GREE
Change for Life

Service Manual

Models: GWH18MC-K3DNA3K(CB171007800)
GWH18MC-K3DNA3K(CB171007801)
GWH18MC-K3DND3K(CB405003000)
GWH18MC-K3DNE1K(CB143001100)
GWH24MD-K3DNA2K(CB181005900)
GWH24MD-K3DNA3K(CB171007902)
GWH24MD-K3DNA3K(CB171007900)
GWH24MD-K3DNA3K(CB171007901)
GWH24MD-K3DNB3K(CB163005300)
GWH24MD-K3DND3K(CB405003100)
GWH24MD-K3DNE1K(CB143001200)
(Refrigerant R410A)

GREE ELECTRIC APPLIANCES,INC.OF ZHUHAI

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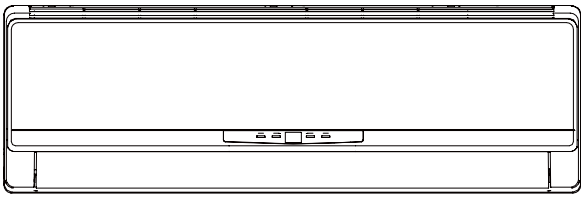
GWH24MD-K3DNA2K/I(CB181N05900)



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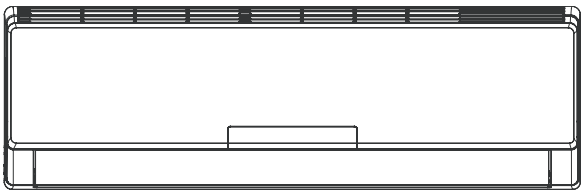
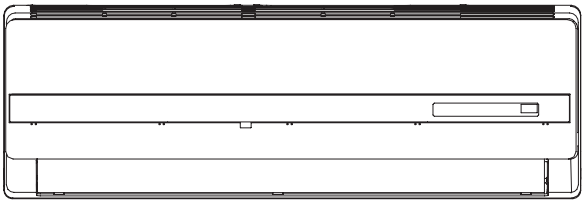


GWH24MD-K3DNB3K/I(CB163N05300)



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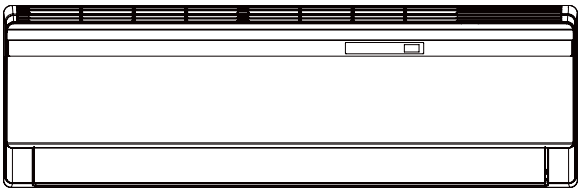

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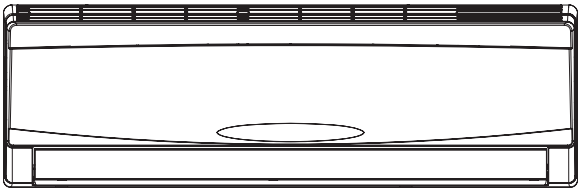
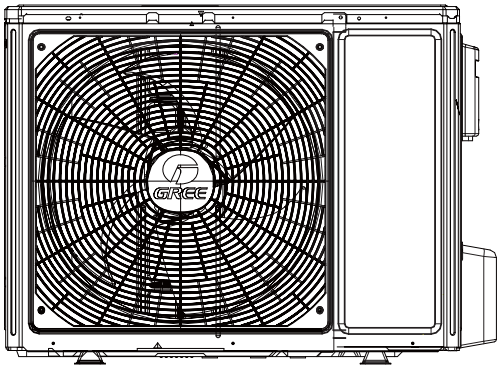
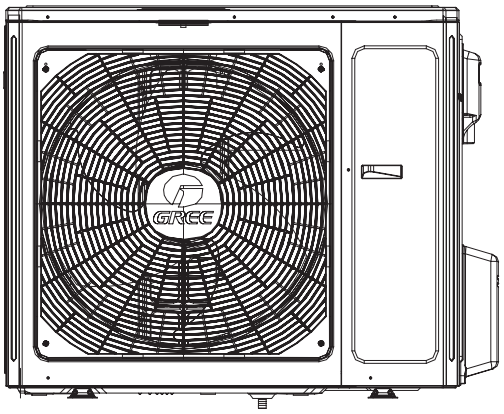


Outdoor Unit

GWH18MC-K3DNA3K/O(CB171W07800)
GWH18MC-K3DNA3K/O(CB171W07801)



GWH24MD-K3DNA3K/O(CB171W07900)
GWH24MD-K3DNA3K/O(CB171W07901)
GWH24MD-K3DNA3K/O(CB171W07902)



Remote Controller

YV1F7

YB1FA(XFAN)

NO.	Model	Product code	Indoor model	Indoor product code	Outdoor model	Outdoor product code	Remote Controller
1	GWH18MC-K3DNA3K	CB171007800	GWH18MC-K3DNA3K/I	CB171N07800	GWH18MC-K3DNA3K/O	CB171W07800	YV1F7
2	GWH18MC-K3DND3K	CB405003000	GWH18MC-K3DND3K/I	CB405N03000			YB1FA(XFAN)
3	GWH18MC-K3DNE1K	CB143001100	GWH18MC-K3DNE1K/I	CB143N01100			YB1FA(XFAN)
4	GWH24MD-K3DNA3K	CB171007900	GWH24MD-K3DNA3K/I	CB171N07900	GWH24MD-K3DNA3K/O	CB171W07900	YV1F7
5	GWH24MD-K3DNB3K	CB163005300	GWH24MD-K3DNB3K/I	CB163N05300			YV1F7
6	GWH24MD-K3DND3K	CB405003100	GWH24MD-K3DND3K/I	CB405N03100			YB1FA(XFAN)
7	GWH24MD-K3DNE1K	CB143001200	GWH24MD-K3DNE1K/I	CB143N01200			YB1FA(XFAN)
8	GWH18MC-K3DNA3K	CB171007801	GWH18MC-K3DNA3K/I	CB171N07801	GWH18MC-K3DNA3K/O	CB171W07801	YV1F7
9	GWH24MD-K3DNA3K	CB171007901	GWH24MD-K3DNA3K/I	CB171N07901	GWH24MD-K3DNA3K/O	CB171W07901	YV1F7
10	GWH24MD-K3DNA2K	CB181005900	GWH24MD-K3DNA2K/I	CB181N05900	GWH24MD-K3DNA3K/O	CB171W07902	YB1FA(XFAN)
11	GWH24MD-K3DNA3K	CB171007902	GWH24MD-K3DNA3K/I	CB171N07902			YB1FA(XFAN)

1.Safety Precautions

Installing, starting up, and servicing air conditioner can be hazardous due to system pressure, electrical components, and equipment location, etc.

Only trained, qualified installers and service personnel are allowed to install, start-up, and service this equipment.

Untrained personnel can perform basic maintenance functions such as cleaning coils. All other operations should be performed by trained service personnel.

When handling the equipment, observe precautions in the manual and on tags, stickers, and labels attached to the equipment. Follow all safety codes. Wear safety glasses and work gloves. Keep quenching cloth and fire extinguisher nearby when brazing.

Read the instructions thoroughly and follow all warnings or cautions in literature and attached to the unit. Consult local building codes and current editions of national as well as local electrical codes.

Recognize the following safety information:

⚠ Warning	Incorrect handling could result in personal injury or death.
⚠ Caution	Incorrect handling may result in minor injury, or damage to product or property.

⚠ Warning

All electric work must be performed by a licensed technician according to local regulations and the instructions given in this manual.

- Before installing, modifying, or servicing system, main electrical disconnect switch must be in the OFF position. There may be more than 1 disconnect switch. Lock out and tag switch with a suitable warning label.
- Never supply power to the unit unless all wiring and tubing are completed, reconnected and checked.
- This system adopts highly dangerous electrical voltage. Incorrect connection or inadequate grounding can cause personal injury or death. Stick to the wiring diagram and all the instructions when wiring.
- Have the unit adequately grounded in accordance with local electrical codes.
- Have all wiring connected tightly. Loose connection may lead to overheating and a possible fire hazard.

All installation or repair work shall be performed by your dealer or a specialized subcontractor as there is the risk of fire, electric shock, explosion or injury.

- Make sure the outdoor unit is installed on a stable, level surface with no accumulation of snow, leaves, or trash beside.
- Make sure the ceiling wall is strong enough to bear the weight of the unit.
- Make sure the noise of the outdoor unit does not disturb neighbors.
- Follow all the installation instructions to minimize the risk of damage from earthquakes, typhoons or strong winds.
- Avoid contact between refrigerant and fire as it generates poisonous gas.
- 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 and other hazards.
- Make sure no refrigerant gas is leaking out when installation is completed.
- Should there be refrigerant leakage, the density of refrigerant in the air shall in no way exceed its limited value , or it may lead to explosion .
- Keep your fingers and clothing away from any moving parts.
- Clear the site after installation. Make sure no foreign objects are left in the unit.
- Always ensure effective grounding for the unit.

⚠ Caution

- Never install the unit in a place where a combustible gas might leak, or it may lead to fire or explosion.
- Make a proper provision against noise when the unit is installed at a telecommunication center or hospital.
- Provide an electric leak breaker when it is installed in a watery place.
- Never wash the unit with water.
- Handle unit transportation with care. The unit should not be carried by only one person if it is more than 20kg.
- Never touch the heat exchanger fins with bare hands.
- Never touch the compressor or refrigerant piping without wearing glove.
- Do not have the unit operate without air filter.
- Should any emergency occur, stop the unit and disconnect the power immediately.
- Properly insulate any tubing running inside the room to prevent the water from damaging the wall.

2.Specifications

2.1 Unit Specifications

Model			GWH18MC-K3DNA3K GWH18MC-K3DND3K GWH18MC-K3DNE1K
Product Code			CB171007800 CB405003000 CB143001100
Power Supply	Rated Voltage	V ～	220-240
	Rated Frequency	Hz	50
	Phases		1
Power Supply Mode			Indoor
Cooling Capacity		W	5275
Heating Capacity		W	5800
Cooling Power Input		W	1625
Heating Power Input		W	1760
Cooling Power Current		A	7.2
Heating Power Current		A	7.8
Rated Input		W	2650
Rated Current		A	11.8
Air Flow Volume(SH/H/M/L/SL)		m^3/h	850/780/650/550/-
Dehumidifying Volume		L/h	1.8
EER		W/W	3.25
COP		W/W	3.30
SEER		W/W	5.60
HSPF		W/W	/
Application Area		m^2	23-34
Indoor Unit	Model of indoor unit		GWH18MC-K3DNA3K/I GWH18MC-K3DND3K/I GWH18MC-K3DNE1K/I
	Fan Type		Cross-flow
	Diameter Length(DXL)	mm	Φ98X710
	Fan Motor Cooling Speed (SH/H/M/L/SL)	r/min	1350/1150/1050/900/-
	Fan Motor Heating Speed (SH/H/M/L/SL)	r/min	1420/1250/1150/1050/-
	Output of Fan Motor	W	20
	Fan Motor RLA	A	0.25
	Fan Motor Capacitor	μF	1.5
	Input of Heater	W	/
	Evaporator Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Row-fin Gap	mm	2-1.4
	Coil Length (LXDXW)	mm	715X25.4X304.8
	Swing Motor Model		MP28VB
	Output of Swing Motor	W	2
	Fuse	A	3.15
	Sound Pressure Level (SH/H/M/L/SL)	dB (A)	48/43/40/35/-
	Sound Power Level (SH/H/M/L/SL)	dB (A)	58/52/50/45/-
	Dimension (WXHXD)	mm	940X298X200
	Dimension of Carton Box (LXWXH)	mm	1010X380X285
	Dimension of Package (LXWXH)	mm	1013X383X300
	Net Weight	kg	13
	Gross Weight	kg	17

Outdoor Unit	Model of Outdoor Unit		GWH18MC-K3DNA3K/O(CB171W07800)
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO.,LTD
	Compressor Model		QXA-B141zF030A
	Compressor Oil		68EP
	Compressor Type		Rotary
	L.R.A.	A	25
	Compressor RLA	A	7.2
	Compressor Power Input	W	1440
	Overload Protector		1NT11L-6233 or KSD115°C or HPC115/95U1
	Throttling Method		Capillary
	Operation temp	°C	16~30
	Ambient temp (cooling)	°C	18~43
	Ambient temp (heating)	°C	-7~24
	Condenser Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Rows-fin Gap	mm	2-1.4
	Coil Length (LXDXW)	mm	851X38.1X660
	Fan Motor Speed	rpm	750
	Output of Fan Motor	W	60
	Fan Motor RLA	A	0.28
	Fan Motor Capacitor	μF	/
	Air Flow Volume of Outdoor Unit	m^3/h	3200
	Fan Type		Axial-flow
	Fan Diameter	mm	Φ520
	Defrosting Method		Automatic Defrosting
	Climate Type		T1
	Isolation		I
	Moisture Protection		IP24
	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 (H/M/L)	dB (A)	56/-/-
	Sound Power Level (H/M/L)	dB (A)	66/-/-
	Dimension (WXHXD)	mm	965X700X396
	Dimension of Carton Box (LXWXH)	mm	1026X455X735
	Dimension of Package (LXWXH)	mm	1029X458X750
	Net Weight	kg	45
	Gross Weight	kg	50
	Refrigerant		R410A
	Refrigerant Charge	kg	1.35
Connection Pipe	Length	m	5
	Gas Additional Charge	g/m	20
	Outer Diameter Liquid Pipe	mm	Φ6
	Outer Diameter Gas Pipe	mm	Φ12
	Max Distance Height	m	10
	Max Distance Length	m	25

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

Model			GWH24MD-K3DNA3K GWH24MD-K3DNB3K GWH24MD-K3DND3K GWH24MD-K3DNE1K
Product Code			CB171007900 CB163005300 CB405003100 CB143001200
Power Supply	Rated Voltage	V ～	220-240
	Rated Frequency	Hz	50
	Phases		1
Power Supply Mode			Indoor
Cooling Capacity		W	6450
Heating Capacity		W	7000
Cooling Power Input		W	2180
Heating Power Input		W	2220
Cooling Power Current		A	9.7
Heating Power Current		A	9.8
Rated Input		W	2800
Rated Current		A	12.4
Air Flow Volume(SH/H/M/L/SL)		m^3/h	1000/800/700/550/-
Dehumidifying Volume		L/h	2.0
EER		W/W	2.96
COP		W/W	3.15
SEER		W/W	5.10
HSPF		W/W	/
Application Area		m^2	27-42
Indoor Unit	Model of indoor unit		GWH24MD-K3DNA3K/I GWH24MD-K3DNB3K/I GWH24MD-K3DND3K/I GWH24MD-K3DNE1K/I
	Fan Type		Cross-flow
	Diameter Length(DXL)	mm	Φ100X765
	Fan Motor Cooling Speed (SH/H/M/L/SL)	r/min	1350/1150/950/850/-
	Fan Motor Heating Speed (SH/H/M/L/SL)	r/min	1400/1200/1000/900/-
	Output of Fan Motor	W	35
	Fan Motor RLA	A	0.31
	Fan Motor Capacitor	μF	2.5
	Input of Heater	W	/
	Evaporator Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Row-fin Gap	mm	2-1.5
	Coil Length (LXDXW)	mm	765X25.4X342.9
	Swing Motor Model		MP35XX
	Output of Swing Motor	W	2.5
	Fuse	A	3.15
	Sound Pressure Level (SH/H/M/L/SL)	dB (A)	51/47/42/39/-
	Sound Power Level (SH/H/M/L/SL)	dB (A)	61/57/52/49/-
	Dimension (WXHXD)	mm	1007X315X219
	Dimension of Carton Box (LXWXH)	mm	1073X395X313
	Dimension of Package (LXWXH)	mm	1076X398X328
	Net Weight	kg	14
	Gross Weight	kg	19

Outdoor Unit	Model of Outdoor Unit		GWH24MD-K3DNA3K/O(CB171W07900)
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO.,LTD
	Compressor Model		QXA-B141zF030A
	Compressor Oil		68EP
	Compressor Type		Rotary
	L.R.A.	A	25
	Compressor RLA	A	7.2
	Compressor Power Input	W	1440
	Overload Protector		1NT11L-6233 or KSD115°C or HPC115/95U1
	Throttling Method		Capillary
	Operation temp	°C	16~30
	Ambient temp (cooling)	°C	18~43
	Ambient temp (heating)	°C	-7~24
	Condenser Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Rows-fin Gap	mm	2-1.4
	Coil Length (LXDXW)	mm	984X38.1X748
	Fan Motor Speed	rpm	800
	Output of Fan Motor	W	92
	Fan Motor RLA	A	0.62
	Fan Motor Capacitor	μF	3.5
	Air Flow Volume of Outdoor Unit	m^3/h	4000
	Fan Type		Axial-flow
	Fan Diameter	mm	Φ552
	Defrosting Method		Automatic Defrosting
	Climate Type		T1
	Isolation		I
	Moisture Protection		IP24
	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 (H/M/L)	dB (A)	58/-/-
	Sound Power Level (H/M/L)	dB (A)	68/-/-
	Dimension (WXHXD)	mm	1000X427X790
	Dimension of Carton Box (LXWXH)	mm	1080X485X840
	Dimension of Package (LXWXH)	mm	1083X488X855
	Net Weight	kg	56
	Gross Weight	kg	61
	Refrigerant		R410A
	Refrigerant Charge	kg	1.80
Connection Pipe	Length	m	5
	Gas Additional Charge	g/m	50
	Outer Diameter Liquid Pipe	mm	Φ6
	Outer Diameter Gas Pipe	mm	Φ16
	Max Distance Height	m	10
	Max Distance Length	m	25

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

Model			GWH18MC-K3DNA3K	GWH24MD-K3DNA3K
Product Code			CB171007801	CB171007901
Power Supply	Rated Voltage	V ～	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Power Supply Mode			Indoor	Indoor
Cooling Capacity		W	5275	6450
Heating Capacity		W	5800	7000
Cooling Power Input		W	1625	2180
Heating Power Input		W	1760	2220
Cooling Power Current		A	7.2	9.7
Heating Power Current		A	7.8	9.8
Rated Input		W	2650	2800
Rated Current		A	11.8	12.4
Air Flow Volume(SH/H/M/L/SL)		m^3/h	850/780/650/550/-	1000/800/700/550/-
Dehumidifying Volume		L/h	1.8	2.0
EER		W/W	3.25	2.96
COP		W/W	3.30	3.15
SEER		W/W	5.60	5.10
HSPF		W/W	/	/
Application Area		m^2	23-34	27-42
Indoor Unit	Model of indoor unit		GWH18MC-K3DNA3K/I GWH18MC-K3DND3K/I	GWH24MD-K3DNA3K/I
	Fan Type		Cross-flow	Cross-flow
	Diameter Length(DXL)	mm	Φ98X710	Φ100X765
	Fan Motor Cooling Speed (SH/H/M/L/SL)	r/min	1350/1150/1050/900/-	1350/1150/950/850/-
	Fan Motor Heating Speed (SH/H/M/L/SL)	r/min	1420/1250/1150/1050/-	1400/1200/1000/900/-
	Output of Fan Motor	W	20	35
	Fan Motor RLA	A	0.25	0.31
	Fan Motor Capacitor	μF	1.5	2.5
	Input of Heater	W	/	/
	Evaporator Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Row-fin Gap	mm	2-1.4	2-1.5
	Coil Length (LXDXW)	mm	715X25.4X304.8	765X25.4X342.9
	Swing Motor Model		MP28VB	MP35XX
	Output of Swing Motor	W	2	2.5
	Fuse	A	3.15	3.15
	Sound Pressure Level (SH/H/M/L/SL)	dB (A)	48/43/40/35/-	51/47/42/39/-
	Sound Power Level (SH/H/M/L/SL)	dB (A)	58/52/50/45/-	61/57/52/49/-
	Dimension (WXHXD)	mm	940X298X200	1007X315X219
	Dimension of Carton Box (LXWXH)	mm	1010X380X285	1073X395X313
	Dimension of Package (LXWXH)	mm	1013X383X300	1076X398X328
	Net Weight	kg	13	14
	Gross Weight	kg	17	19

Outdoor Unit	Model of Outdoor Unit		GWH18MC-K3DNA3K/O (CB171W07801)	GWH24MD-K3DNA3K/O (CB171W07901)
	Compressor Manufacturer/ Trademark		ZHUHAI LANDA COMPRESSOR CO.,LTD	ZHUHAI LANDA COMPRESSOR CO.,LTD
	Compressor Model		QXA-B141zF030A	QXA-B141zF030A
	Compressor Oil		68EP	68EP
	Compressor Type		Rotary	Rotary
	L.R.A.	A	25	25
	Compressor RLA	A	7.2	7.2
	Compressor Power Input	W	1440	1440
	Overload Protector		1NT11L-6233 or KSD115°C or HPC115/95U1	1NT11L-6233 or KSD115°C or HPC115/95U1
	Throttling Method		Capillary	Capillary
	Operation temp	°C	16~30	16~30
	Ambient temp (cooling)	°C	-15~43	-15~43
	Ambient temp (heating)	°C	-15~24	-15~24
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Rows-fin Gap	mm	2-1.4	2-1.4
	Coil Length (LXDXW)	mm	851X38.1X660	984X38.1X748
	Fan Motor Speed	rpm	750	800
	Output of Fan Motor	W	60	92
	Fan Motor RLA	A	0.28	0.62
	Fan Motor Capacitor	μF	/	3.5
	Air Flow Volume of Outdoor Unit	m^3/h	3200	4000
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	Φ520	Φ552
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IP24	IP24
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5	2.5
	Sound Pressure Level (H/M/L)	dB (A)	56/-/-	58/-/-
	Sound Power Level (H/M/L)	dB (A)	66/-/-	68/-/-
	Dimension (WXHXD)	mm	965X700X396	1000X427X790
	Dimension of Carton Box (LXWXH)	mm	1026X455X735	1080X485X840
	Dimension of Package (LXWXH)	mm	1029X458X750	1083X488X855
	Net Weight	kg	45	56
	Gross Weight	kg	50	61
	Refrigerant		R410A	R410A
	Refrigerant Charge	kg	1.35	1.80
Connection Pipe	Length	m	5	5
	Gas Additional Charge	g/m	20	50
	Outer Diameter Liquid Pipe	mm	Φ6	Φ6
	Outer Diameter Gas Pipe	mm	Φ12	Φ16
	Max Distance Height	m	10	10
	Max Distance Length	m	25	25

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

Model			GWH24MD-K3DNA2K GWH24MD-K3DNA3K
Product Code			CB181005900 CB171007902
Power Supply	Rated Voltage	V ～	220-240
	Rated Frequency	Hz	50
	Phases		1
Power Supply Mode			Indoor
Cooling Capacity		W	6450
Heating Capacity		W	7000
Cooling Power Input		W	2180
Heating Power Input		W	2220
Cooling Power Current		A	9.7
Heating Power Current		A	9.8
Rated Input		W	2800
Rated Current		A	12.4
Air Flow Volume(SH/H/M/L/SL)		m^3/h	1000/800/700/550/-
Dehumidifying Volume		L/h	2.0
EER		W/W	2.96
COP		W/W	3.15
SEER		W/W	5.10
HSPF		W/W	/
Application Area		m^2	27-42
Indoor Unit	Model of indoor unit		GWH24MD-K3DNA2K/I GWH24MD-K3DNA3K/I
	Fan Type		Cross-flow
	Diameter Length(DXL)	mm	Φ100X765
	Fan Motor Cooling Speed (SH/H/M/L/SL)	r/min	1350/1150/950/850/-
	Fan Motor Heating Speed (SH/H/M/L/SL)	r/min	1400/1200/1000/900/-
	Output of Fan Motor	W	35
	Fan Motor RLA	A	0.31
	Fan Motor Capacitor	μF	2.5
	Input of Heater	W	/
	Evaporator Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Row-fin Gap	mm	2-1.5
	Coil Length (LXDXW)	mm	765X25.4X342.9
	Swing Motor Model		MP35XX
	Output of Swing Motor	W	2.5
	Fuse	A	3.15
	Sound Pressure Level (SH/H/M/L/SL)	dB (A)	51/47/42/39/-
	Sound Power Level (SH/H/M/L/SL)	dB (A)	61/57/52/49/-
	Dimension (WXHXD)	mm	1007X315X219
	Dimension of Carton Box (LXWXH)	mm	1073X395X313
	Dimension of Package (LXWXH)	mm	1076X398X328
	Net Weight	kg	14
	Gross Weight	kg	19

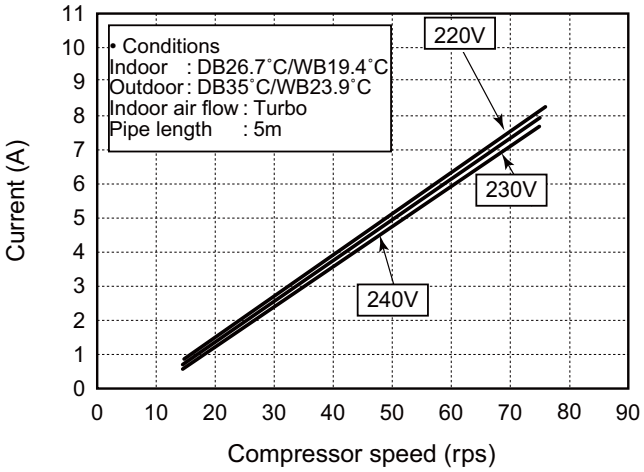
Outdoor Unit	Model of Outdoor Unit		GWH24MD-K3DNA3K/O(CB171W07902)
	Compressor Manufacturer/ Trademark		ZHUHAI LANDA COMPRESSOR CO.,LTD
	Compressor Model		QXA-B141zF030A
	Compressor Oil		68EP
	Compressor Type		Rotary
	L.R.A.	A	25
	Compressor RLA	A	7.2
	Compressor Power Input	W	1440
	Overload Protector		1NT11L-6233 or KSD115°C or HPC115/95U1
	Throttling Method		Capillary
	Operation temp	°C	16~30
	Ambient temp (cooling)	°C	-15~43
	Ambient temp (heating)	°C	-15~24
	Condenser Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Rows-fin Gap	mm	2-1.4
	Coil Length (LXDXW)	mm	984X38.1X748
	Fan Motor Speed	rpm	800
	Output of Fan Motor	W	92
	Fan Motor RLA	A	0.62
	Fan Motor Capacitor	μF	3.5
	Air Flow Volume of Outdoor Unit	m^3/h	4000
	Fan Type		Axial-flow
	Fan Diameter	mm	Φ550
	Defrosting Method		Automatic Defrosting
	Climate Type		T1
	Isolation		I
	Moisture Protection		IP24
	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 (H/M/L)	dB (A)	58/-/-
	Sound Power Level (H/M/L)	dB (A)	68/-/-
	Dimension (WXHXD)	mm	1000X427X790
	Dimension of Carton Box (LXWXH)	mm	1080X485X840
	Dimension of Package (LXWXH)	mm	1083X488X855
	Net Weight	kg	56
	Gross Weight	kg	61
	Refrigerant		R410A
	Refrigerant Charge	kg	1.80
Connection Pipe	Length	m	5
	Gas Additional Charge	g/m	50
	Outer Diameter Liquid Pipe	mm	Φ6
	Outer Diameter Gas Pipe	mm	Φ16
	Max Distance Height	m	10
	Max Distance Length	m	25

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

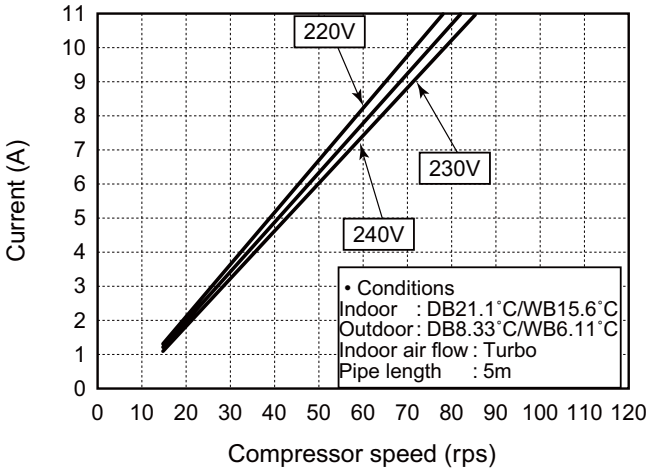
2.2 Operation Characteristic Curve

18K

Cooling

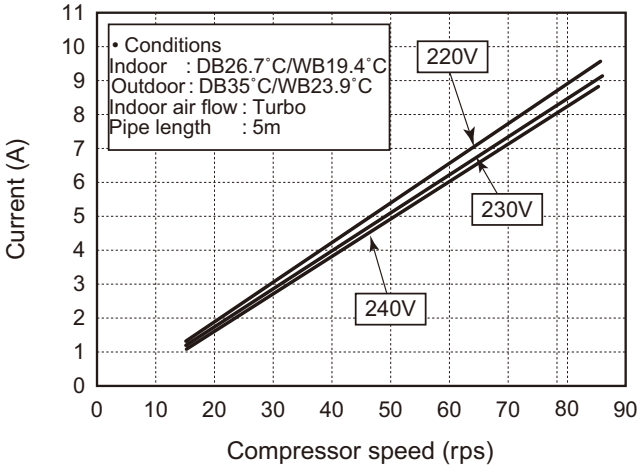


Heating

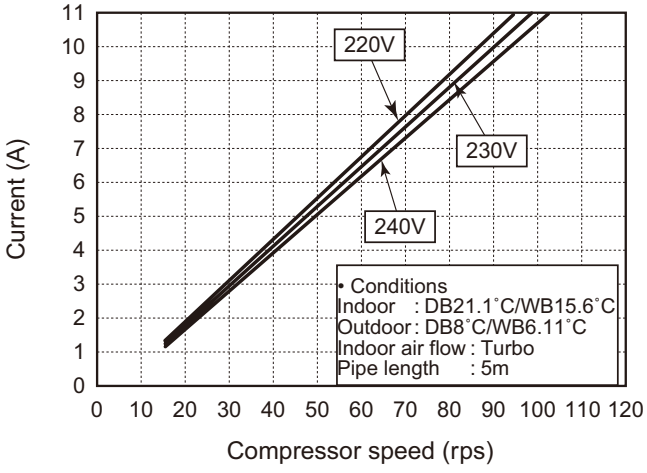


24K

Cooling

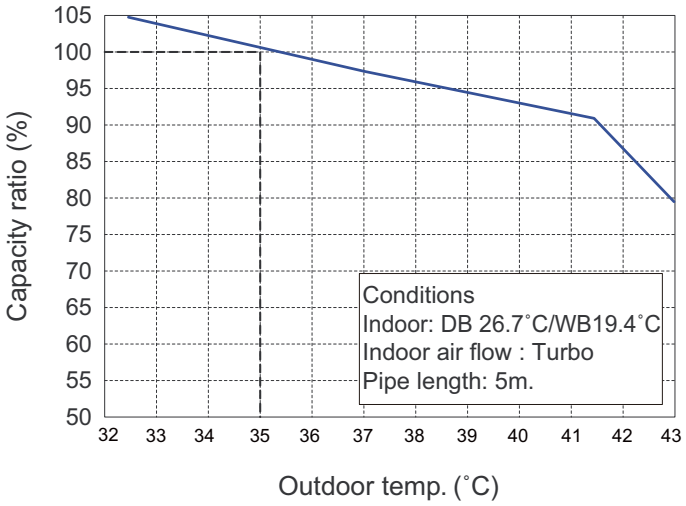


Heating

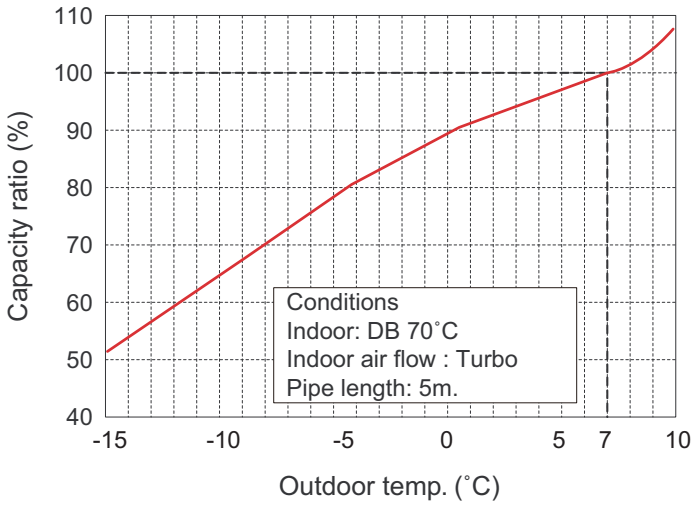


2.3 Capacity Variation Ratio According to Temperature

Cooling



Heating



2.4 Operation Data

Cooling

Temperature condition (°C)		Model name	Standard pressure	Heat exchanger pipe temp.		Indoor fan mode	Outdoor fan mode	Compressor frequency (Hz)
Indoor	Outdoor		P (MPa)	T1 (°C)	T2 (°C)			
27/19	35/24	18K	0.9 to 1.1	12 to 14	80 to 40	Super High	High	70
		24K	0.8 to 1.0	10 to 12	80 to 40	Super High	High	83

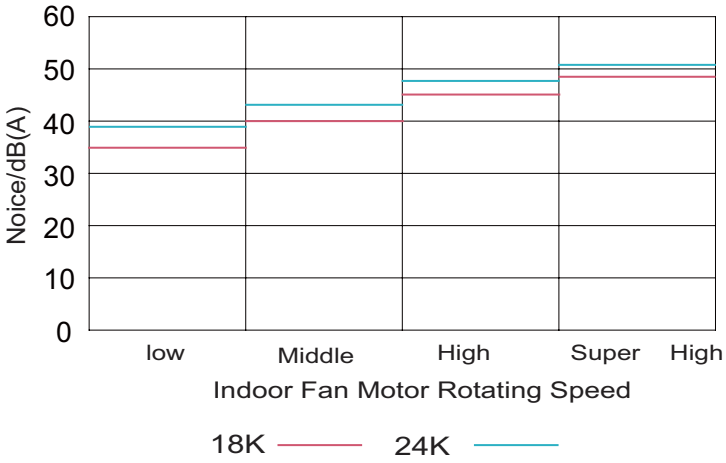
Heating

Temperature condition (°C)		Model name	Standard pressure	Heat exchanger pipe temp.		Indoor fan mode	Outdoor fan mode	Compressor frequency (Hz)
Indoor	Outdoor		P (MPa)	T1 (°C)	T2 (°C)			
20/-	7/6	18K	2.2 to 2.4	70 to 40	1 to 5	Super High	High	70
		24K	2.5 to 2.7	70 to 40	1 to 5	Super High	High	75

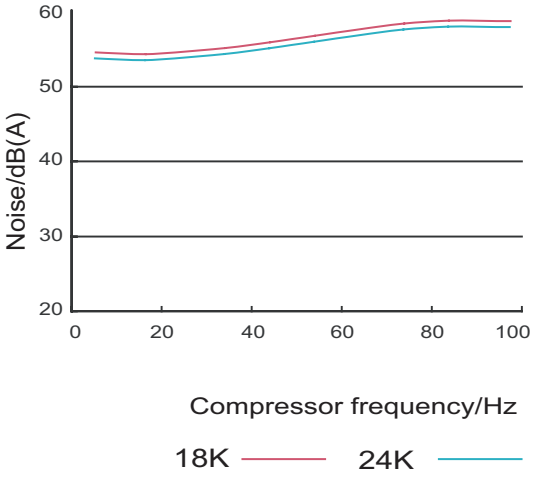
NOTES :
(1) Measure surface temperature of heat exchanger pipe around center of heat exchanger path U bent.
(Thermistor themometer)
(2) Connecting piping condition : 5 m
T1: Inlet and outlet pipe temperature of evaporator
T2: Inlet and outlet pipe temperature of condenser
P: Pressure of air pipe connecting indoor and outdoor units

