GREE
Change for life

Service Manual

Models: GWH09QC-K3DNB2A
GWH12QC-K3DNB2D
GWH18QD-K3DNB2L
GWH21QE-K3DNB2A
GWH24QE-K3DNB2H
GWH28QE-K3DNB2H
(Refrigerant R410A)

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

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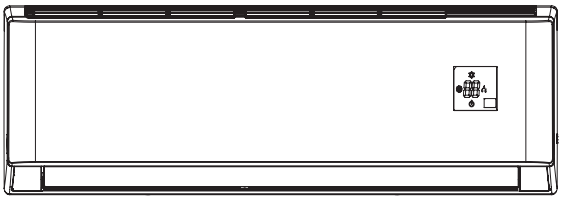

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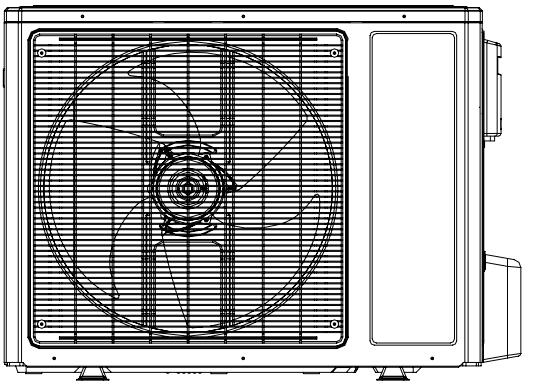

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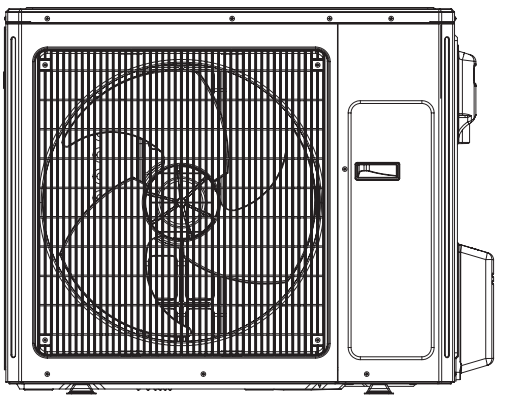

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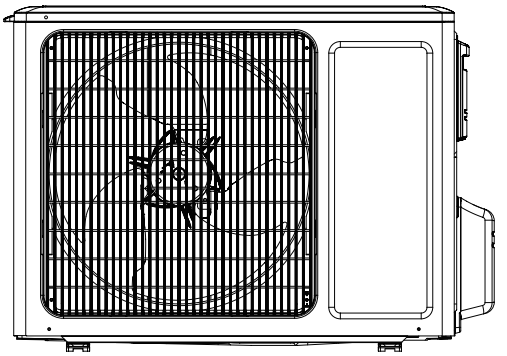

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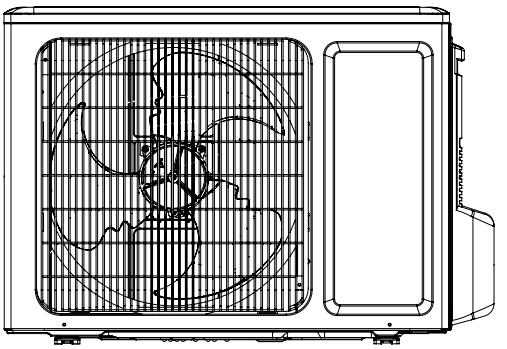


Remote Controller:

YAG1FB4(WIFI)

Model List:

No	Model	Product Code	Model	Product Code	Model	Product Code	Remote Controller
1	GWH24QE-K3DNB2H	CB432017100	GWH24QE-K3DNB2H/I	CB432N17100	GWH24QE-K3DNB2H/O	CB432W17100	YAG1FB4 (WIFI)
2		CB432017101		CB432N17101			
3	GWH28QE-K3DNB2H	CB432016700	GWH28QE-K3DNB2H/I	CB432N16700	GWH28QE-K3DNB2H/O	CB432W16700	
4		CB432016701		CB432N16701			
5	GWH18QD-K3DNB2L	CB432015800	GWH18QD-K3DNB2L/I	CB432N15800	GWH18QD-K3DNB2L/O	CB432W15800	
6		CB432015801		CB432N15801			
7	GWH12QC-K3DNB2D	CB432015700	GWH12QC-K3DNB2D/I	CB432N15700	GWH12QC-K3DNB2D/O	CB432W15700	
8		CB432015701		CB432N15701			
9	GWH09QC-K3DNB2A	CB432015100	GWH09QC-K3DNB2A/I	CB432N15100	GWH09QC-K3DNB2A/O	CB432W15100	
10		CB432015101		CB432N15101			
11	GWH21QE-K3DNB2A	CB432016601	GWH21QE-K3DNB2A/I	CB432N16601	GWH21QE-K3DNB2A/O	CB432W16600	
12		CB432016600		CB432N16600			

2. Specifications

2.1 Specification Sheet

Model			GWH24QE-K3DNB2H
Product Code			CB432017100/CB432017101
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50
	Phases		1
Power Supply Mode			Outdoor
Cooling Capacity		W	7100
Heating Capacity		W	8000
Cooling Power Input		W	2300
Heating Power Input		W	2600
Cooling Power Current		A	9..5
Heating Power Current		A	11.5
Rated Input		W	3900
Rated Current		A	17.8
Air Flow Volume(SH/H/MH/M/ML/L/SL/SSL)		m^3/h	1400/1250/1150/1050/950/800/750/550
Dehumidifying Volume		L/h	2.5
EER		W/W	3.09
COP		W/W	3.08
SEER			/
SCOP			/
Application Area		m^2	27-42
Indoor Unit	Model of indoor unit		GWH24QE-K3DNB2H/I
	Indoor Unit Product Code		CB432N17100/CB432N17101
	Fan Type		Cross-flow
	Diameter Length(DXL)	mm	Φ108X830
	Fan Motor Cooling Speed (SH/H/MH/M/ML/L/SL/SSL)	r/min	1400/1250/1100/1000/900/850/800/600
	Fan Motor Heating Speed (SH/H/MH/M/ML/L/SL/SSL)	r/min	1400/1250/1100/1000/900/800/750/-
	Output of Fan Motor	W	30
	Fan Motor RLA	A	0.5
	Fan Motor Capacitor	μF	/
	Evaporator Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Row-fin Gap	mm	2-1.5
	Coil Length (LXDXW)	mm	850X25.4X342.9
	Swing Motor Model		MP35CJ/MP24HF
	Output of Swing Motor	W	2.5/1.5
	Fuse	A	3.15
	Sound Pressure Level (SH/H/MH/M/ML/L/SL(SSL))	dB (A)	53/50/48/45/42/38/36(32)
	Sound Power Level (SH/H/MH/M/ML/L/SL(SSL))	dB (A)	62/60/58/55/52/48/46(42)
	Dimension (WXHXD)	mm	1078X325X246
	Dimension of Carton Box (LXWXH)	mm	1145X410X335
	Dimension of Package (LXWXH)	mm	1148X413X350
	Net Weight	kg	16
	Gross Weight	kg	19.5

Outdoor Unit	Model of Outdoor Unit		GWH24QE-K3DNB2H/O
	Outdoor Unit Product Code		CB432W17100
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXFS-D25zX090H
	Compressor Oil		FW68DA
	Compressor Type		Rotary
	L.R.A.	A	24
	Compressor RLA	A	11
	Compressor Power Input	W	2420
	Overload Protector		1NT11L 6233/KSD115℃ /HPC115/95U1
	Throttling Method		Electron expansion valve
	Operation temp	ºC	16~30
	Ambient temp (cooling)	ºC	-10~50
	Ambient temp (heating)	ºC	-15~24
	Condenser Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Rows-fin Gap	mm	2-1.4
	Coil Length (LXDXW)	mm	935X38.1X660
	Fan Motor Speed	rpm	800
	Output of Fan Motor	W	60
	Fan Motor RLA	A	0.58
	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		IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
	Sound Pressure Level (H/M/L)	dB (A)	54/-/-
	Sound Power Level (H/M/L)	dB (A)	64/-/-
	Dimension (WXHXD)	mm	965X700X396
	Dimension of Carton Box (LXWXH)	mm	1026X455X735
	Dimension of Package (LXWXH)	mm	1029X458X750
	Net Weight	kg	53.5
	Gross Weight	kg	58
	Refrigerant		R410A
	Refrigerant Charge	kg	2.0
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
	Note:The connection pipe applies metric diameter.		

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

Model			GWH28QE-K3DNB2H
Product Code			CB432016700/CB432016701
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50
	Phases		1
Power Supply Mode			Outdoor
Cooling Capacity		W	8500
Heating Capacity		W	9000
Cooling Power Input		W	2656
Heating Power Input		W	2727
Cooling Current Input		A	11.0
Heating Current Input		A	11.3
Rated Input		W	4000
Rated Current		A	16.4
Air Flow Volume(SH/H/MH/M/ML/L/SL/SSL)		m^3/h	1400/1250/1100/1000/900/800/750/600
Dehumidifying Volume		L/h	2.4
EER		W/W	3.20
COP		W/W	3.30
SEER		W/W	/
SCOP		W/W	/
Application Area		m^2	32-50
Indoor Unit	Indoor Unit Model		GWH28QE-K3DNB2H/I
	Indoor Unit Product Code		CB432N16700/CB432N16701
	Fan Type		Cross-flow
	Fan Diameter Length(DXL)	mm	Φ108X830
	Cooling Speed(SH/H/MH/M/ML/L/SL/SSL)	r/min	1400/1250/1100/1000/900/850/800/600
	Heating Speed(SH/H/MH/M/ML/L/SL/SSL)	r/min	1400/1250/1100/1000/900/800/750/-
	Fan Motor Power Output	W	60
	Fan Motor RLA	A	0.38
	Fan Motor Capacitor	μF	/
	Evaporator Form		Aluminum Fin-copper Tube
	Evaporator Pipe Diameter	mm	Φ7
	Evaporator Row-fin Gap	mm	2-1.5
	Evaporator Coil Length (LXDXW)	mm	850X25.4X381
	Swing Motor Model		MP35CJ/MP24HF
	Swing Motor Power Output	W	2.5/1.5
	Fuse Current	A	3.15
	Sound Pressure Level(SH/H/MH/M/ML/L/SL(SSL))	dB (A)	52/48/45/42/39/37/35(29)
	Sound Power Level(SH/H/MH/M/ML/L/SL(SSL))	dB (A)	62/58/55/52/49/47/45(39)
	Dimension (WXHXD)	mm	1078X325X246
	Dimension of Carton Box (LXWXH)	mm	1145X410X335
	Dimension of Package(LXWXH)	mm	1148X413X350
	Net Weight	kg	16
	Gross Weight	kg	19.5

Outdoor Unit	Outdoor Unit Model		GWH28QE-K3DNB2H/O
	Outdoor Unit Product Code		CB432W16700
	Compressor Manufacturer		ZHUHAI LANDA COMPRESSOR CO,LTD.
	Compressor Model		QXFS-D25zX090H
	Compressor Oil		FW68DA
	Compressor Type		Rotary
	Compressor LRA.	A	24.0
	Compressor RLA	A	11.0
	Compressor Power Input	W	2420
	Compressor Overload Protector		1NT11L 6233/KSD115℃ /HPC115/95U1
	Throttling Method		Electron expansion valve
	Set Temperature Range	ºC	16~30
	Cooling Operation Ambient Temperature Range	ºC	-10~50
	Heating Operation Ambient Temperature Range	ºC	-15~24
	Condenser Form		Automatic Defrosting
	Condenser Pipe Diameter	mm	Φ7
	Condenser Rows-fin Gap	mm	3-1.5
	Condenser Coil Length (LXDXW)	mm	994X57.1X748
	Fan Motor Speed	rpm	880
	Fan Motor Power Output	W	90
	Fan Motor RLA	A	0.65
	Fan Motor Capacitor	μF	/
	Outdoor Unit Air Flow Volume	m^3/h	4000
	Fan Type		Axial-flow
	Fan Diameter	mm	Φ550
	Defrosting Method		Automatic Defrosting
	Climate Type		T1
	Isolation		I
	Moisture Protection		IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
	Sound Pressure Level (H/M/L)	dB (A)	59/-/-
	Sound Power Level (H/M/L)	dB (A)	69/-/-
	Dimension(WXHXD)	mm	1000X790X427
	Dimension of Carton Box (LXWXH)	mm	1080X485X840
	Dimension of Package(LXWXH)	mm	1083X488X855
	Net Weight	kg	65
	Gross Weight	kg	70
	Refrigerant		R410A
	Refrigerant Charge	kg	2.3
Connection Pipe	Connection Pipe Length	m	5
	Connection Pipe 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
	Note: The connection pipe applies metric diameter.		

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

Model			GWH18QD-K3DNB2L
Product Code			CB432015800/CB432015801
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50
	Phases		1
Power Supply Mode			Outdoor
Cooling Capacity		W	5200
Heating Capacity		W	5600
Cooling Power Input		W	1372
Heating Power Input		W	1435
Cooling Power Current		A	6.08
Heating Power Current		A	6.36
Rated Input		W	2400
Rated Current		A	10.6
Air Flow Volume(SH/H/MH/M/ML/L/SL/SSL)		m^3/h	900/800/700/600/500/400/350/-
Dehumidifying Volume		L/h	1.8
EER		W/W	3.79
COP		W/W	3.90
SEER			4.70
SCOP			/
Application Area		m^2	23-34
Indoor Unit	Model of indoor unit		GWH18QD-K3DNB2L/I
	Indoor Unit Product Code		CB432N15800/CB432N15801
	Fan Type		Axial-flow
	Diameter Length(DXL)	mm	Φ106X706
	Fan Motor Cooling Speed (SH/H/MH/M/ML/L/SL/SSL)	r/min	1400/1300/1150/1000/850/750/650/-
	Fan Motor Heating Speed (SH/H/MH/M/ML/L/SL/SSL)	r/min	1400/1270/1150/1000/850/700/650/-
	Output of Fan Motor	W	50
	Fan Motor RLA	A	0.24
	Fan Motor Capacitor	μF	/
	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		MP35CJ/MP24HF
	Output of Swing Motor	W	2.5/1.5
	Fuse	A	3.15
	Sound Pressure Level (SH/H/MH/M/ML/L/SL(SSL))	dB (A)	48/45/42/37/33/29/26(-)
	Sound Power Level (SH/H/MH/M/ML/L/SL(SSL))	dB (A)	58/55/52/47/43/39/36(-)
	Dimension (WXHXD)	mm	970X300X224
	Dimension of Carton Box (LXWXH)	mm	1038X380X305
	Dimension of Package (LXWXH)	mm	1041X383X320
	Net Weight	kg	13.5
	Gross Weight	kg	16.5

Outdoor Unit	Model of Outdoor Unit		GWH18QD-K3DNB2L/O
	Outdoor Unit Product Code		CB432W15800
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXF-B141ZF030F
	Compressor Oil		FW68DA or equivalent
	Compressor Type		Rotary
	L.R.A.	A	25
	Compressor RLA	A	6.5
	Compressor Power Input	W	1410
	Overload Protector		HPC115/95U1 KSD115℃
	Throttling Method		Electron expansion valve
	Operation temp	ºC	16~30
	Ambient temp (cooling)	ºC	-10~50
	Ambient temp (heating)	ºC	-15~24
	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	800
	Output of Fan Motor	W	60
	Fan Motor RLA	A	0.4
	Fan Motor Capacitor	μF	/
	Air Flow Volume of Outdoor Unit	m^3/h	3200
	Fan Type		Cross-flow
	Fan Diameter	mm	Φ520
	Defrosting Method		Automatic Defrosting
	Climate Type		T1
	Isolation		I
	Moisture Protection		IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
	Sound Pressure Level (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	49.5
	Refrigerant		R410A
	Refrigerant Charge	kg	1.3
Connection Pipe	Length	m	5
	Gas Additional Charge	g/m	15
	Outer Diameter Liquid Pipe	mm	Φ6
	Outer Diameter Gas Pipe	mm	Φ16
	Max Distance Height	m	10
	Max Distance Length	m	25
	Note:The connection pipe applies metric diameter.		

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

Model			GWH12QC-K3DNB2D
Product Code			CB432015700/CB432015701
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50
	Phases		1
Power Supply Mode			Outdoor
Cooling Capacity		W	3500
Heating Capacity		W	4000
Cooling Power Input		W	935
Heating Power Input		W	1040
Cooling Power Current		A	4.1
Heating Power Current		A	4.5
Rated Input		W	1540
Rated Current		A	6.5
Air Flow Volume(SH/H/MH/M/ML/L/SL/SSL)		m^3/h	680/620/560/490/450/420/390/-
Dehumidifying Volume		L/h	1.4
EER		W/W	3.74
COP		W/W	3.85
SEER			5.5
HSPF			4.6
Application Area		m^2	16-24
Indoor Unit	Model of indoor unit		GWH12QC-K3DNB2D/I
	Indoor Unit Product Code		CB432N15700/CB432N15701
	Fan Type		Axial-flow
	Diameter Length(DXL)	mm	Φ98X633.5
	Fan Motor Cooling Speed (SH/H/MH/M/ML/L/SL/SSL)	r/min	1350/1200/1100/1000/920/850/750/500
	Fan Motor Heating Speed (SH/H/MH/M/ML/L/SL/SSL)	r/min	1350/1200/1120/1050/980/900/850/-
	Output of Fan Motor	W	20
	Fan Motor RLA	A	0.09
	Fan Motor Capacitor	μF	/
	Evaporator Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Row-fin Gap	mm	2-1.4
	Coil Length (LXDXW)	mm	635X22.8X306.3
	Swing Motor Model		MP24BA/MP24EB
	Output of Swing Motor	W	1.5/1.5
	Fuse	A	3.15
	Sound Pressure Level (SH/H/MH/M/ML/L/SL(SSL))	dB (A)	44/40/37/34/31/29/26(20)
	Sound Power Level (SH/H/MH/M/ML/L/SL(SSL))	dB (A)	44/40/38/36/33/30/28/-
	Dimension (WXHXD)	mm	845X289X209
	Dimension of Carton Box (LXWXH)	mm	918X278X364
	Dimension of Package (LXWXH)	mm	921X281X379
	Net Weight	kg	10.5
	Gross Weight	kg	12.5

Outdoor Unit	Model of Outdoor Unit		GWH12QC-K3DNB2D/O
	Outdoor Unit Product Code		CB432W15700
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXF-A102zE190B
	Compressor Oil		FW68DA
	Compressor Type		Rotary
	L.R.A.	A	18
	Compressor RLA	A	4.6
	Compressor Power Input	W	1023
	Overload Protector		HPC115/95U1/KSD115℃
	Throttling Method		Electron expansion valve
	Operation temp	ºC	16~30
	Ambient temp (cooling)	ºC	-10~50
	Ambient temp (heating)	ºC	-15~24
	Condenser Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Rows-fin Gap	mm	2-1.4
	Coil Length (LXDXW)	mm	731X19.05X550
	Fan Motor Speed	rpm	900
	Output of Fan Motor	W	30
	Fan Motor RLA	A	0.36
	Fan Motor Capacitor	μF	/
	Air Flow Volume of Outdoor Unit	m^3/h	2200
	Fan Type		Cross-flow
	Fan Diameter	mm	Φ438
	Defrosting Method		Automatic Defrosting
	Climate Type		T1
	Isolation		I
	Moisture Protection		IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
	Sound Pressure Level (H/M/L)	dB (A)	52/-/-
	Sound Power Level (H/M/L)	dB (A)	62/-/-
	Dimension (WXHXD)	mm	848X596X320
	Dimension of Carton Box (LXWXH)	mm	878X360X630
	Dimension of Package (LXWXH)	mm	881X363X645
	Net Weight	kg	33
	Gross Weight	kg	36
	Refrigerant		R410A
	Refrigerant Charge	kg	1.3
Connection Pipe	Length	m	5
	Gas Additional Charge	g/m	20
	Outer Diameter Liquid Pipe	mm	Φ6
	Outer Diameter Gas Pipe	mm	Φ9.52
	Max Distance Height	m	10
	Max Distance Length	m	20
	Note:The connection pipe applies metric diameter.		

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

Model			GWH09QC-K3DNB2A
Product Code			CB432015100/CB432015101
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50
	Phases		1
Power Supply Mode			Outdoor
Cooling Capacity		W	2500
Heating Capacity		W	3200
Cooling Power Input		W	590
Heating Power Input		W	830
Cooling Power Current		A	2.75
Heating Power Current		A	3.85
Rated Input		W	1450
Rated Current		A	5.3
Air Flow Volume(SH/H/MH/M/ML/L/SL/SSL)		m^3/h	630/580/530/420/380/300/250/200
Dehumidifying Volume		L/h	0.8
EER		W/W	4.24
COP		W/W	3.86
SEER			5.5
HSPF			4.8
Application Area		m^2	12-18
Indoor Unit	Model of indoor unit		GWH09QC-K3DNB2A/I
	Indoor Unit Product Code		CB432N15100/CB432N15101
	Fan Type		Axial-flow
	Diameter Length(DXL)	mm	Φ98X633.5
	Fan Motor Cooling Speed (SH/H/MH/M/ML/L/SL/SSL)	r/min	1200/1100/1050/950/800/700/650/500
	Fan Motor Heating Speed (SH/H/MH/M/ML/L/SL/SSL)	r/min	1200/1100/1040/950/900/880/850/-
	Output of Fan Motor	W	20
	Fan Motor RLA	A	0.09
	Fan Motor Capacitor	μF	/
	Evaporator Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ5
	Row-fin Gap	mm	2-1.4
	Coil Length (LXDXW)	mm	635X22.8X306.3
	Swing Motor Model		MP24EB/MP24BA
	Output of Swing Motor	W	1.5/1.5
	Fuse	A	3.15
	Sound Pressure Level (SH/H/MH/M/ML/L/SL(SSL))	dB (A)	40/37/35/32/27/23/22(19)
	Sound Power Level (SH/H/MH/M/ML/L/SL(SSL))	dB (A)	50/47/45/42/37/33/32(29)
	Dimension (WXHXD)	mm	845X289X209
	Dimension of Carton Box (LXWXH)	mm	918X278X364
	Dimension of Package (LXWXH)	mm	921X281X379
	Net Weight	kg	10
	Gross Weight	kg	12

Outdoor Unit	Model of Outdoor Unit		GWH09QC-K3DNB2A/O
	Outdoor Unit Product Code		CB432W15100
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXF-A079zE190A
	Compressor Oil		FW68DA
	Compressor Type		Rotary
	L.R.A.	A	18
	Compressor RLA	A	4.7
	Compressor Power Input	W	790
	Overload Protector		HPC115/95U1/KSD115℃
	Throttling Method		Electron expansion valve
	Operation temp	ºC	16~30
	Ambient temp (cooling)	ºC	-10~50
	Ambient temp (heating)	ºC	-15~24
	Condenser Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Rows-fin Gap	mm	2-1.4
	Coil Length (LXDXW)	mm	735X38.1X506
	Fan Motor Speed	rpm	900
	Output of Fan Motor	W	30
	Fan Motor RLA	A	0.36
	Fan Motor Capacitor	μF	/
	Air Flow Volume of Outdoor Unit	m^3/h	1600
	Fan Type		Cross-flow
	Fan Diameter	mm	Φ400
	Defrosting Method		Automatic Defrosting
	Climate Type		T1
	Isolation		I
	Moisture Protection		IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
	Sound Pressure Level (H/M/L)	dB (A)	50/-/-
	Sound Power Level (H/M/L)	dB (A)	60/-/-
	Dimension (WXHXD)	mm	782X540X320
	Dimension of Carton Box (LXWXH)	mm	820X355X580
	Dimension of Package (LXWXH)	mm	823X358X595
	Net Weight	kg	30
	Gross Weight	kg	32.5
	Refrigerant		R410A
	Refrigerant Charge	kg	0.9
Connection Pipe	Length	m	5
	Gas Additional Charge	g/m	20
	Outer Diameter Liquid Pipe	mm	Φ6
	Outer Diameter Gas Pipe	mm	Φ9.52
	Max Distance Height	m	10
	Max Distance Length	m	15
	Note:The connection pipe applies metric diameter.		

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

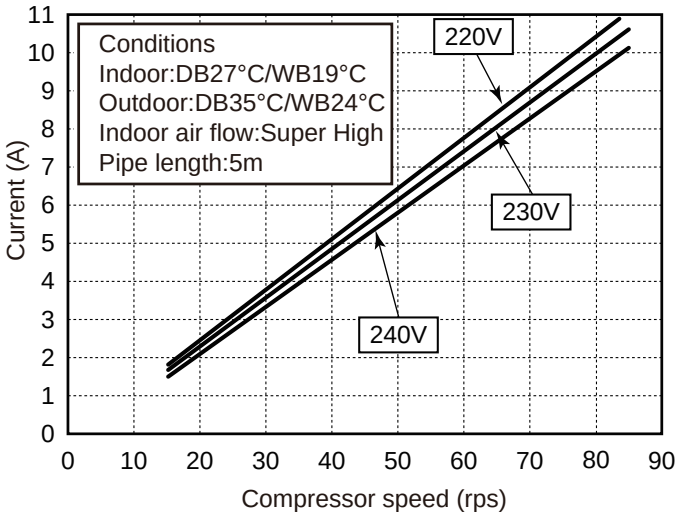
Model			GWH21QE-K3DNB2A
Product Code			CB432016600/CB432016601
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50
	Phases		1
Power Supply Mode			Outdoor
Cooling Capacity		W	6200
Heating Capacity		W	7200
Cooling Power Input		W	1550
Heating Power Input		W	1700
Cooling Current Input		A	7.37
Heating Current Input		A	7.97
Rated Input		W	3600
Rated Current		A	7.37
Air Flow Volume(SH/H/MH/M/ML/L/SL/SSL)		m^3/h	1350/1150/1050/950/950/800/700/600
Dehumidifying Volume		L/h	2
EER		W/W	4
COP		W/W	4.24
SEER		W/W	/
SCOP		W/W	/
Application Area		m^2	27-42
Indoor Unit	Indoor Unit Model		GWH21QE-K3DNB2A/I
	Indoor Unit Product Code		CB432N16600/CB432N16601
	Fan Type		Cross-flow
	Fan Diameter Length(DXL)	mm	Φ108X830
	Cooling Speed(SH/H/MH/M/ML/L/SL/SSL)	r/min	1350/1150/1100/1000/900/850/800/600
	Heating Speed(SH/H/MH/M/ML/L/SL/SSL)	r/min	1350/1200/1100/1000/900/800/750/-
	Fan Motor Power Output	W	35
	Fan Motor RLA	A	0.16
	Fan Motor Capacitor	μF	/
	Evaporator Form		Aluminum Fin-copper Tube
	Evaporator Pipe Diameter	mm	Φ7
	Evaporator Row-fin Gap	mm	2-1.5
	Evaporator Coil Length (LXDXW)	mm	845X25.4X342.9
	Swing Motor Model		MP35CJ/MP24HF
	Swing Motor Power Output	W	2.5/1.5
	Fuse Current	A	3.15
	Sound Pressure Level(SH/H/MH/M/ML/L/SL(SSL))	dB (A)	50/46/44/41/38/36/35(30)
	Sound Power Level(SH/H/MH/M/ML/L/SL(SSL))	dB (A)	60/56/54/51/48/46/40(-)
	Dimension (WXHXD)	mm	1078X325X246
	Dimension of Carton Box (LXWXH)	mm	1145X410X335
	Dimension of Package(LXWXH)	mm	1148X413X350
	Net Weight	kg	15.5
	Gross Weight	kg	19

Outdoor Unit	Outdoor Unit Model		GWH21QE-K3DNB2A/O
	Outdoor Unit Product Code		CB432W16600
	Compressor Manufacturer		ZHUHAI LANDA COMPRESSOR CO. LTD.
	Compressor Model		QXFS-D25zX090H
	Compressor Oil		FW68DA or equivalent
	Compressor Type		Rotary
	Compressor LRA.	A	/
	Compressor RLA	A	11.7
	Compressor Power Input	W	2420
	Compressor Overload Protector		HPC115/95U1/KSD115℃
	Throttling Method		Electron expansion valve
	Set Temperature Range	ºC	16~30
	Cooling Operation Ambient Temperature Range	ºC	–15~50
	Heating Operation Ambient Temperature Range	ºC	-15~24
	Condenser Form		Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7
	Condenser Rows-fin Gap	mm	2-1.4
	Condenser Coil Length (LXDXW)	mm	935X38.1X660
	Fan Motor Speed	rpm	780
	Fan Motor Power Output	W	60
	Fan Motor RLA	A	0.58
	Fan Motor Capacitor	μF	3
	Outdoor Unit Air Flow Volume	m^3/h	3000
	Fan Type		Axial-flow
	Fan Diameter	mm	Φ520
	Defrosting Method		Automatic Defrosting
	Climate Type		T1
	Isolation		I
	Moisture Protection		IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
	Sound Pressure Level (H/M/L)	dB (A)	57/-/-
	Sound Power Level (H/M/L)	dB (A)	67/-/-
	Dimension(WXHXD)	mm	965X700X396
	Dimension of Carton Box (LXWXH)	mm	1026X455X735
	Dimension of Package(LXWXH)	mm	1029X458X750
	Net Weight	kg	53.5
	Gross Weight	kg	58
	Refrigerant		R410A
	Refrigerant Charge	kg	1.6
Connection Pipe	Connection Pipe Length	m	5
	Connection Pipe 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
	Note: The connection pipe applies metric diameter.		

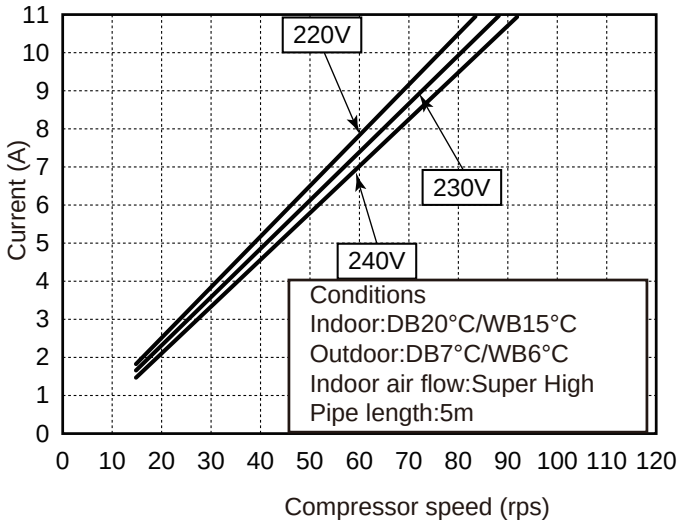
The above data is subject to change without notice; please refer to the nameplate of the unit.

2.2 Operation Characteristic Curve

Cooling

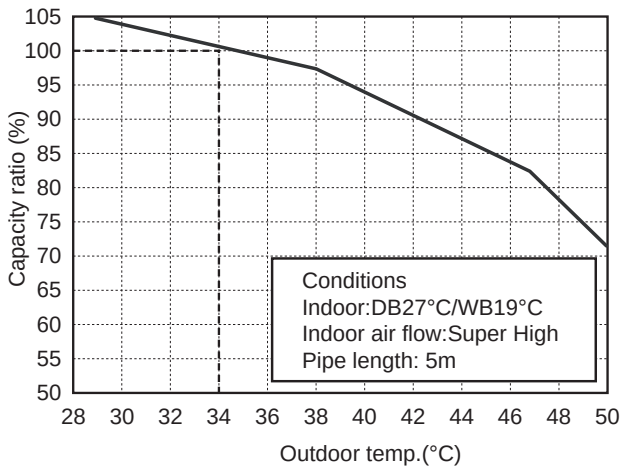


Heating

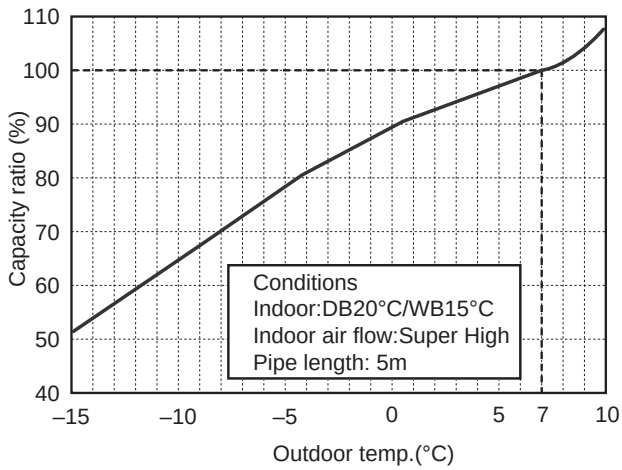


2.3 Capacity Variation Ratio According to Temperature

Cooling

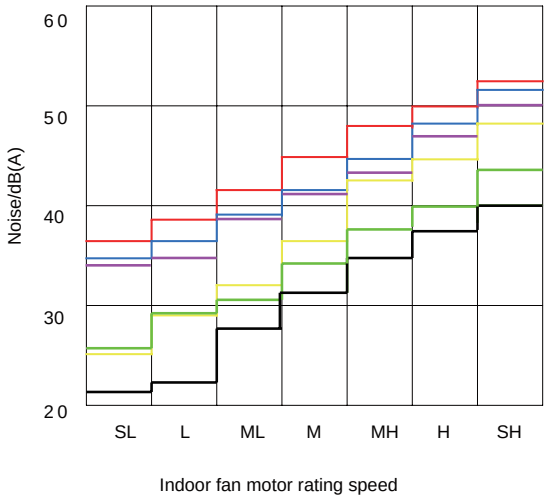


Heating



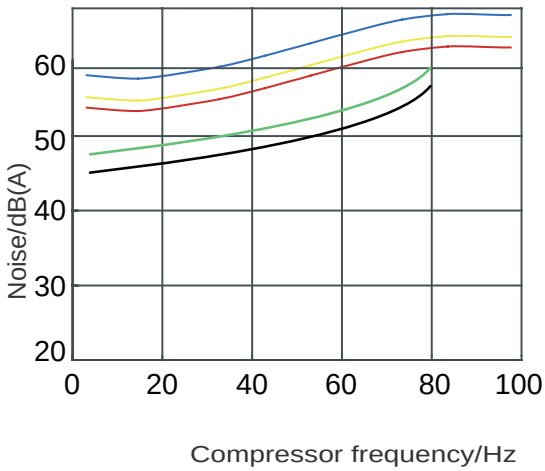
2.4 Noise Curve

Indoor side noise when blowing



09K
12K
18K
21K
24K
28K

Outdoor side noise when blowing



09K
12K
18/21K
24K
28K

2.5 Cooling and Heating Data Sheet in Rated Frequency

Cooling:

Rated cooling condition(°C) (DB/WB)		Model	Pressure of gas pipe connecting indoor and outdoor unit	Inlet and outlet pipe temperature of heat exchanger		Fan speed of indoor unit	Fan speed of outdoor unit	Compressor revolution (rps)
Indoor	Outdoor		P (MPa)	T1 (°C)	T2 (°C)			
27/19	35/24	09/12K	0.8 ~ 1.1	11 to 14	64 to 37	Super High	High	60
		18K	0.9 ~ 1.1	12 to 14	75 to 37			52
		21/24/28K						72

Heating:

Rated cooling condition(°C) (DB/WB)		Model	Pressure of gas pipe connecting indoor and outdoor unit	Inlet and outlet pipe temperature of heat exchanger		Fan speed of indoor unit	Fan speed of outdoor unit	Compressor revolution (rps)
Indoor	Outdoor		P (MPa)	T1 (°C)	T2 (°C)			
20/-	7/6	09/12K	2.8 ~ 3.2	35 to 65	2 to 5	Super High	High	67
		18K	2.2 ~ 2.4	70 to 35	2 to 4			65
		21/24/28K						77

Instruction:

T1: Inlet and outlet pipe temperature of evaporator

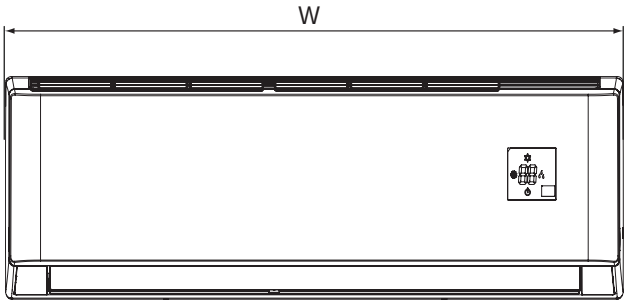
T2: Inlet and outlet pipe temperature of condenser

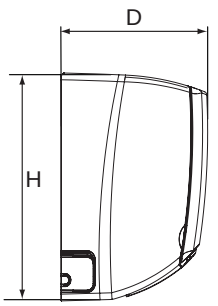
P: Pressure at the side of big valve

Connection pipe length:5m.

