B
	Compressor Oil	--	ACS-68R or equiva le nt 320±20ml
	Compressor Type	--	Rotary
	Compressor Locked Rotor Amp (L.R.A)	A	/
	Compressor Rated Load Amp (RLA)	A	6.80
	Compressor Power Input	W	784
	Compressor Overload Protector	--	/
	Throttling Method	--	Electron expansion valve
	Set Temperature Range	ºC	8-30
	Cooling Operation Ambient Temperature Range	ºC	-18~43
	Heating Operation Ambient Temperature Range	ºC	-30~24
	Condenser Form	--	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7.94
	Condenser Rows-fin Gap	mm	2-1.4
	Condenser Coil Length (L×D×W)	mm	865×38.1×528
	Fan Motor Speed	rpm	850
	Fan Motor Power Output	W	40
	Fan Motor RLA	A	0.50
	Fan Motor Capacitor	μF	/
	Air Flow Volume	m^3/h	3000
	Fan Type	--	Axial-flow
	Fan Diameter	mm	Φ445
	Defrosting Method	--	Automatic Defrosting
	Climate Type	--	T1
	Isolation	--	I
	Moisture Protection	--	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
	Sound Pressure Level	dB (A)	56
	Sound Power Level	dB (A)	65
	Dimension(WXHXD)	mm	873X555X376
	Dimension of Carton Box (LXWXH)	mm	948X428X591
	Dimension of Package(LXWXH)	mm	951X431X620
	Net Weight	kg	36
	Gross Weight	kg	39
	Refrigerant	--	R32
	Refrigerant Charge	kg	1
Connection Pipe	Connection Pipe Length	m	5
	Connection Pipe Gas Additional Charge	g/m	16
	Outer Diameter of Liquid Pipe(Client Allocation) (British System)	--	1/4"
	Outer Diameter of Gas Pipe(Client Allocation)(British System)	--	3/8"
	Max Distance Height	m	10
	Max Distance Length	m	15
	Note: The connection pipe applies metric diameter.		

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

Model		--	GWH09APAXF-S6DBA3A
Product Code		--	CB583000400
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50/60
	Phases	--	1
Power Supply Mode		--	Outdoor
Cooling Capacity		W	2700
Heating Capacity		W	3500
Cooling Power Input		W	545
Heating Power Input		W	737
Cooling Current Input		A	3.6
Heating Current Input		A	4.8
Rated Input		W	2400
Rated Cooling Current		A	8.5
Rated Heating Current		A	10
Air Flow Volume		m^3/h	800/650/600/500/400/300/250/180
Dehumidifying Volume		L/h	0.8
EER		W/W	4.95
COP		W/W	4.75
SEER		--	8.6
SCOP(Average/WarmerColder)		--	5.1/5.9/4
Application Area		m^2	12-18
Indoor Unit	Model	--	GWH09APAXF-S6DBA3A/I
	Product Code	--	CB583N00400
	Fan Type	--	Cross-flow
	Fan Diameter Length(D×L)	mm	Φ108×592
	Cooling Speed	r/min	1100/1000/950/800/750/650/600/500
	Heating Speed	r/min	1300/1100/950/900/850/800/700
	Fan Motor Power Output	W	15
	Fan Motor RLA	A	0.22
	Fan Motor Capacitor	μF	/
	Evaporator Form	--	Aluminum Fin-copper Tube
	Evaporator Pipe Diameter	mm	Φ7
	Evaporator Row-fin Gap	mm	2-1.3
	Evaporator Coil Length (L×D×W)	mm	607×25.4×342.9
	Swing Motor Model	--	MP35CJ/MP24HF
	Swing Motor Power Output	W	2.5/1.5
	Fuse Current	A	3.15
	Sound Pressure Level	dB (A)	Cooling:42/37/36/32/29/26/23/19 Heating:45/40/36/34/32/30/27
	Sound Power Level	dB (A)	Cooling:58/53/51/47/44/41/38/34 Heating:58/54/49/47/45/43/40
	Dimension (WXHXD)	mm	770X290X230
	Dimension of Carton Box (LXWXH)	mm	852X377X320
	Dimension of Package (LXWXH)	mm	855X380X335
	Net Weight	kg	11
	Gross Weight	kg	13.5

Outdoor Unit	Outdoor Unit Model	--	GWH09APAXF-S6DBA3A/O
	Outdoor Unit Product Code	--	CB583W00400
	Compressor Manufacturer	--	ZHUHAI LANDA COMPRESSOR CO., LTD.
	Compressor Model	--	QXFT-A103zE170
	Compressor Oil	--	68SL
	Compressor Type	--	Rotary
	Compressor Locked Rotor Amp (L.R.A)	A	11.3
	Compressor Rated Load Amp (RLA)	A	4.64
	Compressor Power Input	W	1005
	Compressor Overload Protector	--	KSD115ºC/ HPC 115/95
	Throttling Method	--	Electron expansion valve
	Set Temperature Range	ºC	Cooling:16-30 Heating:8-30
	Cooling Operation Ambient Temperature Range	ºC	-18~52
	Heating Operation Ambient Temperature Range	ºC	-35~30
	Condenser Form	--	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7
	Condenser Rows-fin Gap	mm	2-1.4
	Condenser Coil Length (L×D×W)	mm	935×38.1×616
	Fan Motor Speed	rpm	750
	Fan Motor Power Output	W	60
	Fan Motor RLA	A	0.65
	Fan Motor Capacitor	μF	/
	Air Flow Volume	m^3/h	3600
	Fan Type	--	Axial-flow
	Fan Diameter	mm	Φ520
	Defrosting Method	--	Automatic Defrosting
	Climate Type	--	T1
	Isolation	--	/
	Moisture Protection	--	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
	Sound Pressure Level	dB (A)	56
	Sound Power Level	dB (A)	61
	Dimension(WXHXD)	mm	958X660X402
	Dimension of Carton Box (LXWXH)	mm	1029X453X715
	Dimension of Package(LXWXH)	mm	1032X456X737
	Net Weight	kg	43.5
	Gross Weight	kg	48
	Refrigerant	--	R32
	Refrigerant Charge	kg	1
Connection Pipe	Connection Pipe Length	m	5
	Connection Pipe Gas Additional Charge	g/m	16
	Outer Diameter of Liquid Pipe(Client Allocation) (British System)	--	1/4"
	Outer Diameter of Gas Pipe(Client Allocation)(British System)	--	3/8"
	Max Distance Height	m	10
	Max Distance Length	m	15
	Note: The connection pipe applies metric diameter.		

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

Model		--	GWH12APAXE-K6DNA3A	GWH12APAXE-K6DNA1B	
Product Code		--	CB583000100/CB583000101	CB552001102	CB552001100/CB552001101
Power Supply	Rated Voltage	V~	220-240		
	Rated Frequency	Hz	50		
	Phases	--	1		
Power Supply Mode		--	Outdoor		
Cooling Capacity		W	3520		
Heating Capacity		W	3800		
Cooling Power Input		W	720		
Heating Power Input		W	810		
Cooling Current Input		A	3.60		
Heating Current Input		A	4.00		
Rated Input		W	1600		
Rated Cooling Current		A	6.4		
Rated Heating Current		A	7.5		
Air Flow Volume		m^3/h	830/650/600/500/400/300/250/180		
Dehumidifying Volume		L/h	1.40		
EER		W/W	4.89		
COP		W/W	4.69		
SEER		--	9.7		
SCOP(Average/WarmerColder)		--	5.1/6.3/4.0		
Application Area		m^2	16-24		
Indoor Unit	Model	--	GWH12APAXE-K6DNA3A/I	GWH12APAXE-K6DNA1B/I	
	Product Code	--	CB583N00100/CB583N00101	CB552N01102	CB552N01100/ CB552N01101
	Fan Type	--	Cross-flow		
	Fan Diameter Length(D×L)	mm	Φ108×592		
	Cooling Speed	r/min	1200/1000/950/800/750/650/600/500		
	Heating Speed	r/min	1300/ 1100/950/900/850/800/700		
	Fan Motor Power Output	W	15		
	Fan Motor RLA	A	0.22		
	Fan Motor Capacitor	μF	/		
	Evaporator Form	--	Aluminum Fin-copper Tube		
	Evaporator Pipe Diameter	mm	Φ7		
	Evaporator Row-fin Gap	mm	2-1.3		
	Evaporator Coil Length (L×D×W)	mm	607×25.4×342.9		
	Swing Motor Model	--	MP35CJ/MP24HF		
	Swing Motor Power Output	W	2.5/1.5		
	Fuse Current	A	3.15		
	Sound Pressure Level	dB (A)	Cooling:42/38/36/34/30/27/23/22 Heating:45/40/36/34/32/29/26		
	Sound Power Level	dB (A)	Cooling:60/53/51/49/45/42/38/37 Heating:60/55/51/49/47/44/41		
	Dimension (WXHXD)	mm	770X290X230		
	Dimension of Carton Box (LXWXH)	mm	852X377X320		826X354X285
	Dimension of Package (LXWXH)	mm	855X380X335		831X370X296
	Net Weight	kg	11	10	
	Gross Weight	kg	13.5	11.5	

Outdoor Unit	Outdoor Unit Model	--	GWH12APAXE-K6DNA3A/O
	Outdoor Unit Product Code	--	CB583W00100
	Compressor Manufacturer	--	Shanghai Highly Electrical Appliances Co.,Ltd.
	Compressor Model	--	GSD098XKUA7JL6B
	Compressor Oil	--	ACS-68R or equiva le nt 320±20ml
	Compressor Type	--	Rotary
	Compressor Locked Rotor Amp (L.R.A)	A	/
	Compressor Rated Load Amp (RLA)	A	6.80
	Compressor Power Input	W	784
	Compressor Overload Protector	--	/
	Throttling Method	--	Electron expansion valve
	Set Temperature Range	ºC	8-30
	Cooling Operation Ambient Temperature Range	ºC	-18~43
	Heating Operation Ambient Temperature Range	ºC	-30~24
	Condenser Form	--	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7.94
	Condenser Rows-fin Gap	mm	2-1.4
	Condenser Coil Length (L×D×W)	mm	865×38.1×528
	Fan Motor Speed	rpm	850
	Fan Motor Power Output	W	40
	Fan Motor RLA	A	0.50
	Fan Motor Capacitor	μF	/
	Air Flow Volume	m^3/h	3000
	Fan Type	--	Axial-flow
	Fan Diameter	mm	Φ445
	Defrosting Method	--	Automatic Defrosting
	Climate Type	--	T1
	Isolation	--	I
	Moisture Protection	--	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
	Sound Pressure Level	dB (A)	56
	Sound Power Level	dB (A)	65
	Dimension(WXHXD)	mm	873X555X376
	Dimension of Carton Box (LXWXH)	mm	948X428X591
	Dimension of Package(LXWXH)	mm	951X431X620
	Net Weight	kg	36
	Gross Weight	kg	39
	Refrigerant	--	R32
	Refrigerant Charge	kg	1
Connection Pipe	Connection Pipe Length	m	5
	Connection Pipe Gas Additional Charge	g/m	16
	Outer Diameter of Liquid Pipe(Client Allocation) (British System)	--	1/4"
	Outer Diameter of Gas Pipe(Client Allocation)(British System)	--	3/8"
	Max Distance Height	m	10
	Max Distance Length	m	20
	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		--	GWH12APAXF-S6DBA1A	GWH12APAXF-S6DBA3A
Product Code		--	CB552002500	CB583000500
Power Supply	Rated Voltage	V~	220-240	
	Rated Frequency	Hz	50/60	
	Phases	--	1	
Power Supply Mode		--	Outdoor	
Cooling Capacity		W	3530	
Heating Capacity		W	4200	
Cooling Power Input		W	784	
Heating Power Input		W	913	
Cooling Current Input		A	3.7	
Heating Current Input		A	4.2	
Rated Input		W	2650	
Rated Cooling Current		A	7.5	
Rated Heating Current		A	12	
Air Flow Volume		m^3/h	830/650/600/500/400/300/250/180	
Dehumidifying Volume		L/h	1.4	
EER		W/W	4.5	
COP		W/W	4.60	
SEER		--	8.5	
SCOP(Average/WarmerColder)		--	5.1/5.9/4	
Application Area		m^2	16-24	
Indoor Unit	Model	--	GWH12APAXF-S6DBA1A/I	GWH12APAXF-S6DBA3A/I
	Product Code	--	CB552N02500	CB583N00500
	Fan Type	--	Cross-flow	
	Fan Diameter Length(D×L)	mm	Φ108×592	
	Cooling Speed	r/min	1200/1000/950/800/750/650/600/500	
	Heating Speed	r/min	1300/ 1100/950/900/850/800/700	
	Fan Motor Power Output	W	15	
	Fan Motor RLA	A	0.22	
	Fan Motor Capacitor	μF	/	
	Evaporator Form	--	Aluminum Fin-copper Tube	
	Evaporator Pipe Diameter	mm	Φ7	
	Evaporator Row-fin Gap	mm	2-1.3	
	Evaporator Coil Length (L×D×W)	mm	607×25.4×342.9	
	Swing Motor Model	--	MP35CJ/MP24HF	
	Swing Motor Power Output	W	2.5/1.5	
	Fuse Current	A	3.15	
	Sound Pressure Level	dB (A)	Cooling:42/38/36/32/29/26/23/20 Heating:45/40/36/34/32/30/27	
	Sound Power Level	dB (A)	Cooling:58/54/51/47/44/41/38/35 Heating:58/53/49/47/45/43/40	
	Dimension (WXHXD)	mm	770X290X230	
	Dimension of Carton Box (LXWXH)	mm	826X354X285	852X377X320
	Dimension of Package (LXWXH)	mm	831X370X296	855X380X335
	Net Weight	kg	10	11
	Gross Weight	kg	11.5	13.5

Outdoor Unit	Outdoor Unit Model	--	GWH12APAXF-S6DBA3A/O
	Outdoor Unit Product Code	--	CB583W00500
	Compressor Manufacturer	--	ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model	--	QXFT-A103zE170
	Compressor Oil	--	68DA
	Compressor Type	--	Rotary
	Compressor Locked Rotor Amp (L.R.A)	A	11.3
	Compressor Rated Load Amp (RLA)	A	4.64
	Compressor Power Input	W	1005
	Compressor Overload Protector	--	KSD115ºC/ HPC 115/95
	Throttling Method	--	Electron expansion valve
	Set Temperature Range	ºC	Cooling:16-30 Heating:8-30
	Cooling Operation Ambient Temperature Range	ºC	-18~52
	Heating Operation Ambient Temperature Range	ºC	-35~24
	Condenser Form	--	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7.94
	Condenser Rows-fin Gap	mm	2-1.4
	Condenser Coil Length (L×D×W)	mm	935×38.1×616
	Fan Motor Speed	rpm	850
	Fan Motor Power Output	W	60
	Fan Motor RLA	A	0.65
	Fan Motor Capacitor	μF	/
	Air Flow Volume	m^3/h	3600
	Fan Type	--	Axial-flow
	Fan Diameter	mm	Φ520
	Defrosting Method	--	Automatic Defrosting
	Climate Type	--	T1
	Isolation	--	/
	Moisture Protection	--	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
	Sound Pressure Level	dB (A)	57
	Sound Power Level	dB (A)	61
	Dimension(WXHXD)	mm	958X660X402
	Dimension of Carton Box (LXWXH)	mm	1029X453X715
	Dimension of Package(LXWXH)	mm	1032X456X737
	Net Weight	kg	44
	Gross Weight	kg	48.5
	Refrigerant	--	R32
	Refrigerant Charge	kg	1.1
Connection Pipe	Connection Pipe Length	m	5
	Connection Pipe Gas Additional Charge	g/m	16
	Outer Diameter of Liquid Pipe(Client Allocation) (British System)	--	1/4"
	Outer Diameter of Gas Pipe(Client Allocation)(British System)	--	3/8"
	Max Distance Height	m	10
	Max Distance Length	m	20
	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		--	GWH18APAXH-K6DNA3A	GWH18APAXH-K6DNA1A
Product Code		--	CB583000300/CB583000301	CB552001000/CB552001001/ CB552001002
Power Supply	Rated Voltage	V~	220-240	
	Rated Frequency	Hz	50	
	Phases	--	1	
Power Supply Mode		--	Outdoor	
Cooling Capacity		W	5300	
Heating Capacity		W	5600	
Cooling Power Input		W	1380	
Heating Power Input		W	1450	
Cooling Current Input		A	6.20	
Heating Current Input		A	6.80	
Rated Input		W	2400	
Rated Cooling Current		A	11.5	
Rated Heating Current		A	11.5	
Air Flow Volume		m^3/h	950/850/760/640/500/420/350	
Dehumidifying Volume		L/h	1.80	
EER		W/W	3.84	
COP		W/W	3.86	
SEER		--	7.5	
SCOP(Average/WarmerColder)		--	4.3/5.7/3.5	
Application Area		m^2	23-34	
Indoor Unit	Model	--	GWH18APAXH-K6DNA3A/I	GWH18APAXH-K6DNA1A/I
	Product Code	--	CB583N00300/CB583N00301	CB552N01000/CB552N01001/ CB552N01002
	Fan Type	--	Cross-flow	
	Fan Diameter Length(D×L)	mm	Φ108×592	
	Cooling Speed	r/min	1250/1200/1100/1000/900/800/700	
	Heating Speed	r/min	1500/1350/1200/1050/900/850/800	
	Fan Motor Power Output	W	15	
	Fan Motor RLA	A	0.30	
	Fan Motor Capacitor	μF	/	
	Evaporator Form	--	Aluminum Fin-copper Tube	
	Evaporator Pipe Diameter	mm	Φ7	
	Evaporator Row-fin Gap	mm	2-1.3	
	Evaporator Coil Length (L×D×W)	mm	607×25.4×342.9	
	Swing Motor Model	--	MP35CJ/MP24HF	
	Swing Motor Power Output	W	2.5/1.5	
	Fuse Current	A	3.15	
	Sound Pressure Level	dB (A)	Cooling:47/45/41/36/33/30/25 Heating:49/46/42/38/34/33/27	
	Sound Power Level	dB (A)	Cooling:60/55/51/46/43/40/35 Heating:60/56/52/48/44/43/37	
	Dimension (WXHXD)	mm	770X290X230	
	Dimension of Carton Box (LXWXH)	mm	852X377X320	826X354X285
	Dimension of Package (LXWXH)	mm	855X380X335	831X370X296
	Net Weight	kg	11	10.5
	Gross Weight	kg	13.5	12

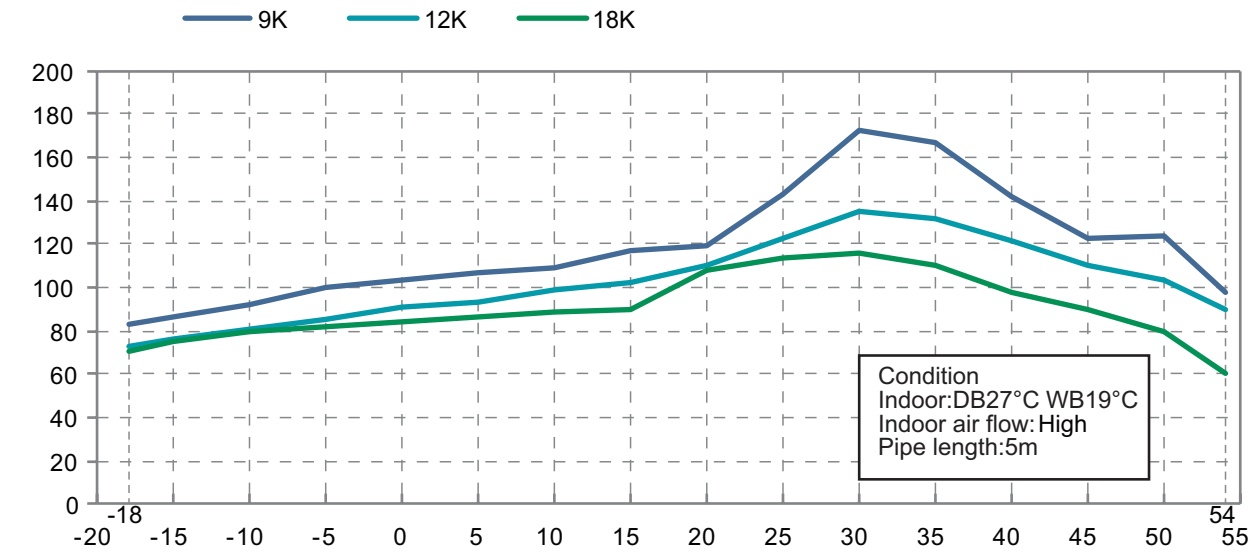
Outdoor Unit	Outdoor Unit Model	--	GWH18APAXH-K6DNA3A/O
	Outdoor Unit Product Code	--	CB583W00300
	Compressor Manufacturer	--	ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model	--	FTz-SM151AXBD
	Compressor Oil	--	FW68DA or equivalent
	Compressor Type	--	Rotary
	Compressor Locked Rotor Amp (L.R.A)	A	18.00
	Compressor Rated Load Amp (RLA)	A	6.06
	Compressor Power Input	W	1330
	Compressor Overload Protector	--	/
	Throttling Method	--	Electron expansion valve
	Set Temperature Range	ºC	8~30
	Cooling Operation Ambient Temperature Range	ºC	-18~43
	Heating Operation Ambient Temperature Range	ºC	-30~24
	Condenser Form	--	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7
	Condenser Rows-fin Gap	mm	2-1.4
	Condenser Coil Length (L×D×W)	mm	955×38.1×704
	Fan Motor Speed	rpm	780
	Fan Motor Power Output	W	90
	Fan Motor RLA	A	0.60
	Fan Motor Capacitor	μF	/
	Air Flow Volume	m^3/h	4000
	Fan Type	--	Axial-flow
	Fan Diameter	mm	Φ570
	Defrosting Method	--	Automatic Defrosting
	Climate Type	--	T1
	Isolation	--	I
	Moisture Protection	--	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
	Sound Pressure Level	dB (A)	60
	Sound Power Level	dB (A)	65
	Dimension(WXHXD)	mm	1000X746X427
	Dimension of Carton Box (LXWXH)	mm	1077X480X785
	Dimension of Package(LXWXH)	mm	1080X483X807
	Net Weight	kg	47
	Gross Weight	kg	52
	Refrigerant	--	R32
	Refrigerant Charge	kg	1.35
Connection Pipe	Connection Pipe Length	m	5
	Connection Pipe Gas Additional Charge	g/m	40
	Outer Diameter of Liquid Pipe(Client Allocation) (British System)	--	1/4"
	Outer Diameter of Gas Pipe(Client Allocation)(British System)	--	5/8"
	Max Distance Height	m	10
	Max Distance Length	m	25
	Note: The connection pipe applies metric diameter.		

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

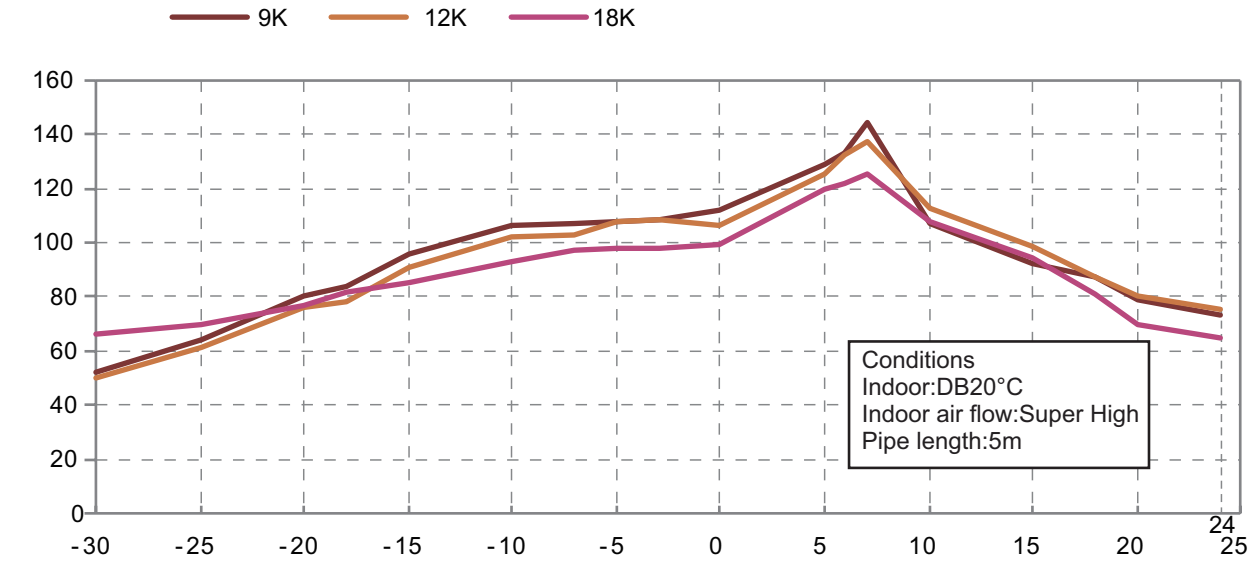
2.2 Capacity Variation Ratio According to Temperature

Heating operation ambient temperature range is -30ºC~24ºC

Cooling

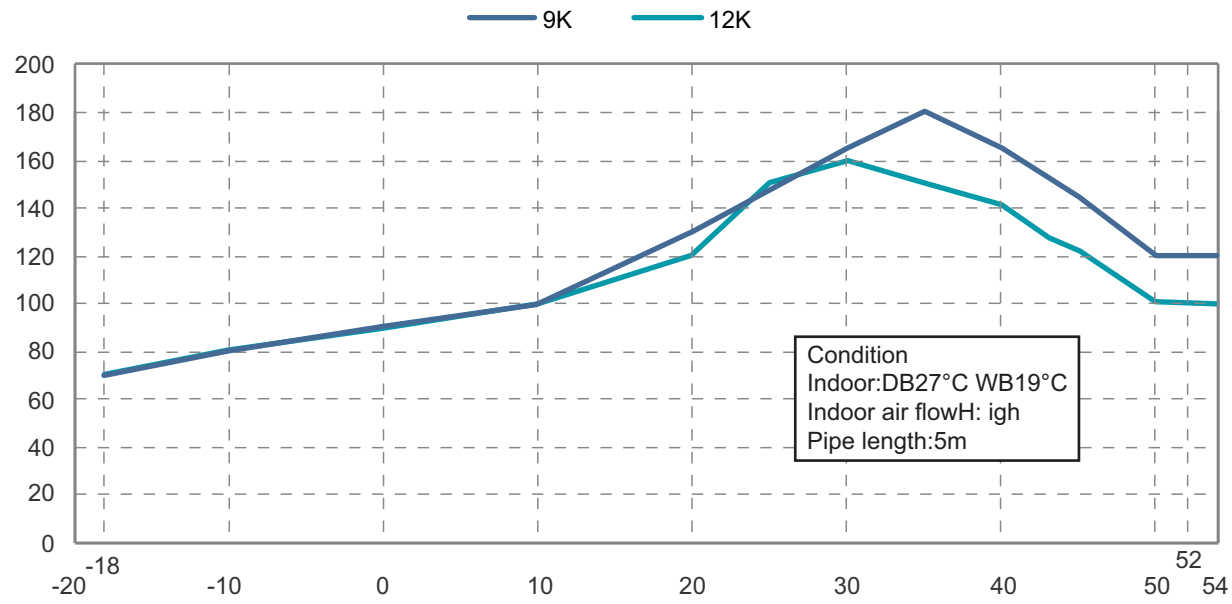


Heating

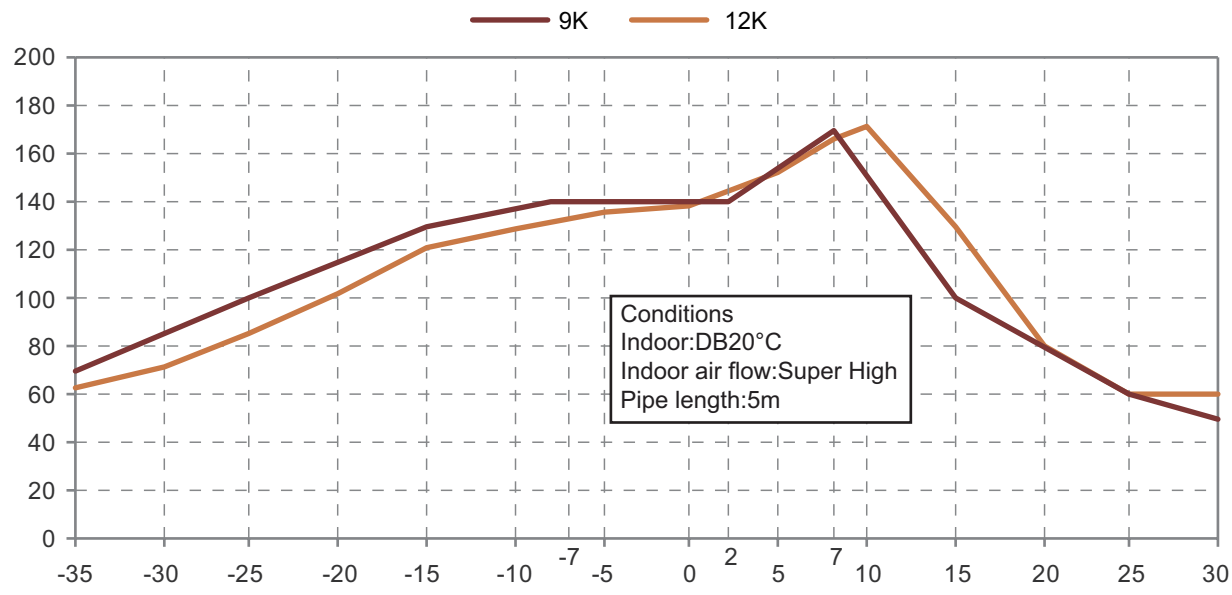


Heating operation ambient temperature range is -35ºC~30ºC

Cooling



Heating



2.3 Cooling and Heating Data Sheet in Rated Frequency

Cooling:

Rated cooling condition(°C) (DB/WB)		Model	Pressure of gas pipe connecting indoor and outdoor unit	Inlet and outlet pipe temperature of heat exchanger		Fan speed of indoor unit	Fan speed of outdoor unit
Indoor	Outdoor		P (MPa)	T1 (°C)	T2 (°C)		
27/19	35/24	09/12K	0.9~1.1	12 - 15	67 - 37	Super High	High
27/19	35/24	18K	0.9~1.1	12 - 14	75 - 37	Super High	High

Heating:

Rated heating condition(°C) (DB/WB)		Model	Pressure of gas pipe connecting indoor and outdoor unit	Inlet and outlet pipe temperature of heat exchanger		Fan speed of indoor unit	Fan speed of outdoor unit
Indoor	Outdoor		P (MPa)	T1 (°C)	T2 (°C)		
20/-	7/6	09K	2.1~2.4	58 -32	2 - 4	Super High	High
20/-	7/6	12K	2.2~2.4	70 -35	2 - 4	Super High	High
20/-	7/6	18K	2.2~2.4	70 - 40	1 - 5	Super High	High

Instruction:

T1: Inlet and outlet pipe temperature of evaporator

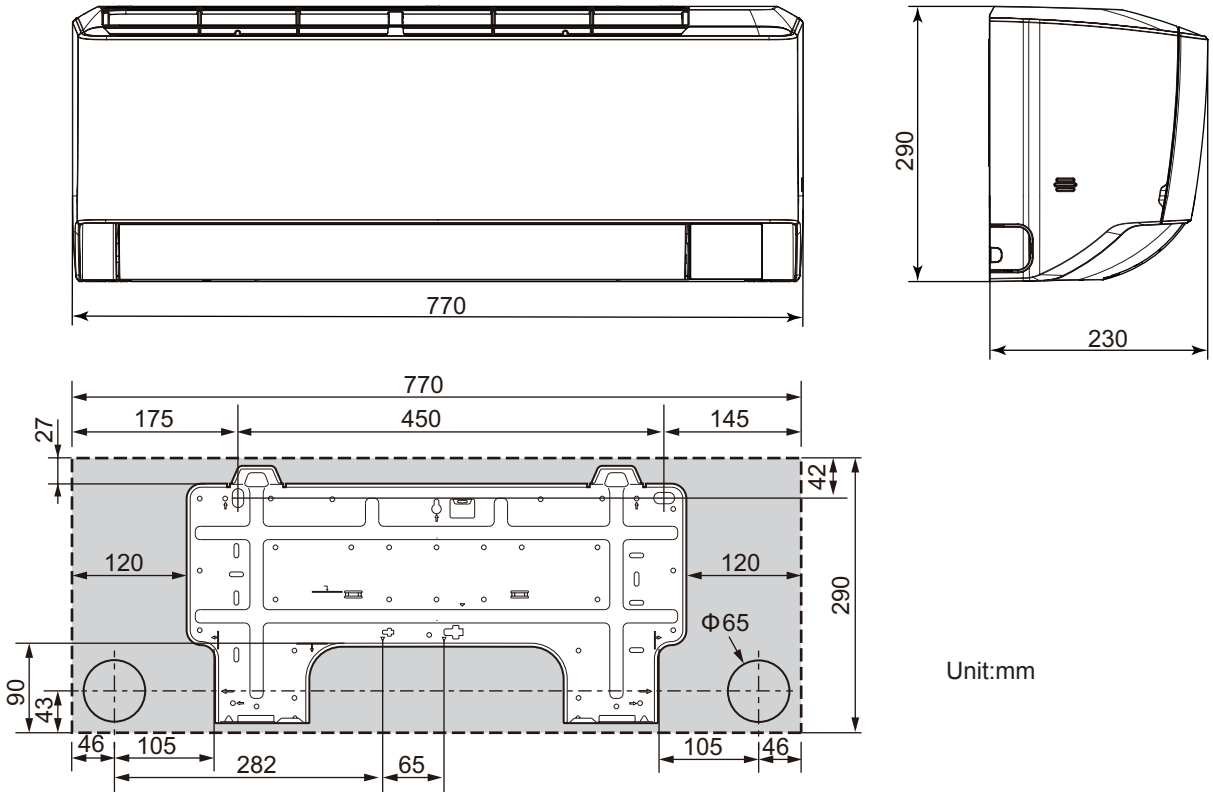
T2: Inlet and outlet pipe temperature of condenser

P: Pressure at the side of big valve

Connection pipe length: 5 m.