2.5 Noise Criteria Curve Tables for Both Models

Indoor side noise when blowing

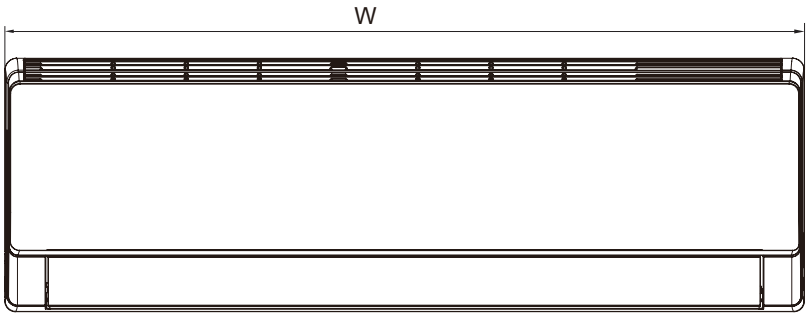


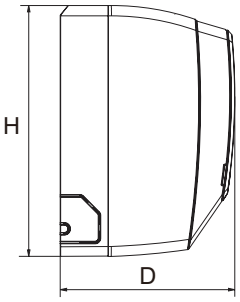
Outdoor side noise



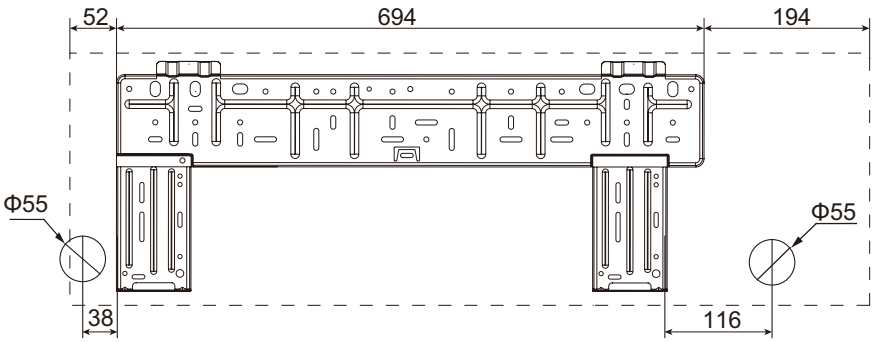
3. Construction Views

3.1 Indoor Unit

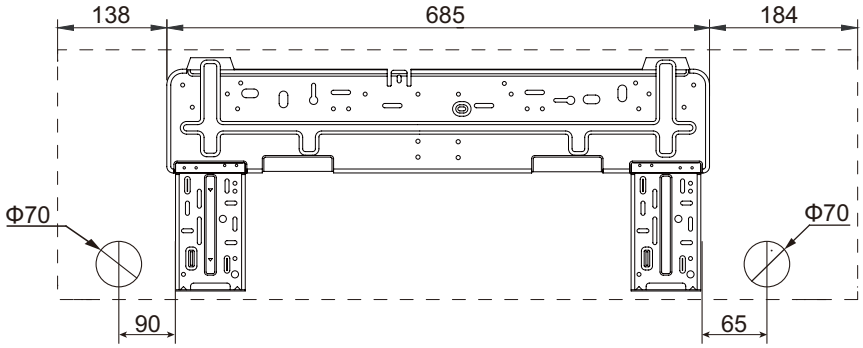




18K



24K

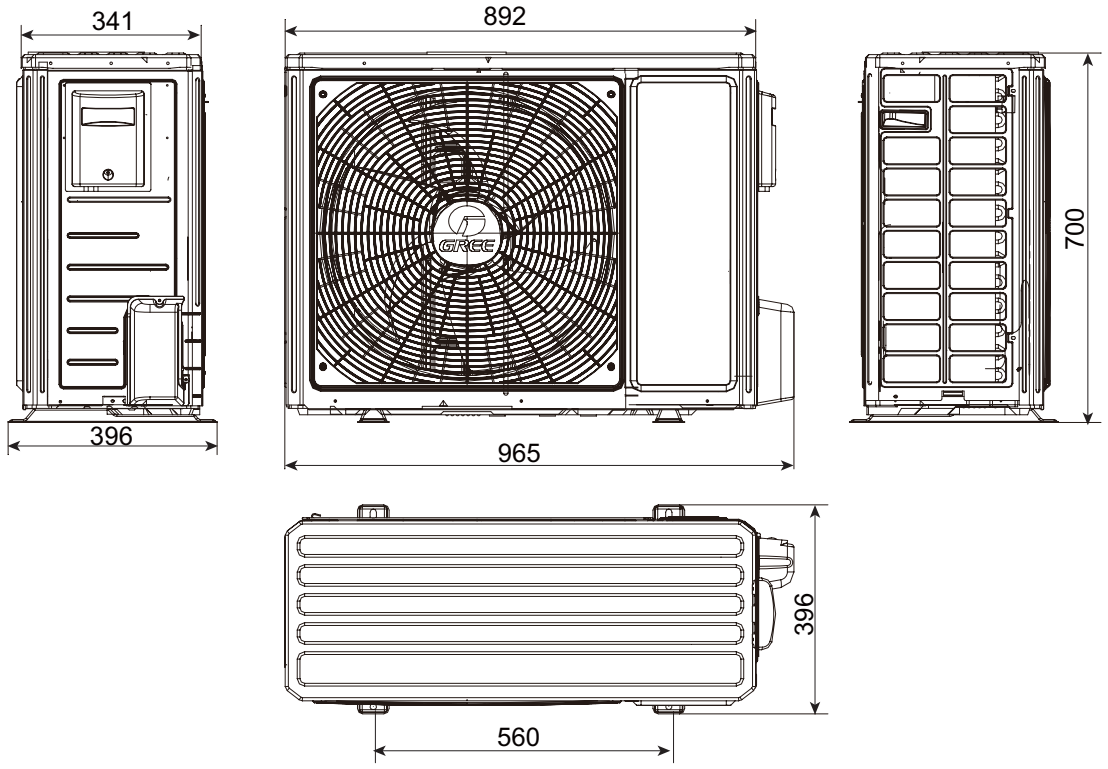


MODEL	W	H	D
18K	940	298	200
24K	1007	315	219

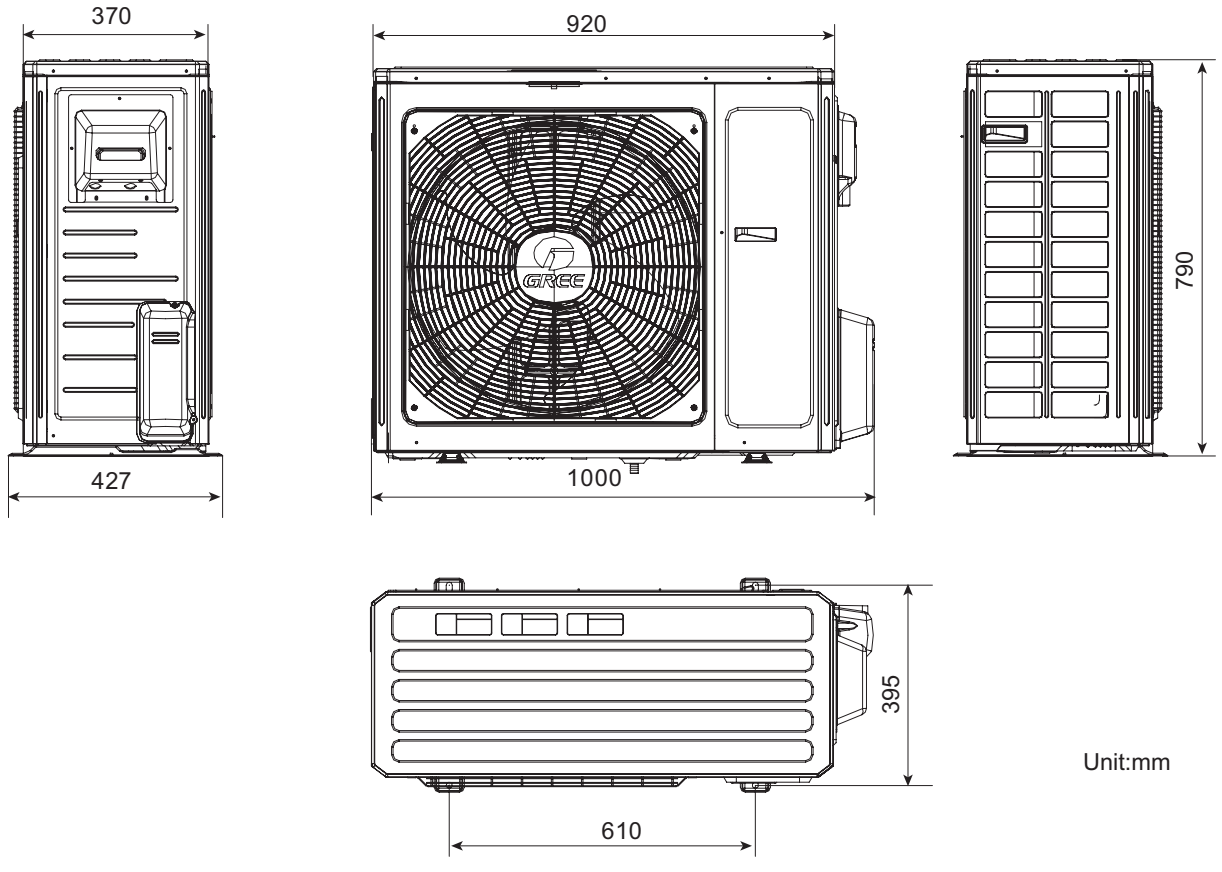
Unit:mm

3.2 Outdoor Unit

18K

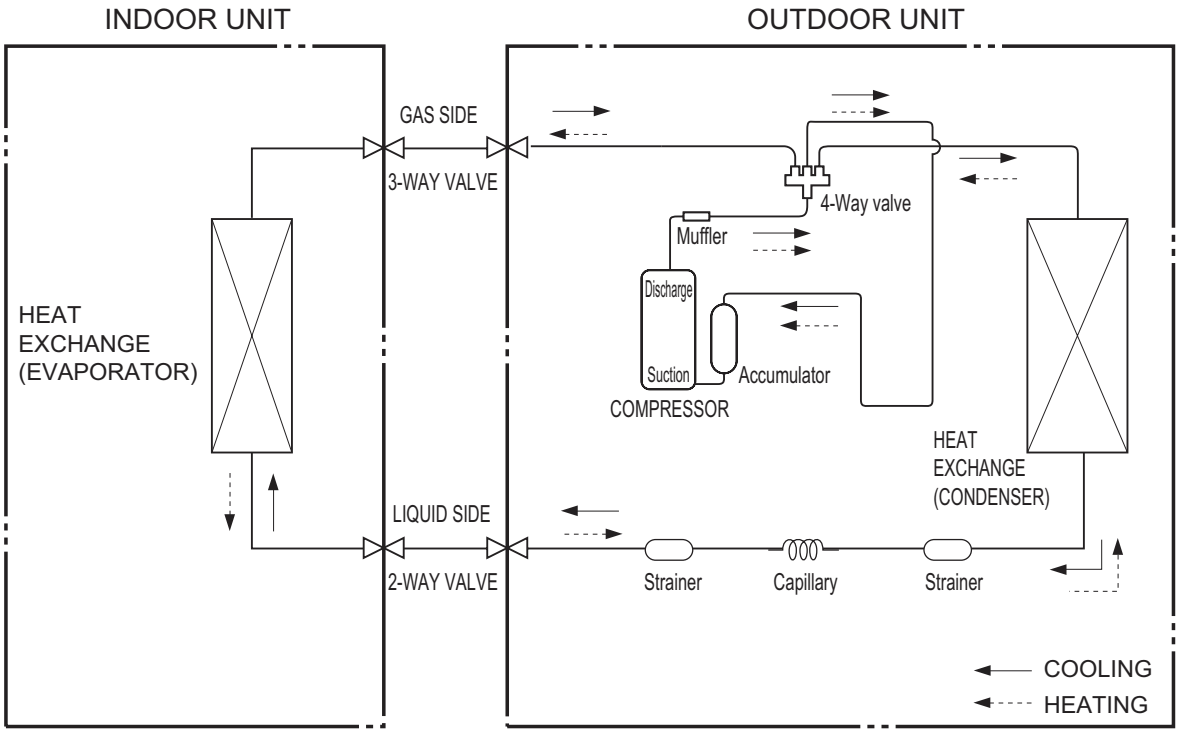


24K



Unit:mm

4. Refrigerant System Diagram



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

5. Schematic Diagram

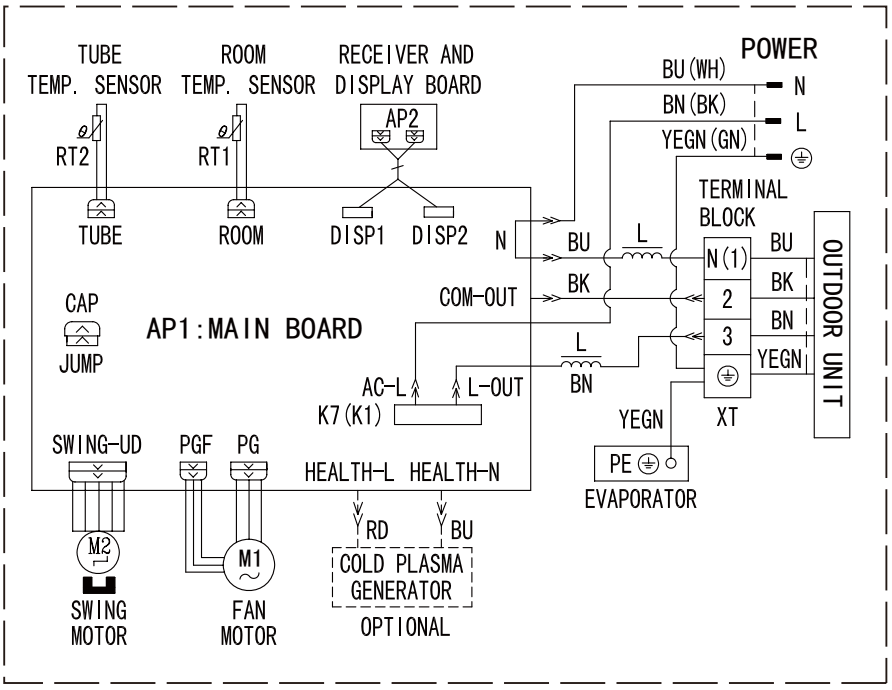
5.1 Electrical Data

Symbol	Parts name	Symbol	Color symbol	Symbol	Color symbol
C1	CBB61	BN	BROWN	WH	WHITE
C2	CBB65	BU	BLUE	YE	YELLOW
SAT	OVERLOAD	BK	BLACK	RD	RED
COMP	COMPRESSOR	OG	ORANGE	YEGN	YELLOW GREEN
⏚	PROTECTIVE EARTH	WH	WHITE	BN	BROWN

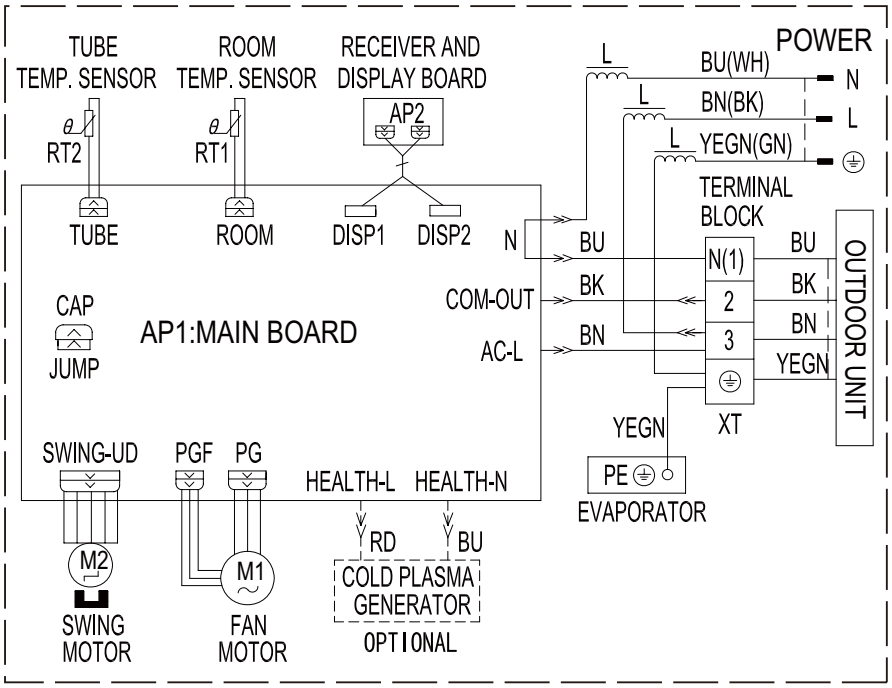
5.2 Electrical Wiring

● **Indoor unit**

GWH18MC-K3DNA3K/I(CB171N07800) GWH24MD-K3DNA3K/I(CB171N07900) GWH18MC-K3DND3K/I(CB405N03000) GWH24MD-K3DND3K/I(CB405N03100) GWH18MC-K3DNE1K/I(CB143N01100) GWH24MD-K3DNE1K/I(CB143N01200) GWH24MD-K3DNB3K/I(CB163N05300)

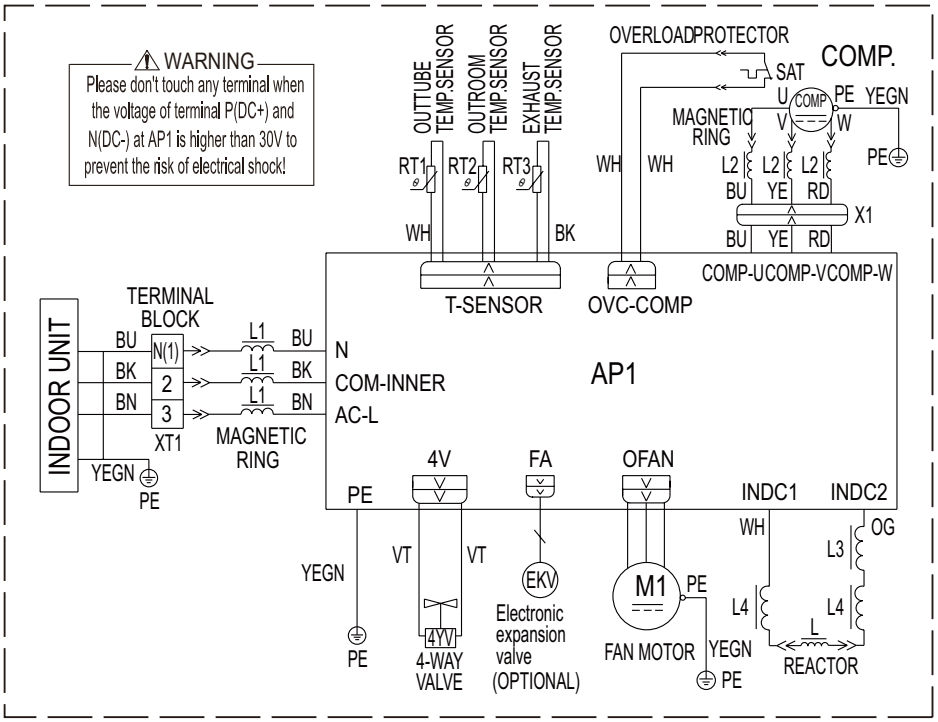


GWH18MC-K3DNA3K/I(CB171N07801) GWH24MD-K3DNA3K/I(CB171N07901) GWH24MD-K3DNA3K/I(CB171N07902) GWH24MD-K3DNA2K/I(CB181N05900)

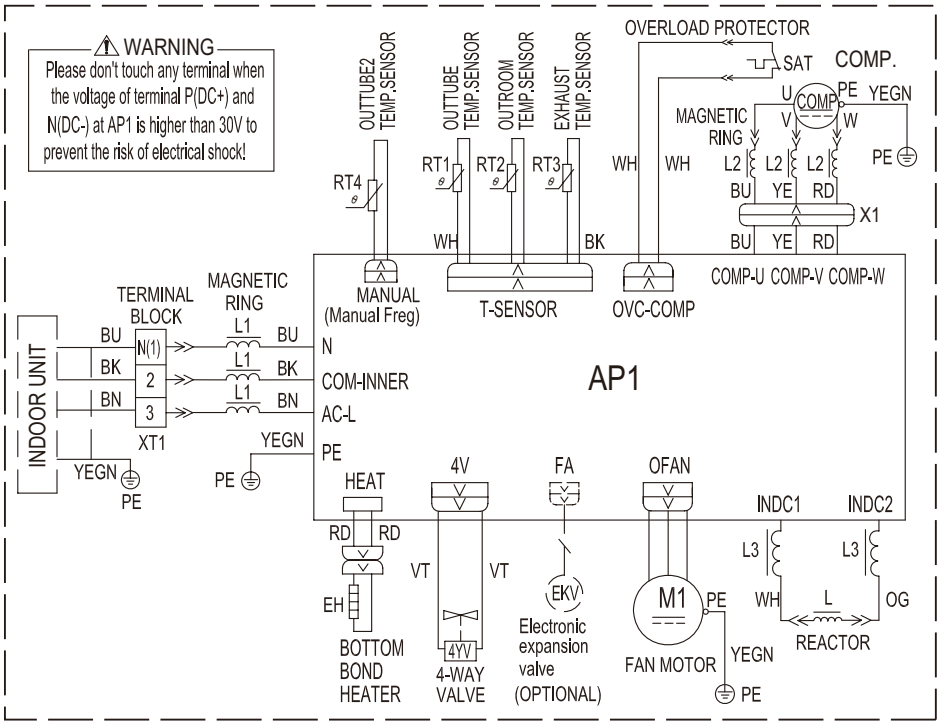


● Outdoor unit

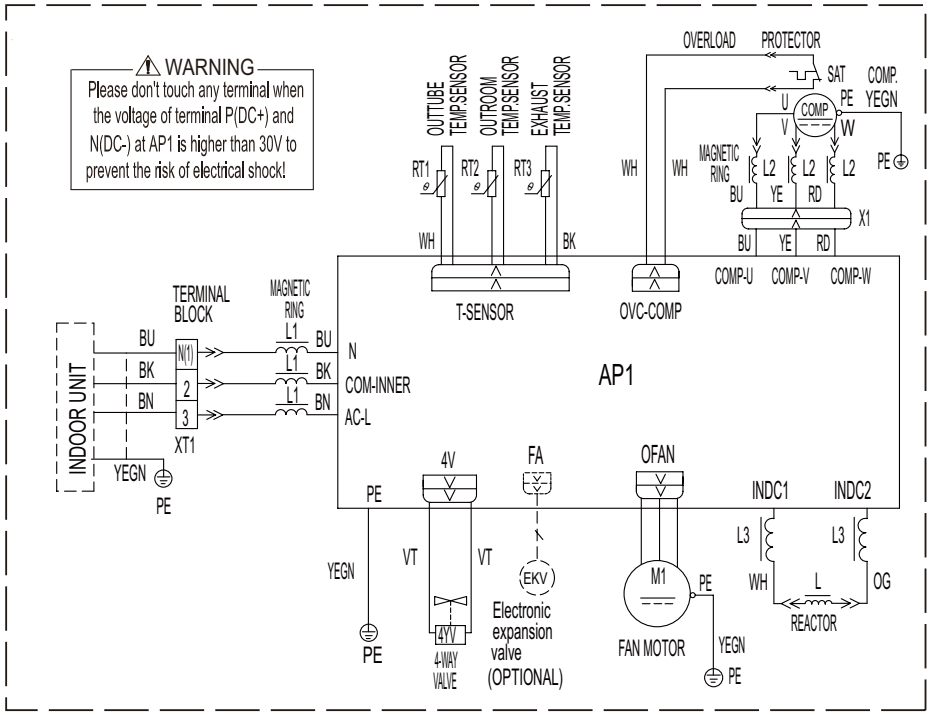
GWH18MC-K3DNA3K/O(CB171W07800)



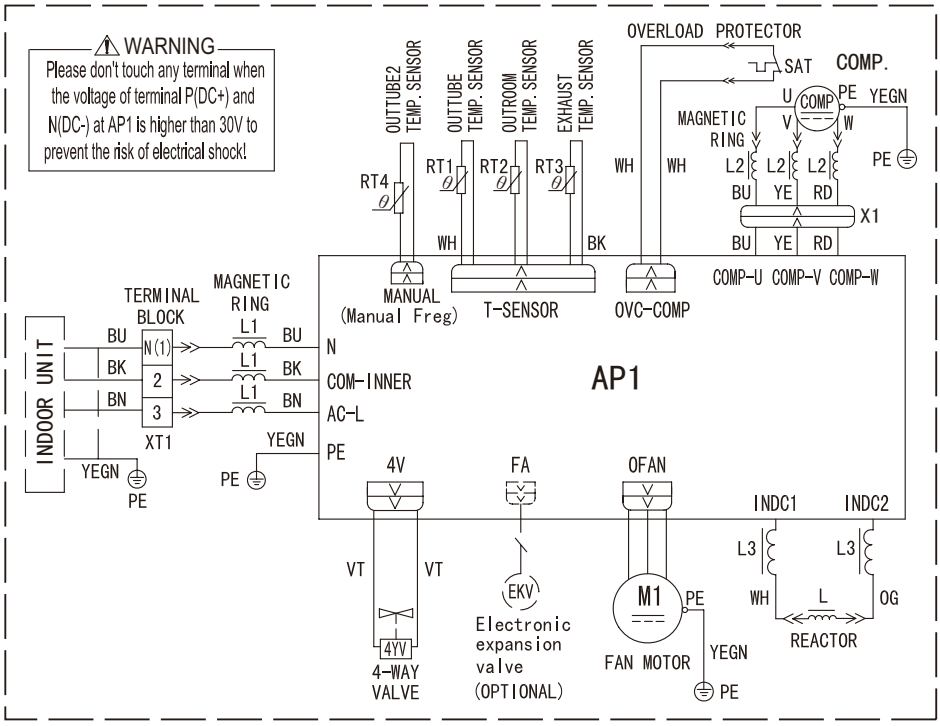
GWH18MC-K3DNA3K/O(CB171W07801) GWH24MD-K3DNA3K/O(CB171W07901)



GWH24MD-K3DNA3K/O(CB171W07900)



GWH24MD-K3DNA3K/O(CB171W07902)

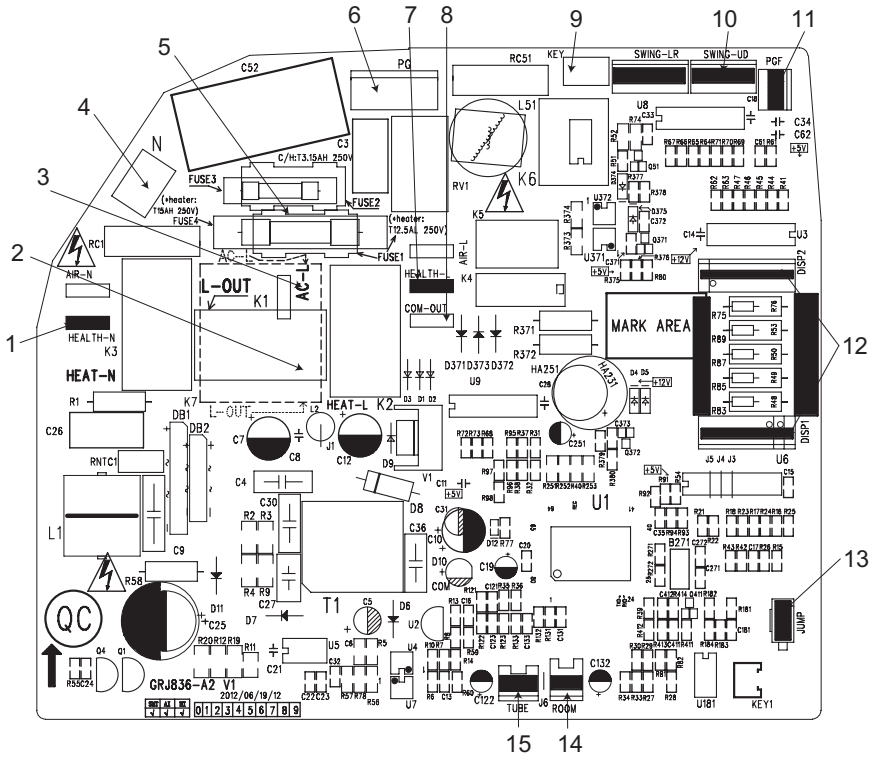


These circuit diagrams are subject to change without notice, please refer to the one supplied with the unit.

5.3 Printed Circuit Board

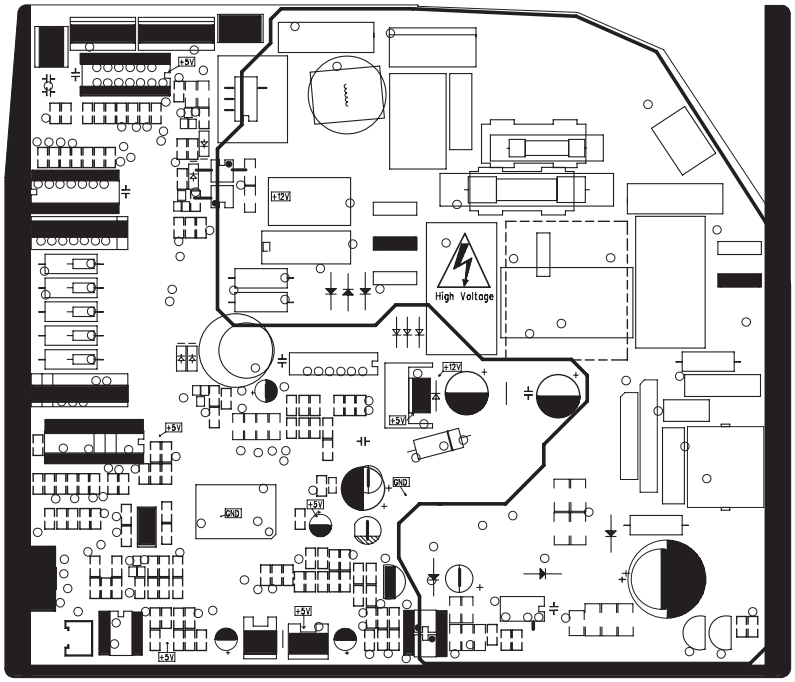
● Indoor unit

● TOP VIEW



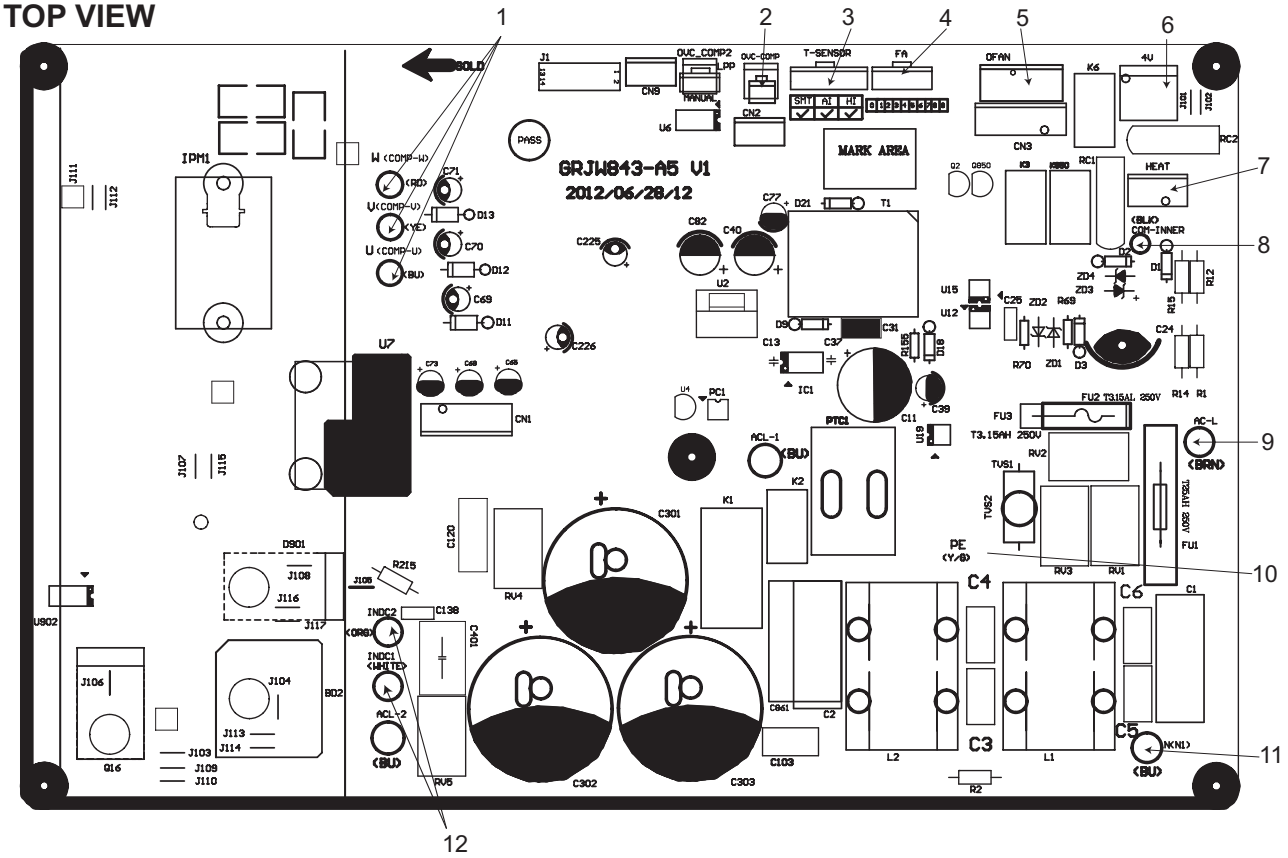
No.	Name
1	Interface of health function neutral wire
2	Power supply interface of outdoor live wire
3	Interface of live wire
4	Neutral wire
5	Fuse
6	Interface of PG motor
7	Interface of health function live wire
8	Interface of IDU and ODU communication
9	Auto button
10	Up & down swing
11	Feedback interface of PG motor
12	Display interface
13	Jumper cap
14	Interface of ambient temperature sensor
15	Interface of tube temperature sensor

● BOTTOM VIEW



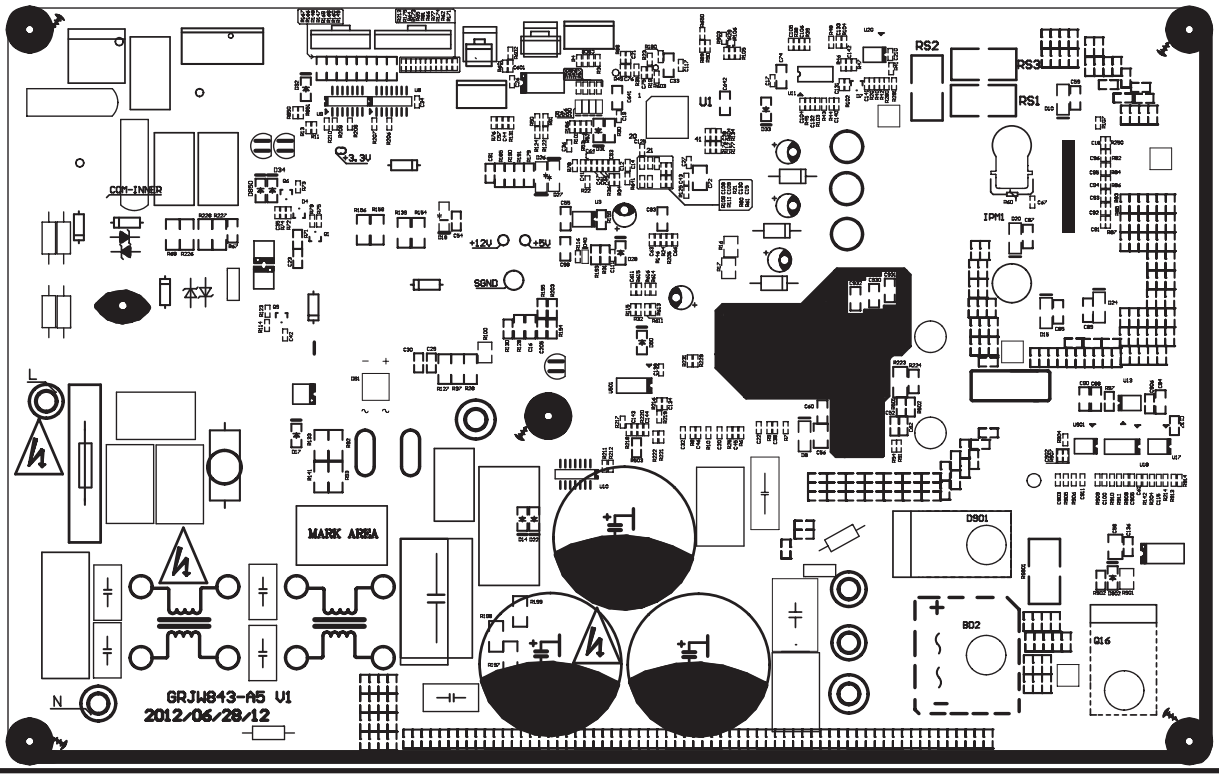
● Outdoor unit

● TOP VIEW



No.	Name	No.	Name	No.	Name
1	Wiring terminal of compressor	5	Terminal of outdoor fan	9	Live wire of power supply
2	Overload protection terminal of compressor	6	Terminal of 4-way valve	10	Grounding wire
3	Terminal of outdoor temperature sensor	7	Wiring terminal of chassis electric heater	11	Neutral wire of power supply
4	Terminal of electronic expansion valve	8	Communication wire with IDU	12	PFC induction wire

● BOTTOM VIEW



6. Function and Control

6.1 Remote Control Operations

YB1FA(XFAN)

1 ON/OFF

Press it to start or stop operation.

2 MODE

Press it to select operation mode (AUTO/COOL/DRY/FAN/HEAT).

3 +

Press it to increase temperature setting.

4 -

Press it to decrease temperature setting.

5 FAN

Press it to set fan speed.

6

Press it to set swing angle.

7 TIMER ON

Press it to set auto-on timer.

8 TIMER OFF

Press it to set auto-off timer.

9 CLOCK

Press it to set clock.

10 X-FAN (X-FAN is the alternative expression of BLOW for the purpose of understanding.)

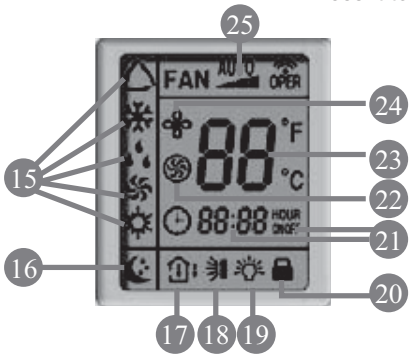
11 TEMP

12 TURBO

13 SLEEP

14 LIGHT

Press it to turn on/off the light.



15 MODE icon:

If MODE button is pressed, current operation mode icon (AUTO), (COOL), (DRY), (FAN) or (HEAT is only for heat pump models) will show.