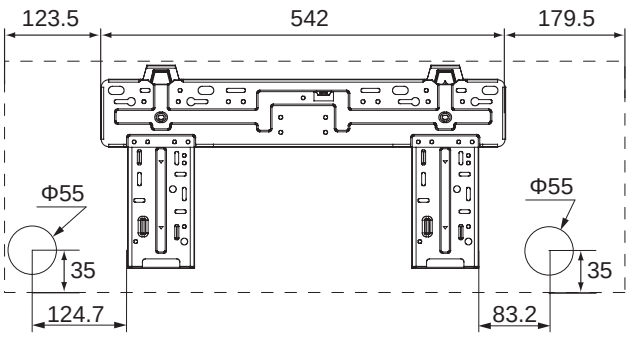
3. Outline Dimension Diagram

3.1 Indoor Unit

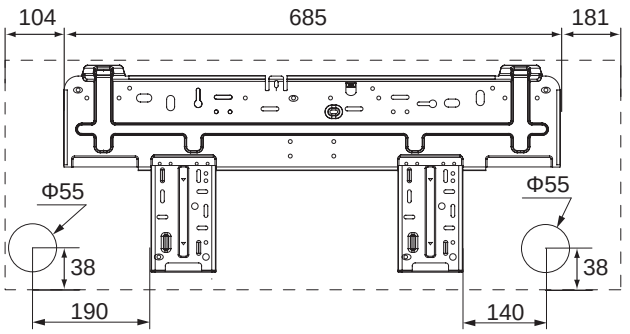




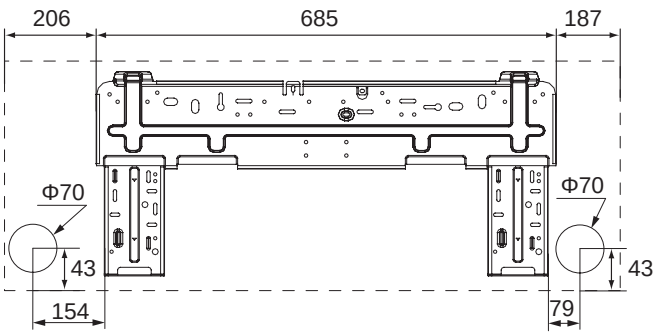
09/12K



18K



21/24/28K

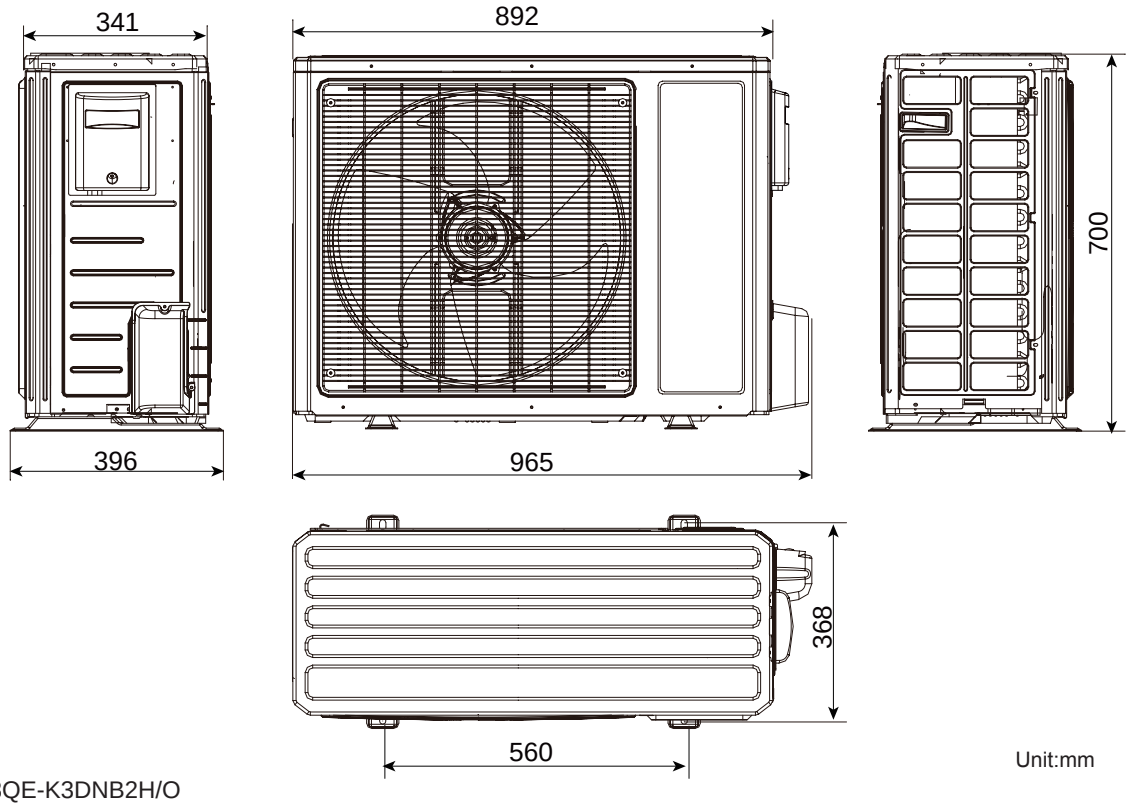


Unit:mm

Model	W	H	D
09/12K	845	596	320
18K	970	300	224
21/24/28K	1078	325	246

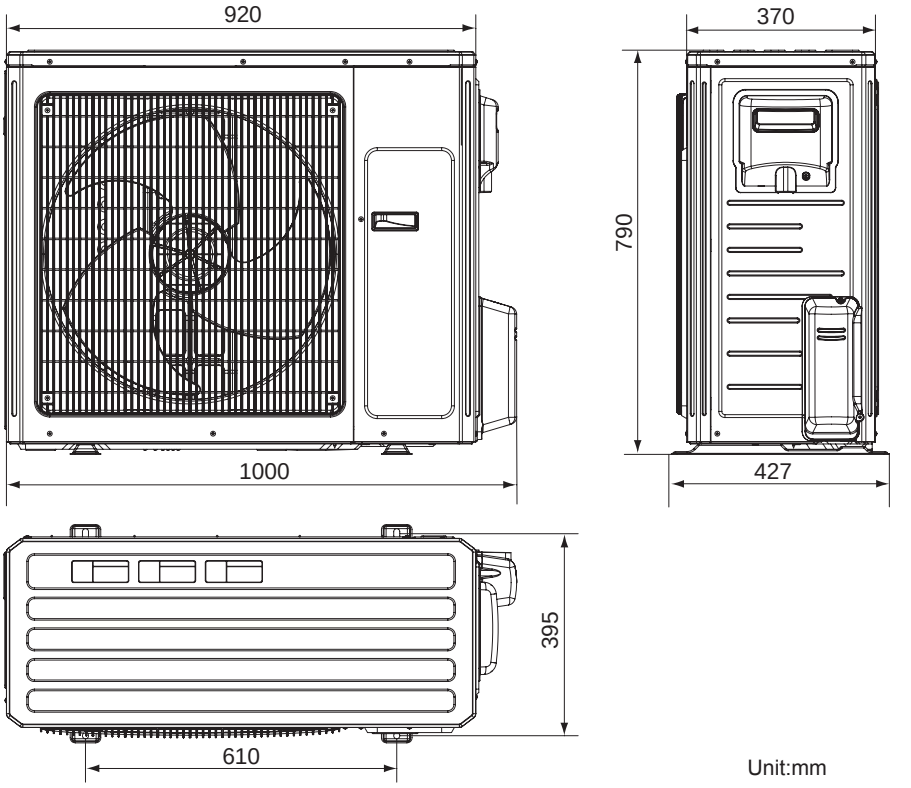
3.2 Outdoor Unit

GWH24QE-K3DNB2H/O GWH21QE-K3DNB2A/O



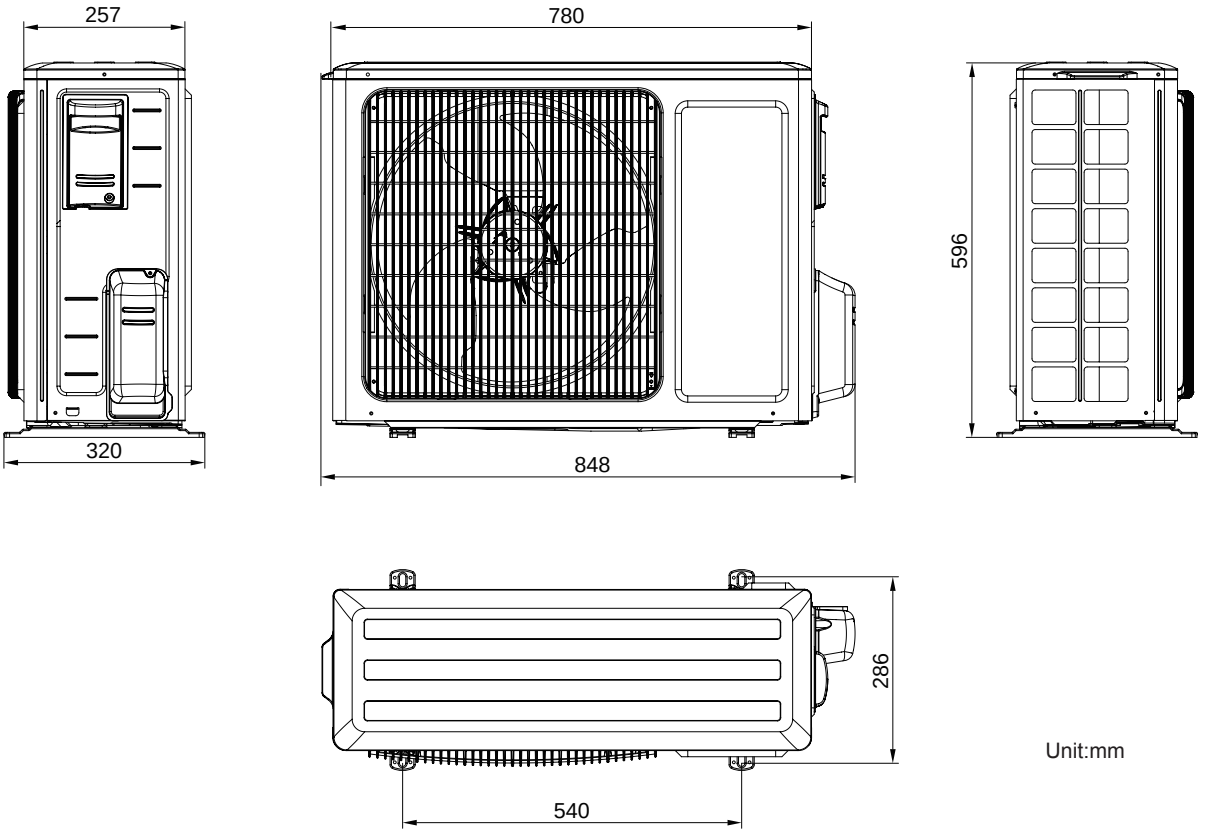
Unit:mm

GWH28QE-K3DNB2H/O



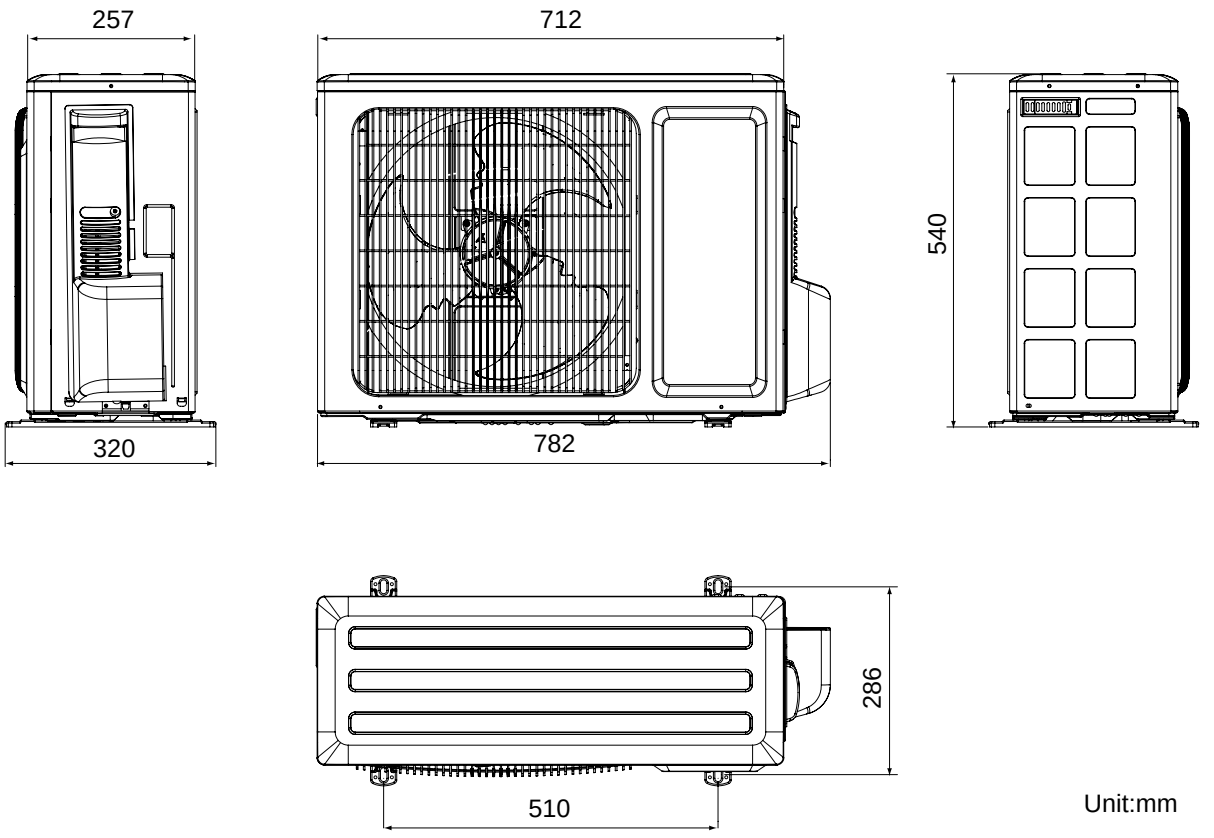
Unit:mm

GWH12QC-K3DNB2D/O



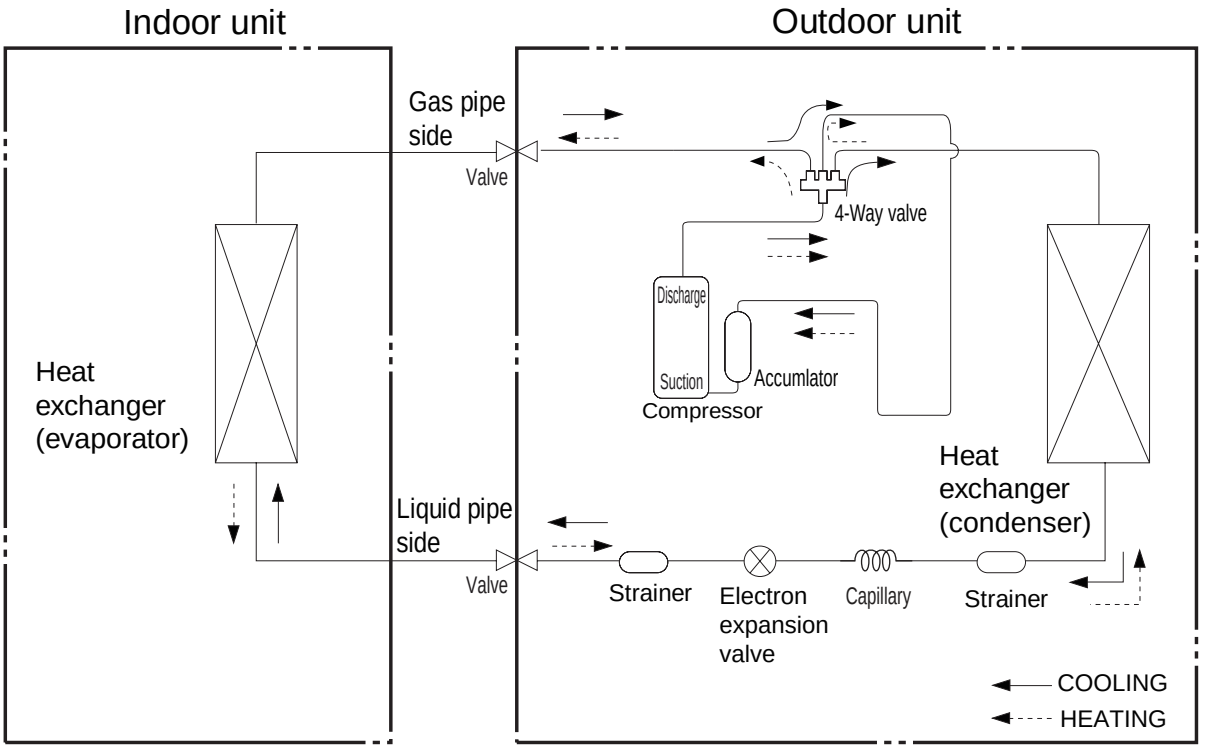
Unit:mm

GWH09QC-K3DNB2A/O



Unit:mm

4. Refrigerant System Diagram



Connection pipe specification:

Liquid pipe:1/4" (6mm)

Gas pipe:3/8" (9.52mm)(09/12K)

Gas pipe:5/8" (16mm)(18/21/24/28K)

5. Electrical Part

5.1 Wiring Diagram

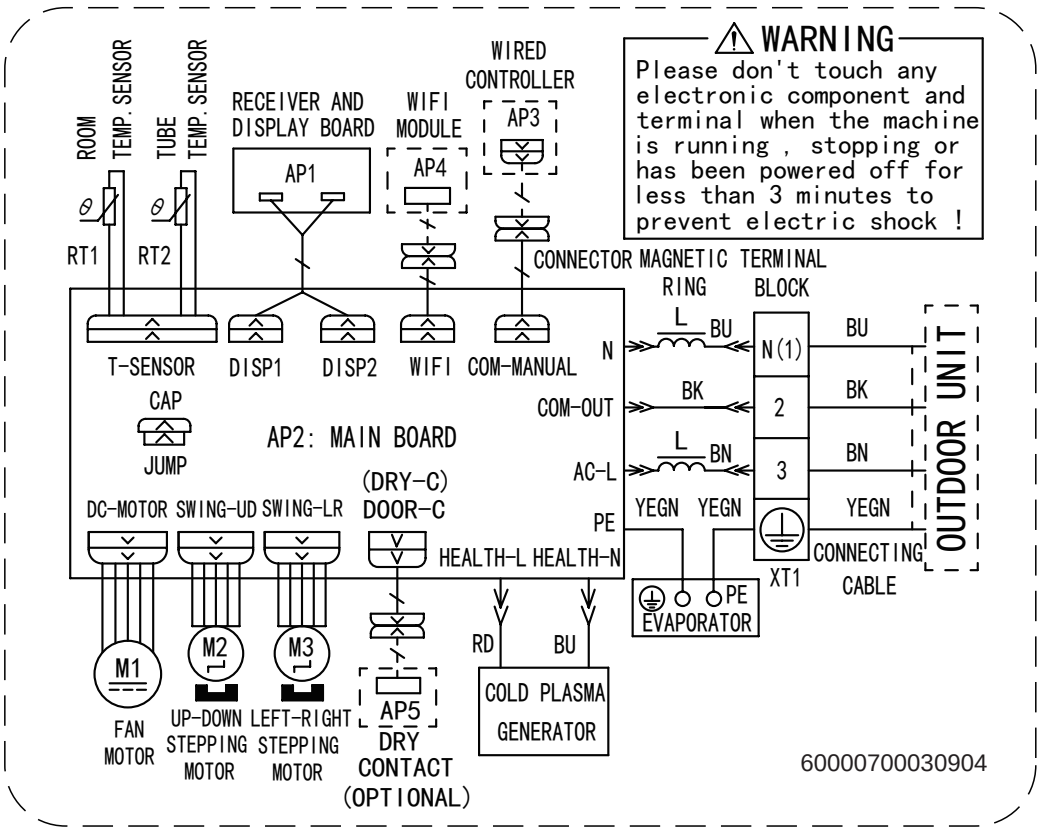
● Instruction

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

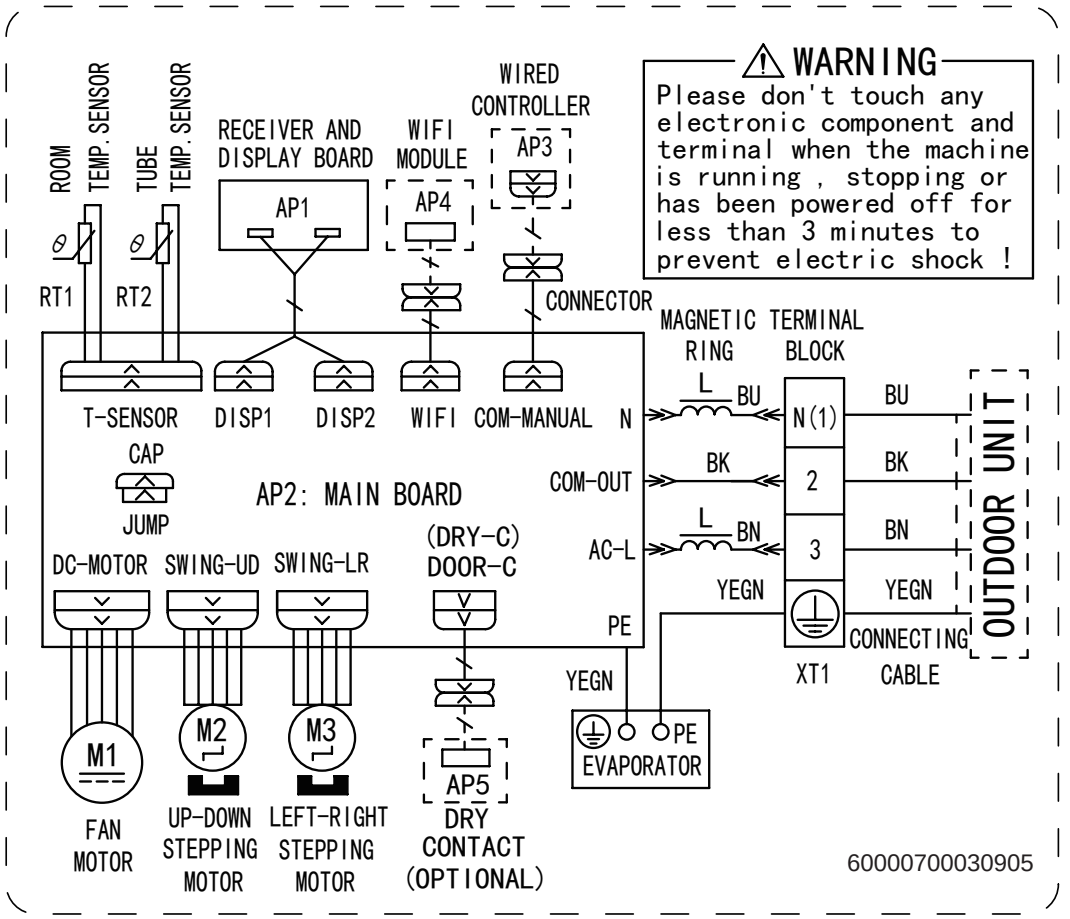
Note: Jumper cap is used to determine fan speed and the swing angle of horizontal lover for this model.

● Indoor Unit

GWH24QE-K3DNB2H/I(CB432N17100) GWH28QE-K3DNB2H/I (CB432N16700) GWH18QD-K3DNB2L/I (CB432N15800)
GWH12QC-K3DNB2D/I (CB432N15700) GWH09QC-K3DNB2A/I (CB432N15100) GWH21QE-K3DNB2A/I (CB432N16600)

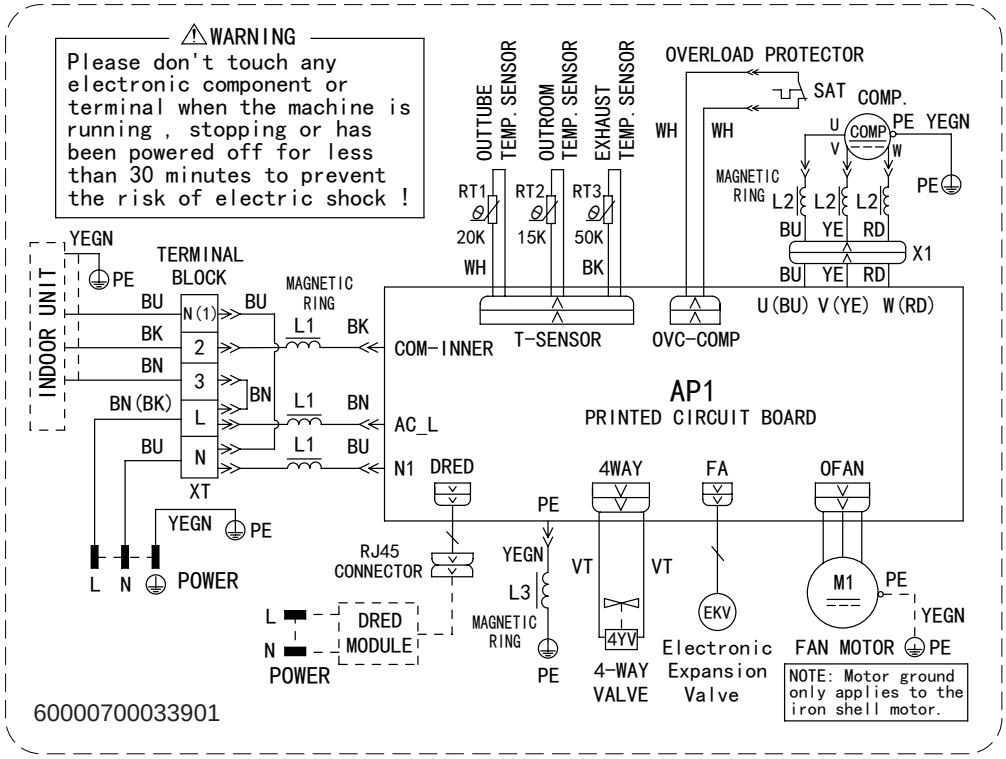


GWH09QC-K3DNB2A/I(CB432N15101) GWH21QE-K3DNB2A/I(CB432N16601) GWH12QC-K3DNB2D/I(CB432N15701)
GWH18QD-K3DNB2L/I(CB432N15801) GWH28QE-K3DNB2H/I(CB432N16701) GWH24QE-K3DNB2H/I(CB432N17101)

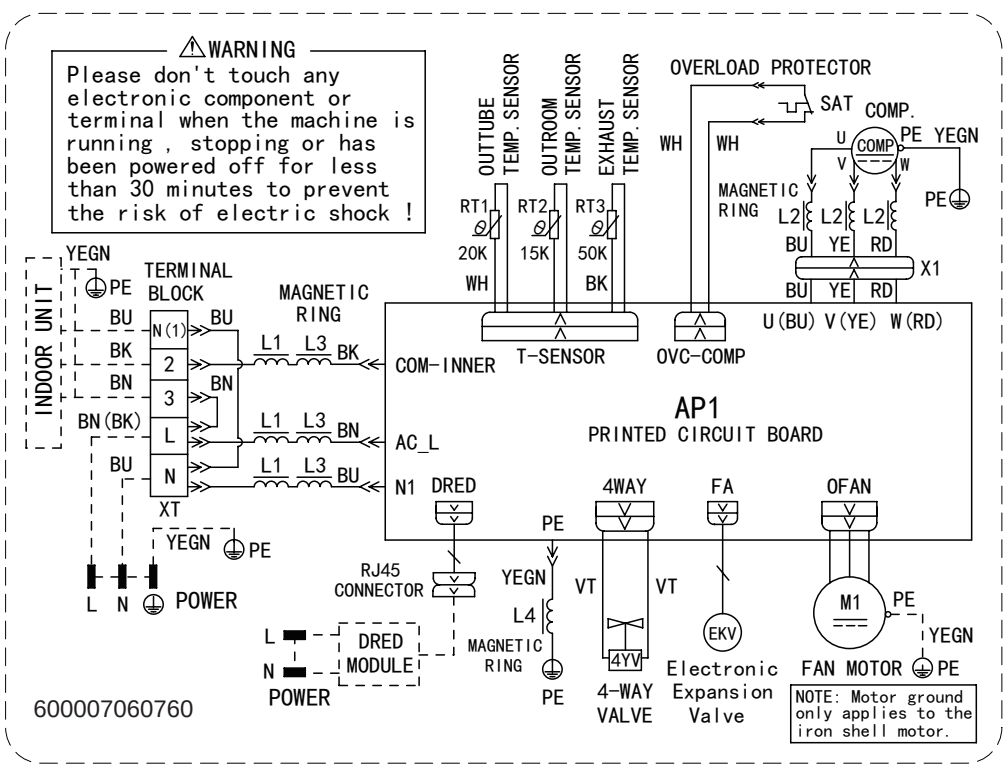


● Outdoor Unit

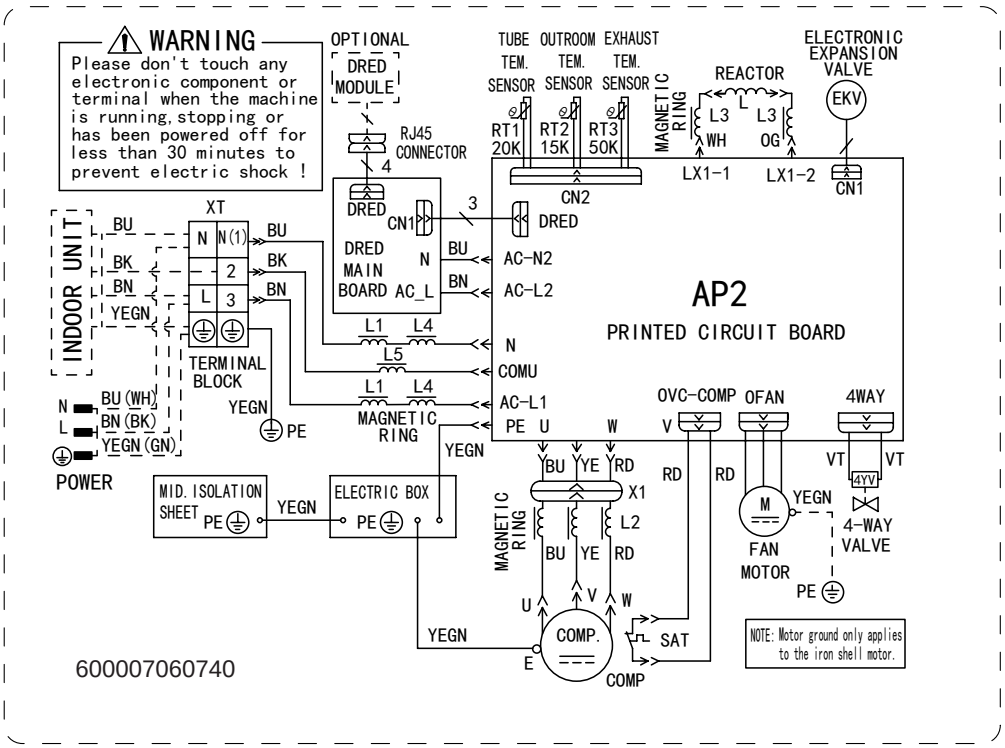
GWH24QE-K3DNB2H/O GWH18QD-K3DNB2L/O GWH21QE-K3DNB2A/O



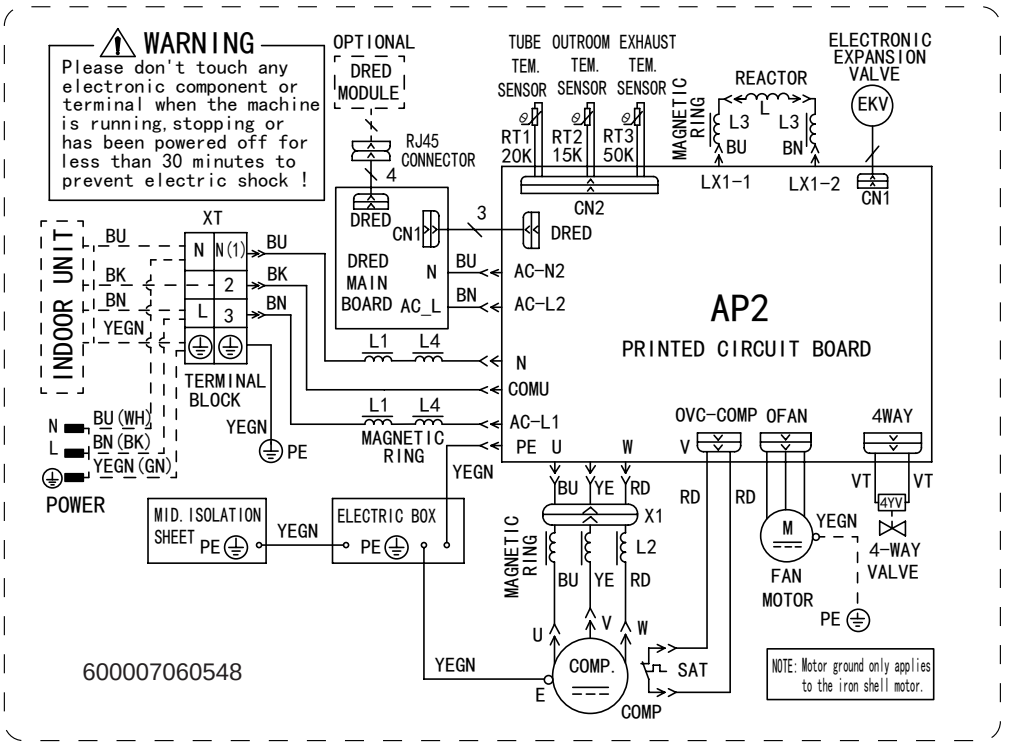
GWH28QE-K3DNB2H/O



GWH12QC-K3DNB2D/O



GWH09QC-K3DNB2A/O

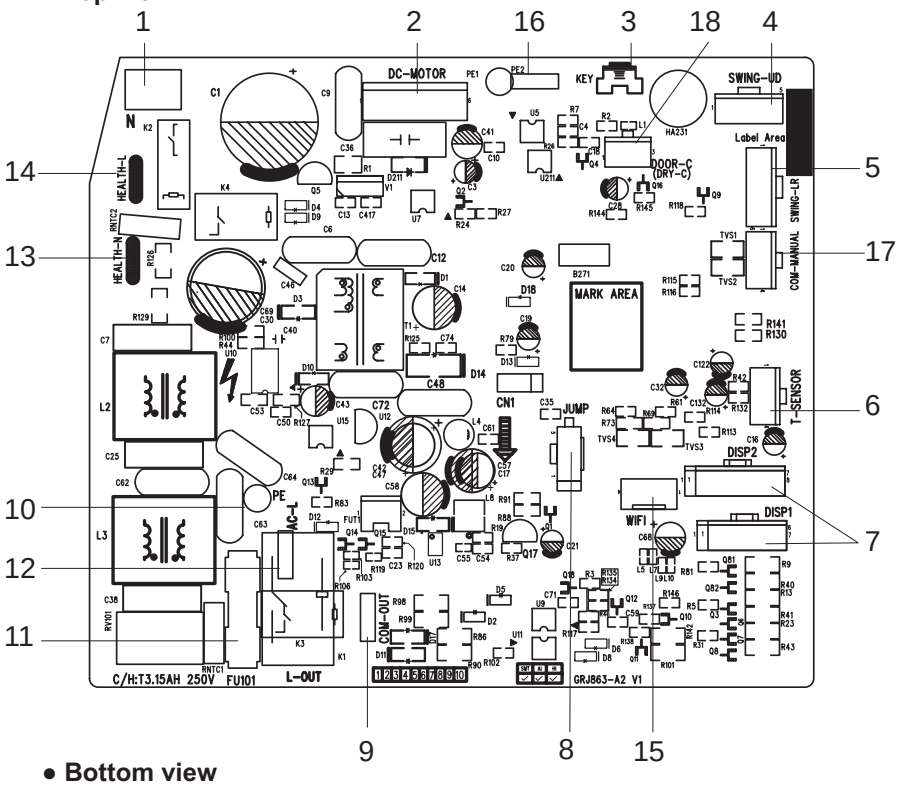


The above data is subject to change without notice. Please refer to the nameplate of the unit.