3. Outline Dimension Diagram

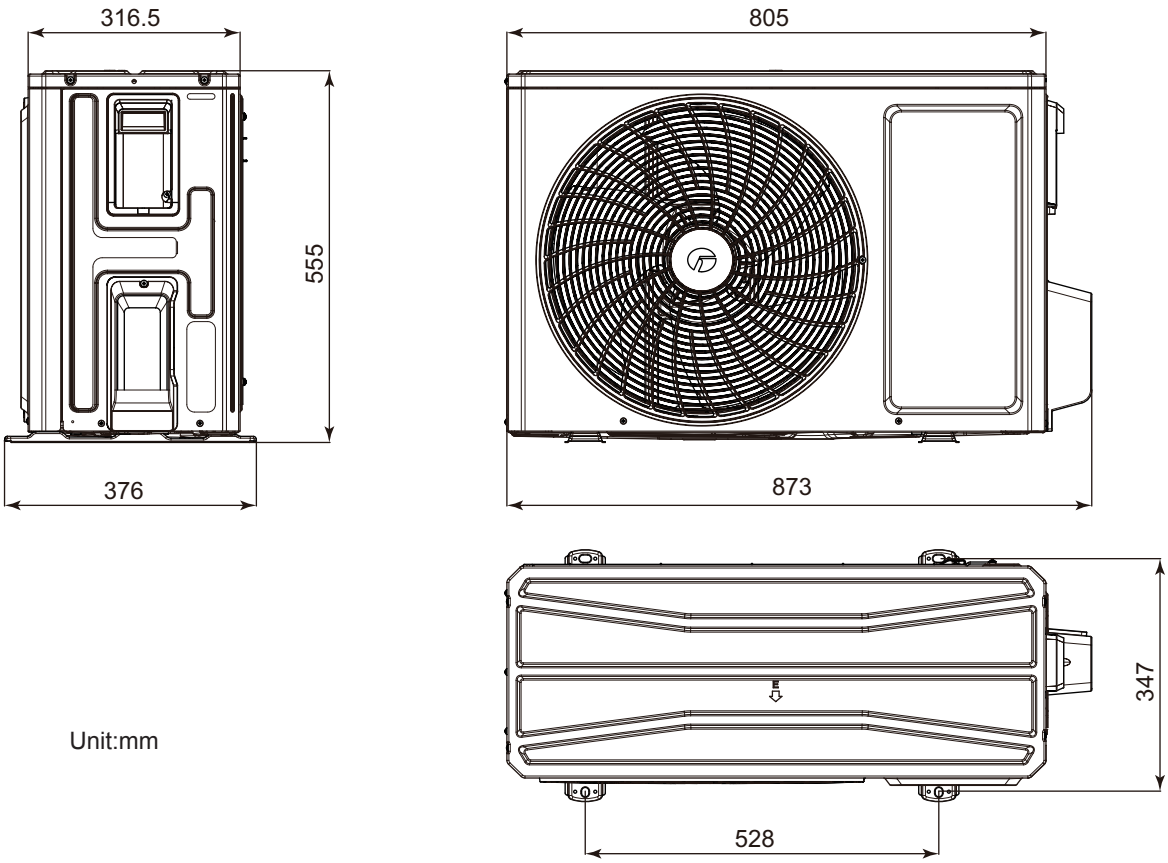
3.1 Indoor Unit



Unit:mm

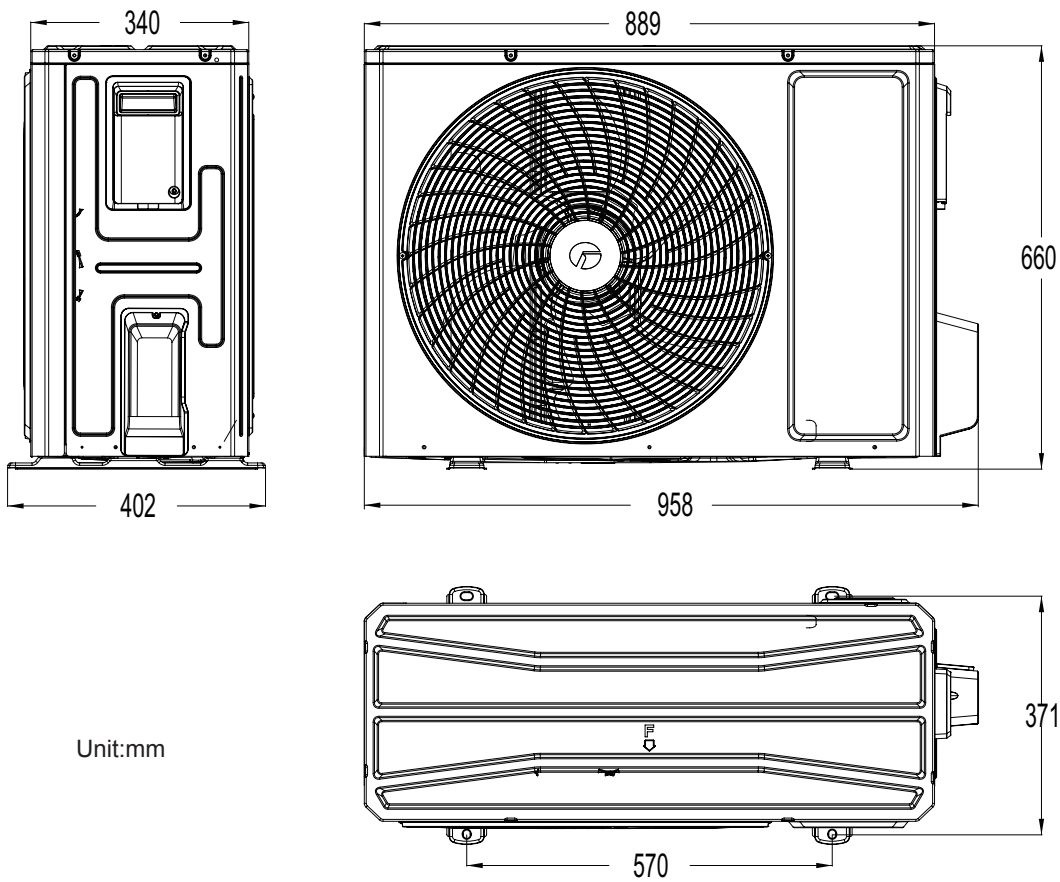
3.2 Outdoor Unit

GWH09APAXE-K6DNA3A/O GWH12APAXE-K6DNA3A/O



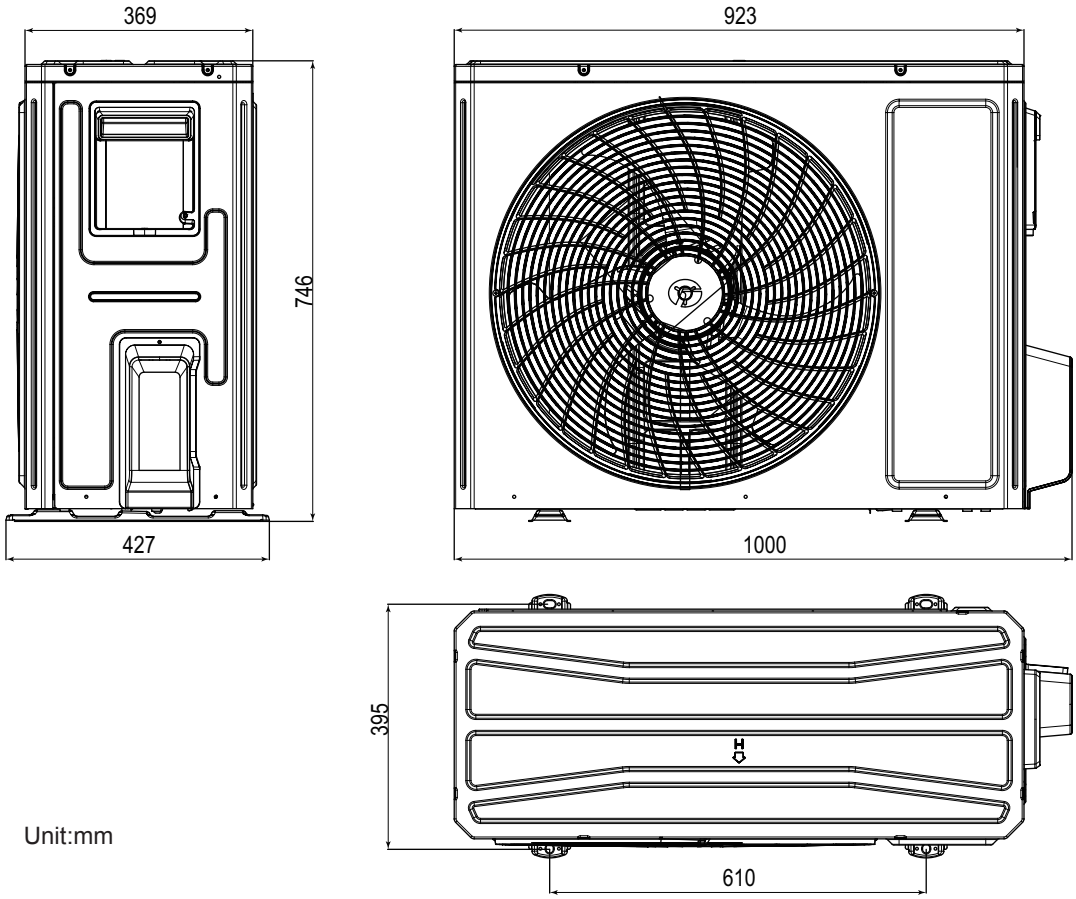
Unit:mm

GWH09APAXF-S6DBA3A/O GWH12APAXF-S6DBA3A/O



Unit:mm

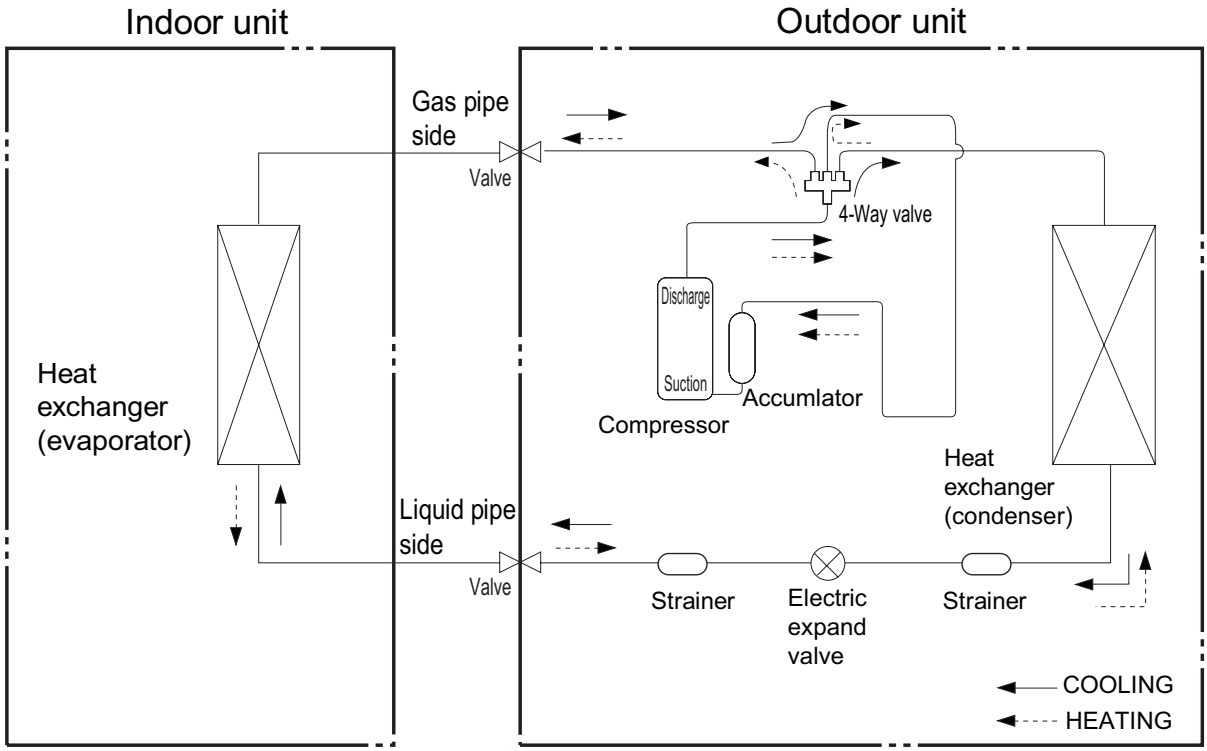
GWH18APAXH-K6DNA3A/O



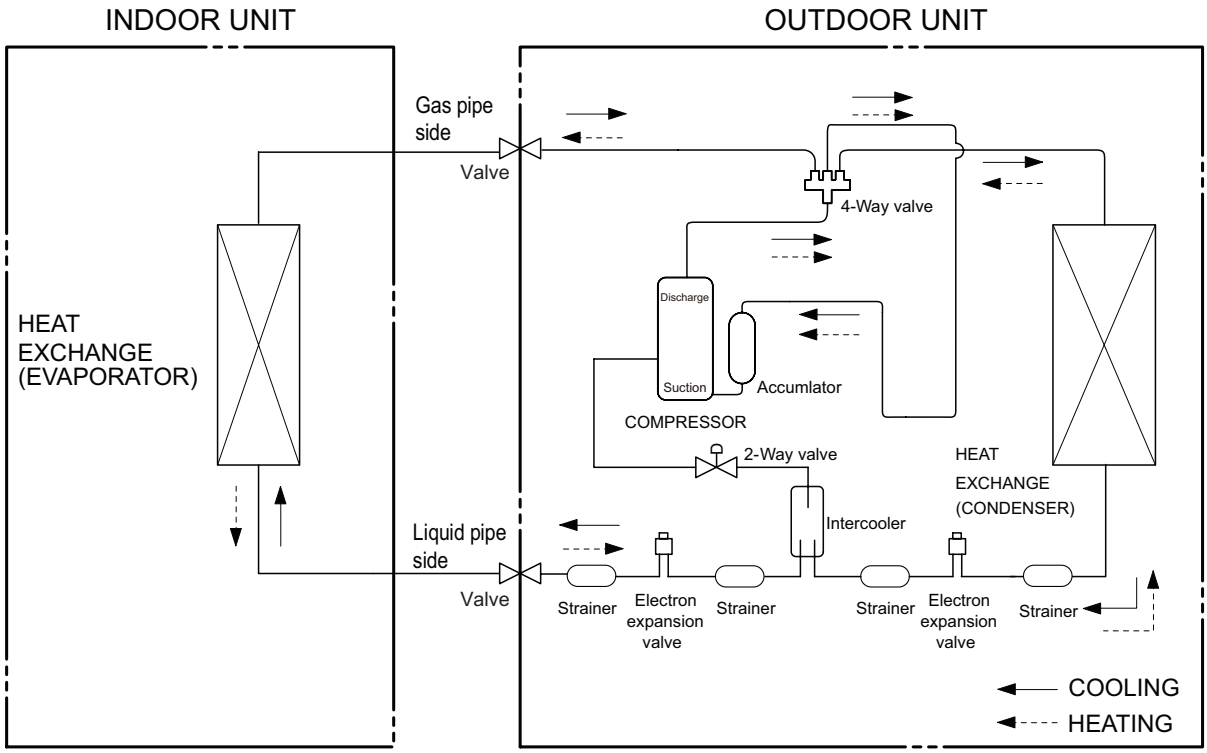
Unit:mm

4. Refrigerant System Diagram

09/12K(XE)
18K(XH)



09/12K(XF)



Connection pipe specification:
Liquid pipe:1/4"
Gas pipe:3/8" (9/12K),5/8" (18K)

5. Electrical Part

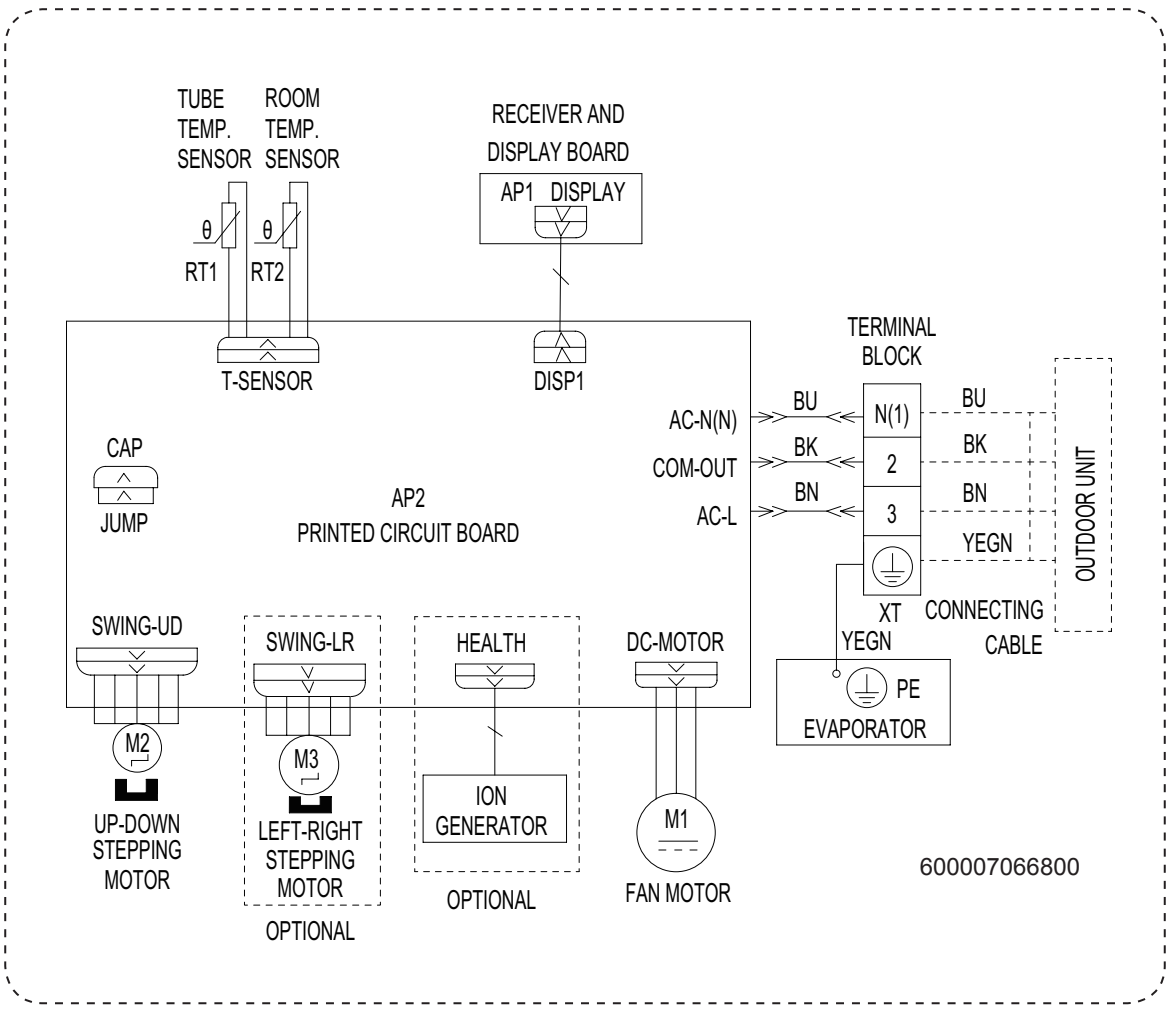
5.1 Wiring Diagram

●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	/	/

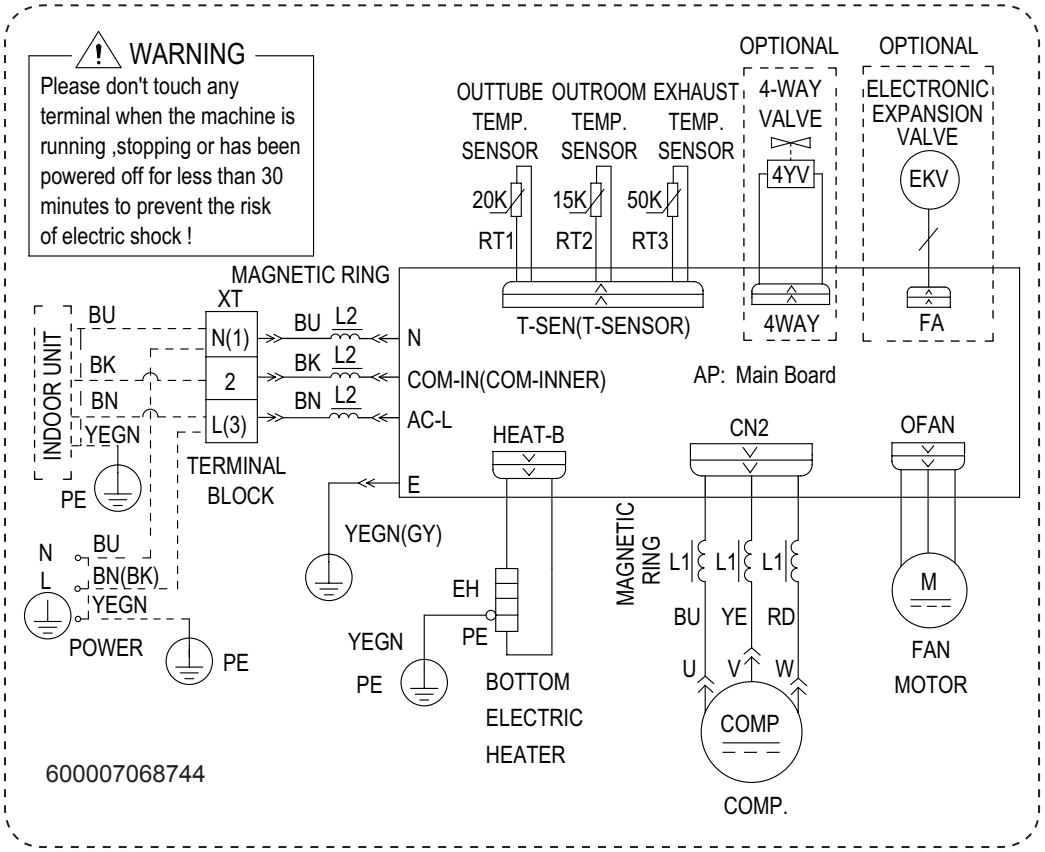
Note: Jumper cap is used to determine fan speed and the swing angle of horizontal louver for this model.

● Indoor Unit

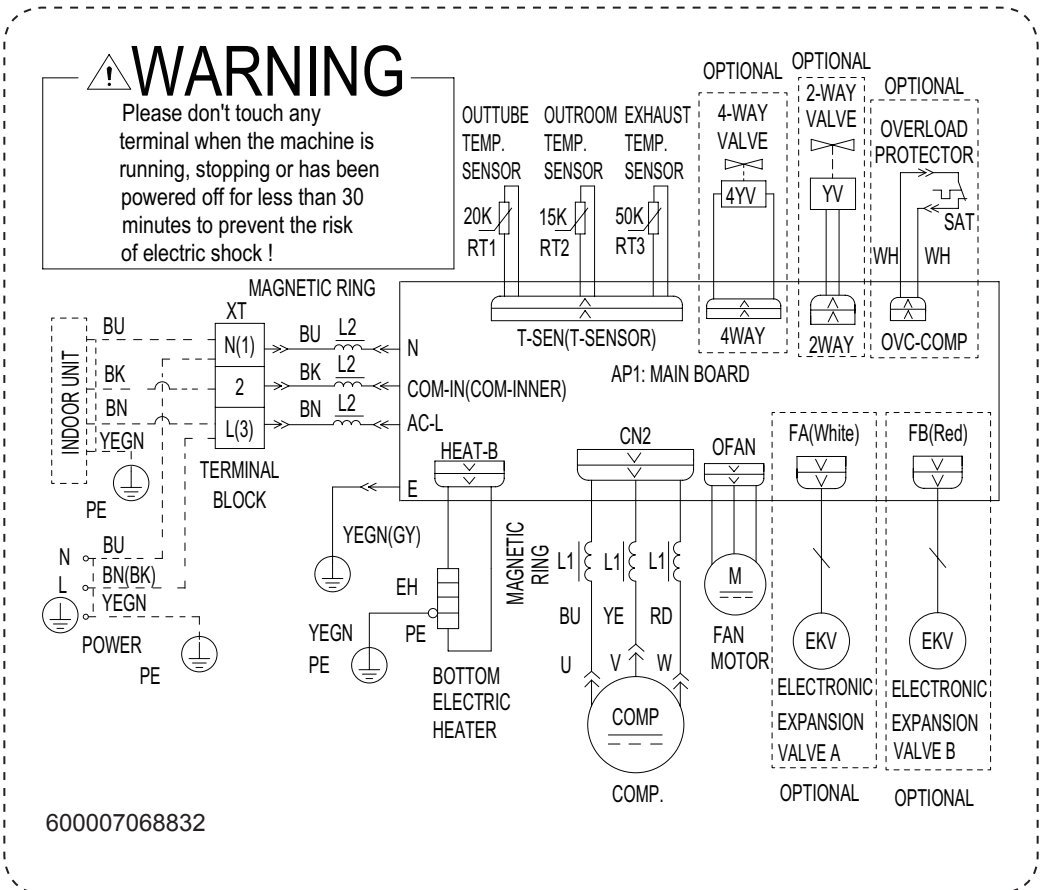


● Outdoor Unit

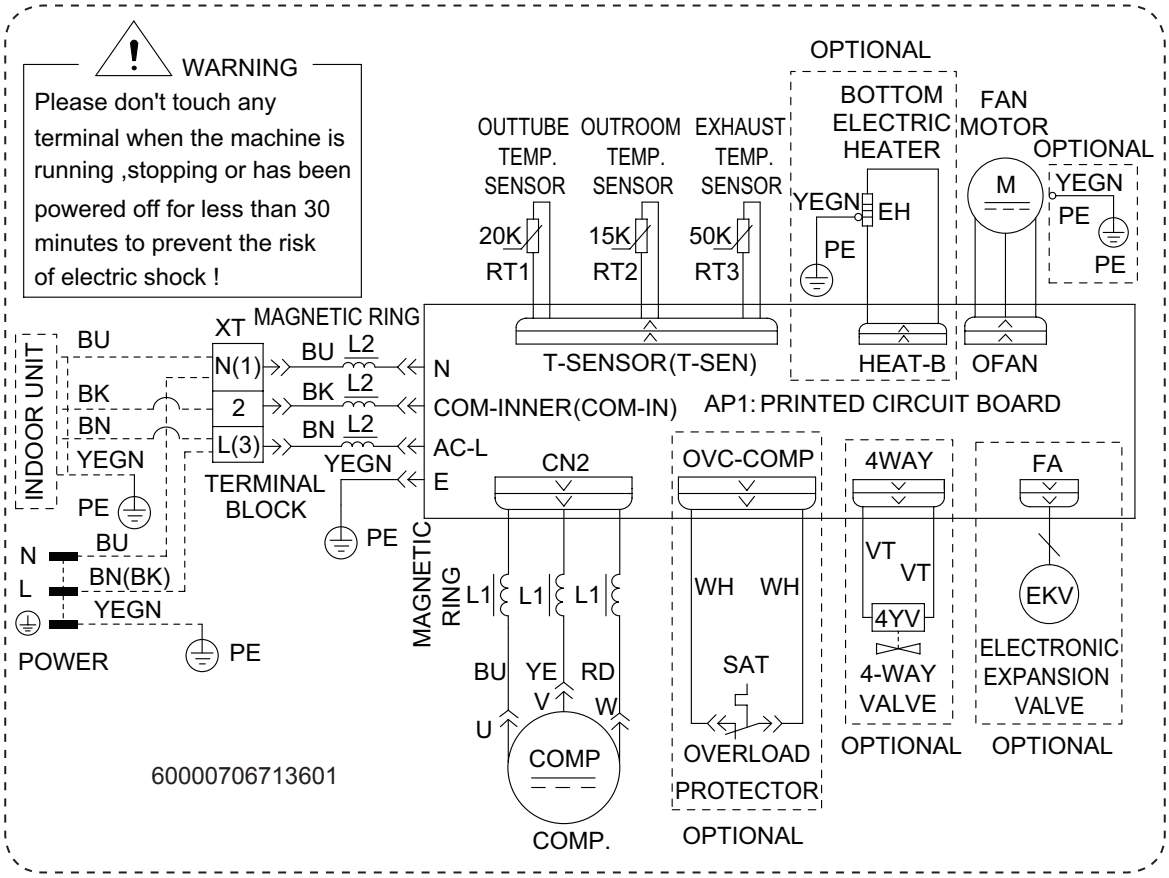
GWH09APAXE-K6DNA3A/O GWH12APAXE-K6DNA3A/O



GWH09APAXF-S6DBA3A/O GWH12APAXF-S6DBA3A/O



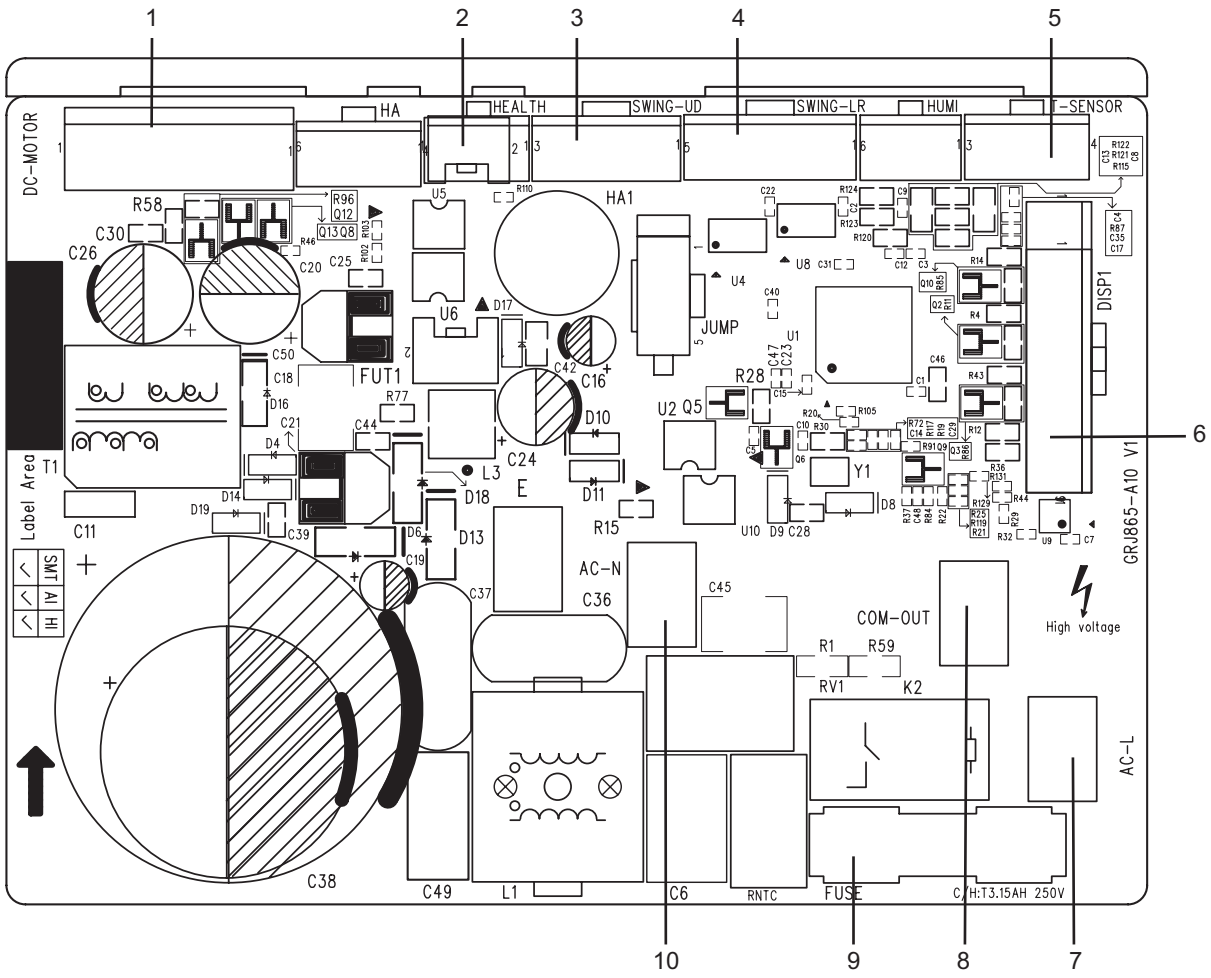
GWH18APAXH-K6DNA3A/O



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

5.2 PCB Printed Diagram

Indoor Unit

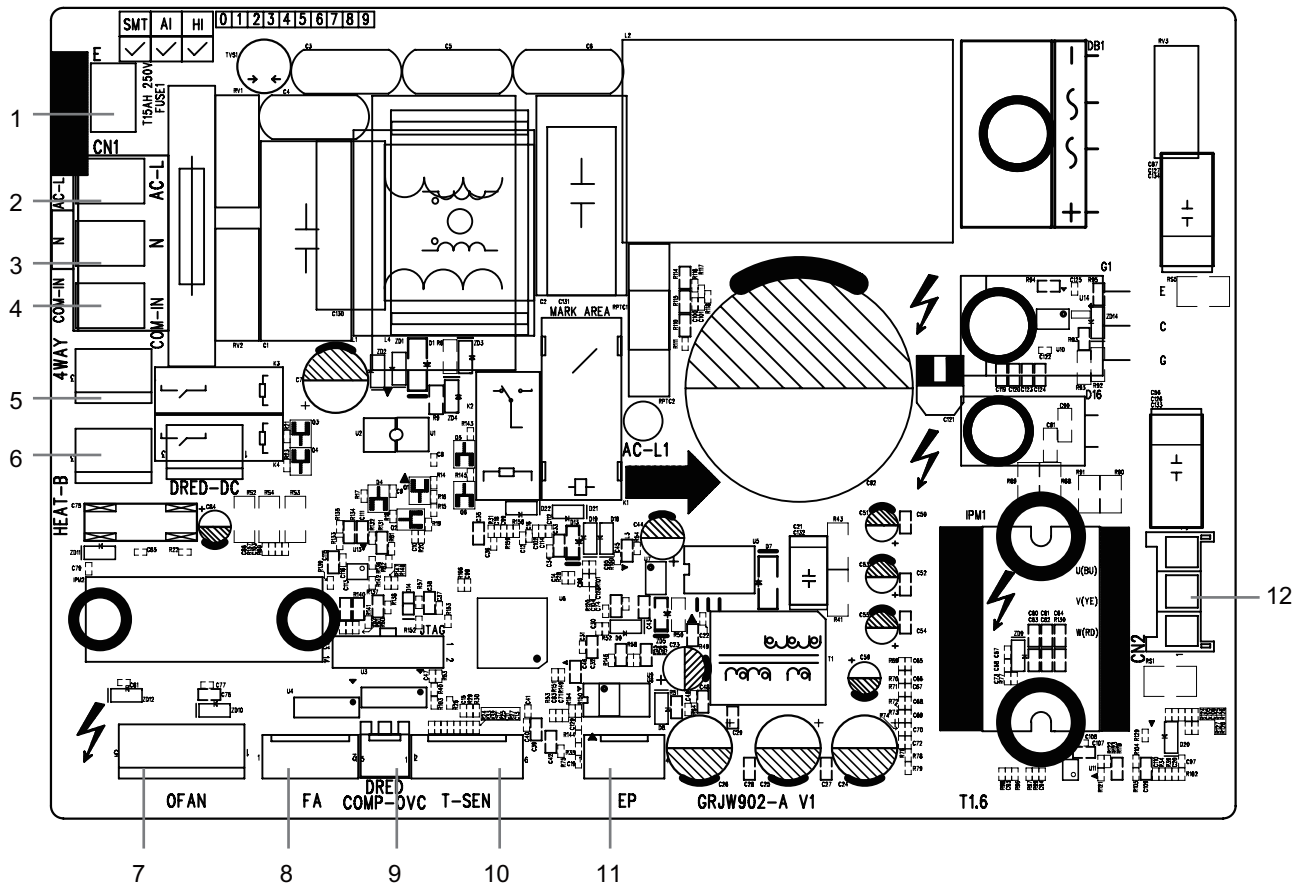


No.	Name
1	DC Motor terminal
2	Healthing terminal
3	Up & down swing terminal
4	Left & right swing terminal
5	Terminal of temperature sensor