16 SLEEP icon :

is displayed by pressing the SLEEP button. Press this button again to clear the display.

17 TEMP icon:

Pressing TEMP button, (set temperature), (indoor ambient temperature), (outdoor ambient temperature) and blank is displayed circularly.

18 Up & down swing icon:

is displayed when pressing the up & down swing button. Press this button again to clear the display.

19 LIGHT icon:

is displayed by pressing the LIGHT button.Press LIGHT button again to clear the display.

20 LOCK icon:

is displayed by pressing "+" and "-" buttons simultaneously.Press them again to clear the display.

21 SET TIME display:

After pressing TIMER button, ON or OFF will blink.This area will show the set time.

22 TURBO icon:

is displayed when pressing theTURBO button.Press this button again to clear the display.

23 DIGITAL display:

This area will show the set temperature. In SAVE mode,"SE" will be displayed. During defrosting operation, "H1" will be displayed.

24 X-FAN icon:

is displayed when pressing the X-FAN button. Press this button again to clear the display.

25 FAN SPEED display:

Press FAN button to select the desired fan speed setting(AUTO Low-Med-High).Your selection will be displayed in the LCD windows, except the AUTO fan speed.

Remote Controller Description

1 ON/OFF:

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

2 MODE:

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

AUTO ▶ COOL ▶ DRY ▶ FAN ▶ HEAT*

*Note: Only for models with heating function.

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

3 + :

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

4 -:

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

5 FAN :

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

AUTO → → → →

Low speed Medium speed High speed

6

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

OFF

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

7 TIMER ON:

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

8 TIMER OFF:

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

9 CLOCK :

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

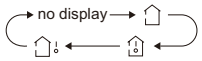
10 X-FAN:

Pressing X -FAN button in COOL or DRY mode,the icon ✿ is displayed and the indoor fan will continue operation for 2 minutes in order to dry the indoor unit even though you have turned off the unit.

After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO, FAN or HEAT mode.

11 TEMP:

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



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

Caution:

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

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

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

12 TURBO:

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

13 SLEEP:

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

14 LIGHT:

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

15 Combination of "+" and "-" buttons: About lock

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

16 Combination of "MODE" and "-" buttons:About switch between Fahrenheit and Centigrade At unit OFF, press "MODE" and "- " buttons simultaneously to switch between ℃ and ℉.

Replacement of Batteries

1.Remove the battery cover plate from the rear of the remote controller.
(As shown in the figure)

2.Take out the old batteries.

3.Insert two new AAA1.5V dry batteries, and pay attention to the polarity.

4. Reinstall the battery cover plate.

★Notes:

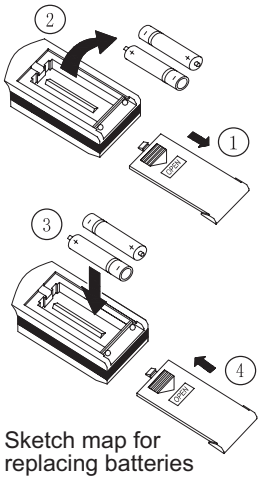
●When replacing the batteries, do not use old or different types of batteries. Otherwise, it may cause malfunction.

●If the remote controller will not be used for a long time, please remove batteries to prevent batteries from leaking.

●The operation should be performed in its receiving range.

●It should be kept 1m away from the TV set or stereo sound sets.

●If the remote controller does not operate normally, please take the batteries out and reinsert them after 30 seconds. If it still can't operate properly, replace the batteries.



Sketch map for replacing batteries

YV1F7

1 ON/OFF
Press it to start or stop operation.

2 ▲ : Press it to increase temperature setting.

3 MODE
Press it to select operation mode (AUTO/COOL/DRY/FAN/HEAT).

4 SWING
Press it set swing angle.

5 ▼ : Press it to decrease temperature setting.

6 FAN
Press it to set fan speed.

7 TIMER OFF
Press it to set auto-off timer.

8 CLOCK
Press it set clock.

9 TIMER ON
Press it to set auto-on timer.

10 SLEEP

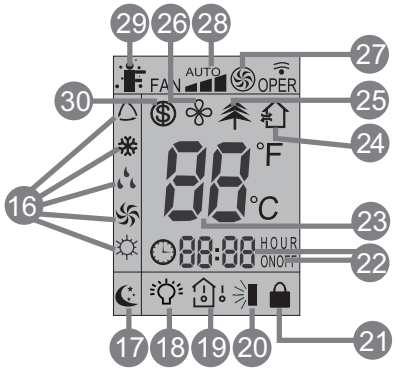
11 TEMP

12 TURBO

13 X-FAN | LIGHT
Press the button left to turn X-FAN function on/off.
Press the button right to turn on/off the light.

14 I FEEL

15 /
Press it to set HEALTH or AIR function.



16 MODE icon:
If MODE button is pressed, current operation mode icon (AUTO), (COOL), (DRY), (FAN) or (HEAT is only for heat pump models) will show.

17 SLEEP icon :
is displayed by pressing the SLEEP button. Press this button again to clear the display.

18 LIGHT icon:
is displayed by pressing the LIGHT button.Press LIGHT button again to clear the display.

19 TEMP icon:
Pressing TEMP button, (set temperature), (indoor ambient temperature), (outdoor ambient temperature)(Optional for some models) and blank is displayed circularly.

20 Up & down swing icon:
is displayed when pressing the up & down swing button. Press this button again to clear the display.

21 LOCK icon:

is displayed by pressing "+" and "-" buttons simultaneously.Press them again to clear the display.

22 SET TIME display:

After pressing TIMER button, ON or OFF will blink.This area will show the set time.

23 DIGITAL display:

This area will show the set temperature. In SAVE mode,"SE" will be displayed. During defrosting operation, "H1" will be displayed.

24 AIR icon:

is displayed when pressing the AIR button.Press this button again to clear the display.(Optional for some models.)

25 HEALTH icon:

is displayed when pressing the HEALTH button.Press this button again to clear the display.

26 X-FAN icon:

is displayed when pressing the X-FAN button. Press this button again to clear the display.

27 TURBO icon:

is displayed when pressing theTURBO button.Press this button again to clear the display.

28 FAN SPEED display:

Press FAN button to select the desired fan speed setting(AUTO Low-Med-High).Your selection will be displayed in the LCD windows, except the AUTO fan speed.

29 I FEEL icon:

is displayed when pressing the I FEEL button.Press this button again to clear the display.

30 8℃ Heatingicon:

is displayed when Pressing "TEMP" and "CLOCK" simulta-neously in Heat mode.

Remote Controller Description

1 ON/OFF :

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

2 ▲:

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

3 MODE :

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

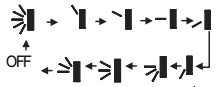
AUTO ▶ COOL ▶ DRY ▶ FAN ▶HEAT *

*Note:Only for models with heating function.

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

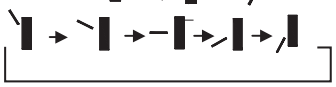
4 SWING:

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



This remote controller is universal . If any command , or is sent out, the unit will carry out the command as

indicates the guide louver swings as:



5 ▼:

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

6 FAN :

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

Low speed Medium speed High speed

7 TIMER OFF :

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

8 CLOCK :

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

9 TIMER ON :

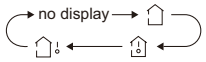
Press this button to initiate the auto-ON timer. To cancel the auto-timer program, simply press this button again. After press of this button, disappears and "ON "blinks .00:00 is displayed for ON time setting. Within 5 seconds, press + or - button to adjust the time value. Every press of either button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

10 SLEEP:

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

11 TEMP:

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



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

Caution:

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

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

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

12 TURBO:

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

13 X-FAN | :

X-FAN function: in COOL or DRY mode,the icon is displayed and the indoor fan will continue operation for 2 minutes in order to dry the indoor unit even though you have turned off the unit.After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO,FAN or HEAT mode. function: turn on the display's light and press this button again to turn off the display's light. If the light is turned on , is displayed. If the light is turned off, disappears.

14 I FEEL:

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

15 /

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

16 Combination of "+" and "-" buttons: About lock

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

17 Combination of "MODE " and "-" buttons : About switch between Fahrenheit and centigrade At unit OFF, press "MODE" and "-" buttons simultaneously to switch between ℃ and ℉.

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

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

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

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

20 About Back-lighting Function

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

Replacement of Batteries

1.Remove the battery cover plate from the rear of the remote controller. (As shown in the figure)

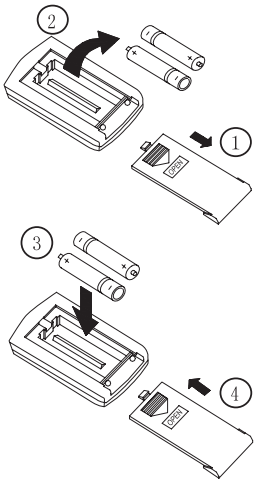
2.Take out the old batteries.

3.Insert two new AAA1.5V dry batteries, and pay attention to the polarity.

4. Reinstall the battery cover plate.

★ Notes:

- When replacing the batteries, do not use old or different types of batteries, otherwise, it may cause malfunction.
- If the remote controller will not be used for a long time, please remove batteries to prevent batteries from leaking.
- The operation should be performed in its receiving range.
- It should be kept 1m away from the TV set or stereo sound sets.
- If the remote controller does not operate normally, please take the batteries out and reinsert them after 30 seconds.If it still can't operate properly, replace the batteries.



Sketch map for replacing batteries

6.2 Description of Each Control Operation

Indoor Unit

1.Basic function of system

(1)Cooling mode

1.Under this mode, fan motor, swing will work under setting status, the temp. range is 16-30ºC(61-86 Fahrenheit scale)

2.Outdoor unit malfunction or unit stop running, indoor unit will keep original running status, malfunction displayed.

3.When0 (Tset-Tamb.), if indoor fan motor is high speed, that the fanmotorist running in middle speed, the middle speed or low speed will be maintained;(this condition should be executed when compressor ressor statr up); the super high speed will not rotate; When (Tamb-Tset) ≥1ºC , the fan will return to the setting fan speed.

(2)Dehumidifying mode

1.Under this mode, fan motor will run atlow speed,swing will work at setting status,setting temp. range is 16-30ºC(61-86 Fahrenheit scale)

2.Outdoor unit malfunction or protection, unit will stop, indoor unit will keep original running status, malfunction displayed.

(3)Fan mode

Under this mode,indoor fan motor couldbe setted at high,middle,low or auto speed,compressor,outdoor unit and valve will stop to run. Under this mode, temp. range should be 16-30ºC(61-86 Fahrenheit scale)

(4)Heating mode

1.Under this mode, temp. range should be 16-30ºC (61-86 Fahrenheit scale)

2.Working condition and procedure of heating mode: When unit turn on and enter into heating mode, indoor unit enter into anti-cool wind mode, when unit is stop running, and indoor fan motor turns on, blowing heat will act.

3.Protection function, under heating mode, compressor will stop to run due to malfunction happened, indoor fan motor will blow surplus heat.

4.Defrosting control: When receiving the defrost ing signal from outdoorunit, displayerwill Heating indicator on indoor display is off for 0.5s and then on for 10s during blinking,10slater, indoor fan motor will stop to run.

5.Anti-coold wind function

6.Blow heat air function

a.If heating temp. meets the compressor stop running condition, compressors, outdoor fan motor will stop to run, the upper and lower guide louver will rotate to horizontal position L, indoor fan motor run at setting fan speed for 60s, then the indoor fan motor will stop to run.

b.Due to PG motor block running, the air guide board will keep the position when it stopping. (under each mode), other malfunction unit will stop to run, the upper and lower air guide louver will rotate to horizontal position L, indoor fan unit will run at setting fan speed and run for 60s, indoor fan unit will stop to run.

(5)Auto mode:

1.When Tamb≥26 , select the cooling mode, at this time, the setting temp. is 25ºC (77 Fahrenheit scale)

2.Cooling and heating units: Tamb≤22ºC , will run at heating mode, at this time, the setting temp. is 20 (68 Fahrenheit scale)

3. Cooling only unit: When Tamb≤22ºC , it will run at Fan mode, the setting temp. is 25ºC (77 Fahrenheit scale)

4.When 23ºC ≤$T_{indoor\ amb.}$≤ 25ºC ,firstly enter into auto mode and run at auto fan speed, other modes will run at auto mode, will keep the previous running mode. (When entering into Dehumidifying mode, it will run at auto fan speed)

(6)Auto fan speed controlmode

2. Display state of indoor indicators

(1) State of indoor display board

1. When the unit is powered on, all patterns will be displayed and then only power indicator is on. When the unit is turned on with a remote controller, the operating indicator is on and operation mode which is set currently is displayed.

2. In defrosting mode, heating indicator on indoor display is off for 0.5s and then on for 10s during blinking.

3. Set temperature is displayed on "Double 8".

●Display of operation patterns and mode patterns

When the unit is powered on, all patterns will be displayed and the standby operation indicator will become red. When the unit is turned on through a remote controller, the operation indicator is light. At the same time, operating mode patterns (mode indicators include cooling, heating and dehumidification modes) set currently are displayed, and dynamic display patterns of wind speed are displayed. If the light button is switched off, all display will be turned off.

●Temperature display control mode of separated air conditioner

① When user sets the remote controller at set temperature display, currently set temperature will be displayed.

② Only when remote signals are converted from other display states into indoor ambient temperature display state, the remote controller will display indoor ambient temperature for 3 seconds and then return to set temperature display.

③ Only when remote signals are converted from other display states into outdoor ambient temperature display state, the remote controller will display outdoor ambient temperature for 3 seconds and then return to set temperature display.

④ If the controller is lack of outdoor display functions, as the signal is received, set temperature will be displayed.

⑤ When the unit is turned off, temperature display will be compulsively set at given temperature by the controller. When the unit is turned on, patterns as set by remote signals will be displayed.

⑥ If user does not set up temperature display state, given temperature will be displayed.

(2) Failure display of indoor unit

1. Requirements for failure display

When multiple failures appear at the same time, failure protection codes shall be displayed alternatively.

① Hardware failures shall be displayed immediately, refe rring to requirements in "Failure State Display Table";

② Operation states shall be displayed immediately, referring to requirements in "Failure State Display Table";

③ Other failures shall be displayed 200s after the compressor stops, referring to requirements in "Failure State Display Table". (Note: in the case that the unit is switched off with the remote controller, or the compressor is switched on again, failure display waiting time (200s) shall be cleared.)

④ Frequency limitation and reduction states shall be displayed by means of remote calling.

2. Failure display control

Indicator failure display shall be kept synchronous with Double 8 failure display, that is, during indicator blinking, failure code corresponding to such indicator shall be displayed on Double 8.

3. Method of remote calling of failure display

Entering the failure remote calling mode: push the light button six times within 3s to call out relevant failure protection code; Quit the failure remote calling mode: push the light button six times within 3s or call out failure display to enter it for 5 minutes and then quit.

3. Other control targets

(1) Up and down wind blow functions

When the unit is powered on, the up and down wind blow motor will turn a wind deflector anti-clockwise to Position 0 to shut down the air outlet. When the unit is switched on and wind blow function is not preset, under the heating mode, up and down wind blades will turn clockwise to position D; and under other modes, the up and down wind blades will turn clockwise to position L. If wind blow function is set at the same time as the unit is switched on, the wind blades will swing between position L and D. The wind blades can be kept in seven states: position L, position A, position B, position C, position D, swing between position L and D, stop at one position from L to D. When the unit is turned off, the wind deflector will be closed up to position 0. Wind blow action is effective only when wind blow commands are set and the indoor unit is running.

Note: When the wind blades are set at position L to B, position A to C, or position B to D through remote setting, the wind deflector will swing between position L and D. L—A—B—C—D.

(2) Buzzer

When the controller is powered on, signals from a remote controller are received, or the auto button is pushed, a buzzer will give out prompt tone.

(3) Auto button

When the button is pushed, the unit will operate in auto mode and the indoor fan will run in auto state. When the indoor fan is running, the wind blow motor will work. When the button is pushed again, the unit will be switched off. At the same time as the button is pushed, the whole unit will be powered on and enter into fast test mode; when the unit is powered on and detects for continuous 20s (such time shall not be fast tested) that the auto button is pushed, and if the unit is currently at fast test state, the unit will quit the fast test state.

(4) Sleep function

In this mode, the unit will select the suitable sleep curve to run according to the different setting temperature.

(5) Timing function

The main board integrates general timing and moment timing. Such two timing functions can be selected through a remote controller on which different functions are arranged.

1. General timing:

Timing start: timing start can be set when the unit is off. When preset time is reached, the controller will operate in a preset mode. Timing can be set at an interval of 0.5 hour in a scope of 0.5 - 24 hours. Timing stop: timing stop can be set when the unit is on. When preset time is reached, the system will be turned off. Timing can be set at an interval of 0.5 hour in a scope of 0.5 - 24 hours.

2. Moment timing

Timing start: if timing start is set when the system is at operation state, the system will continue to operate; if timing start is set when the system is at stop, as the preset time is reached, the system will start to run in preset mode. Timing stop: if timing stop is set when the system is at stop state, the system will keep standby; if timing stop is set when the system is in operation, as the preset time is reached, the system will stop running.

Timing change:

When the system is in timing mode, start and stop can be set through the On/Off button on the remote controller; or timing time can be reset and the system will operate according to the latest setting. When the system is in operation and both timing start and stop are set, the system will stay at currently set operation state. When preset timing stop time is reached, the system will stop working. When the system is at stop state and both timing start and stop are set, the system will keep at stop state. When preset timing start time is reached, the system will start operation. From then on, the system will operate in preset mode at a preset start time and stop at a preset stop time everyday. If timing stop time is set as the same as timing start time, a stop command will be executed.

(6) Dry and mildew proof function

Dry and mildew proof function can be set in cooling and dehumidification modes.

(7) Control of indoor fan

Indoor fan can be set at four levels, super-high, high, middle and low, with a remote controller. When one level is set, the fan will thus operate at such level. The fan can also be set at auto state.

(8) Power-failure memory function

What will be memorized includes modes, up and down wind blow, light, preset temperature, preset wind speed, general timing (no memory for moment timing), and Fahrenheit /Celsius degree. When the unit is powered on again after power failure, operation continues according to memorized content. If timing is not set by the last remote control command, the system will memorize the last remote control command and operate in the mode specified in the last remote control command. If timing is set by the last remote control command and power failure happens before the preset time, the system, as powered on again, will memorize the timing function set by the last remote control command. Timing will be re-counted from the time at which the system is powered again. If timing is set by the last remote control command and timing of start or stop is reached before power failure, the system, as powered on again, will memorize operation state before power failure and will not perform timing action. Moment timing is out the range of memory.

(9) Locked Protection of PG Motor

When starting up the fans, if the motor has run at a lower speed continuously for a period, for preventing automatic protection of the motor, stop running, and display the locked operation; if the machine is running at present, the code of the locked fault---H6 of double-eight digital tubes will be displayed; if the machine is shut down at present, the information of the locked fault will not be displayed.

(10) Super Power Function

In cooling and heating modes (automatic, dehumidifying and air-supplying modes are without strong power), press the button of Super Power, the wind speed on the remote controller is displayed as super-high air flow, and the inner fans are also turned to super-high air flow;

(11) Health Function

When the inner fans are running, the remote controller is set at the Health function at this time (if there is no Health button on the remote controller, the Health On order is defaulted), then start the Health function device.

3. Fault Detection of Thermo-bulb

(1) Indoor Environment Thermo-bulb:

Detect the fault of thermo-bulb at any time;

(2) Indoor Pipe Temperature Thermo-bulb:

During the defrosting period, the fault of the thermo-bulb will be not detected, which shall be detected in 5 minutes after defrosting is completed; the fault of the thermo-bulb will be detected at other times;

(3) Protecting Treatments of Thermo-bulb:

1.When the thermobulb is detected to be short-circuited continuously for 30 seconds: It is regarded that the temperature detected by the thermo-bulb is over-high (or unlimited), then the whole machine will exert corresponding safety stops according to the over-high temperature sensed by the thermo-bulb, and display corresponding temperature safety stops and faults of the thermo-bulb simultaneously.

2. When the thermo-bulb is detected in open circuit continuously for 30 seconds: stop the machine in protection, directly display corresponding faults of the thermo-bulb.

4. Forced Running Function of the Indoor Units

(1) Enter into Forced Running Control

Within 5 minutes after power-up, press the Lights Off button on the remote controller continuously for three times within 3 seconds to enter into the fluorine collecting mode, and display Fo, send the fluorine-collecting mode for 25 minutes continuously, each load will be treated as cooling when starting the machine (set the air flow as High, set the temperature as 16ºC).

(2) Exit from the Forced Running Control

After receiving any remote signal, or signal of keys, the fluorine-collecting mode will exit, and operate in accordance with the current orders set; or exit the fluorine-collecting mode after running for 25 minutes, and the machine will be shut down automatically.

Outdoor Units

1. Input Parameter Compensation and Calibration

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

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

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

(2) Check effective judgment controls of parameters

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

a. Judgment of exhaust detection temperature change:

After the compressor starts up and runs for 10 minutes, if the compressor frequency f ≥ 40Hz, and the rising value Texhaust ($T_{\text{exhaust (after start-up for 10 minutes)}} - T_{\text{exhaust (before start-up)}}$) < 2ºC , the outdoor exhaust temperature thermo-bulb can be judged not to be connected into place (judging once when the power is on the first time).

b. Comparative judgment of exhaust detection temperature and condenser detection temperature ($T_{\text{pipe temperature}} = T_{\text{outdoor pipe temperature in cooling mode}}$, $T_{\text{pipe temperature}} = T_{\text{indoor pipe temperature in heating mode}}$): After the compressor starts up and runs for 10 minutes, if the compressor frequency f ≥ 40Hz, and $T_{\text{pipe temperature}} \geq (T_{\text{exhaust+3}})$, the outdoor exhaust temperature thermobulb can be judged not to be connected into place (judging once when power is on the first time).

2. Basic Functions

(1) Cooling Mode

1. Conditions and processes of cooling operation:

(1) If the compressor is shut down, and [Tsetup – ($T_{\text{indoor ambient temperature}} - \Delta T_{\text{cooling indoor ambient temperature compensation}}$)] ≤ 0.5 , start up the machine for cooling, the cooling operation will start;

(2) During operations of cooling, if 0ºC ≤ [Tsetup – ($T_{\text{indoor ambient temperature}} - \Delta T_{\text{cooling indoor ambient temperature compensation}}$)] < 2 , the cooling operation will be still running;

(3) During operations of cooling, if 2ºC ≤ [Tsetup – ($T_{\text{indoor ambient temperature}} - \Delta T_{\text{cooling indoor ambient temperature compensation}}$)], the cooling operation will stop after reaching the temperature point.

2. Temperature setting range

(1) If $T_{\text{outdoor ambient temperature}} \geq [T_{\text{low-temperature cooling temperature}}]$, the temperature can be set at: 16~30ºC (Cooling at room temperature);

(2) If $T_{\text{outdoor ambient temperature}} < [T_{\text{low-temperature cooling temperature}}]$, the temperature can be set at: 25~30ºC (Cooling at low temperature), that is, the minimum setting temperature for outer units judgment is 25ºC .

(2) Dehumidifying Mode

1. Conditions and processes of dehumidifying operations: Same as the cooling mode;
2. The temperature setting range is: 16~30ºC ;

(3) Air-supplying Mode

1. The compressor, outdoor fans and four-way valves are switched off;
2. The temperature setting range is: 16~30ºC.

(4) Heating Mode

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

(1) If the compressor is shut down, and [($T_{\text{indoor ambient temperature}} - \Delta T_{\text{heating indoor ambient temperature compensation}}$) $-T_{\text{setup}}$] ≤ 0.5 , start the machine to enter into heating operations for heating;

(2) During operations of heating, if 0ºC ≤ [($T_{\text{indoor ambient temperature}} - \Delta T_{\text{heating indoor ambient temperature compensation}}$) $-T_{\text{setup}}$] < 2 , the heating operation will be still running;

(3) During operations of heating, if 2ºC ≤ [($T_{\text{indoor ambient temperature}} - \Delta T_{\text{heating indoor ambient temperature compensation}}$) $-T_{\text{setup}}$], the heating operation will stop after reaching the temperature point.

2. The temperature setting range in this mode is: 16~30ºC .

3. Special Functions

Defrosting Control

① Conditions for starting defrosting

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

② Conditions of finishing defrosting

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

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

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

4. Control Logic

(1) Compressor Control

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

1. Cooling mode

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

2. Dehumidifying mode

Same as the cooling mode.

3. Air-supplying mode

The compressor is switched off.

4. Heating mode

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

(2) Defrosting:

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

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

(2) Outer Fans Control

Notes:

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

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

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

(3) 4-way valve control

1. The 4-way valve control under the modes of Cooling, dehumidification and supplying air: closing;
2. The status of 4-way valve control under the heating mode: getting power;
(1) 4-way valve power control under heating mode
a. Starts the machine under heating mode, the 4-way valve will get power immediately.
(2) 4-way valve power turn-off control under heating mode
a. When you should turn off the power or switch to other mode under heating mode, the power of 4-way valve will be cut after 2 minutes of the compressor stopped.
b. When all kinds of protection stops, the power of 4-way valve will be cut after delaying 4 minutes.
(3) Defrosting control under heating mode:
a. Defrosting begins: The power of 4-way valve will be cut after 50s of entering into the defrosting compressor.
b. Defrosting stops: The 4-way valve will get power after 50s of exiting the defrosting compressor.

(4) Evaporator frozen-preventing protection function

At the mode of Cooling, dehumidifying:
Evaporator frozen-preventing protection function is allowed to begin after 6 min of starting the compressor.

1. Starting estimation:

After the compressor stopped working for 180s, if $T_{\text{inner pipe}} > [T_{\text{frozen-preventing frequency-limited temperature}}$ (the temperature of hysteresis is 2)], the machine is only allowed to start for operating, otherwise it should not be started, and should be stopped to treat according to the frozen-preventing protection: Clear the trouble under the mode of power turn-off / heating, and the protection times are not counted.

2. Frequency limited

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

3. Reducing frequency at normal speed:

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

4. Reducing frequency at high speed:

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

5. Power turn-off:

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

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

(5) Overload protection function

Overload protection function at the mode of Cooling and dehumidifying

1. Starting estimation:

After the compressor stopped working for 180s, if $T_{\text{outer pipe}} < [T_{\text{Cooling overload frequency-limited temperature}}]$ (the temperature of hysteresis is 2ºC), the machine is allowed to start, otherwise it should not be started, and should be stopped to treat according to the overload protection: Clear the trouble at the mode of power turn-off / heating, and the protection times are not counted.

2. Frequency limited

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

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

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

4. Reducing frequency at high speed and stop machine:

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

5. Power turn-off:

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

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

Overload protection function at the mode of heating

Starting estimation :

After the compressor stopped working for 180s, if T inner pipe T heating overload frequency-limited temperature (the temperature of hysteresis is 2), the machine is allowed to start, otherwise it should not be started, and should be stopped to treat according to the overload protection:

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

1. Frequency limited

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

2. Reducing frequency at normal speed and stopping machine:

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

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

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

4. Power turn-off:

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

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

1. Starting estimation:

After the compressor stopped working for 180s, if $T_{\text{Discharge}}$ <$T_{\text{Discharge limited temperature}}$ (the temperature of hysteresis is 2ºC), the machine is allowed to start, otherwise it should not be started, and should be stopped to treat according to the discharge temperature:

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

2. Frequency limited

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

3. Reducing frequency at normal speed and stopping machine:

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

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

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

5. Power turn-off:

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

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

7. Frequency limited

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

8. Reducing frequency:

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

9. Power turn-off:

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

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

(6)Voltage sag protection

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

(7)Communication fault

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

(8)Module protection

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

(9)Module overheating protection

1. Starting estimation:

After the compressor stopped working for 180s, if T_{Module}<[$T_{\text{Module frequency limited temperature}}$](the temperature of hysteresis is 2), the machine is allowed to start, otherwise it should not be started, and should be stopped to treat according to the module overheating protection: The machine should be stopped or transferred to supply air, the trouble should be cleared immediately, and the protection times are not counted.

2. Frequency limited

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

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

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

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

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

5. Power turn-off:

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

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

(10)Compressor overloads protection

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

(11)Phase current overcurrent protection of compressor

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

1. Frequency limited

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

2. Reducing Frequency

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

3. Power turn-off

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

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

(12) Starting-up Failure Protection for Compressor

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

(13) Out-of-Step Protection for Compressor

The out-of-step protection signal should be detected immediately after starting-up compressor, and once find the out-of-step protection signal, the out-of-step protection shall be stopped; if it can run for lasting power turn-off 3 min, the machine shall be allowed to operate. If it still can't run automatically when the out-of-step protection for compressor happens to stop working for 6 times in succession, it needs to press ON/OFF to operate. And if the running time is more than 10 min, the power turn-off times for out-of-step protection shall be cleared and recounted.

(14) Voltage Abnormity Protection for DC Bus

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

1.Over-High Voltage Protection for DC Bus:

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

2.Over-Low Voltage Protection for DC Bus:

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

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

If it found the DC bus voltage U_{DC} >[$U_{DC——Over\text{-}High\ Voltage}$], turn off the relay at once, and shows voltage abnormity failure for DC Bus. And the failure can't recover except to break off and get the electricity.

(15)Abnormity Protection for Four-way Valve

Under the model of heating operation in good condition: the compressor is detected [$T_{Inner\ Tube}$ <($T_{Inner\ Ring}$-$T_{Abnormity\ Temperature\ Difference\ For\ Four\text{-}Way\ Valve\ Reversion}$)], during the running, it should be regarded as four-way valve reversion abnormity. And then it can run if stop the reversion abnormity protection for four-way valve 3 min; and if it still can't run when the reversion abnormity protection for four-way valve happens to stop working for 3 times in succession, it is available if presses ON/OFF.

Attention: the protection shall be shielded during the testing mode and defrosting process, and it shall be cleared out the failure and its times immediately when turning off or delivering wind / cooling / dehumidifying mode conversed (the inverted mode don't clear out the failure when it can't recover to operate).

(16) PFC Protection

1. After start up the PFC, it should detect the protection signal of PFC immediately; under the condition of PFC protection, it should turn off the PFC and compressor at one time;
2. It shows the failure is cleared out if PFC Protection stopped working 3 min and recovers to run automatically;
3. If it still can't run when it occurs PFC protection for 3 times in succession, it is available if presses ON/OFF; and clear the PFC Protection times when start up PFC for 10min.

(17) Failure Detection for Sensor

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

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

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

4. Module Temperature Sensor:

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

(b) Open-Circuit Detection: the compressor should be detected on open-circuit when it runs 3min (it needn't 30s avoiding the module over-heated).

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

5. Disposal for Sensor Protection

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

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

6. Electric Heating Function of Chassis

(1) When Toutdoor amb.≤0 , the electric heating of chassis will operate;

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

(3)When 0 <Toutdoor amb.≤2 , the electric heating of chassis will keep original status.

7. Electric Heating Function of Compressor

(1) When Toutdoor amb.≤≤-5 , compressor stops operation, while the electric heating of compressor starts operation;

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

(3) When -5 <Toutdoor amb.≤-2 , the electric heating of compressor will keep original status.

7. Installation Manual

7.1 Notices for Installation

Caution

1.The unit should be installed only by authorized service center according to local or government regulations and in compliance with this manual.
2.Before installing, please contact with local authorized maintenance center. If the unit isnot installed by the authorized service center, the malfunction may not be solved due to incovenient contact between the user and the service personnel.
3.When removing the unit to the other place, please firstly contact with the local authorized service center.
4.Warning: Before obtaining access to terminals, all supply circuits must be disconnected.
5.For appliances with type Y attachment, the instructions shall contain the substance of the following. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
6.The appliance must be positioned so that the plug is accessible.
7.The temperature of refrigerant line will be high; please keep the interconnection cable away from the copper tube.
8.The instructions shall state the substance of the following:
This appliance is not intended for use by persons(including children)with reduced physical, sensory or mental capabilities, or lack of experience and 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.

7.1.1 Installation Site Instructions

Proper installation site is vital for correct and efficient operation of the unit. Avoid the following sites where:
- strong heat sources, vapours, flammable gas or volatile liquids are emitted.
- high-frequency electro-magnetic waves are generated by radio equipment,welders and medical equipment.
- salt-laden air prevails (such as close to coastal areas).
- the air is contaminated with industrial vapours and oils.
- the air contains sulphures gas such as in hot spring zones.
- corrosion or poor air quality exists.

7.1.2 Installation Site of Indoor Unit

1.The air inlet and outlet should be away from the obstructions. Ensure the air can be blown through the whole room.
2.Select a site where the condensate can be easily drained out, and where it is easily connected to outdoor unit.
3.Select a place where it is out of reach of children.
4.Select a place where the wall is strong enough to withstand the full weight and vibration of the unit.
5.Be sure to leave enough space to allow access for routine maintenance. The installation site should be 250cm or more above the floor.
6.Select a place about 1m or more away from TV set or any other electric appliance.
7.Select a place where the filter can be easily taken out.
8.Make sure that the indoor unit is installed in accordance with installation dimension instructions.
9.Do not use the unit in the laundry or by swimming pool etc.

7.1.3 Installation Site of Outdoor Unit

1.Select a site where noise and outflow air emitted by the unit will not annoy neighbors.
2.Select a site where there is sufficient ventilation.
3.Select a site where there is no obstruction blocking the inlet and outlet.
4.The site should be able to withstand the full weight and vibration.
5.Select a dry place, but do not expose the unit to direct sunlight or strong wind.
6.Make sure that the outdoor unit is installed in accordance with the installation instructions, and is convenient for maintenance and repair.
7.The height difference between indoor and outdoor units is within 10m, and the length of the connecting tubing does not exceed 25m.
8.Select a place where it is out of reach of children.
9.Select a place where the unit does not have negative impact on pedestrians or on the city.

7.1.4 Safety Precautions for Electric Appliances

1.A dedicated power supply circuit should be used in accordance with local electrical safety regulations.
2.Don't drag the power cord with excessive force.
3.The unit should be reliably earthed and connected to an exclusive earth device by the professionals.
4.The air switch must have the functions of magnetic tripping and heat tripping to prevent short circuit and overload.
5.The minimum distance between the unit and combustive surface is 1.5m.
6.The appliance shall be installed in accordance with national wiring regulations.
7.An all-pole disconnection switch with a contact separation of at least 3mm in all poles should be connected in fixed wiring.

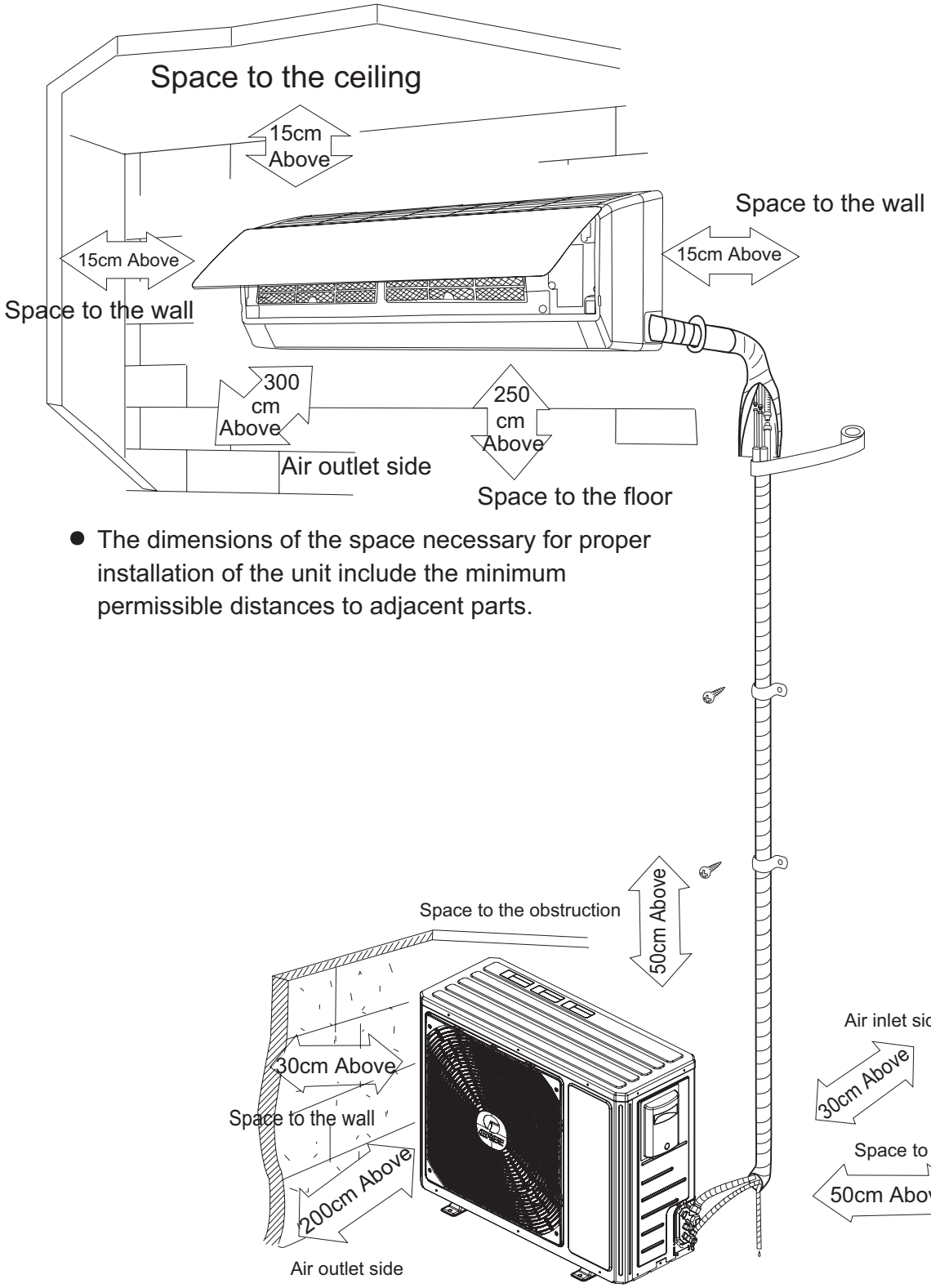
Note:

- Make sure the live wire, neutral wire and earth wire in the family power socket are properly connected.
- There should be reliable circuit in the diagram.Inadequate or incorrect electrical connections may cause electric shock or fire.