5.2 PCB Printed Diagram

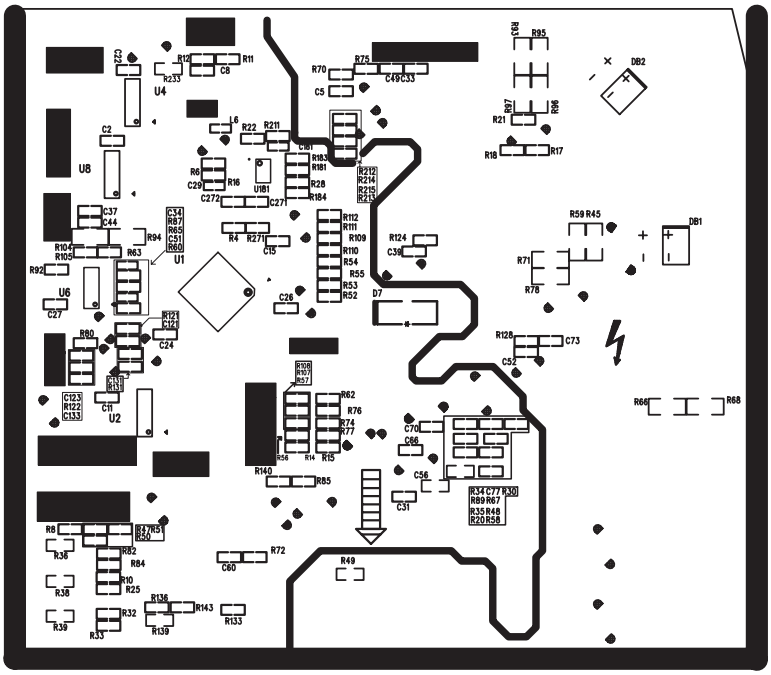
Indoor Unit

● **Top view**



No.	Name
1	Neutral wire
2	Needle stand for indoor fan
3	Auto button
4	Up&down swing motor
5	left&right swing motor(only for the mode with this function)
6	Interface of temperature sensor
7	Terminal for display board connection
8	Terminal of jumper cap
9	Communication wire
10	Connect earthing wire(only for the mode with this function)
11	Fuse
12	Live wire interface
13	Interface of health function neutral wire (only for the mode the mode with this function)
14	Interface of health function live wire (only for the mode the mode with this function)
15	Detecting plate(WIFI)
16	Connect earthing wire(only for the mode with this function)
17	Wired controller (only for the mode with this function)
18	Interface of gate control (only for the mode with this function)

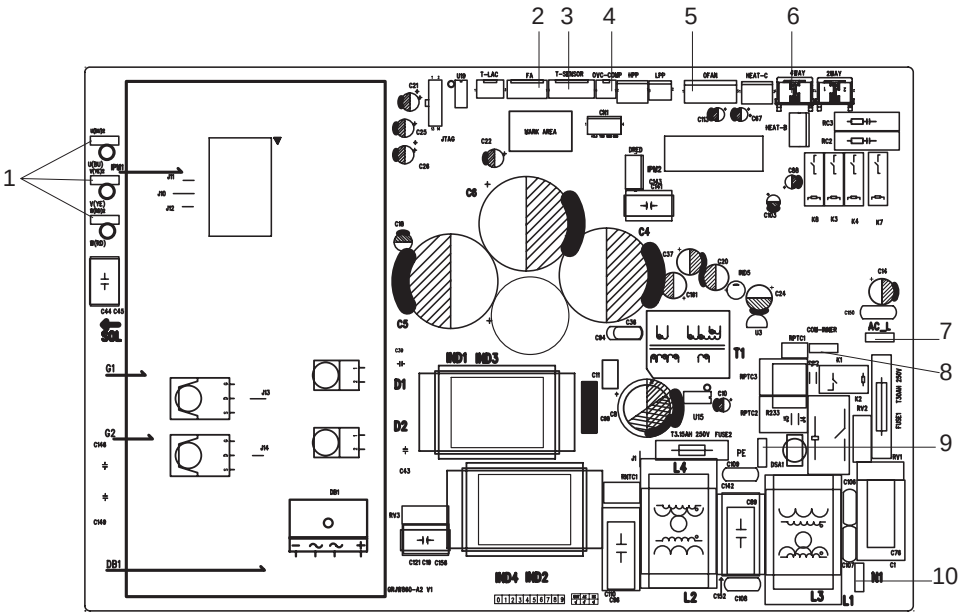
● **Bottom view**



Outdoor Unit

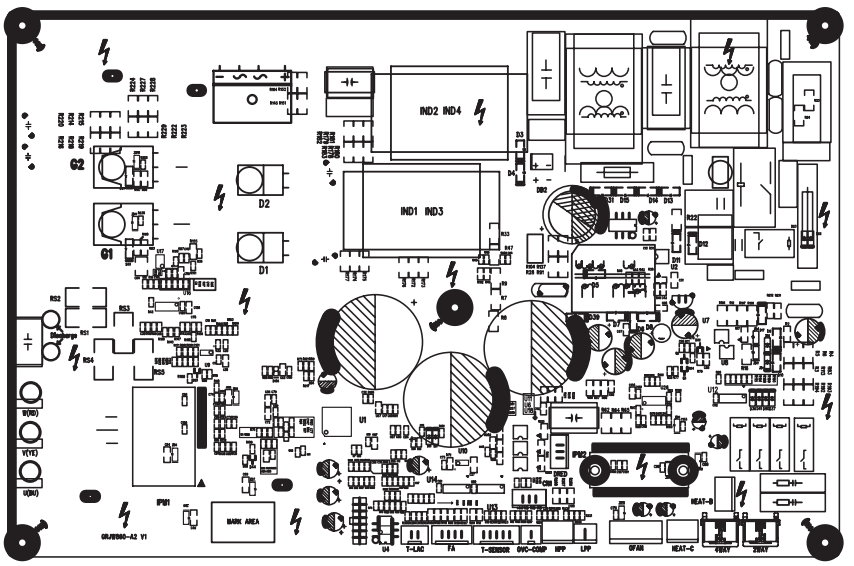
18/21/24/28K

● Top view



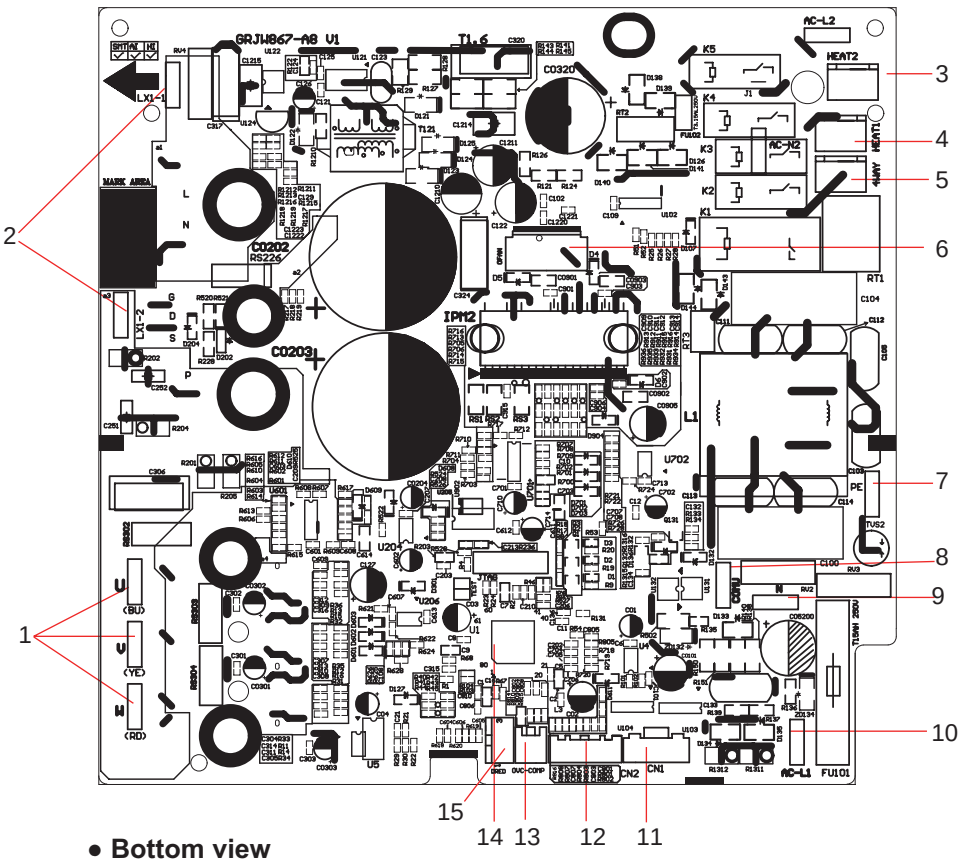
No.	Name
1	Interface of compressor wire
2	Interface of electronic expansion valve
3	Interface of temperature sensor
4	Compressor overload protection terminal
5	Terminal of outdoor fan
6	Terminal of 4-way valve
7	Interface of live wire
8	Communication interface
9	Interface of earthing wire
10	Interface of netural wire

● Bottom view



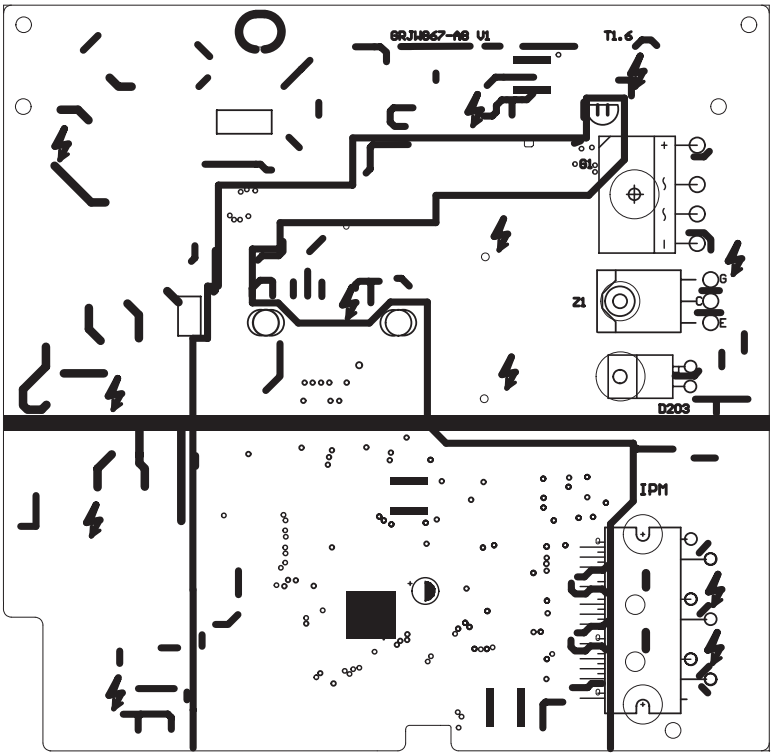
09/12K

- **Top view**



No.	Name
1	Interface of compressor wire
2	Interface of reactor
3	Terminal of chassis electric heater
4	Terminal of compressor electric heater
5	Terminal of 4-way valve
6	Interface of outdoor fan
7	Interface of earthing wire
8	Communication interface
9	Interface of netural wire
10	Interface of live wire
11	Terminal of electronic expansion valve
12	Interface of temperature sensor
13	Overload interface of compressor
14	Main chip
15	Demand response electrical device

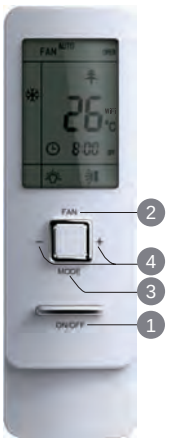
- **Bottom view**



6. Function and Control

6.1 Remote Controller Introduction

Buttons on Remote Controller YAG1FB4

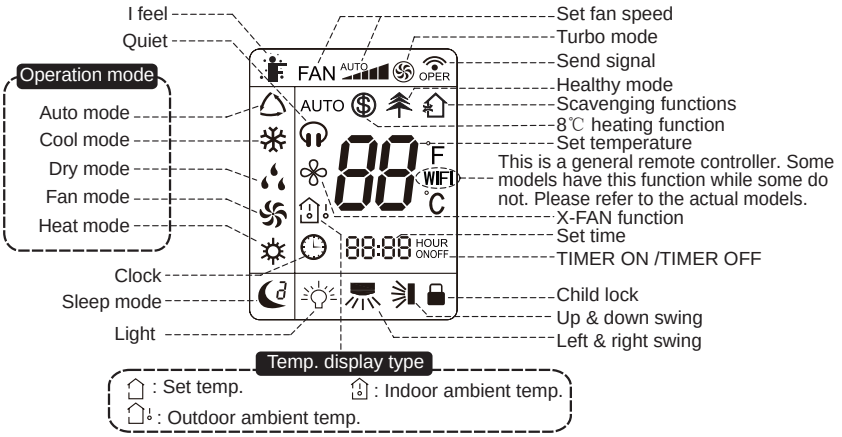


(before opening cover）

(after opening cover）

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

Introduction for Icons on Display Screen



Introduction for Buttons on Remote Controller

Note:

●This is a general use remote controller, it could be used for the air conditioners with multifunction; For some function, which the model don't have, if press the corresponding button on the remote controller that the unit will keep the original running status.

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

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

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

● As for the models with functions of WiFi or wired controller, the indoor unit must has been controlled by standard remote controller under auto mode first, and then the function of adjustable temperature under auto mode can be realized by APP or the wired controller.

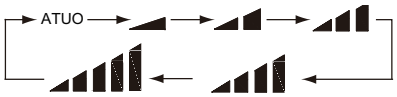
● This remote controller can adjust the temperature under auto mode. When matching with the unit which is without the function of adjustable temperature under auto mode, the set temperature under auto mode may be invalid, or the displayed set temperature on the unit is not same as that on the remote controller under auto mode.

1. ON/OFF button

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

2. FAN button

Press this button, Auto, Low, Medium-low, Medium, Medium-high, High speed can be circularly selected. After powered on, Auto fan speed is default. Under DRY mode, Low fan speed only can be set up.



Low fan Medium-low fan Medium fan Medium-high fan High fan

Note:

It's Low fan speed under Dry mode.

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

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

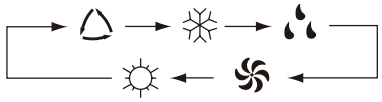
Having set X-FAN function on: After turning off the unit by pressing ON/OFF button indoor fan will continue running for a few minutes. at low speed. In this period, Hold fan speed button for 2 s to stop indoor fan directly.

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

3. MODE button

Press this button, Auto, Cool, Dry, Fan, Heat mode can be selected circularly. Auto mode is default while power on.

Under Heat mode, the initial value is 28°C(82°F);Under other modes, the initial value is 25°C(77°F).



AUTO COOL DRY FAN HEAT

(only for cooling and heating unit. As for cooling only unit, it won't have any action when it receives the signal of heating operation.)

Note: Under auto mode, set temperature can be adjusted.

4. +/- button

● Press " + " or " - " button once increase or decrease set temperature 0.1°C(°F).Holding " + " or " - " button, set temperature on remote controller will change quickly . On releasing button after setting is finished, temperature indicator on indoor unit will change accordingly. When setting TIMER ON, TIMER OFF or CLOCK, press " + " or " - " button to adjust time. (Refer to CLOCK, TIMER ON, TIMER OFF buttons) When setting TIMER ON, TIMER OFF or CLOCK, press " + " or " - " button to adjust time. (Refer to CLOCK, TIMER ON, TIMER OFF buttons)

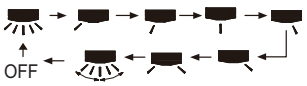
Note: Under auto mode, temperature can be adjusted and displayed.

5. TURBO button

Under Cool or Heat mode, press this button can turn on or turn off the Turbo function. After the Turbo function turned on, the signal of Turbo will display. The signal will be automatically cancelled if changing the mode or fan speed.

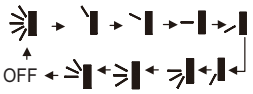
6. button

Press this button to set left & right swing angle cycling as below:



7. button

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



This remote controller is universal. If it receives threes kinds of following status,the swing angle will remain origial.

If guide louver is stopped when it is swinging up and down,it will remain its present position.

indicates guide louver swings back and forth in the five places,as shown in the figure.

8. CLOCK button

Press this button, the clock can be set up,signal blink and display.Within 5 seconds, the value can be adjusted by pressing + or - button, if continuously press this button for 2 seconds above,in every 0.5 seconds, the value on ten place of Minute will be increased 1.During blinking,repress the Clock button or Confirm button,signal will be constantly displayed and it denotes the setting succeeded. After powered on, 12:00 is defaulted to display and signal will be displayed. If there is signal be displayed that denotes the current time value is Clock value, otherwise is Timer value.

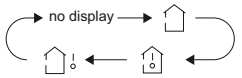
9. TIMER ON/TIMER OFF button

● Timer On setting: Signal “ON”will blink and display,signal ◷ will conceal,the numerical section will become the timer on setting status. During 5 seconds blink,by pressing + or - button to adjust the time value of numerical section,every press of that button,the value will be increased or decreased 1 minute.Hold pressing + or - button,2 seconds later,it quickly change,the way of change is: During the initial 2.5 seconds,ten numbers change in the one place of minute,then the one place is constant,ten numbers change in the ten splace of minute at 2.5 seconds speed and carry. During 5s blink,press the Timer button,the timer setting succeeds.The Timer On has been set up,repress the timer button,theTimer On will be canceled. Before setting theTimer,please adjust the Clock to the current actual time.

● One press this key to enter into TIMER OFF setup, in which case the TIMER OFF icon will blink. The method of setting is the sameas for TIMER ON.

10. TEMP button

Press this button, you can see indoor set temperature, indoor ambient temperature or outdoor ambient temperature on indoor unit’s display. The setting on remote co-ntroller 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; When selecting "⌂° " with remote controller, temperature indicator on indoor unit displays outdoor ambient temperature. 3s later it will return to the setting temprature or it depends on the other received signal within 3s.

Attention: When displaying the outdoor ambient, the displaying range is 0-60℃ When it goes beyond the range, it keeps the threshold data (the smallest—0℃ and the largest 60℃).

Warm tips: When operating buttons on the cover please make sure the cover is closed completely.

Note: Outdoor temperature display is not available for some models. At that time, indoor unit receives "⌂° " signal, while it displays indoor set temperature.

11. / button

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

NOTE: This function is applicable to partial of models.

12. I FEEL button

Press this button once, to turn on the I FEEL function, then the figure of "I FEEL" will be displayed, after every press of other function button, every 200ms to send I FEEL once, after this function started, the remote controller will send temperature to the main un it in every 10 minutes. When repress this button, this function will be turned off.

When I FEEL function is turned on, the remote controller should be put within the area where indoor unit can receive the signal sent by the remote controller.

13. LIGHT button

Press this button at unit On or Off status, Light On and Light Off can be set up. After powered on, Light On is defaulted.

14.WiFi button

Press " WiFi " button simultaneously to turn on or turn off WIFI function. When WIFI function is turned on, the " WiFi " icon will be displayed on remote controller; Under status of unit off， Long press "MODE" and " WiFi " buttons simultaneously for 1s,remote controller will send WIFI reset code and then the WIFI function will be turned on. WIFI function is defaulted OFF after energization of the remote controller.

● This function is only available for some models.

15. QUIET button

Press this button,the Quiet status is under the Auto Quiet mode (display" " and “Auto”signal) and Quiet mode(display " " singal) and Quiet OFF(there is no signal of " " displayed),after powered on,the Quiet OFF is defaulted. Under the Quiet mode (Display " "signal), The Quiet function is only available for some models.

16. SLEEP button

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

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

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

In Cool mode:

(1) When setting the initial temperature 16~23°C, after turned on Sleep function, the temperature will be increased 1°C in every hour,after 3°C the temperature will be maintained, after 7hours,the temperature will be decreased 1°C, after that the unit will keep on running under this temperature;

(2) When setting the initial temperature 24~27°C, after turned on Sleep function, the temperature will be increased 1°C in every hour,after 2°C the temperature will be maintained, after 7hours,the temperature will be decreased 1°C, after that the unit will keep on running under

this temperature;
(3) When setting the initial temperature 28~29°C, after turned on Sleep function, the temperature will be increased 1°C in every hour, after 1°C the temperature will be maintained, after 7hours,the temperature will be decreased 1°C, after that the unit will keep on running under this temperature;
(4) When setting the initial temperature 30°C, under this temperature setting, after 7hours, the temperature will be decreased 1°C, after that the unit will keep on running under this temperature;
In Heat mode:
(1) Under the initial presetting temperature 16°C, it will run under this setting temperature all along.
(2) Under the initial presetting temperature17~20°C, after Sleep function started up, the temperature will decrease 1°C in every hour, after 1°C decreased, this temperature will be maintained.
(3) Under the initial presetting temperature 21~27°C, after Sleep function started up, the temperature will decrease 1°C in every hour,after 2°C decreased, this temperature will be maintained.
(4) Under the initial presetting temperature 28~30°C, after Sleep function started up, the temperature will decrease 1°C in every hour, after 3°C decreased, this temperature will be maintained
●Sleep 3- the sleep curve setting under Sleep mode by DIY:
(1) Under Sleep 3 mode, press "Turbo" button for a long time, remote control enters into user individuation sleep setting status, at this time, the time of remote control will display "1hour ", the setting temperature "88" will display the corresponding temperature of last setting sleep curve and blink (The first entering will display according to the initial curve setting value of original factory);
(2) Adjust "+" and "-" button, could change the corresponding setting temperature, after adjusted, press "Trubo "button for confirmation;
(3) At this time, 1hour will be automatically increased at the timer postion on the remote control, (that are "2hours" or "3hours" or "8hours "), the place of setting temperature "88" will display the corresponding temperature of last setting sleep curve and blink;
(4) Repeat the above step (2)~(3) operation, until 8hours temperature setting finished,sleep curve setting finished, at this time, the remote controller will resume the original timer display; temperature display will resume to original setting temperature.
Sleep3 - the sleep curve setting under Sleep mode by DIY could be inquired: The user could accord to sleep curve setting method to inquire the presetting sleep curve, enter into user individuation sleep setting status, but do not change the temperature, press "Turbo" button directly for confirmation.

Note: In the above presetting or enquiry procedure, if continuously within10s, there is no button pressed, the sleep curve setting status will be automatically quit and resume to display the original displaying. In the presetting or enquiry procedure, press "ON/OFF" button, "Mode" button, "Timer" button or "Sleep" button, the sleep curve setting or enquiry status will quit similarly.

About AUTO RUN
When AUTO RUN mode is selected, the setting temperature will not be displayed on the LCD, the unit will be in accordance with the room temp. automatically to select the suitable running method and to make ambient comfortable.

About turbo function
If start this function, the unit will run at super-high fan speed to cool or heat quickly so that the ambient temp. approachs the preset temp. as soon as possible.

About lock
Press + and - buttons simultaneously to lock or unlock the keyboard. If the remote controlleris locked, the icon will be displayed on it, in which case, press any button, the mark will flicker for three times. If the keyboard is unlocked, the mark will disappear.

About swing up and down
(1)Press swing up and down button continuously more than 2s,the main unit will swing back and forth from up to down, and then loosen the button, the unit will stop swinging and present position of guide louver will be kept immediately.
(2)Under swing up and down mode, when the status is switched from off to, if press this button again 2s later, status will switch to off status directly; if press this button again within 2s,the change of swing status will also depend on the circulation sequence stated above.

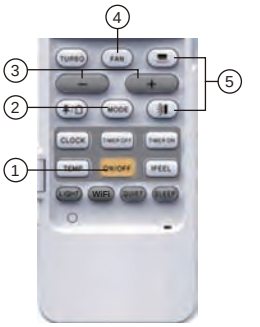
About swing left and right
(1)Press swing left and right button continuously more than 2s,the main unit will swing back and forth from left to right, and then loosen the button, the unit will stop swinging and present position of guide louver will be kept immediately.
(2)Under swing left and right mode, when the status is switched from of f to, if press this button again 2s later, status will switch to off status directly; if press this button again within 2s,the change of swing status will also depend on the circulation sequence stated above.

About switch between Fahrenheit and Centigrade
Under status of unit off, press MODE and - buttons simultaneously to switch °C and °F.
Combination of " TEMP" and "CLOCK" buttons : About Energy-saving Function
Press “TEMP” and “CLOCK” simultaneously in COOL mode to start energy-saving function.Nixie tube on the remote controller displays “SE”. Repeat the operation to quit the function.
Combination of " TEMP" and "CLOCK" buttons : About 8°C Heating Function (This function is only available for some models)
Press “TEMP” and “CLOCK” simultaneously in HEAT mode to start 8°C Heating Function.Nixie tube on the remote controller displays" "and a selected temperature of “8°C” (46°F if Fahrenheit is adopted). Repeat the operation to quit the function.
About Quiet function
When auto quiet function is selected:
(1)Under cooling mode: indoor fan operates at notch 4 speed. 10 minutes later or when indoor ambient temperature≤28℃, indoor fan will operate at notch 2 speed or quiet mode according to the comparison between indoor ambinet temperature and set temperature.
(2)Under heating mode: indoor fan operates at notch 3 speed or quiet mode according to the comparison between indoor ambient temperature and set temperature.
(3)Under dry, fan mode: indoor fan operates at quiet mode.
(4)Under auto mode: the indoor fan operates at the auto quiet mode according to actual cooling, heating or fan mode.

About Sleep function

Under the Fan、Dry and Auto mode, the Sleep function cannot be set up, Select and enter into any kind of Sleep mode, the Quiet function will be attached and stared, different Quiet status could be optional and turned off.

Operation Guide



1. General operation

(1)After powered on, press ON/OFF button, the unit will start to run. (Note: When it is powered on, the guide louver of main unit will close automatically.)

(2)Press MODE button, select desired running mode.

(3)Pressing + or - button, to set the desired temperature .

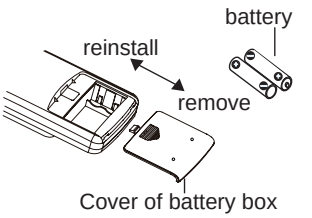
(4)Pressing FAN button, set fan speed, can select AUTO FAN, LOW, MEDIUM-LOW, MEDIUM, MEDIUM-HIGH and HIGH.

(5)Pressing and button, to select the swing.

2. Optional operation

(1)Press SLEEP button, to set sleep.
(2)Press TIMER ON and TIMER OFF button, can set the scheduled timer on or timer off.
(3)Press LIGHT button, to control the on and off of the displaying part of the unit (This function may be not available for some units).
(4)Press TURBO button, can realize the ON and OFF of TURBO function.

Replacement of Batteries in Remote Controller



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

Note:

- During operation, point the remote control signal sender at the receiving window on indoor unit.
- The distance between signal sender and receiving window should be no more than 8m, and there should be no obstacles between them.
- Signal may be interfered easily in the room where there is fluorescent lamp or wireless telephone; remote controller should be close to indoor unit during operation.
- Replace new batteries of the same model when replacement is required.
- When you don't use remote controller for a long time, please take out the batteries.
- If the display on remote controller is fuzzy or there's no display, please replace batteries.

6.2 Brief Description of Modes and Functions

● Indoor Unit

1.Temperature Parameters

Indoor preset temperature (Tpreset)

Indoor ambient temperature (Tamb.)

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

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

(1)Cooling mode

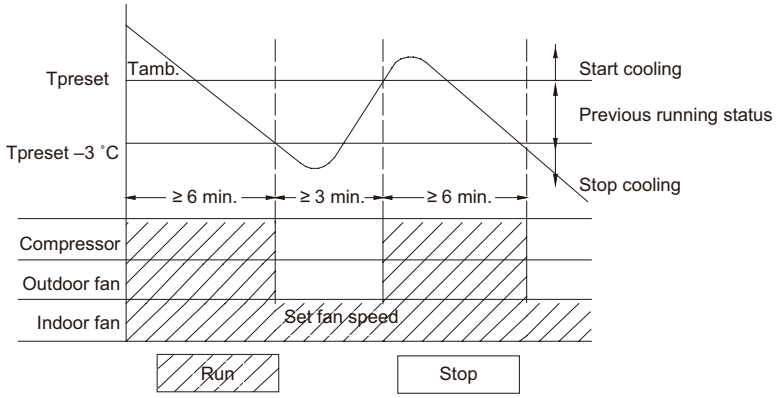
① Cooling conditions and process

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

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

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

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



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

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

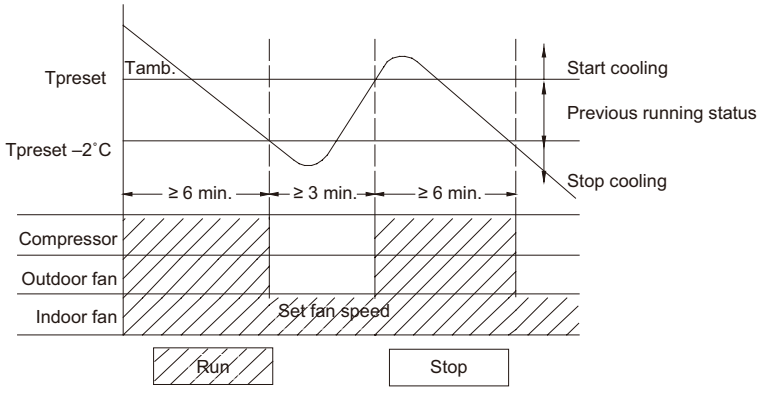
(2)Dry Mode

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

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

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

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



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

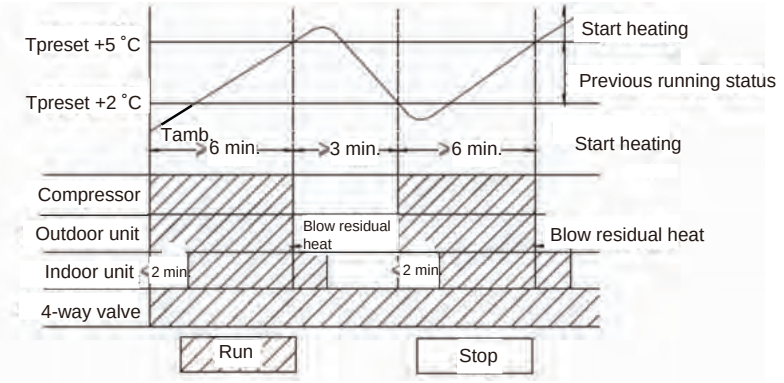
① Heating conditions and process

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

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

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

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



② Defrosting and Oil Return

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

③ Blow residual heat

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

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

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

(4)Fan Mode

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

(5)Auto Mode

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

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

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

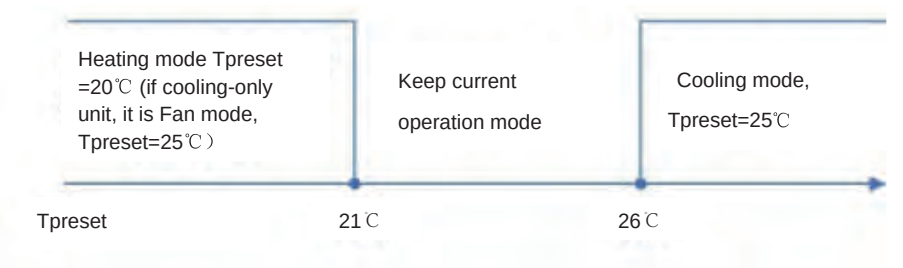
③ When 22°C≤Tamb.≤25°C and the unit is turned on for the first time, if it changes to auto mode from other mode, the previous operation mode will be maintained; If it changes to auto mode from dry mode, the unit will operate at fan mode.

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

Protection function

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

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



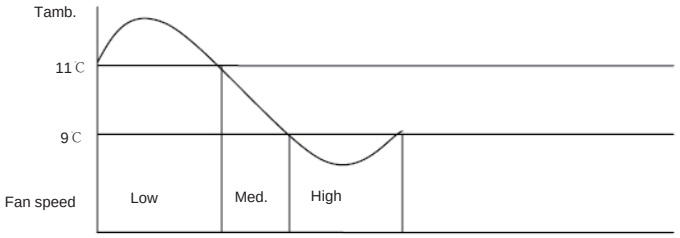
(6) “8°C” Heating

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

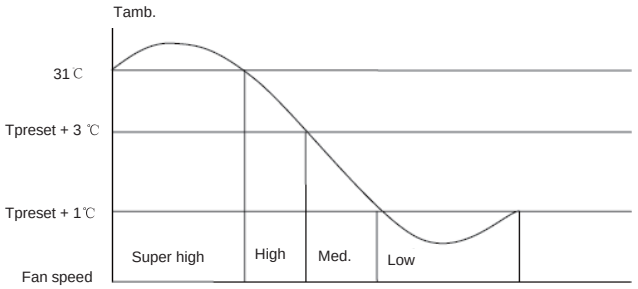
① 8°C heating cant co-exist with sleep function. If 8°C heating function is set, it can be cancelled by pressing sleep button, In that case, the set temperature will be that before entering 8 heating; If sleep function is set, press buttons “Temp” and “Clock” simultaneously to activate 8°C function and cancel sleep function at the same time.

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

③ In this mode, TURBO cant be set and fan speed cant be adjusted.
④ In this mode, when compressor operates, fan speed will be adjusted as follows; when compressor stops operation, indoor unit will operate at blowing residual heat.
When Tindoor amb. ≤9°C, indoor fan operates at high fan speed;
When 9°C ＜ Tindoor amb. ＜ 11°C, indoor fan operates at medium fan speed;
When Tindoor amb.≥11°C, indoor fan operates at low fan speed;
When changing among low high, medium, and low speeds, the minimum operation time is 210 seconds.
⑤ The unit with memory function can memorize 8°C heating mode.