No.	Name
6	Terminal of display board
7	Live wire terminal
8	Communication terminal for indoor unit and outdoor unit
9	Fuse
10	Neutral wire terminal

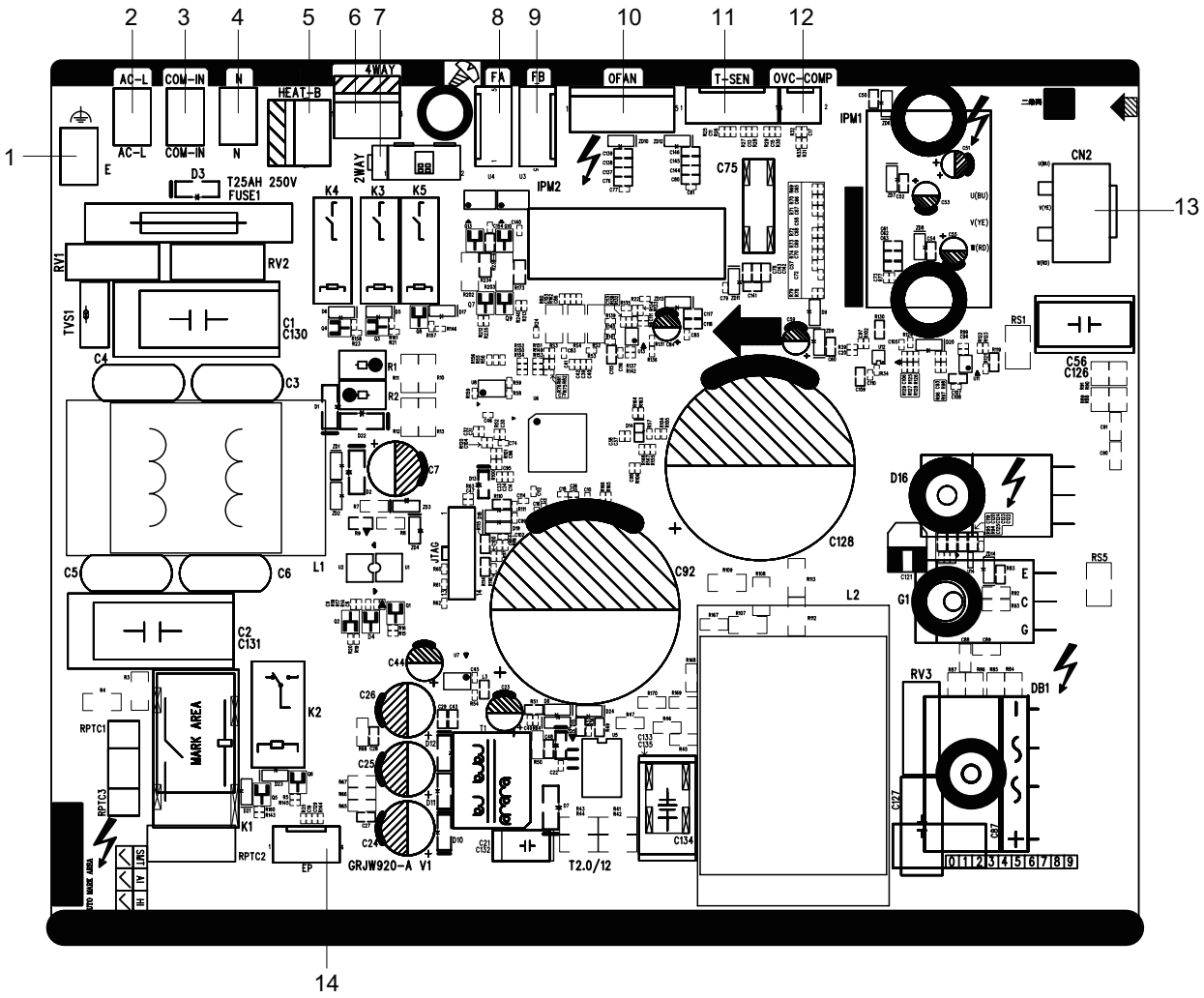
Outdoor Unit

GWH09APAXE-K6DNA3A/O GWH12APAXE-K6DNA3A/O

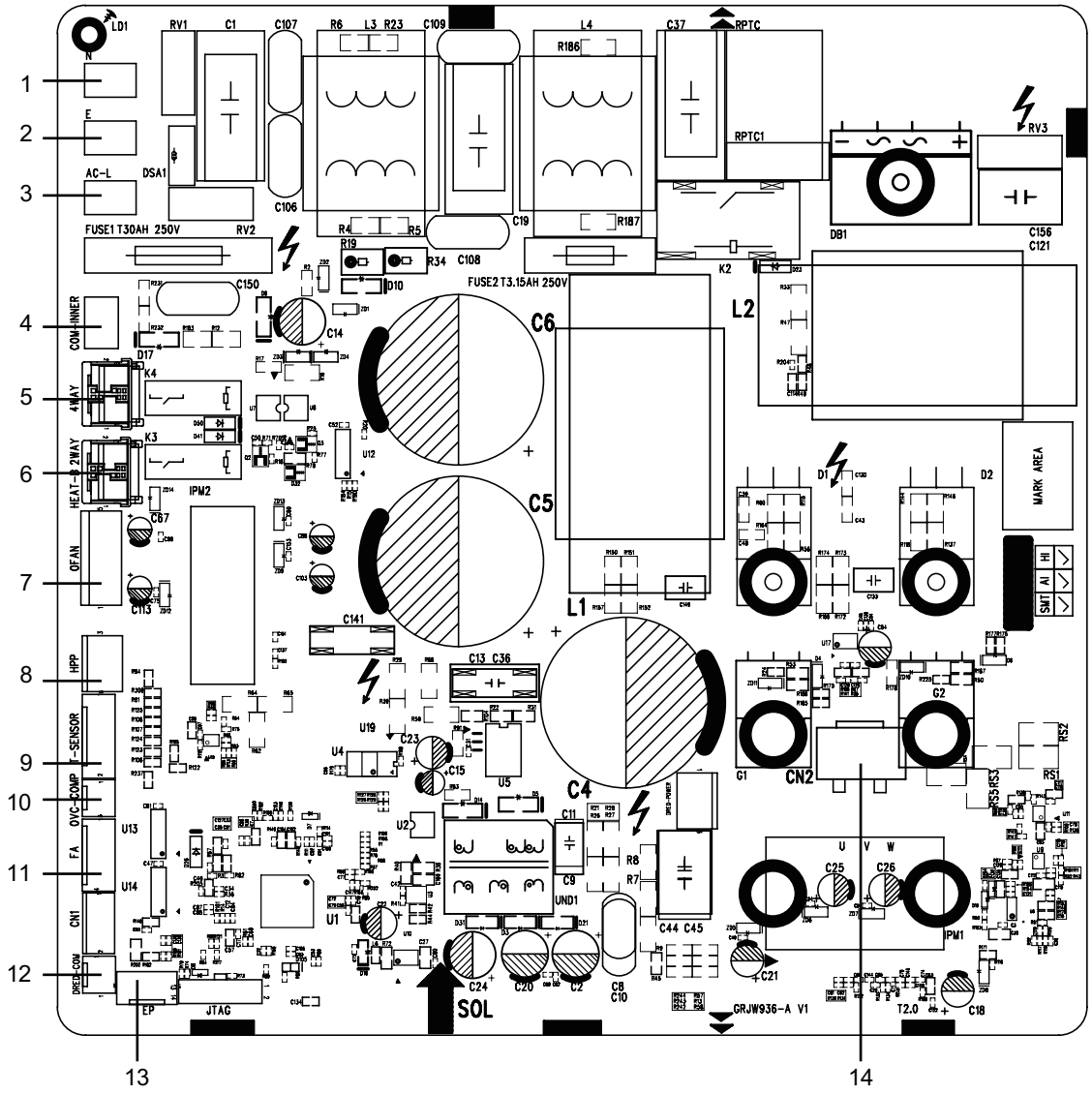


No.	Name
1	Earthing wire
2	Live wire
3	Neutral wire
4	Communication cable
5	4-way valve
6	Electric heating terminal of chassis

No.	Name
7	Outdoor fan
8	Electronic expansion valve
9	Compressor overload terminal
10	Temperature sensor
11	E store terminal
12	Compressor wiring terminal



No.	Name	No.	Name
1	Earthing wire	8	Terminal of electronic expansion valve A
2	Live wire	9	Terminal of electronic expansion valve B
3	Communication cable	10	Outdoor fan
4	Neutral wire	11	Temperature sensor
5	Electric heating terminal of chassis	12	Overload interface of compressor
6	4-way valve	13	Terminal of compressor wire
7	2-way valve	14	E store terminal



No.	Name	No.	Name
1	Neutral wire	8	Terminal of high pressure protection
2	Grounding wire	9	Temperature sensor
3	Live wire	10	Overload interface of compressor
4	Communication wire	11	Terminal of electronic expansion valve
5	4-way valve	12	Terminal of DRED
6	Electric heating belt of chassis	13	E disk(Reserved)
7	Outdoor fan	14	Terminal of compressor wire

6. Function and Control

6.1 Remote Controller Introduction

NOTE:

● This is a general use remote controller. It could be used for the air conditioner with multifunction. For the functions which the model doesn't have, if press the corresponding button on the remote controller, the unit will keep the original running status.

● After putting through the power, the air conditioner will give out a sound. Operation indicator "⏻" is ON. After that, you can operate the air conditioner by using remote controller.

● Under on status, pressing the button on the remote controller, the signal icon " " on the display of remote controller will blink once and the air conditioner will give out a "di" sound, which means the signal has been sent to the air conditioner.

Buttons on remote controller



Introduction for icons on display screen

	Send signal
	Quiet
FAN AUTO	Set fan speed
	Turbo mode
Operation mode	Auto mode
	Cool mode
	Dry mode
	Fan mode
	Heat mode
	X-FAN function
	Humidity control
	Power limiting operation
	Set temperature
	Indoor ambient temp.
	Indoor ambient humidity
ON OFF	TIMER ON / TIMER OFF
38:88	Set time
	Left & right swing
	Up & down swing
	Child lock
	Fast cool
	Health function
WiFi	WiFi function
	LED on
	Auto LED
	I feel
	Sleep mode

⏻ On/Off

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

Mode

Press this button to select your required operation mode.

AUTO → COOL → DRY → FAN → HEAT

● When selecting auto mode, air conditioner will operate automatically according to the sensed temperature. Press "FAN" button can adjust fan speed. Press "" / "" button can adjust fan blowing angle.

● After selecting cool mode, air conditioner will operate under cool mode. Press "+" or "-" button to adjust set temperature. Press "FAN" button to adjust fan speed. Press "" / "" button to adjust fan blowing angle.

● When selecting dry mode, the air conditioner operates at low speed under dry mode. Under dry mode, fan speed can't be adjusted. Press "" / "" button to adjust fan blowing angle.

● When selecting fan mode, the air conditioner will only blow fan, no cooling and no heating. Press "FAN" button to adjust fan speed. Press "" / "" button to adjust fan blowing angle.

● When selecting heating mode, the air conditioner operates under heat mode. Press "+" or "-" button to adjust set temperature. Press "FAN" button to adjust fan speed. Press "

" / "" button to adjust fan blowing angle.

NOTE:

● For preventing cold air, after starting up heat mode, indoor unit will delay 1~5 minutes to blow air (actual delay time depends on indoor ambient temperature).

● Set temperature can be adjusted under AUTO mode.

● Set temperature range from remote controller: 16~30℃ (61-86°F). et temperature range from remote controller under HEAT mode :8~30℃ (46-86°F).

● This mode indicator is not available for some models.

●Cooling only unit won't receive heating mode signal. If setting heat mode with remote controller, press "" button can't start up the unit.

Fan

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

NOTE:

● It's low fan speed under dry mode.

● X-FAN function: Holding fan speed button for 2s in cool or dry mode, the icon "" is displayed and the indoor fan will continue operation for a few minutes in order to dry the indoor unit even though you have turned off the unit. After energization, X-FAN OFF is defaulted. X-FAN is not available in auto, fan or heat mode.

This function indicates that moisture on evaporator of indoor unit will be blowed after the unit is stopped to avoid mould.

● Having set X-FAN function on: After turning off the unit by pressing ON/OFF button, indoor fan will continue running for a few minutes at low speed. In this period, hold fan speed button for 2s to stop indoor fan directly.

● Having set X-FAN function off: After turning off the unit by pressing "" button, the complete unit will be off directly.

+/-

Press "+" or "-" button once increase or decrease set temperature 1℃ (°F). Holding "+" or "-" button, 2s later, set temperature on remote controller will change quickly. On releasing button after setting is finished, temperature indicator on indoor unit will change accordingly.

NOTE:

● No dual-8 nixie tube for this model; press this button and there is no change for the indicator on the indoor unit.

Wifi

When the remote controller is OFF, press and hold "Mode" and "Wifi" buttons for about 1s to restore the WiFi module to factory settings and simultaneously enable the WiFi function.

NOTE:

● This function is only available for some models.

Health

Press this button to achieve the on and off of health and scavenging functions in operation station. the circulation change is as follow:

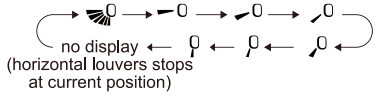


NOTE:

● This mode indicator is not available for some models.

UD-swing

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



● When selecting " ", air conditioner is blowing fan automatically. Horizontal louver will automatically swing up & down at maximum angle.

● When selecting " 、 、 、 、 ", air conditioner is blowing fan at fixed position. Horizontal louver will stop at the fixed position.

● Hold "" button above 2s to set your required swing angle. When reaching your required angle, release the button.

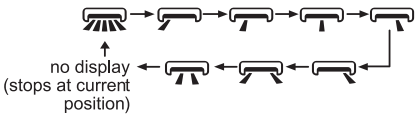
NOTE:

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

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

LR-swing

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



NOTE:

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

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

● The function is only available for some models.

Clock

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

NOTE:

● Clock time adopts 24-hour mode.

● The interval between two operations can't exceed 5s.

Otherwise, remote controller will quit setting status. Operation for TIMER ON/TIMER OFF is the same.

Timer on / Timer off

● Timer on

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

● Timer off

"" button can set the time for timer off. After pressing this button, " " icon disappears and the word "OFF" on remote controller blinks. Press "+" or "-" button to adjust Timer off setting. After each pressing "+" or "-" button, Timer off setting will increase or decrease 1min. Hold "+" or "-" button, 2s later, the time will change quickly until reaching your required time. Press "" word "OFF" will stop blinking.

" " icon resumes displaying. Cancel Timer off. Under the condition that Timer off is started up, press "" button to cancel it.

NOTE:

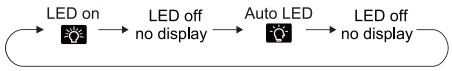
● Under on and off status, you can set Timer off or Timer on simultaneously.

● Before setting Timer on or Timer off, please adjust the clock time.

● After starting up Timer on or Timer off, set the constant circulating valid. After that, air conditioner will be turned on or turned off according to setting time. button has no effect on setting.If you don't need this function, please use remote controller to cancel it.

Light

Press this button to control the LED status on the displayer, the circulation change is as follow:



When selecting " " (Auto LED) with remote controller, LED indicator on indoor unit will adjust the luminance automatically according to the ambient intensity of illumination.

NOTE

● Auto LED function may not be available, when air conditioner receives this signal, the air conditioner will run at LED on.

Function introduction for combination buttons

Energy-saving function

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

Press "Mode" and "" buttons simultaneously again to exit energy-saving function.

NOTE:

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

● Under energy-saving function, set temperature can't be adjusted.

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

Child lock function

Hold " " and " - " buttons simultaneously for 3s to turn on or turn off child lock function. When child lock function is on, "" icon is displayed on remote controller. If you operate the remote controller, the "" icon will blink three times without sending signal to the unit.

Temperature display switchover function

Under OFF status, hold "Mode" and " - " buttons simultaneously for 3s to switch temperature displaybetween °C and °F.

function

Press "MODE" and "" buttons simultaneously to start function.

function is for limiting power of the whole unit.

Press this button, the remote controller will circularly display as the following:



● Maximum power limited under the mode is lower than that of

mode.

● If you want to cancel the power limiting function, press "Mode" and "" buttons simultaneously till the icon in remote controller is not displayed.

● When the remote controller is turned off, power limiting function is cancelled. If you want to activate the function, please repress "Mode" and "" buttons simultaneously.

● If the current power is lower than the maximum power of mode, then the power will not be limited after entering into such mode.

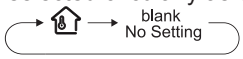
● For the model with one outdoor unit and two indoor units, if any one of indoor units enters into power limiting function, the outdoor unit will enter into the set limiting power mode of indoor unit; when two indoor units enter into power limiting mode, then the power of outdoor unit will be limited according to the lower power of the two indoor units.

NOTE:

This function is only available for some models.

Indoor ambient temperature

By holding "" and "" buttons simultaneously, you can see indoor ambient temperature on indoor unit's display. The setting on remote controlleris selected circularly as below:



● When selecting "" with remote controller, temperature indicator on indoor unit displays indoor ambient temperature.

NOTE:

● No dual-8 nixie tube for this model; press this button and there is no change for the indicator on the indoor unit.

Clean reminder function of filter

The reminder function is defaulted to be OFF. Hold "" and "" buttons simultaneously for 5s to turn it on. The buzzer will give out sound for 0.5s and the dual-8 nixie tube on the display will be on for 3s; Once the reminder function is turned on, when the air conditioner has reached to the set time, the dual-8 nixie tube will flash about 30s when the unit is turned on each time to remind the user to clean the filter; you can turn off this cycle reminder by holding "" and "" buttons simultaneously for 5s and then the air conditioner will count time again.

NOTE:

● Once the reminder function is turned on, only this cycle reminder can be cleared.

● This function is only available for some models.

● No dual-8 nixie tube for this model; press this button and there is no change for the indicator on the indoor unit.

Auto clean function

Under unit off status, hold "MODE" and "" buttons simultaneously for 5s to turn on or turn off the auto clean function. When the auto clean function is turned on, indoor unit displays "".

During the auto clean process of evaporator, the unit will perform fast cooling or fast heating. which is the sound of flowing liquid or thermal expansion or cold shrinkage. The air conditioner may blow cool or warm air, which is a normal phenomenon. During cleaning, please make sure the room is well ventilated to avoid affecting the degree of comfort.

NOTE:

● The auto clean function can only work under normal ambient temperature. If the room is dusty, clean it once a month; if not, clean it once every three months. After the auto clean function is turned on, you can leave the room. When auto clean is finished, the air conditioner will enter standby status.

● This function is only available for some models.

Night mode

Under cooling or heating mode, when turning on sleep mode and turn to low speed or quiet notch, the outdoor unit would enter into night mode.

NOTE:

● When you feel that the cooling and heating effect is poor, please press "Fan" button to other fan speed or press "" and "" buttons simultaneously to exit the night mode.

● The night mode can only work under normal ambient temperature.

● This function is only available for some models.

I FEEL function

Press "" and " + " buttons simultaneously to start I FEEL function and "" will be displayed on the remote controller. After this function is set, the remote controller will send the detected ambient temperature to the controller and the unit will automatically adjust the indoor temperature according to the detected temperature. Press "" and " + " buttons simultaneously again to turn off I FEEL function and "" will disappear.

● Please put the remote controller near user when this function is set. Do not put the remote controller near the object of high temperature or low temperature in order to avoid detecting inaccurate ambient temperature.When I FEEL function is turned on, the remote controller should be put within the area where indoor unit can receive the signal sent by the remote controller.

Sleep function

● Press "" and "" buttons simultaneously, can select Sleep 1 (), Sleep 2 (), Sleep 3 () and cancel the Sleep, circulate between these, after electrified, Sleep Cancel is defaulted.

● Sleep 1 is Sleep mode 1, in Cool modes; sleep status after run for one hour, the main unit setting temperature will increase 1 , two hours, setting temperature increased 2℃ , then the unit will run at this setting temperature; In Heat mode: sleep status after run for one hour, the setting temperature will decrease 1 , two hours, setting temperature will decrease 2 , then the unit will run

at this setting temperature.

● Sleep 2 is sleep mode 2, that is air conditioner will run according to the presetting a group of sleep temperature curve.

● Sleep 3-the sleep curve setting under Sleep mode by DIY;

(1) Under Sleep 3 mode, press "" button for a long time, remote controller enters into user individuation sleep setting status, at this time, the time of remote controller will display "1HOUR", the setting temperature "88" will display the corresponding temperature of last setting sleep curve and blink (The first entering will display according to the initial curve setting value of original factory);

(2) Adjust "+" and "-" buttons, could change the corresponding setting temperature, after adjusted, press "Turbo" button for confirmation;

(3) At this time, 1hour will be automatically increased at the timer position on the remote control, (that are "2hours" or "3hours" or "8hours"), the place of setting temperature "88" will display the corresponding temperature of last setting sleep curve and blink;

(4) Repeat the above step (2)~(3) operation, until 8 hours temperature setting finished, sleep,curve setting finished, at this time, the remote controller will resume the original timer display; temperature display will resume to original setting temperature.

● Sleep 3 the sleep curve setting under Sleep mode by DIY could be inquired:

The user could accord to sleep curve setting method to inquire the presetting sleep curve, enter into user individuation sleep setting status, but do not change the temperature, press "Turbo" button directly for confirmation. Note: In the above presetting or enquiry procedure, if continuously within 10s, there is no button pressed, the sleep curve setting within 10s, there is no button pressed, the sleep curve setting status will be automatically quit and resume to display the original displaying. In the presetting or enquiry procedure, press "" button, "Mode" button, "" and "" button simultaneously, the sleep curve setting or enquiry status will quit similarly.

Circulation Funtion

When the unit is running under heating mode, holding "Fan" button for 5s to activate circulation function, "FR" icon will be blinked on the remote controller for 3s. When the unit is running under heating mode, holding "Fan" button for 5s to deactivate circulation func-tion, setting tempereature will blinked on the remote controller for 3s.

NOTE:

● Circulation function need to be set again after power failure.

● When matching with the outdoor unit of Free Match, the indoor unit won't execute the circulation function.

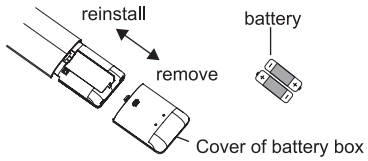
● This function is only available for some models.

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.



Notice:

● 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.

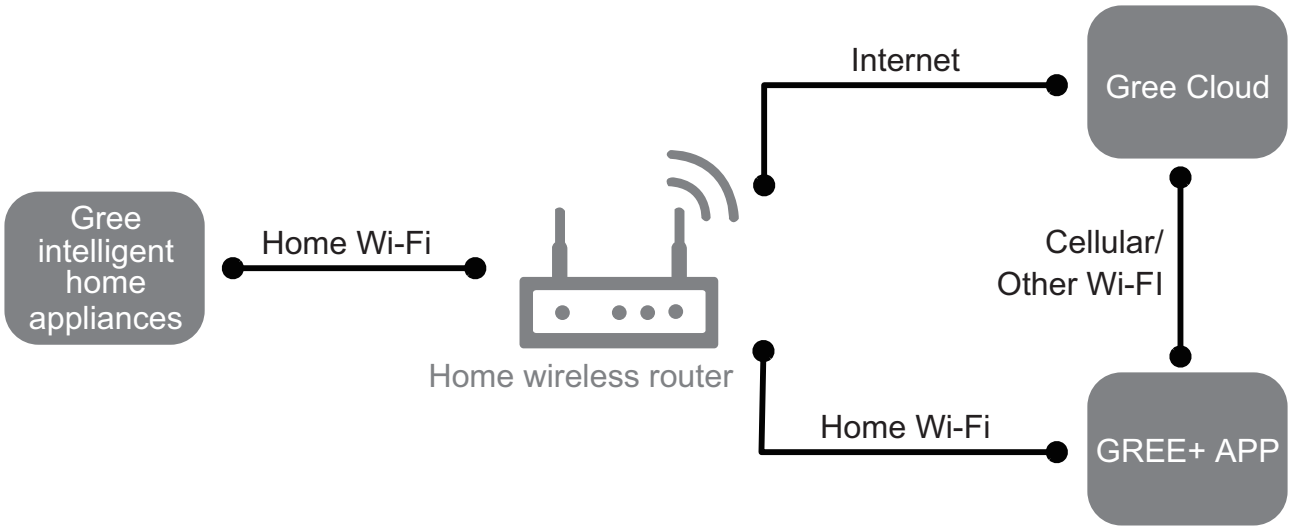
● Replace new batteries of the same model when replacement is required.

● 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 GREE+ App Operation Manual

Control Flow Chart



Operating Systems

Requirement for User's smart phone:

iOS system
Support iOS7.0 and above version

Android system
Support Android 4.4 and above version

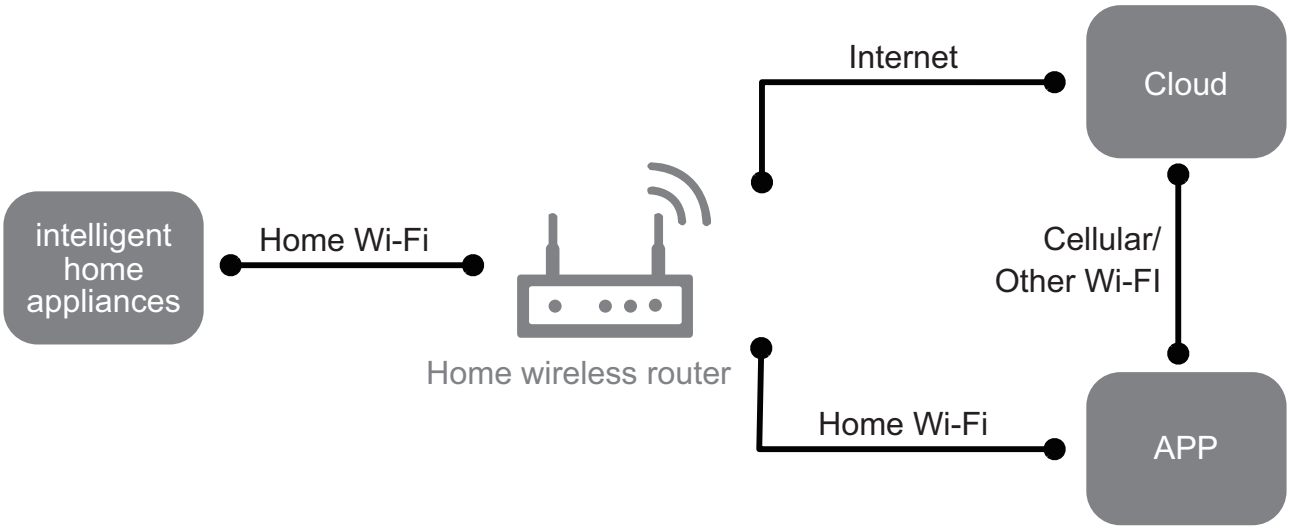
Download and installation

GREE+ App Download Linkage

Scan the QR code or search "GREE+" in the application market to download and install it. When "GREE+" App is installed, register the account and add the device to achieve long-distance control and LAN control of Gree smart home appliances.
For more information, please refer to "Help" in App.

6.3 Ewpe Smart App Operation Manual

Control Flow Chart



Operating Systems

Requirement for User's smart phone:

iOS system
Support iOS7.0 and above version

Android system
Support Android 4.4 and above version

Download and installation

App Download Linkage

Scan the QR code or search "Ewpe Smart" in the application market to download and install it. When "Ewpe Smart" App is installed, register the account and add the device to achieve long-distance control and LAN control of smart home appliances.
For more information, please refer to "Help" in App.

6.4 Brief Description of Models and Functions

●Indoor Unit

1.Basic function of system

(1)Cooling mode

(1) Under this mode, fan and swing operates at setting status. Temperature setting range is 16~30°C.

(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 16~30°C.

(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 16~30°C.

(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 T_{preset}=20°C and standard cooling T_{preset}=25°C. 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 ($T_{amb.}$-$T_{compensation}$) for heat pump unit and $T_{amb.}$ for cooling only unit.

4. If there's 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 16~30°C.

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) Entry condition for compulsory defrosting function

When turn on the unit under heating ode and set temperature is 16°C (or 16.5°C by remote controller), press “+, -, +, -, +, -” button successively within 5s and then indoor unit will enter into compulsory defrosting setting status:

(1) If there's only indoor units controller, it enters into indoor normal defrosting mode.

(2) If there's indoor units controller and outdoor units controller, indoor unit will send compulsory defrosting mode signal to outdoor unit and then outdoor unit will operate under normal defrosting mode. After indoor unit received the signal that outdoor unit has entered into defrosting status, indoor unit will cancel to send compulsory mode to outdoor unit. If outdoor unit hasn't received feedback signal from outdoor unit after 3min, indoor unit will also cancel to send compulsory defrosting signal.

(7)Refrigerant recovery function:

Enter into Freon recovery mode actively: Within 5min after energization, turn on the unit at 16°C under cooling mode, and press light button for 3 times within 3s to enter into Freon recovery mode. Fo is displayed and Freon recovery mode will be sent to outdoor unit.

(8)Ambient temperature display control mode

When the remote controller is turned on, press "⏻" and "((·))" buttons simultaneously on the remote controller and the indoor unit will display the temperature of remote controller sensor for 10s.

(9)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 can't 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.

(10) Turbo function

Turbo function can be set under cooling and heating modes. Press Fan Speed button to cancel turbo setting. Turbo function is not available under auto, drying and fan modes.

(11) Auto clean function of indoor heat exchanger

Through the phases of condensation, frosting, defrosting and high temperature of evaporator, dedusting and sterilization can be achieved.

1.Under power-off status, press and hold “Interior Clean” button for 3 seconds, the auto clean function can be turned on. After the function is turned on, the air conditioner displays “CL”.

2.The cleaning function cannot be turn off via remote controller, it can only automatically quit after finishing the cleaning or be compulsorily turned off by cutting off the power.

3.The evaporator will fast conduct cooling or heating during the auto cleaning course, and there may be noise or even large noise, which is a normal phenomenon due to the plastic components’ expansion caused by heat and contraction caused by cold. During the course of cleaning and sterilization, the room temperature may slightly increase, please keep the room be well ventilated.

Warm prompt:

If the indoor environment is easily be dusty, it is supposed to clean once a month. If the indoor environment is not so easily be dusty, it is supposed to clean once in three months. After turning on the auto clean mode, user can leave the room. After finishing the cleaning, the unit will automatically enter into stand-by mode.

●Outdoor Unit

1. Cooling mode:

Working condition and process of cooling mode:

① When $T_{\text{indoor ambient temperature}} \geq T_{\text{preset}}$, unit enters into cooling mode. Indoor fan, outdoor fan and compressor start operation. Indoor fan operates according to set fan speed.

② When $T_{\text{indoor ambient temperature}} \leq T_{\text{preset}}-2^{\circ}C$, compressor stops operation and outdoor fan will stop 30s later. Indoor fan operates according to set fan speed.

③ When $T_{\text{preset}}-2^{\circ}C<T_{\text{indoor ambient temperature}}<T_{\text{preset}}$, unit operates according to the previous status.