7.1.5 Earthing Requirements

1.Air conditioner is type I electric appliance. Please ensure that the unit is reliably earthed.
2.The yellow-green wire in air conditioner is the earthing wire which can not be used for other purposes. Improper earthing may cause electric shock.
3.The earth resistance should accord to the national criterion.
4.The power must have reliable earthing terminal. Please do not connect the earthing wire with the following:
①Water pipe ② Gas pipe ③ Contamination pipe ④Other place that professional personnel consider is unreliable
5. The model and rated values of fuses should accord with the silk print on fuse cover or related PCB.

7.2 Installation Dimension Diagram



- The dimensions of the space necessary for proper installation of the unit include the minimum permissible distances to adjacent parts.

Schematic diagram being reference only (outdoor unit is with variation), please refer to real product for authentic information.

7.3 Install Indoor Unit

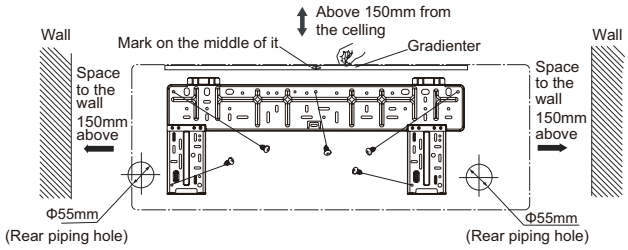
7.3.1 Installing of Mounting Plate

1.Mounting plate should be installed horizontally. As the water tray's oulet for the indoor unit is two-way type, during installation, the indoor unit should slightly slant to water tray's outlet for smooth drainage of condensate.

2.Fix the mounting plate on the wall with screws.

3.Be sure that the mounting plate has been fixed firmly enough to withstand about 60 kg. Meanwhile, the weight should be evenly shared by each screw.

18K



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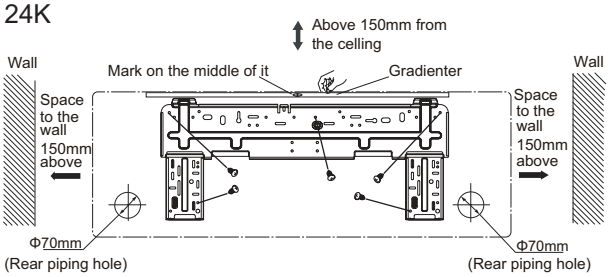
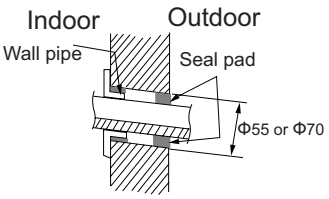


7.3.2 Boring Piping Hole

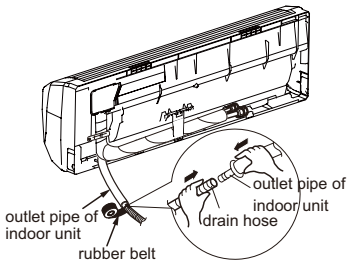
1.Slant the piping hole (Φ 55 or Φ70) on the wall slightly downward to the outdoor side.

2.Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the hole.

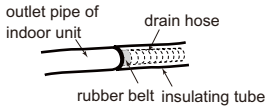


7.3.3 Installing of Drain Hose

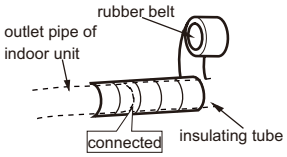
1.Connect the drain hose to the outlet pipe of the indoor unit.Bind the joint with rubber belt.



2.Put the drain hose into insulating tube.



3.Wrap the insulating tube with wide rubber belt to prevent the shift of insulating tube. Slant the drain hose downward slightly for smooth drainage of condensate.



Note: The insulating tube shoud be connected reliably with the sleeve outside the outlet pipe. The drain hose should be slanted downward slightly,without d-istortion, bulge or fluctuation. Do not put the outlet in the water.

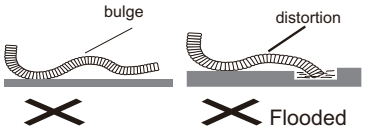


Fig.2

7.3.4 Connecting Indoor and Outdoor Electric Wires

1.Open the front panel·

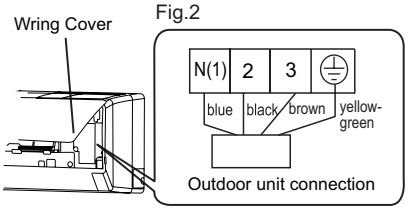
2.Remove the wiring cover,connect and fix power connection cord to the terminal board shown in Fig.2.

3.Make the power connection cord pass through the hole at the back of indoor unit.

4.Reinstall the cord anchorage and wiring cover.

5.Reinstall the front panel.

Fig.2



NOTE:

All wires between indoor and outdoor units must be connected by the qualified electric contractor.

- Electric wires must be connected correctly. Improper connection may cause malfunction.
- Tighten the terminal screws securely.
- After tightening the screws, pull the wire sligltly to confirm whether it's firm or not.
- Make sure that the electric connections are earthed properly to prevent electric shock.
- Make sure that all wiring connections are secure and the cover plates are reinstalled properly. Poor installation may cause fire or electric shock.

7.3.5 Installing of Indoor Unit

- The piping can be output from right, right rear, left or left rear.

1.When routing the piping and wiring from the left or right side of indoor unit, cut off the tailings from the chassis as necessary(As shown in Fig.3)

(1)Cut off the tailing 1 when routing the wiring only;

(2)Cut off the tailing 1 and tailing 2 when routing both the wiring and piping.

2.Take out the piping from body case, wrap the piping, power cords, drain hose with the tape and then make them pass through the piping hole. (As shown in Fig.4)

3.Hang the mounting slots of the indoor unit on the upper hooks of the mounting plate and check if it is firm enough.(As shown in Fig.5)

4.The installation site should be 250cm or more above the floor.

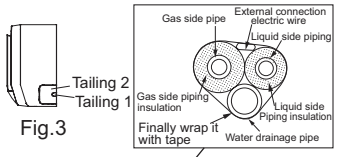


Fig.3

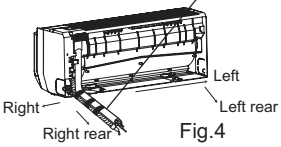


Fig.4

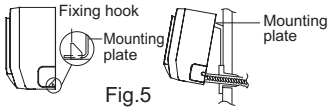


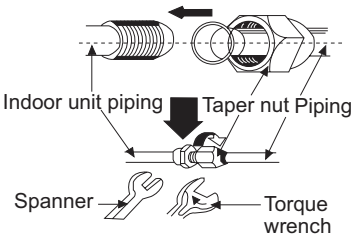
Fig.5

7.3.6 Installing of Connection Pipe

1.Align the center of the pipe flare with the related valve.

2.Screw in the flare nut by hand and then tighten the nut with spanner and torque wrench by referring to the following:

Hex nut diameter	Tightening torque (N·m)
Φ6	15～20
Φ 9.52	31～35
Φ 12	50～55
Φ 16	60～65
Φ 19	70～75



NOTE: Connect the connection pipe to indoor unit at first and then to outdoor unit. Handle pi-ping bending with care. Do not damage the connection pipe. Ensure that the joint nut is tightened firmly, otherwise, it may cause leakage.

7.4 Install Outdoor Unit

7.4.1 Electric Wiring

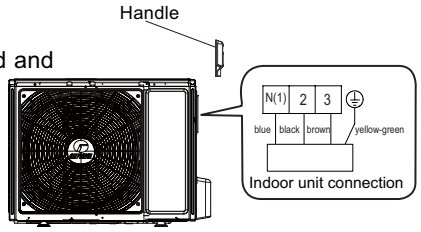
1.Remove the handle on the right side plate of outdoor unit.

2.Take off wire cord anchorage. Connect and fix power connection cord and power cord to the terminal board.Wiring should fit that of indoor unit.

3.Fix the power connection cord and power cord with wire clamps and then connect the corresponding connector.

4.Confirm if the wire has been fixed properly.

5.Reinstall the handle.



NOTE:

- Incorrect wiring may cause malfunction of spare part.
- After the wire has been fixed, ensure there is free space between the connection and fixing places on the lead wire.

Schematic diagram being reference only, please refer to real product for authentic information.

7.4.2 Air Purging and Leakage Test

1. Connect charging hose of manifold valve to charge end of low pressure valve (both high/low pressure valves must be tightly shut).
2. Connect joint of charging hose to vacuum pump.
3. Fully open the handle of Lo manifold valve.
4. Open the vacuum pump for vacuumization. At the beginning, slightly loosen joint nut of low pressure valve to check if there is air coming inside. (If noise of vacuum pump has been changed, the reading of multimeter is 0) Then tighten the nut.
5. Keep vacuuming for more than 15mins and make sure the reading of multi-meter is-1.0 X10^5 pa(-76cmHg).
6. Fully open high/low pressure valves.
7. Remove charging hose from charging end of low pressure valve.
8. Tighten lid of low pressure valve. (As shown in Fig.6)

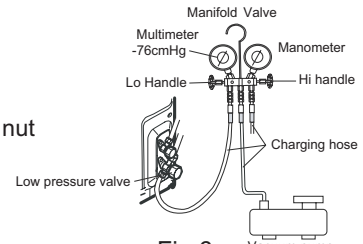
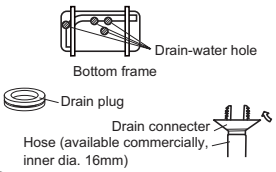


Fig.6

7.4.3 Outdoor Condensate Drainage (only for heat pump type)

During heating operation, the condensate water and defrosting water should be drained out reliably through the drain hose. Install the outdoor drain connector in a Φ25 hole on the the base plate and attach the drain hose to the connector,so that the waste water formed in the outdoor unit can be drained out .The hole diameter 25 must be plugged.
Whether to plug other holes will be determined by the dealers according to actual conditions.



7.5 Check after Installation and Test Operation

7.5.1 Check after Installation

Items to be checked	Possible malfunction
Has the unit been fixed firmly?	The unit may drop, shake or emit noise.
Have you done the refrigerant leakage test?	It may cause insufficient cooling(heating)
Is thermal insulation sufficient?	It may cause condensation.
Is water drainage satisfactory?	It may cause water leakage.
Is the voltage in accordance with the rated voltage marked on the nameplate?	It may cause electric malfunction or damage the unit.
Is the electric wiring or piping connection installed correctly and securely?	It may cause electric malfunction or damage the parts.
Has the unit been securely earthed?	It may cause electrical leakage.
Is the power cord specified?	It may cause electric malfunction or damage the parts.
Is the inlet or outlet blocked?	It may cause insufficient cooling(heating)
Is the length of connection pipes and refrigerant capacity recorded?	The refrigerant capacity is not accurate.

7.5.2 Operation Test

1.Before Operation Test

(1)Do not switch on power before installation is finished completely.

(2)Electric wiring must be connected correctly and securely.

(3)Cut-off valves of the connection pipes should be opened.

(4)All the impurities such as scraps and thrums must be cleared from the unit.

2.Operation Test Method

(1)Switch on power and press "ON/OFF" button on the remote controller to start the operation.

(2)Press MODE button to select the COOL, HEAT (Not available for cooling only unit), FAN to check whether the operation is normal or not.

7.6 Installation and Maintenance of Healthy Filter

7.6.1 Installation of Healthy Filter

1.Lift up the front panel from it's two ends, as shown by the arrow direction, and then remove the air filter.(as shown in Fig.a)

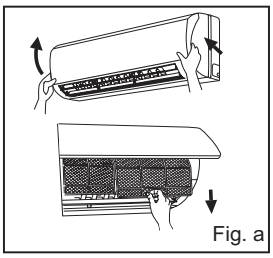


Fig. a

2.Attach the healthy filter onto the air filter, (as shown in Fig.b).

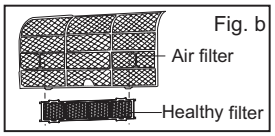


Fig. b

3. Install the air filter properly along the arrow direction in Fig.c, and then close the panel.

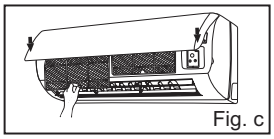


Fig. c

7.6.2 Cleaning and Maintenance

Remove the healthy filter and reinstall it after cleaning according to the installation instruction. Don't use brush or hard things to cleanthe filter. After cleaning, be sure to dry it in the shade.

7.6.3 Service Life

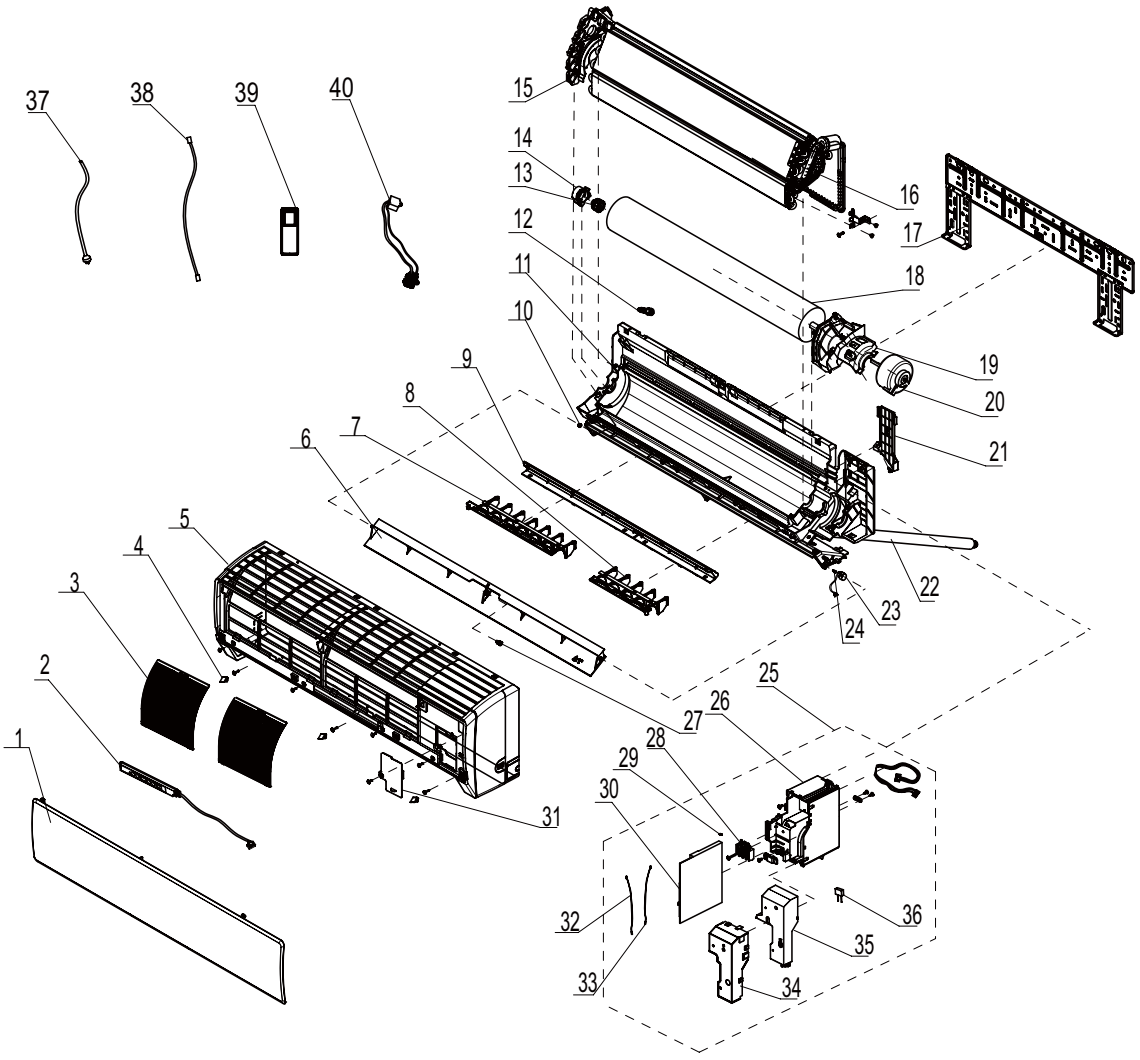
The general serive life for the healthy filter is about one year under normal condition. As for silver ion filter, it is invalid when its surface becomes black (green).

This supplementary instruction is provided for reference to the unit with healthy filter. If the graphics provided herein is different from the actualproduct, please refer to the atual product. The quantity of healthy filters is based on the actual delivery.

8. Exploded Views and Parts List

8.1 Indoor Unit

GWH18MC-K3DNA3K/I,GWH18MC-K3DND3K/I,GWH18MC-K3DNE1K/I



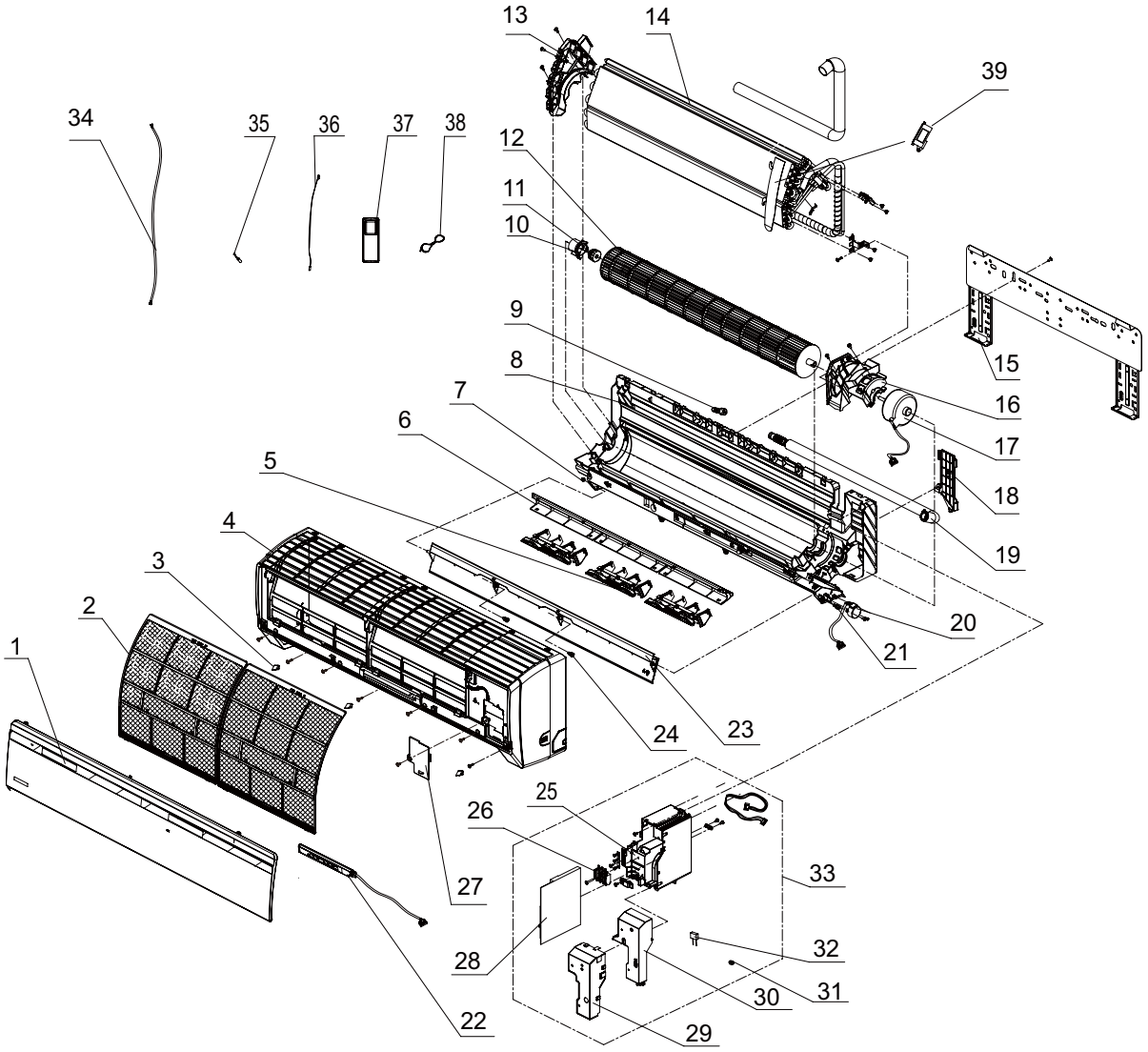
NO.	Description	Part Code		Qty
		GWH18MC-K3DNA3K/I		
	Product Code	CB171N07800	CB171N07801	
1	Front Panel Assy	20012260	20012260	1
2	Display Board	30565038	30565038	1
3	Filter Sub-Assy	1112208901	1112208901	2
4	Screw Cover	24252016	24252016	3
5	Front Case Sub-Assy	20022172	20022172	1
6	Guide Louver	10512115	10512115	1
7	Air Louver 1	10512116	10512116	1
8	Air Louver 2	10512117	10512117	1
9	Helicoid tongue	26112238	26112238	1
10	Left Axile Bush	10512037	10512037	1
11	Rear Case assy	22202227	22202227	1
12	Rubber Plug (Water Tray)	76712012	76712012	1
13	O-Gasket of Cross Fan Bearing	76512203	76512203	1
14	O-Gasket sub-assy of Bearing	76512051	76512051	1
15	Evaporator Support	24212133	24212133	1
16	Evaporator Assy	01002575	01002575	1
17	Wall Mounting Frame	01252218	01252218	1
18	Cross Flow Fan	10352019	10352019	1
19	Motor Press Plate	26112494	26112494	1
20	Fan Motor	15012146	15012146	1
21	Connecting pipe clamp	26112164	26112164	1
22	Drainage hose	05230014	05230014	1
23	Stepping Motor	15012086	15012086	1
24	Crank	10582070	10582070	1
25	Electric Box Assy	20402453	20402614	1
26	Electric Box	2011210801	2011210801	1
27	Axile Bush	10542036	10542036	1
28	Terminal Board	42011233	42011233	1
29	Jumper	4202300108	4202300108	1
30	Main Board	30148795	30148795	1
31	Electric Box Cover2	20112081	20112081	1
32	Temperature Sensor	390000599	390000599	1
33	Temperature Sensor	390000453	390000453	1
34	Shield cover of Electric Box	01592092	01592092	1
35	Electric Box Cover1	20122154	20122154	1
36	Capacitor CBB61	33010043	33010043	1
37	Power Cord	4002046418	4002046412	1
38	Connecting Cable	40020538	40020538	0
39	Remote Controller	305100413	305100413	1
40	Cold Plasma Generator	1114001602	1114001602	1

The data above are subject to change without notice.

NO.	Description	Part Code		Qty
		GWH18MC-K3DND3K/I	GWH18MC-K3DNE1K/I	
	Product Code	CB405N03000	CB143N01100	
1	Front Panel Assy	20012926	20012662	1
2	Display Board	30565145	30565038	1
3	Filter Sub-Assy	1112208901	1112208901	2
4	Screw Cover	24252016	24252016	3
5	Front Case Sub-Assy	20022205	2001228801	1
6	Guide Louver	10512115	10512115	1
7	Air Louver 1	10512116	10512116	1
8	Air Louver 2	10512117	10512117	1
9	Helicoid tongue	26112238	26112238	1
10	Left Axile Bush	10512037	10512037	1
11	Rear Case assy	22202227	22202227	1
12	Rubber Plug (Water Tray)	76712012	76712012	1
13	O-Gasket of Cross Fan Bearing	76512203	76512203	1
14	O-Gasket sub-assy of Bearing	76512051	76512051	1
15	Evaporator Support	24212133	24212133	1
16	Evaporator Assy	01002575	01002575	1
17	Wall Mounting Frame	01252218	01252218	1
18	Cross Flow Fan	10352019	10352019	1
19	Motor Press Plate	26112494	26112494	1
20	Fan Motor	15012146	15012146	1
21	Connecting pipe clamp	26112164	26112164	1
22	Drainage hose	05230014	05230014	1
23	Stepping Motor	15012086	15012086	1
24	Crank	10582070	10582070	1
25	Electric Box Assy	20402677	20402790	1
26	Electric Box	2011210801	2011210801	1
27	Axile Bush	10542036	10542036	1
28	Terminal Board	42011233	42011233	1
29	Jumper	4202300108	4202300108	1
30	Main Board	30148794	30148794	1
31	Electric Box Cover2	20112081	20112081	1
32	Temperature Sensor	390000599	390000599	1
33	Temperature Sensor	390000453	390000453	1
34	Shield cover of Electric Box	01592092	01592092	1
35	Electric Box Cover1	20122154	20122154	1
36	Capacitor CBB61	33010043	33010043	1
37	Power Cord	4002046418	4002046418	1
38	Connecting Cable	40020538	40020538	0
39	Remote Controller	305100413	305100413	1
40	Cold Plasma Generator	/	/	1

The data above are subject to change without notice.

GWH24MD-K3DNA2K/I,GWH24MD-K3DNA3K/I,GWH24MD-K3DND3K/I,GWH24MD-K3DNE1K/I



NO.	Description	Part Code		Qty
		GWH24MD-K3DNA3K/I		
	Product Code	CB171N07900	CB171N07901	
1	Front Panel Assy	20012328	20012328	1
2	Filter Sub-Assy	11122091	11122091	2
3	Screw Cover	24252016	24252016	3
4	Front Case Assy	20012329	20012329	1
5	Air Louver 1	10512159	10512159	3
6	Helicoid Tongue	26112187	26112187	1
7	Left Axile Bush	10512037	10512037	1
8	Rear Case assy	22202117	22202117	1
9	Rubber Plug (Water Tray)	76712012	76712012	1
10	Ring of Bearing	26152025	26152025	1
11	O-Gasket sub-assy of Bearing	76512051	76512051	1
12	Cross Flow Fan	10352030	10352030	1
13	Evaporator Support	24212103	24212103	1
14	Evaporator Assy	0100257204	0100257204	1
15	Wall Mounting Frame	01252032	01252032	1
16	Motor Press Plate	26112316	26112316	1
17	Fan Motor	15012098	15012098	1
18	Connecting pipe clamp	26112188	26112188	1
19	Drainage Hose	0523001405	0523001405	1
20	Stepping Motor	1521300101	1521300101	1
21	Crank	10582070	10582070	1
22	Display Board	30565038	30565038	1
23	Guide Louver	10512118	10512118	1
24	Axile Bush	10542036	10542036	2
25	Electric Box	2011210801	2011210801	1
26	Terminal Board	20112081	20112081	1
27	Shield Cover of Electric Box	01592092	01592092	1
28	Main Board	30148793	30148793	1
29	Electric Box Cover1	20122154	20122154	1
30	Electric Box Cover2	20112081	20112081	1
31	Jumper	4202300110	4202300110	1
32	Capacitor CBB61	33010034	33010034	1
33	Electric Box Assy	20402534	20402641	1
34	Connecting Cable	40020538	40020538	0
35	Temperature Sensor	390000453	390000453	1
36	Temperature Sensor	390000599	390000599	1
37	Remote Controller	305100413	305100413	1
38	Power Cord	4002046418	4002046412	1
39	Cold Plasma Generator	1114001602	1114001602	1

The data above are subject to change without notice.

NO.	Description	Part Code		Qty
		GWH24MD-K3DNA3K/I	GWH24MD-K3DND3K/I	
	Product Code	CB171N07902	CB405N03100	
1	Front Panel Assy	20012328	20012995	1
2	Filter Sub-Assy	11122091	11122091	1
3	Screw Cover	24252016	24252016	2
4	Front Case Assy	20012329	2001232905	3
5	Air Louver 1	10512159	10512159	1
6	Helicoid Tongue	26112187	26112187	1
7	Left Axile Bush	10512037	10512037	1
8	Rear Case assy	22202117	22202117	1
9	Rubber Plug (Water Tray)	76712012	76712012	1
10	Ring of Bearing	26152025	26152025	1
11	O-Gasket sub-assy of Bearing	76512051	76512051	1
12	Cross Flow Fan	10352045	10352045	1
13	Evaporator Support	24212103	24212103	1
14	Evaporator Assy	0100257204	0100257204	1
15	Wall Mounting Frame	01252032	01252032	1
16	Motor Press Plate	26112316	26112316	1
17	Fan Motor	15012098	15012098	1
18	Connecting pipe clamp	26112188	26112188	1
19	Drainage Hose	0523001405	0523001405	1
20	Stepping Motor	1521300101	1521300101	1
21	Crank	10582070	10582070	1
22	Display Board	30565038	30565145	1
23	Guide Louver	10512118	10512118	1
24	Axile Bush	10542036	10542036	1
25	Electric Box	2011210801	2011210801	1
26	Terminal Board	42011233	42011233	1
27	Shield Cover of Electric Box	01592092	01592092	1
28	Main Board	30138000013	30148792	1
29	Electric Box Cover1	20122154	20122154	1
30	Electric Box Cover2	20112081	20112081	1
31	Jumper	4202300110	4202300110	1
32	Capacitor CBB61	33010034	33010034	1
33	Electric Box Assy	20402834	20402678	1
34	Connecting Cable	40020538	40020538	1
35	Temperature Sensor	390000453	390000453	1
36	Temperature Sensor	390000599	390000599	1
37	Remote Controller	305100413	305100413	1
38	Power Cord	4002046412	4002046418	0
39	Cold Plasma Generator	/	/	1

The data above are subject to change without notice.

NO.	Description	Part Code		Qty
		GWH24MD-K3DNA2K/I	GWH24MD-K3DNE1K/I	
	Product Code	CB181N05900	CB143N01200	
1	Front Panel Assy	20022527	20012680	1
2	Filter Sub-Assy	11122091	11122091	1
3	Screw Cover	24252016	24252016	2
4	Front Case Assy	20012329	2001232902	3
5	Air Louver 1	10512159	10512159	1
6	Helicoid Tongue	26112187	26112187	1
7	Left Axile Bush	10512037	10512037	1
8	Rear Case assy	22202117	22202117	1
9	Rubber Plug (Water Tray)	76712012	76712012	1
10	Ring of Bearing	26152025	26152025	1
11	O-Gasket sub-assy of Bearing	76512051	76512051	1
12	Cross Flow Fan	10352045	'10352045	1
13	Evaporator Support	24212103	'24212103	1
14	Evaporator Assy	0100257204	0100257204	1
15	Wall Mounting Frame	01252033	01252032	1
16	Motor Press Plate	26112316	26112316	1
17	Fan Motor	15012098	15012098	1
18	Connecting pipe clamp	26112188	26112188	1
19	Drainage Hose	0523001405	0523001405	1
20	Stepping Motor	1521300101	1521300101	1
21	Crank	10582070	10582070	1
22	Display Board	30565061	30565038	1
23	Guide Louver	10512118	10512118	1
24	Axile Bush	10542036	10542036	1
25	Electric Box	2011210801	2011210801	1
26	Terminal Board	42011233	42011233	1
27	Shield Cover of Electric Box	01592092	01592092	1
28	Main Board	30138000013	30148792	1
29	Electric Box Cover1	20122154	20122154	1
30	Electric Box Cover2	20112081	20112081	1
31	Jumper	4202300110	4202300110	1
32	Capacitor CBB61	33010034	33010034	1
33	Electric Box Assy	20402848	20402736	1
34	Connecting Cable	40020538	40020538	1
35	Temperature Sensor	390000453	390000453	1
36	Temperature Sensor	390000453	390000599	1
37	Remote Controller	305100413	305100413	1
38	Power Cord	4002046412	4002046418	0
39	Cold Plasma Generator	/	/	1

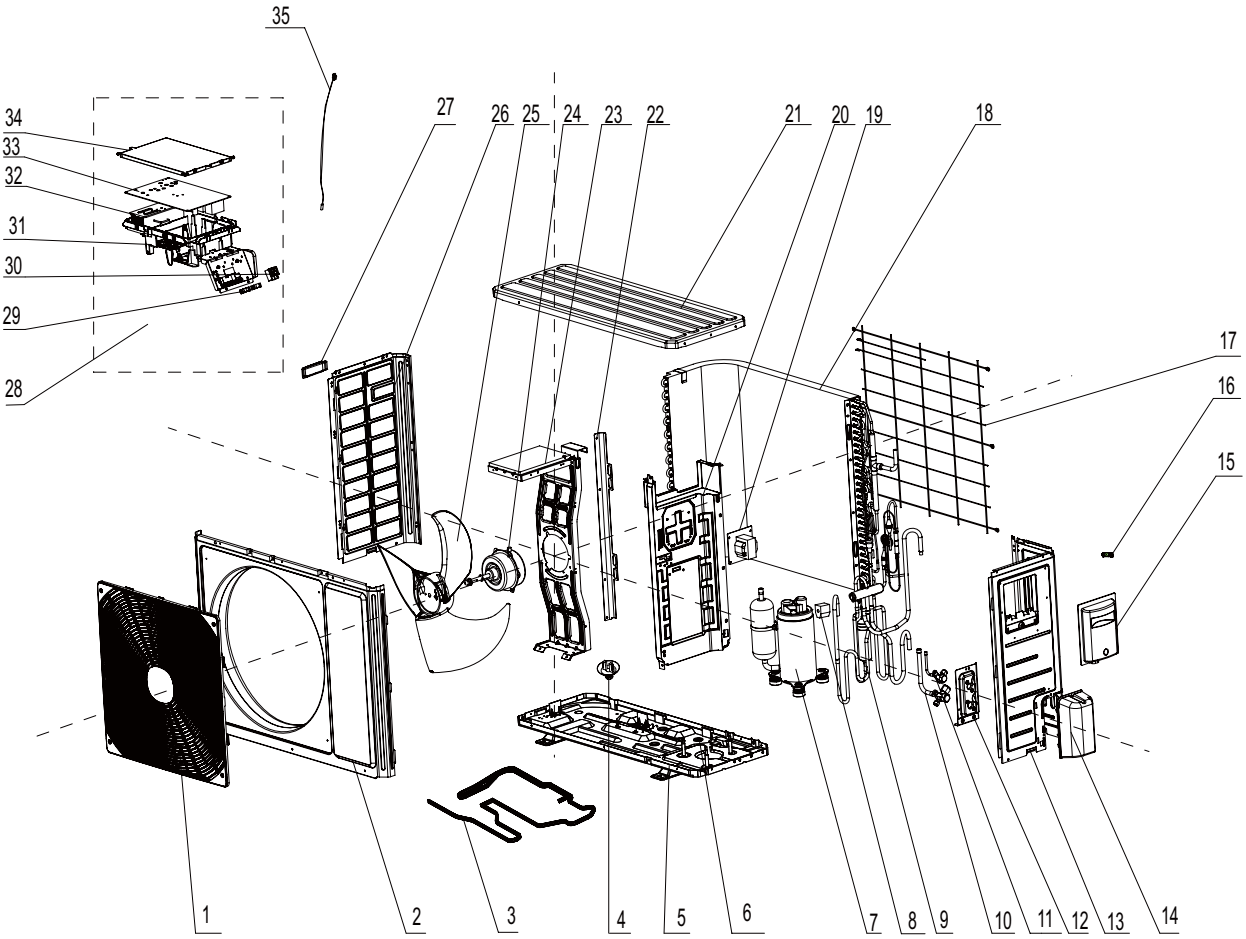
The data above are subject to change without notice.

NO.	Description	Part Code	Qty
		GWH24MD-K3DNB3K/I	
	Product Code	CB163N05300	
1	Front Panel Assy	20012483	1
2	Filter Sub-Assy	11122091	1
3	Screw Cover	24252016	2
4	Front Case Assy	2001232905	3
5	Air Louver 1	10512159	1
6	Helicoid Tongue	26112187	1
7	Left Axile Bush	10512037	1
8	Rear Case assy	22202117	1
9	Rubber Plug (Water Tray)	76712012	1
10	Ring of Bearing	26152025	1
11	O-Gasket sub-assy of Bearing	76512051	1
12	Cross Flow Fan	10352045	1
13	Evaporator Support	24212103	1
14	Evaporator Assy	0100257204	1
15	Wall Mounting Frame	01252032	1
16	Motor Press Plate	26112316	1
17	Fan Motor	15012098	1
18	Connecting pipe clamp	26112188	1
19	Drainage Hose	0523001405	1
20	Stepping Motor	1521300101	1
21	Crank	10582070	1
22	Display Board	30565037	1
23	Guide Louver	10512118	1
24	Axile Bush	10542036	1
25	Electric Box	2011210801	1
26	Terminal Board	42011233	1
27	Shield Cover of Electric Box	01592092	1
28	Main Board	30148793	1
29	Electric Box Cover1	20122154	1
30	Electric Box Cover2	20112081	1
31	Jumper	4202300110	1
32	Capacitor CBB61	33010034	1
33	Electric Box Assy	20402813	1
34	Connecting Cable	40020538	1
35	Temperature Sensor	390000453	1
36	Temperature Sensor	390000599	1
37	Remote Controller	30510468	1
38	Power Cord	4002046418	0
39	Cold Plasma Generator	1114001603	1

The data above are subject to change without notice.