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



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

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

(4)Sleep Function

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

(5)Turbo Function

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

(6)X-FAN Function

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

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

(7)Control of Indoor Fan

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

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

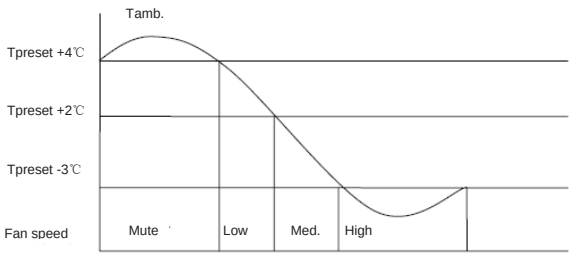
When Tamb.<Tpreset-3°C, indoor fan will operate at high speed;

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

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

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

Control Diagram of Auto Fan Speed under HEAT Mode



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

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

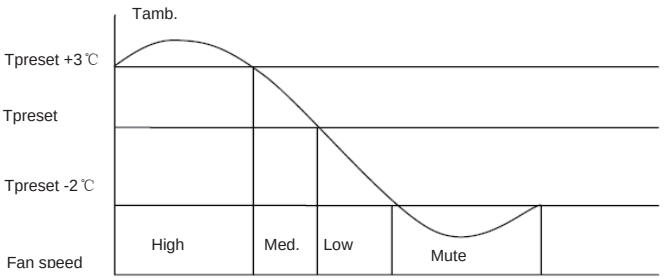
When Tpreset<Tamb.<Tpreset+3°C indoor fan will operate at med. speed;

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

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

③ There is no auto fan speed under DRY mode

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

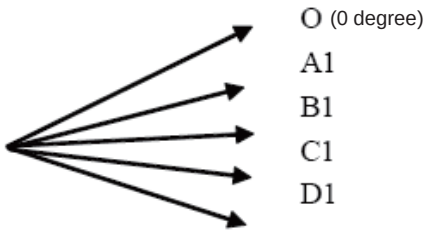


(8)Vertical Swing

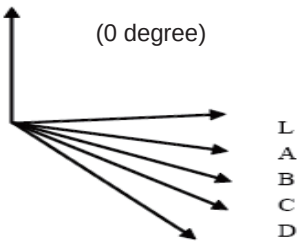
① Small Horizontal Louver

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

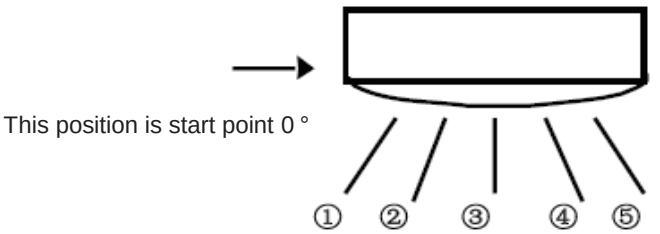
swing function is set and indoor fan is operating.
Note:
a. If the position is set between O and D1, A 1and C1 or B1 and D1 by remote controller, the horizontal louver will swing between O and D1.
b. For model 9K/12K, only when big horizontal louver rotates to the second position for heating(62°of corresponding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



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



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



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

seconds firstly and then room temperature display returns. If there is malfunction, corresponding malfunction code will be displayed. For example, if ambient temperature sensor has malfunction, “F1” will be displayed; if indoor pipe temperature has malfunction, “F2” will be displayed; if jumper cap has malfunction, “C5” will be displayed.

(11)Memory Function

① Memory when power failure upon turning on the unit

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

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

◆ Clock timer cant be memorized.

② Memory when power failure upon turning off the unit

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

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

◆ Clock timer cant be memorized.

(12)I Feel function

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

(13)Health and Cold Plasma Function

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

(14)Static Dedusting Function

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

(15)Fahrenheit Display

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

(16)Locked protection to Indoor Fan Motor

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

(17)Mute Mode

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

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

This position is start point

(18)Compulsive Defrosting Function

① Start up compulsory defrosting function

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

② Exit compulsory defrosting mode

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

(19)Refrigerant Recycling Function

① Enter refrigerant recycling function

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

② Exit refrigerant recycling function

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

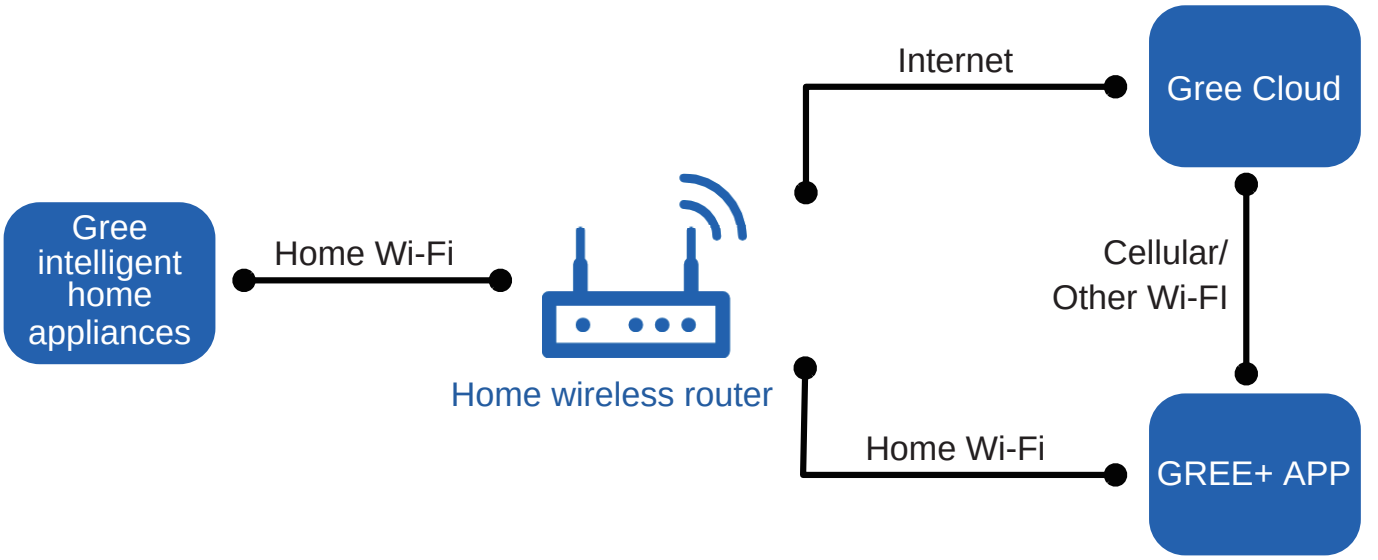
● Outdoor Unit

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

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

6.3 GREE+ App Operation Manual

Control Flow Chart



Operating Systems

Requirement for User's smart phone:

iOS system
Support iOS7.0 and above version

Android system
Support Android 4.4 and above version

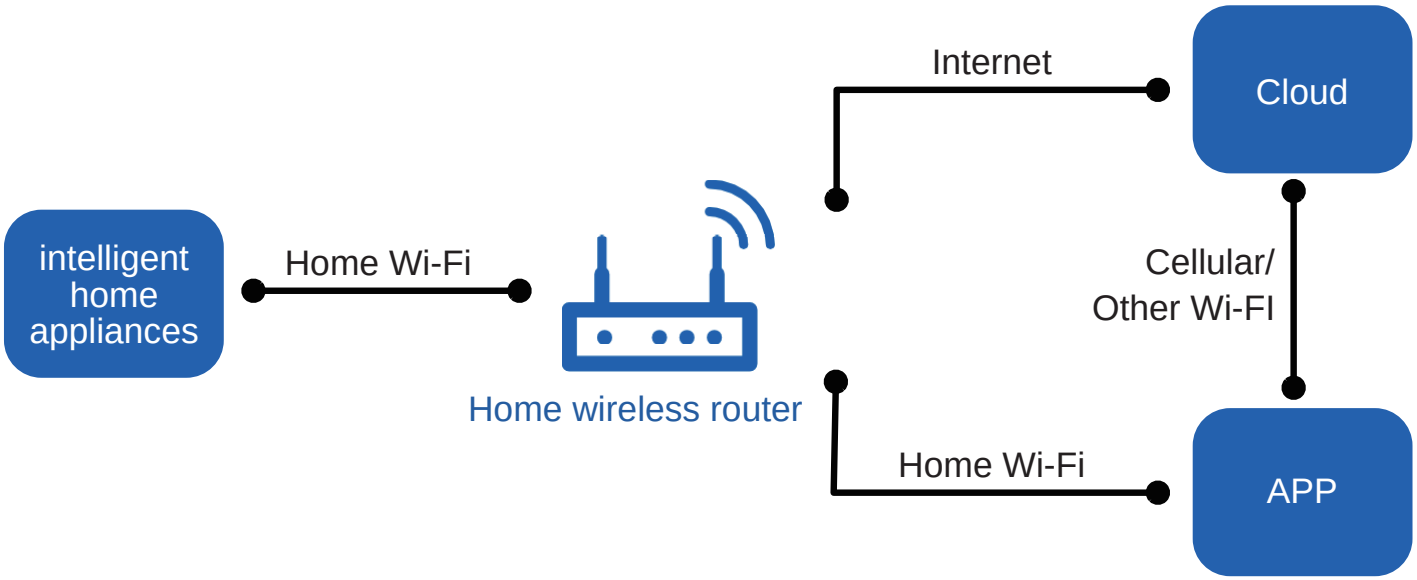
Download and installation

GREE+ App Download Linkage

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

6.4 Ewpe Smart App Operation Manual

Control Flow Chart



Operating Systems

Requirement for User's smart phone:

iOS system
Support iOS7.0 and above version

Android system
Support Android 4.4 and above version

Download and installation

App Download Linkage

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

Part Ⅱ : Installation and Maintenance

7. Notes for Installation and Maintenance

Safety Precautions: Important!

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

Please follow the instructions below.

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

Warnings

Electrical Safety Precautions:

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

Installation Safety Precautions:

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

Refrigerant Safety Precautions:

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

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

Safety Precautions for Installing and Relocating the Unit:

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

Warnings

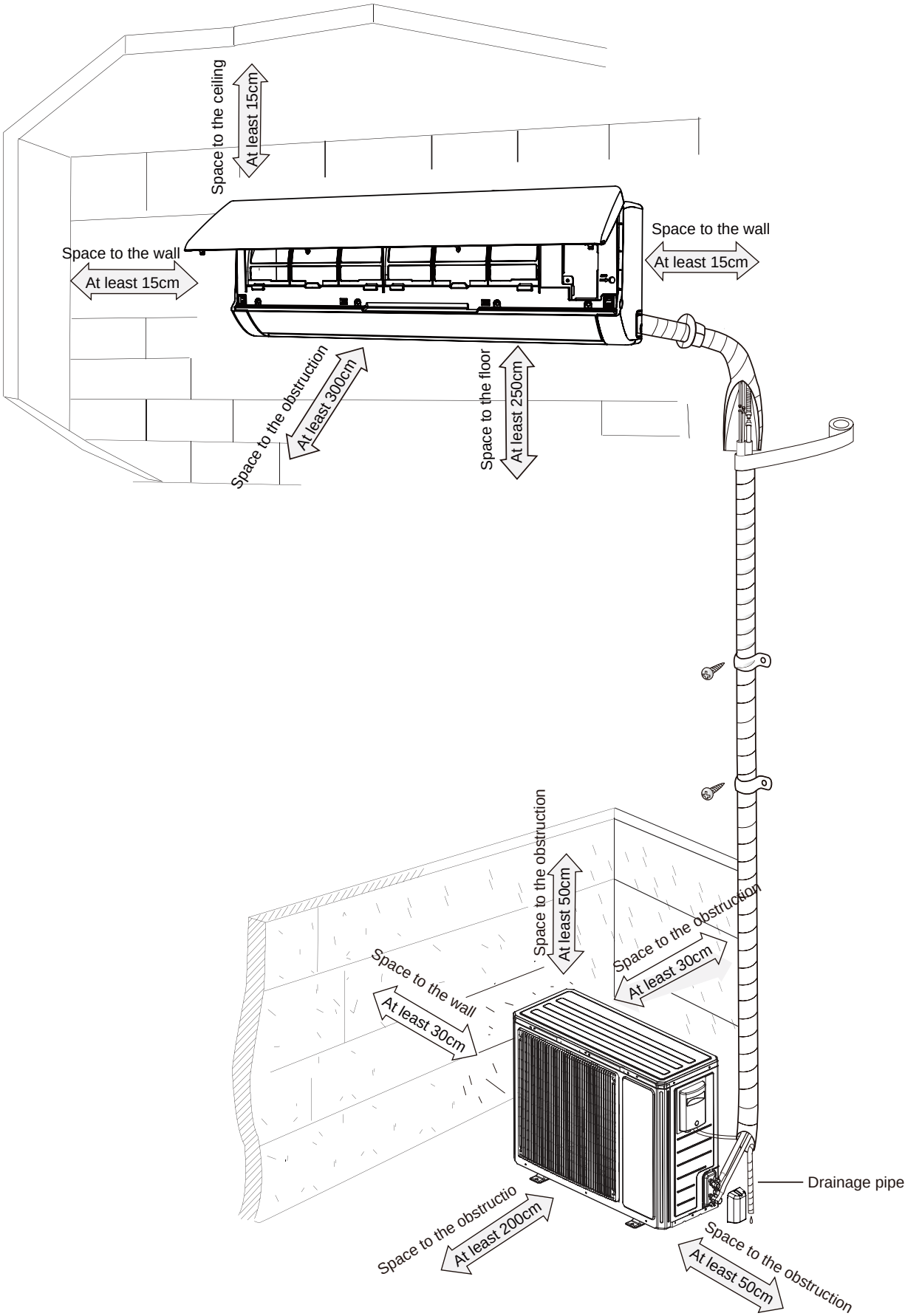
1. When installing or relocating the unit, be sure to keep the refrigerant circuit free from air or substances other than the specified refrigerant.
Any presence of air or other foreign substance in the refrigerant circuit will cause system pressure rise or compressor rupture, resulting in injury.
2.When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

Main Tools for Installation and Maintenance

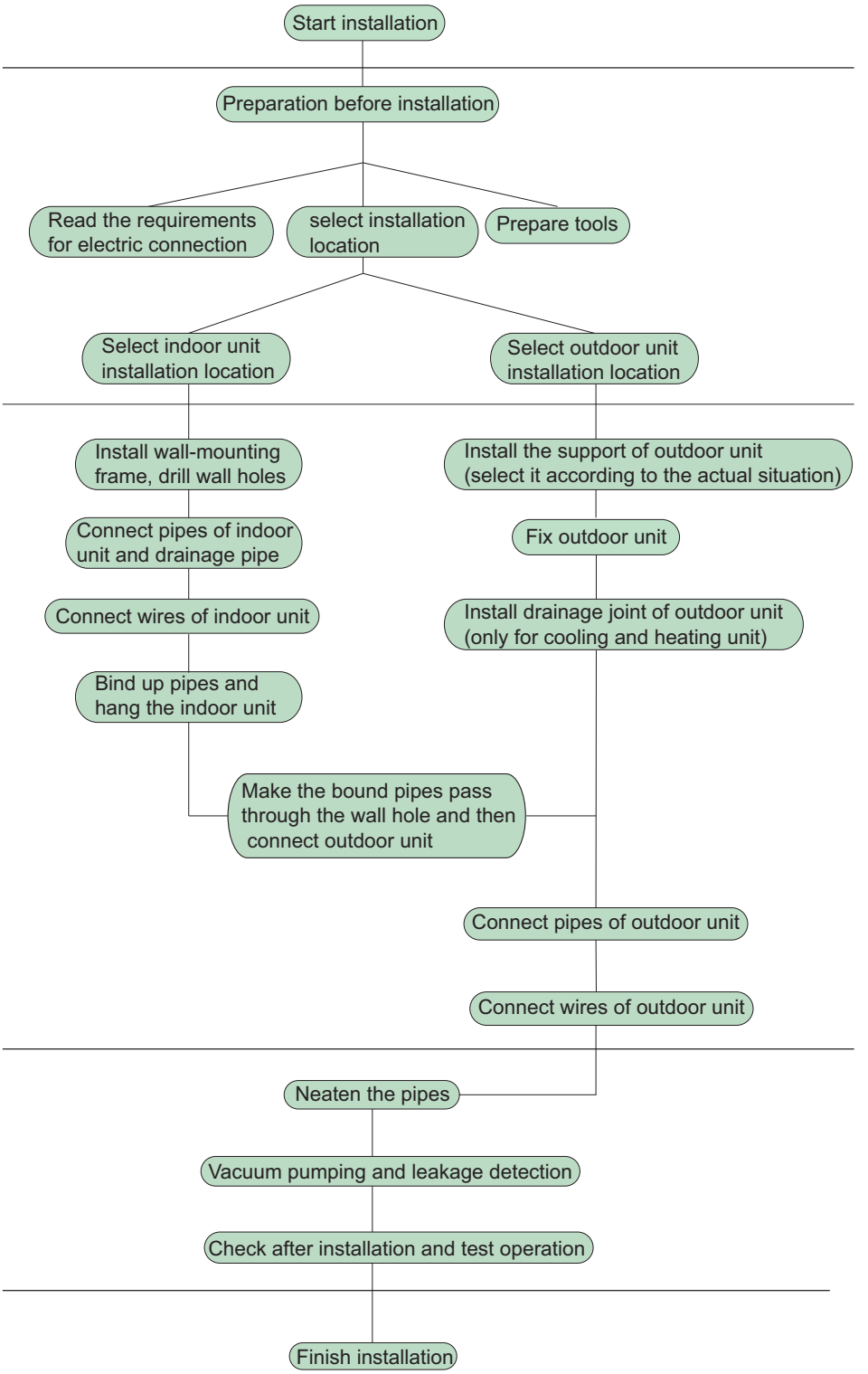
1. Level meter, measuring tape 	**2. Screw driver** 	**3. Impact drill, drill head, electric drill** 
4. Electroprobe 	**5. Universal meter** 	**6. Torque wrench, open-end wrench, inner hexagon spanner** 
7. Electronic leakage detector 	**8. Vacuum pump** 	**9. Pressure meter** 
10. Pipe pliers, pipe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

8. Installation

8.1 Installation Dimension Diagram



Installation procedures



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

8.2 Installation Parts-checking

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

⚠ **Note:**

1.Please contact the local agent for installation.

2.Dont use unqualified power cord.

8.3 Selection of Installation Location

1. Basic Requirement:

Installing the unit in the following places may cause malfunction. If it is unavoidable, please consult the local dealer:

(1) The place with strong heat sources, vapors, flammable or explosive gas, or volatile objects spread in the air.

(2) The place with high-frequency devices (such as welding machine, medical equipment).

(3) The place near coast area.

(4) The place with oil or fumes in the air. in the air.

(5) The place with sulfureted gas.

(6) Other places with special circumstances.

(7)The appliance shall nost be installed in the laundry.

(8)It's not allowed to be installed on the unstable or motive base structure (such as truck) or in the corrosive environment (such as chemical factory).

2. Indoor Unit:

(1) There should be no obstruction near air inlet and air outlet.

(2) Select a location where the condensation water can be dispersed easily and wont affect other people.

(3) Select a location which is convenient to connect the outdoor unit and near the power socket.

(4) Select a location which is out of reach for children.

(5) The location should be able to withstand the weight of indoor unit and wont increase noise and vibration.

(6) The appliance must be installed 2.5m above floor.

(7) Dont install the indoor unit right above the electric appliance.

(8) The appliance shall not be installed in the laundry.

3. Outdoor unit:

1.Select a location where the noise and outflow air emitted by the outdoor unit will not affect neighborhood.

2.The location should be well ventilated and dry, in which the outdoor unit wont be exposed directly to sunlight or strong wind.

3.The location should be able to withstand the weight of outdoor unit.

4.Make sure that the installation follows the requirement of installation dimension diagram.

5.Select a location which is out of reach for children and far away from animals or plants.If it is unavoidable, please add fence for safety purpose.

8.4 Requirements for electric connection

1. Safety precaution

(1) Must follow the electric safety regulations when installing the unit.

(2) According to the local safety regulations, use qualified power supply circuit and air switch.

(3) Make sure the power supply matches with the requirement of air conditioner. Unstable power supply or incorrect wiring may result in electric shock,fire hazard or malfunction. Please install proper power supply cables before using the air conditioner.

(4) Properly connect the live wire, neutral wire and grounding wire of power socket.

(5) Be sure to cut off the power supply before proceeding any work related to electricity and safety.

(6) Do not put through the power before finishing installation.

(7) If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualifide persons in order to aviod a hazard.

(8) The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.

(9) The appliance shall be installed in accordance with national wiring regulations.

2. Grounding requirement:

(1) The air conditioner is first class electric appliance. It must be properly grounding with specialized grounding device by a professional. Please make sure it is always grounded effectively, otherwise it may cause electric shock.

(2) The yellow-green wire in air conditioner is grounding wire, which cant be used for other purposes.

(3) The grounding resistance should comply with national electric safety regulations.

(4) The appliance must be positioned so that the plug is accessible

(5) An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring. For models with a power plug, make sure the plug is within reach after installation

(6)Including an circuit break with suitable capacity, please note the following table. Air switch should be included magnet buckle and heating buckle function, it can protect the circuit-short and overload. (Caution: please do not use the fuse only for protect the circuit)

Air-conditioner	Circuit break capacity	Number of power cord* Min sectional area
09K	10A	3*1.0mm²
12、18K	16A	3*1.5mm²
21、24、28K	25A	3*2.5mm²

8.5 Installation of Indoor Unit

1. Choosing Installation location

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

2. Install Wall-mounting Frame

(1) Hang the wall-mounting frame on the wall; adjust it in horizontal position with the level meter and then point out the screw fixing holes on the wall.

(2) Drill the screw fixing holes on the wall with impact drill (the specification of drill head should be the same as the plastic expansion particle) and then fill the plastic expansion particles

2. Install Wall-mounting Frame

(1) Hang the wall-mounting frame on the wall; adjust it in horizontal position with the level meter and then point out the screw fixing holes on the wall.

(2) Drill the screw fixing holes on the wall with impact drill (the specification of drill head should be the same as the plastic expansion particle) and then fill the plastic expansion particles in the holes.

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

3. Install Wall-mounting Frame

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

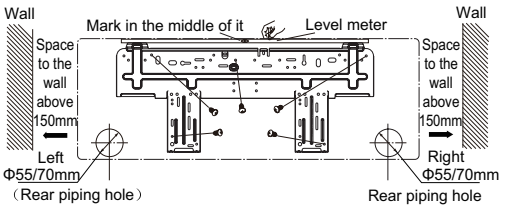


Fig.1

(2) Open a piping hole with the diameter Φ55/70mm on the selected outlet pipe position.In order to drain smoothly, slant the piping hole on the wall slightly downward to the outdoor side with the gradient of 5-10°.(As show in Fig.2)

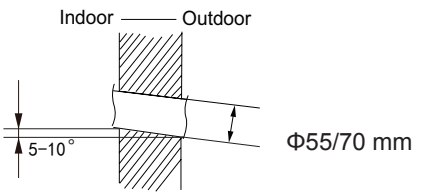


Fig.2

⚠ **Note:**

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

(2) The plastic expansion particles are not provided and should be bought locally.

4. Outlet pipe

(1) The pipe can be led out in the direction of right, rear right, left or rear left.(As show in Fig.3)

(2) When selecting leading out the pipe from left or right, please cut off the corresponding hole on the bottom case.(As show in Fig.4)

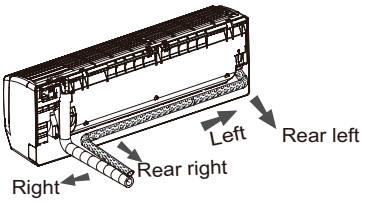


Fig.3

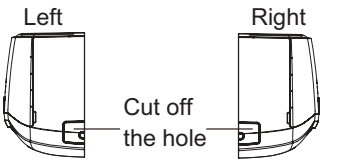


Fig.4

5. Connect the pipe of indoor unit

(1) Aim the pipe joint at the corresponding bellmouth.(As show in Fig.5)

(2) Pretightening the union nut with hand.

(3) Adjust the torque force by referring to the following sheet. Place the open-end wrench on the pipe joint and place the torque wrench on the union nut. Tighten the union nut with torque wrench.(As show in Fig.6)

(4) Wrap the indoor pipe and joint of connection pipe with insulating pipe, and then wrap it with tape.(As show in Fig.7)

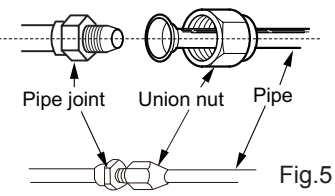


Fig.5

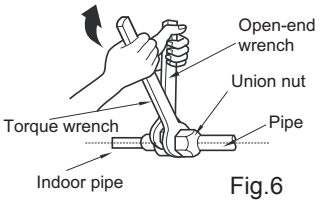


Fig.6

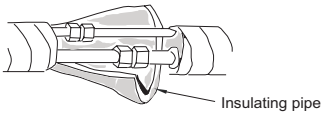


Fig.7

Refer to the following table for wrench moment of force:

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

6. Install Drain Hose

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

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

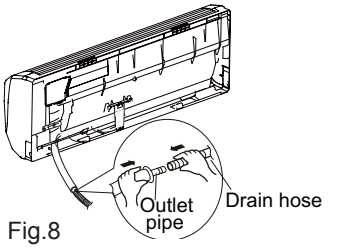


Fig.8

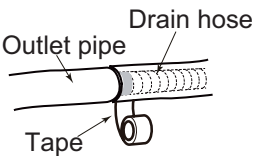


Fig.9

⚠ **Note:**

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

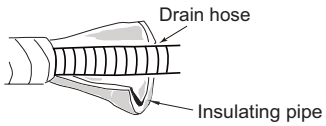


Fig.10

7. Connect Wire of Indoor Unit

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

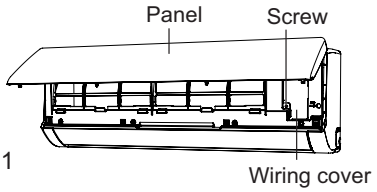


Fig.11

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

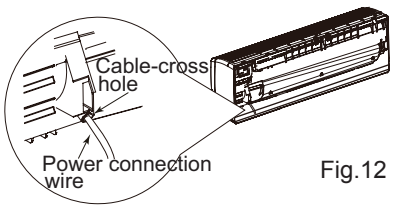
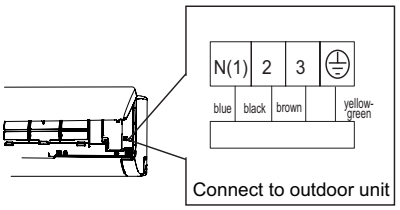


Fig.12

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



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

Fig.13

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

⚠ **Note:**

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

8. Bind up pipe

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

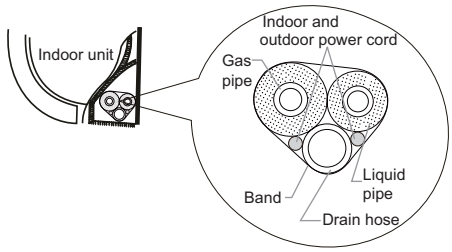


Fig.14

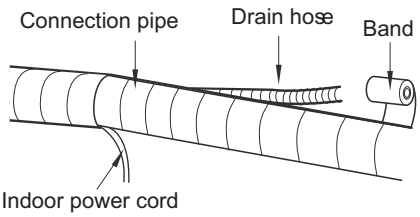


Fig.15

⚠ **Note:**

(1) The power cord and control wire cant be crossed or winding.
(2) The drain hose should be bound at the bottom.

9. Hang the indoor unit

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

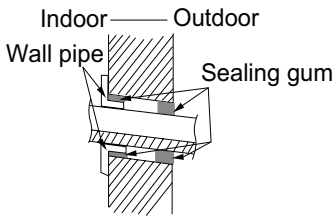
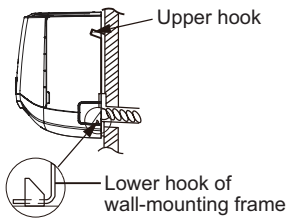


Fig.16

Fig.17



⚠ **Note:**

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

8.6 Installation of Outdoor Unit

1. Fix the support of outdoor unit(select it according to the actual installation situation)

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

⚠ **Note:**

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

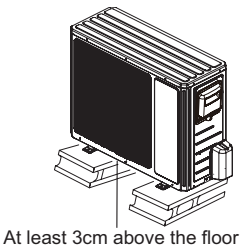


Fig.18

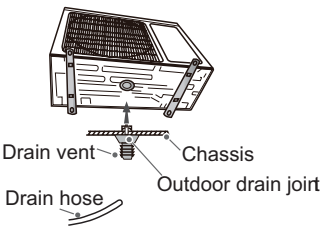


Fig.19

2. Install drain joint(only for cooling and heating unit)

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

3. Fix outdoor unit

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

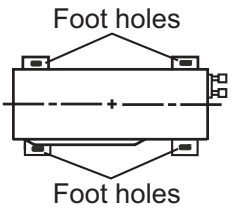


Fig.20

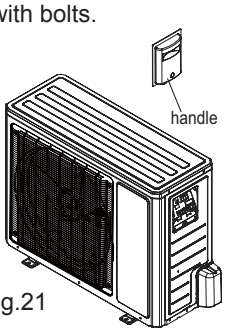


Fig.21

4. Connect Indoor and Outdoor Pipes

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

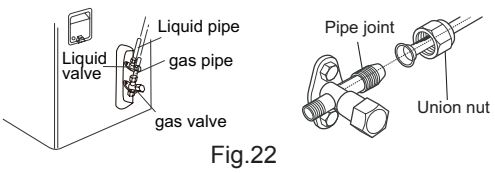


Fig.22

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

Refer to the following table for wrench moment of force:

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

5. Connect outdoor electric wire

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

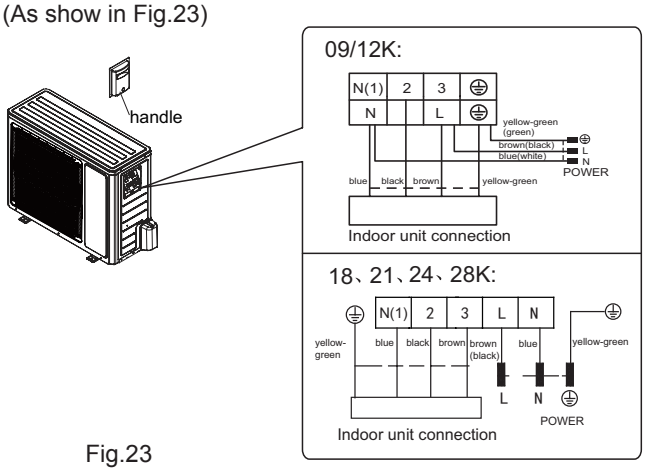


Fig.23

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

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

⚠ **Note:**

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

6. Neaten the pipes

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

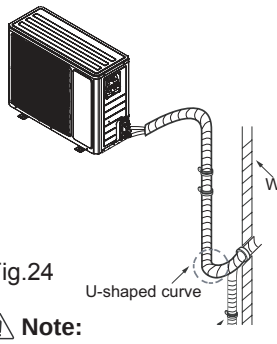


Fig.24

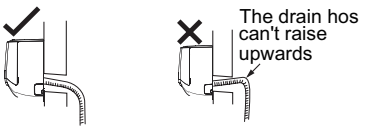


Fig.25

⚠ **Note:**

(1) The through-wall height of drain hose shouldnt be higher than the outlet pipe hole of indoor unit.(As show in Fig.25)
(2) Slant the drain hose slightly downwards. The drain hose cant be curved, raised and fluctuant, etc.(As show in Fig.26)

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

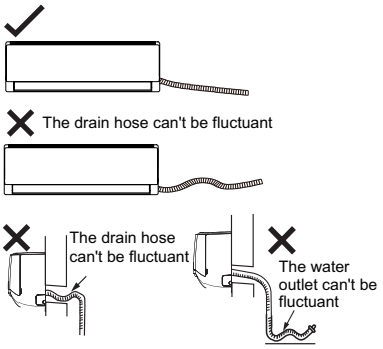


Fig.26

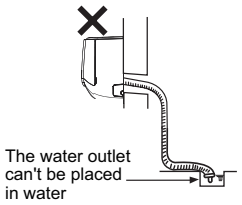


Fig.27

8.7 Vacuum Pumping and Leak Detection

1. Use vacuum pump

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

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

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

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

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

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

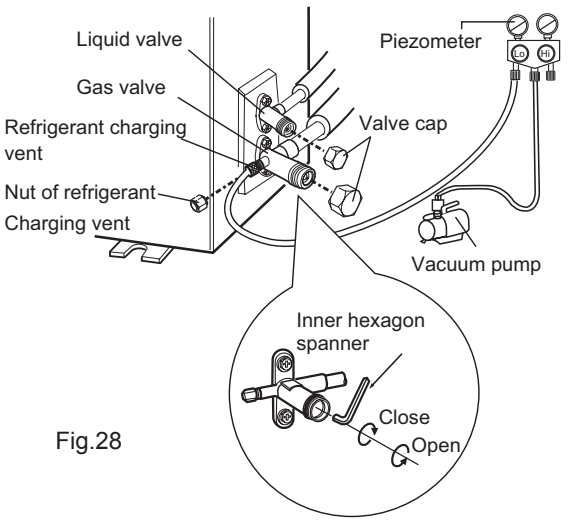


Fig.28

2. Leakage detection

(1) With leakage detector:

Check if there is leakage with leakage detector.

(2) With soap water:

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

8.8 Check after Installation and Test Operation

1. Check after installation

Check according to the following requirement after finishing installation.

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

2. Test operation

(1) Preparation of test operation

● The client approves the air conditioner installation.

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

(2) Method of test operation

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

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

● If the ambient temperature is lower than 16℃ , the air conditioner cant start cooling.