Under cooling mode, 4-way valve is not energized. Temperature setting range is 16~30°C. If compressor stops because of malfunction in cooling mode, indoor fan and swing motor will work according to the original status.

2. Drying mode

(1) Working condition and process of drying mode

① When $T_{\text{indoor ambient temperature}} > T_{\text{preset}}$, unit will be in drying mode. Outdoor fan and compressor start operation while indoor fan will operate at low fan speed.

② When $T_{\text{preset}}-2^{\circ}C \leq T_{\text{indoor ambient temperature}} \leq T_{\text{preset}}$, unit operates according to the previous status.

③ When $T_{\text{indoor ambient temperature}} < T_{\text{preset}}-2^{\circ}C$, compressor stops operation and outdoor fan will stop 30s later.

(2) Under drying mode, 4-way valve is not energized. Temperature setting range is 16~30°C.

(3) Protection function: same as in cooling mode.

3. Fan mode

(1) Under this mode, indoor fan can select different fan speed (except Turbo) or auto fan speed. Compressor, outdoor fan and 4-way valve all stop operation.

(2) In fan mode, temperature setting range is 16~30°C.

4. Heating mode

Working condition and process of heating mode:

① When $T_{\text{preset}} - (T_{\text{indoor ambient temperature}} - T_{\text{compensation}}) \geq 1^{\circ}C$, unit enters into heating mode. Compressor, outdoor fan and 4-way valve start operation.

② When $-2^{\circ}C < T_{\text{preset}} - (T_{\text{indoor ambient temperature}} - T_{\text{compensation}}) < 1^{\circ}C$, unit operates according to the previous status.

③ When $T_{\text{preset}} - (T_{\text{indoor ambient temperature}} - T_{\text{compensation}}) \leq -2^{\circ}C$, compressor stops operation and outdoor fan will stop 30s later. Indoor fan will be in residual-heat blowing status.

④ When unit is turned off under heating mode or changed to other modes from heating mode, 4-way valve will be power-off 2min after compressor stops working (compressor is in operation status under heating mode).

⑤ When $T_{\text{outdoor ambient temperature}} > 30^{\circ}C$, compressor stops operation immediately. Outdoor fan will stop 30s later.

⑥ Under the condition that compressor is turned on, when unit is changed to heating mode from cooling or drying mode, 4-way valve will be energized in 2~3mins delay.

Note: $T_{\text{compensation}}$ is determined by IDU and ODU. If IDU controls the compensation temperature, then $T_{\text{compensation}}$ is determined according to the value sent by IDU to ODU; If IDU does not control the compensation temperature, then $T_{\text{compensation}}$ will default to 3°C by the ODU.

5. Freon recovery mode

After the Freon recovery signal from IDU is received, cooling at rated frequency will be forcibly turned on to recover Freon.

Indoor unit will display Fo. If any signal from remote controller is received, unit will exit from Freon recovery mode and indoor unit stops displaying Fo.

6. Compulsory defrosting

If unit is turned on under heating mode and set temperature is 16°C (by remote controller), press “+, -, +, -, +, -” within 5s, unit will enter into compulsory defrosting mode and send the signal to ODU. When the compulsory defrosting signal from ODU is received, IDU will exit from the compulsory defrosting mode and stop sending the signal to ODU.

After ODU receives the compulsory defrosting code, it will start compulsory defrosting. Defrosting frequency and opening angle will be the same as in normal defrosting mode. When compulsory defrosting is finished, the complete unit resumes original status.

7. Auto mode

Auto mode is determined by controller of IDU. See IDU logic for details.

8. 8°C heating

Set temperature is 8°C. Display board of IDU displays 8°C. Under this mode, “Cold air prevention” function is shielded.
If compressor is operating under this mode, fan speed will adjust according to auto fan speed; if compressor stops operation under this mode, indoor fan will be in residual-heat blowing status.

9.Auto Clean Mode

After receiving the command of auto clean mode sent by IDU, ODU controls the compressor, outdoor fan, electronic expansion valve and 4-way valve to operate according to the fixed order, which helps the evaporator of IDU to go through three phases of condensation, frosting, and defrosting, and finally achieve the purpose of auto clean. Under such mode, if any protection occurs in the ODU and leads to shutdown of unit, please quit the auto clean mode immediately.

When power on, communication light will be blinking in a normal way (after receiving a group of correct signals, blinking stops for 0.2s~0.3s). If there's no communication, communication light will be always on. If other ODU has malfunction, communication light will be on for 1s and off for 1s in a circular way.

7. Notes for Installation and Maintenance

Safety Precautions: Important!

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

Please follow the instructions below.

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

⚠ WARNINGS

Electrical Safety Precautions:

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

Installation Safety Precautions:

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

Refrigerant Safety Precautions:

1. When refrigerant leaks or requires discharge during installation, maintenance, or disassembly, it should be handled by certified professionals or otherwise in compliance with local laws and regulations.
2.Avoid contact between refrigerant and fire as it generates poisonous gas; Prohibit prolong the connection pipe by welding.
3. 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.
4. Make sure no refrigerant gas is leaking out when installation is completed.
5. If there is refrigerant leakage, please take sufficient measure to minimize the density of refrigerant.
6. 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.

Safety Precautions for Refrigerant

• To realize the function of the air conditioner unit, a special refrigerant circulates in the system. The used refrigerant is the fluoride R32, which is specially cleaned. The refrigerant is flammable and inodorous. Furthermore, it can leads to explosion under certain conditions. But the flammability of the refrigerant is very low. It can be ignited only by fire.

• Compared to common refrigerants, R32 is a nonpolluting refrigerant with no harm to the ozonosphere. The influence upon the greenhouse effect is also lower. R32 has got very good thermodynamic features which lead to a really high energy efficiency. The units therefore need a less filling.

WARNING

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacture. Should repair be necessary, contact your nearest authorized Service Centre. Any repairs carried out by unqualified personnel may be dangerous. The appliance shall be stored in a room without continuously operating ignition sources. (For example: open flames, an operating gas appliance or an operating electric heater.) Do not pierce or burn. Appliance shall be installed, operated and stored in a room with a floor area larger than Xm^2. (Please refer to table "a" in section of "Safety operation of flammable refrigerant" for space X.) Appliance filled with flammable gas R32. For repairs, strictly follow manufacturer's instructions only. Be aware that refrigerants may not contain an odour. Read specialist's manual.



This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience an d knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

Hereby, Our company, declares that this Air Conditioner is in compliance with the essential requirement and other relevant provisions of RE Directive 2014/53/EU. A copy of the full DoC is attached. Wireless frequency range: 2412MHz - 2472MHz Maximum Transmit Power: 18dBm



R32: 675

This marking indicates that this product should not be disposed with other house hold wastes. To prevent possible harm to the environment or human health from uncontrolled waste throughout the EU. To prevent possible harm to the environment or human health.

From uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

If it needs to install, move or maintain the air conditioner, please contact dealer or local service center to conduct it at first. Air conditioner must be installed, moved or maintained by appointed unit. Otherwise, it may cause serious damage or personal injury or death.

Safety Operation of Flammable Refrigerant

1. Qualification requirement for installation and maintenance man

• All the work men who are engaging in the refrigeration system should bear the valid certification awarded by the authoritative organization and the qualification for dealing with the refrigeration system recognized by this industry. If it needs other technician to maintain and repair the appliance, they should be supervised by the person who bears the qualification for using the flammable refrigerant.

• It can only be repaired by the method suggested by the equipments manufacturer.

2. Installation notes

• The air conditioner must be installed in a room that is larger than the minimum room area. The minimum room area is shown on the nameplate or following table a.

• It is not allowed to drill hole or burn the connection pipe.

• Leak test is a must after installation.

table a - Minimum room area (m^2)

Charge amount (kg)	Installation High (m)			
	0.6 (Floor Location)	1.8 (Wall Mounted)	2.2 (Ceiling Mounted)	2.5
	Minimum Room Area (m^2)			
≤1.224	/	/	/	/
1.3	14.6	1.7	1.1	0.9
1.4	16.9	1.9	1.3	1.0
1.5	19.4	2.2	1.5	1.2
1.6	22.0	2.5	1.7	1.3
1.7	24.9	2.8	1.9	1.5
1.8	27.9	3.1	2.1	1.7
1.9	31.1	3.5	2.4	1.8
2	34.4	3.9	2.6	2.0
2.1	37.9	4.3	2.9	2.2
2.2	41.6	4.7	3.1	2.4
2.3	45.5	5.1	3.4	2.7
2.4	49.5	5.5	3.7	2.9
2.5	53.7	6.0	4.0	3.1
2.6	58.1	6.5	4.4	3.4
2.7	62.7	7.0	4.7	3.7
2.8	67.4	7.5	5.1	3.9
2.9	72.3	8.1	5.4	4.2
3	77.3	8.6	5.8	4.5
3.1	82.6	9.2	6.2	4.8
3.2	88.0	9.8	6.6	5.1
3.3	93.6	10.4	7.0	5.4

3. Maintenance notes

● Check whether the maintenance area or the room area meet the requirement of the nameplate.

— It's only allowed to be operated in the rooms that meet the requirement of the nameplate.

● Check whether the maintenance area is well-ventilated.

— The continuous ventilation status should be kept during the operation process.

● Check whether there is fire source or potential fire source in the maintenance area.

— The naked flame is prohibited in the maintenance area; and the "no smoking" warning board should be hanged.

● Check whether the appliance mark is in good condition.

— Replace the vague or damaged warning mark.

4. Welding

● If you should cut or weld the refrigerant system pipes in the process of maintaining, please follow the steps as below:

a. Shut down the unit and cut power supply

b. Eliminate the refrigerant

c. Vacuuming

d. Clean it with N_2 gas

e. Cutting or welding

f. Carry back to the service spot for welding

● Make sure that there isnt any naked flame near the outlet of the vacuum pump and its well-ventilated.

● The refrigerant should be recycled into the specialized storage tank.

5. Filling the refrigerant

● Use the refrigerant filling appliances specialized for R32. Make sure that different kinds of refrigerant wont contaminate with each other.

● The refrigerant tank should be kept upright at the time of filling refrigerant.

● Stick the label on the system after filling is finished (or havent finished).

● Don't overfilling.

● After filling is finished, please do the leakage detection before test running; another time of leak detection should be done when its removed.

6. Safety instructions for transportation and storage

● Please use the flammable gas detector to check before unload and open the container.

● No fire source and smoking.

● According to the local rules and laws.

Specialist's Manual

● The following checks shall be applied to installations using flammable refrigerants:

— the charge size is in accordance with the room size within which the refrigerant containing parts are installed;

— the ventilation machinery and outlets are operating adequately and are not obstructed;

— if an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;

— marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be

corrected;

— refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

• Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

• Initial safety checks shall include:

— that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;

— that no live electrical components and wiring are exposed while charging, recovering or purging the system;

— that there is continuity of earth bonding.

• Checks to the area

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, From "Work procedure" to "No ignition sources" shall be completed prior to conducting work on the system.

• Work procedure

Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

• General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.

• Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

• Presence of fire extinguisher

If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO_2 fire extinguisher adjacent to the charging area.

• No ignition sources

No person carrying out work in relation to a refrigerating system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space.

Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. ''No Smoking'' signs shall be displayed.

• Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

• Checks to the refrigerating equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.

The following checks shall be applied to installations using flammable refrigerants:

— the actual refrigerant charge is in accordance with the room size within which the refrigerant containing parts are installed;

— the ventilation machinery and outlets are operating adequately and are not obstructed;

— if an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;

— marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;

— refrigerating pipe or components are installed in a

position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

● Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:

— that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;

— that no live electrical components and wiring are exposed while charging, recovering or purging the system;

— that there is continuity of earth bonding.

● Repairs to sealed components

During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.

Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.

— Ensure that the apparatus is mounted securely.

— Ensure that seals or sealing materials have not degraded to the point that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.

NOTE: The use of silicon sealant can inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.

● Repair to intrinsically safe components

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.

Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.

Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

● Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

● Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

● Leak detection methods

The following leak detection methods are deemed acceptable for all refrigerant systems.

Electronic leak detectors may be used to detect refrigerant leaks but, in the case of flammable refrigerants, the sensitivity may not be adequate, or may need recalibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25% maximum) is confirmed.

Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

If a leak is suspected, all naked flames shall be removed/ extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. For appliances containing flammable refrigerants, oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing

process.

• Removal and evacuation

When breaking into the refrigerant circuit to make repairs — or for any other purpose — conventional procedures shall be used. However, for flammable refrigerants it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to:

- remove refrigerant;
- purge the circuit with inert gas;
- evacuate;
- purge with inert gas;
- open the circuit by cutting or brazing.

The refrigerant charge shall be recovered into the correct recovery cylinders. For appliances containing flammable refrigerants, the system shall be "flushed" with OFN to render the unit safe. This process may need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems.

For appliances containing flammable refrigerants, flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipe-work are to take place.

Ensure that the outlet for the vacuum pump is not close to any ignition sources and that ventilation is available.

• Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed.

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.
- Cylinders shall be kept in an appropriate position according to the instructions.
- Ensure that the refrigerating system is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the refrigerating system.

Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

• Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task is commenced.

a) Become familiar with the equipment and its operation.

b) Isolate system electrically.

c) Before attempting the procedure, ensure that:

— mechanical handling equipment is available, if required, for handling refrigerant cylinders;

— all personal protective equipment is available and being used correctly;

— the recovery process is supervised at all times by a competent person;

— recovery equipment and cylinders conform to the appropriate standards.

d) Pump down refrigerant system, if possible.

e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.

f) Make sure that cylinder is situated on the scales before recovery takes place.

g) Start the recovery machine and operate in accordance with manufacturer's instructions.

h) Do not overfill cylinders. (No more than 80% volume liquid charge).

i) Do not exceed the maximum working pressure of the cylinder, even temporarily.

j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.

k) Recovered refrigerant shall not be charged into another refrigerating system unless it has been cleaned and checked.

• Labelling

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing flammable refrigerants, ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

• Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of all appropriate refrigerants including, when applicable, flammable refrigerants. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.

The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

• General

That the installation of pipe-work shall be kept to a minimum.

That compliance with national gas regulations shall be observed.

That mechanical connections made in accordance with 22.118 shall be accessible for maintenance purposes.

Main Tools for Installation and Maintenance



Level meter



Measuring tape



Screw driver



Impact drill



Drill head



Electric drill



Electroprobe



Universal meter



Torque wrench



Open-end wrench



Inner hexagon spanner



Electronic leakage detector



Vacuum pump



Pressure meter



Pipe pliers



Pipe pliers



Pipe cutter



Pipe expander



Pipe bender



Soldering appliance



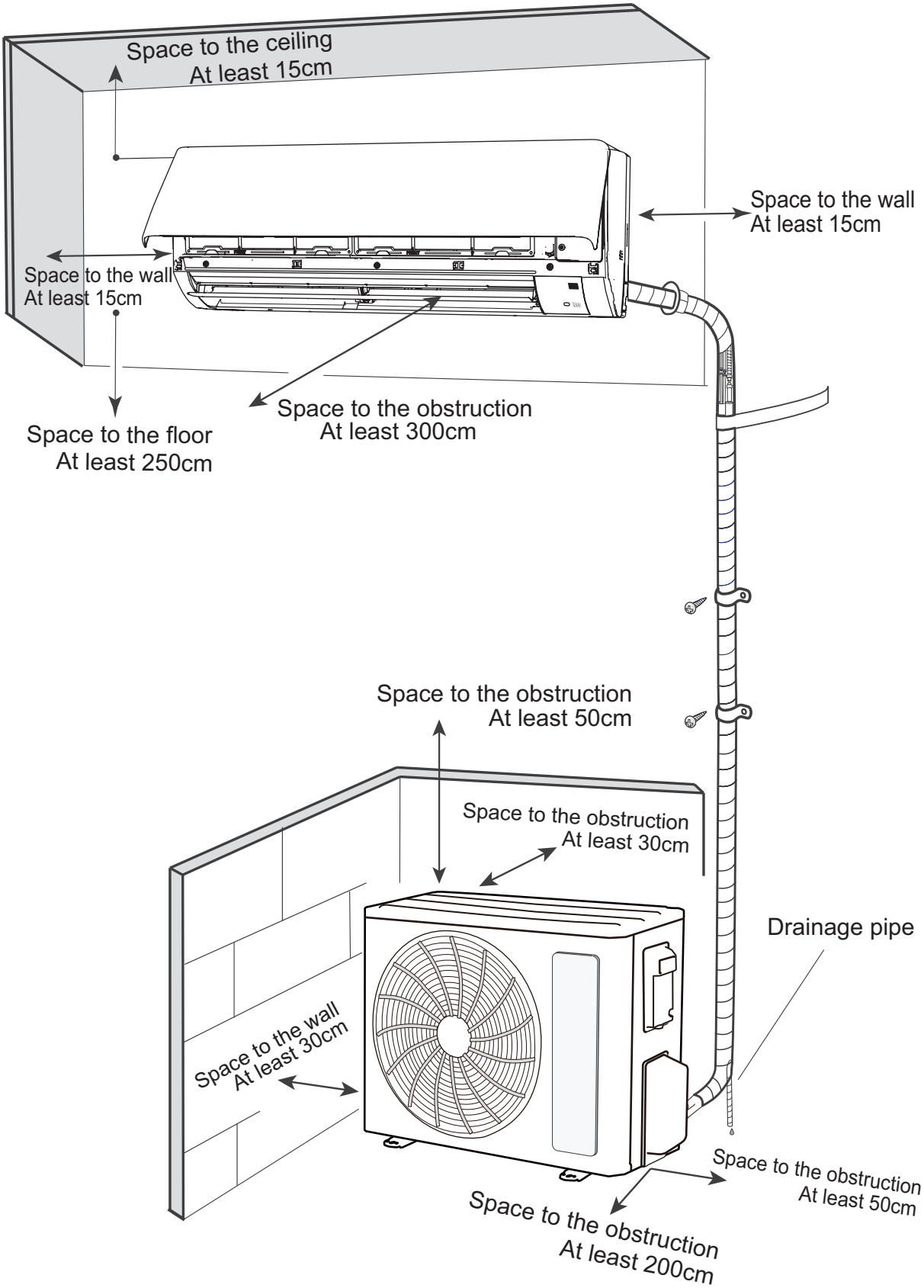
Refrigerant container



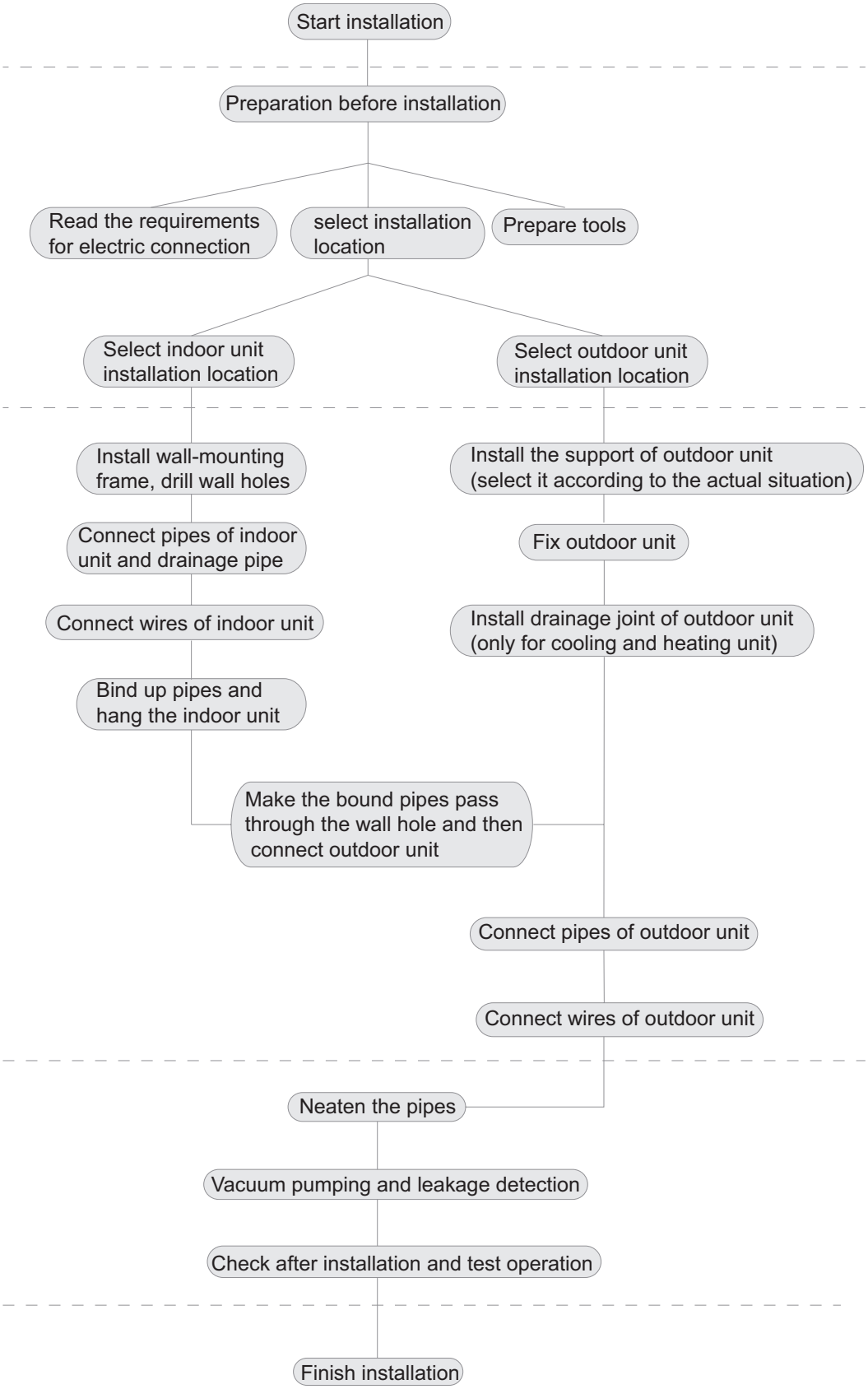
Electronic scale

8. Installation

8.1 Installation Dimension Diagram



Installation Procedures



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

8.2 Installation Parts-checking

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

⚠ **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) The appliance shall nost be installed in the laundry.
(8) It's not allowed to be installed on the unstable or motive base structure(such as truck) or in the corrosive environment (such as chemical factory).

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 won't 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 won't increase noise and vibration.
(6) The appliance must be installed 2.5m above floor.
(7) don't install the indoor unit right above the electric appliance.
(8) Please try your best to keep way from fluorescent lamp.
3. Outdoor Unit:
(1) Select a location where the noise and outflow air emitted by the outdoor unit will not affect neighborhood.
(2) The location should be well ventilated and dry, in which the outdoor unit won't be exposed directly to sunlight or strong wind.
(3) The location should be able to withstand the weight of outdoor unit.
(4) Make sure that the installation follows the requirement of installation dimension diagram.
(5) Select a location which is out of reach for children and far away from animals or plants.If it is unavoidable, please add fence for safety purpose.

8.4 Electric Connection Requirement

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

2. Grounding Requirement:
(1) The air conditioner is the first class electric appliance.It must be properly grounding with specialized grounding device by a professional.
Please make sure it is always grounded effectively,otherwise it may cause electric shock.
(2) The yellow-green wire in air conditioner is grounding wire, which can't be used for other purposes.
(3) The grounding resistance should comply with national electric safety regulations.
(4) The appliance must be positioned so that the plug is accessible.
(5) An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.

Air switch capacity:

Model	Air switch capacity	Power cord
9K(XE)/12K(XE)	10A	3x1.0mm^2
09K(XF)/12K(XF)/18K	16A	3x1.5mm^2

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 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.

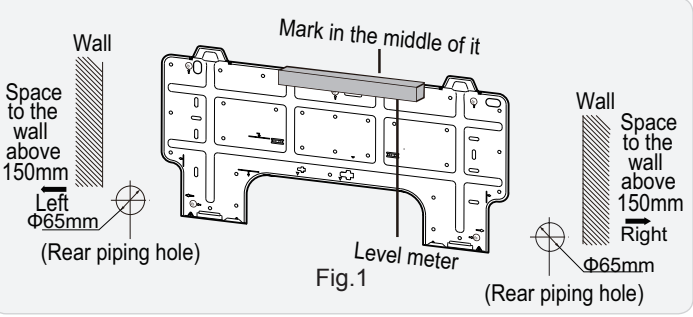


Fig.1

3. Open piping hole

(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,shown as below.(As show in Fig.1)

(2) Open a piping hole with the diameter of Φ55mm or Φ70mm on the selected outlet pipe position. In order to drain smoothly, slant the piping hole on the wall slightly downward to the outdoor side with the gradient of 5-10°.(As show in Fig.2)

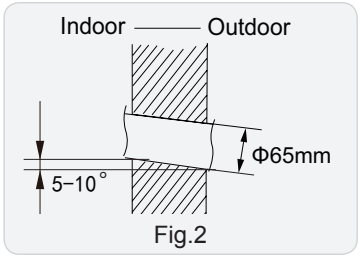


Fig.2

Note:

Pay attention to dust prevention and take relevant safety measures when opening the hole.

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)

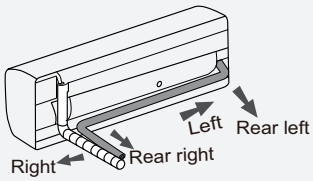


Fig.3

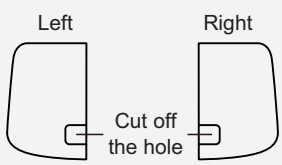


Fig.4

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)

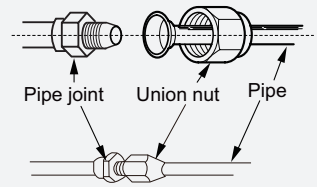


Fig.5

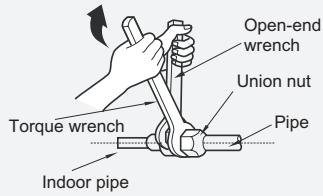


Fig.6

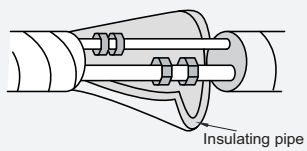


Fig.7

Refer to the following table for wrench moment of force:

Piping size	Tightening torque(N·m)
1/4"	15~20
3/8"	30~40
1/2"	45~55
5/8"	60~65
3/4"	70~75

6. Install Drain Hose

(1) Connect the drain hose to the outlet pipe of indoor unit.(As show in Fig.8)

(2) Bind the joint with tape.(As show in Fig.9)

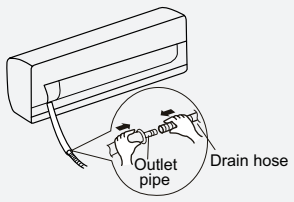


Fig.8

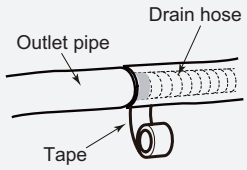


Fig.9

Note:

(1) Add insulating pipe in the indoor drain hose in order to prevent condensation.

(2) The plastic expansion particles are not provided.

(As show in Fig.10)

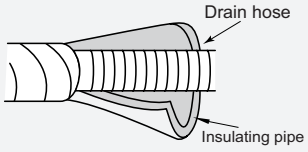


Fig.10

7. Connect Wire of Indoor Unit

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

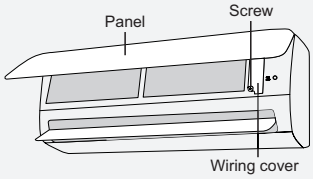


Fig.11

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

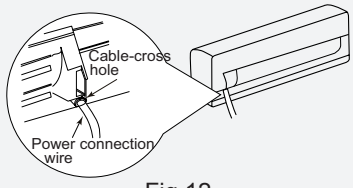


Fig.12

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

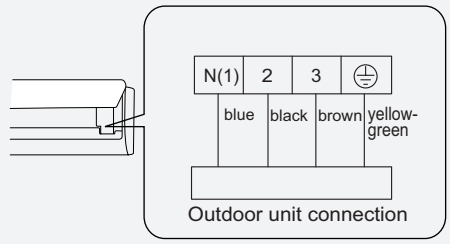


Fig.13

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

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

(5) Close the panel.

⚠ WARNING

(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.

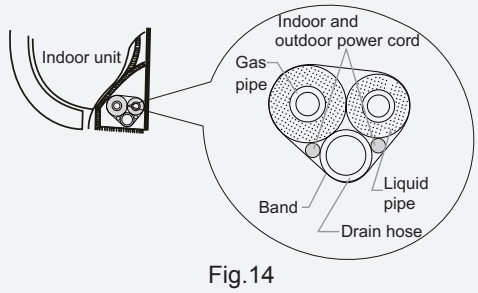


Fig.14

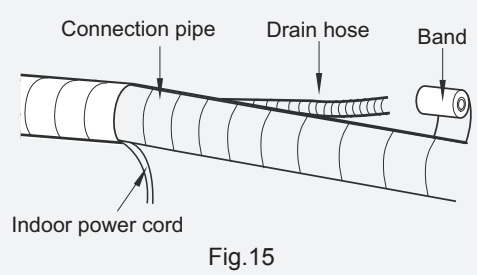


Fig.15

NOTICE

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

9. Hang the Indoor Unit

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

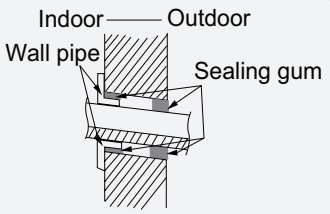


Fig.16

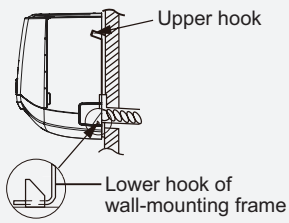


Fig.17

Note:

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

8.6 Installation of Outdoor unit

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

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

Note:

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

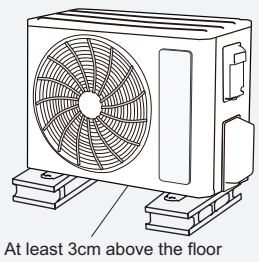


Fig.18

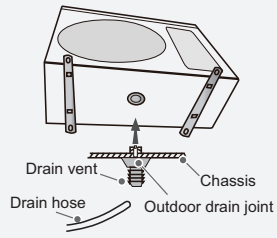


Fig.19

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

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

3. Fix Outdoor Unit

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

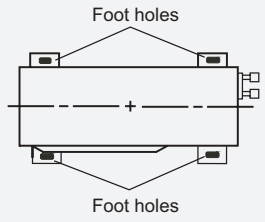


Fig.20

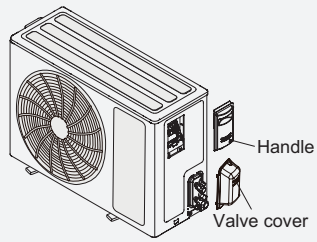


Fig.21

4. Connect Indoor and Outdoor Pipes

(1) Remove the screws on the big handle and valve cover of outdoor unit, then remove them.(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)

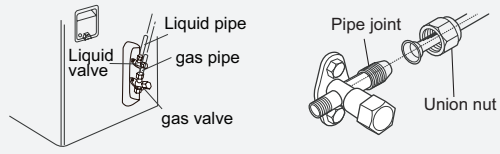


Fig.22

(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:

Piping size	Tightening torque(N·m)
1/4"	15~20
3/8"	30~40
1/2"	45~55
5/8"	60~65
3/4"	70~75

5. Connect Outdoor Electric Wire

(1) Remove the wire clip; connect the power connection wire and signal control wire (only for cooling and heating unit) to the wiring terminal according to the color; fix them with screws.(As show in Fig.23)

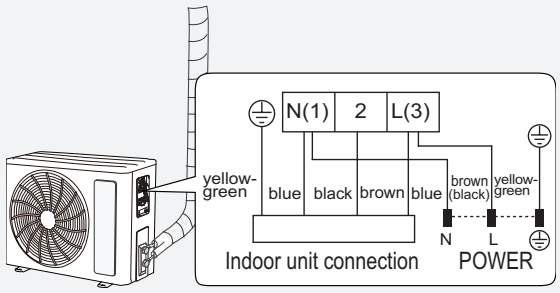


Fig.23

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

(2) Fix the power connection wire and signal control wire with wire clip (only for cooling and heating unit).

⚠ CAUTION

(1) After tightening the screw, pull the power cord slightly to check if it is firm.

(2) Never cut the power connection wire to prolong or shorten the distance.