8.2 Outdoor Unit

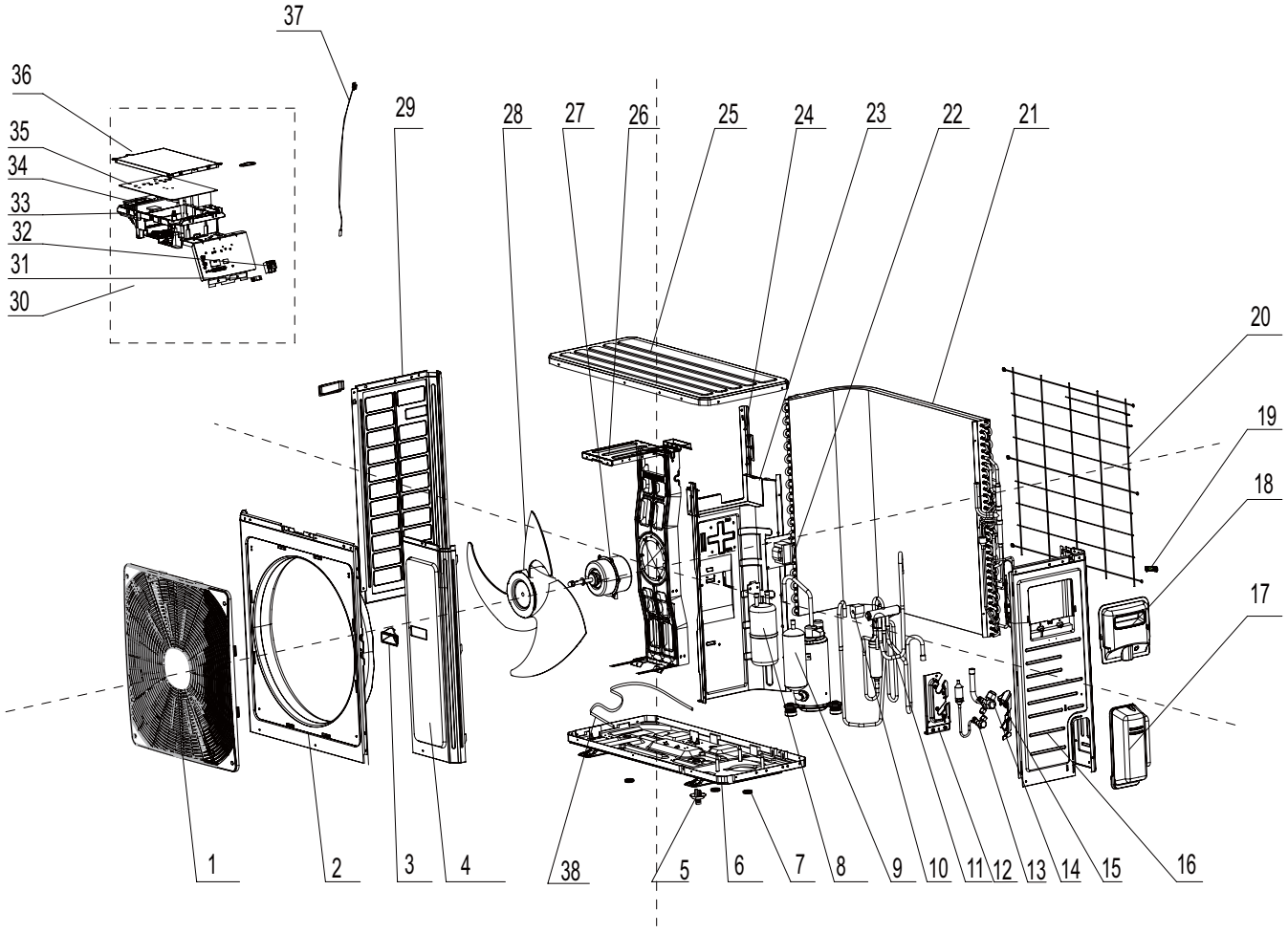
GWH18MC-K3DNA3K/O



No.	Description	Part Code		Qty
		GWH18MC-K3DNA3K/O		
	Product Code	CB171W07800	CB171W07801	
1	Front Grill	22413025	22413025	1
2	Front Panel	01535013P	01535013P	1
3	Electrical Heater (Chassis)	/	765100045	1
4	Drainage Connecter	06123401	06123401	1
5	Chassis Sub-assy	02803231P	02803231P	1
6	Drainage hole Cap	06813401	06813401	1
7	Compressor and fittings	00105249G	00105249G	1
8	Magnet Coil	4300040033	4300040033	1
9	4-Way Valve Assy	03073176	03073176	1
10	Cut off Valve Assy 1/2	07133774	07133774	1
11	Cut off Valve Sub-Assy	07133204	07133204	1
12	Valve support assy	01715010P	01715010P	1
13	Right Side Plate	0130509402P	0130509402P	1
14	Valve cover	22245002	22245002	1
15	Handle	26235254	26235254	1
16	Wiring Clamp	26115004	26115004	1
17	Rear Grill	01473043	01473043	1
18	Condenser Assy	01163956	01163956	1
19	Reactor	43130025	43130025	1
20	Clapboard Assy	01233153	01233153	1
21	Coping	01255005P	01255005P	1
22	Supporting Board(Condenser)	01795010	01795010	1
23	Motor Support Sub-Assy	01705036	01705036	1
24	Fan Motor	1501506402	1501506402	1
25	Axial Flow Fan	10335008	10335008	1
26	Left Side Plate	01305093P	01305093P	1
27	left handle	26235401	26235401	1
28	Electric Box Assy	02613616	02613616	1
29	Wire Clamp	71010003	71010003	1
30	Terminal Board	420111041	420111041	1
31	Electric Box	20113027	20113027	1
32	Radiator	49010252	49010252	1
33	Main Board	30148796	30148796	1
34	Insulated Board (Cover of Electric Box)	20113003	20113003	1
35	Temperature Sensor	3900030901	3900030901	1

The data above are subject to change without notice.

GWH24MD-K3DNA3K/O



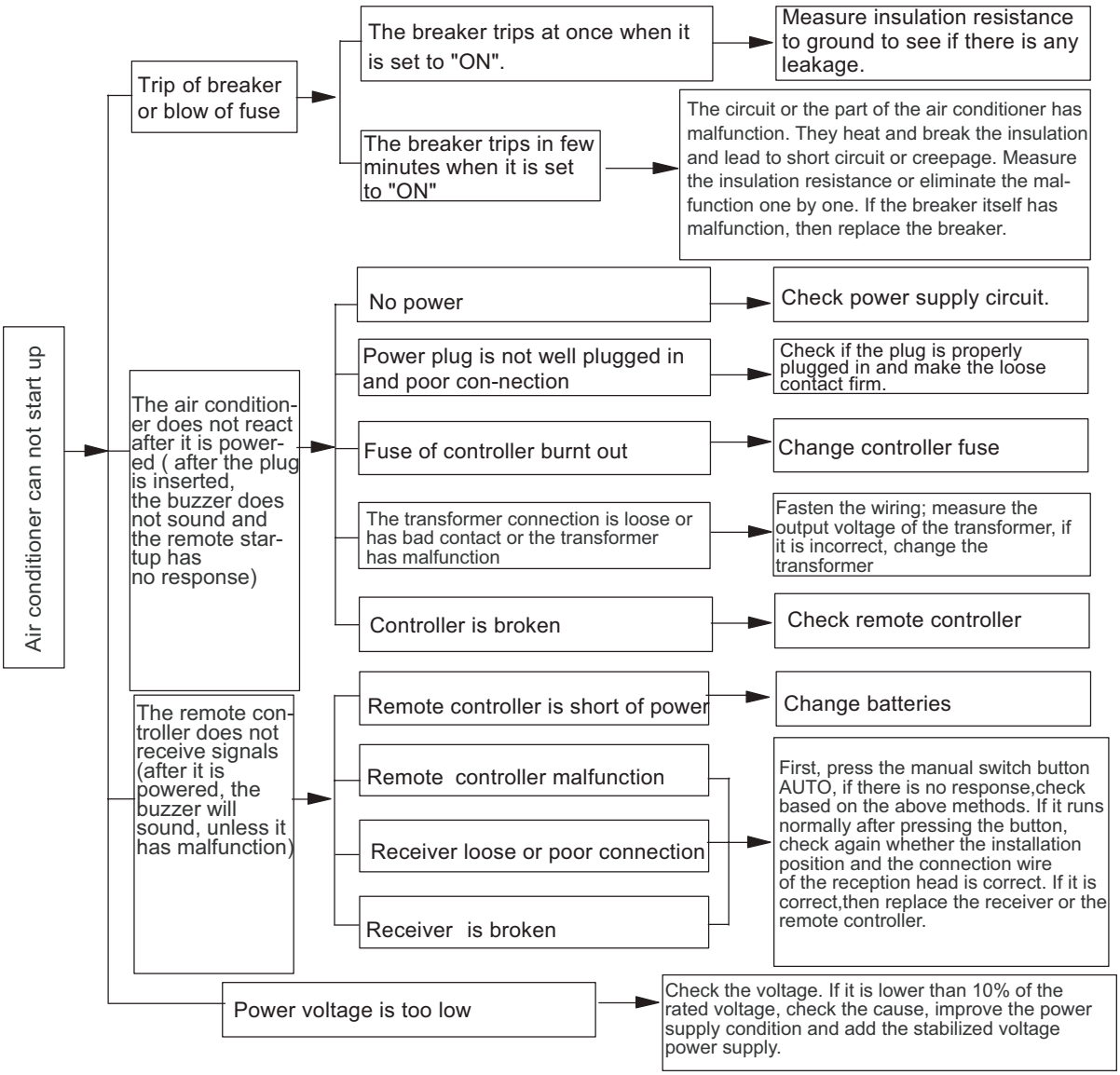
No.	Description	Part Code			Qty
		GWH24MD-K3DNA3K/O			
	Product Code	CB171W07900	CB171W07901	CB171W07902	
1	Front Grill	22415003	22415003	22413026	1
2	Cabinet	01435004P	01435004P	01435004P	1
3	Left Handle	26235401	26235401	26235401	2
4	Front Side Plate	01305086P	01305086P	01305086P	1
5	Drainage Connecter	06123401	06123401	06123401	1
6	Chassis Sub-assy	0280325501P	0280325501P	02803255P	1
7	Drainage hole Cap	06813401	06813401	06813401	3
8	Gas-liquid Separator Assy	07225017	07225017	07225017	1
9	Compressor and Fittings	00105249G	00105249G	00105249G	1
10	Magnet Coil	4300040045	4300040045	4300040045	1
11	4-Way Valve Assy	03073144	03073144	03073144	1
12	Valve Support Sub-Assy	0171501201P	0171501201P	0171501201P	1
13	Cut off Valve Sub-Assy	07135072	07135072	07135072	1
14	Cut off Valve	07133157	07133157	07133157	1
15	Baffle(Valve Support)	01365435P	01365435P	01365435P	1
16	Right Side Plate	0130504401P	0130504401P	0130504401P	1
17	Valve Cover	22245003	22245003	22245003	1
18	Big Handle	26235001	26235001	26235001	1
19	Wiring Clamp	26115004	26115004	26115004	1
20	Rear Grill	01475013	01475013	01475013	1
21	Condenser Assy	0116391701	0116391701	0116391701	1
22	Reactor	43130025	43130025	43130025	1
23	Clapboard Assy	01233164	01233164	01233164	1
24	Condenser Support Plate	01175092	01175092	01175092	1
25	Coping	01255006P	01255006P	01255006P	1
26	Motor Support Sub-Assy	01705025	01705025	01705025	1
27	Fan Motor	1501403402	1501403402	1501403402	1
28	Axial Flow Fan	10335009	10335009	10335014	1
29	Left Side Plate	01305043P	01305043P	01305043P	1
30	Electric Box Assy	02613757	02613757	02613811	1
31	Wire Clamp	71010003	71010003	71010003	1
32	Terminal Board	420111041	420111041	420111041	1
33	Electric Box	20113027	20113027	20113027	1
34	Radiator	49010252	49010252	49010252	1
35	Main Board	30148863	30148863	30148982	1
36	Insulated Board (Cover of Electric Box)	20113003	20113003	20113003	1
37	Temperature Sensor	3900030901	3900030901	39000072	1
38	Electrical Heater (Chassis)	/	7651000411	/	1

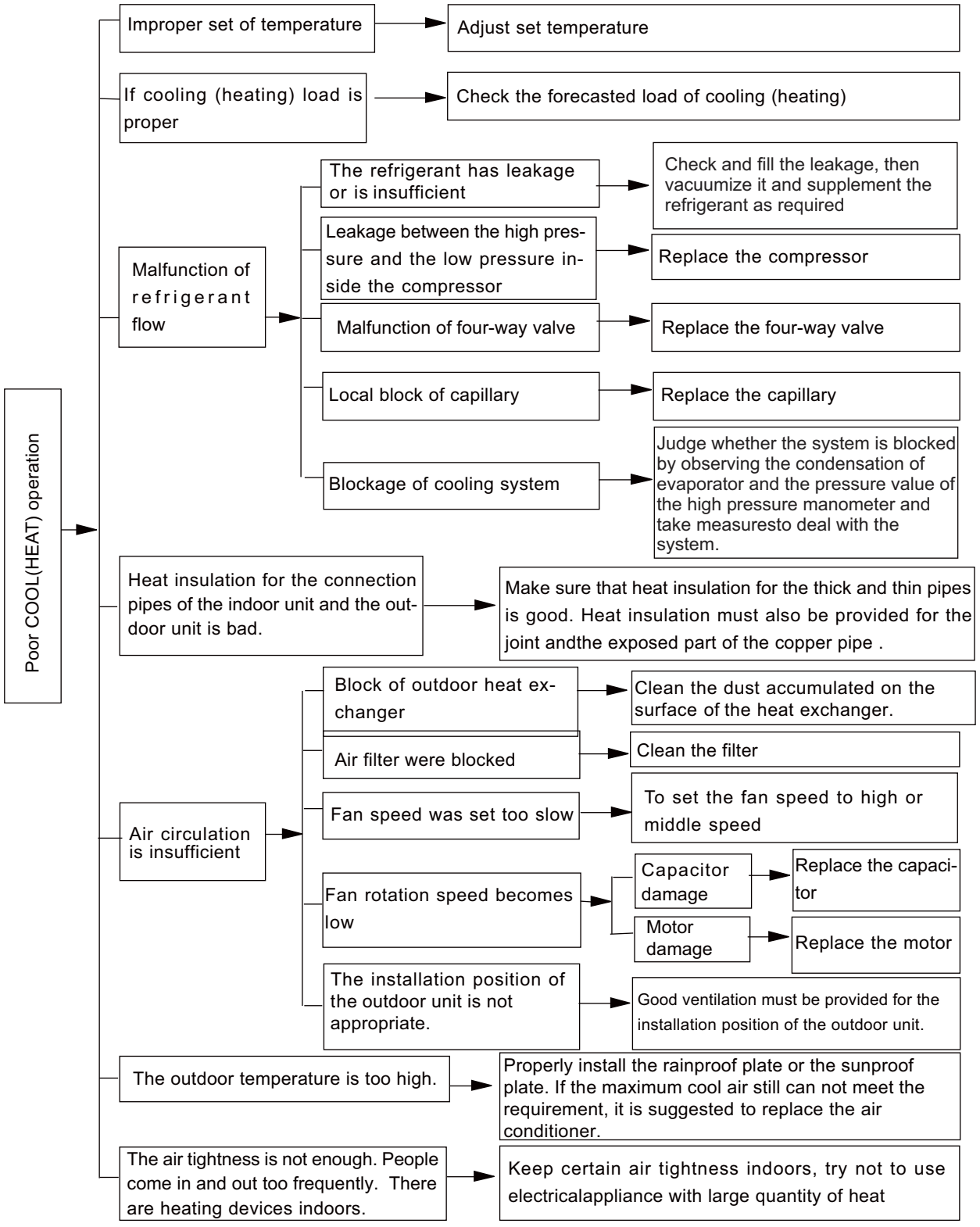
The data above are subject to change without notice.

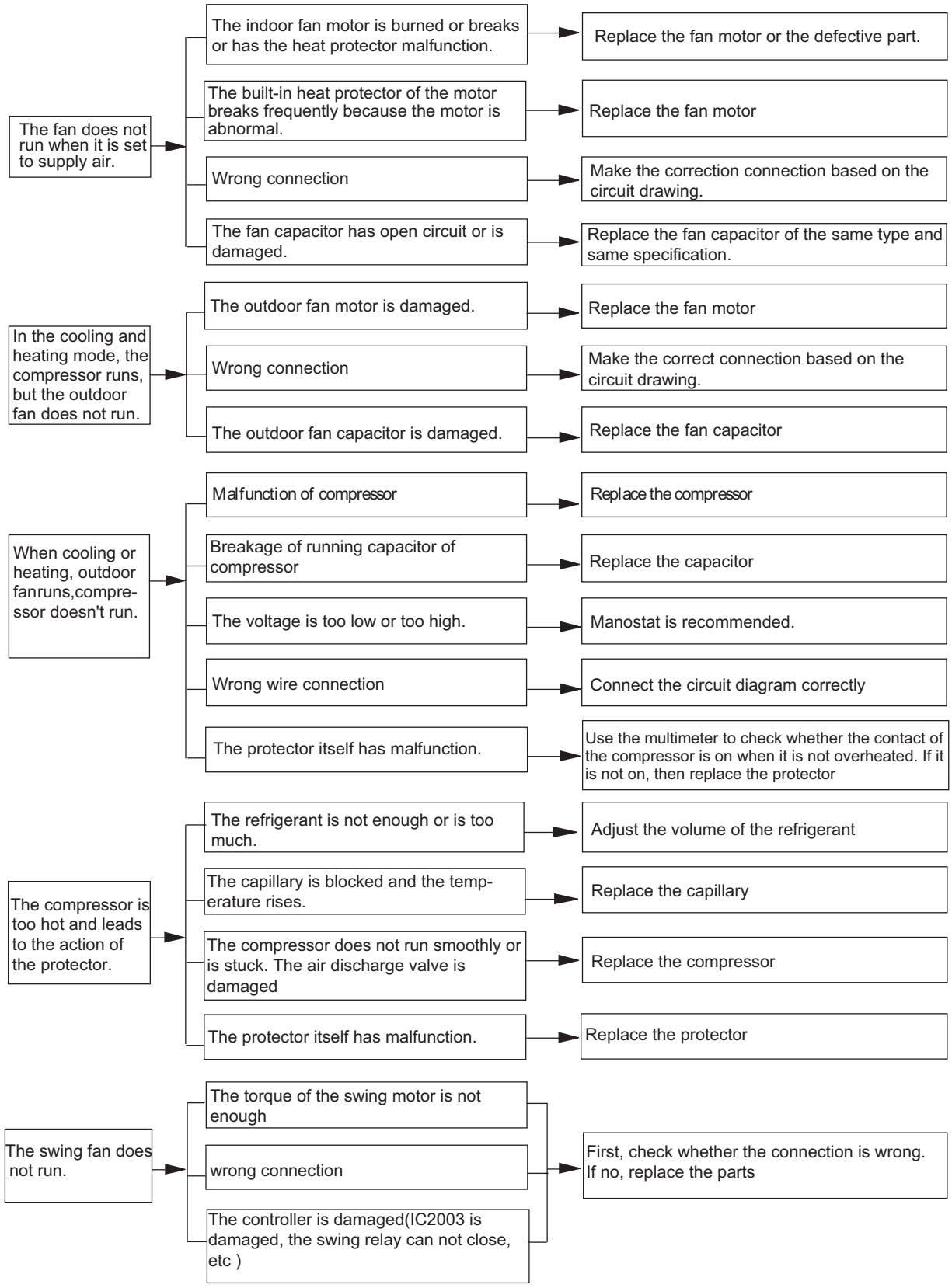
9. Troubleshooting

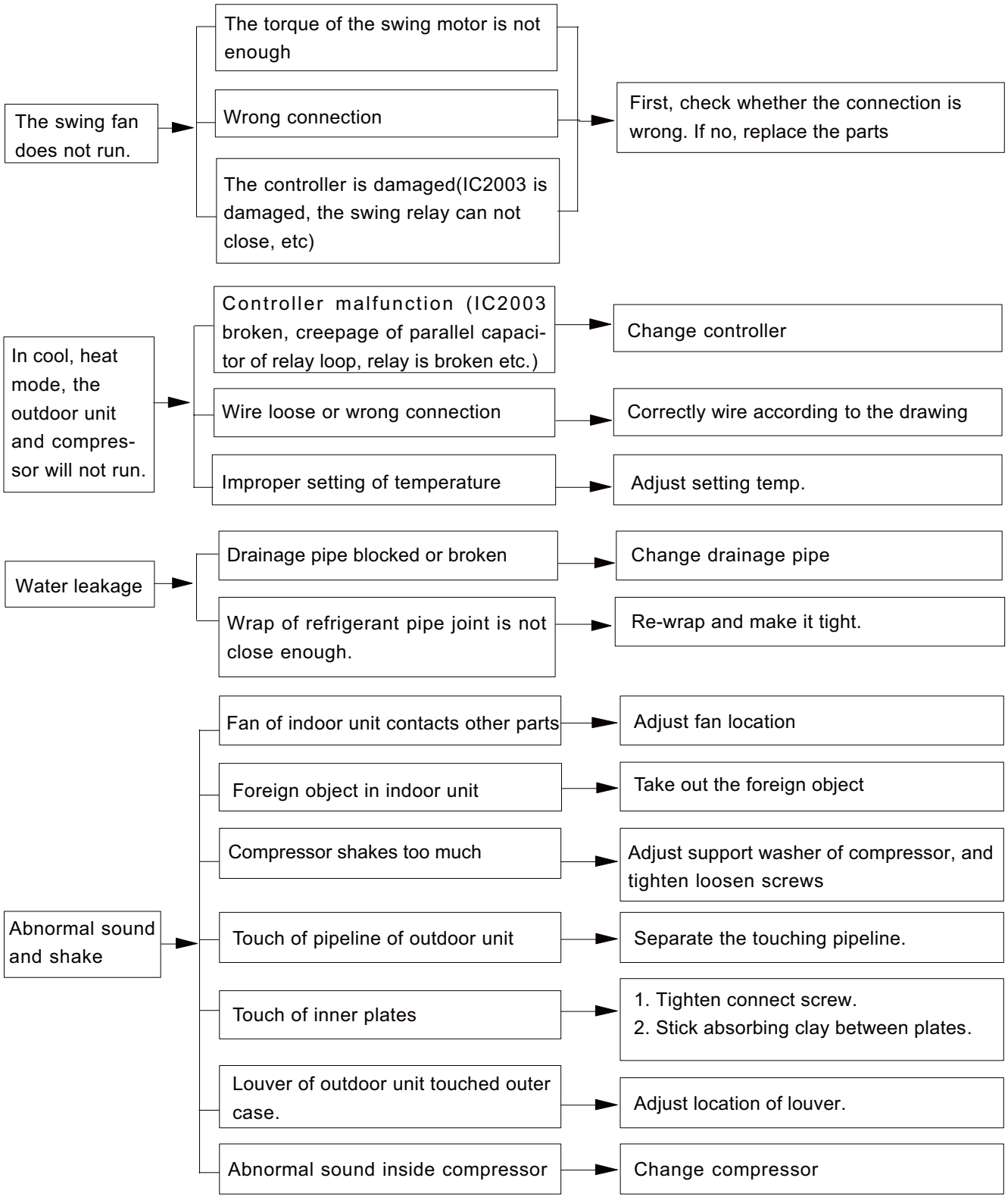
9.1 Malfunction Analysis

Note: When replacing the controller, make sure insert the wire jumper into the new controller, otherwise the unit will display C5




Poor COOL(HEAT) operation
Improper set of temperature
Adjust set temperature
If cooling (heating) load is proper
Check the forecasted load of cooling (heating)
Malfunction of refrigerant flow
The refrigerant has leakage or is insufficient
Check and fill the leakage, then vacuumize it and supplement the refrigerant as required
Leakage between the high pressure and the low pressure inside the compressor
Replace the compressor
Malfunction of four-way valve
Replace the four-way valve
Local block of capillary
Replace the capillary
Blockage of cooling system
Judge whether the system is blocked by observing the condensation of evaporator and the pressure value of the high pressure manometer and take measuresto deal with the system.
Heat insulation for the connection pipes of the indoor unit and the outdoor unit is bad.
Make sure that heat insulation for the thick and thin pipes is good. Heat insulation must also be provided for the joint andthe exposed part of the copper pipe .
Air circulation is insufficient
Block of outdoor heat exchanger
Clean the dust accumulated on the surface of the heat exchanger.
Air filter were blocked
Clean the filter
Fan speed was set too slow
To set the fan speed to high or middle speed
Fan rotation speed becomes low
Capacitor damage
Replace the capacitor
Motor damage
Replace the motor
The installation position of the outdoor unit is not appropriate.
Good ventilation must be provided for the installation position of the outdoor unit.
The outdoor temperature is too high.
Properly install the rainproof plate or the sunproof plate. If the maximum cool air still can not meet the requirement, it is suggested to replace the air conditioner.
The air tightness is not enough. People come in and out too frequently. There are heating devices indoors.
Keep certain air tightness indoors, try not to use electricalappliance with large quantity of heat


The fan does not run when it is set to supply air.
The indoor fan motor is burned or breaks or has the heat protector malfunction.
Replace the fan motor or the defective part.
The built-in heat protector of the motor breaks frequently because the motor is abnormal.
Replace the fan motor
Wrong connection
Make the correction connection based on the circuit drawing.
The fan capacitor has open circuit or is damaged.
Replace the fan capacitor of the same type and same specification.
In the cooling and heating mode, the compressor runs, but the outdoor fan does not run.
The outdoor fan motor is damaged.
Replace the fan motor
Wrong connection
Make the correct connection based on the circuit drawing.
The outdoor fan capacitor is damaged.
Replace the fan capacitor
When cooling or heating, outdoor fanruns,compre-ssor doesn't run.
Malfunction of compressor
Replace the compressor
Breakage of running capacitor of compressor
Replace the capacitor
The voltage is too low or too high.
Manostat is recommended.
Wrong wire connection
Connect the circuit diagram correctly
The protector itself has malfunction.
Use the multimeter to check whether the contact of the compressor is on when it is not overheated. If it is not on, then replace the protector
The compressor is too hot and leads to the action of the protector.
The refrigerant is not enough or is too much.
Adjust the volume of the refrigerant
The capillary is blocked and the temp-erature rises.
Replace the capillary
The compressor does not run smoothly or is stuck. The air discharge valve is damaged
Replace the compressor
The protector itself has malfunction.
Replace the protector
The swing fan does not run.
The torque of the swing motor is not enough
wrong connection
The controller is damaged(IC2003 is damaged, the swing relay can not close, etc)
First, check whether the connection is wrong. If no, replace the parts


The swing fan does not run.
The torque of the swing motor is not enough
Wrong connection
The controller is damaged(IC2003 is damaged, the swing relay can not close, etc)
First, check whether the connection is wrong. If no, replace the parts
In cool, heat mode, the outdoor unit and compressor will not run.
Controller malfunction (IC2003 broken, creepage of parallel capacitor of relay loop, relay is broken etc.)
Change controller
Wire loose or wrong connection
Correctly wire according to the drawing
Improper setting of temperature
Adjust setting temp.
Water leakage
Drainage pipe blocked or broken
Change drainage pipe
Wrap of refrigerant pipe joint is not close enough.
Re-wrap and make it tight.
Abnormal sound and shake
Fan of indoor unit contacts other parts
Adjust fan location
Foreign object in indoor unit
Take out the foreign object
Compressor shakes too much
Adjust support washer of compressor, and tighten loosen screws
Touch of pipeline of outdoor unit
Separate the touching pipeline.
Touch of inner plates
1. Tighten connect screw.
2. Stick absorbing clay between plates.
Louver of outdoor unit touched outer case.
Adjust location of louver.
Abnormal sound inside compressor
Change compressor

9.2 Flashing LED of Indoor/Outdoor Unit and Primary Judgement

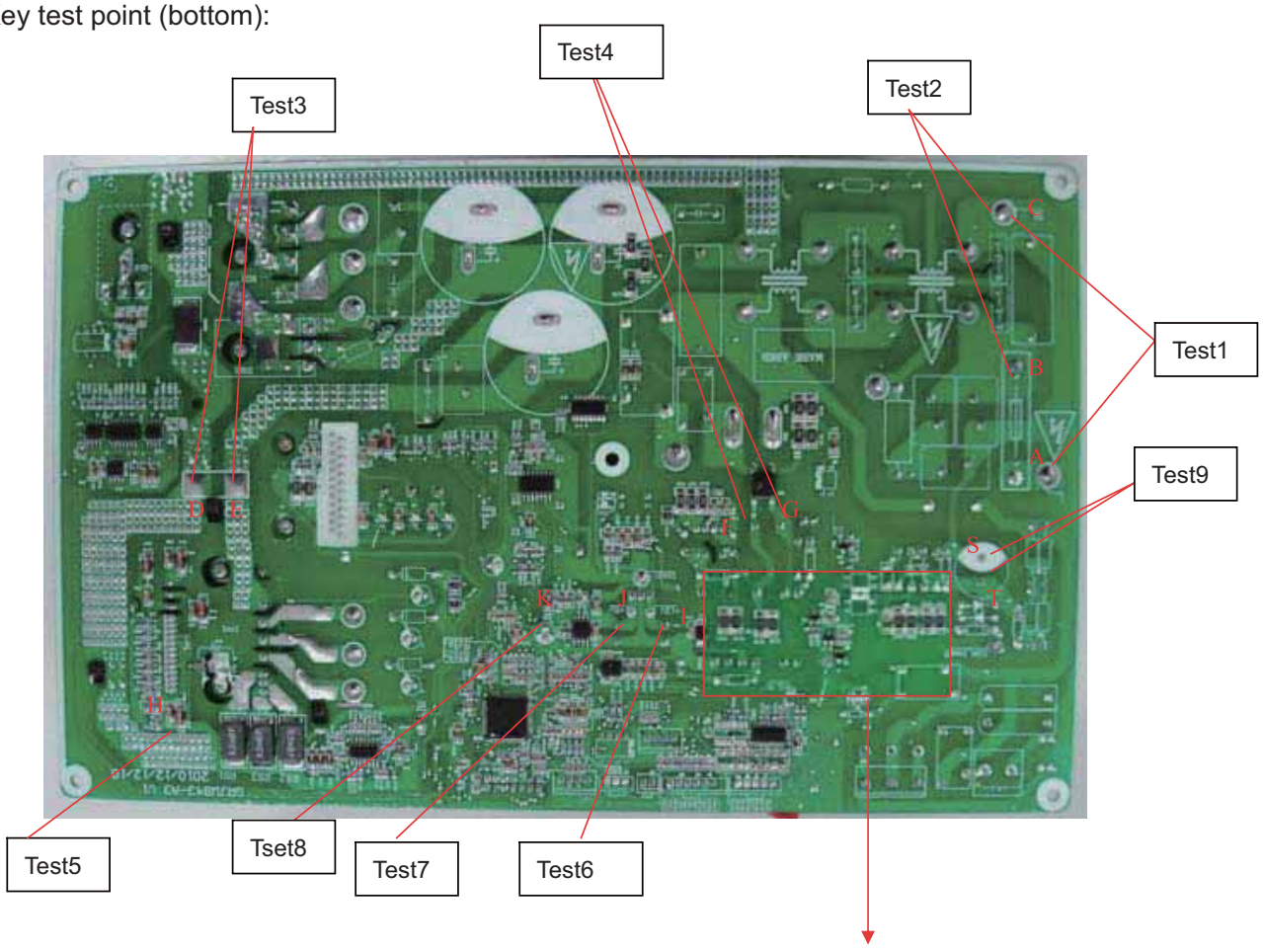
NO.	Name of malfunction	Indoor unit displaying method				Outdoor unit display(LEDs have 3 status)□OFF ■ON ☆ Blinks				AC status	Malfunctions
		Double 8 code display	Indicator display(LED blinks 0.5s-ON/0.5s-OFF)								
			Running LED	Cooling LED	Heating LED	D40/D5	D41/D6	D42/ D16	D43/ D30		
1	System high pressure protection	E1	3s off blink once							cooling,dehumidifying,except the indoor fam motor is runnig,others will stop to run. heating;all stop running	High pressure of system,might be: 1.Refrigerant is too much; 2.Poor heating exchanging for units(including heat exchanger is dirty and unit heating radiating ambient is poor); 3.Ambient temp.is too high.
2	Anti-freezing protection	E2	3s off blink twice			■	□	■	□	cooling,dehumidifying,compressor,outdoor fan motor will stop running,indoor fan motor will keep running.	1.Poor indoor unit air returning; 2.Indoor fan motor rotating speed abnormal; 3.Evaporator is dirty;
3	Compressor air exhaust high temp. protection	E4	3s off blink four times			■	□	■	☆	cooling,dehumidifying,compressor,outdoor fan motor will stop running,indoor fan motor works. heating:all stop running.	Pls refer to rtouble shoot (air exhaust protection,overload)
4	AC overload protection	E5	Off 3s blink 5 times			□	■	☆	□	Cooling,dehumidifying,compressor,outdoor fan motor will stop,indoor fan will work. heating;all will stop	1.power supply is stable,fluctuation is too much 2.Power supply is too low,overload is too much.
5	Indoor and outdoor units communication malfunction	E6	Off 3s blink 6 times			□	□	□	☆	Cooling,compressor will stop,indoor fan motor works,Heating:all will stop	Please refer to troubleshooting
6	Anti-high temp. protection	E8	Off 3s blink 8 times			■	□	■	■	Cooling,compressor will stop,indoor fan motor works,Heating:all will stop	Please refer to troubleshooting
7	Indoor unit motor no feedback	H6	Off 3s blink 11 times							Whole unit will stop to run	1.Poor insert for GPF 2.Indoor control board AP1 malfunction 3.Indoor motor M1 malfunction
8	Jump wire cap malfunction protection	C5	Off 3s blink 15 times							Whole unit will stop to run	Indoor control board AP1 jump cap poor connected,please reinsert or replace the jump cap.
9	Indoor ambient sensor open circuit,short circuit	F1		Off 3s blink once						Cooling,dehumidifying:indoor fan motor is runing,other overloads will stop;Heating,whole unit will stop to run.	1.Room temp.sensor is not connected with the control panel AP1 2.Room temp.sensor is damaged
10	Indoor evaporator sensor ciruit open,short circuit	F2		Off 3s blink twice						Cooling,dehumidifying;indoor fan motor runing,other overload will stop;Heating,whole unit will stop.	1,Tube temp.sensor is not connected with the conrtol panel AP1 2.Tube tmep.sensor is damaged
11	Outdoor ambient sensor circuit open,circuit short	F3		Off 3s blinks three times		□	□	☆	■	Cooling,dehumidifying;compressor will stop,indoor fan motor will work.Heat:all will stop	Outdoorroom temp.sensor hasn't connected well,or damaged,please refer to the sensor resistance value for checking.
12	Outdoor condemsor sensor open circuit,short circuit	F4		Off 3s blinks 4 times		□	□	☆	□	Cooling,dehumidifying;compressor will stop,indoor fan motor will work.Heat:all will stop	Outdoorroom temp.sensor hasn't connected well,or damaged,please refer to the sensor resistance value for checking.
13	Malfunction of zero-cross derection	U8	Off 3s and blink 17 times							The complete unit stops	1.Power supply is abnormal 2.Detection circuit of indoor control mainboard is abnormal

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

24	PFC protection	HC			Off 3s blink 6 times	□	■	☆	☆	Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Pls refer to troubleshooting
25	Compressor lose steps	H7			Off 3s blink 7 times	□	☆	■	☆	Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Pls refer to troubleshooting
26	Heating, anti-high temp. declines	H0			Off 3s blink 10 times	■	□	☆	☆	Overload normal works,compressor running,frequency declines	Pls refer to troubleshooting
27	Startsup fail	Lc			Off 3s blink 11 times	□	☆	□	☆	Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Pls refer to troubleshooting
28	Compressor current testing circuit malfunction	U1			Off 3s blink 13 times	□	☆	■	□		Replace the outdoor control board AP1
29	EEPROM malfunction	EE			Off 3s blink 15 times	□	□	□	■	Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Replace the outdoor control board AP1
30	Capacitor charge malfunction	PU			Off 3s blink 17 times	□	■	□	■	Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Pls refer to Part 3 capacitor charging fault of troubleshooting
31	Module sensor circuit diagram	P7			Off 3s blink 18 times	□	□	■	☆	Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Replace the outdoor control board AP1
32	Module temp. over high protection	P8			Off 3s blink 19 times	■	□	☆	■	Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	To check whether the ambient Temp. of IPM is too high or the heat-sinhing of IPM is dirty else replace the outdoor baord AP1
33	DC Bus voltage dips	U3			Off 3s blink 20 times	□	■	■	■	Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	Power voltage is not stable
34	Low DC Bus voltage protection	PL			Off 3s blink 21 times	□	■	■	□	Cooling, dehumidifying;compressor stops running,indoor fan motor works. Heating: all will stop running	1.Check the Input voltage if the Voltage is lower than 150VAC,restart the machine when the power supply is mormal. 2.Checking the reactor L connection.
35	IPM temp.is too high limit/ decrease frequency	EU				■	■	■	☆	Over load normal works,compressor runing frequency declines	Whole unit break for 20 mins and discharge,to check the outdoor control board AP1's IPM module coolant whether is short,the radiator is tightened. If above phenomenon is not OK,Please improve or replace the control board AP1
36	Four-way valve abnormal	U7				■	□	☆	□	This malfunction happened,only in heating mode,all will stop to run.	1.Power supply voltage is lower than AC175V 2.Wire terminal 4V loosen or wire break 3.4V damaged,replace 4V
37	Outdoor unit zero-cross detecting error					■	■	☆	□	Cooling:compressor will stop,indoor fan motor works. Heating:all will stop.	Replace the outdoor control board AP1

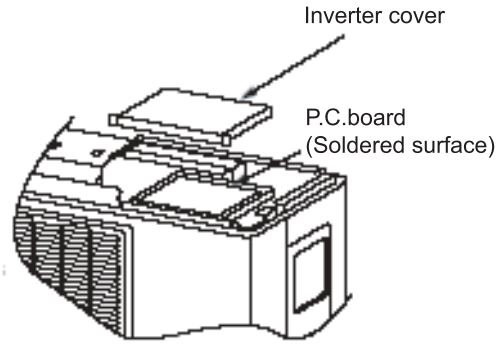
38	Anti-freezing Ilmit/decrease frequency	FH				■	■	■	□	All loads work normally but the running frequency limited or decrease	Indoor unit air return is poor or fan speed is to low.
39	Fan module protection	L3				■	□	□	□	Cooling:outdoor fan motor,compressor stop running;indoor fan works. Heating:outdoor fan motor,compressor,indoor fan motor stop running.	1.The wire terminal of outdoor fan motor is loosed,fix the terminal. 2.Motor damaged,replace the motor 3.Fan motor module on mainboard is damaged;replace the mainboard AP1

Key test point (bottom):



Test point No.	Test point	Related elements	Test value under normal condition
Test 1	Between A and C	Neutral wire, live wire	160V-265V
Test 2	Between B and C	Neutral wire, live wire	160V-265V
Test 3	Between D and E	Electrolytic capacitor of DC bas bar	DC 180V-380V
Test 4	Between F and G	Electrolytic capacitor of switch power	DC 180V-380V
Test 5	Both ends of diode D10	D10 (IPM module +15V)	DC 14.5V-15.6V
Test 6	Both ends of electrolytic capacitor C40	C40 (+12V power)	DC 12V-13V
Test 7	Both ends of electrolytic capacitor C82	C82 (+5V power)	DC 5V
Test 8	Both ends of electrolytic capacitor C225	C225 (+3.3V power)	DC 3.3V
Test 9	Between S and T	Communication circular current	DC 56V
Test 10	Between point N and GND	R78 to N terminal (ground) (signal receiving terminal of outdoor unit)	Jumping between 0V and 3.3V
Test 11	U12	Between 1 and 2 at leading foot of U12	Jumping between 0V and 3.3V
Test 12	Between point M and GND	R75 to M terminal (signal sending terminal of outdoor unit)	Jumping between 0V and 3.3V
Test 13	U15	Between 3 and 4 at leading foot of U15	Jumping between 0V and 3.3V

●Discharging method
(1) remove the inverter cover(Outdoor Unit)



(2)As shown below,connect the discharge resistance(approx.100Ω20W)or plug of the sold ering iron to voltage between + - terminals of the electrolytic capacitor (test3 “D ” and “E” point) on PC Board for 30s, and then peformedischarging.