9. Maintenance

9.1 Error Code List

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

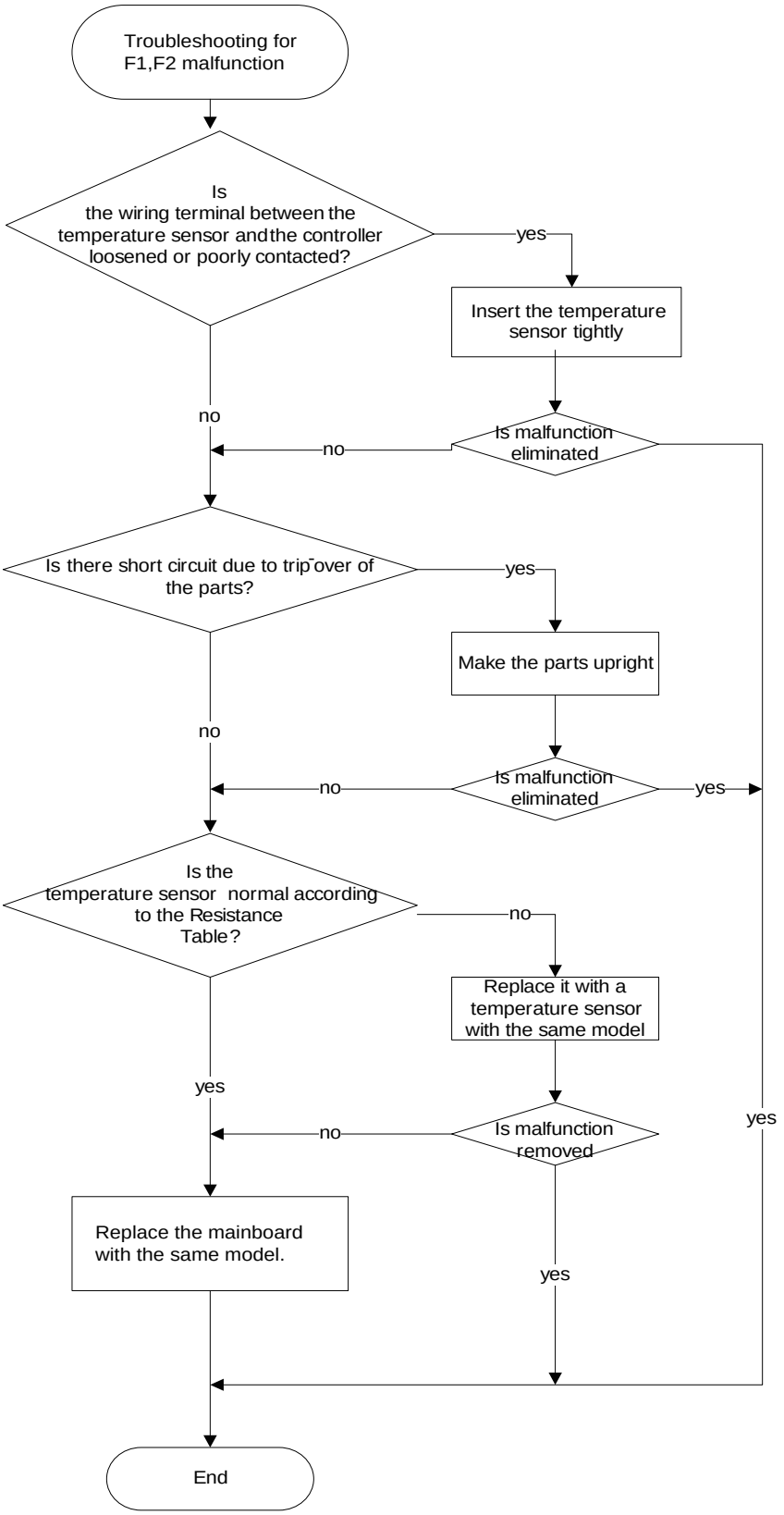
10	Outdoor condenser temperature sensor is open/short circuited	F4	During cooling and drying operation, compressor stops while indoor fan will operate; During heating operation, the complete unit will stop operation.	Outdoor temperature sensor hasnt been connected well or is damaged. Please check it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

23	Malfunction of module temperature sensor circuit	P7	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	Replace outdoor control panel AP1
24	Module high temperature protection	P8	During cooling operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	After the complete unit is de-energized for 20mins, check whether the thermal grease on IPM Module of outdoor control panel AP1 is sufficient and whether the radiator is inserted tightly. If its no use, please replace control panel AP1.
25	Malfunction of voltage dropping for DC bus-bar	U3	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	Supply voltage is unstable
26	Voltage of DC bus-bar is too low	PL	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	1. Measure the voltage of position L and N on wiring board (XT), if the voltage is higher than 150VAC, turn on the unit after the supply voltage is increased to the normal range. 2.If the AC input is normal, measure the voltage of electrolytic capacitor C on control panel (AP1), if its normal, theres malfunction for the circuit, please replace the control panel (AP1)
27	Limit/ decrease frequency due to high temperature of module	EU	All loads operate normally, while operation frequency for compressor is decreased	Discharging after the complete unit is de-energized for 20mins, check whether the thermal grease on IPM Module of outdoor control panel AP1 is sufficient and whether the radiator is inserted tightly. If its no use, please replace control panel AP1.
28	The four-way valve is abnormal	U7	If this malfunction occurs during heating operation, the complete unit will stop operation.	1.Supply voltage is lower than AC175V; 2.Wiring terminal 4V is loosened or broken; 3.4V is damaged, please replace 4V.
29	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.
30	Malfunction of detecting plate(WIFI)	JF	Loads operate normally, while the unit can't be normally controlled by APP.	1. Main board of indoor unit is damaged; 2. Detection board is damaged; 3. The connection between indoor unit and detection board is not good;
31	PFC protection	HC	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	Replace outdoor control panel AP1 or Reactor

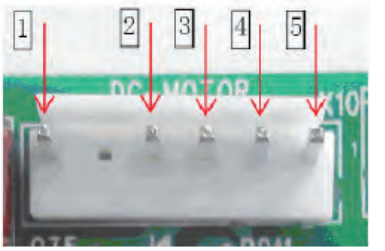
9.2 Troubleshooting for Main Malfunction

●Indoor unit:

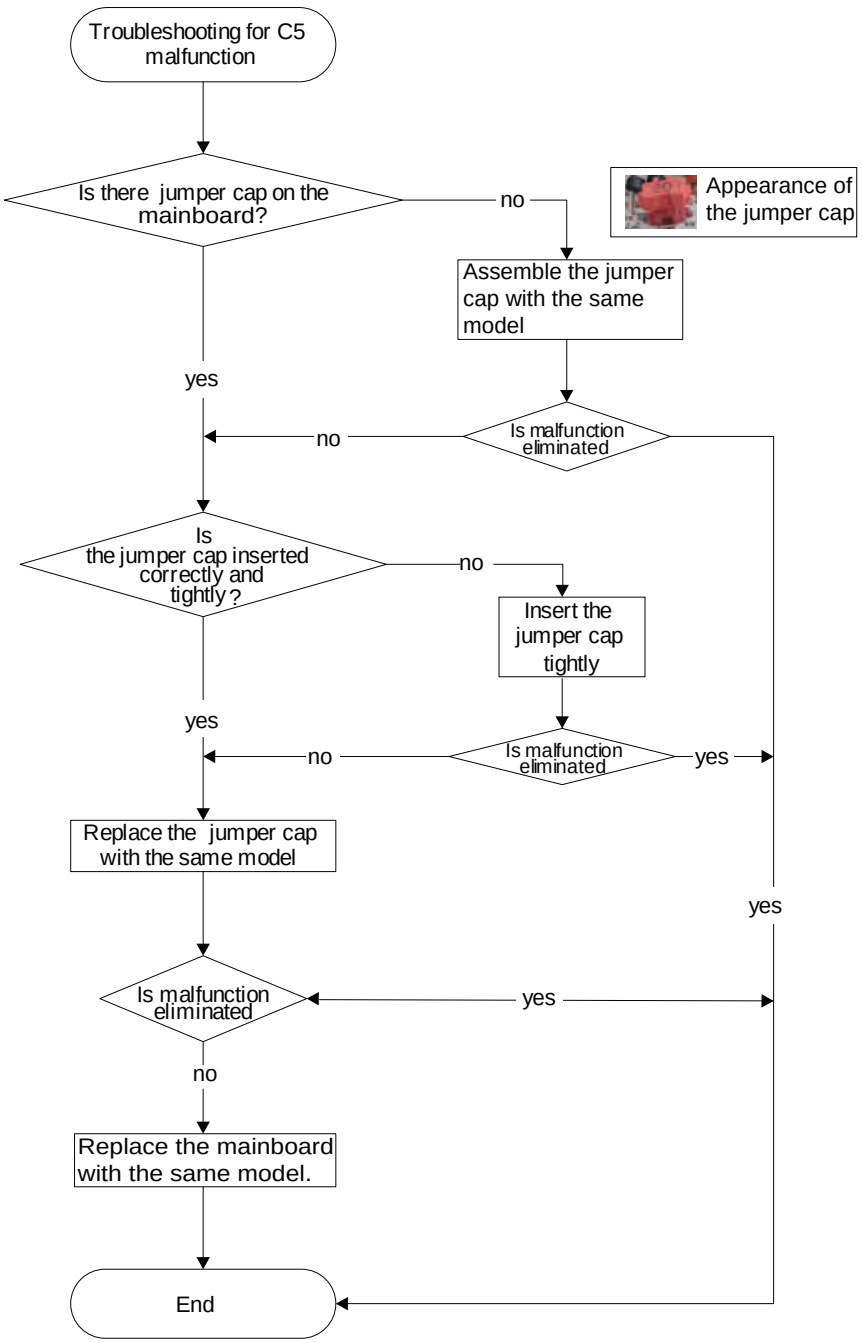
1. Malfunction of Temperature Sensor F1, F2



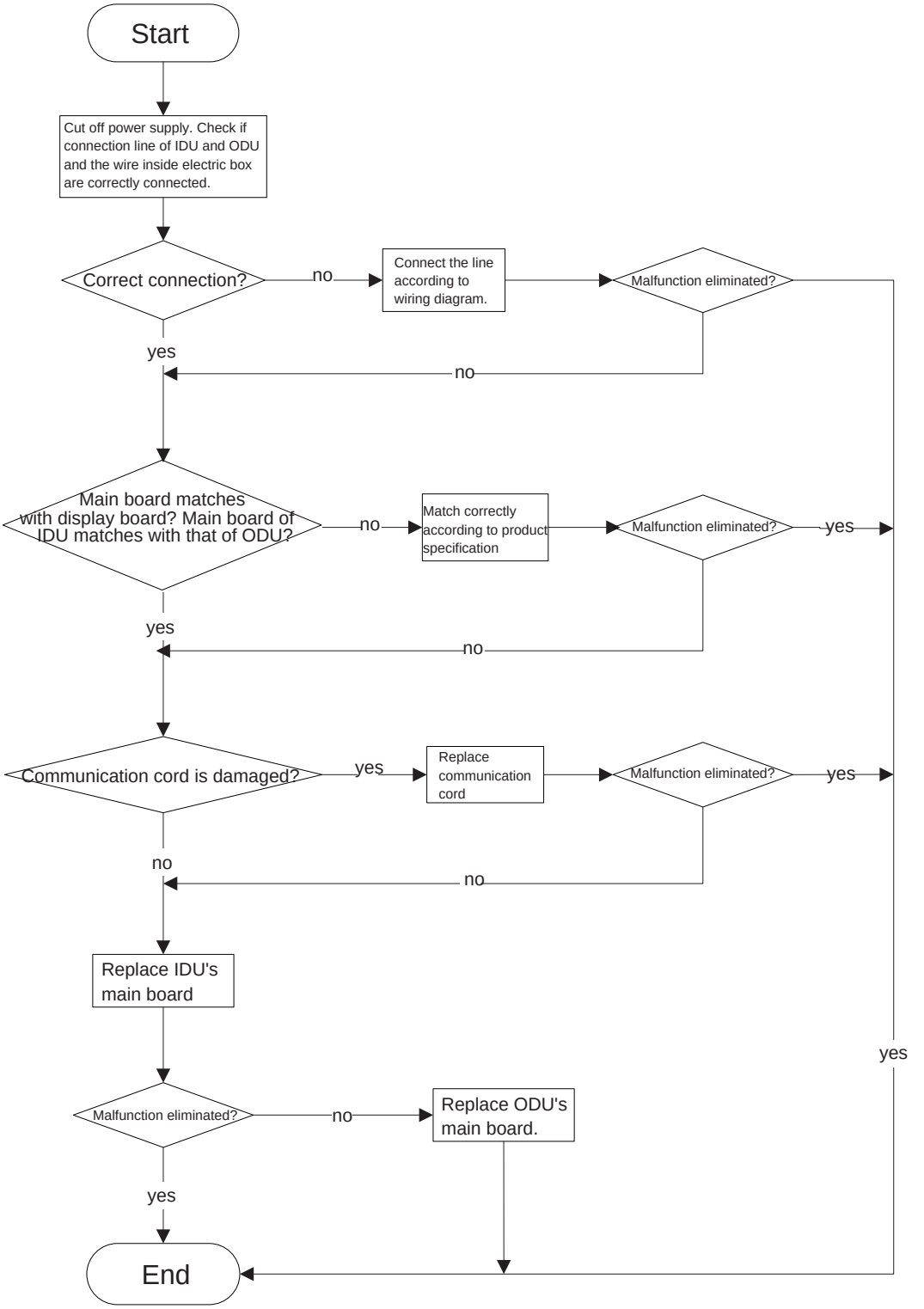
2. Malfunction of Blocked Protection of IDU Fan Motor H6



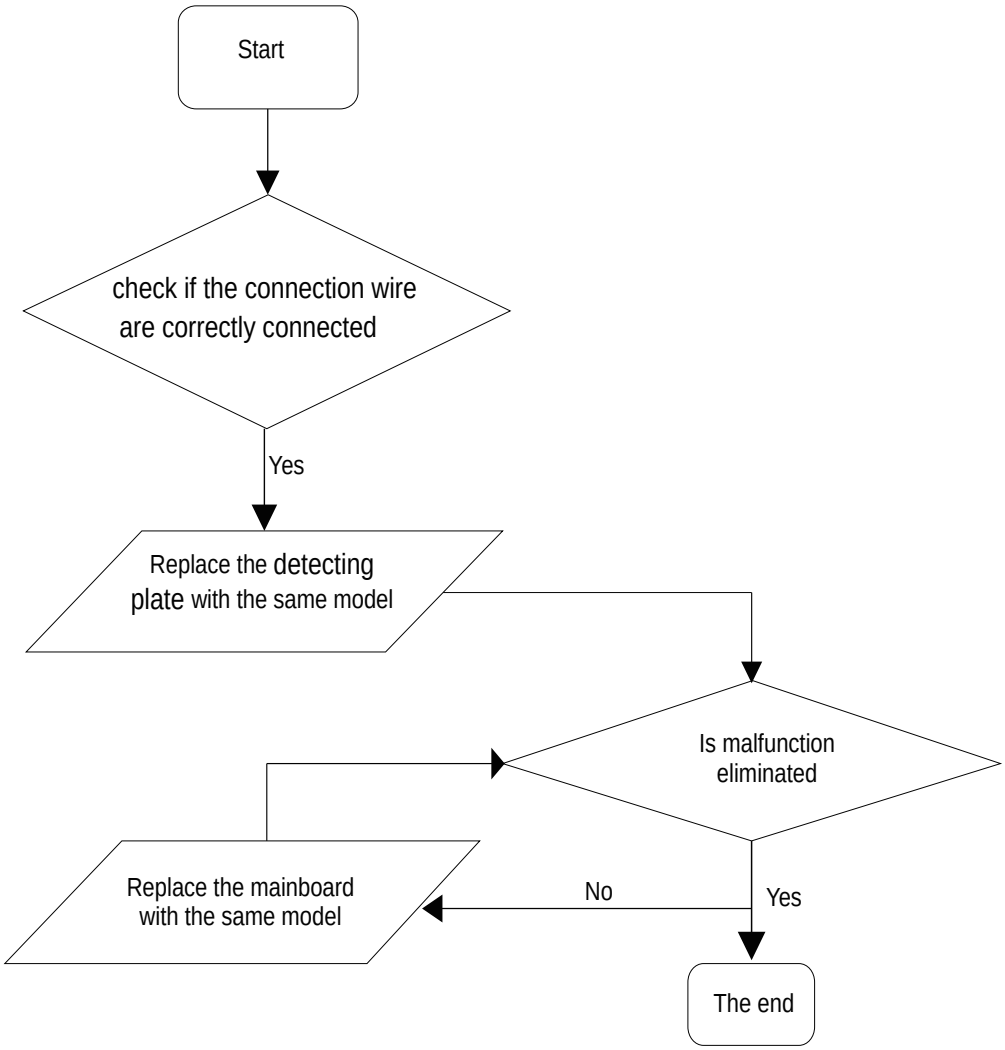
3. Malfunction of Protection of Jumper Cap C5



4. Communication malfunction E6



5. Malfunction of detecting plate(WIFI) JF



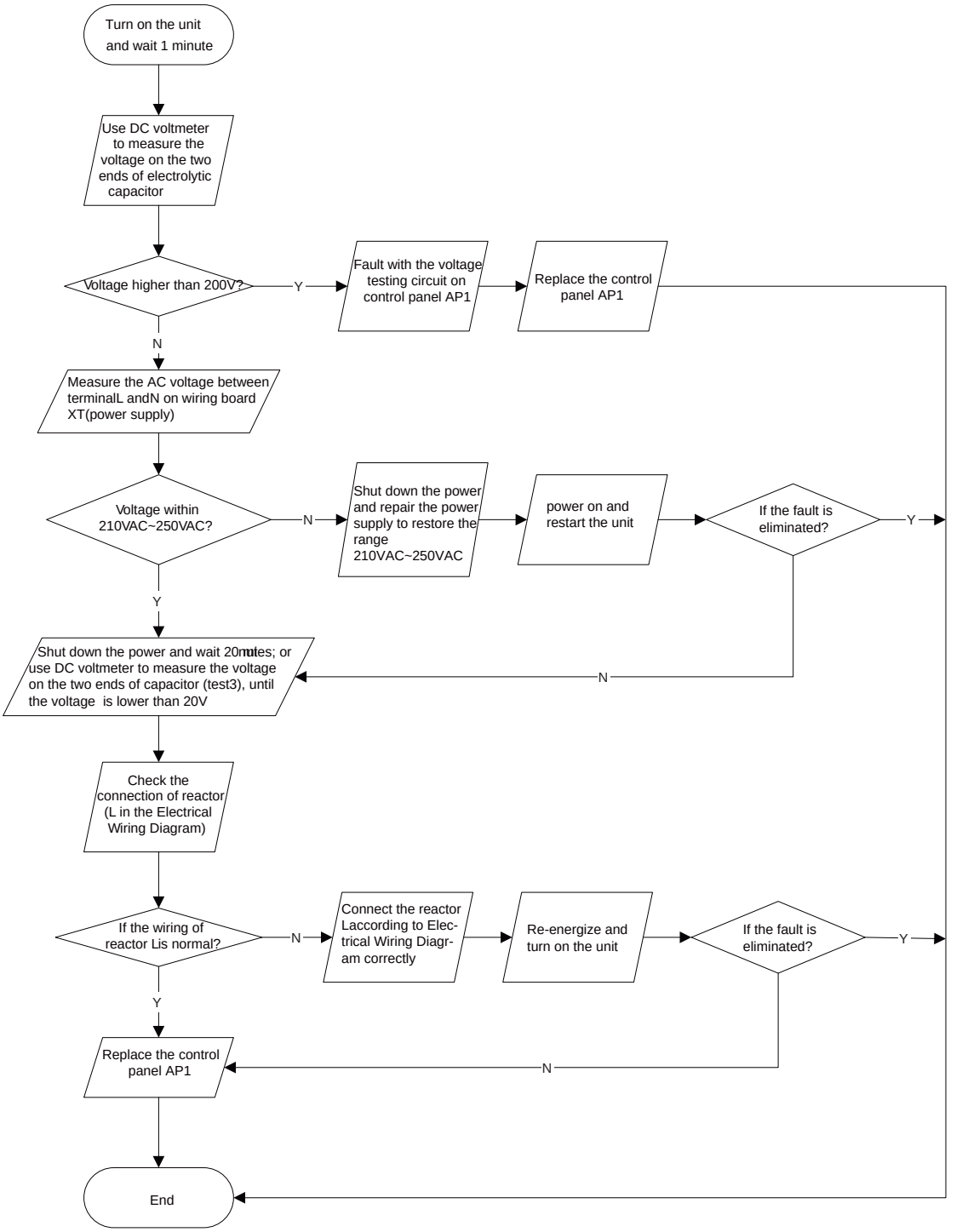
●Outdoor unit:

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

Main detection point:

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

Malfunction diagnosis process:



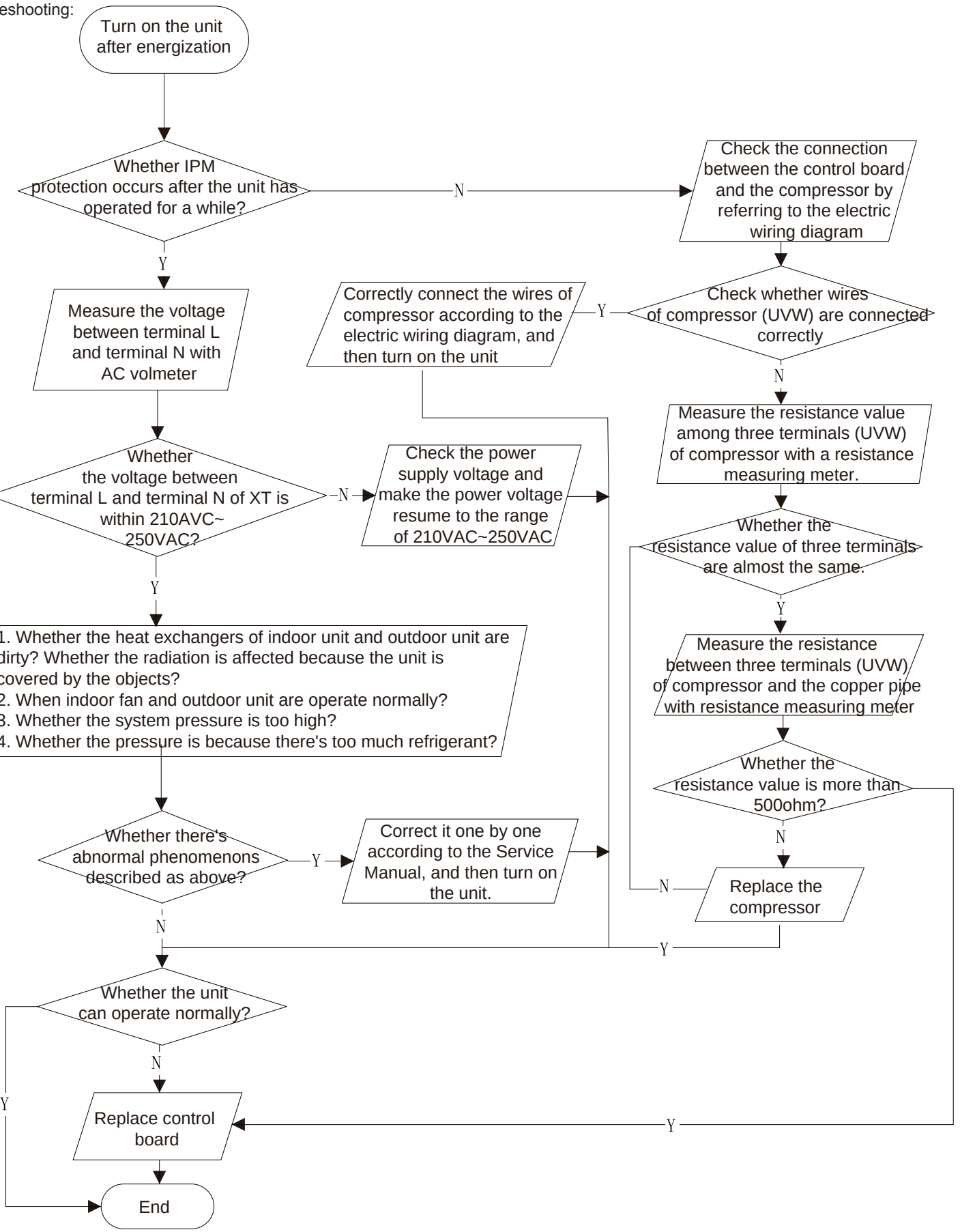
2. IPM protection, phase current overcurrent (the control board as below indicates the control board of outdoor unit) H5/P5

Mainly detect:

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

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

Troubleshooting:

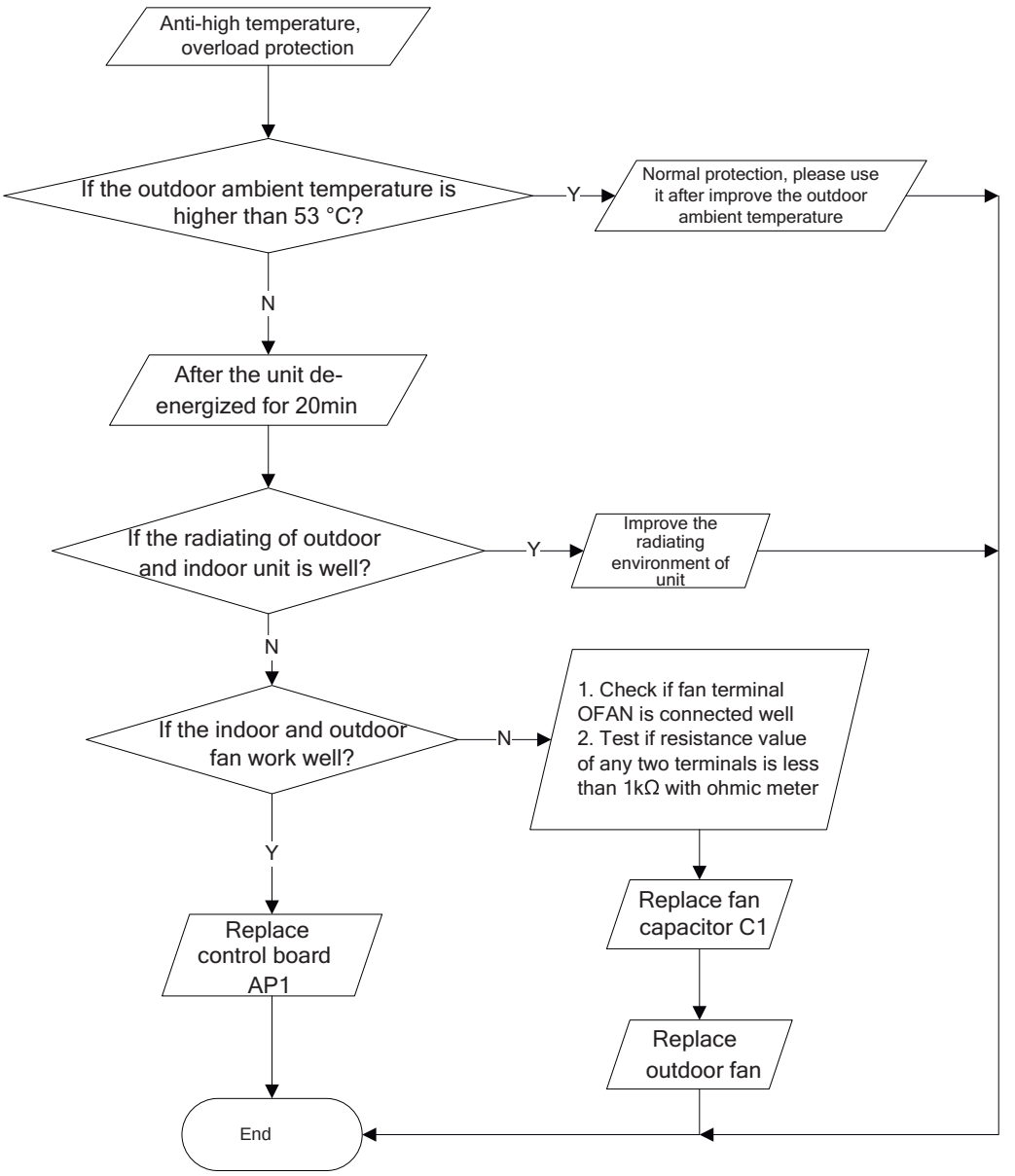


3.Diagnosis for anti-high temperature, overload protection (AP1 below is control board of outdoor unit)

Main detection point:

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

Malfunction diagnosis process:

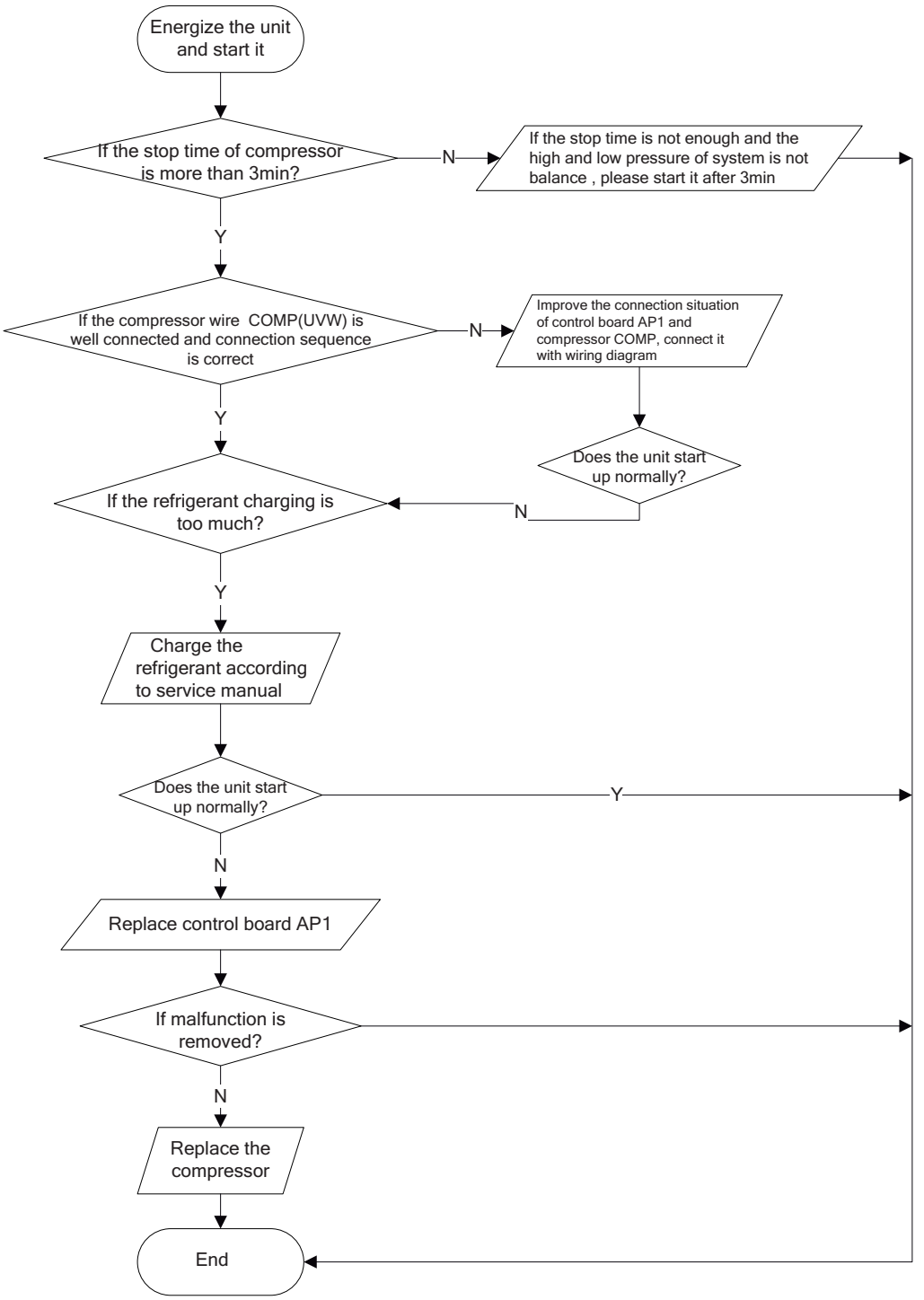


4.Diagnosis for failure start up malfunction (AP1 below is control board of outdoor unit)

Main detection point:

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

Malfunction diagnosis process:

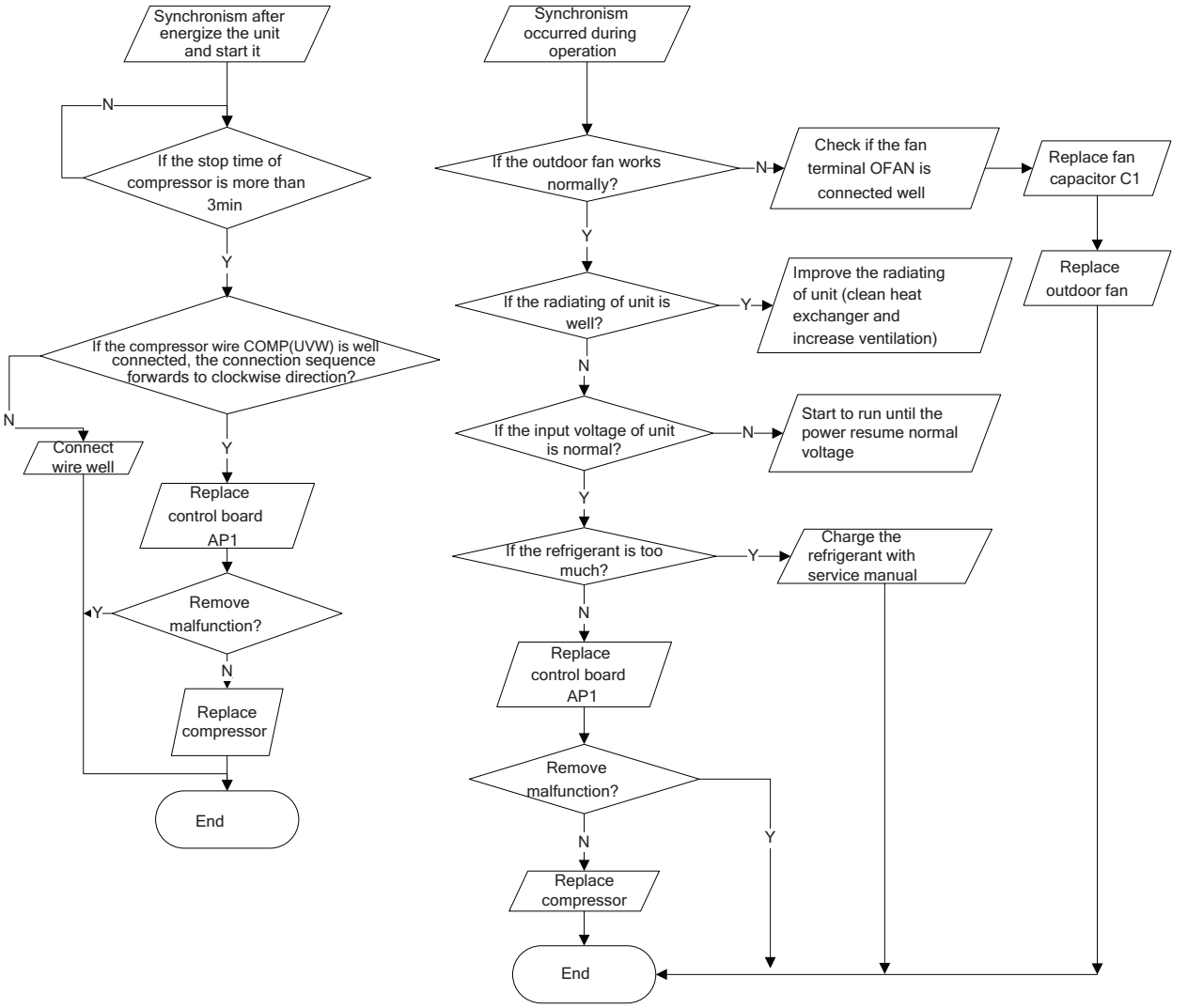


5. Diagnosis for compressor synchronism (AP1 below is control board of outdoor unit)

Main detection point:

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

Malfunction diagnosis process:

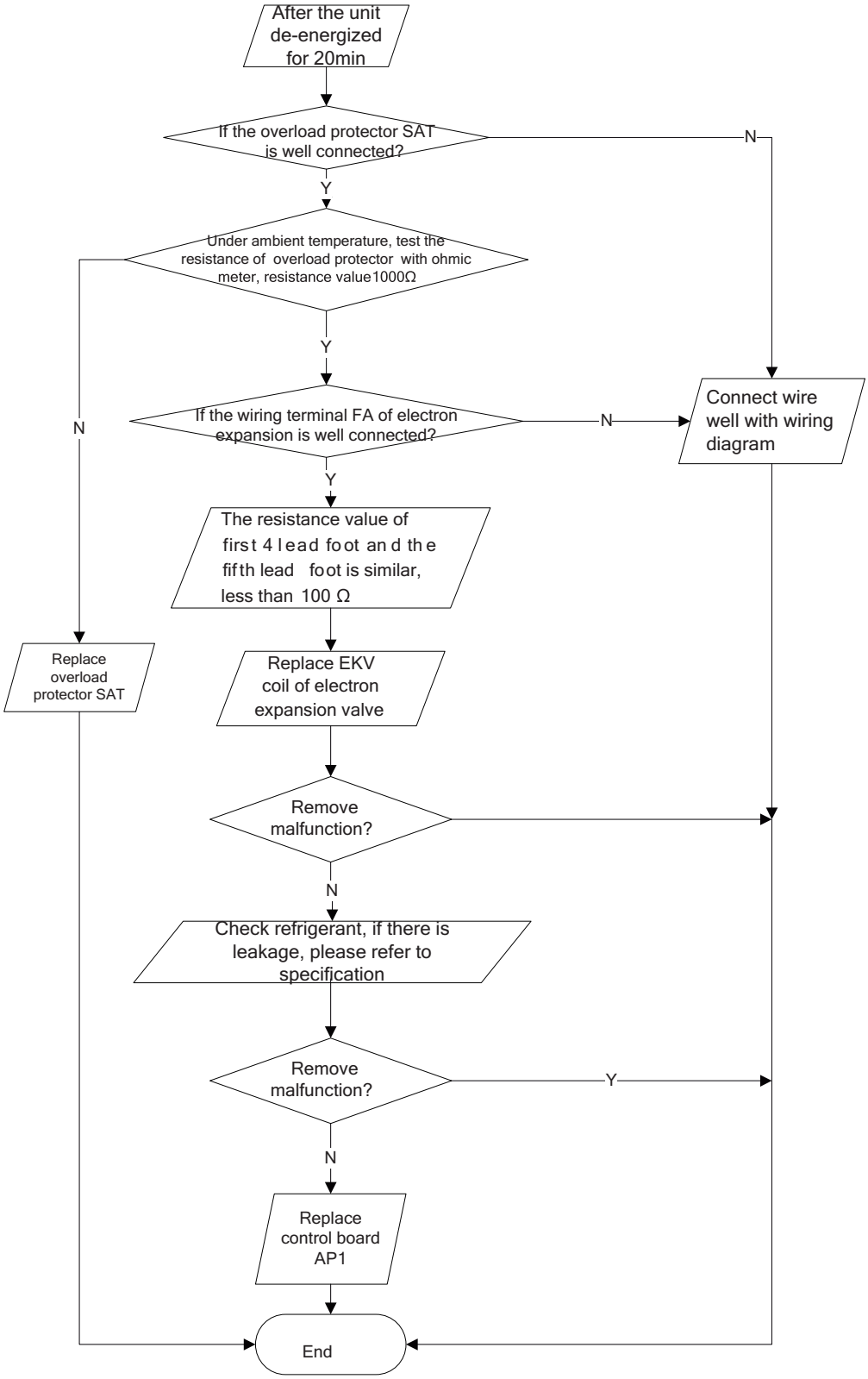


6.Diagnosis for overload and discharge malfunction (AP1 below is control board of outdoor unit)