6. Neaten the Pipes

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

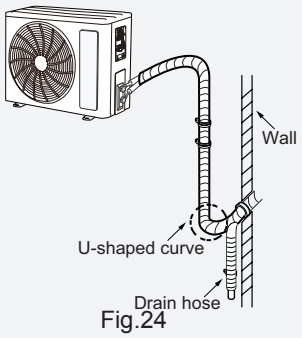


Fig.24

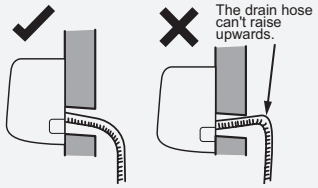


Fig.25

Note:

(1) The through-wall height of drain hose shouldnt be higher than the outlet pipe hole of indoor unit.(As show in Fig.25)
(2) Slant the drain hose slightly downwards. The drain hose can't be curved, raised and fluctuant, etc.(As show in Fig.26)
(3) The water outlet can't be placed in water in order to drain smoothly.(As show in Fig.27)

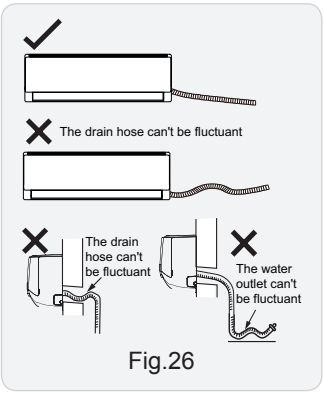


Fig.26

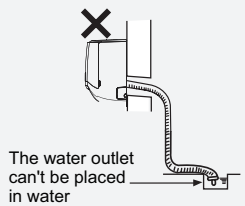


Fig.27

8.7 Vacuum Pumping and Leak Detection

1. Use Vacuum Pump

(1) Remove the valve caps on the liquid valve and gas valve and the nut of refrigerant charging vent.
(2) Connect the charging hose of piezometer to the refrigerant charging vent of gas valve and then connect the other charging hose to the vacuum pump.
(3) Open the piezometer completely and operate for 10-15min to check if the pressure of piezometer remains in -0.1MPa.
(4) Close the vacuum pump and maintain this status for 1-2min to check if the pressure of piezometer remains in -0.1MPa. If the pressure decreases, there may be leakage.
(5) Remove the piezometer, open the valve core of liquid valve and gas valve completely with inner hexagon spanner.
(6) Tighten the screw caps of valves and refrigerant charging vent.(As show in Fig.28)

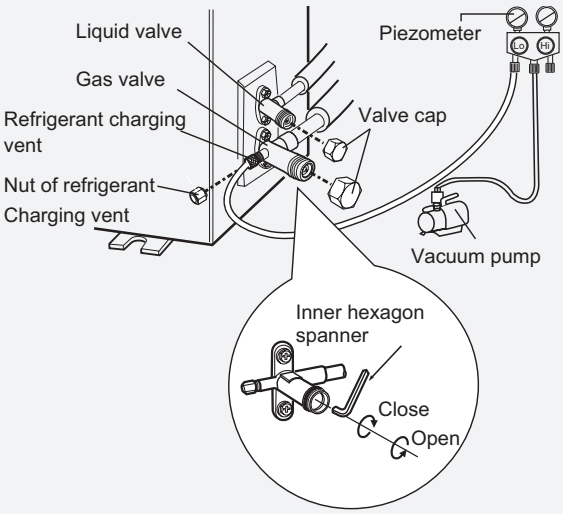


Fig.28

2. Leakage Detection

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

8.8 Check after Installation and Test operation

1. Check after Installation

Check according to the following requirement after finishing installation.

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

2. Test Operation

(1) Preparation of test operation

● The client approves the air conditioner installation.

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

(2) Method of test operation

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

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

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

9. Maintenance

9.1 Error Code List

NOTE:
For models with WiFi, the APP displays the fault code a few minutes after the failure.

Malfunction Name	Indicator display of indoor unit			APP display	A/C Status	Possible Causes(For specific maintenance method, please refer to the following procedure of troubleshooting)
	(1 time/s)	(1 time/s)	(1 time/s)			
Jumper cap error protection	Flash once	Flash once	Flash once	C5	The complete unit stops operation	See "Malfunction of Protection of Jumper Cap"
Communication error	-	Flash once	-	E6	Cool: compressor stops operation, while indoor fan operates; Heat: all loads stops operation.	See "Communication malfunction"
No feedback from motor of indoor unit	Flash once	Flash once	Flash once	H6	The complete unit stops operation	1. Is the fan blocked? 2. Is the motor terminal loose? 3. Is the connection wire of motor damaged? 4. Is the motor damaged? 5. Is the control board of indoor unit is damaged?
Zero-crossing detection circuit error of PG motor (indoor fan)	Flash once	Flash once	Flash once	U8	Compressor, outdoor fan and indoor fan stop operation.	1. The power is abnormal; 2. Main board of indoor unit is damaged.
Indoor ambient temperature sensor is open-circuited or short-circuited	Flash once	Flash once	Flash once	F1	Cool/Dry: indoor fan operates, while compressor stops operation; Heat: all loads stops operation.	1. The connection between the room temperature sensor and the control board AP1 of indoor unit is not good; 2. The room temperature sensor is damaged
Indoor evaporator is open-circuited or short-circuited	Flash once	Flash once	Flash once	F2	Cool/Dry: indoor fan operates, while all other loads stops operation; Heat: all loads stops operation.	1. The connection between the tube temperature sensor and the control board of indoor unit is not good; 2. The tube temperature sensor is damaged
other errors that cause the unit to stop operation	Flash once	Flash once	Flash once	oE	Cool: compressor and outdoor fan stops operation, while indoor fan operates; Heat: compressor, outdoor fan and indoor fan stop operation.	1. Outdoor ambient temperature exceeds the operation range of unit (eg: less than-20°C or more than 60°C for cooling; more than 30°C for heating); 2. Are wires of compressor not connected tightly? 3. Failure startup of compressor? 4. Is compressor damaged? 5. Is main board damaged?
High pressure protection of system/ high pressure protection of compressor	Flash once	Flash once	Flash once	E1	Cool/Dry: all loads stops operation except indoor fan; Heat: all loads stops operation.	1. Heat exchange of unit is bad (including heat exchanger is dirty or the radiation environment for the unit is not good); 2. Ambient temperature is too high; 3.Too much refrigerant; 4. High-pressure switch is damaged.
Low pressure protection/ low pressure protection of system/ low pressure protection of compressor	Flash once	Flash once	Flash once	E3	Cool: compressor, outdoor fan and indoor fan stop operation; Heat: compressor and outdoor fan stop operation at first. About 1min later, indoor fan stops operation; 2mins later, the 4-way valve stop operation.	1. Low pressure switch is damaged; 2. Refrigerant inside the system is insufficient.

Malfunction Name	Indicator display of indoor unit			APP display	A/C Status	Possible Causes(For specific maintenance method, please refer to the following procedure of troubleshooting)
	(1 time/s)	(1 time/s)	(1 time/s)			
Discharge high temperature protection/ compressor discharge protection/ discharge high temperature protection of compressor	Flash once	Flash once	Flash once	E4	Cool/Dry: compressor and outdoor fan stops operation, while indoor fan operates.	See "Overload protection of compressor , High discharge temperature protection of compressor"
Overcurrent protection/ overload protection/ overcurrent protection of compressor/ overload protection of compressor	Flash once	Flash once	Flash once	E5	Cool/Dry: compressor and outdoor fan stops operation, while indoor fan operates; Heat: all loads stops operation.	1. Power voltage is unstable; 2. Power voltage is too low; 3. Current is too high because the system load is too big.
Mode shock/ system mode shock	Flash once	Flash once	Flash once	E7	Load of indoor unit stops operation (indoor fan, E-heater, swing)	Malfunction of one-to-more system; there may be two indoor units which has set the shock mode, such as one is cooling and the other is heating.
Overload protection/high temperature protection/high temperature protection of system	Flash once	-	Flash once	E8	Cool: compressor stops operation while indoor fan operates; Heat: all loads stops operation.	See "High temperature prevention protection; high power; system isabnormal"
Storage chip error/memory chip error	Flash once	Flash once	Flash once	EE	Cool/Dry: compressor stops operation, while indoor fan operates; Heat: all loads stops operation.	The control board of outdoor unit is damaged.
Refrigerant shortage protection or blockage protection	Flash once	Flash once	-	F0	Cool: compressor and outdoor fan stops operation, while indoor fan operates; Heat: Compressor, outdoor fan and indoor fan stops operation.	1. Check whether the gas valve and the liquid valve of outdoor unit are opened completely; 2. Is the temperature sensor of evaporator if indoor unit is loose? 3. Is the temperature sensor of condenser of outdoor unit is loose? 4. Is refrigerant leaking? 5. Is the capillary or the electronic expansion valve is blocked? 6. Is the refrigerant leaking?
Outdoor ambient temperature sensor error/ outdoor ambient temperature sensor is open-circuited or short-circuited/ outdoor ambient temperature sensor error	Flash once	Flash once	Flash once	F3	Cool/Dry: compressor stops operation, while indoor fan operates; Heat: all loads stops operation.	1. Outdoor temperature sensor is not connected well or damaged 2.Temperature sensor wire of outdoor unit is damaged; short circuit between the temperature sensor and copper pipe or outer case 3.Main board of outdoor unit is damaged;

Malfunction Name	Indicator display of indoor unit			APP display	A/C Status	Possible Causes(For specific maintenance method, please refer to the following procedure of troubleshooting)
	(1 time/s)	(1 time/s)	(1 time/s)			
Middle tube temperature sensor error of outdoor condenser	Flash once	Flash once	Flash once	F4	Cool/Dry: after operating for about 3mins, compressor stops operation, while indoor unit operates; Heat: after operating for 3mins, all loads stops operation.	1. Outtube temperature sensor is not connected well or damaged 2. Temperature sensor wire of outdoor unit is damaged; short circuit between the temperature sensor and copper pipe or outer case; 3. Main board of outdoor unit is damaged.
Outdoor discharge temperature sensor error	Flash once	Flash once	Flash once	F5	Complete unit stops operation; motor of sliding door is cut off power.	1. The exhaust temperature sensor is not connected well or damaged. 2.Temperature sensor wire of outdoor unit is damaged; short circuit between the temperature sensor and copper pipe or outer case 3.Main board of outdoor unit is damaged;
Overheating switch protection of compressor (CAC)/overload protection of compressor (RAC)	Flash once	Flash once	Flash once	H3	Cool/Dry: compressor stops operation, while indoor fan operates. Heat: all loads stops operation.	1. Overload wire of compressor is loose; 2. The overload protector is damaged. Under normal circumstances, the resistance between both ends of terminal is less than 1ohm. See "Overload protection of compressor , High discharge temperature protection of compressor"
IPM abnormality(CAC)/ module protection (RAC)	-	Flash once	Flash once	H5	Cool/Dry: compressor stops operation, while indoor fan operates. Heat: all loads stops operation.	See "IPM protection, over-phase current of compressor"
Non-synchronism protection, rotor position is not detected (CAC)/ synchronism failure (RAC)	Flash once	-	-	H7	Cool/Dry: compressor stops operation, while indoor fan operates; Heat: all loads stops operation.	See "Desynchronization diagnosis for compressor"
IPM abnormality(CAC)/ PFC protection (RAC)	Flash once	Flash once	Flash once	HC	Cool/Dry: compressor stops operation, while indoor fan operates; Heat: all loads stops operation.	1. Power plug of air conditioner or wiring board or reactor is not connected reliably; 2.The system is overload because evaporator or condenser is blocked by filth or dirt or air inlet and air outlet of indoor/outdoor unit is blocked by filth or dirt. 3.The power grid quality is bad; AC input voltage fluctuates sharply; 4. Main board of outdoor unit is damaged.
Compressor demagnetizing protection	Flash once	Flash once	Flash once	HE	Cool: compressor and outdoor fan stop operation; Heat: compressor and outdoor fan stop operation at first; about 1min later, indoor fan stops operation.	1. The main board of outdoor unit is damaged; 2. Compressor is damaged;
Startup failed	Flash once	Flash once	Flash once	Lc	Cool/Dry: compressor stops, while indoor fan operates; Heat: all loads stops operation.	See "Startup failed"
Phase loss, out-of-phase	Flash once	Flash once	Flash once	Ld	Cool: compressor and outdoor fan stop operation; Heat: compressor and outdoor fan stop operation at first; about 1min later, indoor fan stops operation.	1. The connection wire of compressor is not connected well; 2.The main board of outdoor unit is damaged; 3. The compressor is damaged;

Malfunction Name	Indicator display of indoor unit			APP display	A/C Status	Possible Causes(For specific maintenance method, please refer to the following procedure of troubleshooting)
	(1 time/s)	(1 time/s)	(1 time/s)			
Indoor unit and outdoor unit can't match with each other	Flash once	Flash once	Flash once	LP	Heat: compressor, outdoor unit and indoor fan stops operation.	Capacity of indoor unit and outdoor unit can't be matched.
Compressor overcurrent detected by drive board	Flash once	Flash once	Flash once	P5	Cool/Dry: compressor stops operation, while indoor fan operates; Heat: all loads stops operation.	See "IPM protection, over-phase current of compressor"
Communication error between drive board and master control	Flash once	Flash once	Flash once	P6	Cool: compressor and outdoor fan stops operation; Heat: compressor and outdoor fan stop at first; about 1min later, indoor fan stops operation;	1. The driven board and the main board is not connected well; 2. The drive board is damaged; 3. The outdoor control board is damaged;
Radiator or IPM/ PFC module temperature sensor error	Flash once	Flash once	Flash once	P7	Cool/Dry: compressor stops operation, while indoor fan operates; Heat: all loads stops operation.	Replace outdoor control board
High temperature of radiator or IPM,/PFC module	Flash once	Flash once	Flash once	P8	Cool: compressor stops operation, while indoor fan operates; Heat: all loads stops operation.	1. Air inlet and air outlet of outdoor unit are blocked by filth or dirt; 2. Condenser of outdoor unit is blocked by filth or dirt; 3. IPM screw of main board is not tightened; 4. Main board of outdoor unit is damaged;
Ambient temperature sensor error on drive board	Flash once	Flash once	Flash once	PF	Cool: compressor, outdoor fan and indoor fan stop operation; Heat: compressor and outdoor fan stop operation at first; about 1min later, indoor fan stops operation.	1. The ambient temperature sensor of the drive board is not connected well; 2. Malfunction of the ambient temperature sensor of drive board.
DC input voltage is too high	Flash once	Flash once	Flash once	PH	Cool/Dry: compressor stops operation, while indoor fan operates; Heat: all loads stops operation.	1. Measure the voltage between position L and position N on the wiring board (XT). If it's higher than 265 VAC, please turn on the unit until the power voltage is decreased to the normal range; 2. If the AC input is normal, please replace the outdoor control board.
DC input voltage is too low	Flash once	Flash once	Flash once	PL	Cool/Dry: compressor stops operation, while indoor fan operates; Heat: all loads stops operation.	1. Measure the voltage between position L and position N on the wiring board (XT). If it's lower than 150 VAC, please turn on the unit until the power voltage is increased to the normal range; 2. If the AC input is normal, please replace the outdoor control board.
Charging circuit error of big electrolytic capacitor	Flash once	Flash once	Flash once	PU	Cool/Dry: compressor stops operation, while indoor fan operates; Heat: all loads stops operation.	See "Charging malfunction of capacitor"
DC bus voltage drop	Flash once	Flash once	Flash once	U3	Cool/Dry: compressor stops operation, while indoor fan operates; Heat: all loads stops operation.	The power voltage is unstable.
Phase current detection circuit error of compressor	Flash once	Flash once	Flash once	U1	Cool: compressor and outdoor fan stops operation, while indoor fan operates; Heat: compressor, outdoor fan and indoor fan stops operation.	The control board is damaged

Malfunction Name	Indicator display of indoor unit			APP display	A/C Status	Possible Causes(For specific maintenance method, please refer to the following procedure of troubleshooting)
	(1 time/s)	(1 time/s)	(1 time/s)			
High power protection	Flash once	Flash once	Flash once	L9	Cool: compressor and outdoor fan stops operation, while indoor fan operates.	See "High temperature prevention protection; high power; system isabnormal"
4-way valve commuting error protection	Flash once	Flash once	Flash once	U7	This malfunction occurs when the unit is heating. All loads stops operation.	1. Power voltage is lower than AC175V; 2. Wiring terminal of 4-way valve is loose or broken;3. 4-way valve is damaged. Replace the 4-way valve.
DC fan error/ outdoor fan error protection	-	-	Flash once	L3	Cool/Dry: all loads stops operation except indoor fan. Heat: all loads stops operation.	1. Outdoor condenser, air inlet and air outlet are blocked by filth or dirt; 2.Fan is blocked or loosened; 3.Motor or connection wire of motor is damaged; 4.Main board of outdoor unit is damaged; (As for dual-outdoor fan, L3 indicates fan 1; LA indicates fan 2)
Outdoor fan error protection	Flash once	Flash once	Flash once	LA		
Current detection error of complete unit	Flash once	Flash once	Flash once	U5	Cool: compressor and outdoor fan stops operation, while indoor fan operates; Heat: compressor, outdoor fan and indoor fan stops operation.	1. Is the complete unit lacking of refrigerant? 2. There's malfunction for the circuit of control board of outdoor unit. Replace the control board of outdoor unit.
System abnormality	Flash once	Flash once	Flash once	H4	Cool/Dry: all loads stops operation except indoor fan; Heat: all loads stops operation.	See "High temperature prevention protection; high power; system isabnormal"

Analysis or processing of some of the malfunction display:

1. Compressor discharge protection

Possible causes: shortage of refrigerant; blockage of air filter; poor ventilation or air flow short pass for condenser; the system has noncondensable gas (such as air, water etc.); blockage of capillary assy (including filter); leakage inside four-way valve causes incorrect operation; malfunction of compressor; malfunction of protection relay; malfunction of discharge sensor; outdoor temperature too high.

Processing method: refer to the malfunction analysis in the above section.

2. Low voltage overcurrent protection

Possible cause: Sudden drop of supply voltage.

3.Communication malfunction

Processing method: Check if communication signal cable is connected reliably.

4. Sensor open or short circuit

Processing method: Check whether sensor is normal, connected with the corresponding position on the controller and if damage of lead wire is found.

5. Compressor over load protection

Possible causes: insufficient or too much refrigerant; blockage of capillary and increase of suction temp.; improper running of compressor, burning in or stuck of bearing, damage of discharge valve; malfunction of protector.

Processing method: adjust refrigerant amount; replace the capillary; replace the compressor; use universal meter to check if the contactor of compress or is fine when it is not overheated, if not replace the protector.

6. System malfunction

i.e. overload protection. When tube temperature(Check the temperature of outdoor heat exchanger when cooling and check the temperature of indoor heat exchanger when heating) is too high, protection will be activated.

Possible causes: Outdoor temperature is too high when cooling; insufficient outdoor air circulation; refrigerant flow malfunction.

please refer to the malfunction analysis in the previous section for handling method .

7. IPM module protection

Processing method: Once the module malfunction happens,if it persists for a long time and can not be selfcanceled, cut off the power and turn off the unit,and then re-energize the unit again after about 10 min. After repeating the procedure for sever times, if the malfunction still exists,replace the module.

9.2 Procedure of Troubleshooting

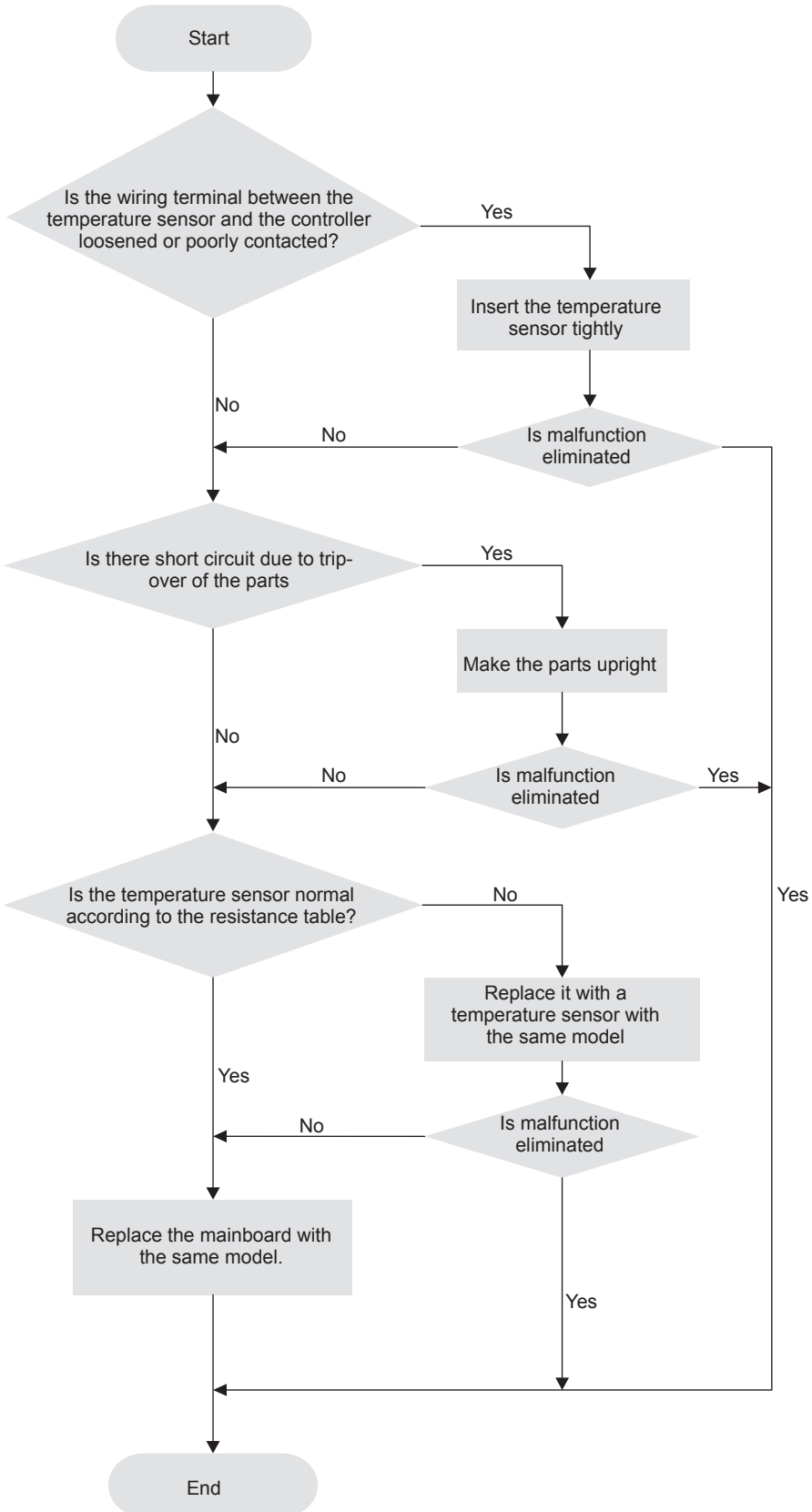
●Indoor unit:

1. Malfunction of Temperature Sensor F1/F2

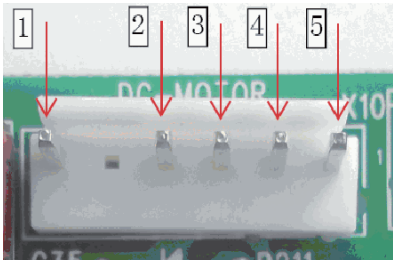
Main detection points:

(1) connection terminal (2) temperature sensor (3) main board

Malfunction diagnosis process:



2. Malfunction of Blocked Protection of IDU Fan Motor H6

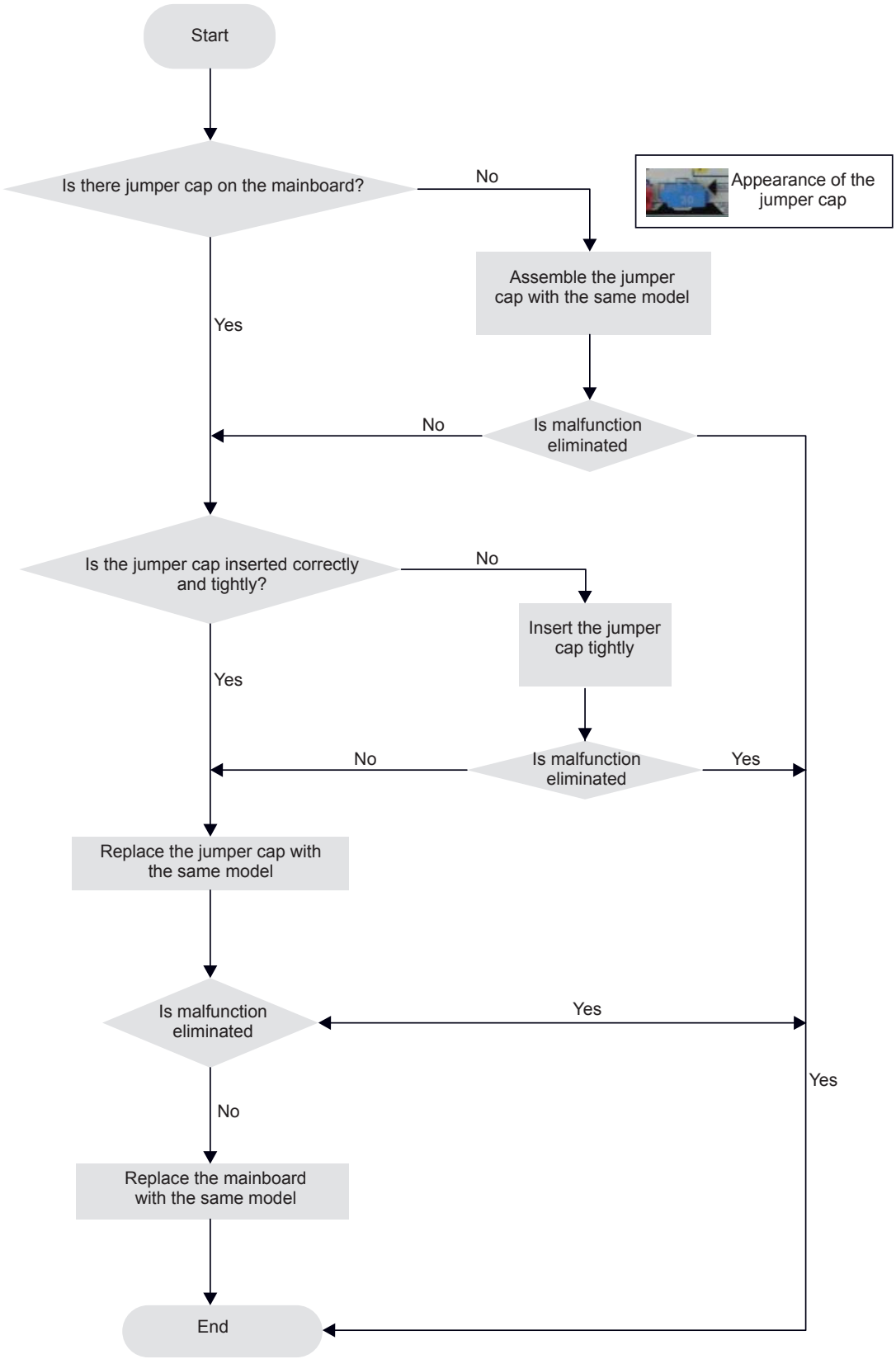


3. Malfunction of Protection of Jumper Cap C5

Main detection points:

(1) jumper cap (2) control board of indoor unit

Malfunction diagnosis process:



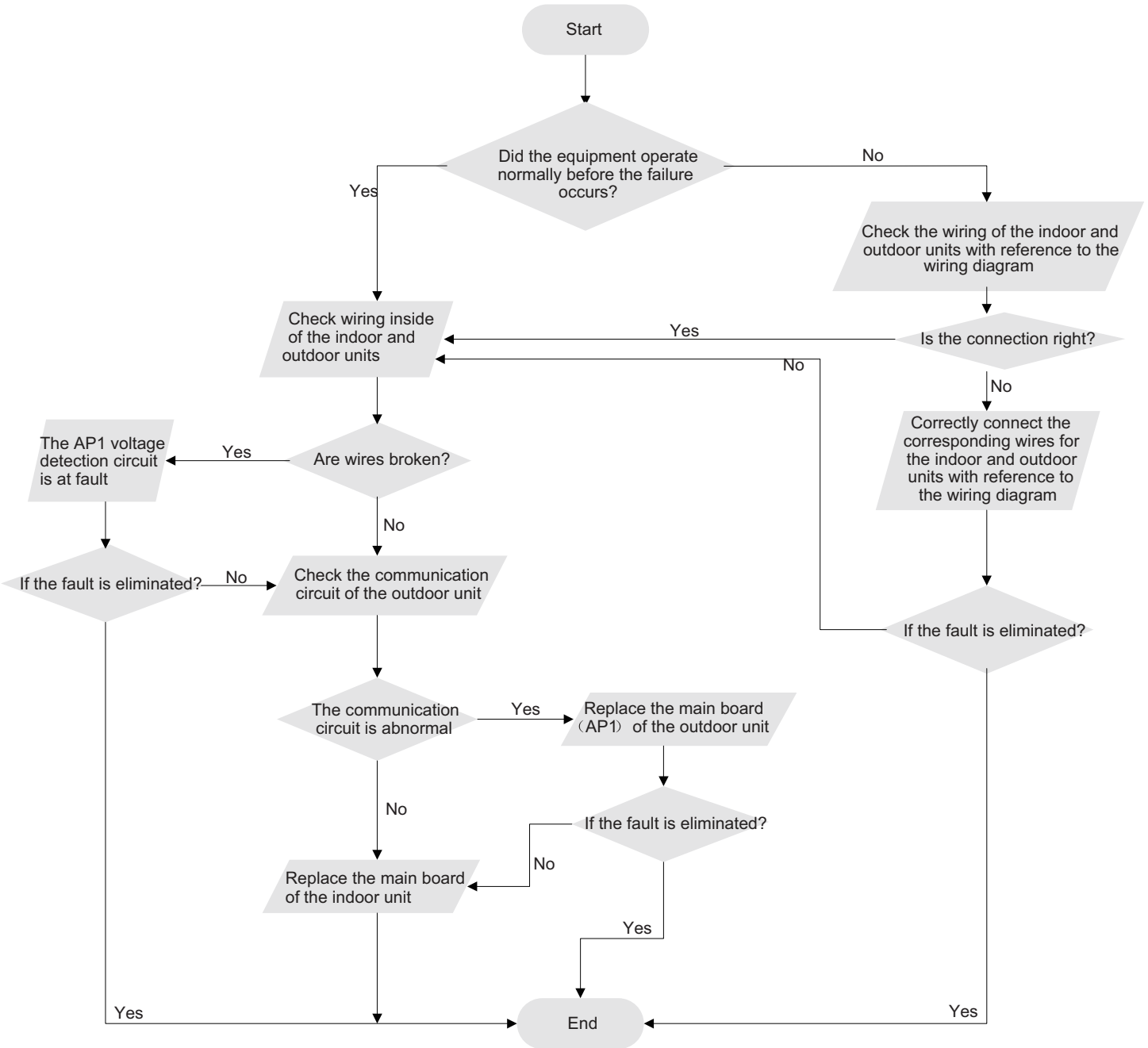
4. Communication malfunction E6

Mainly detect:

(1) Connection wire between indoor unit and outdoor unit (2) Wiring inside the unit

(3) Communication circuit of control board of indoor unit (4) Communication circuit of control board of outdoor unit damage?