NOTE:
A large-capacity electrolytic capacitor is used in the outdoor unit controller(inverter).Therefore,if the power supply is turned off,charge(charging voltage DC280V to 380V)remains and disc harging takes a lot of time.. After turning off the power source,if touching the charging section before discharging, an electrical shock may be caused. Discharge the electrol ytic capacitor completely by using soldering iron,etc.

9.3 Malfunction Elimination

Confirm the malfunction type according to indoor or outdoor malfunction indicator and malfunction sheet (usually it is stuck on the electric box cover or the top cover of the unit). The indicators of outdoor control board will directly display the corresponding malfunction if there is a malfunction; Some malfunctions are displayed directly on the indoor displayer and some malfunctions can be viewed only by remote controller (by pressing light button for four times within 3s) In the below malfunction chart, “Y” means “Yes”; “N” means “No”; control board AP1 means outdoor control board.

Before malfunction check, discharge the electrolytic capacitor according to the mentioned method and make sure the voltage is below 20V. Otherwise, it may cause electric shock or broking the control board.

(1) Capacitor charge fault (Fault with outdoor unit)

Malfunction indicator of outdoor unit

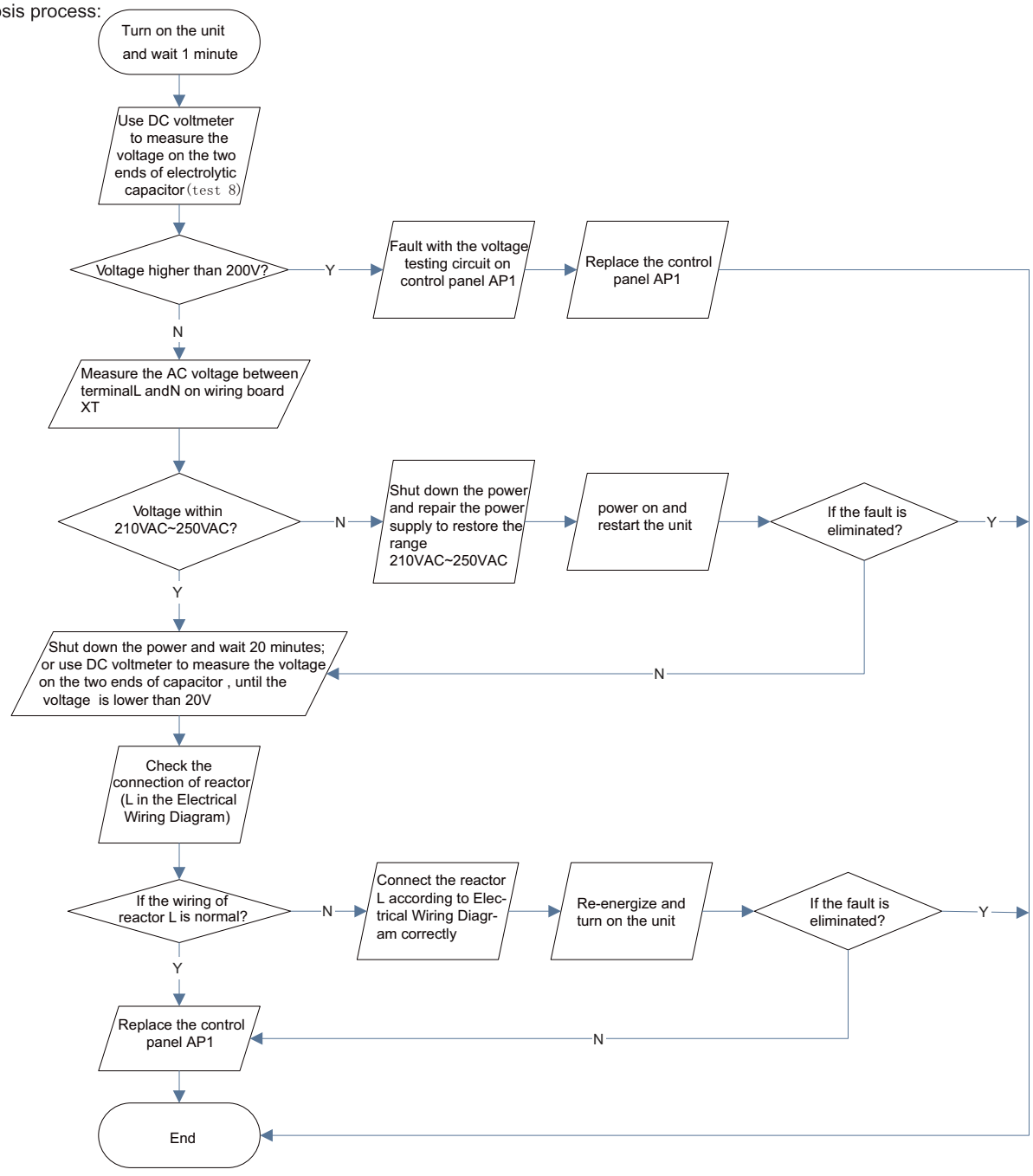
D5	D6	D16	D30
□	■	□	■

Main Check Points:

●Use AC voltmeter to check if the voltage between terminal L and N on the wiring board XT is within 210VAC~240VAC.

●Is the reactor (L) correctly connected? Is the connection wire loose or fallen? Is the reactor (L) damaged?

Fault diagnosis process:



(2) IPM Protection, Out-of-step Fault, Compressor Phase Overcurrent (Fault with outdoor unit)

Malfunction indicator of outdoor unit

Malfunction	D5	D6	D16	D30
IMP protection	□	☆	□	■
Out-of-step fault	□	☆	■	☆
Compressor overcurrent	□	☆	□	□

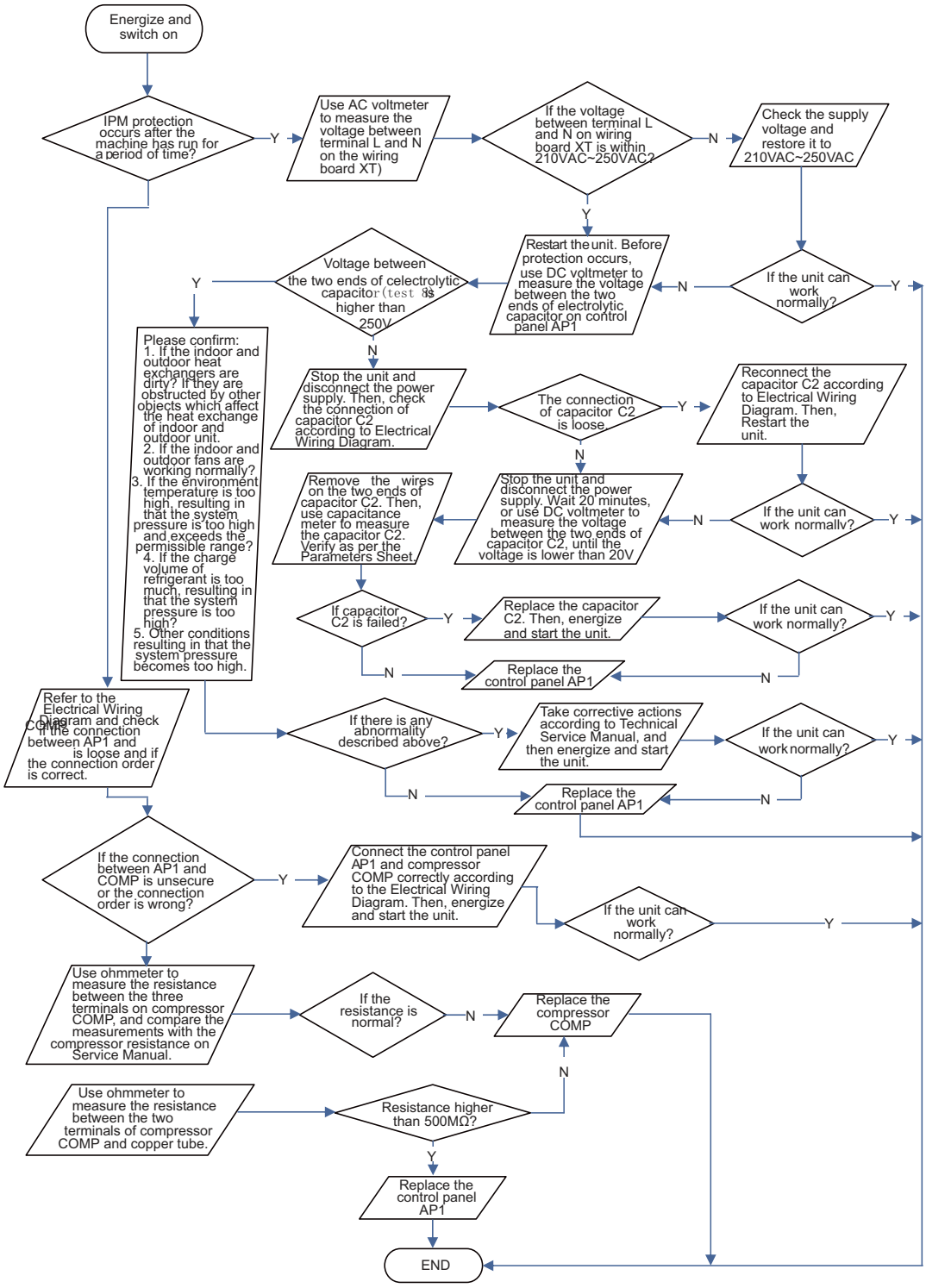
Main check points:

●Is the connection between control panel AP1 and compressor COMP secure? Loose? Is the connection in correct order?

●Is the voltage input of the machine within normal range? (Use AC voltmeter to measure the voltage between terminal L and N on the wiring board XT) ●Is the compressor coil resistance normal? Is the insulation of compressor coil against the copper tube in good condition?

●Is the working load of the machine too high? Is the radiation good? ●Is the charge volume of refrigerant correct?

Fault diagnosis process:



(3)High temperature and overload protection diagnosis (Check **the outdoor** unit in cooling mode and check the indoor **unit** in heating mode **)**

Malfunction indicator of outdoor unit

D5	D6	D16	D30
■	□	■	■

Main check points:

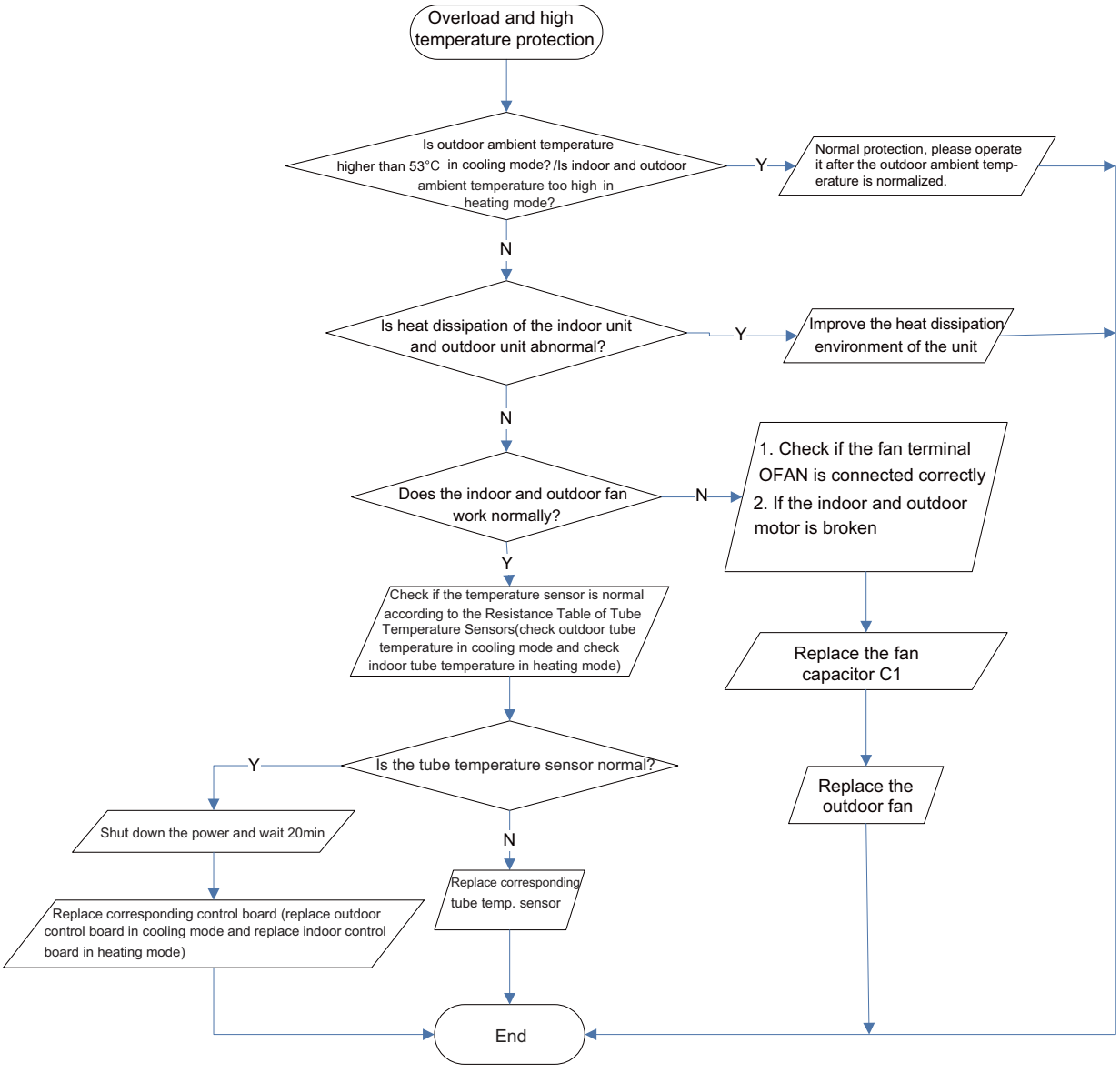
●Is outdoor ambient temperature in normal range?

●Are the outdoor and indoor fans operating normally?

●Is the heat dissipation environment inside and outside the unit good(including if the fan speed is too low)?

●Is the tube temperature sensor of indoor and outdoor unit normal?

Fault diagnosis process:



(4) Start-up failure (Fault with **outdoor unit)**

Malfunction indicator of outdoor unit

D5	D6	D16	D30
□	☆	□	☆

Main check points:

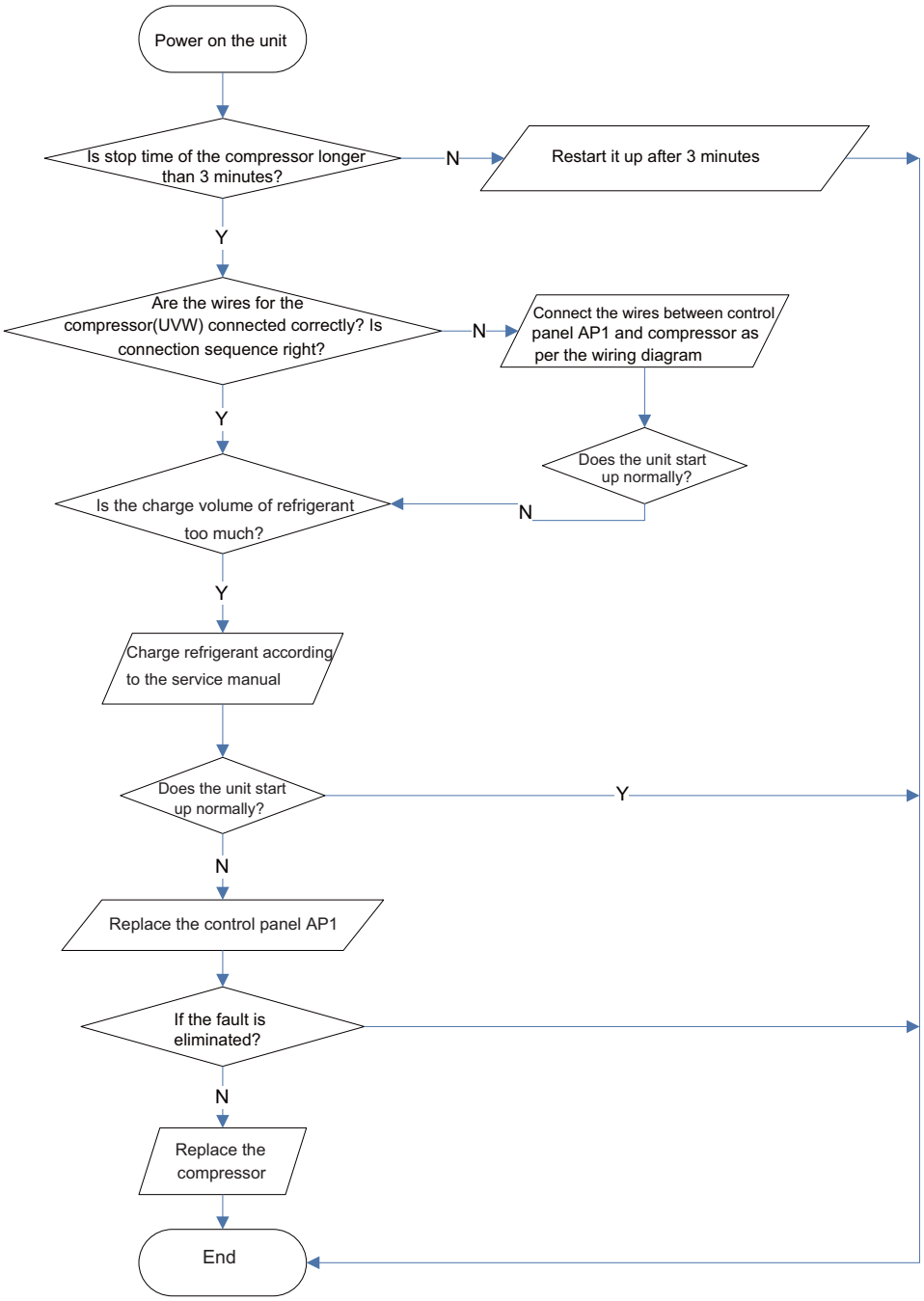
●Whether the compressor wiring is connected correctly?

●Is compressor broken?

●Is time for compressor stopping enough?

●Is the charge volume of refrigerant too much?

Fault diagnosis process:



(5) Out of step diagnosis for the compressor (Fault with outdoor unit)

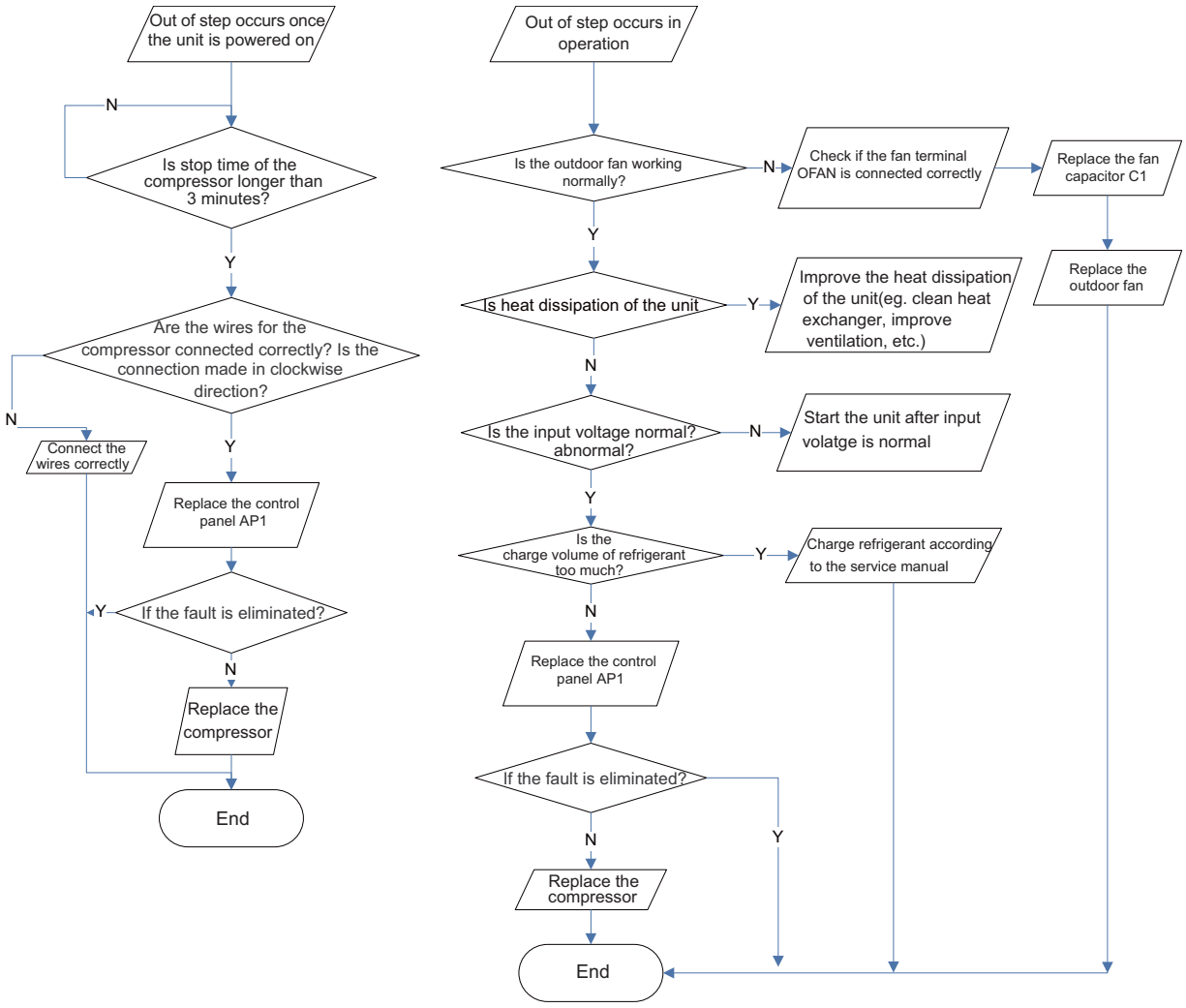
Malfunction indicator of outdoor unit

D5	D6	D16	D30
□	☆	■	☆

Main check points:

- ●Is the system pressure too high?
- ●Is the input voltage too low?

Fault diagnosis process:



(6)Overload and air exhaust malfunction diagnosis (Fault with outdoor unit)

Malfunction indicator of outdoor unit

Malfunction	D5	D6	D16	D30
Overload	□	☆	☆	□
Air exhaust	■	□	■	☆

Main check points:

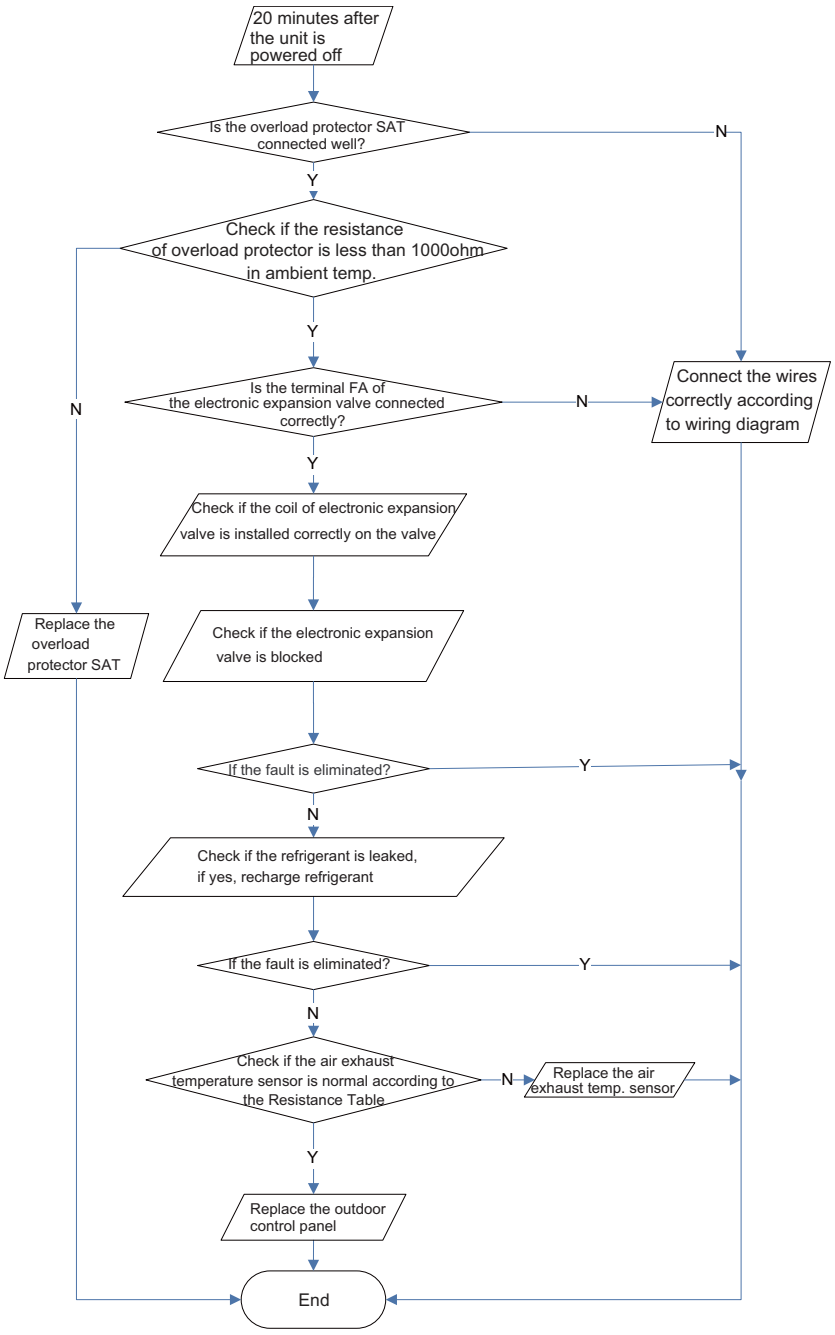
●Is the electronic expansion valve connected well? Is the electronic expansion valve damaged?

●Is refrigerant leaked?

●Is the overload protector damaged?

●Is the air exhaust temperature sensor damaged?

Fault diagnosis process:



(7) Communication malfunction:

Malfunction indicator of outdoor unit

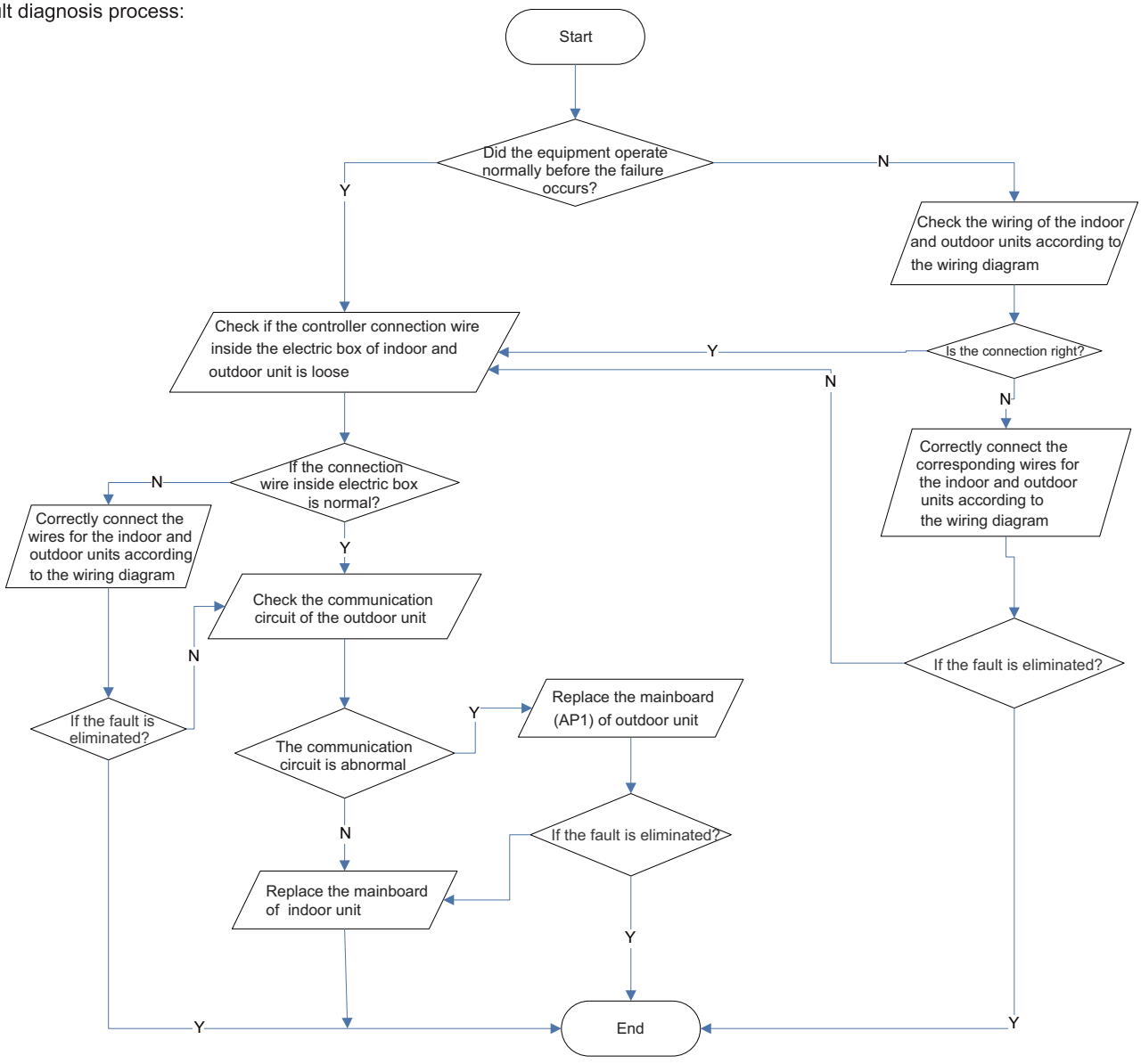
D5	D6	D16	D30
□	□	□	☆

Main check points:

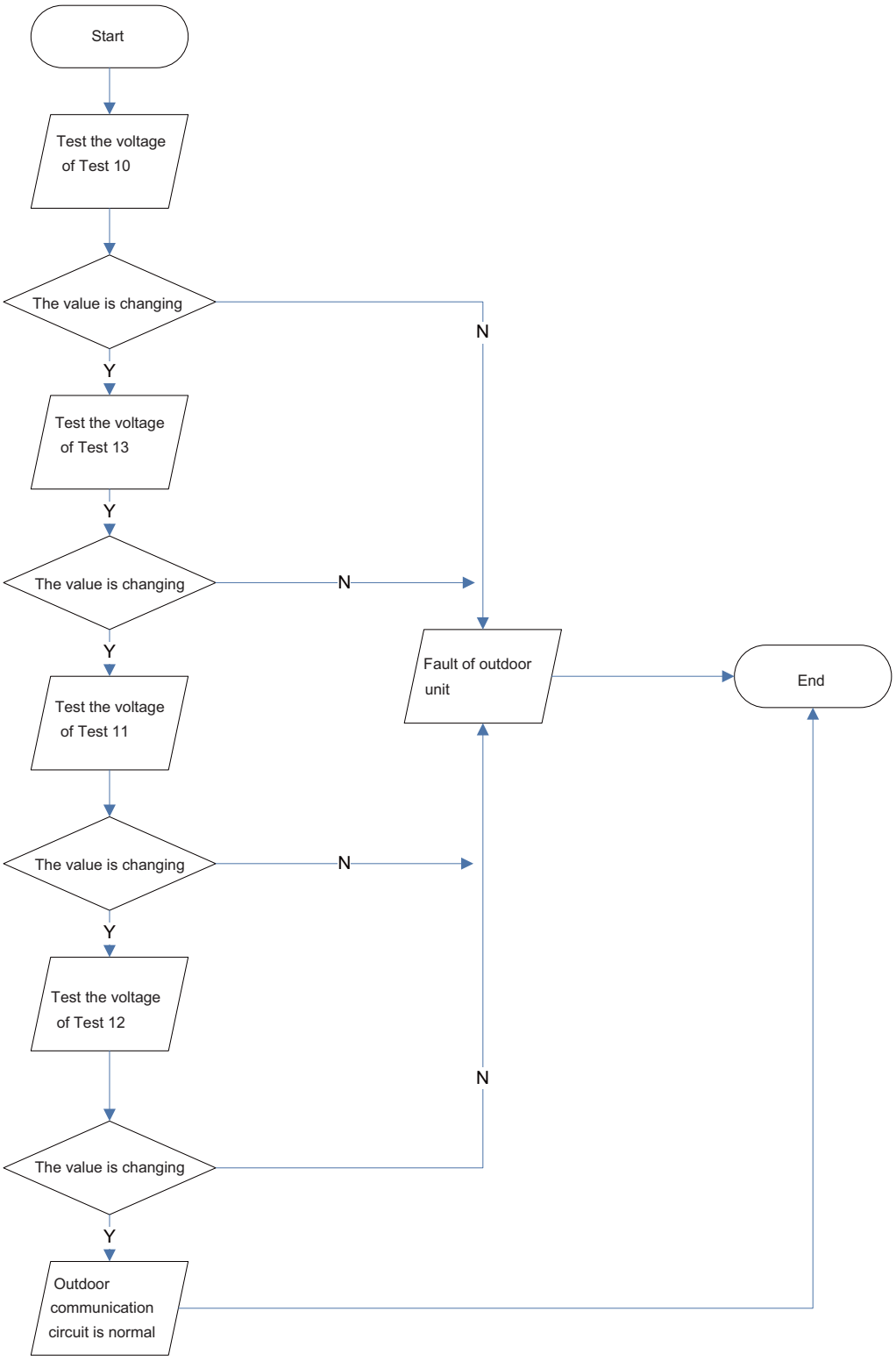
●Is there any damage for the communication circuit of indoor mainboard? Is communication circuit of outdoor mainboard(AP1) damaged?