Main detection point:

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

Malfunction diagnosis process:

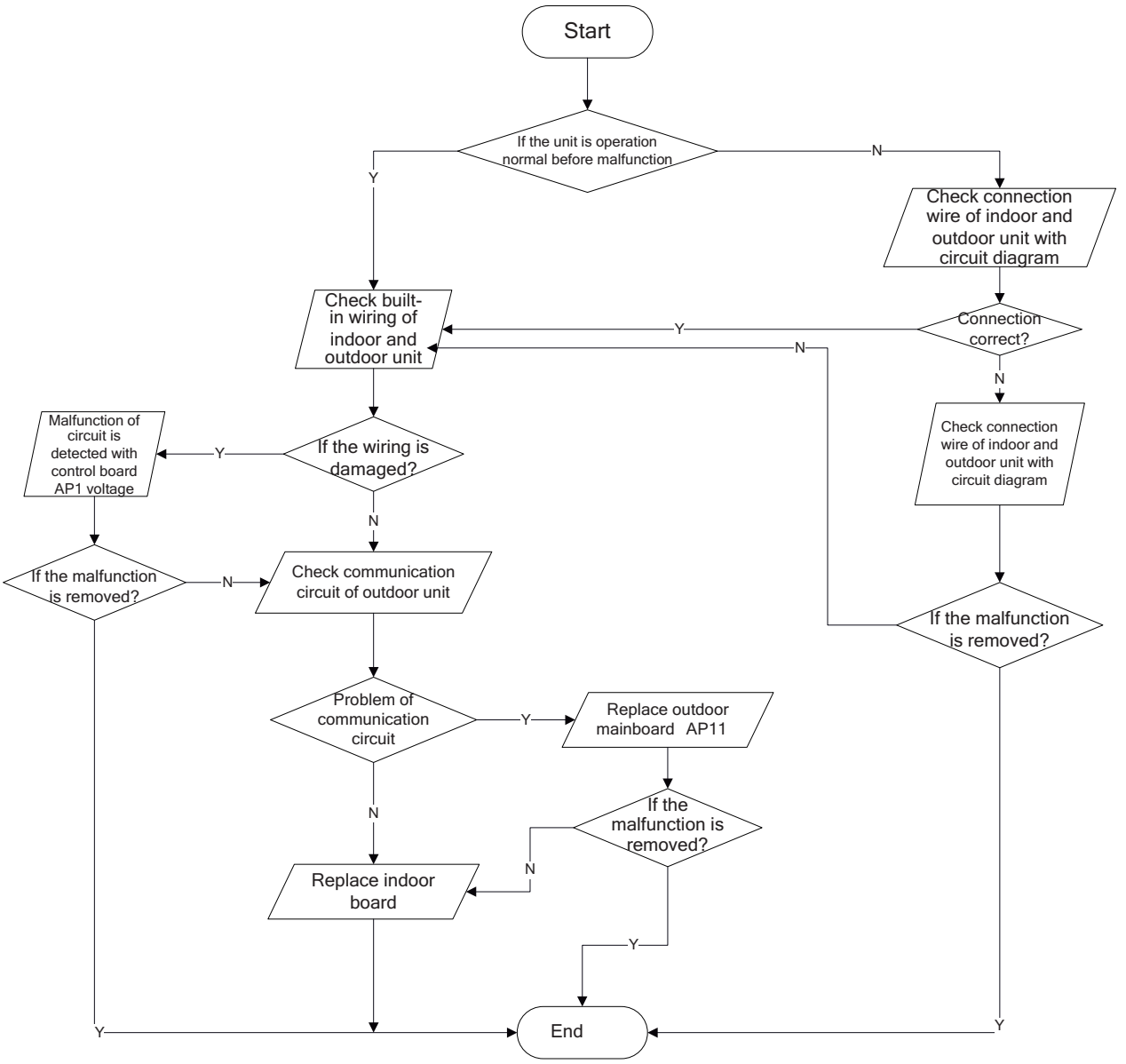


7.Communication malfunction (AP1 below is control board of outdoor unit)

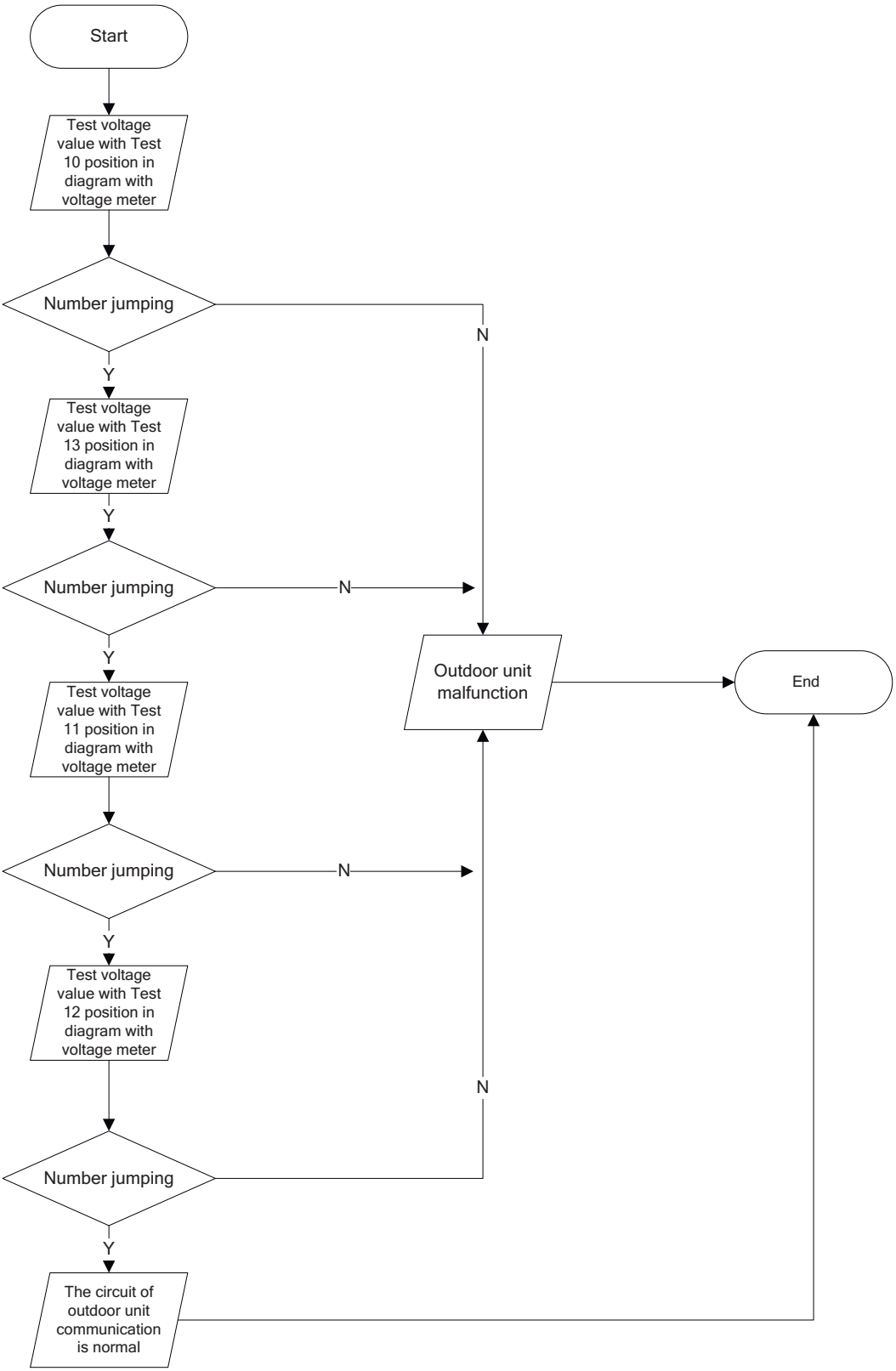
Main detection point:

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

Malfunction diagnosis process:



8.Diagnosis process for outdoor communication circuit



9.3 Troubleshooting for Normal Malfunction

1. Air conditioner cant be started up

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

2. Poor cooling (heating) for air conditioner

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Set temperature is improper	Observe the set temperature on remote controller	Adjust the set temperature
Rotation speed of the IDU fan motor is set too low	Small wind blow	Set the fan speed at high or medium
Filter of indoor unit is blocked	Check the filter to see its blocked	Clean the filter
Installation position for indoor unit and outdoor unit is improper	Check whether the installation postion is proper according to installation requirement for air conditioner	Adjust the installation position, and install the rainproof and sunproof for outdoor unit
Refrigerant is leaking	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Units pressure is much lower than regulated range	Find out the leakage causes and deal with it. Add refrigerant.
Malfunction of 4-way valve	Blow cold wind during heating	Replace the 4-way valve
Malfunction of capillary	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Unitt pressure is much lower than regulated range. If refrigerant isnt leaking, part of capillary is blocked	Replace the capillary
Flow volume of valve is insufficient	The pressure of valves is much lower than that stated in the specification	Open the valve completely
Malfunction of horizontal louver	Horizontal louver cant swing	Refer to point 3 of maintenance method for details
Malfunction of the IDU fan motor	The IDU fan motor cant operate	Refer to troubleshooting for H6 for maintenance method in details
Malfunction of the ODU fan motor	The ODU fan motor cant operate	Refer to point 4 of maintenance method for details
Malfunction of compressor	Compressor cant operate	Refer to point 5 of maintenance method for details

3. Horizontal louver cant swing

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Stepping motor is damaged	Stepping motor cant operate	Repair or replace stepping motor
Main board is damaged	Others are all normal, while horizontal louver cant operate	Replace the main board with the same model

4. ODU fan motor cant operate

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

5. Compressor cant operate

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

6. Air conditioner is leaking

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

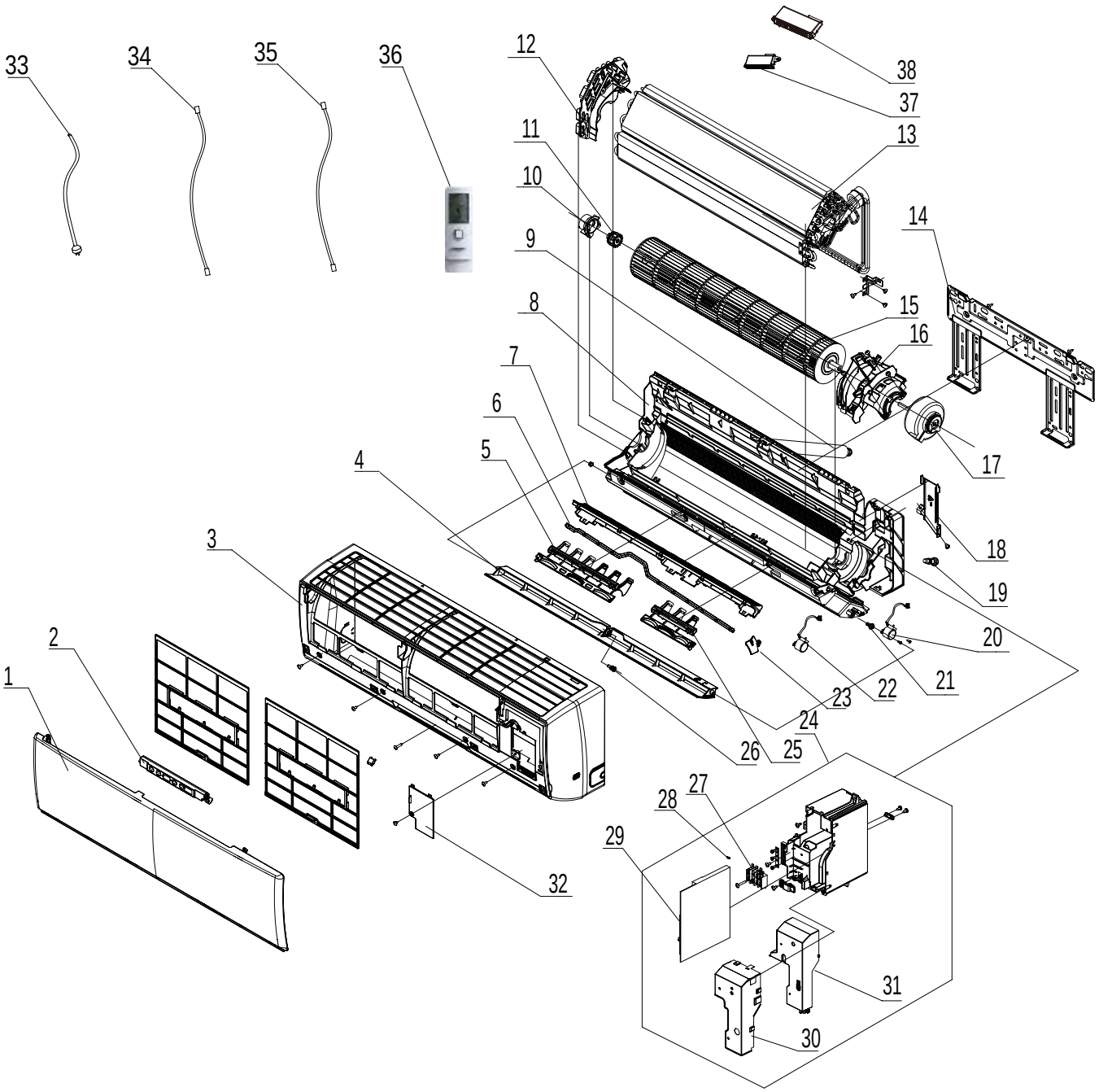
7. Abnormal sound and vibration

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

10. Exploded View and Parts List

10.1 Indoor Unit

09/12K



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

NO.	Description	Part Code			Qty
		GWH12QC-K3DNB2D/I	GWH09QC-K3DNB2A/I	GWH12QC-K3DNB2D/I	
	Product Code	CB432N15700	CB432N15100	CB432N15701	
1	Front Panel	20000300018	20000300018	20000300018	1
2	Display Board	30565260	30565260	30565260	1
3	Front Case Assy	00000200045	00000200045	00000200045	1
4	Guide Louver	1051293101	1051293101	1051293101	1
5	Air Louver (left)	10512725	10512725	10512725	1
6	Swing Lever	10582459	10582459	10582459	1
7	Helicoid Tongue	26112436	26112436	26112436	1
8	Rear Case assy	00000100092	00000100092	00000100092	1
9	Drainage Hose	05230014	05230014	05230014	1
10	Ring of Bearing	26152022	26152022	26152022	1
11	O-Gasket sub-assy of Bearing	76512051	76512051	76512051	1
12	Evaporator Support 2	24212174	24212179	24212174	1
13	Evaporator Assy	01002000030	0100297606	0100200003002	1
14	Wall Mounting Frame	01252484	01252484	01252484	1
15	Cross Flow Fan	10352056	10352056	10352056	1
16	Motor Press Plate	26112516	26112516	26112516	1
17	Fan Motor	1501246601	1501246601	1501246601	1
18	Connecting pipe clamp	2611216401	2611216401	2611216401	1
19	Rubber Plug (Water Tray)	76712012	76712012	76712012	1
20	Stepping Motor	1521210710	1521210710	1521210710	1
21	Crank	73012005	73012005	73012005	1
22	Stepping Motor	1521210108	1521210108	1521210108	1
23	Air Louver(right)	10512726	10512726	10512726	1
24	Electric Box Assy	100002061444	100002060883	100002064335	1
25	Air Louver 1	10512727	10512727	10512727	1
26	Axile Bush	10542036	10542036	10542036	1
27	Terminal Board	42011233	42011233	42011233	1
28	Jumper	4202021920	4202021909	4202021920	1
29	Main Board	300002060247	300002060247	300002060249	1
30	Shield Cover of Electric Box Cover	01592150	01592150	01592150	1
31	Electric Box Cover Sub-Assy	0140206501	0140206501	0140206501	1
32	Electric Box Cover	20112207	20112207	20112207	1
33	Power Cord	4002052317	/	/	1
34	Connecting Cable	/	/	/	0
35	Connecting Cable	1114001606	4002052317	4002052317	0
36	Remote Control	305001060019	305001060019	305001060019	1
37	Cold Plasma Generator	1114001603	1114001602	1114001603	1
38	Detecting Plate	30110144	30110144	30110144	1

Above data is subject to change without notice.

NO.	Description	Part Code	Qty
		GWH09QC-K3DNB2A/I	
	Product Code	CB432N15101	
1	Front Panel	20000300018	1
2	Display Board	30565260	1
3	Front Case Assy	00000200045	1
4	Guide Louver	1051293101	1
5	Air Louver (left)	10512725	1
6	Swing Lever	10582459	1
7	Helicoid Tongue	26112436	1
8	Rear Case assy	00000100092	1
9	Drainage Hose	05230014	1
10	Ring of Bearing	26152022	1
11	O-Gasket sub-assy of Bearing	76512051	1
12	Evaporator Support 2	24212179	1
13	Evaporator Assy	0100297608	1
14	Wall Mounting Frame	01252484	1
15	Cross Flow Fan	10352056	1
16	Motor Press Plate	26112516	1
17	Fan Motor	1501246601	1
18	Connecting pipe clamp	2611216401	1
19	Rubber Plug (Water Tray)	76712012	1
20	Stepping Motor	1521210710	1
21	Crank	73012005	1
22	Stepping Motor	1521210108	1
23	Air Louver(right)	10512726	1
24	Electric Box Assy	100002001382	1
25	Air Louver 1	10512727	1
26	Axile Bush	10542036	1
27	Terminal Board	42011233	1
28	Jumper	4202021909	1
29	Main Board	300002060249	1
30	Shield Cover of Electric Box Cover	01592150	1
31	Electric Box Cover Sub-Assy	0140206501	1
32	Electric Box Cover	20112207	1
33	Power Cord	/	/
34	Connecting Cable	/	/
35	Connecting Cable	4002052317	0
36	Remote Control	305001060019	1
37	Cold Plasma Generator	/	/
38	Detecting Plate	30110144	1

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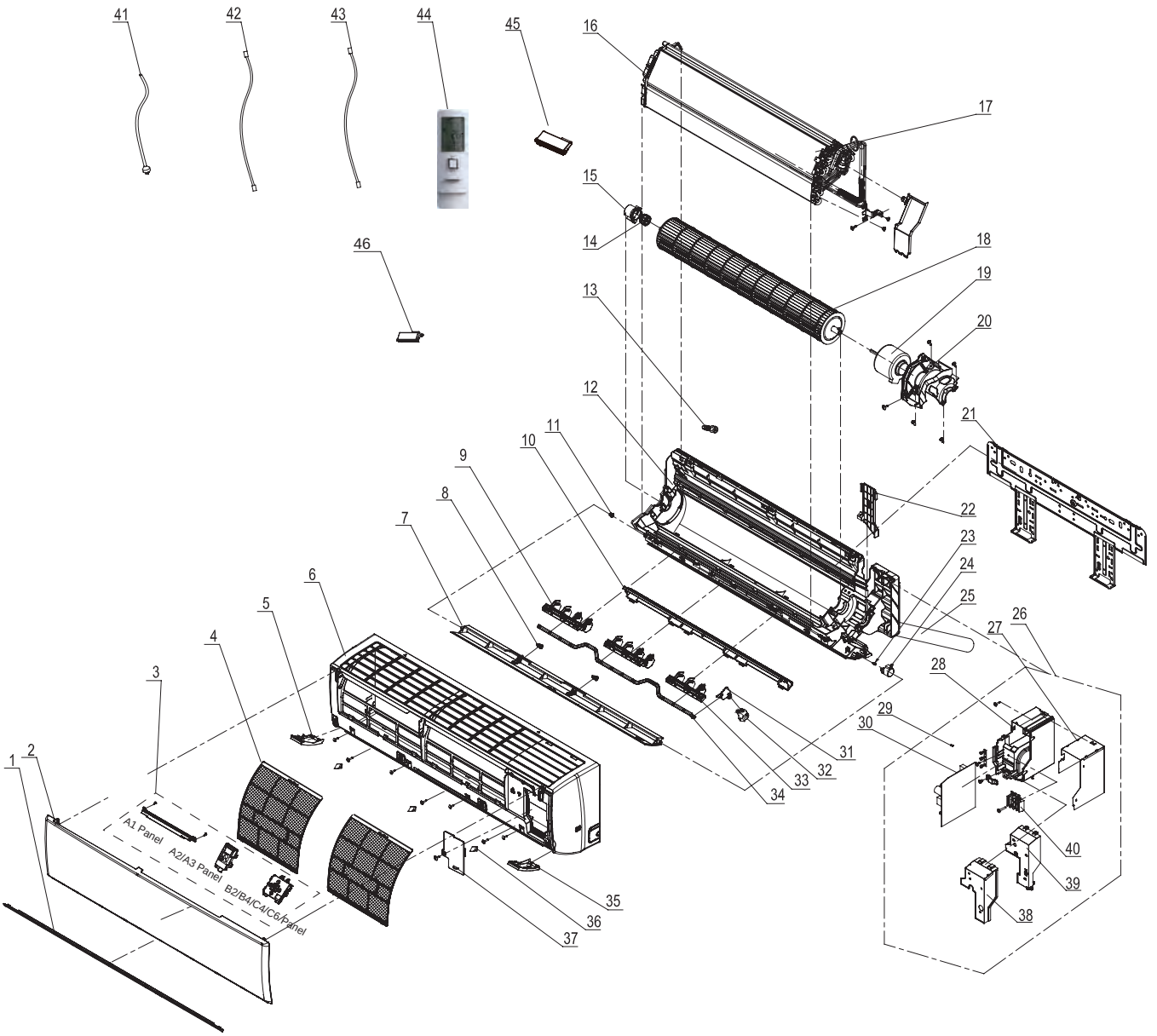
18K



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

No.	Description	Part Code		Qty
		GWH18QD-K3DNB2L/I	GWH18QD-K3DNB2L/I	
	Product Code	CB432N15800	CB432N15801	
1	Decorative Strip	/	/	/
2	Front Panel Assy	00000200042	00000200042	1
3	Display Board	30565260	30565260	1
4	Filter Sub-Assy	1112208906	1112208906	2
5	Decorative Board (Left)	20192662	20192662	1
6	Front Case	2002248401	2002248401	1
7	Guide Louver	1051276501	1051276501	1
8	Axile Bush	10542036	10542036	2
9	Air Louver 1	10512733	10512733	2
10	Helicoid Tongue	26112512	26112512	1
11	Left Axile Bush	10512037	10512037	1
12	Rear Case assy	00000100001	00000100001	1
13	Rubber Plug (Water Tray)	76712012	76712012	1
14	O-Gasket of Cross Fan Bearing	76512203	76512203	1
15	Ring of Bearing	26152025	26152025	1
16	Evaporator Support	24212177	24212177	1
17	Evaporator Assy	011001000146	011001000146	1
18	Cross Flow Fan	10352060	10352060	1
19	Fan Motor	15012136	15012136	1
20	Motor Press Plate	26112511	26112511	1
21	Wall Mounting Frame	01362026	01362026	1
22	Connecting pipe clamp	2611218801	2611218801	1
23	Crank	73012005	73012005	1
24	Stepping Motor	1521240212	1521240212	1
25	Drainage Hose	05230014	05230014	1
26	Electric Box Assy	100002061498	100002064351	1
27	Lower Shield of Electric Box	01592139	01592139	1
28	Electric Box	20112211	20112211	1
29	Jumper	4202021925	4202021925	1
30	Main Board	300002060247	300002060249	1
31	Air Louver	10512736	10512736	1
32	Stepping Motor	1521210704	1521210704	1
33	Air Louver 2	10512735	10512735	1
34	Swing Lever	10512731	10512731	1
35	Decorative Board (Right)	20192662	20192662	1
36	Screw Cover	2425201726	2425201726	3
37	Electric Box Cover2	20112210	20112210	1
38	Shield Cover of Electric Box	01592140	01592139	1
39	Electric Box Cover	20112209	20112209	1
40	Terminal Board	42011233	42011233	1
41	Power Cord	/	/	/
42	Connecting Cable	/	/	/
43	Connecting Cable	4002052317	4002052317	0
44	Remote Controller	305001060019	305001060019	1
45	Cold Plasma Generator	1114001601	/	1
46	Detecting Plate	30110144	30110144	1

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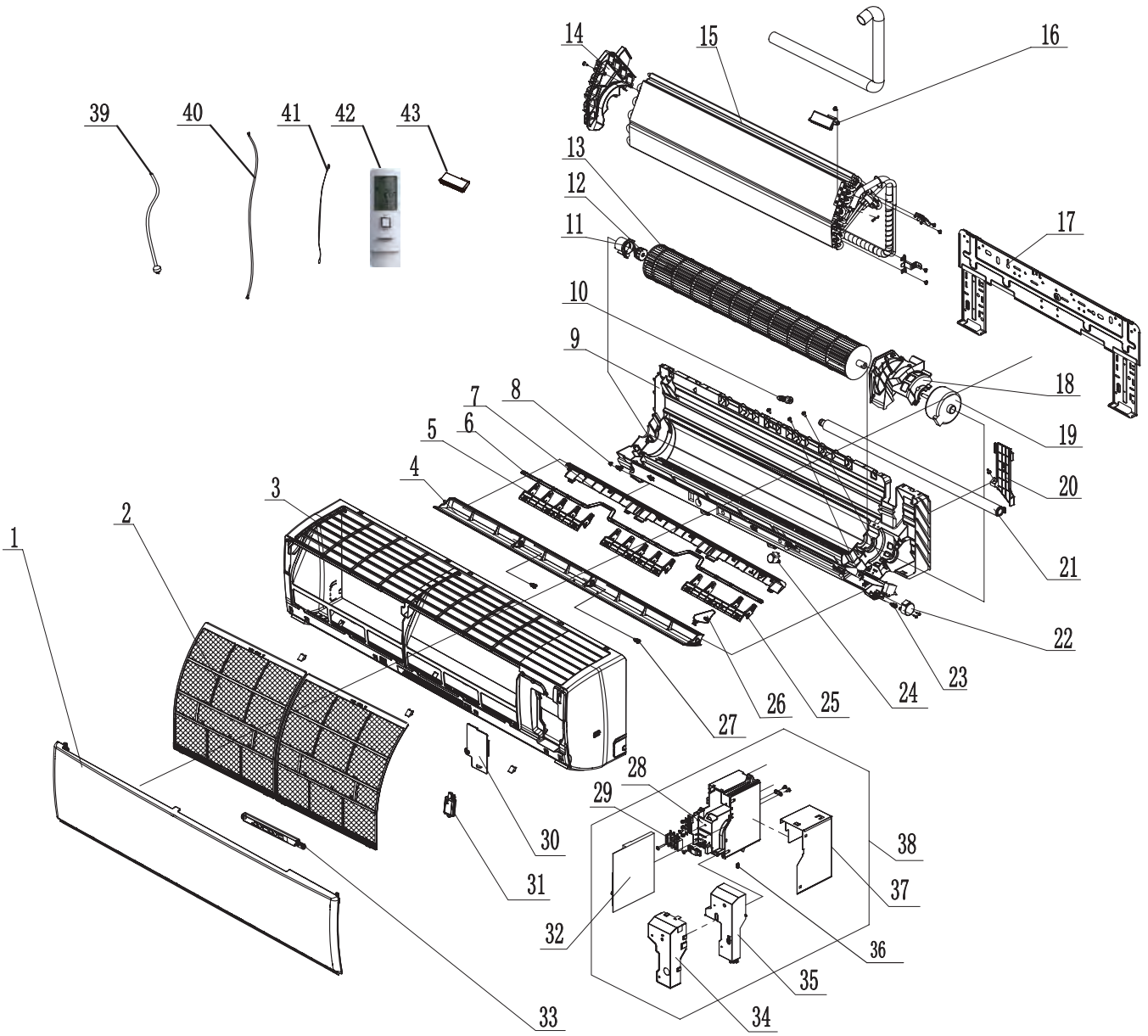
21/24/28K



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

NO.	Description	Part Code		Qty
		GWH24QE-K3DNB2H/I	GWH28QE-K3DNB2H/I	
	Product Code	CB432N17100	CB432N16700	
1	Front Panel B2	20000300016S	20000300016S	1
2	Filter Sub-Assy	1101200703	1101200703	2
3	Front Case Assy	00000200043	00000200043	1
4	Guide Louver	1051232001	1051232001	1
5	Air Louver 1	10512741	10512741	2
6	Swing Lever	10512743	10512743	1
7	Helicoid Tongue	26112513	26112513	1
8	Left Axile Bush	10512037	10512037	1
9	Rear Case assy	22202736	22202736	1
10	Rubber Plug (Water Tray)	76712012	76712012	1
11	Ring of Bearing	26152025	26152025	1
12	O-Gasket sub-assy of Bearing	7651205102	7651205102	1
13	Cross Flow Fan	10352057	10352057	1
14	Evaporator Support	24212178	24212178	1
15	Evaporator Assy	011001000073	011001000073	1
16	Cold Plasma Generator	1114001602	1114001602	1
17	Wall Mounting Frame	01252229	01252229	1
18	Motor Press Plate	26112515	26112515	1
19	Fan Motor	15012136	15012136	1
20	Connecting pipe clamp	26112514	26112514	1
21	Drainage Hose	0523001405	0523001405	1
22	Stepping Motor	1521240212	1521240212	1
23	Crank	73012005	73012005	1
24	Stepping Motor	1521210704	1521210704	1
25	Air Louver 1	10512742	10512742	1
26	Air Louver	10512744	10512744	1
27	Axile Bush	10542036	10542036	2
28	Electric Box	20112211	20112211	1
29	Terminal Board	42011233	42011233	1
30	Electric Box Cover2	20112210	20112210	1
31	Test Board Assy	000409000001	000409000001	1
32	Main Board	300002060247	300002060247	1
33	Display Board	30565260	30565260	1
34	Shield Cover of Electric Box Cover	01592176	01592176	1
35	Electric Box Cover	20112209	20112209	1
36	Jumper	4202021926	4202021926	1
37	Lower Shield of Electric Box	01592139	01592139	1
38	Electric Box Assy	100002061619	100002061619	1
39	Power Cord	/	/	/
40	Connecting Cable	4002052317	4002052317	0
41	Temperature Sensor	3900031302	3900031302	1
42	Remote Control	305001060019	305001060019	1
43	Detecting plate(WIFI)	30110144	30110144	1

Above data is subject to change without notice.

NO.	Description	Part Code		Qty
		GWH28QE-K3DNB2H/I	GWH24QE-K3DNB2H/I	
	Product Code	CB432N16701	CB432N17101	
1	Front Panel B2	20000300016S	20000300016S	1
2	Filter Sub-Assy	1101200703	1101200703	2
3	Front Case Assy	00000200043	00000200043	1
4	Guide Louver	1051232001	1051232001	1
5	Air Louver 1	10512741	10512742	2
6	Swing Lever	10512743	10512743	1
7	Helicoid Tongue	26112513	26112513	1
8	Left Axile Bush	10512037	10512037	1
9	Rear Case assy	22202736	22202736	1
10	Rubber Plug (Water Tray)	76712012	76712012	1
11	Ring of Bearing	26152025	26152025	1
12	O-Gasket sub-assy of Bearing	76512051	76512051	1
13	Cross Flow Fan	10352057	10352057	1
14	Evaporator Support	24212178	24212178	1
15	Evaporator Assy	011001000095	011001000095	1
16	Cold Plasma Generator	/	/	/
17	Wall Mounting Frame	01252229	01252229	1
18	Motor Press Plate	26112515	26112515	1
19	Fan Motor	15012136	15012136	1
20	Connecting pipe clamp	26112514	26112514	1
21	Drainage Hose	0523001405	0523001405	1
22	Stepping Motor	1521240212	1521240212	1
23	Crank	73012005	73012005	1
24	Stepping Motor	1521210704	1521210704	1
25	Air Louver 1	10512741	10512741	1
26	Air Louver	10512744	10512744	1
27	Axile Bush	10542036	10542036	2
28	Electric Box	20112211	20112211	1
29	Terminal Board	42011233	42011233	1
30	Electric Box Cover2	20112210	20112210	1
31	Test Board Assy	000409000001	000409000001	1
32	Main Board	300002060249	300002060249	1
33	Display Board	30565260	30565260	1
34	Shield Cover of Electric Box Cover	01592176	01592176	1
35	Electric Box Cover	20112209	20112209	1
36	Jumper	4202021926	4202021926	1
37	Lower Shield of Electric Box	01592139	01592139	1
38	Electric Box Assy	100002064353	100002064353	1
39	Power Cord	/	/	/
40	Connecting Cable	4002052317	4002052317	0
41	Temperature Sensor	3900031302	3900031302	1
42	Remote Control	305001060019	305001060019	1
43	Detecting plate(WIFI)	30110144	30110144	1

Above data is subject to change without notice.