Malfunction diagnosis process:

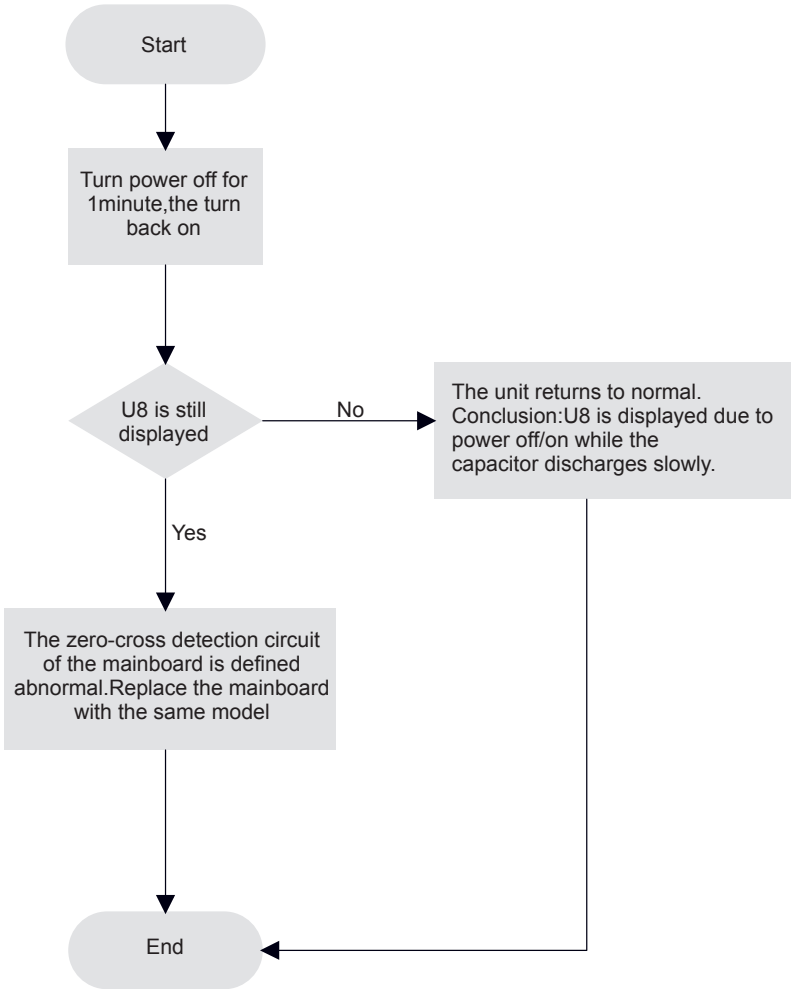


Note: method for checking the communication circuit of inverter split type and floor standing unit: cut off the communication wires of indoor/outdoor unit, and then measure the voltage between COM and N of the control board of outdoor unit (DC notch, about 56V)

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

Main detection points:
(1)Power supply (2)control board of indoor unit

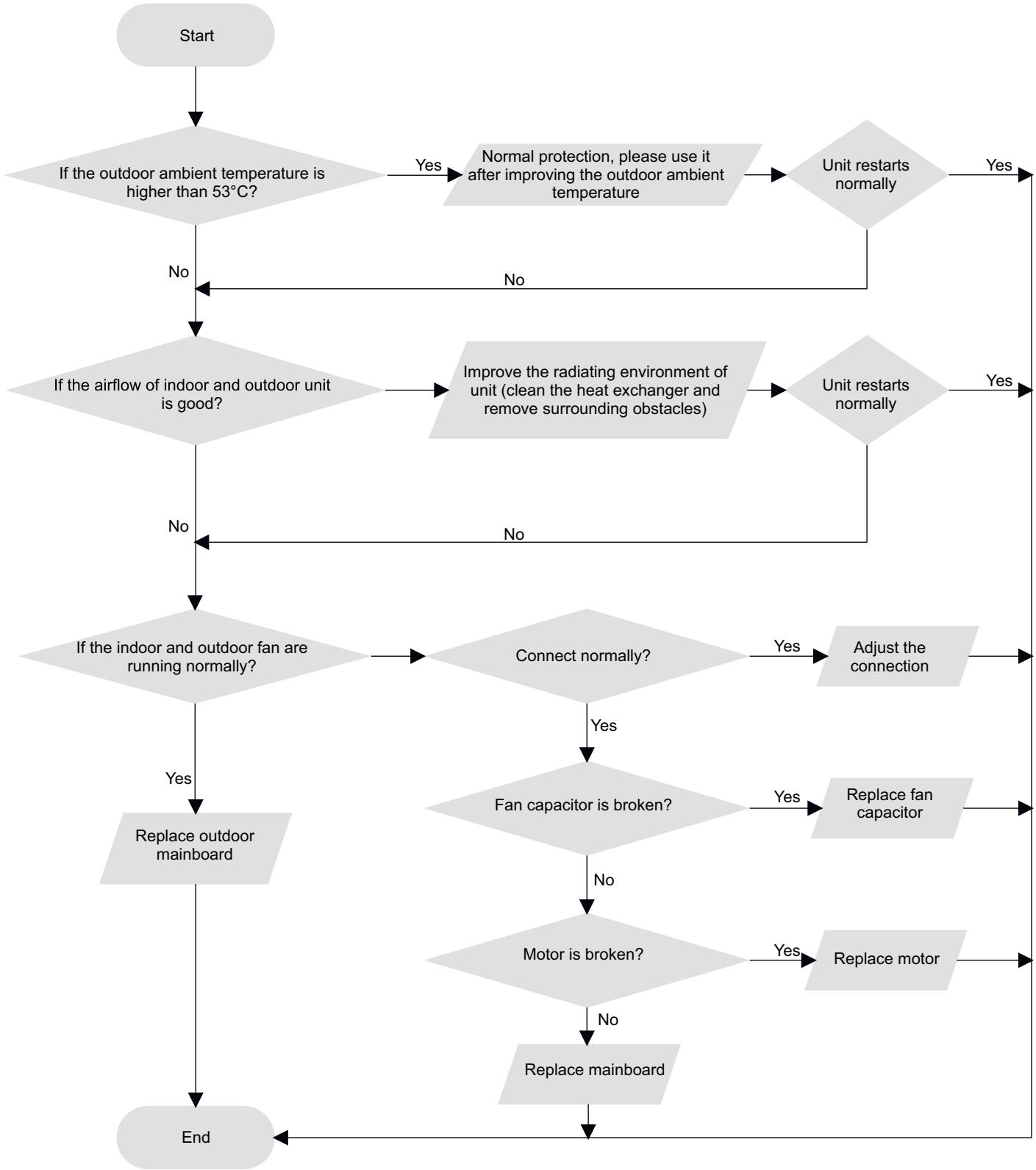
Malfunction diagnosis process:



●**Outdoor unit:**

5. High temperature E8, overload, high power L9 and system is abnormal H4 (AP1 below means control board of outdoor unit)

Main check points:
(1) outdoor temperature (2) fan (3)air inlet and air outlet of indoor/outdoor unit
Malfunction diagnosis process:



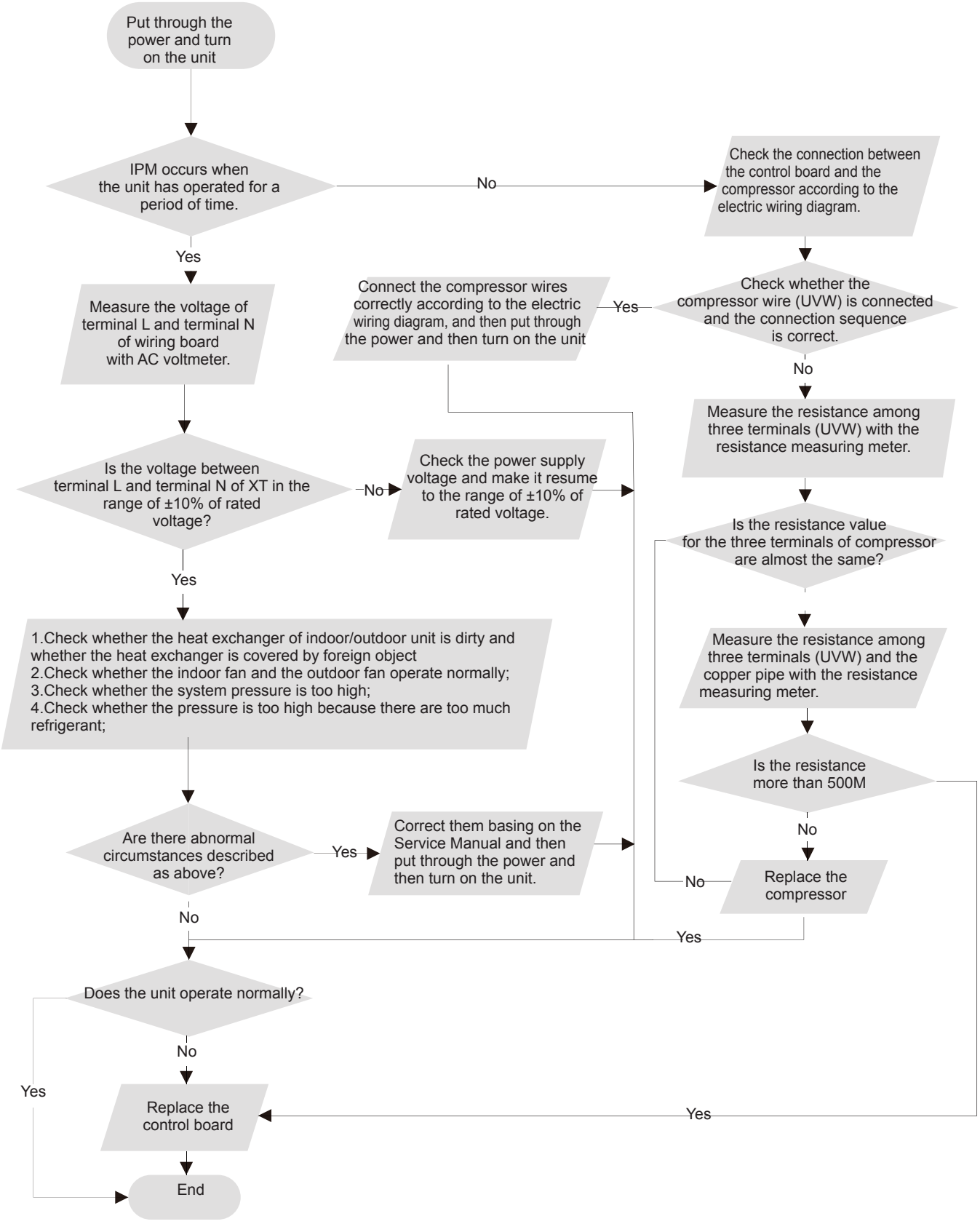
6.IPM protection H5, phase current overcurrent P5 (the control board as below indicates the control board of outdoor unit)

Mainly detect:

(1) Compressor COMP terminal (2) voltage of power supply (3) compressor

(4) Refrigerant-charging volume (5) air outlet and air inlet of outdoor/indoor unit

Malfunction diagnosis process:

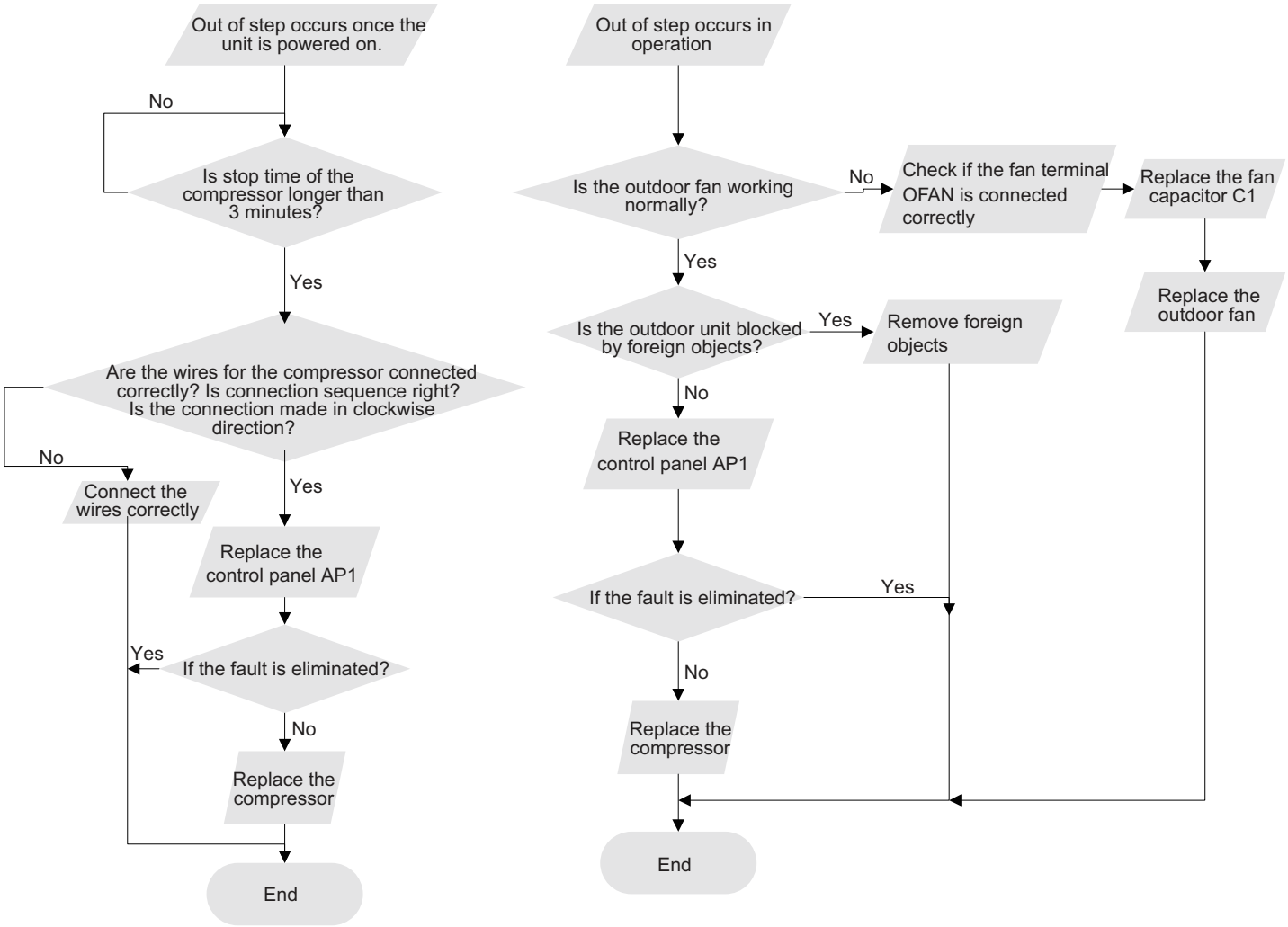


7. Desynchronization diagnosis for compressor H7 (AP1 hereinafter refers to the control board of the outdoor unit)

Mainly detect:

(1) system pressure (2) power supply voltage

Malfunction diagnosis process:

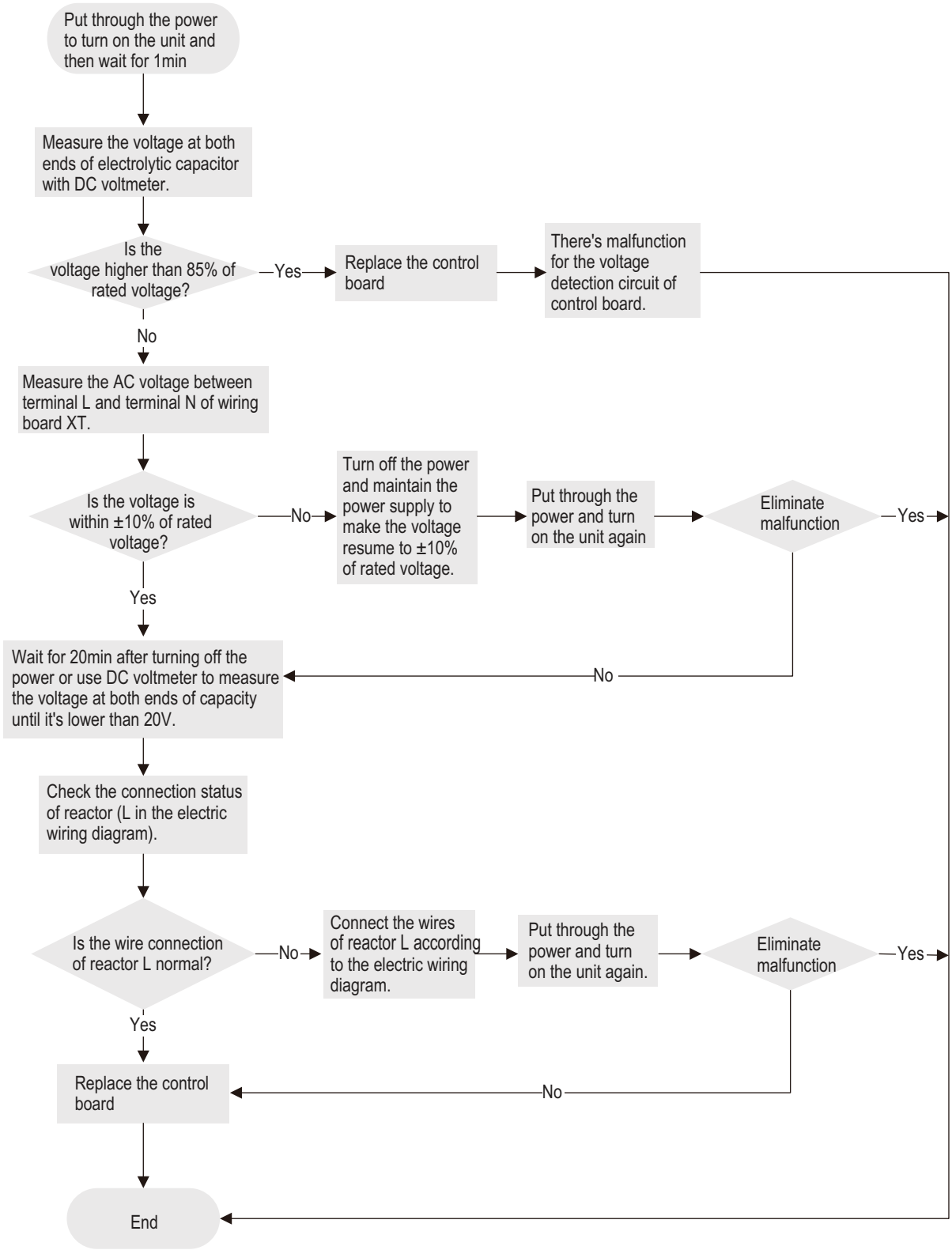


8. Charging malfunction of capacitor PU (AP1 below means control board of outdoor unit)

Main detection points:

(1) wiring board XT (2) reactor

Malfunction diagnosis process:

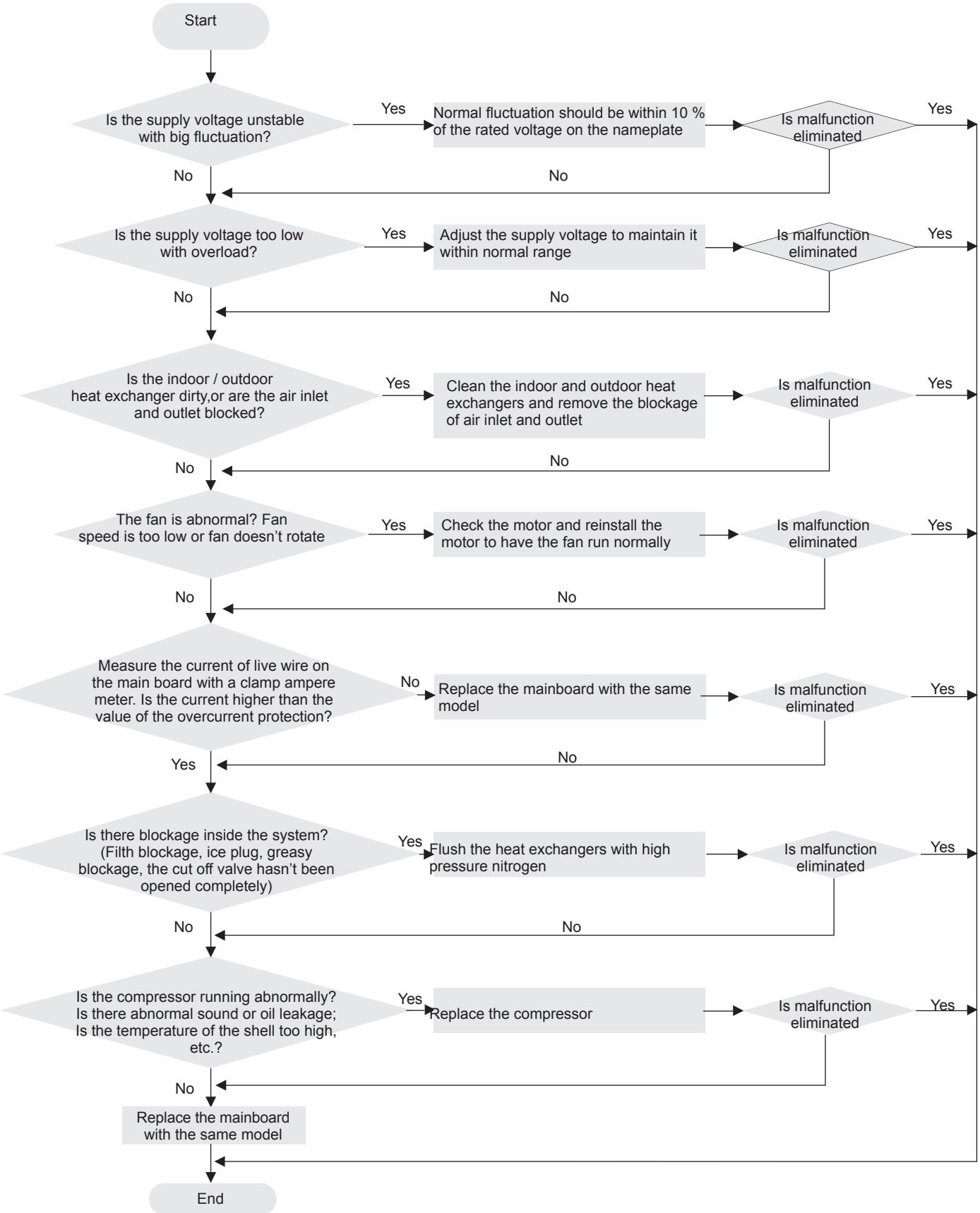


9. Malfunction of Overcurrent Protection E5

Main detection points:

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

Malfunction diagnosis process:

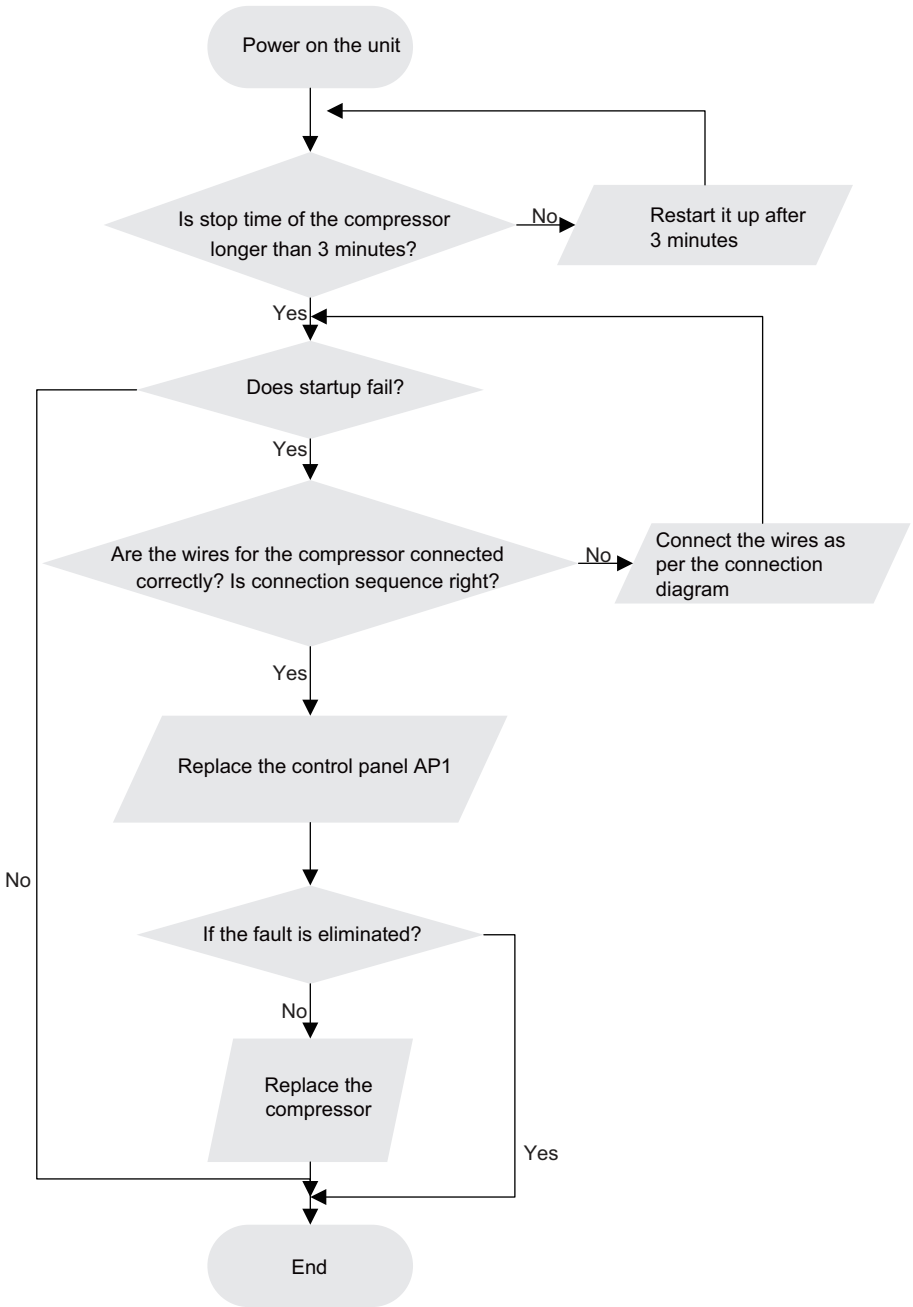


10. Startup failed Lc (following AP1 for outdoor unit control board)

Main detection points:

(1) compressor wire (2) compressor (3) charging amount of refrigerant

Malfunction diagnosis process:

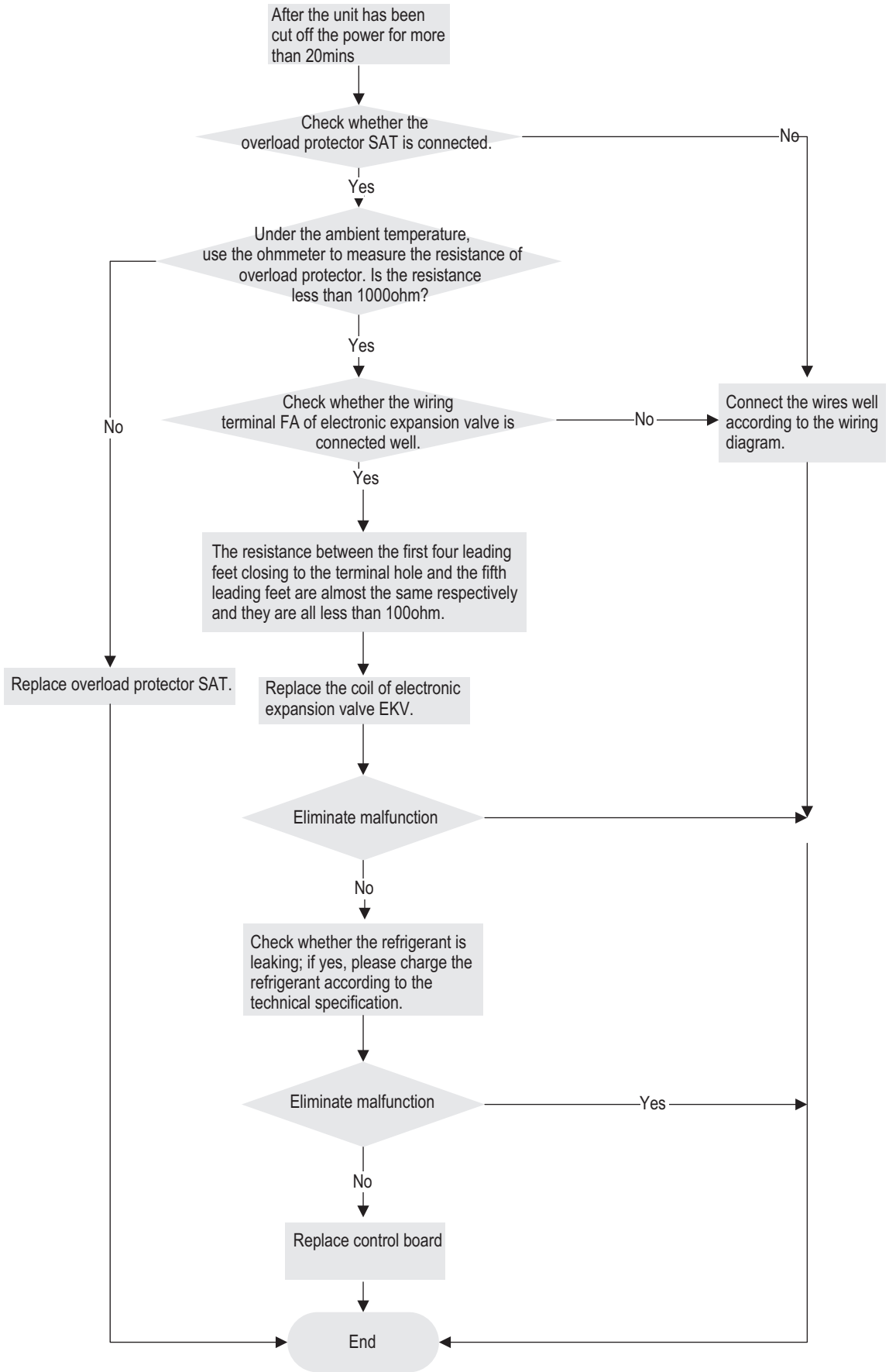


11. Overload protection of compressor H3, high discharge temperature protection of compressor E4 (AP1 hereinafter refers to the control board of the outdoor unit)

Main detection points:

(1) electronic expansion valve (2) expansion valve terminal (3) charging amount of refrigerant (4) overload protector

Malfunction diagnosis process:



9.3 Troubleshooting for Normal Malfunction

1. Air Conditioner Can't be Started Up

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

2. Poor Cooling (Heating) for Air Conditioner

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Set temperature is improper	Observe the set temperature on remote controller	Adjust the set temperature
Rotation speed of the IDU fan motor is set too low	Small wind blow	Set the fan speed at high or medium
Filter of indoor unit is blocked	Check the filter to see 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 isn't leaking, part of capillary is blocked	Replace the capillary
Flow volume of valve is insufficient	The pressure of valves is much lower than that stated in the specification	Open the valve completely
Malfunction of horizontal louver	Horizontal louver can't swing	Refer to point 3 of maintenance method for details
Malfunction of the IDU fan motor	The IDU fan motor can't operate	Refer to troubleshooting for H6 for maintenance method in details
Malfunction of the ODU fan motor	The ODU fan motor can't operate	Refer to point 4 of maintenance method for details
Malfunction of compressor	Compressor can't operate	Refer to point 5 of maintenance method for details

3. Horizontal Louver can't Swing

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

4. ODU Fan Motor can't Operate

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

5. Compressor can't Operate

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

6. Air Conditioner is Leaking

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

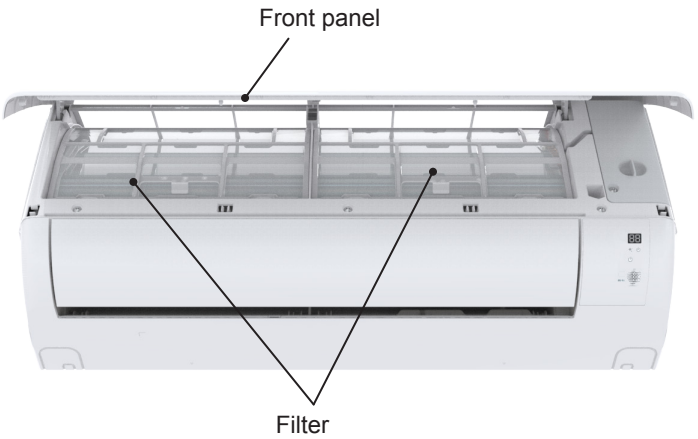
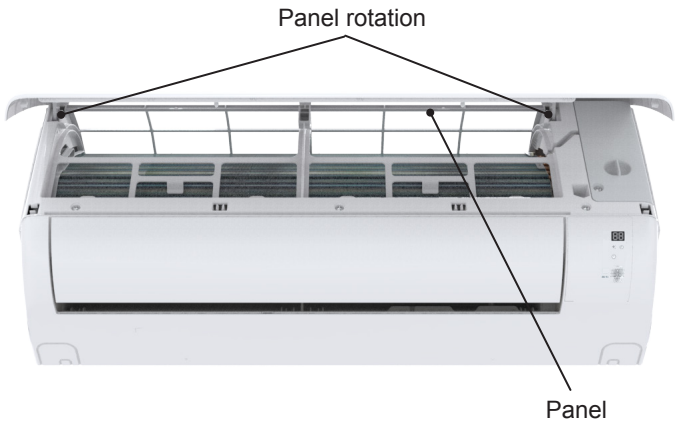
7. Abnormal Sound and Vibration

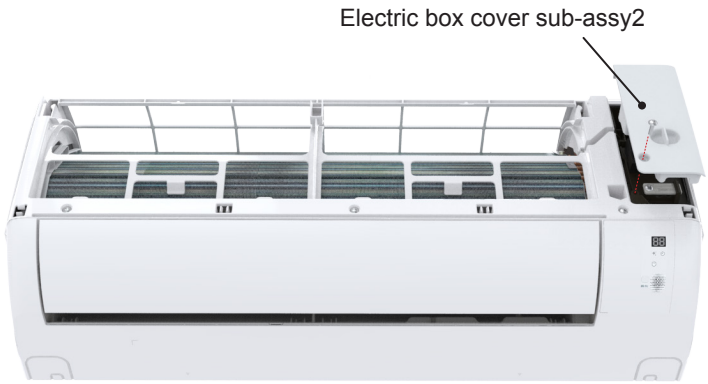
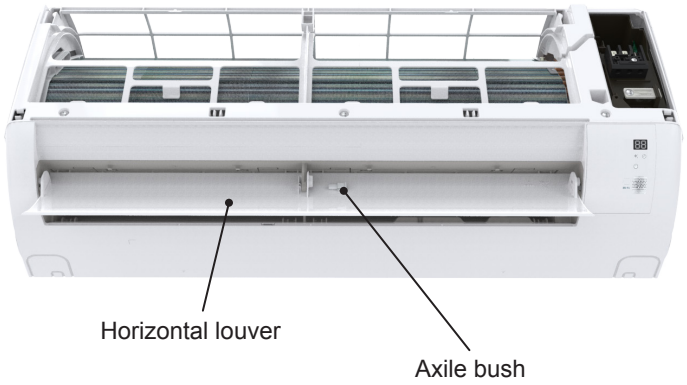
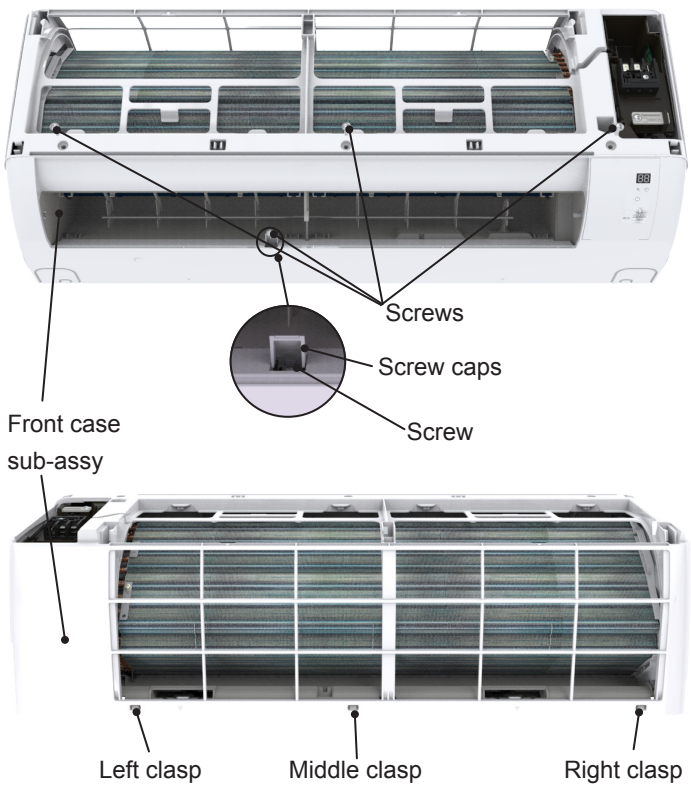
Possible causes	Discriminating method (air conditioner status)	Troubleshooting
When turn on or turn off the unit, the panel and other parts will expand and there's abnormal sound	Theres the sound of "PAPA"	Normal phenomenon. Abnormal sound will disappear after a few minutes.
When turn on or turn off the unit, there's abnormal sound due to flow of refrigerant inside air conditioner	Water-running sound can be heard	Normal phenomenon. Abnormal sound will disappear after a few minutes.
Foreign objects inside the indoor unit or 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. Removal Procedure

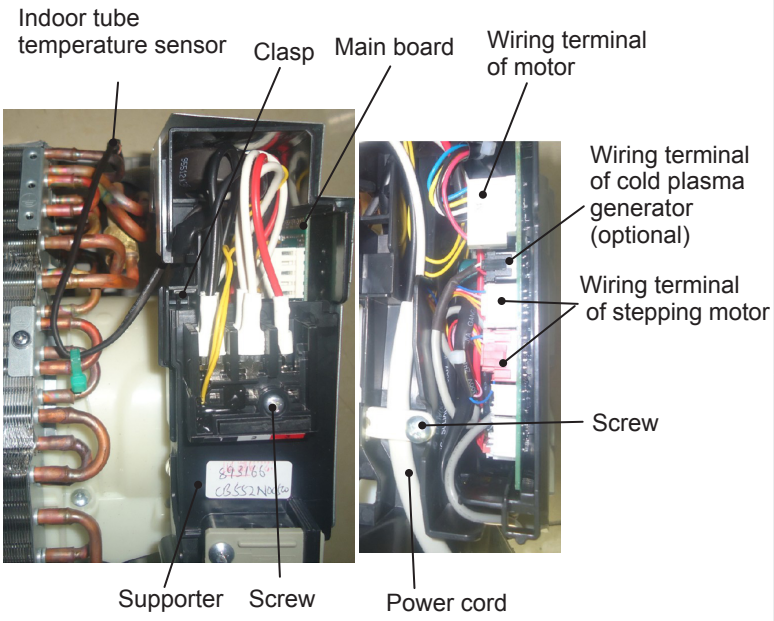
10.1 Removal Procedure of Indoor Unit

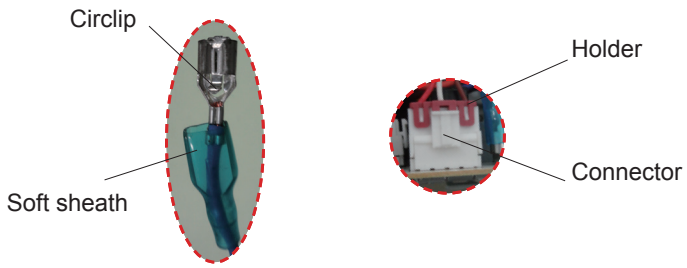
⚠ **Caution: discharge the refrigerant completely before removal.**

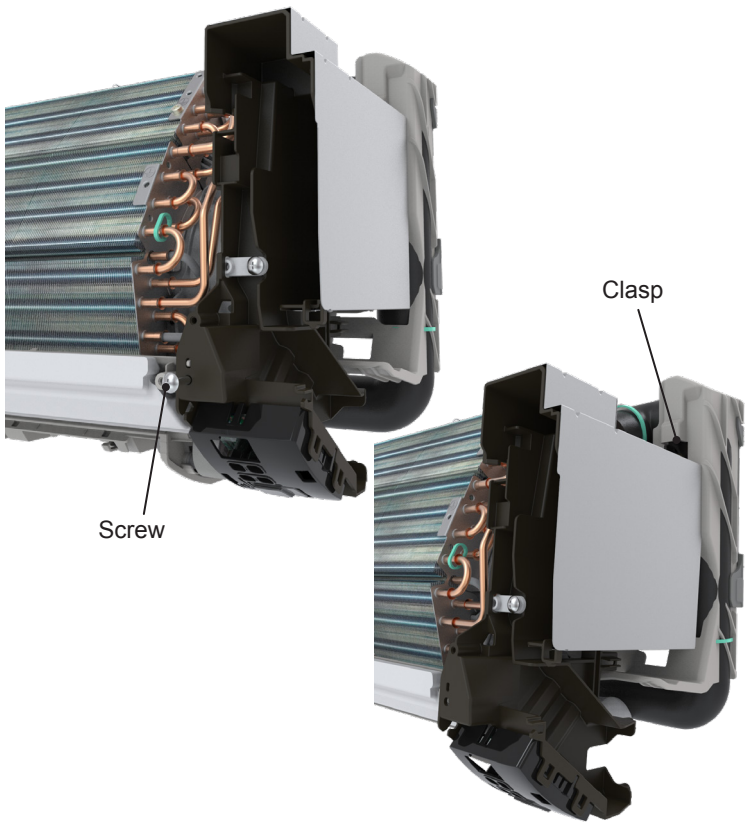
Step	Procedure
Before disassemble	
Turn off the air conditioner and disconnect the power before disassemble the air conditioner.	
1. Remove filter	
Open the front panel; Push the filter upwards to loosen the clasp and then pull the left filter and right filter outwards to remove them.	
2.Remove front panel	
Separate the panel rotation shaft from the groove fixing the front panel and then removes the front panel. Note: The display of some models is fixed on the panel; unscrew the screws fixing the display on the panel before removing the panel.	