●Detect the indoor and outdoor connection wire and indoor and outdoor inside wiring is connected well or not, if there is any damage?

Fault diagnosis process:



Detection process of outdoor communication circuit (refer to the outdoor key detection points)



Appendix 1: Resistance Table of Ambient Temperature Sensor for Indoor and Outdoor Units(15K)

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

Appendix 2: Resistance Table of Outdoor and Indoor Tube Temperature Sensors(20K)

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

Appendix3: Resistance Table for Outdoor Discharge Temperature Sensor (50K)

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

Note: The information above is for reference only.

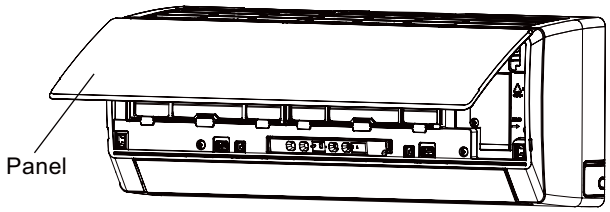
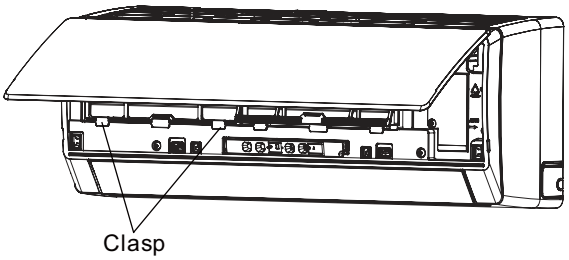
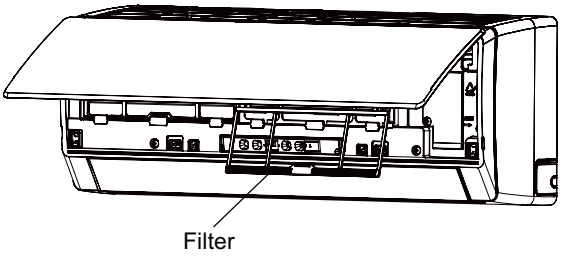
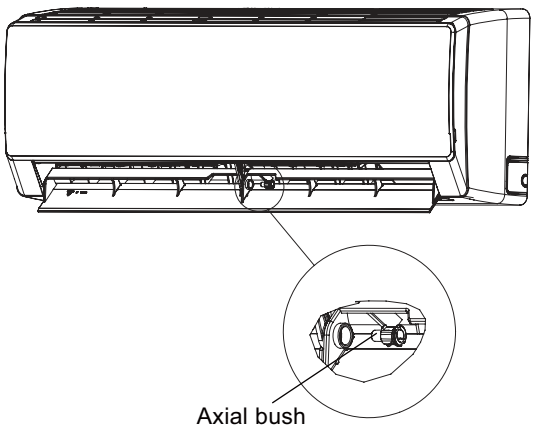
10. Removal Procedure

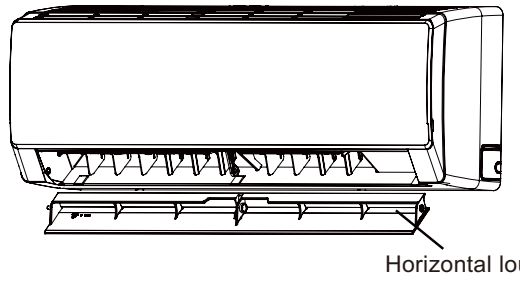
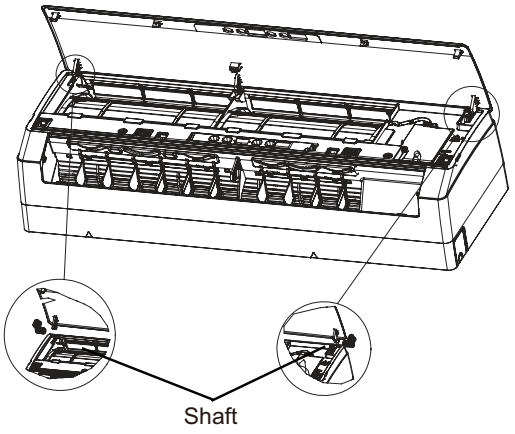
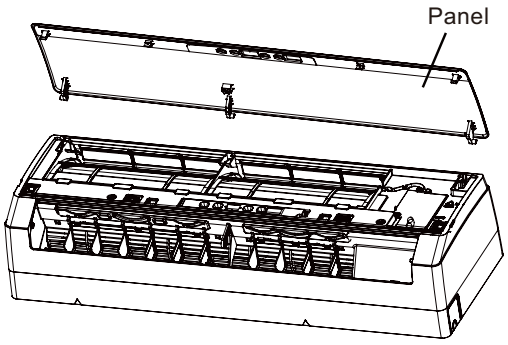
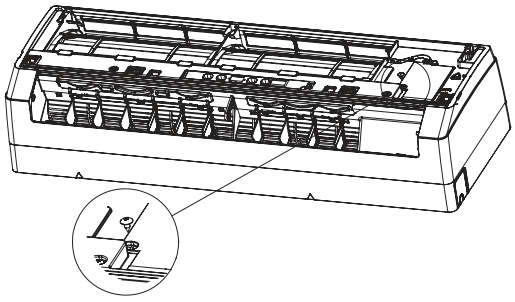
10.1 Removal Procedure of Indoor Unit

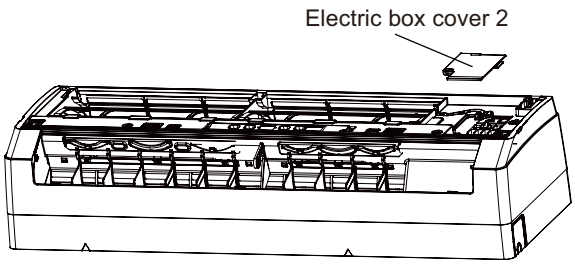
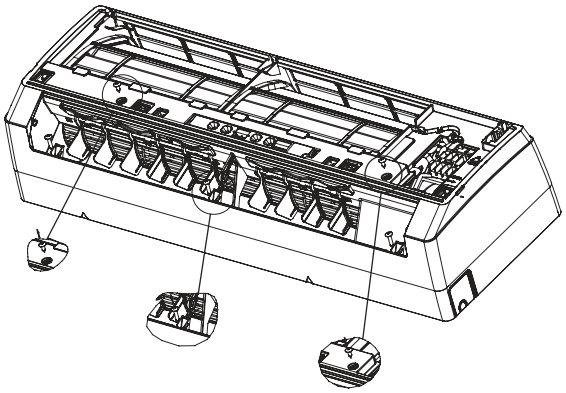
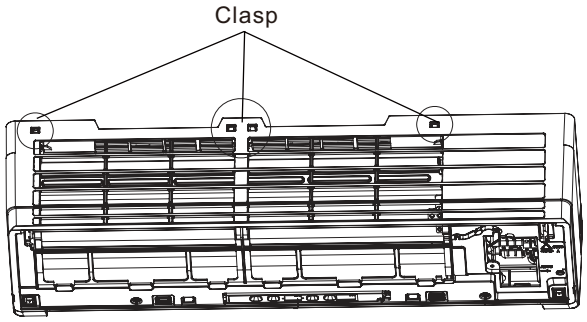
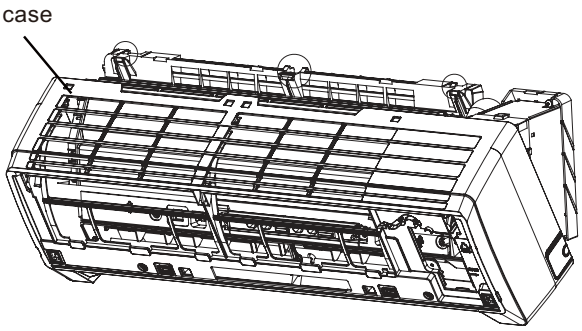
⚠ Warning Be sure to wait for a minimum of 10 minutes after turning off all power supplies before disassembly.

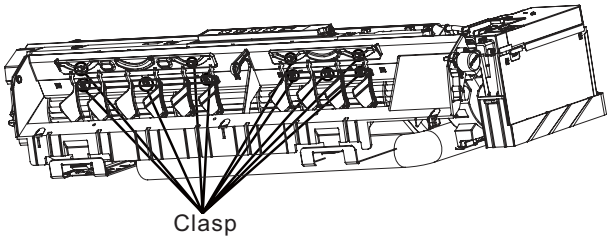
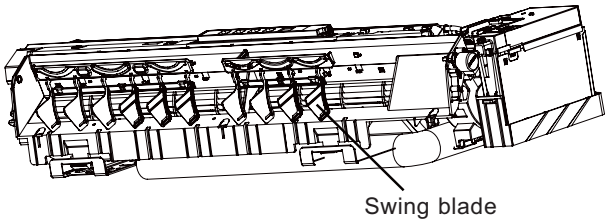
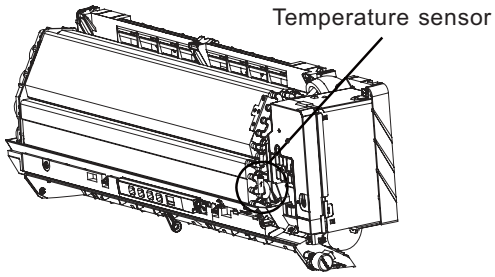
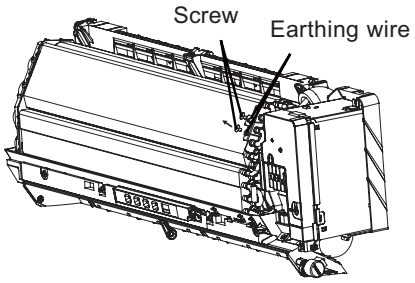
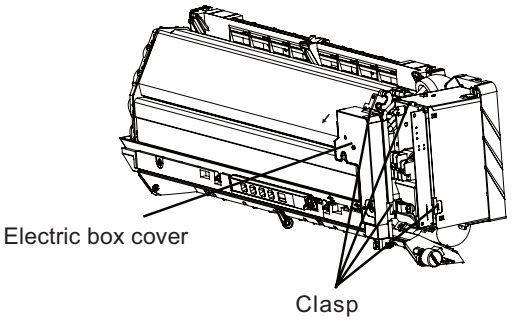
18K

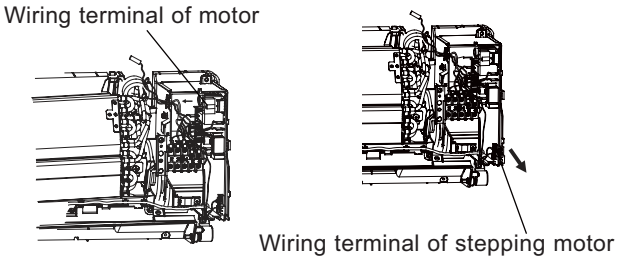
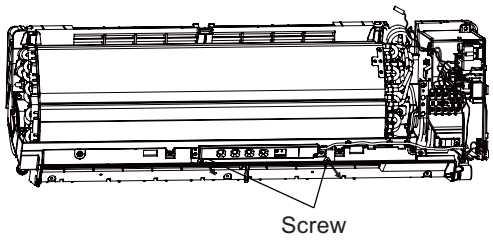
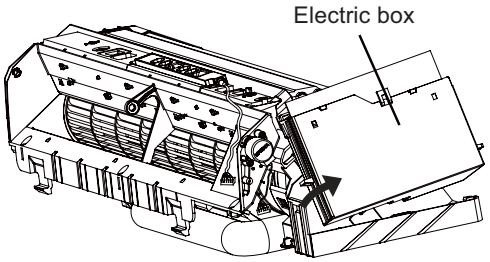
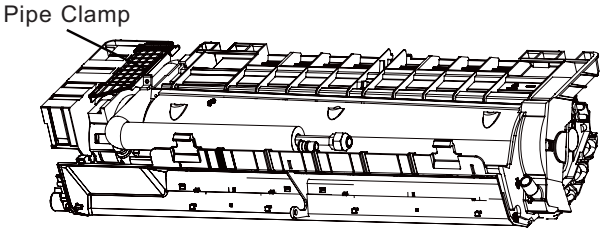
NOTE:Take GWH18MC-K3DNA3K/I for exampe.

Steps	Procedure	
1. Remove filter		
1	Open the panel	
2	Loosen the clasps on filter.	
3	Push the filter upwardly and then pull it downward to remove it.	
2. Remove horizontal louver		
1	Remove the axial bush on horizontal louver.	

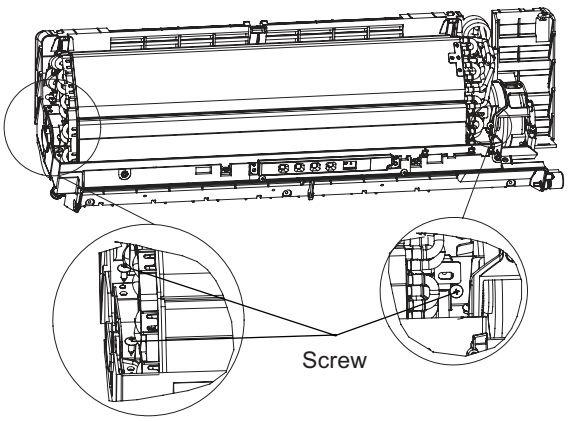
Steps	Procedure	
2	Bend the horizontal louver to let the shat come out of the groove, and then the guide louver can be removed.	
3. Remove panel		
	Open the shaft of panel at both sides of panel to separate the panel from the front case, and then remove the panel.	
4. Remove electric box cover 2		
1	Twist off the 2 screws on electric box cover with screwdriver.	

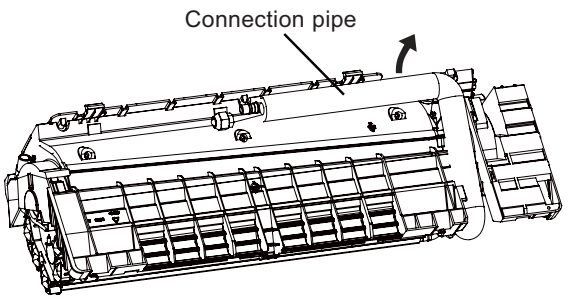
Steps	Procedure	
2	Remove the electric box cover 2.	
5. Remove front case		
1	Open the screw caps on front case and then twist off the screws on front case with screwdriver.	
2	Loosen the clasps at the left middle and right side of front case.	
3	Remove the front case.	

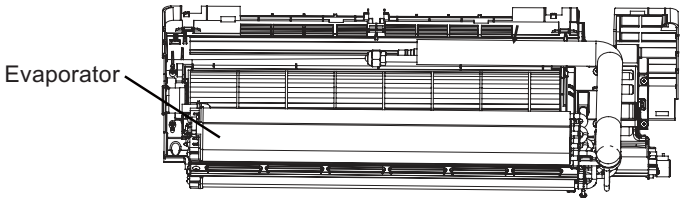
Steps	Procedure	
6. Remove swing blade		
1	Loosen the clasps used for connecting the swing blade and bottom case.	
2	Remove the swing blade.	
7. Remove electric box		
1	Pull out the indoor tube temperature sensor.	
2	Twist off the screws used for connecting the earthing wire and evaporator with screwdriver.	
3	Loosen the clasps connecting the electric box cover and electric box, and then remove the electric box.	

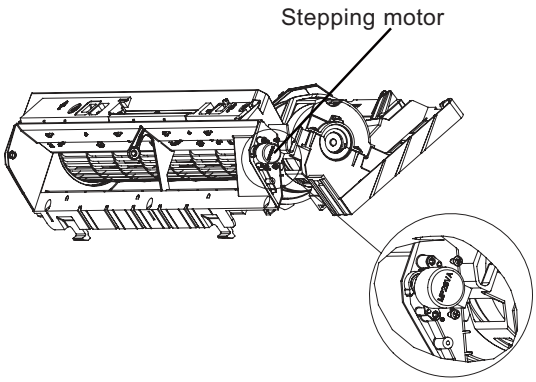
Steps	Procedure	
4	Pull out motor connecting terminal on motor electric box and wiring terminal on stepping motor separately.	
5	Twist off the 2 screws on displayer with screwdriver and then remove the displayer.	
6	Twist off the screws fixing the electric box with screwdriver and then remove the electric box.	
8. Remove clamp of connection pipe		
	Twist off the screws on clamp of connection pipe with screwdriver to remove it.	

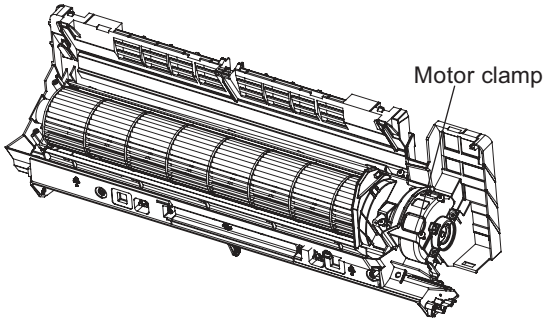
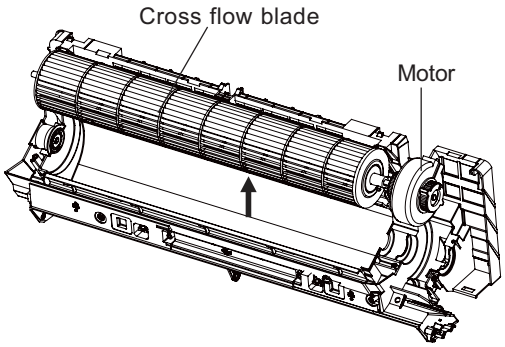
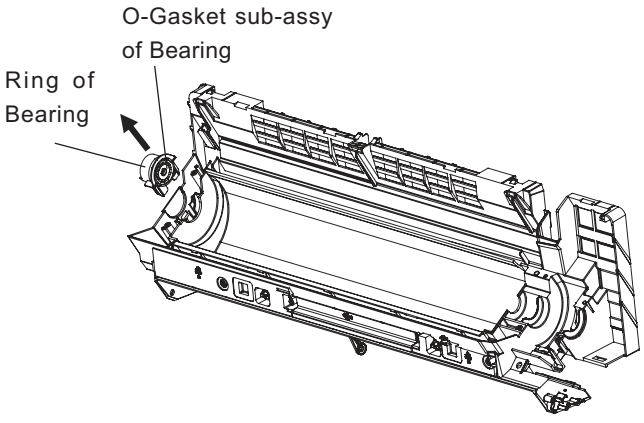
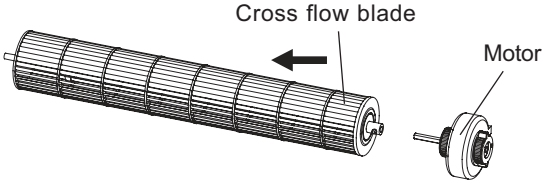
Steps	Procedure
9. Remove evaporator	
1	Twist off the 3 screws used for connecting the evaporator and bottom case with screwdriver
2	Adjust the pipeline on evaporator slightly to let it separate from the evaporator.
3	Remove the evaporator.
10. Remove cross flow blade and motor	
1	Twist off the screws on stepping motor with screwdriver and then remove the stepping motor.





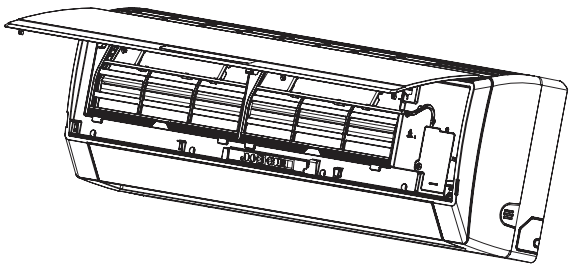
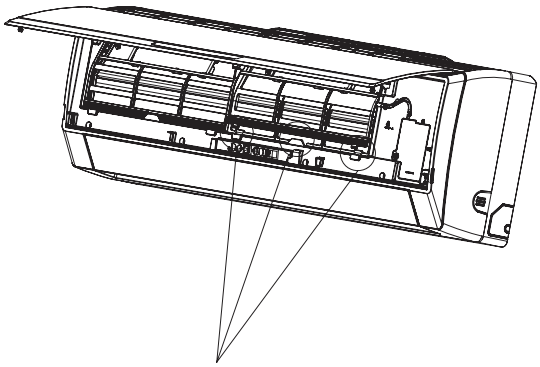
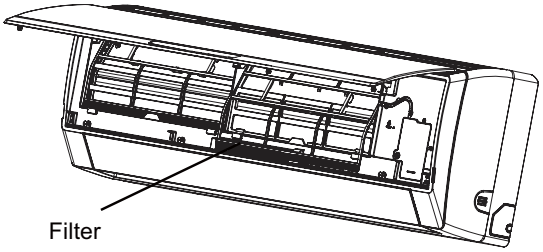
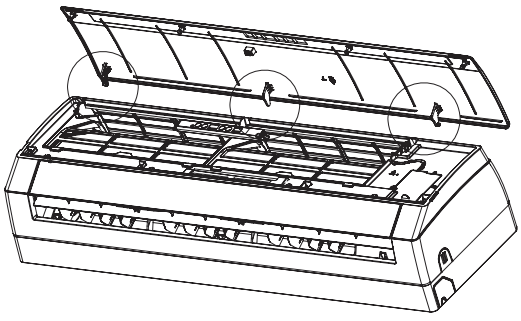


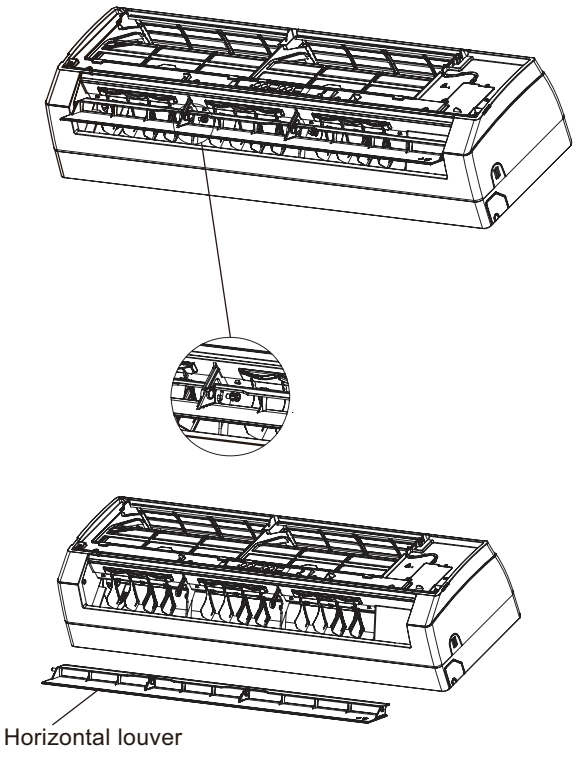
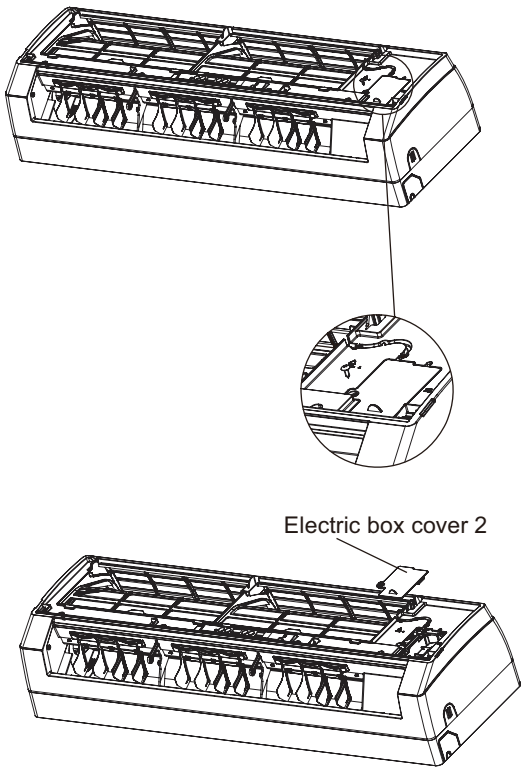


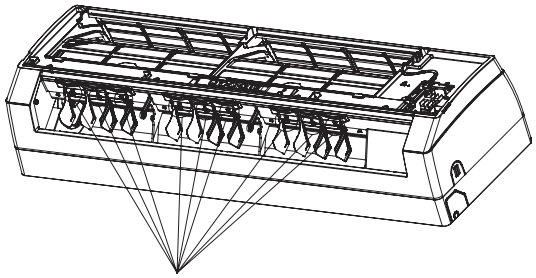
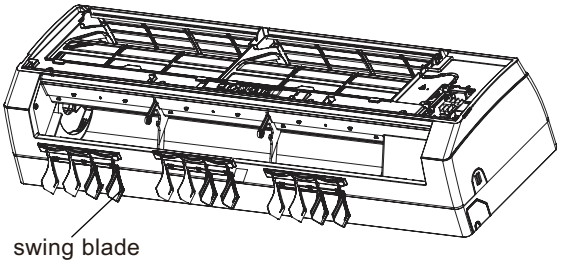
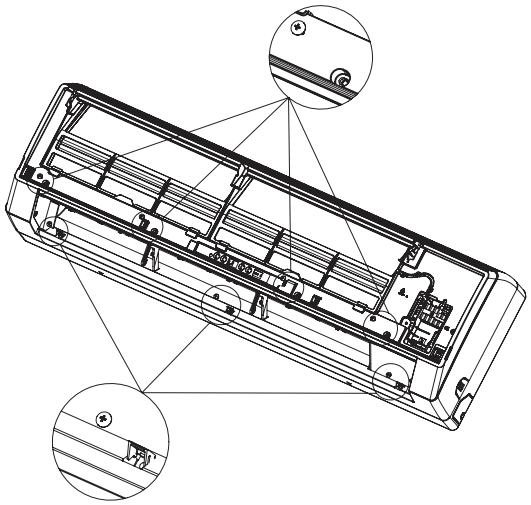
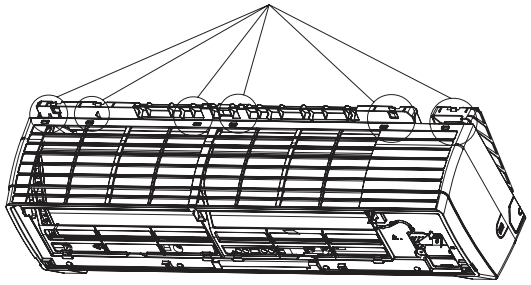
Steps	Procedure	
2	Twist off the screws on motor press plate with screwdriver and then remove the motor clamp.	
3	Remove the cross flow blade and motor.	
4	Pull out the shaft cushion rubber block.	
5	Twist off the screws between cross flow blade and motor with screwdriver, and then remove the motor.	

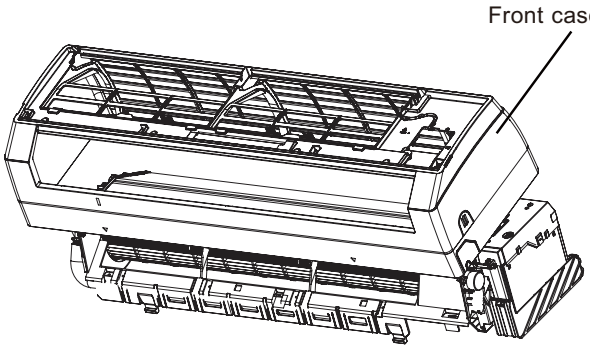
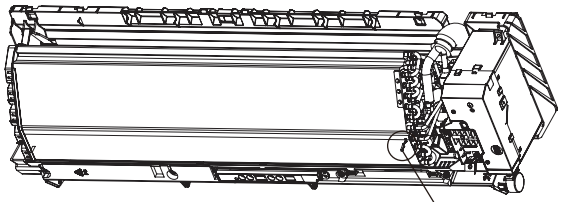
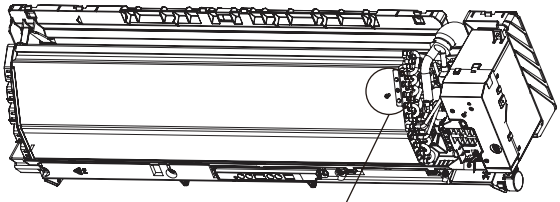
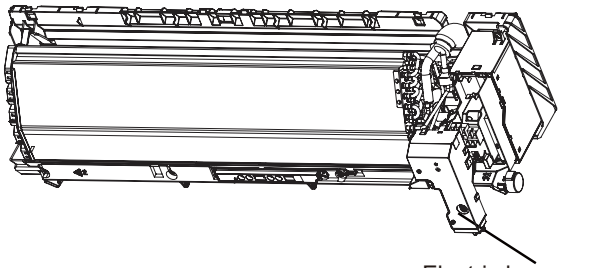
⚠ Warning Be sure to wait for a minimum of 10 minutes after turning off all power supplies before disassembly.

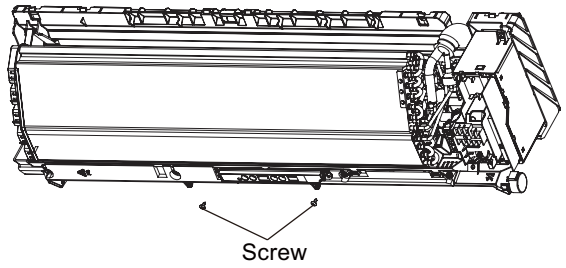
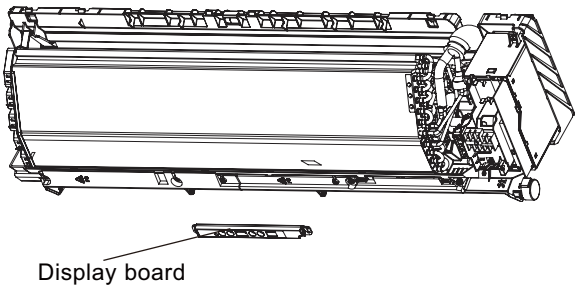
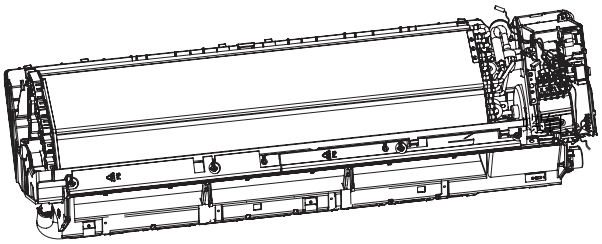
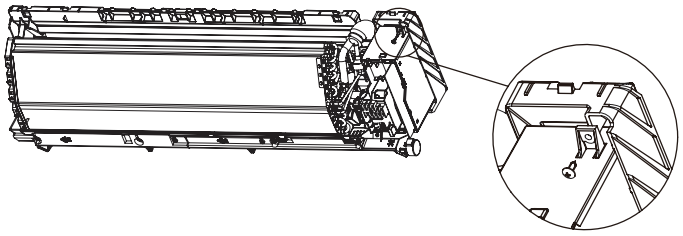
24K

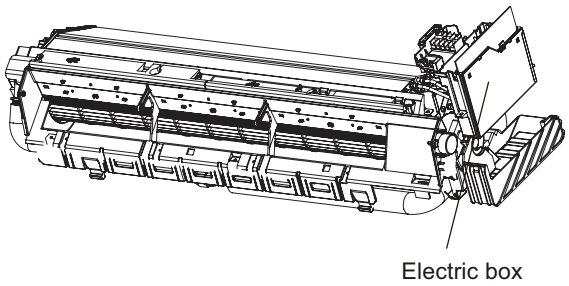
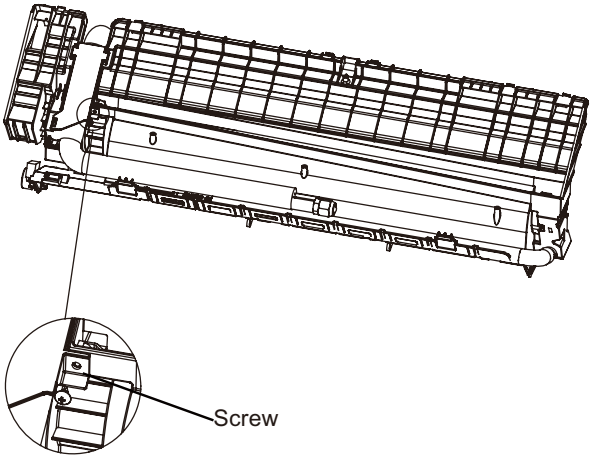
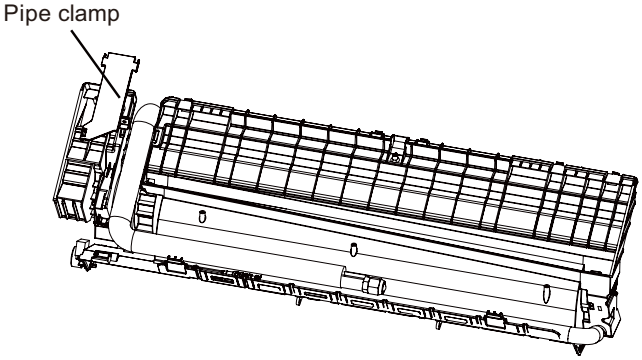
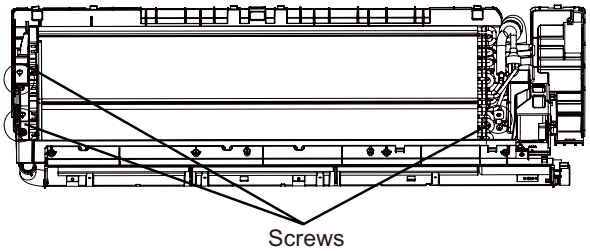
Steps	Procedure	
1. Remove filter		
1	Open the panel	
2	Loosen the clasps on filter.	
3	Remove the filter.	
2. Remove panel		
	Loosen the clasps on panel and then remove the panel.	

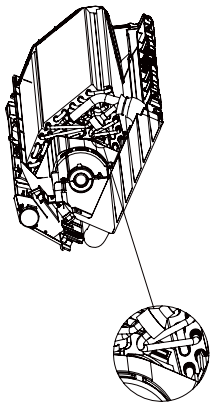
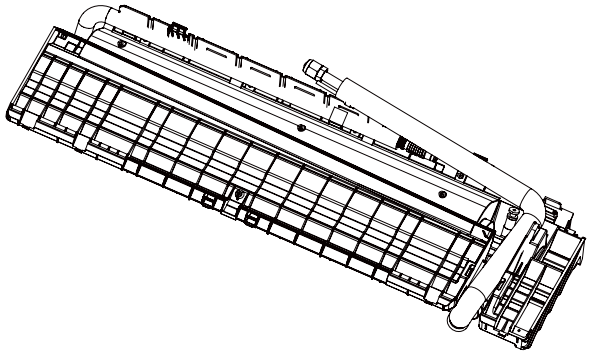
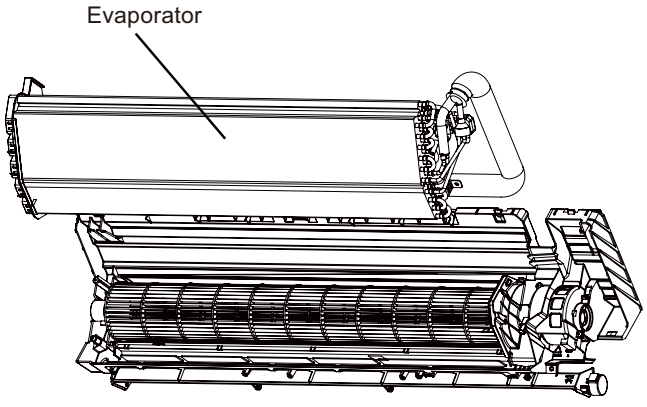
Steps	Procedure
3. Remove horizontal louver	
Disassemble the axial bush on horizontal louver, bend the horizontal louver to let the shaft come out of the groove and then remove the horizontal louver.	
4. Remove electric box cover 2	
Twist off one screw on electric box cover 2, and then remove the electric box cover 2.	

Steps	Procedure	
5. Remove swing blade		 Clasp
	Loosen the clasps on horizontal louver and then remove the swing blade.	 swing blade
6. Remove front case		
1	Open the screw cap on front case, and twist off the 7 screws fixing the front case with screwdriver.	
2	Loosen the 6 clasps on front case.	Clasp 

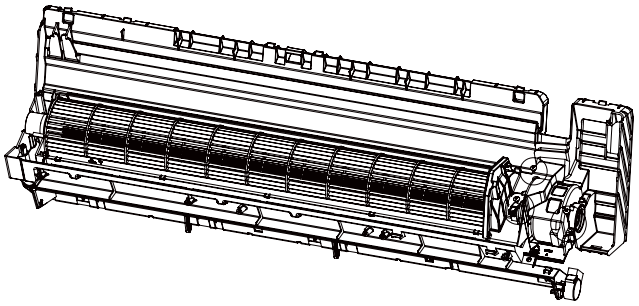
Steps	Procedure	
3	Remove the front case.	
7. Remove electric box cover		
1	Pull out the axial bush on temperature sensor.	
2	Twist off the screws fixing the earthing wire with screwdriver.	
3	Pull out the electric box cover.	