NO.	Description	Part Code		Qty
		GWH21QE-K3DNB2A/I	GWH21QE-K3DNB2A/I	
	Product Code	CB432N16600	CB432N16601	
1	Front Panel B2	20000300016S	20000300016S	1
2	Filter Sub-Assy	1101200703	1101200703	2
3	Front Case Assy	00000200043	00000200043	1
4	Guide Louver	1051232001	1051232001	1
5	Air Louver 1	10512742	10512742	2
6	Swing Lever	10512743	10512743	1
7	Helicoid Tongue	26112513	26112513	1
8	Left Axile Bush	10512037	10512037	1
9	Rear Case assy	22202736	22202736	1
10	Rubber Plug (Water Tray)	76712012	76712012	1
11	Ring of Bearing	26152025	26152025	1
12	O-Gasket sub-assy of Bearing	76512051	76512051	1
13	Cross Flow Fan	10352057	10352057	1
14	Evaporator Support	24212178	24212178	1
15	Evaporator Assy	011001060241	011001060241	1
16	Cold Plasma Generator	1114001602	/	1
17	Wall Mounting Frame	01252229	01252229	1
18	Motor Press Plate	26112515	26112515	1
19	Fan Motor	15012136	15012136	1
20	Connecting pipe clamp	26112514	26112514	1
21	Drainage Hose	0523001405	0523001405	1
22	Stepping Motor	1521240212	1521240212	1
23	Crank	73012005	73012005	1
24	Stepping Motor	1521210704	1521210704	1
25	Air Louver 1	10512741	10512741	1
26	Air Louver	10512744	10512744	1
27	Axile Bush	10542036	10542036	2
28	Electric Box	2011221102	2011221102	1
29	Terminal Board	42011233	42011233	1
30	Electric Box Cover2	20112210	20112210	1
31	Test Board Assy	000409000001	000409000001	1
32	Main Board	300002060247	300002060249	1
33	Display Board	30565260	30565260	1
34	Shield Cover of Electric Box Cover	01592176	01592176	1
35	Electric Box Cover	20112209	20112209	1
36	Jumper	4202021927	4202021927	1
37	Lower Shield of Electric Box	01592139	01592139	1
38	Electric Box Assy	100002061572	100002064334	1
39	Power Cord	/	/	/
40	Connecting Cable	4002052317	4002052317	0
41	Temperature Sensor	3900031302	3900031302	1
42	Remote Control	305001060019	305001060019	1
43	Detecting plate(WIFI)	30110144	30110144	1

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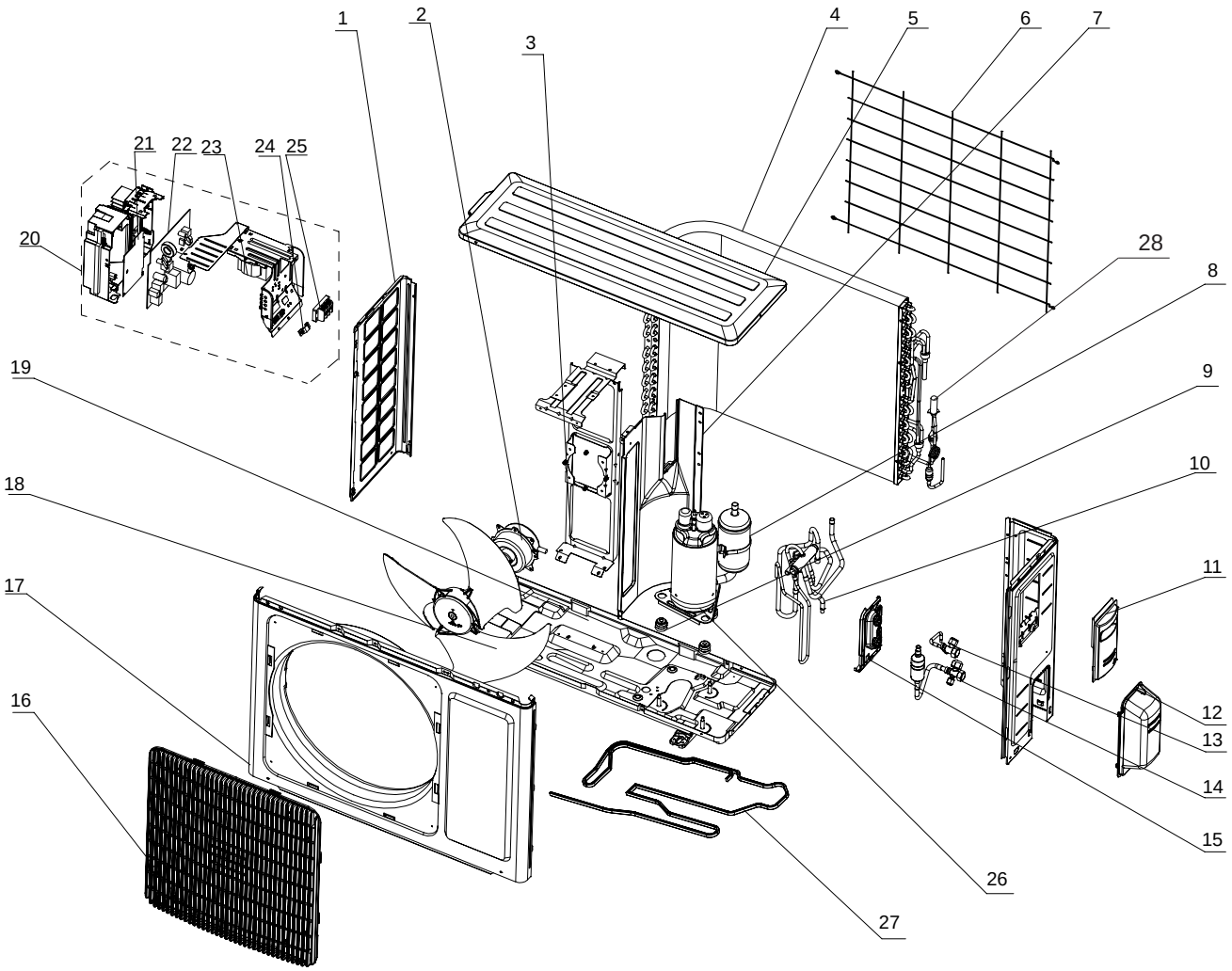
10.2 Outdoor Unit

GWH12QC-K3DNB2D/O

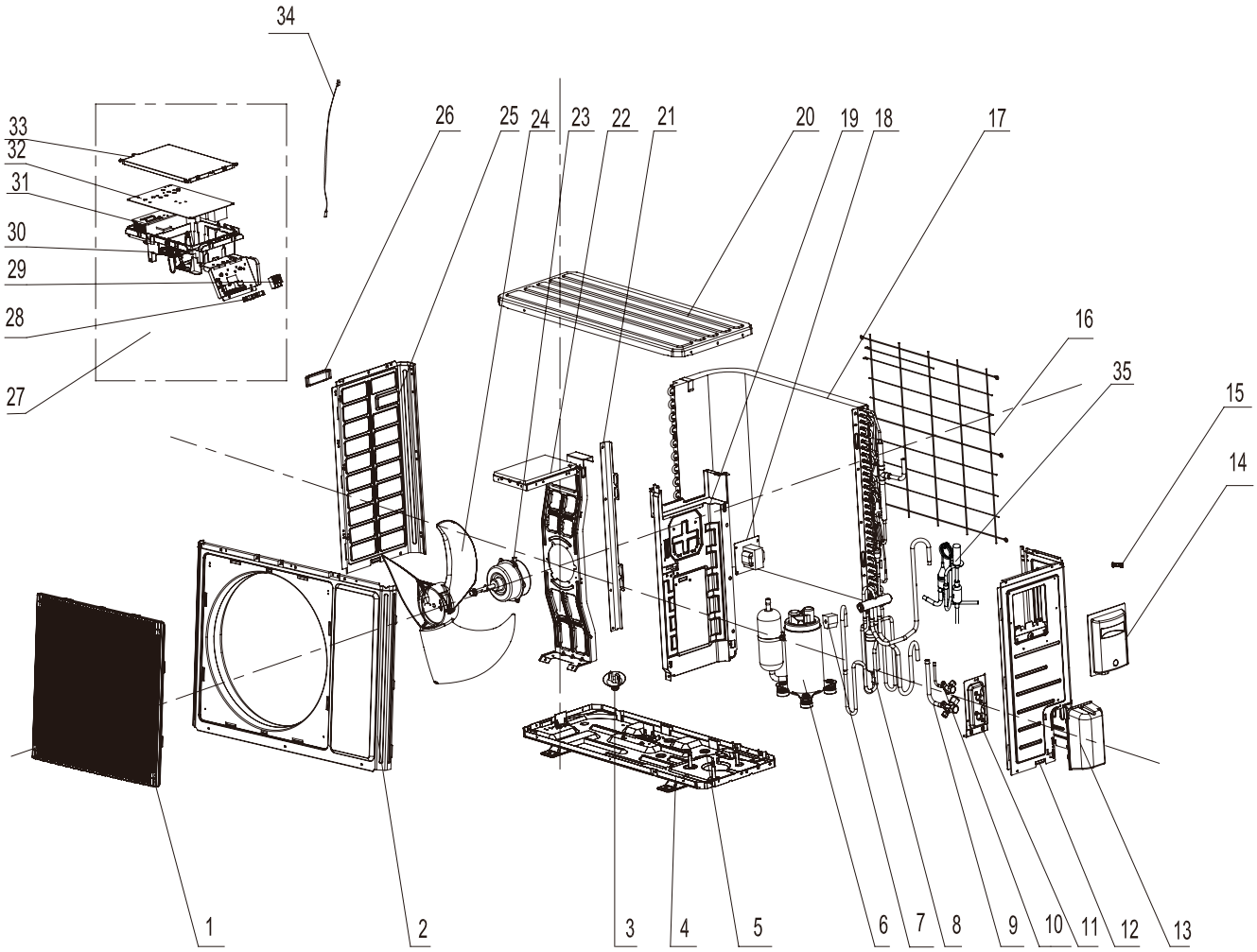


The component picture is only for reference; please refer to the actual product.

NO.	Description	Part Code	Qty
		GWH12QC-K3DNB2D/O	
	Product Code	CB432W15700	
1	Left Side Plate	01303200P	1
2	Fan Motor	1501308511	1
3	Motor Support	01703136	1
4	Condenser Assy	011002060209	1
5	Top Cover Sub-Assy	000051060003	1
6	Rear Grill	01475014	1
7	Clapboard Sub-Assy	01233180	1
8	Compressor and Fittings	009001060066	1
9	Compressor Gasket	009012000023	3
10	4-Way Valve Assy	030152060090	1
11	Big Handle	2623343106	1
12	Valve Cover	22243006	1
13	Cut off Valve	071302391	1
14	Cut off Valve	071302391	1
15	Valve Support	0171314201P	1
16	Front Grill	22413044	1
17	Cabinet	01433033P	1
18	Axial Flow Fan	10333011	1
19	Chassis Sub-assy	017000060083P	1
20	Electric Box Assy	100002061460	1
21	Electric Box	20113032	1
22	Main Board	300027060183	1
23	Reactor	43130184	1
24	Wire Clamp	71010103	2
25	Terminal Board	422000060016	1
26	Electrical Heater	/	/
27	Electrical Heater (Chassis)	/	/
28	Electric Expansion Valve Sub-Assy	030026060122	1

Above data is subject to change without notice.

GWH18QD-K3DNB2L/O



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

NO.	Description	Part Code	Qty
		GWH18QD-K3DNB2L/O	
	Product Code	CB432W15800	
1	Front Grill	22413045	1
2	Front Panel	01535013P	1
3	Drainage Connecter	06123401	1
4	Chassis Sub-assy	02803231P	1
5	Drainage hole Cap	06813401	3
6	Compressor and fittings	009001060006	1
7	Magnet Coil	4300876704	1
8	4-Way Valve Assy	030152060089	1
9	Cut off Valve Assy 1/2	07133774	1
10	Cut off Valve Sub-Assy	0713506803	1
11	Valve support assy	01715010P	1
12	Right Side Plate	0130509402P	1
13	Valve cover	22245002	1
14	Handle	2623525404	1
15	Wiring Clamp	26115004	1
16	Rear Grill	01473043	1
17	Condenser Assy	011002060206	1
18	Reactor	/	/
19	Clapboard Assy	01235088	1
20	Coping	012049000007P	1
21	Supporting Board(Condenser)	01795010	1
22	Motor Support Sub-Assy	01705036	1
23	Fan Motor	1501506402	1
24	Axial Flow Fan	10335008	1
25	Left Side Plate	01305093P	1
26	left handle	26233053	1
27	Electric Box Assy	100002061532	1
28	Wire Clamp	71010003	1
29	Terminal Board	422000060009	1
30	Electric Box	20115003	1
31	Radiator	4901521502	1
32	Main Board	300027060181	1
33	Insulated Board (Cover of Electric Box)	20113003	1
34	Temperature Sensor	3900030901	1
35	Electric Expansion Valve Sub-Assy	030026060120	1

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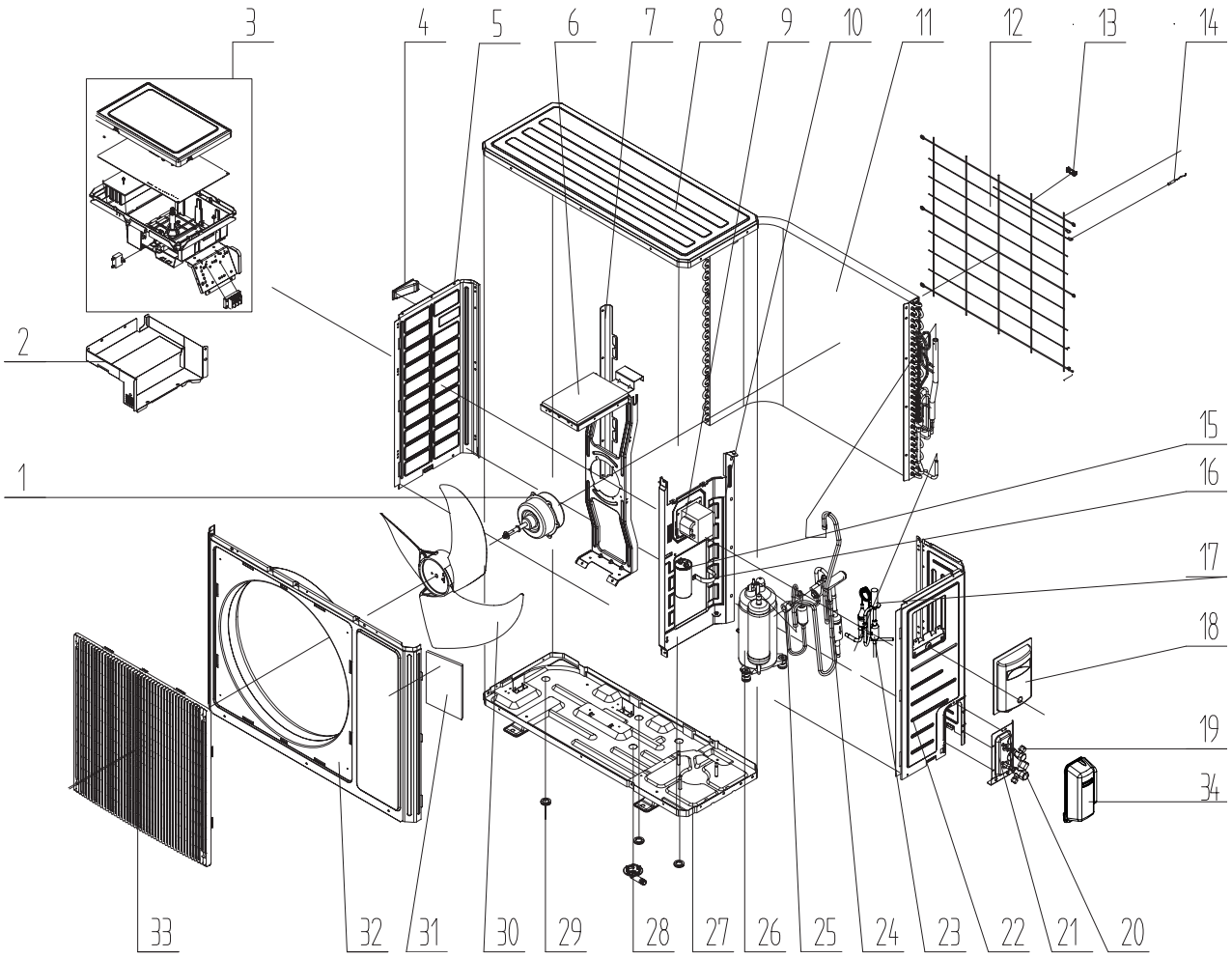
GWH24QE-K3DNB2H/O GWH21QE-K3DNB2A/O

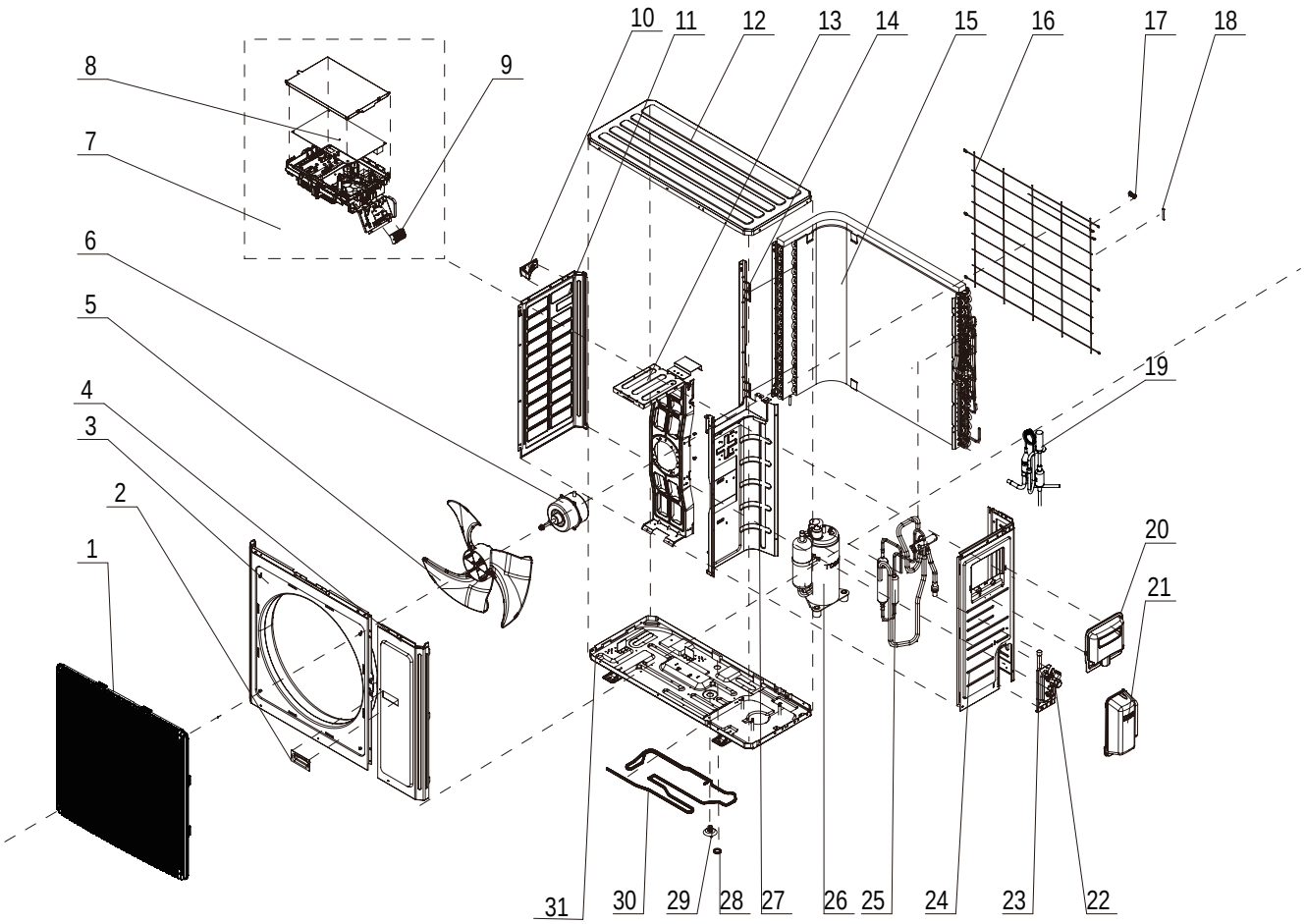


The component is only for reference;please refer to the actual product.

No.	Description	Part Code		Qty
		GWH24QE-K3DNB2H/O	GWH21QE-K3DNB2A/O	
	Product Code	CB432W17100	CB432W16600	
1	Fan Motor	1501506402	1501506402	1
2	Electric Box (Fireproofing)	/	/	/
3	Electric Box Assy	100002061623	100002061575	1
4	Handle	26233053	26233053	1
5	Left Side Plate	01305093P	01305093P	1
6	Motor Support Sub-Assy	01705067	01705036	1
7	Condenser Support Plate	01795031	01795010	1
8	Top Cover Sub-Assy	000051000017	000051000017	1
9	Reactor	/	/	/
10	Clapboard Sub-Assy	01235081	01235088	1
11	Condenser Assy	011002000177	011002060219	1
12	Rear Grill	01475020	01473043	1
13	Wire Clamp	71010103	71010102	1
14	Temperature Sensor	3900030902	3900030902	1
15	Capacitor CBB65	/	/	/
16	Capacitor Clamp sub-assy	/	/	/
17	Electric Expand Valve Fitting	43000344	07200200001202	1
18	Handle	26233053	26233053	1
19	Cut off Valve	07133844	071302392	1
20	Cut off Valve	07130239	071302392	1
21	Valve Support Sub-Assy	01705046P	01715010	1
22	Right Side Plate	0130509001P	0130509402P	1
23	Electronic Expansion Valve assy	030174000041	030174060032	1
24	4-Way Valve Assy	030152000318	030152060101	1
25	Compressor Gasket	009012000004	009012000004	3
26	Compressor and Fittings	00900100019501	00900100019501	1
27	Chassis Sub-assy	01205816P	02803297P	1
28	Drainage Connecter	06123025	06123401	1
29	Drainage Plug	/	/	/
30	Axial Flow Fan	10335008	10335008	1
31	Insulated Board (Cover of Electric Box)	20113003	20113003	1
32	Front Panel	01535013P	01535013P	1
33	Front Grill	22415010	22415010	1
34	Valve Cover	22245002	22245002	1

Above data is subject to change without notice.

GWH28QE-K3DNB2H/O

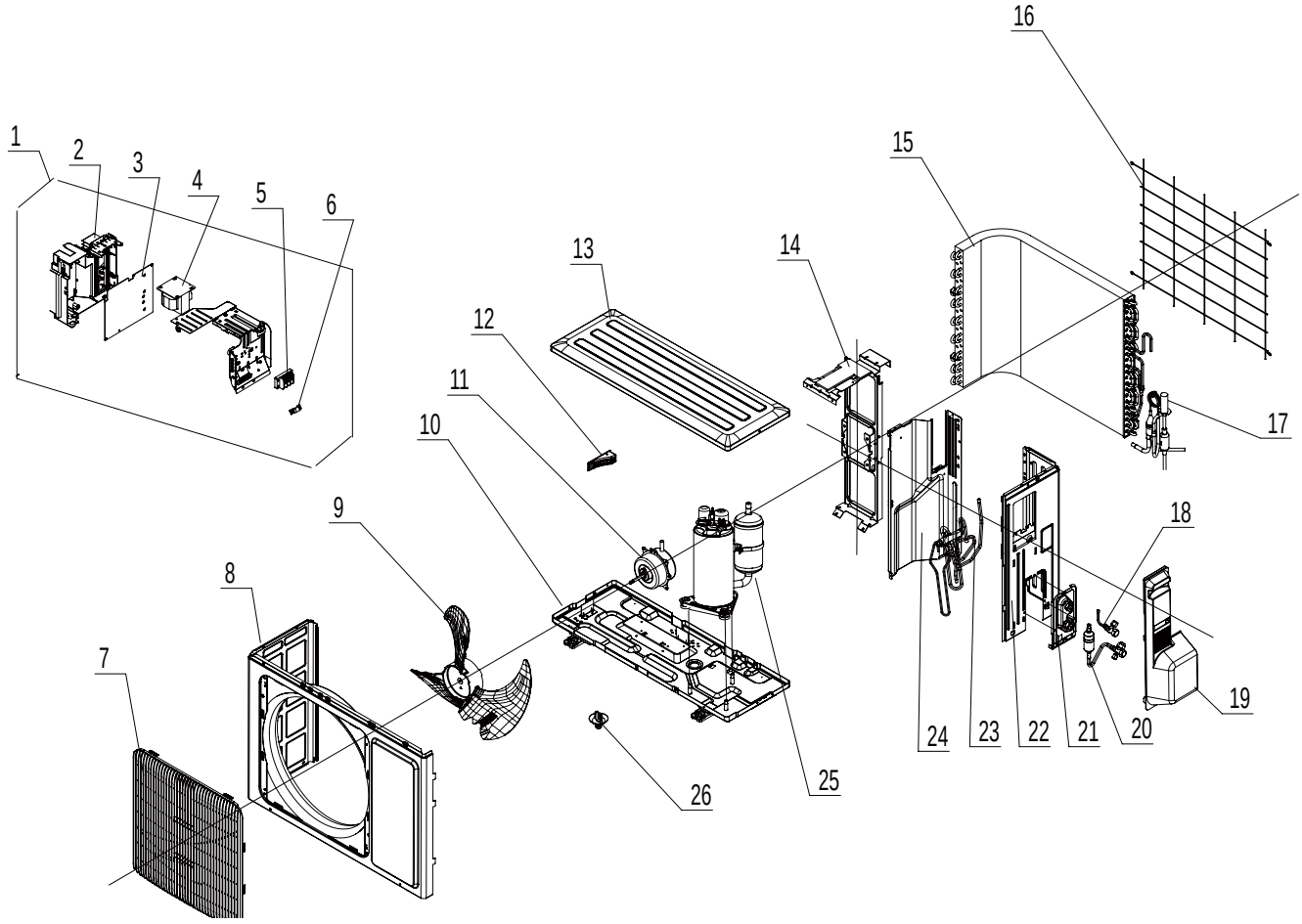


The component picture is only for reference; please refer to the actual product.

NO.	Description	Part Code	Qty
		GWH28QE-K3DNB2H/O	
	Product Code	CB432W16700	
1	Front Grill	22415011	1
2	Handle	26233053	1
3	Cabinet	01435004P	1
4	Front Side Plate	01305086P	1
5	Axial Flow Fan	10335014	3
6	Fan Motor	15010400000102	1
7	Electric Box Assy	100002061625	1
8	Main Board	300027060197	1
9	Terminal Board	422000060009	1
10	Handle	26233053	1
11	Left Side Plate	01305043P	1
12	Coping	01255020	1
13	Motor Support Sub-Assy	017012000015	1
14	Condenser Support Plate	01175092	1
15	Condenser Assy	011002000459	1
16	Rear Grill	01475013	1
17	Wiring clamp	26115004	1
18	Temperature Sensor	3900030901	0
19	Electronic Expansion Valve	43005016	1
20	Big Handle	26235001	1
21	Valve Cover	22245003	1
22	Cut off Valve	07130239	1
23	Valve Support Sub-Assy	0171501201P	1
24	Right Side Plate	0130504401P	1
25	4-way Valve Assy	030152000333	1
26	Compressor and fitting	00900100019501	1
27	Clapboard	01702100004/01233182	1
28	Drainage hole Cap	06813401	1
29	Drainage Connecter	06123401	1
30	Electrical Heater (Chassis)	/	/
31	Chassis Sub-assy	02803196P	1

Above data is subject to change without notice.

GWH09QC-K3DNB2A/O



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

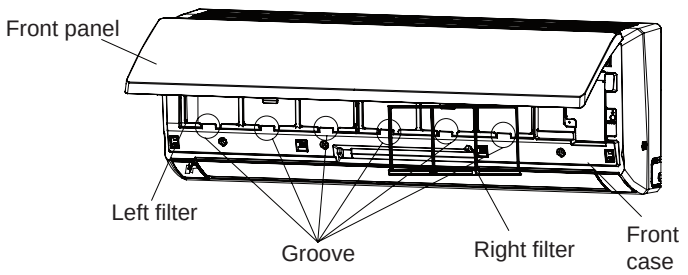
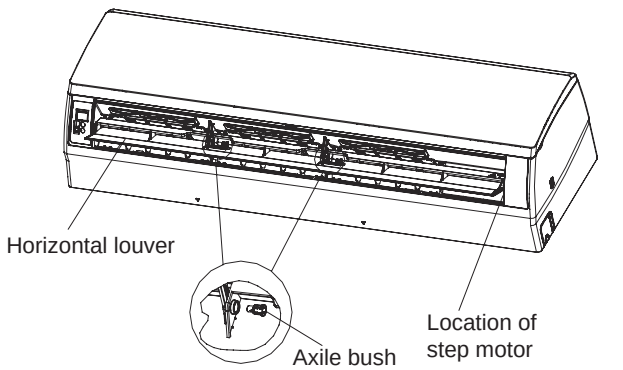
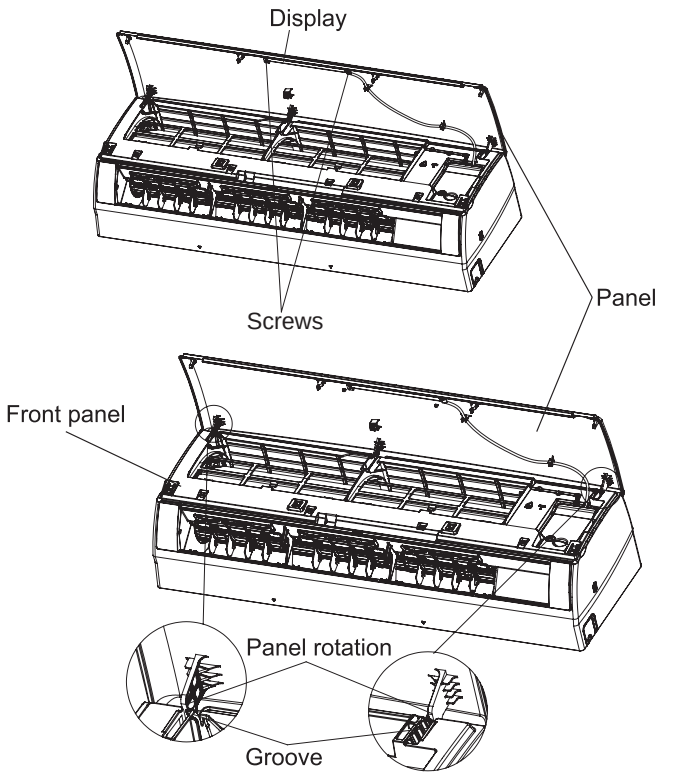
NO.	Description	Part Code	Qty
		GWH09QC-K3DNB2A/O	
	Product Code	CB432W15100	
1	Electric Box Assy	100002060880	1
2	Electric Box	20113032	1
3	Main Board	300027060169	1
4	Reactor	43130184	1
5	Terminal Board	422000060016	1
6	Wire Clamp	71010103	1
7	Front Grill	22413043	1
8	Front Panel	01533034P	1
9	Axial Flow Fan	10333004	1
10	Chassis Sub-assy	017000060086P	1
11	Fan Motor	1501308519	1
12	Small Handle	26233100	1
13	Top Cover Sub-Assy	000051060006	1
14	Motor Support	0170310401	1
15	Condenser Assy	011002060195	1
16	Rear Grill	01473009	1
17	Electronic Expansion Valve	030026060105	1
18	Valve	07100003	1
19	Big Handle	262334332	1
20	Cut off Valve Assy	07133474	1
21	Valve Support	0171314201P	1
22	Right Side Plate Sub-Assy	0130317801	1
23	4-Way Valve Assy	030152060084	1
24	Clapboard Sub-Assy	0123338502	1
25	Compressor and Fittings	009001060050	1
26	Drainage Connecter	26113009	1

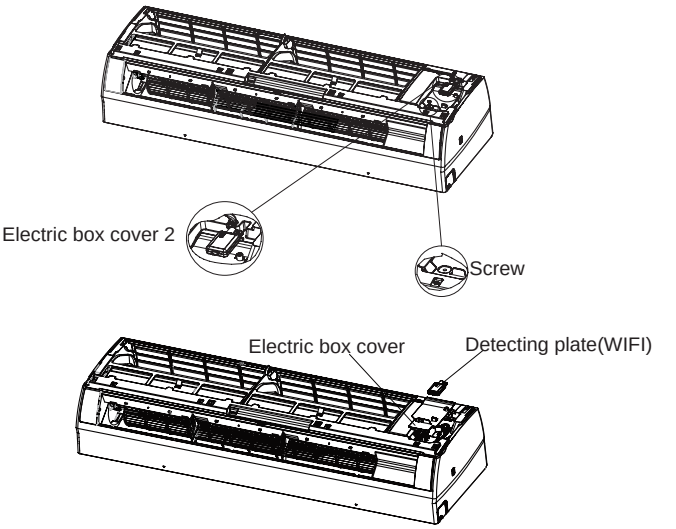
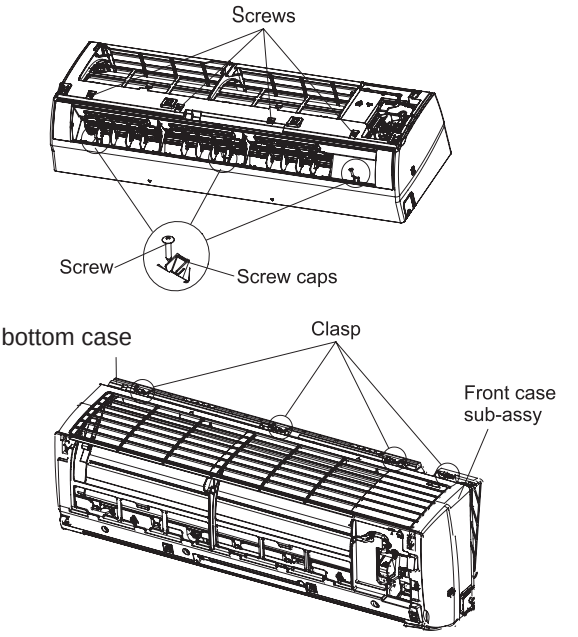
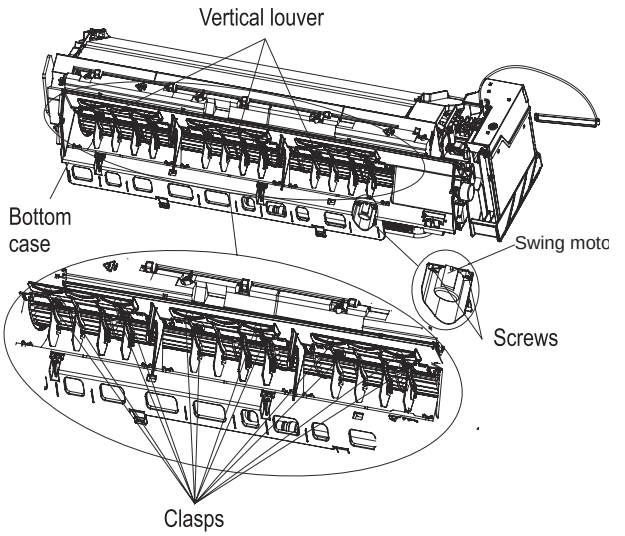
Above data is subject to change without notice.

11. Removal Procedure

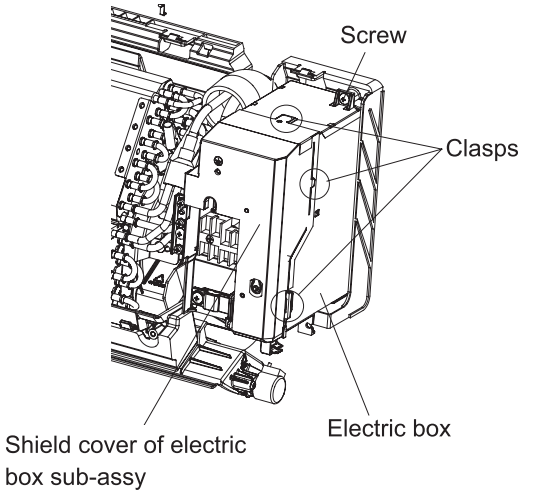
11.1 Removal Procedure of Indoor Unit

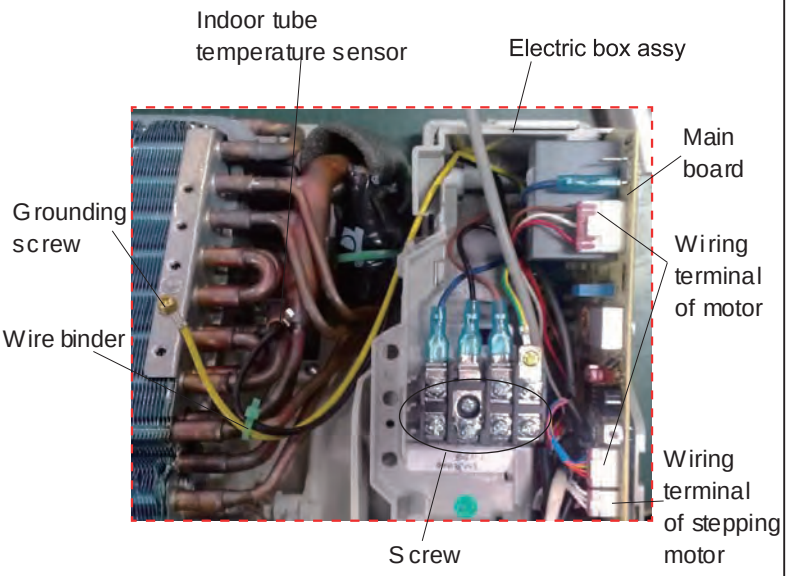
Warning: Be sure to wait for a minimum of 20 minutes after turning off all power supplies and discharge the refrigerant completely before removal.