Step	Procedure
3.Remove electric box cover sub-assy2 and detecting plate(wifi)	
Remove the screws on the electric box cover sub-assy2 and detecting plate(WIFI), to remove the electric box cover 2 and detecting plate(WIFI).	
4.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.	
5.Remove front case sub-assy	
a Remove the screws fixing front case. Note: (1) Open the screw caps before removing the screws around the air outlet. (2) The quantity of screws fixing the front case sub-assy is different for different models.	
b Loosen the clasps at left, middle and right sides of front case. Life the front case sub-assy upwards to remove it.	

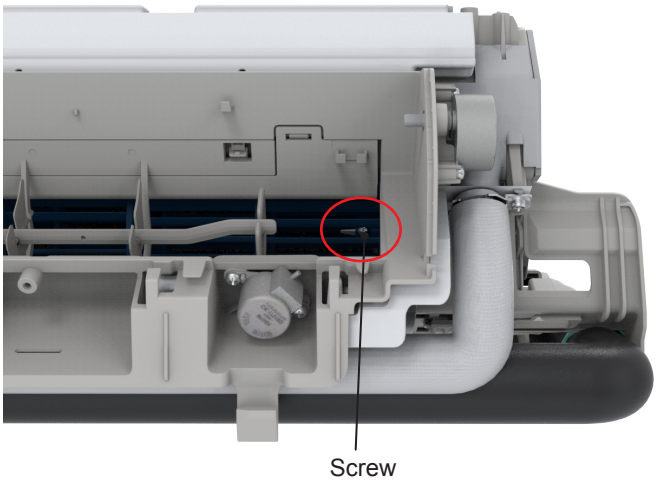
Step	Procedure
6.Remove electric box cover sub-assy	
a	Remove the screw fixing terminal board, remove the termianl board.
b	loosen the clasps and remove the supporter.
c	① Cut off the wire binder and pull out the indoor tube temperature sensor. ② Screw off one grounding screw.(optional) ③ Remove the wiring terminals of motor, cold plasma generator and stepping motor. ④ Remove the screw fixing wire clamp, Loosen power cord. Instruction:Some wiring terminal of this products 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.
d	Remove the screw fixing electric box, lift up, then pull back so that the claps above the electrical box are removed and the electrical box can be removed.

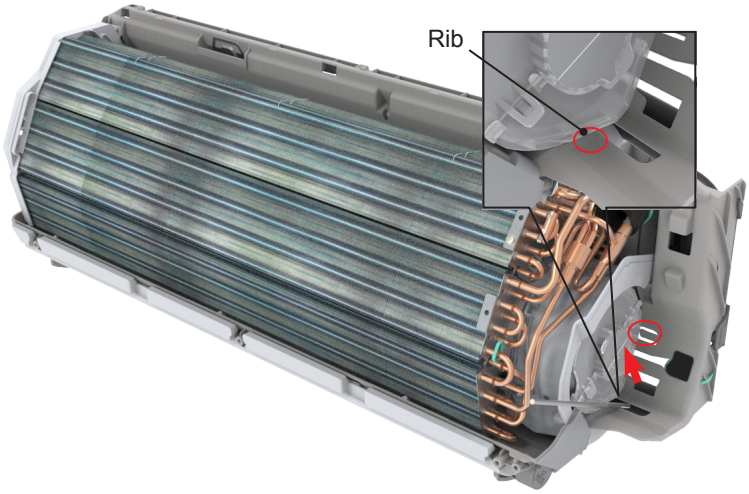


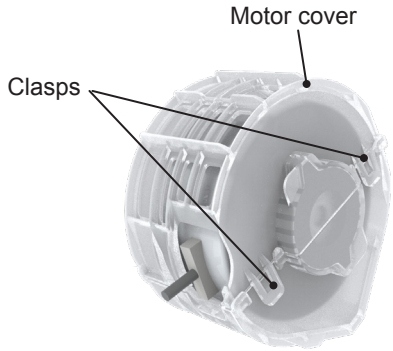


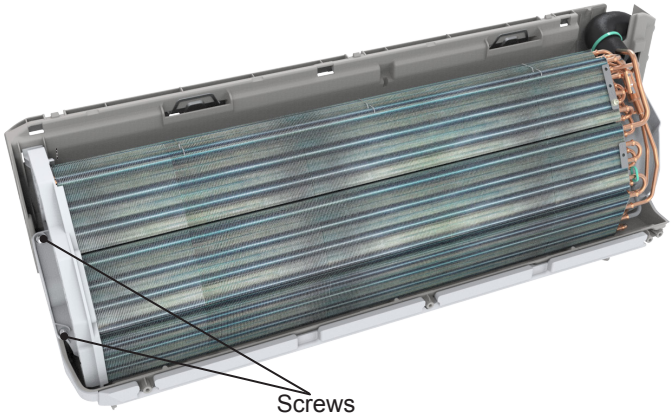


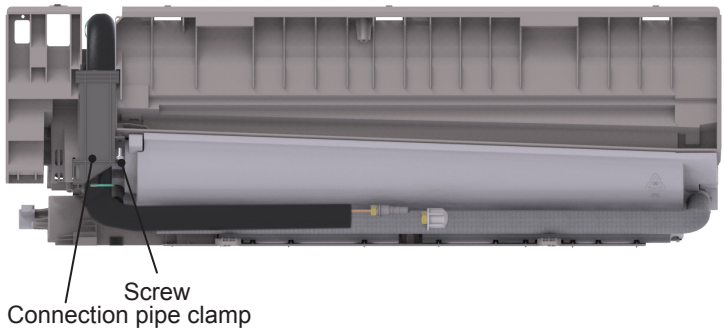
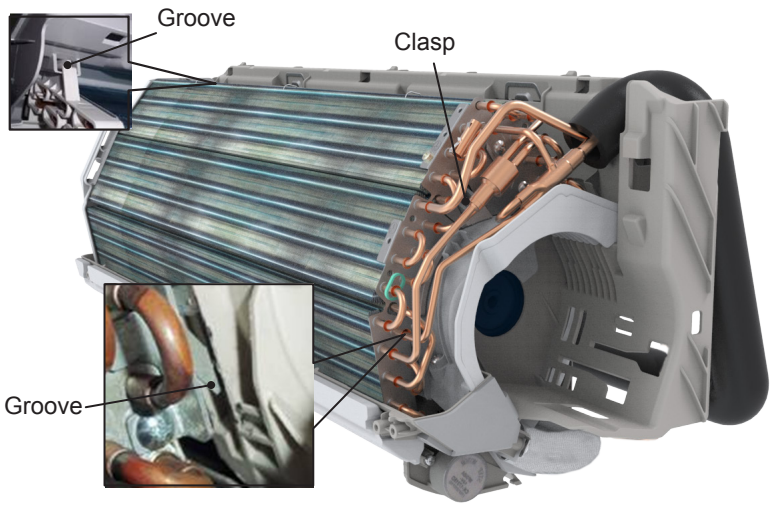
Step	Procedure
8.Remove motor	
a	Loosen the screws (4-5 circles) used for fixing the cross flow fan.
b	Use a screwdriver or other tools to pry the bottom case downwards at the position as shown in the figure to make the upper space-limiting rib on the bottom case not to bear againt the motor cover; lift the motor box upwards along the arrow direction to let the clasp come out, and pull the motor box to the right and then the motor box and motor can be removed.
c	Loosen the two clasps and open the motor cover to remove the motor
9.Remove evaporator assy	
a	Remove 2 screws fixing evaporator assy.







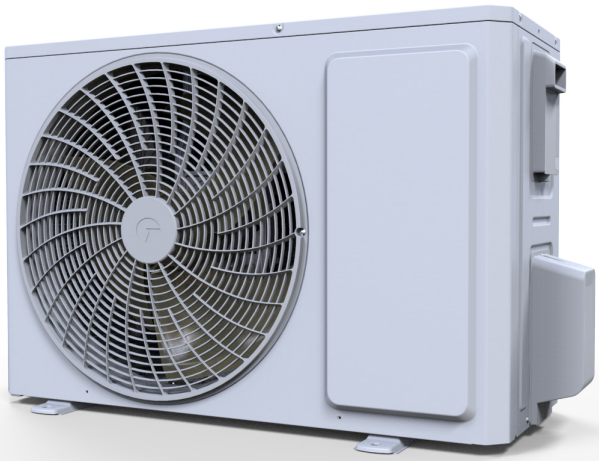
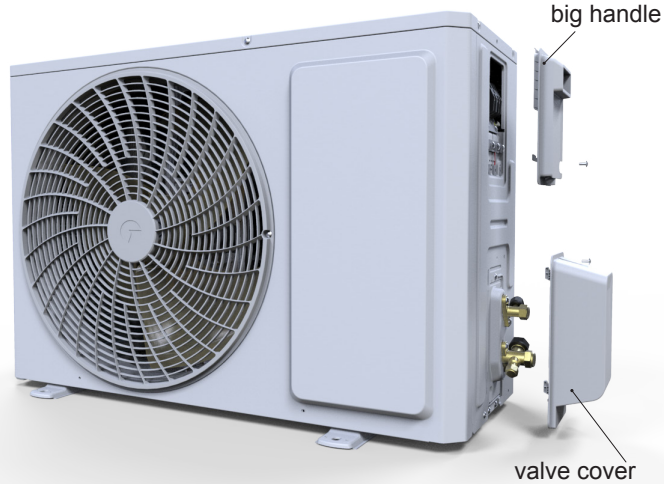
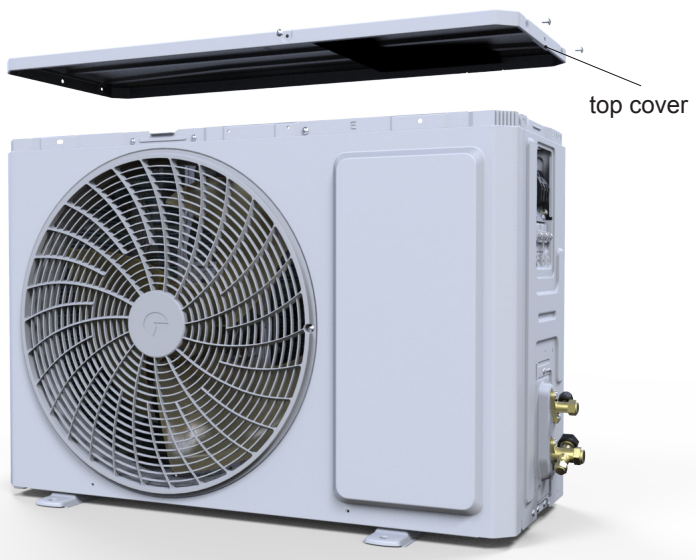


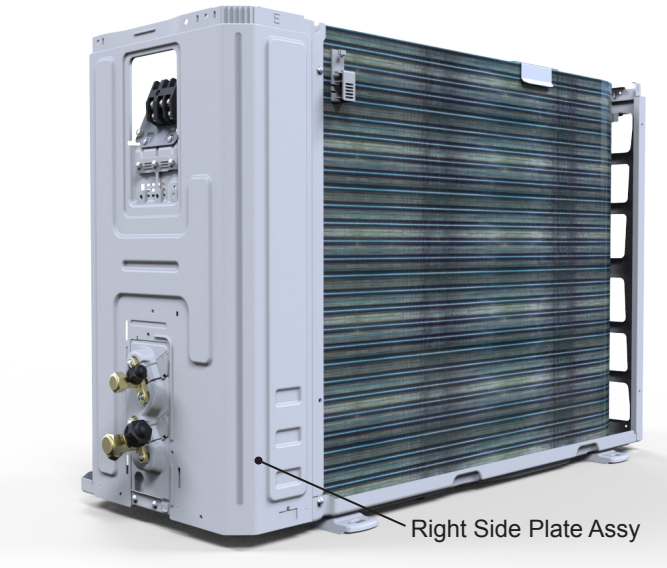
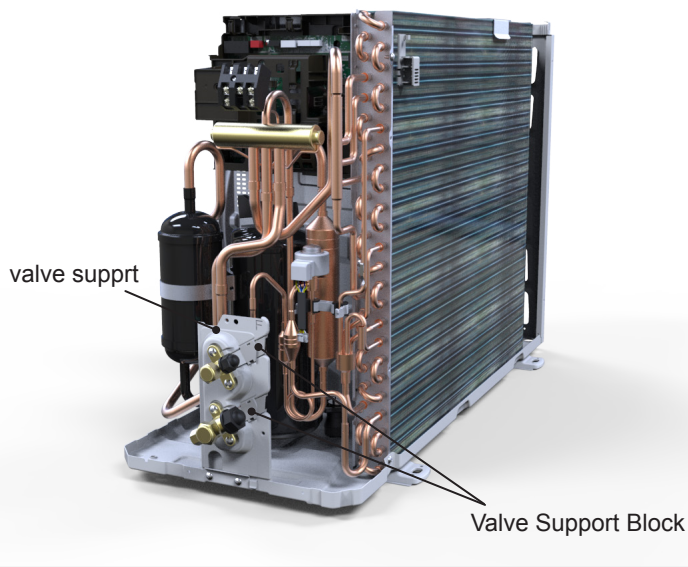
Step	Procedure	
b	At the back of the unit, remove the screw of the connection pipe clamp and then remove the connection pipe clamp.	
c	First remove the left side of evaporator from the groove of bottom shell and then remove the right side from the clasp on the bottom shell. Lift the evaporator upwards to remove it.	

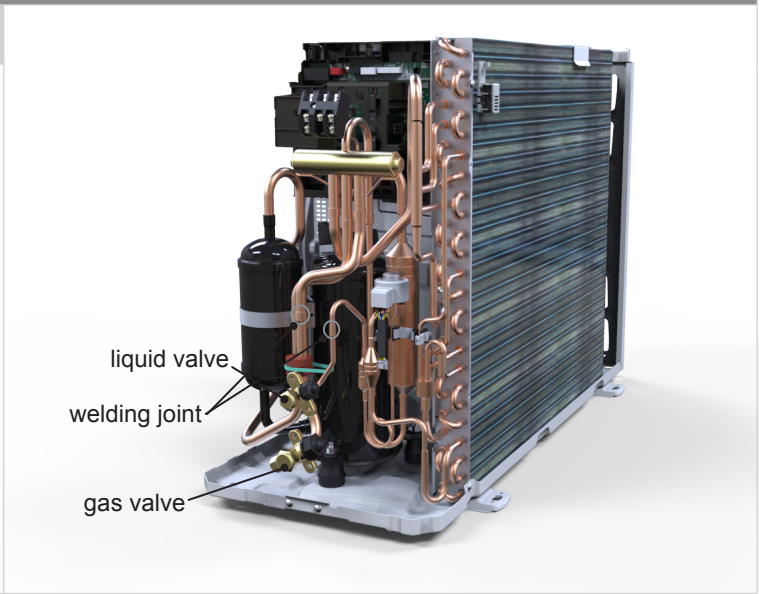
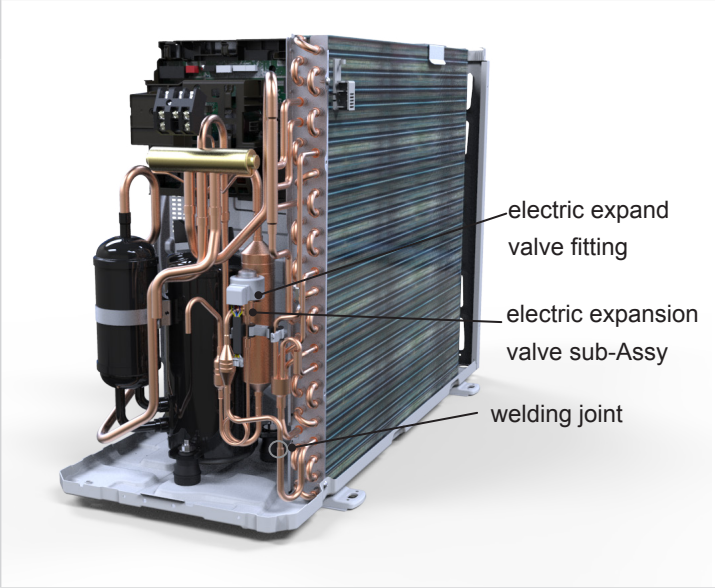
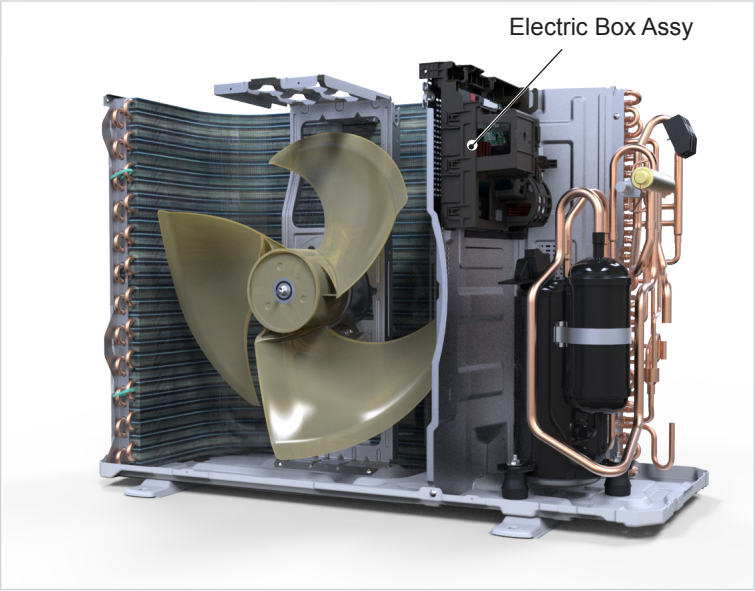
10.2 Removal Procedure of Outdoor Unit

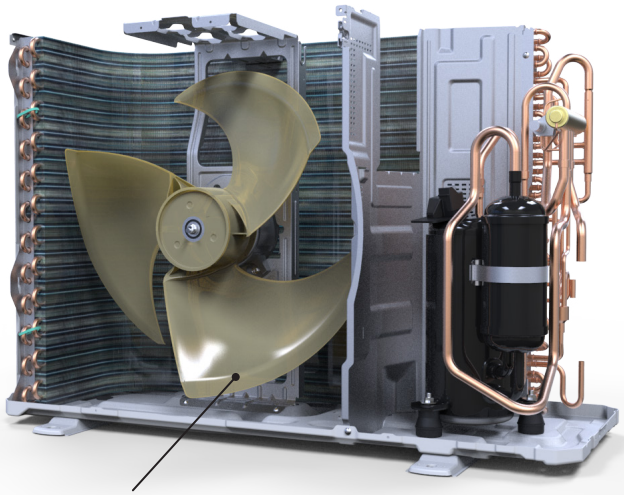
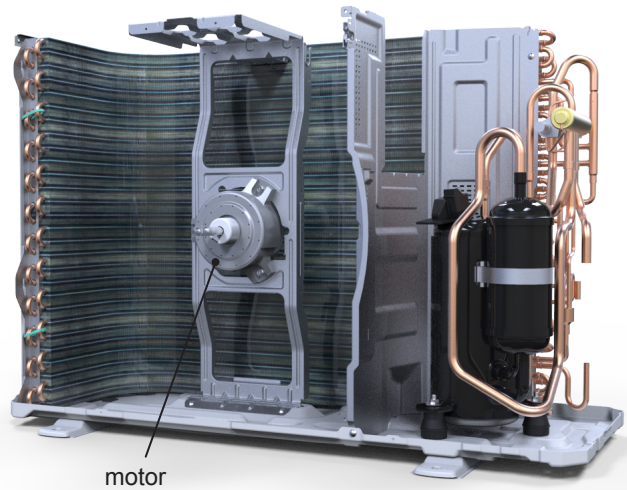
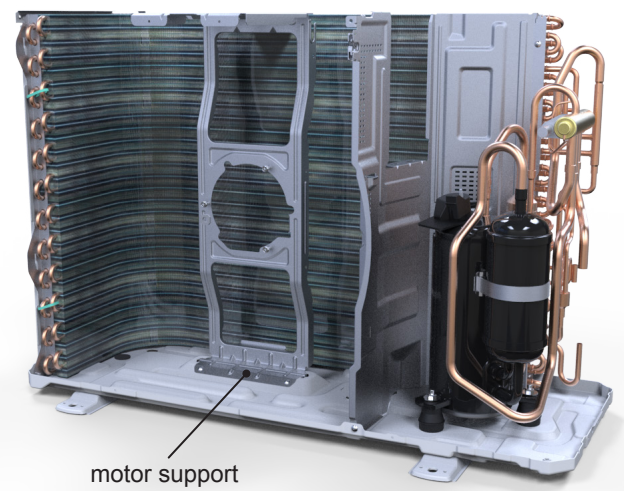
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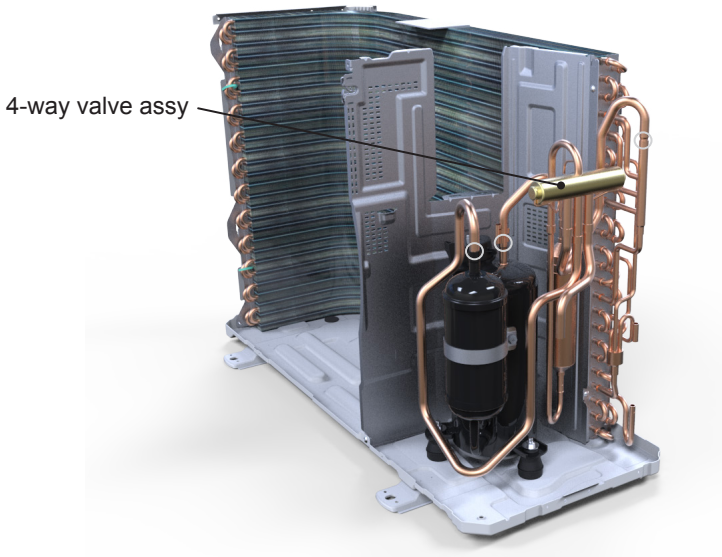
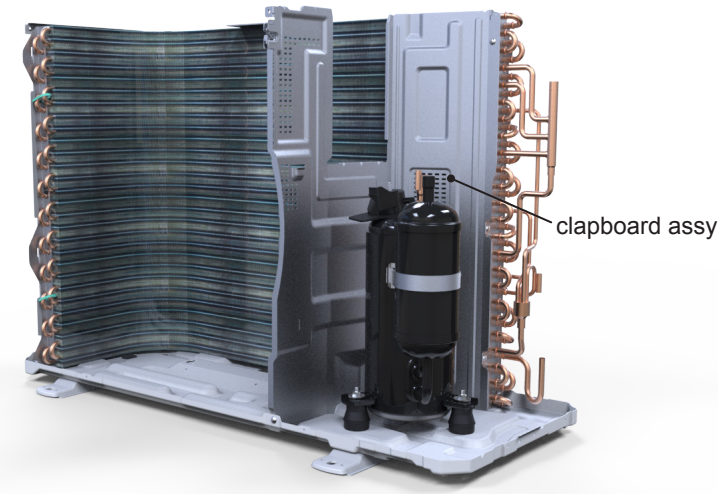
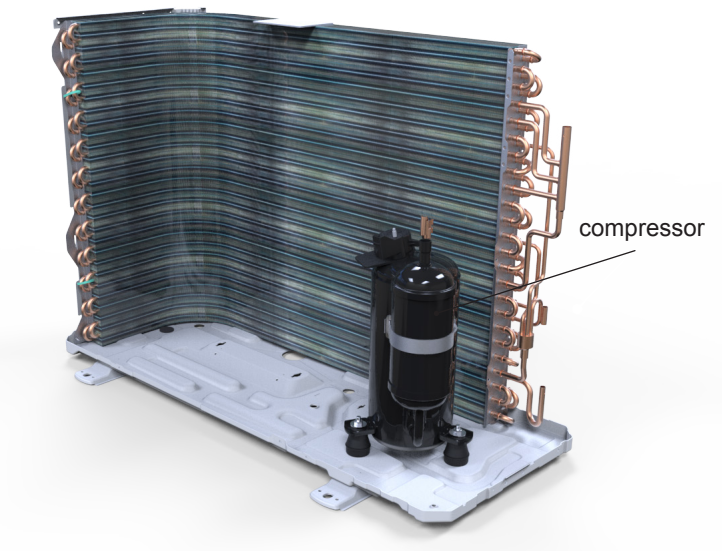
⚠ **Caution: discharge the refrigerant completely before removal.**

Step	Procedure
1. Before disassembly	
2. Remove big handle Remove the screws fixing big handle and then remove them.	
3. Remove top cover Remove the screws fixing top cover and then remove the top cover.	

Step	Procedure
4. Remove front panel assy	
	Remove connection screws connecting the front panel assy with the chassis and the motor support, and then remove the front panel assy.
	
5. Remove right side plate assy	
	Rescrew the ground screws, remove the ground wires, loosen the screws fixing terminal board, remove the terminal board, rescrew the screws fixing the right plate, and remove the right side plate assy.
	
6. Remove valve suppprt	
	Remove the valve support bolck, remove the screws fixing valve support, remove the screws fixing the liquid valve and gas valve then remove the valve support.
	

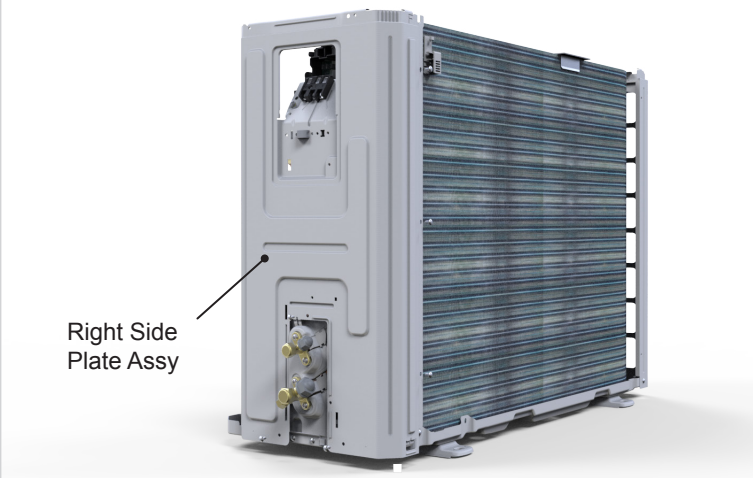
Step	Procedure
7. Remove gas valve and liquid valve	
Unsolder the welding joint connecting the gas valve and the liquid valve, remove them. Note: Discharge the refrigerant completely befor unsoldering; when unsoldering, wrap the gas valve with a wet cloth completely to avoid damage to the valve caused by high temperature.	
8. Remove electronic expansion valve	
Remove the terminals of the electric expand valve fitting and rotate to remove the electric expand valve fitting. Unsolder the welding joint connecting the electronic expansion Valve and then remove the electronic expansion valve.	
9. Remove electric box assy	
Unplug the terminals, unscrew 1 screw that secures the electrical box assy, release the two snaps on the electrical box assy (in the clapboard and condenser angle), pull outwards, and remove the electrical box assy.	

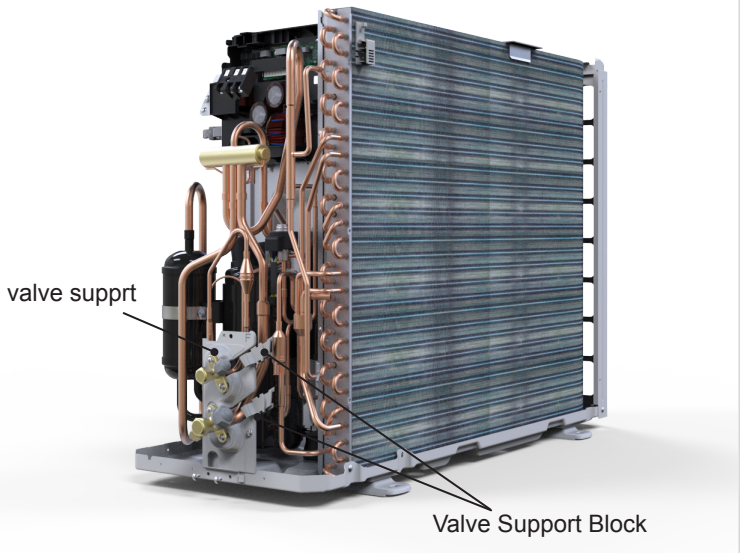
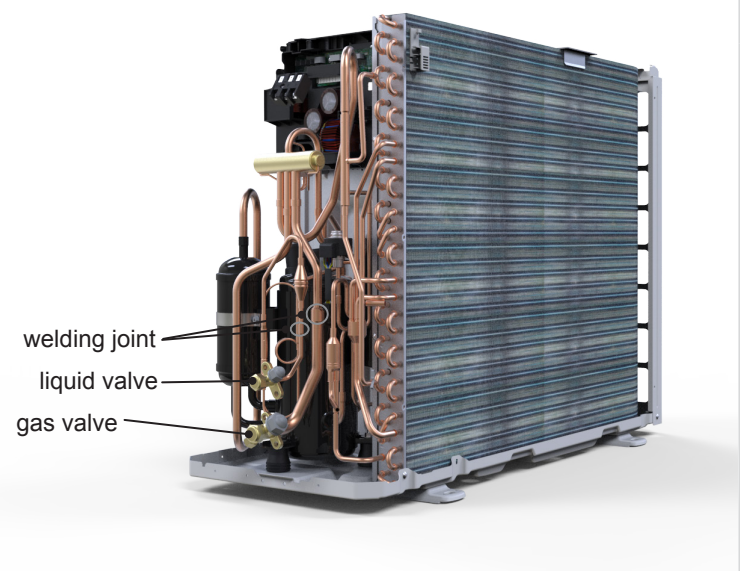
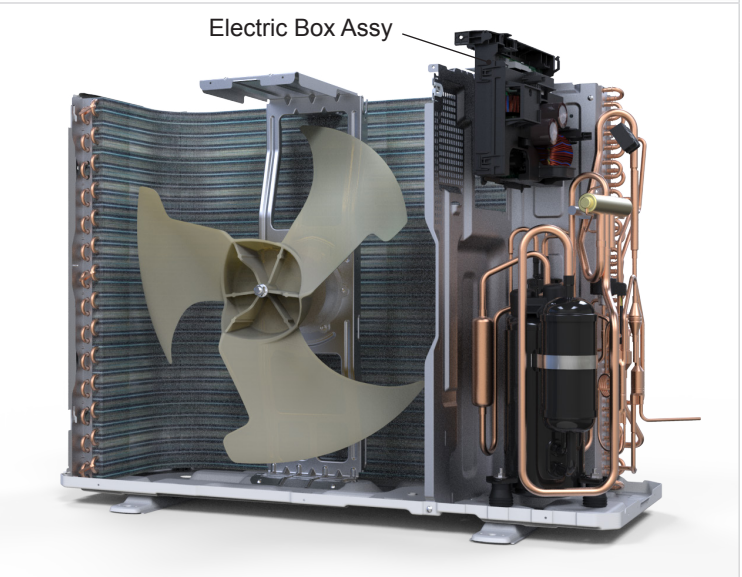
Step	Procedure
10. Remove axial flow fan	
Remove the nut on the fan and then remove the axial flow fan.	
11. Remove motor	
Remove the screws fixing the motor and then remove the motor.	
12. Remove motor support	
Remove the screws fixing the motor support and lift the motor support to remove it.	