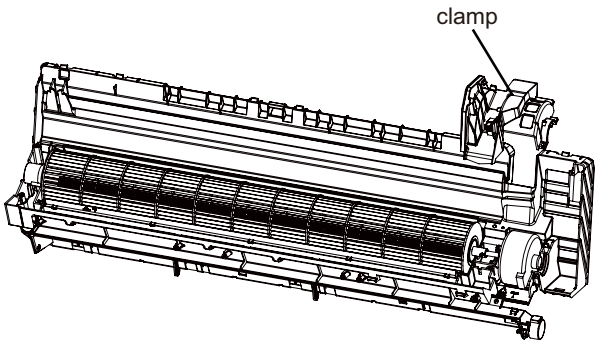
Steps	Procedure	
8. Remove electric box		
1	Twist off the screws fixing the displayer with screwdriver.	
2	Pull out the wiring terminal on displayer.	
3	Pull out the connection wire between swing motor and motor.	
4	Twist off the screws fixing the electric box with screwdriver.	

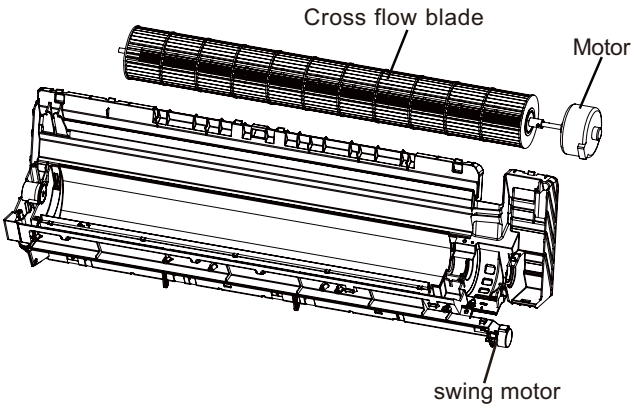
Steps	Procedure	
5	Remove the electric box.	
9. Remove evaporator		
1	Twist off the screws fixing the pipe clamp with screwdriver.	
1	Remove the pipe clamp.	
3	Twist off the 3 screws fixing the evaporator with screwdriver.	

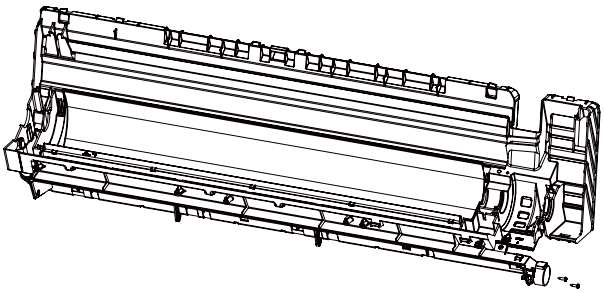
Steps	Procedure	
4	Loosen the clasps between evaporator and chassis.	
5	Adjust the pipeline slightly	
6	Remove the evaporator.	

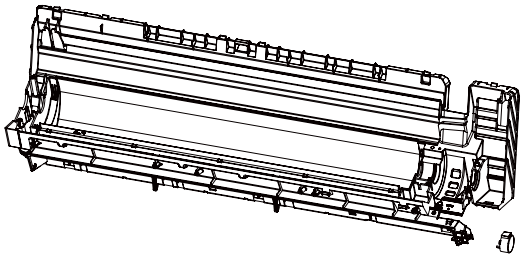
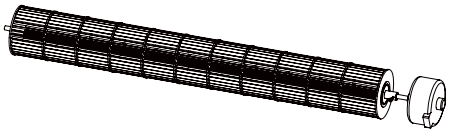
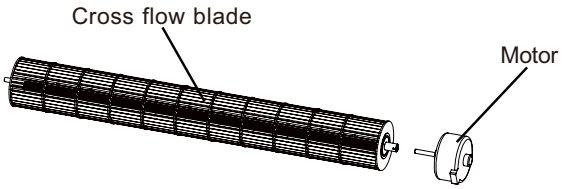
Steps	Procedure
10. Remove motor and cross flow blade	
1	Twist off the screws fixing the motor clamp with screwdriver.
2	Remove the motor clamp.
3	Remove cross flow blade and motor.
4	Twist off the screws fixing the swing motor with screwdriver.









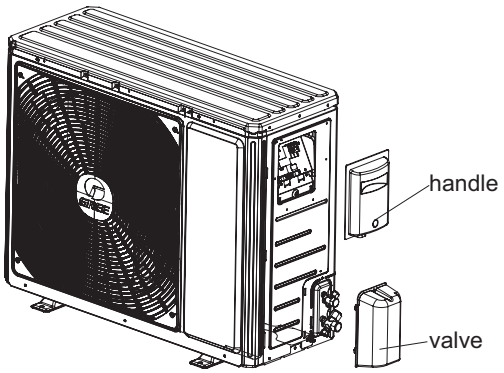
Steps	Procedure	
5	Remove swing motor.	
6	Twist off the screws fixing the cross flow blade and swing motor with screwdriver.	
7	Remove the motor.	

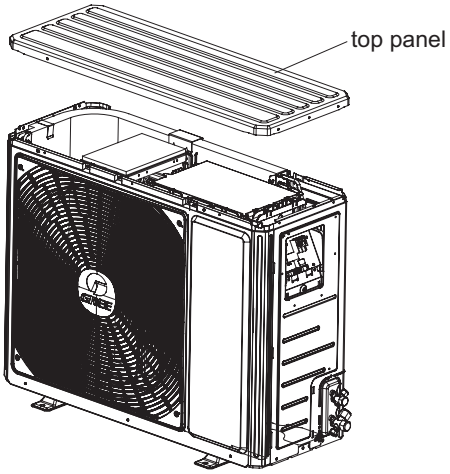
10.2 Removal Procedure of Outdoor Unit

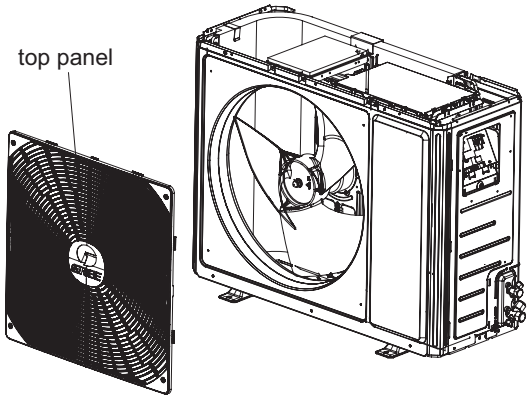
⚠ Warning Be sure to wait for a minimum of 10 minutes after turning off all power supplies before disassembly.

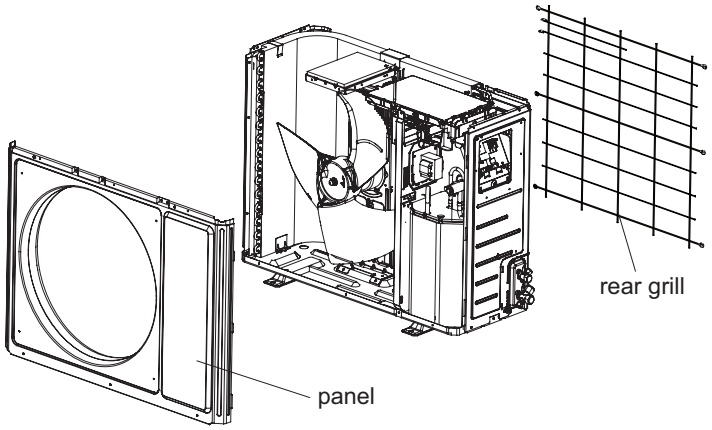
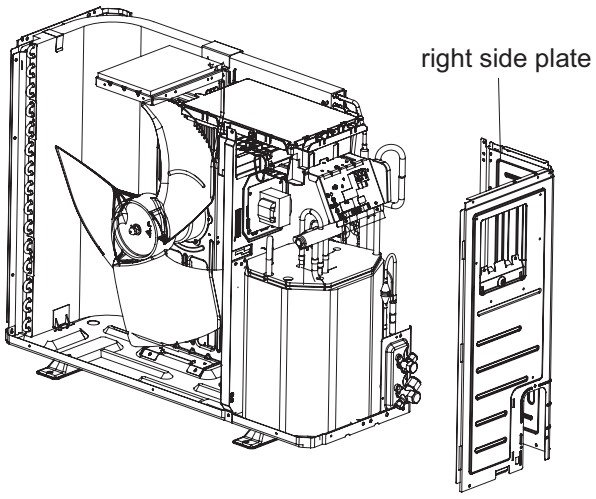
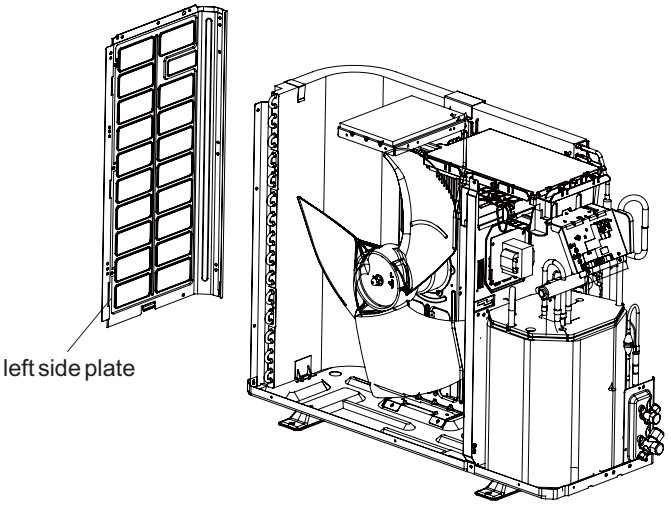
18K
Electric heater band is not shown.

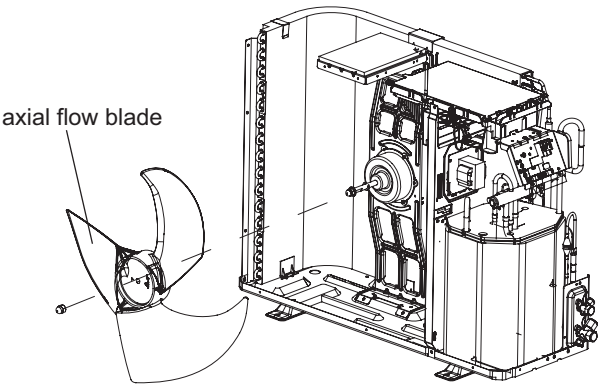
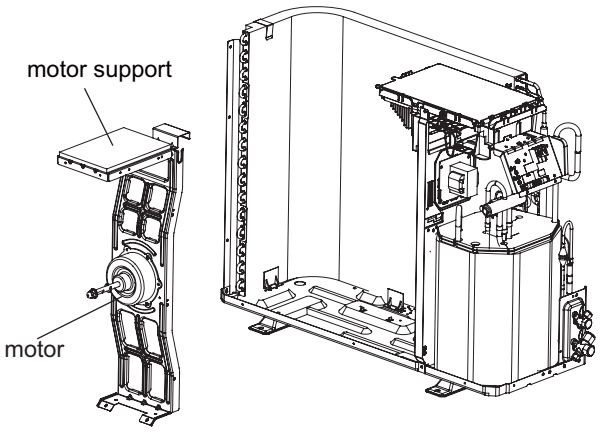
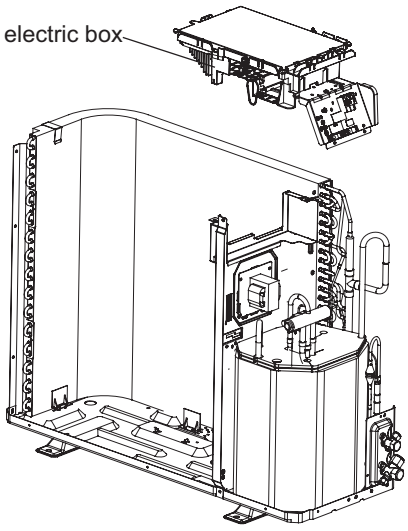
Steps	Procedure
1. Remove top panel	
1	Twist off the screws used for fixing the handle and valve cover, pull the handle and valve cover up ward to remove it.
2	Remove the 3 screws connecting the top panel with the front panel and the right side plate, and then remove the top panel.
2. Remove grille ,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

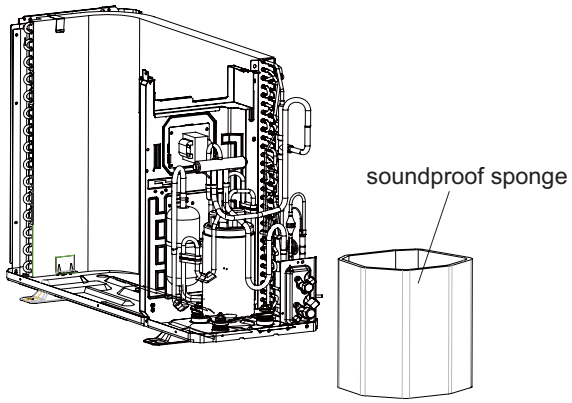
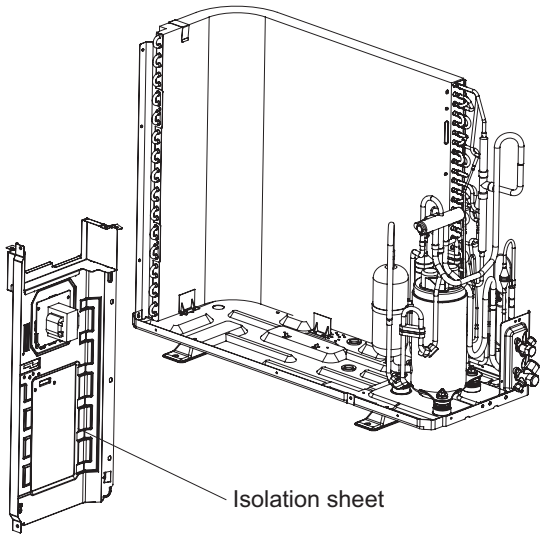
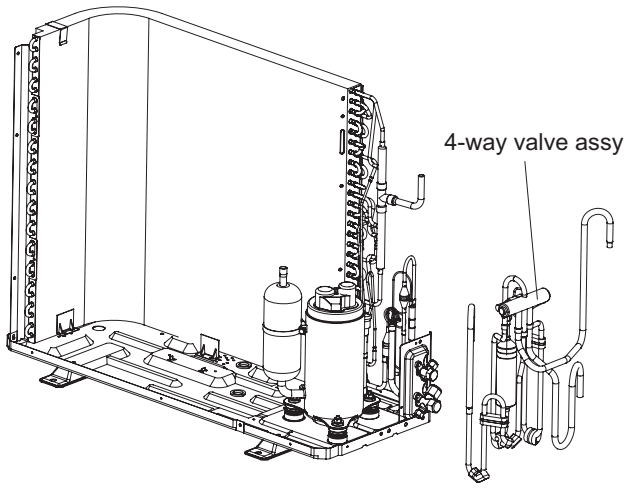




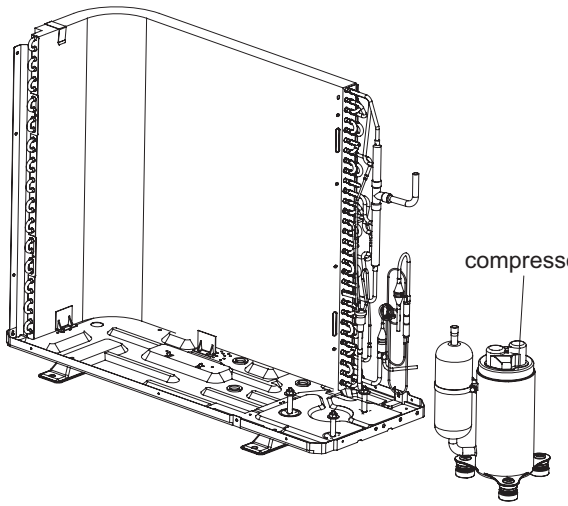


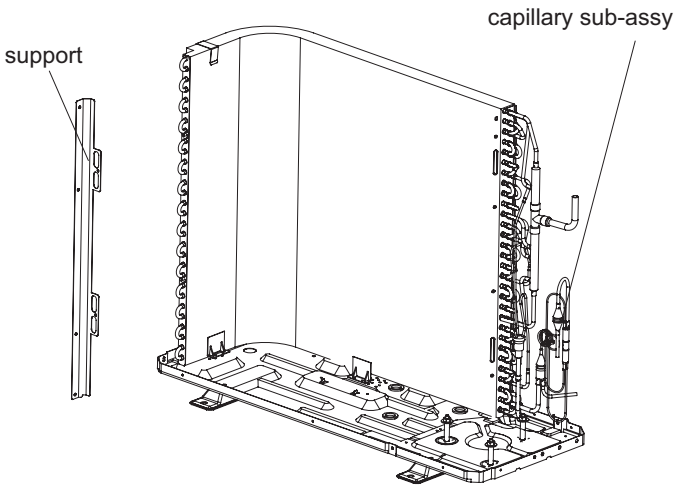
Steps	Procedure	
2	Remove the 5 screws connecting the panel with the chassis and the motor support, and then remove the panel. Remove the 6 screws connecing the left side plate and right side plate and then remove rear grill	
3. Remove left side plate and right side plate		
1	Remove the screws connecting the right side plate with the chassis, the valve support and the electric box, and then remove the right side plate assy.	
2	Remove the screws connecting the left side plate and the chassis, and then remove the left side plate assy.	

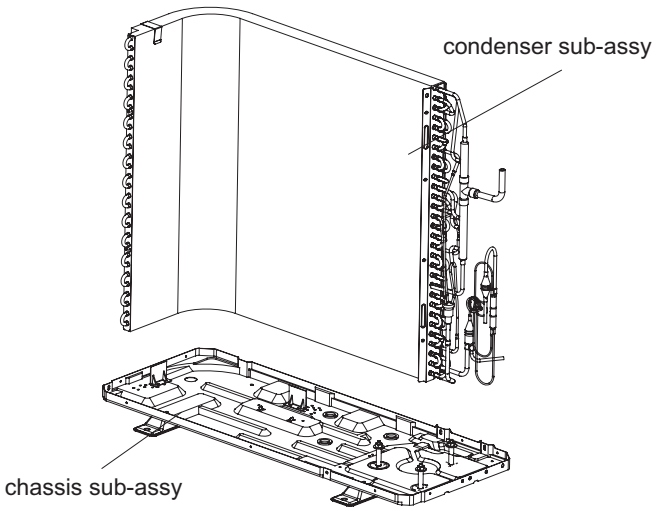
Steps	Procedure	
4. Remove fan motor		
1	Remove the nuts fixing the blade and then remove the axial flow blade.	
2	Remove the 4 tapping screws fixing the motor; disconnect the leading wire insert of the motor and then remove the motor. Remove the 2 tapping screws fixing the motor support and then pull the motor support upwards to remove it.	
5. Remove electric box		
	Remove the screws fixing the electric box sub-assy; loosen the wire bundle; pull out the wiring terminals and then pull the electric box upwards to remove it.	

Steps	Procedure
6.Remove soundproof sponge Since the piping ports on the soundproof sponge are torn easily, remove the soundproof sponge carefully	
7. Remove Isolation sheet Remove the 3 screws fixing the isolation sheet and then remove the Isolation sheet.	
8. Remove 4-way valve assy Discharge the refrigerant completely;unsolder the pipelines connecting the compressor and the condenser assy,and then remove the 4-way valve assy.	

Steps	Procedure
9. Remov e compressor	
	Remove the 3 foot nuts fixing the compressor and then remove the compressor.
10.Remove condenser sub-assy	
1	Remove the screws connecting the support (condenser) and condenser assy,and then remove the support(condenser).
2	Remove the chassis sub-assy and condenser sub-assy.

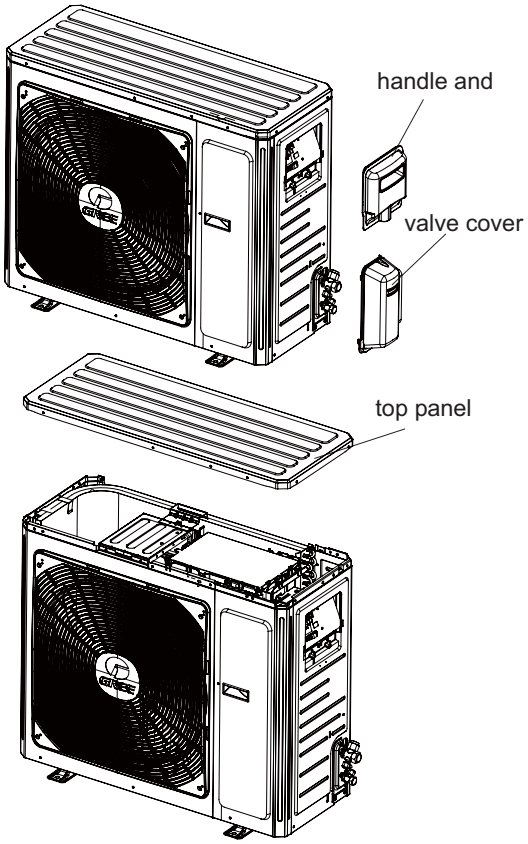
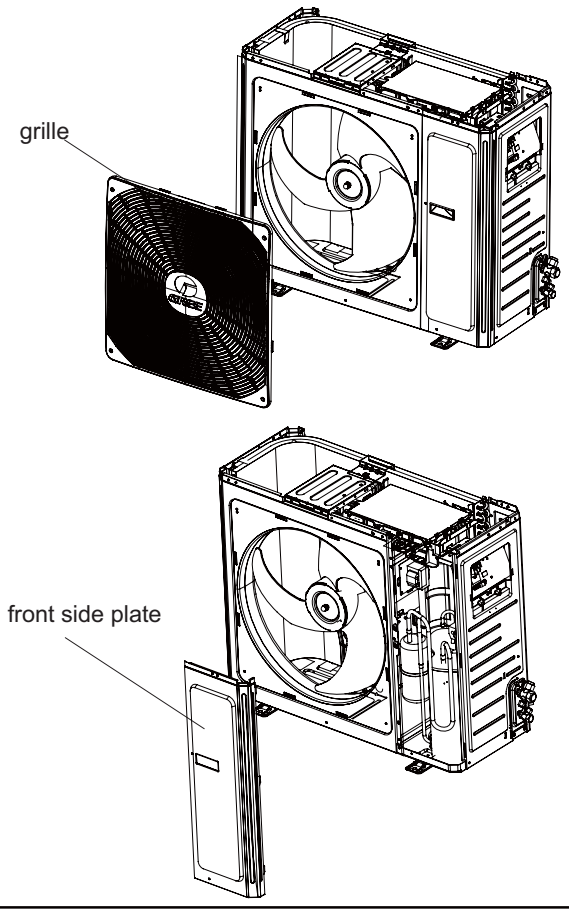


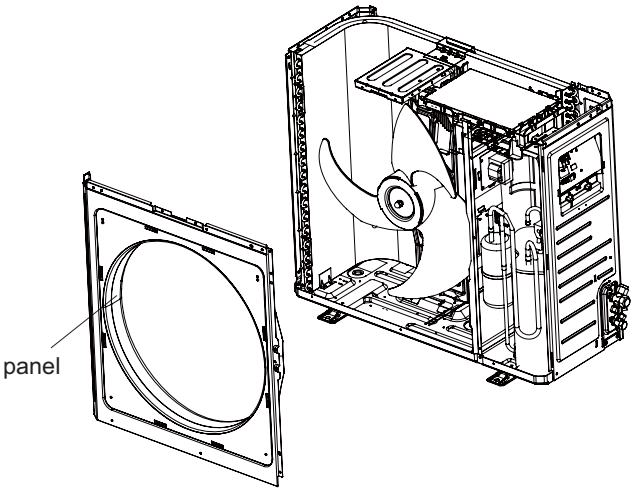
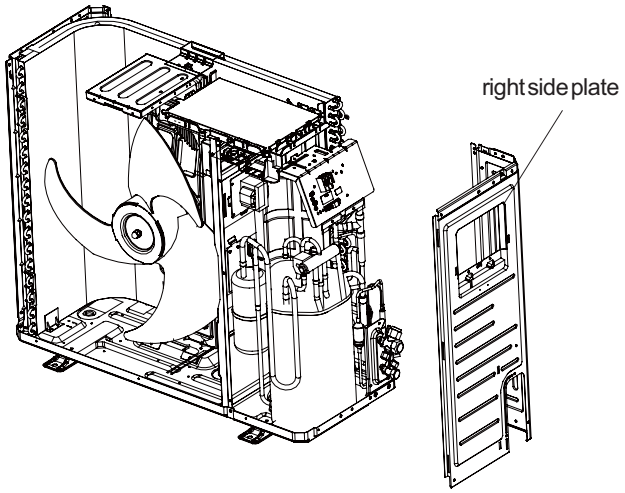
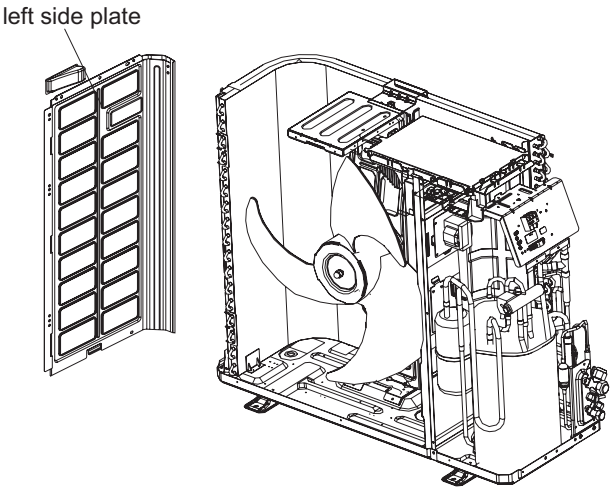


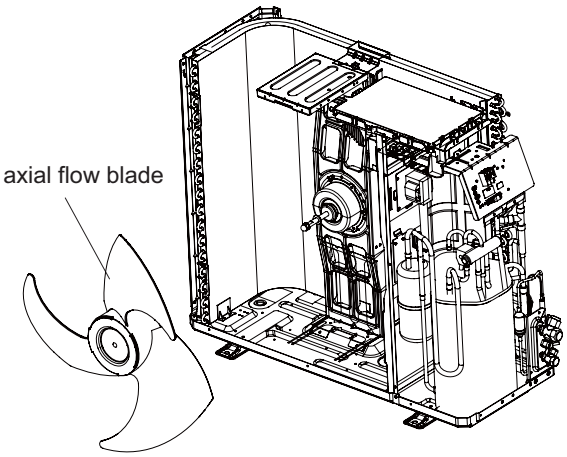
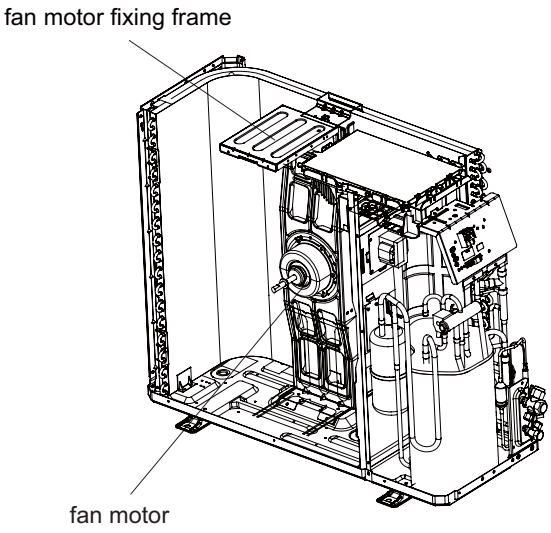
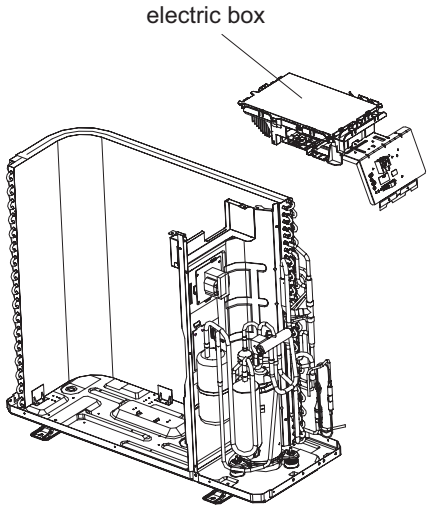


24K

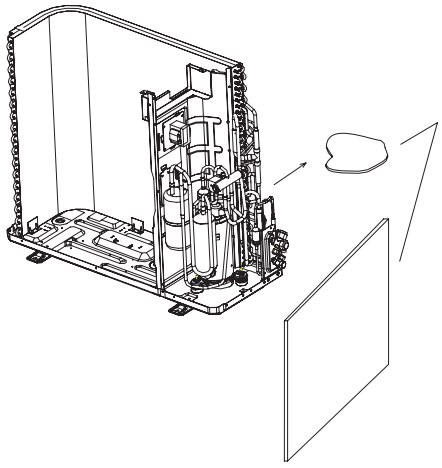
Electric heater band is not shown.

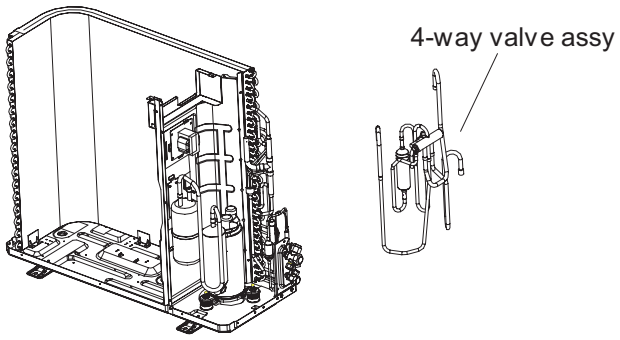
Steps	Procedure
1. Remove top panel	
1 Twist off the screws used for fixing the handle and valve cover, pull the handle and valve cover up ward to remove it.	
2 Remove the 3 screws connecting the top panel with the front panel and the right side plate, and then remove the top panel.	
2. Remove grille,front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

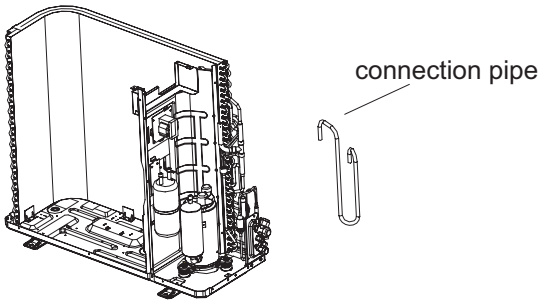
Steps	Procedure	
3	Remove the 5 screws connecting the panel with the chassis and the motor support, and then remove the panel.	
3. Remove right side plate and left side plate		
1	Remove the screws connecting the right side plate with the chassis, the valve support and the electric box, and then remove the right side plate assy.	
2	Remove the screws connecting the left side plate and the chassis, and then remove the left side plate assy.	

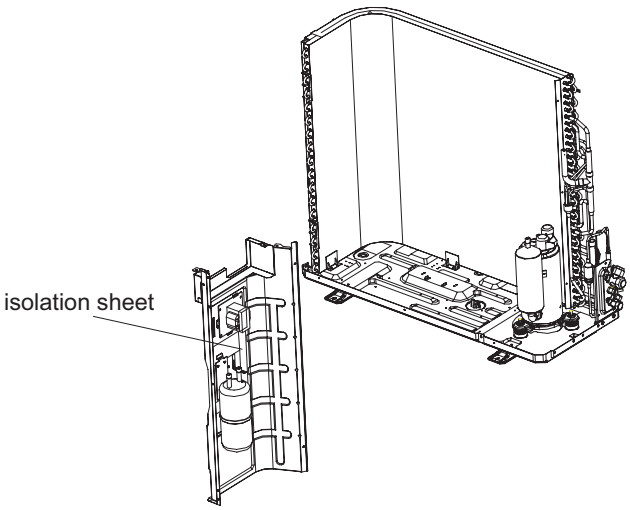
Steps	Procedure	
4. Remove fan motor and axial flow blade		
1	Remove the nuts fixing the blade and then remove the axial flow blade.	
2	Remove the 4 tapping screws fixing the motor; disconnect the leading wire insert of the motor and then remove the motor. Remove the 2 tapping screws fixing the motor support and then pull the motor support upwards to remove it.	
5. Remove electric box		
	Remove the screws fixing the electric box sub-assy; loosen the wire bundle; pull out the wiring terminals and then pull the electric box upwards to remove it.	

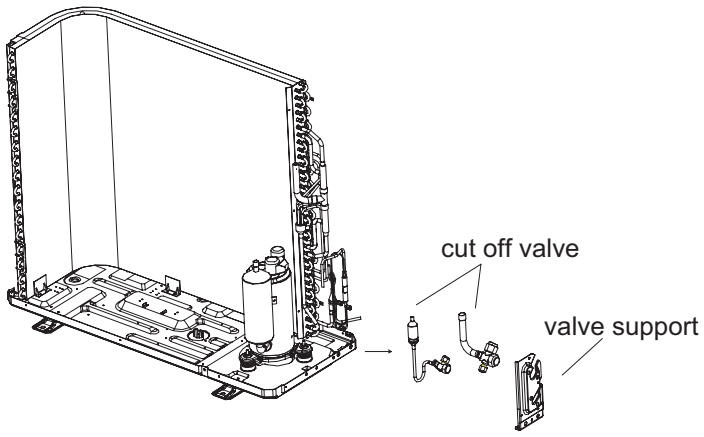
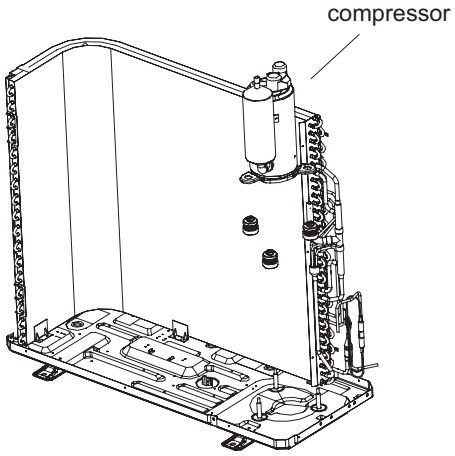
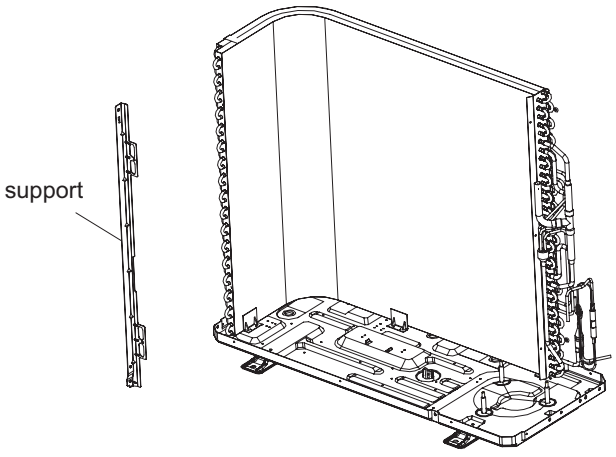
Steps	Procedure
6.Remove soundproof sponge and 4-way valve assy	
1	Since the piping ports on the soundproof sponge are torn easily, remove the soundproof sponge carefully
2	Discharge the refrigerant completely;unsolder the pipelines connecting the compressor and the condenser assy,and then remove the 4-way valve assy.
7. Remove isolation sheet	
	Remove the 3 screws fixing the isolation sheet and then remove the Isolation sheet.



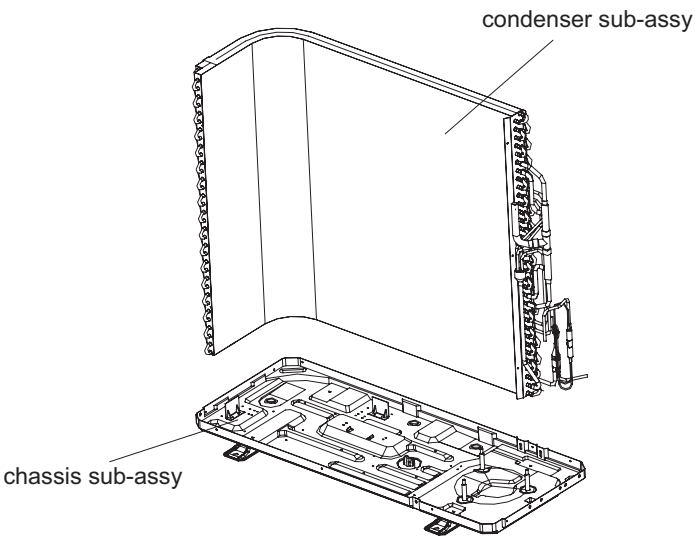






Steps	Procedure
8. Remove cut off valve and valve support	
	Remove the 2 bolts fixing the valve subassemblies. Unsolder the welding joint connecting the gas valve and the return air pipe. Remove the gas valve. (Note: When unsoldering the soldering joint, wrap the gas valve with wet cloth completely to avoid damage to the valve caused by high temperature.) Unsolder the welding joint connecting the liquid valve and the connecting pipe.Remove the liquid valve. Remove screws fixing valve support and then remove the valve support; remove the screw fixing the condenser and then pull the condenser upwards to remove it.
9. Remove compressor	
	Remove the 3 foot nuts fixing the compressor and then remove the compressor.
10.Remove support	
1	Remove the screws connecting the support and condenser assy,and thenremove the support.

Steps	
11.Remove condenser sub-assy	
	Remove the chassis sub-assy and condenser sub-assy.



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GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

Add: West Jinji Rd, Qianshan, Zhuhai, Guangdong, China, 519070
Tel: (+86-756) 8522218 Fax: (+86-756) 8669426
E-mail: gree@gree.com.cn www.gree.com