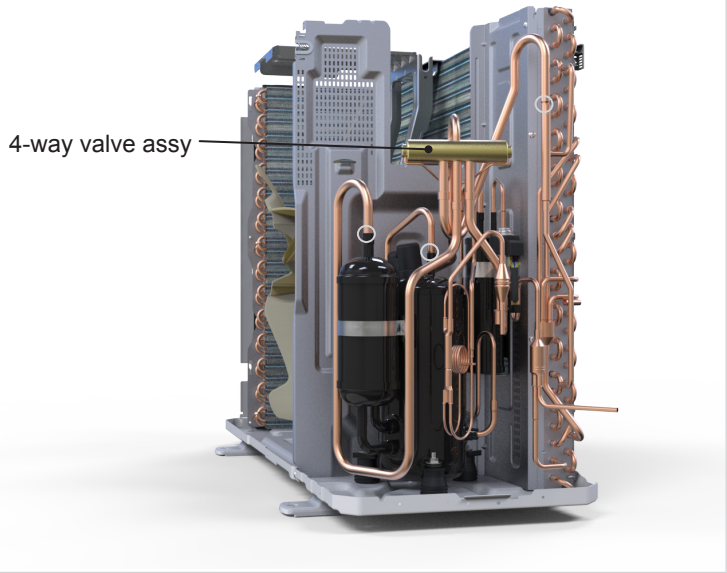
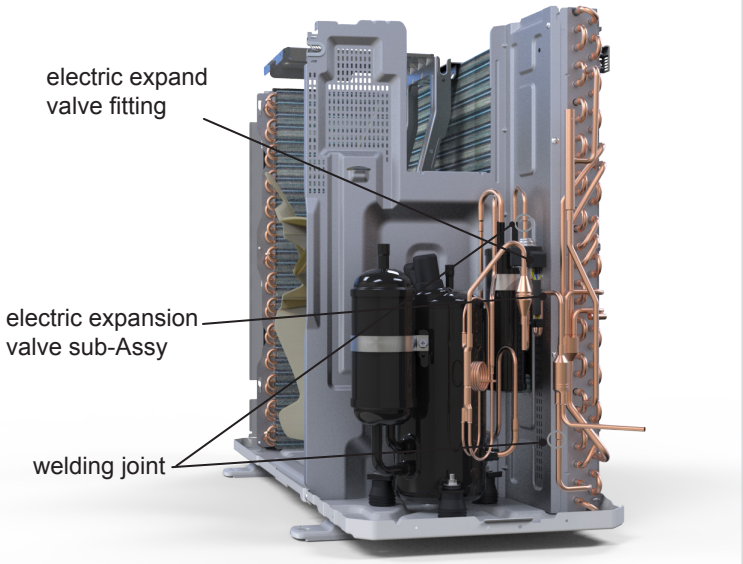
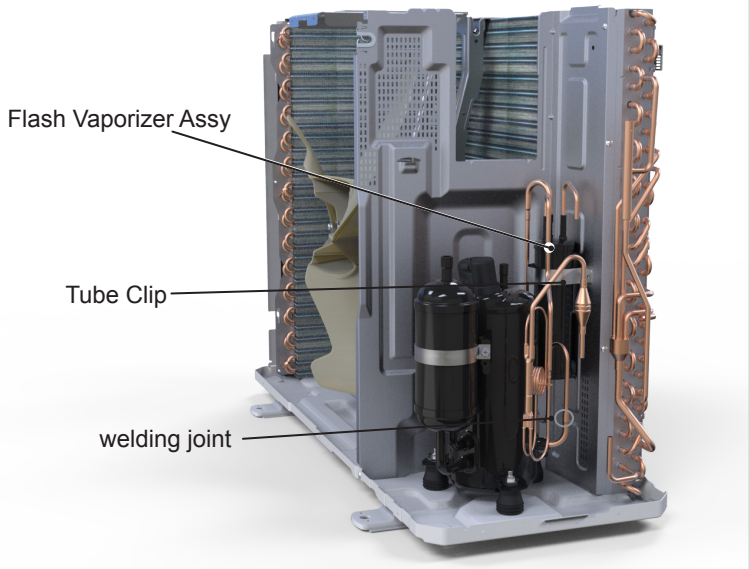
Step	Procedure
13. Remove 4-way valve assy	
Unsolder the welding joints connecting the 4-way valve assy, remove the 4-way valve. Note: Before unsoldering the welding joint, wrap the 4-way valve with a wet cloth completely to avoid damage to the valve caused by high temperature.	
14. Remove clapboard assy	
Remove the screws fixing the clapboard assy and then remove the clapboard assy.	
15. Remove compressor	
Remove the 3 foot nuts on the compressor and then remove the compressor.	

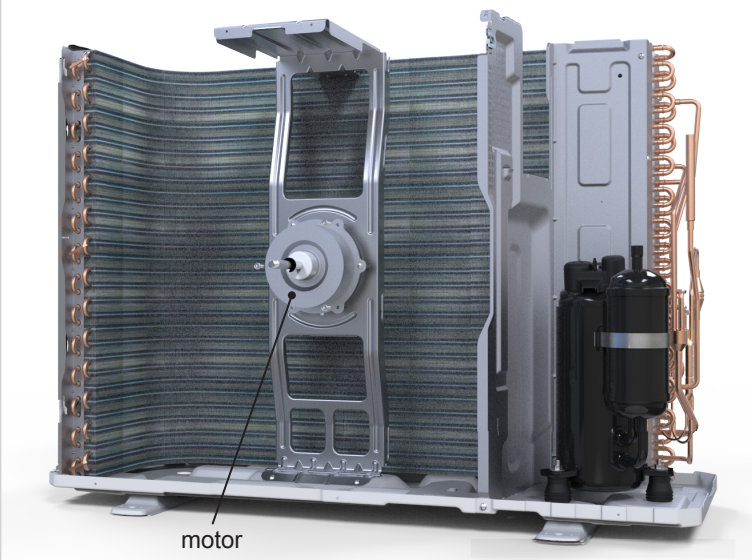
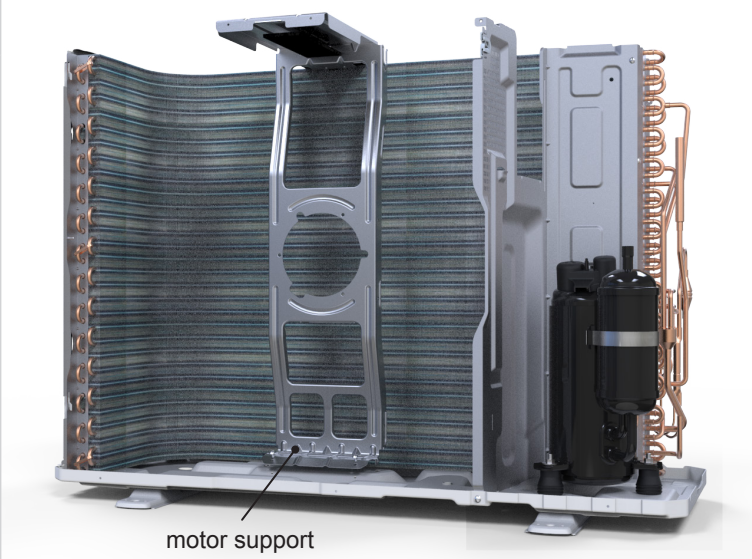
⚠ **Caution: discharge the refrigerant completely before removal.**

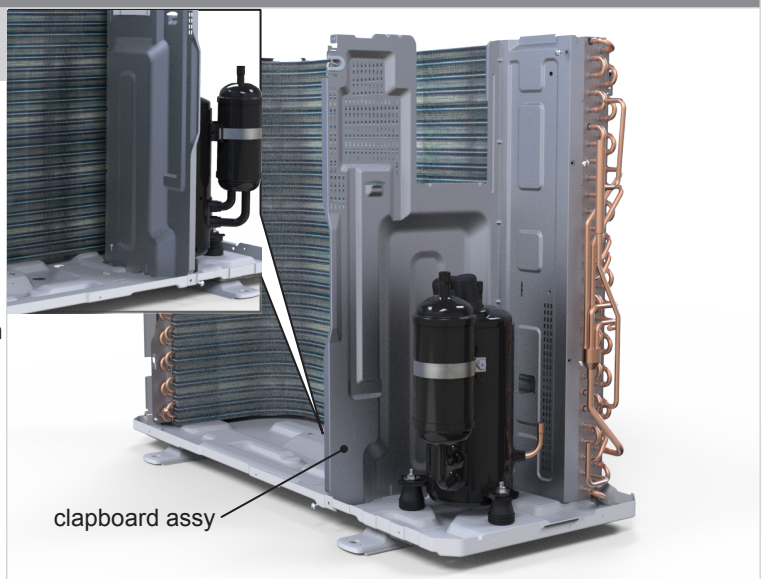
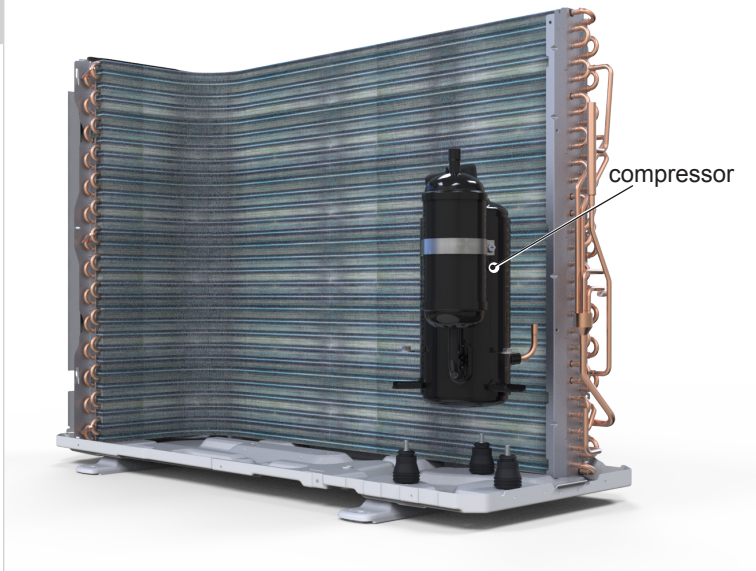
Step	Procedure
1. Before disassembly	
2. Remove top cover Remove the screws fixing top cover and then remove the top cover.	
3. Remove big handle and valve cover Remove the screws fixing big handle, valve cover and then remove them.	

Step	Procedure
4. Remove front panel assy	
	Remove connection screws connecting the front panel assy with the chassis and the motor support, and then remove the front panel assy.
	
5. Remove rear grill	
	Remove the screws connecing the left side plate and right side plate and then remove rear grill.
	
6. Remove right side plate assy	
	Rescrew the ground screws, remove the ground wires, loosen the screws fixing terminal board, remove the terminal board, rescrew the screws fixing the right plate, and remove the right side plate assy.
	

Step	Procedure
7. Remove valve suppprt	
	Remove the valve support bolck, remove the screws fixing valve support, remove the screws fixing the liquid valve and gas valve then remove the valve support.
	
8. Remove gas valve and liquid valve	
	Unsolder the welding joint connecting the gas valve and the liquid valve, remove them. Note: Discharge the refrigerant completely befor unsoldering; when unsoldering, wrap the gas valve with a wet cloth completely to avoid damage to the valve caused by high temperature.
	
9. Remove electric box assy	
	Remove the terminals, lift up and rotate the electrical box assy to the right so that the snaps on the clapboard are removed and the electrical box assy are removed.
	

Step	Procedure
10. Remove 4-way valve assy	
Unsolder the welding joints connecting the 4-way valve assy, 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.	
11. Remove electronic expansion valve	
Rotate to remove the electronic expansion valve fitting. Unsolder the welding joint connecting the electronic expansion Valve and then remove the electronic expansion valve.	
12. Remove flash vaporizer assy	
Remove the screws fixing the tube clip of flash vaporizer assy, unsolder the welding joint connecting the flash vaporizer assy and remove the flash vaporizer assy.	

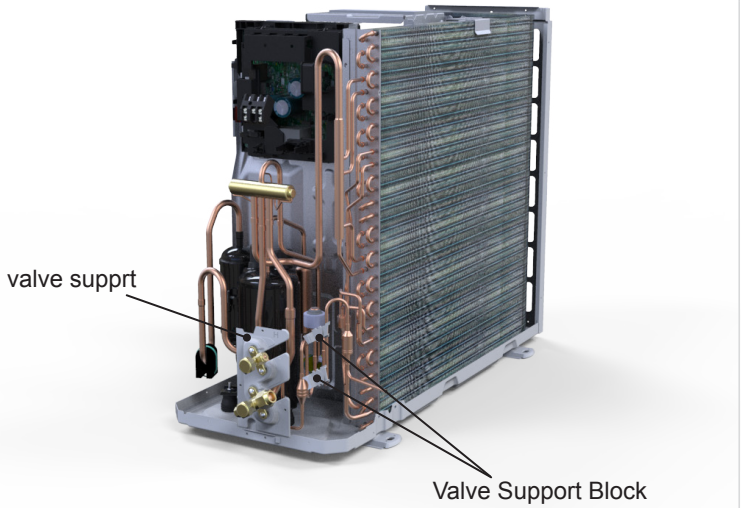
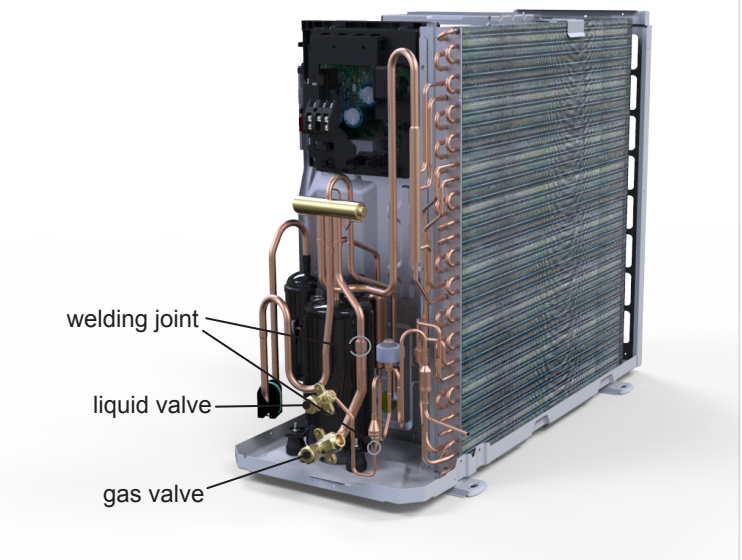
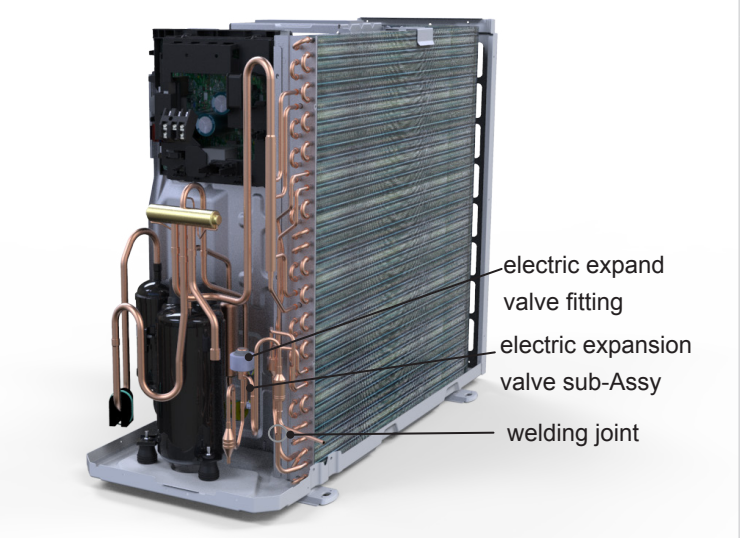
Step	Procedure
13. Remove axial flow fan	
Remove the nut on the fan and then remove the axial flow fan.	
14. Remove motor	
Remove the screws fixing the motor and then remove the motor.	
15. Remove motor support	
Remove the screws fixing the motor support and lift the motor support to remove it.	

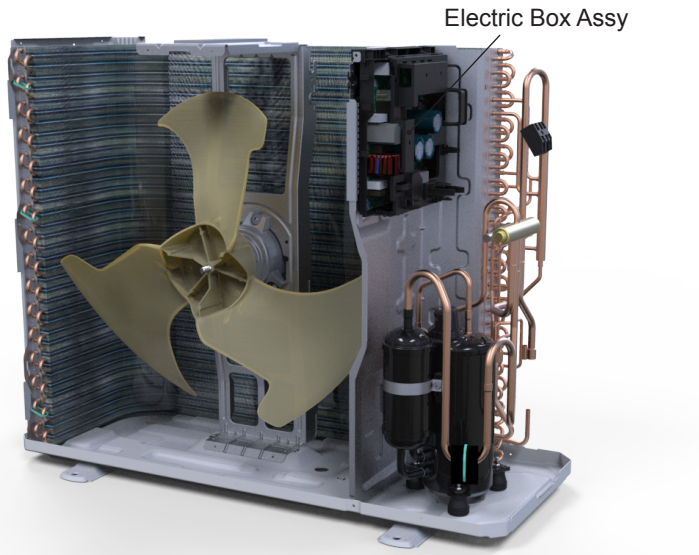
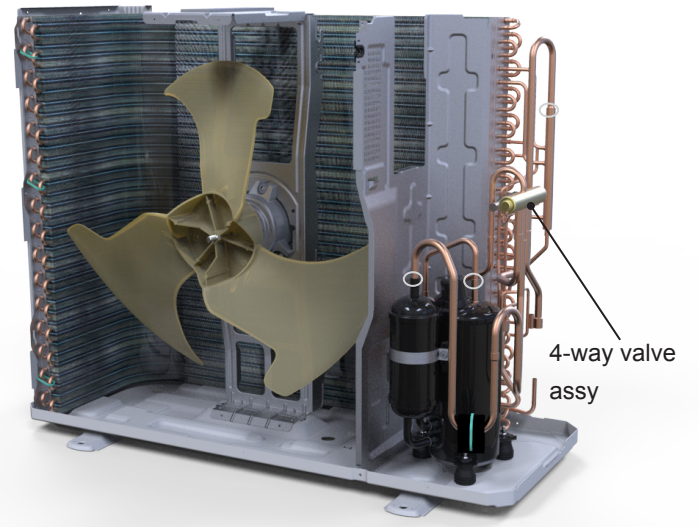
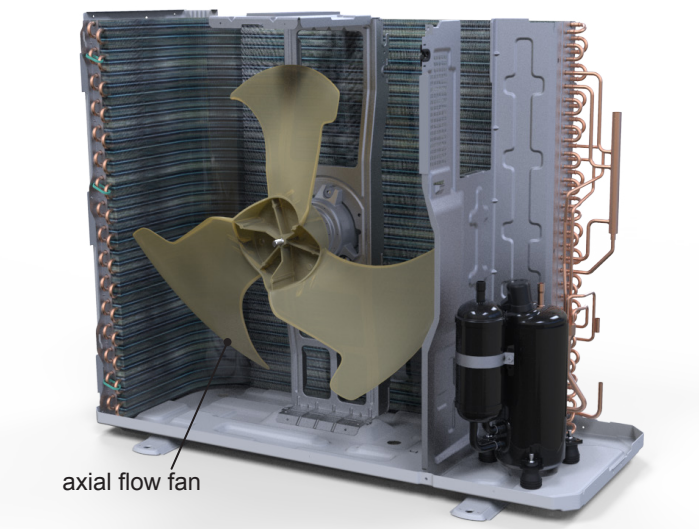
Step	Procedure
16. Remove clapboard assy	
Remove the screws fixing the clapboard assy and then remove the clapboard assy.	
17. Remove compressor	
Remove the 3 foot nuts on the compressor and then remove the compressor.	

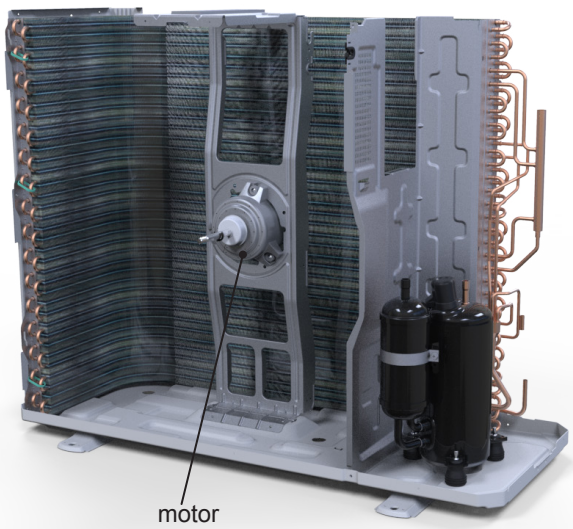
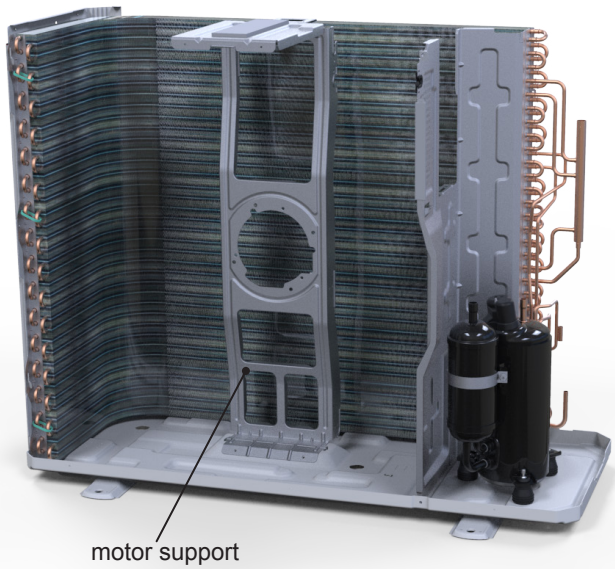
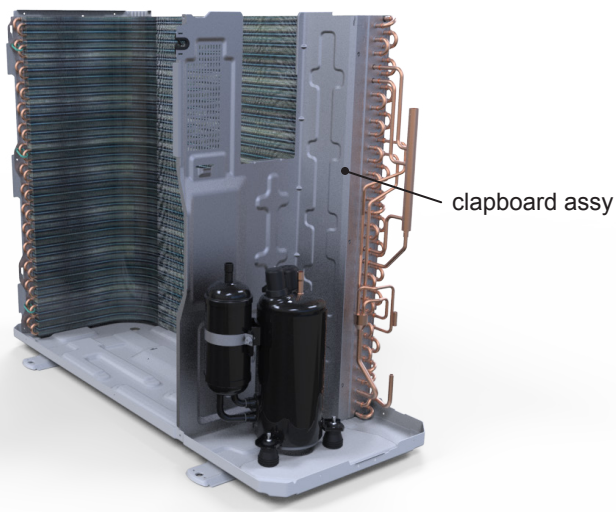
⚠ **Caution: discharge the refrigerant completely before removal.**

Step	Procedure
1. Before disassembly	
2. Remove top cover Remove the screws fixing top cover and then remove the top cover.	
3. Remove big handle and valve cover Remove the screws fixing big handle, valve cover and then remove them.	

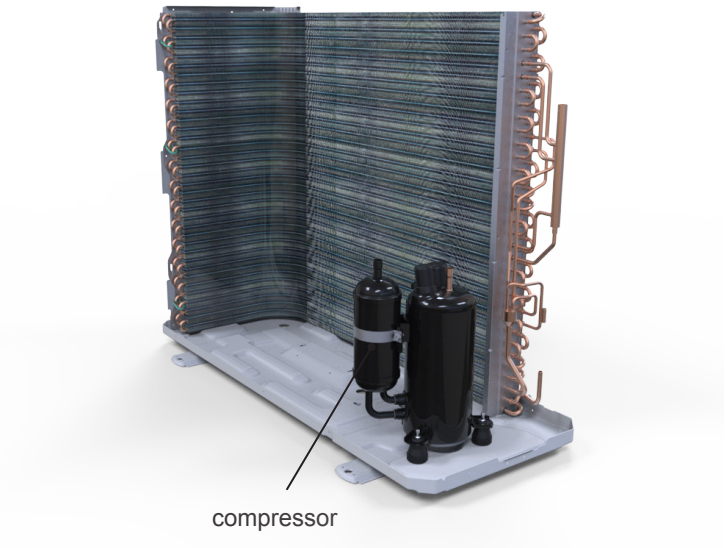
Step	Procedure
4. Remove front panel assy	
	Remove connection screws connecting the front panel assy with the chassis and the motor support, and then remove the front panel assy.
	
5. Remove rear grill	
	Remove the screws connecing the left side plate and right side plate and then remove rear grill.
	
6. Remove right side plate assy	
	Rescrew the ground screws, remove the ground wires, loosen the screws fixing terminal board, remove the terminal board, rescrew the screws fixing the right plate, and remove the right side plate assy.
	

Step	Procedure
7. Remove valve suppprt	
	Remove the valve support bolck, remove the screws fixing valve support, remove the screws fixing the liquid valve and gas valve then remove the valve support.
	
8. Remove gas valve and liquid valve	
	Unsolder the welding joint connecting the gas valve and the liquid valve, remove them. Note: Discharge the refrigerant completely befor unsoldering; when unsoldering, wrap the gas valve with a wet cloth completely to avoid damage to the valve caused by high temperature.
	
9. Remove electronic expansion valve	
	Remove the terminals of the electric expand valve fitting and rotate to remove the electric expand valve fitting. Unsolder the welding joint connecting the electronic expansion Valve and then remove the electronic expansion valve.
	

Step	Procedure
10. Remove electric box assy	
Unplug the terminals, unscrew 1 screw that secures the electrical box assy, release the two snaps on the electrical box assy (in the clapboard and condenser angle), pull outwards, and remove the electrical box assy.	
11. Remove 4-way valve assy	
Unsolder the welding joints connecting the 4-way valve assy, 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.	
12. Remove axial flow fan	
Remove the nut on the fan and then remove the axial flow fan.	

Step	Procedure
13. Remove motor	
	Remove the screws fixing the motor and then remove the motor.
	
14. Remove motor support	
	Remove the screws fixing the motor support and lift the motor support to remove it.
	
15. Remove clapboard assy	
	Remove the screws fixing the clapboard assy and then remove the clapboard assy.
	

Step	Procedure
16. Remove compressor	
	Remove the 3 foot nuts on the compressor and then remove the compressor.



Appendix

Appendix 1: Reference Sheet of Celsius and Fahrenheit

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

Set temperature

Fahrenheit display temperature (℉)	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(More details please refer to the specifications.)

2.Min length of connection pipe for the unit with standard connection pipe of 5m, there is no limitation for themin length of connection pipe. For the unit with standard connection pipe of 7.5m and 8m, the min length of connection pipe is 3m.

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

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

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

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

● 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 R32			
Piping size		Outdoor unit throttle	
Liquid pipe	Gas pipe	Cooling only(g/m)	Cooling and heating(g/m)
1/4”	3/8” or 1/2”	12	16
1/4” or 3/8”	5/8” or 3/4”	12	40
1/2”	3/4” or 7/8”	24	96
5/8”	1" or 1 1/4”	48	96
3/4"	/	200	200
7/8"	/	280	280

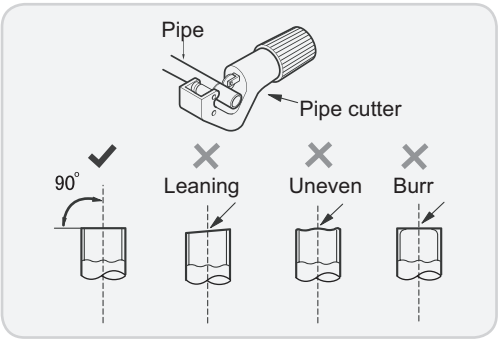
Appendix 3: Pipe Expanding Method

Note:

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

A:Cut the pip

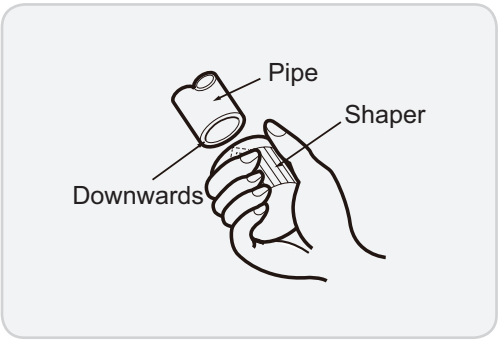
- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.



B:Remove the burrs

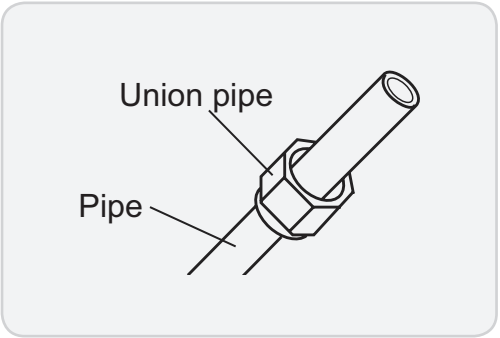
- Remove the burrs with shaper and prevent the burrs from getting into the pipe.

C:Put on suitable insulating pipe.



D:Put on the union nut

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



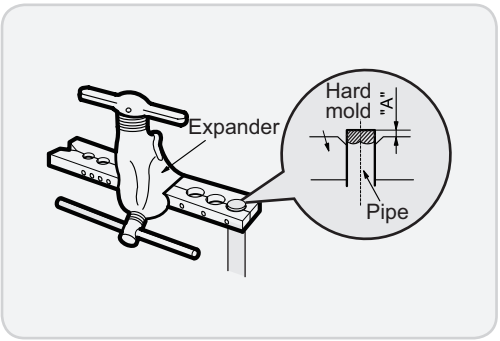
E:Expand the port

- Expand the port with expander.

Note:

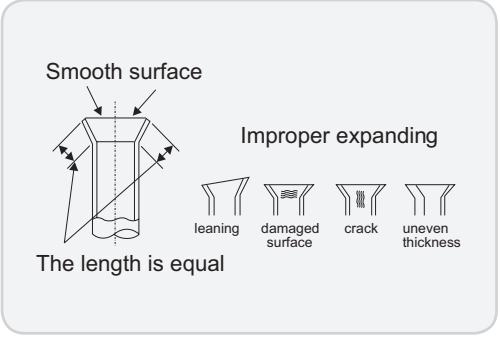
- "A" is different according to the diameter, please refer to the sheet below:

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



F:Inspection

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



Appendix 4: List of Resistance for Temperature Sensor

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

Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)
-19	138.10	0	49.02	20	18.75	40	7.97
-18	128.60	2	44.31	22	17.14	42	7.35
-16	115.00	4	40.09	24	15.68	44	6.79
-14	102.90	6	36.32	26	14.36	46	6.28
-12	92.22	8	32.94	28	13.16	48	5.81
-10	82.75	10	29.90	30	12.07	50	5.38
-8	74.35	12	27.18	32	11.09	52	4.99
-6	66.88	14	24.73	34	10.20	54	4.63
-4	60.23	16	22.53	36	9.38	56	4.29
-2	54.31	18	20.54	38	8.64	58	3.99

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

Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)
-19	181.40	20	25.01	60	4.95	100	1.35
-15	145.00	25	20.00	65	4.14	105	1.16
-10	110.30	30	16.10	70	3.48	110	1.01
-5	84.61	35	13.04	75	2.94	115	0.88
0	65.37	40	10.62	80	2.50	120	0.77
5	50.87	45	8.71	85	2.13	125	0.67
10	39.87	50	7.17	90	1.82	130	0.59
15	31.47	55	5.94	95	1.56	135	0.52

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

Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)
-30	911.400	10	98	50	17.65	90	4.469
-25	660.8	15	77.35	55	14.62	95	3.841
-20	486.5	20	61.48	60	12.17	100	3.315
-15	362.9	25	49.19	65	10.18	105	2.872
-10	274	30	39.61	70	8.555	110	2.498
-5	209	35	32.09	75	7.224	115	2.182
0	161	40	26.15	80	6.129	120	1.912
5	125.1	45	21.43	85	5.222	125	1.682



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For product improvement, specifications and appearance in this manual are subject to change without prior notice.