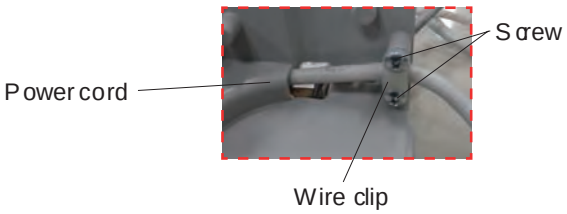
Step	Procedure	
1.Remove fifter assy		
	Open the front panel. Push the left and rightfilters to make them break away from thegroove on the front case. Then remove the leftand right filters one by one.	
2.Remove horizontal louver		
	Push out the axile bush on horizontal louver, Bend the horizontal louver with hand and then separate the horizontal louver from the crank shaft of step motor to remove it.	
3.Remove the front panel		
a	Screw o ff t he 2 screws t hat a re l ocking the display board. Separate the display board from the front panel.	
b	Separate the panel rotation shaft from the groove fixing the front panel and then removes the front panel.	

Step	Procedure
4.Remove electric box cover 2	
Remove the screws on the electric box cover 2 and detecting plate(WIFI), then remove the electric box cover 2 and detecting plate(WIFI). Note: The position of detection board(WIFI) may be different for different models.	
5.Remove front case sub-assy	
a Remove the screws fixing front case. Note: ① Open the screw caps before removing the screws arround the air outlet. ② The quantity of screws fixing the front case sub-assy is different for different models.	
b Loosen the connection clasps between front case sub-assy and bottom case. Lift up the front case sub-assy and take it out.	
6.Remove vertical louver	
a Loosenn the connection clasps between vertical louver and bottom case to remove vertical louver.	
b Screw off the screws that are locking the swing motor and take the motor off.	

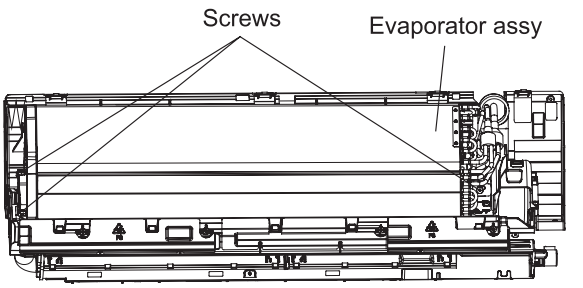
Step	Procedure
7. Remove electric box assy	
a	Loosen the connection clasps between shield cover of electric box sub-assy and electric box, and then remove the shield cover of electric box sub-assy. Remove the screw fixing electric box assy .
b	① Cut off the wire binder and pull out the indoor tube temperature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

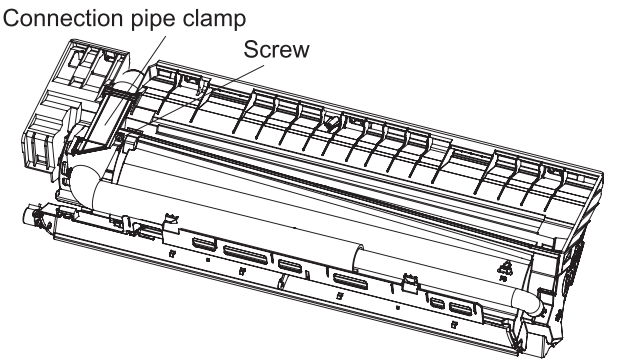


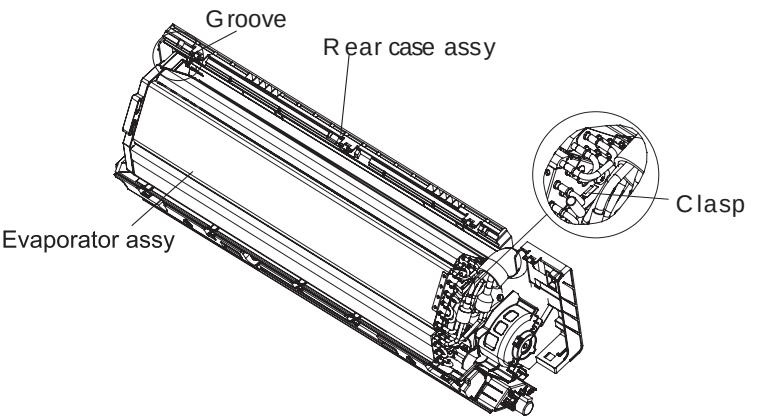


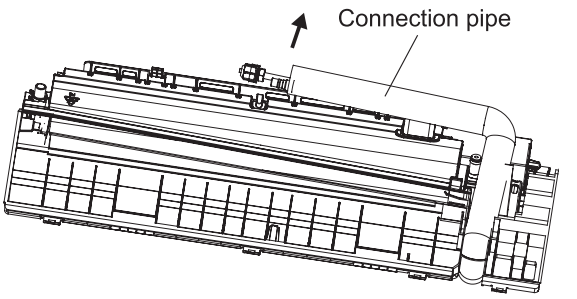


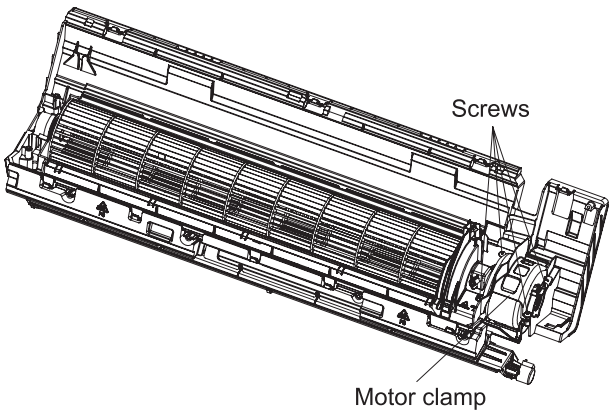
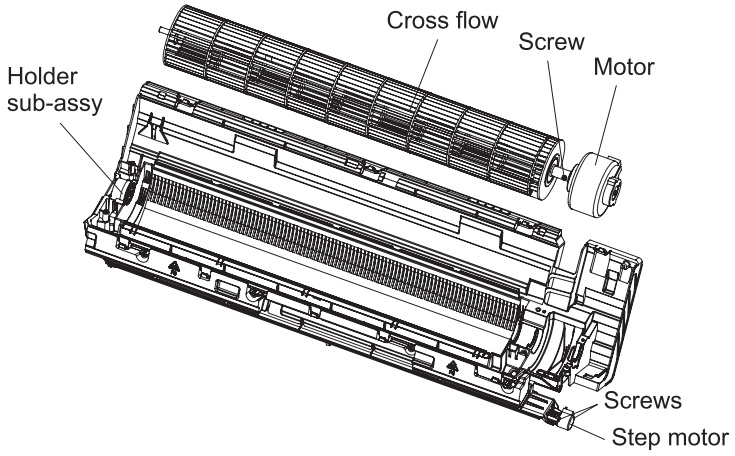
Step	Procedure
8. Remove evaporator assy	
a	Remove 3 screws fixing evaporator assy.
b	At the back of the unit, remove the screw fixing connection pipe clamp and then remove the connection pipe clamp.
c	First remove the left side of evaporator from the groove on the rear case assy. Then remove the right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





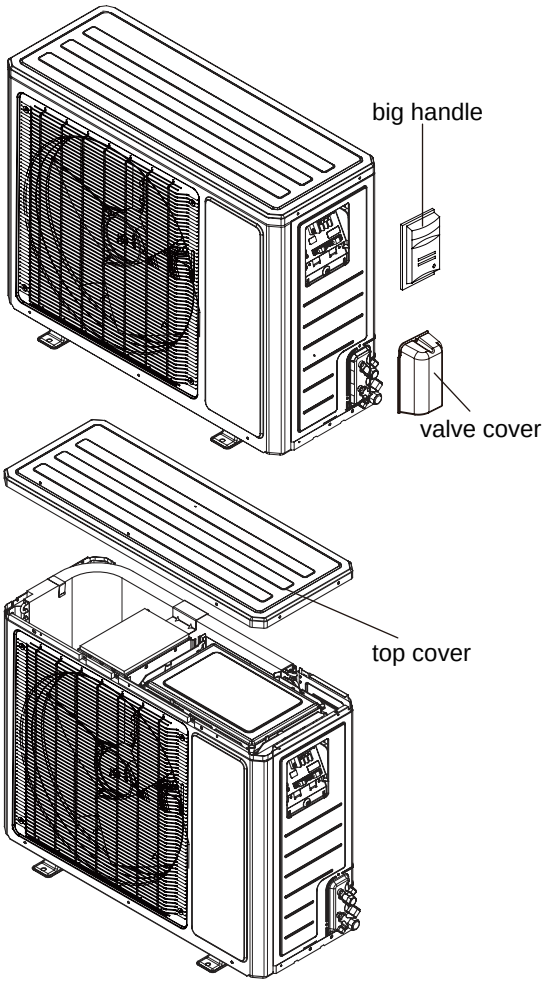
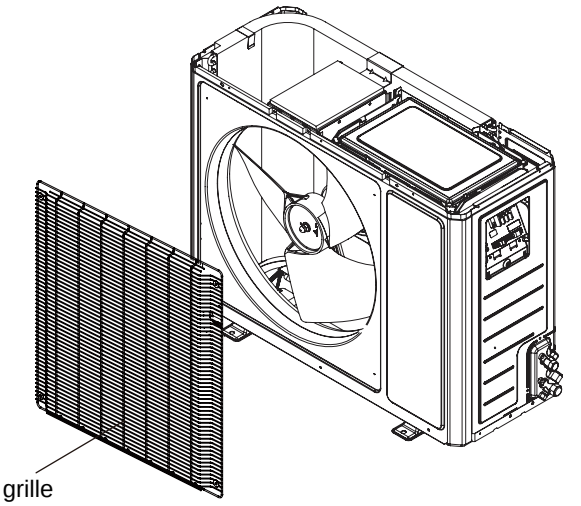


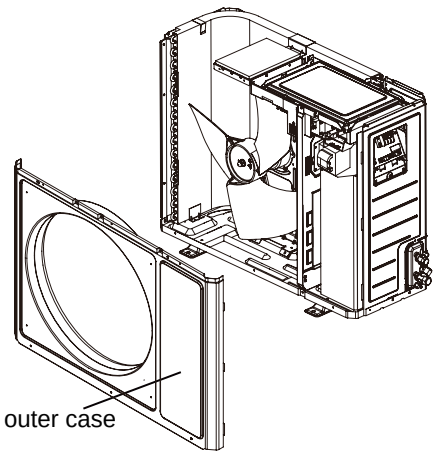
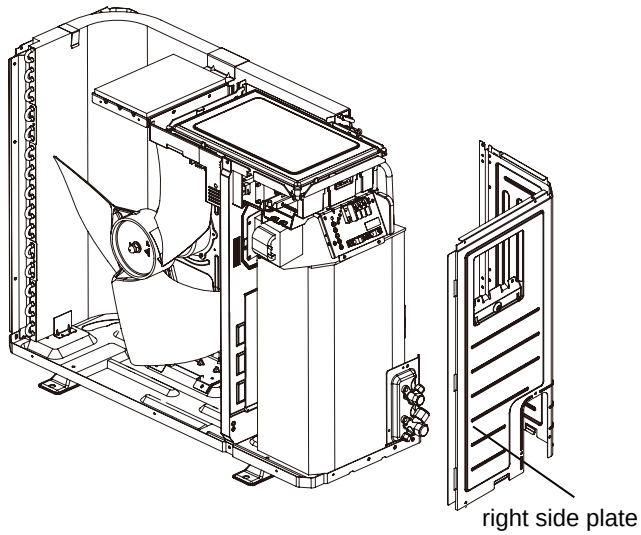
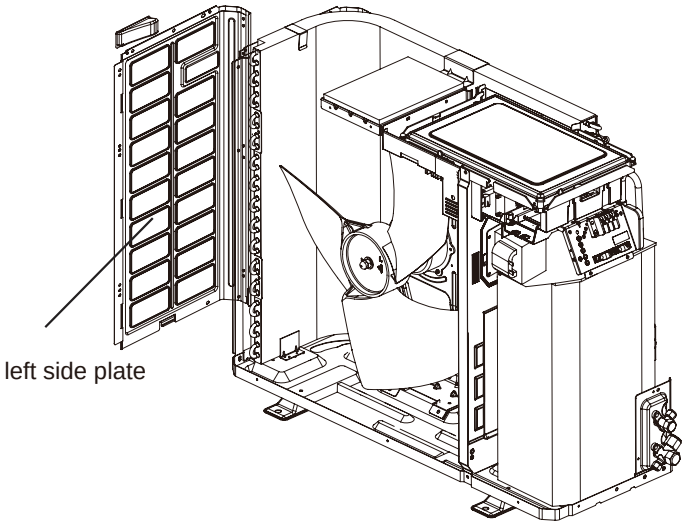


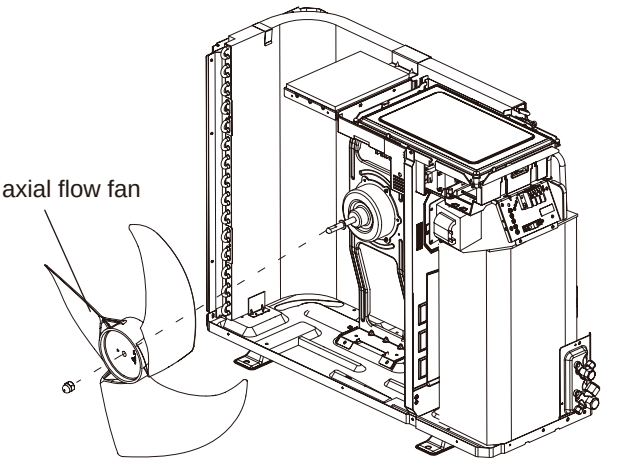
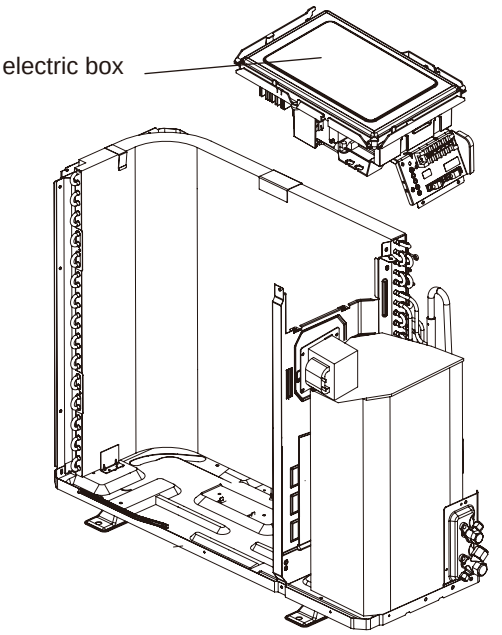
Step	Procedure	
9. Remove motor and cross flow blade		
a	Remove the screws fixing motor clamp and then remove the motor clamp.	
b	Remove the screws at the connection place of cross flow blade and motor; lift the motor and cross flow blade upwards to remove them. Remove the bearing holder sub-assy. Remove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

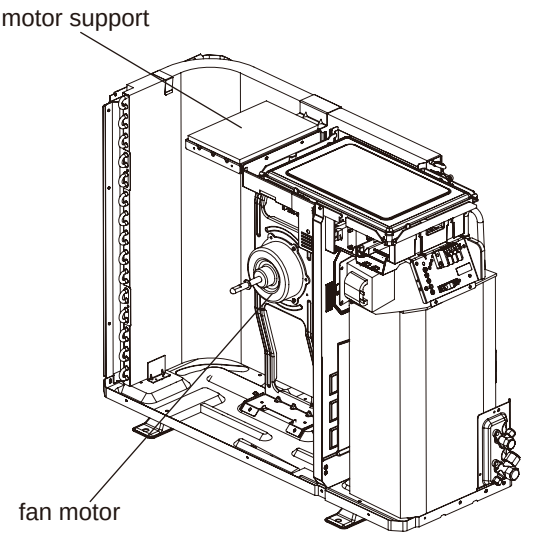
11.2 Removal Procedure of Outdoor Unit

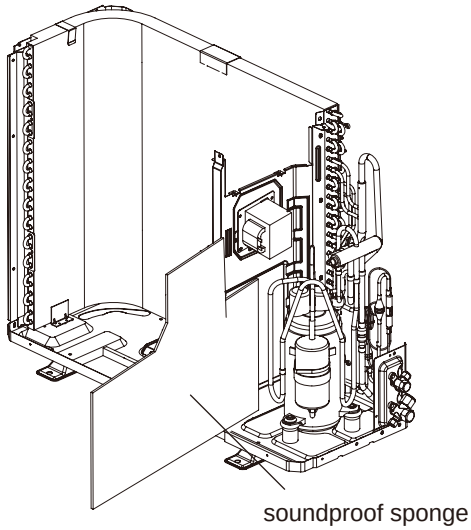
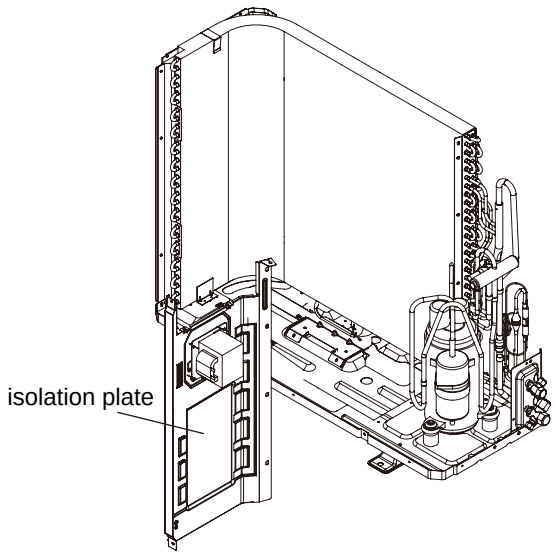
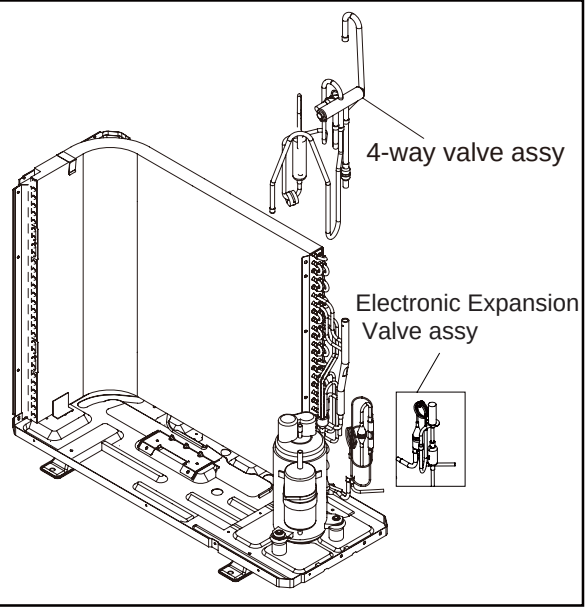
GWH24QE-K3DNB2H/O GWH18QD-K3DNB2L/O GWH21QE-K3DNB2A/O

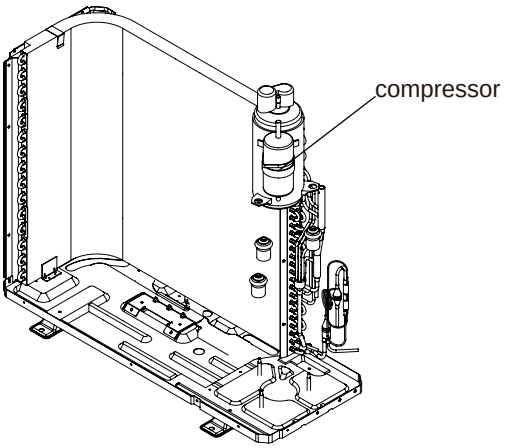
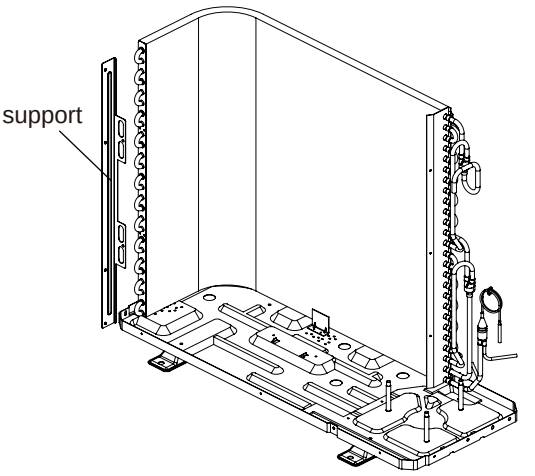
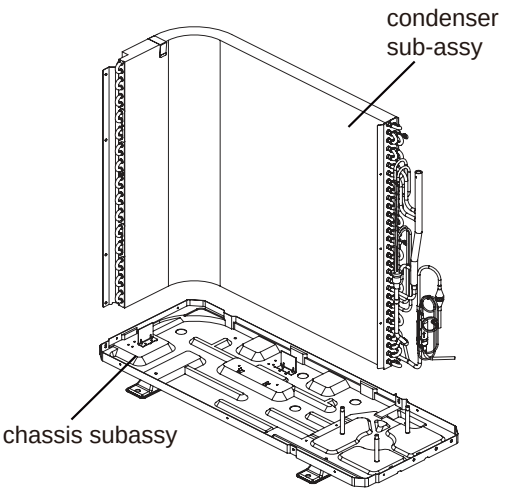
Steps	Procedure
1. Remove big handle,valve cover and top cover	
a	Remove the screw connecting the big handle and right side plate, and then remove the big handle. Remove the screw connecting the valve cover and right side plate, and then remove the valve cover.
b	Remove the screws connecting the top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

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

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

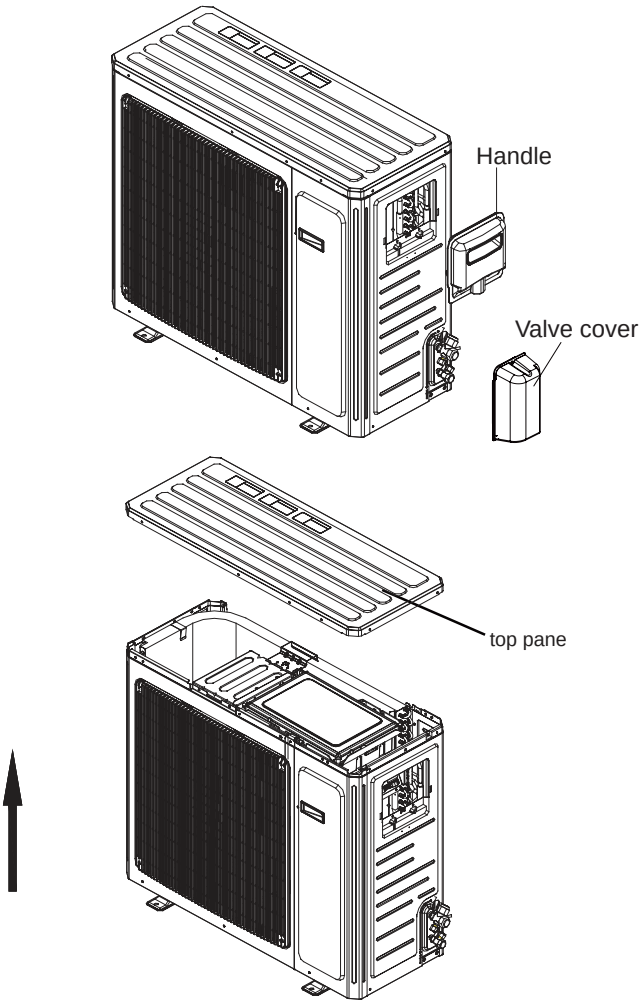


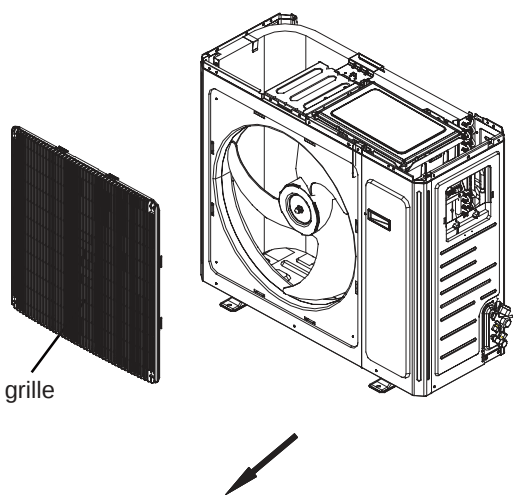
Steps	Procedure
6. Remove the soundproof sponge	
Tear off the sticking stripe and then remove the soundproof sponge.	
7. Remove isolation plate	
Remove the 2 screws connecting the isolation plate and condenser side plate; remove the 3 screws connecting the isolation plate and chassis, and then remove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

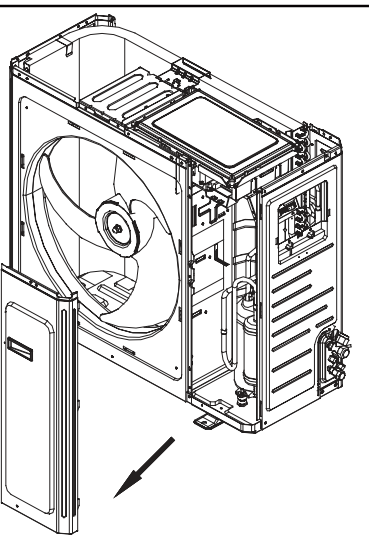
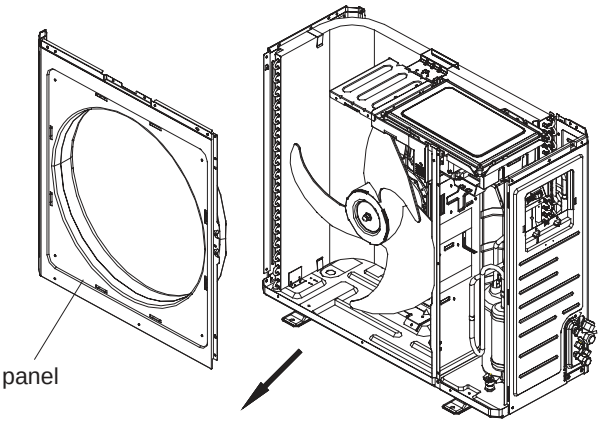
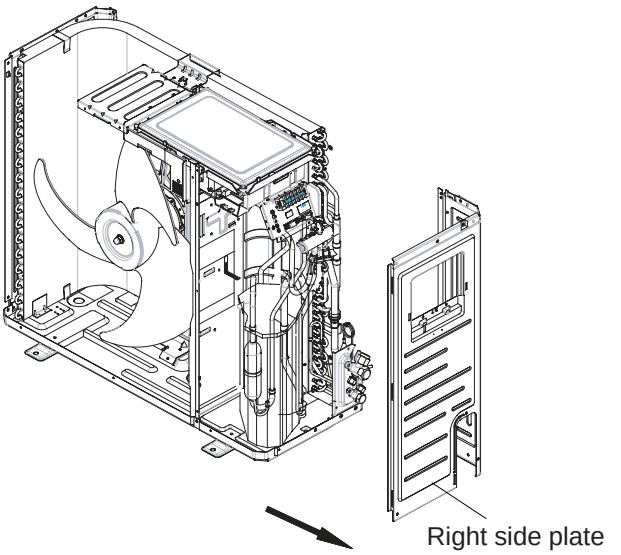
Steps	Procedure	
9. Remove compressor		
	Remove the 3 foot nuts fixing compressor and then lift the compressor upwards to remove the compressor and damping cushion. Note: Keep the ports of discharge pipe and suction pipe from foreign objects.	
10. Remove condenser sub-assy		
a	Remove the screws connecting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

GWH28QE-K3DNB2H/O

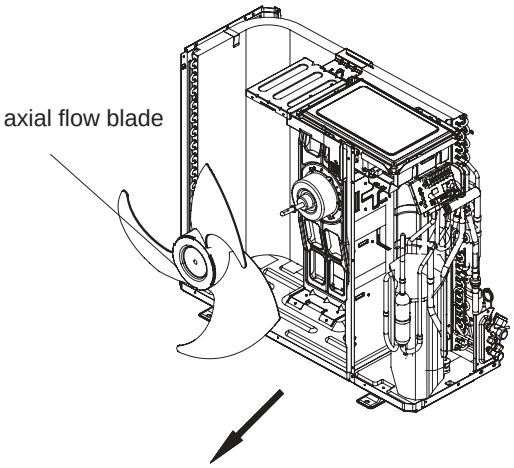
Steps	Procedure
1. Remove handle and valve cover	
a	Twist off the screws used for fixing the handle, pull the handle upward to remove it.Loosen the screws fixing the valve cover and then remove it.
b	Remove the 3 screws connecting the top panel with the front panel and the right side plate, and then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

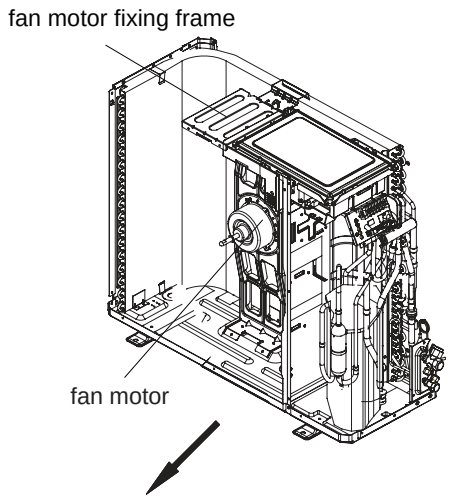


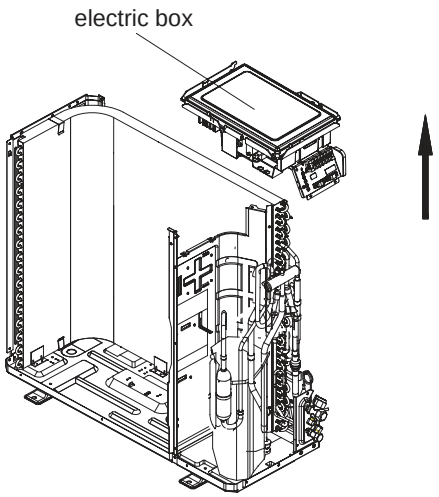


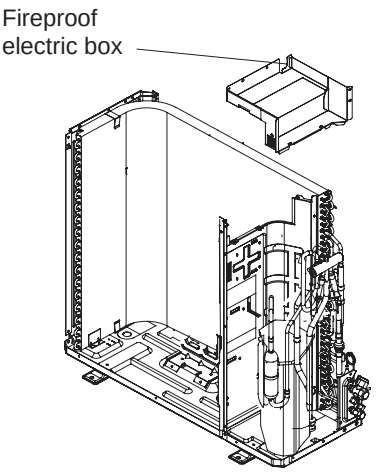
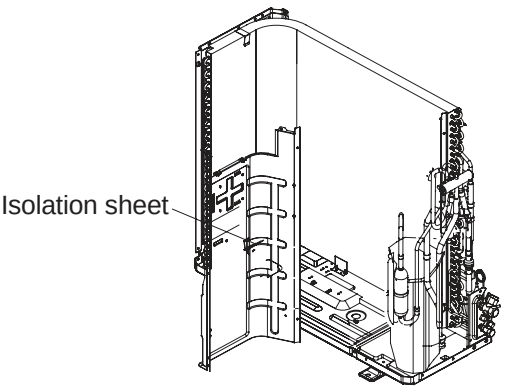
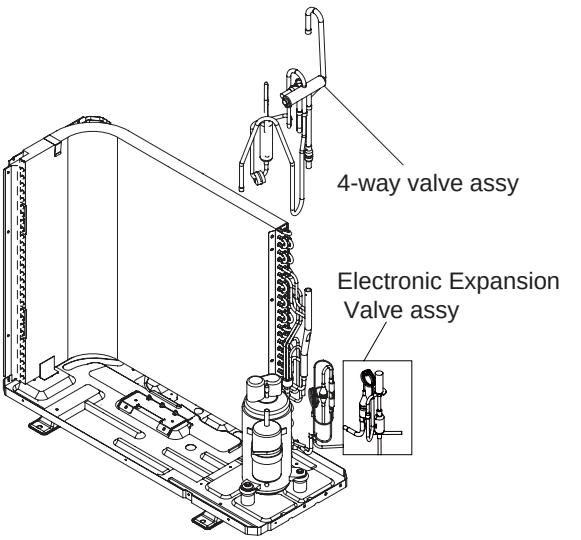
Steps	Procedure	
b	Remove the screws connecting the front side plate and then remove the front side panel.	
c	Remove the screws connecting the panel with the chassis and the motor support, and then remove the panel.	
3. Remove and right side plate		
	Remove the screws connecting the right side plate with the chassis, the valve support and the electric box, and then remove the right side plate assy.	

Steps	Procedure
4. Remove fan motor	
a	Remove the nuts fixing the blade and then remove the axial flow blade.
b	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.

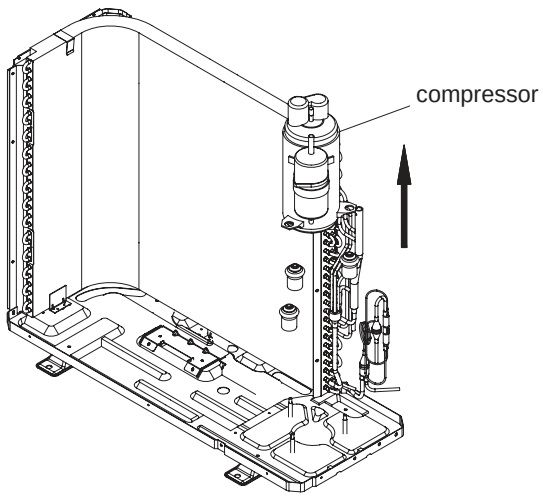


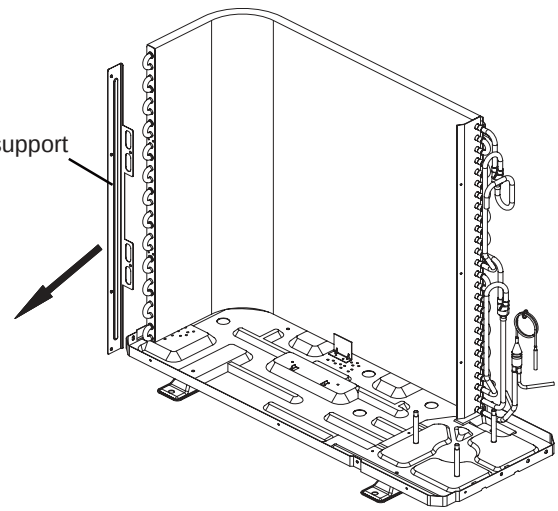


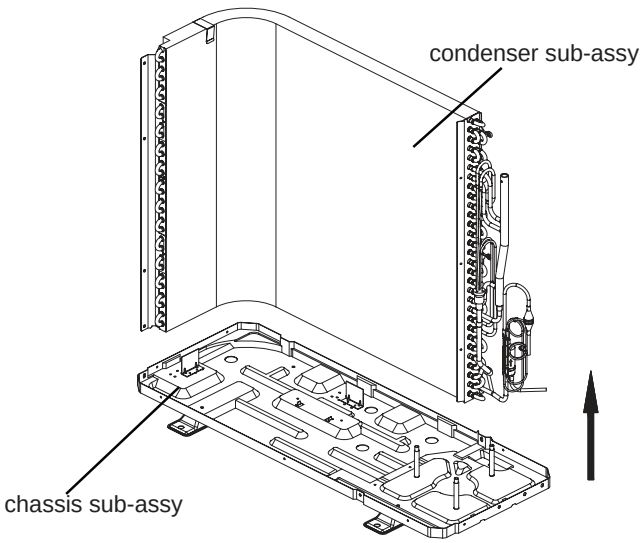


Steps	Procedure
6.Remove Fireproof electric box	
	Twist off the screws on fireproof electric box and then remove the fireproof electric box.
	
7. Remove chassis sub-assy and Isolation sheet	
	Remove the 3 screws fixing the isolationsheet and then remove the Isolation sheet.
	
8. Remove 4-way valve assy	
	Discharge the refrigerant completely;unsolder the pipelines connecting the compressor and the condenser assy,and then remove the 4-way valve assy.
	

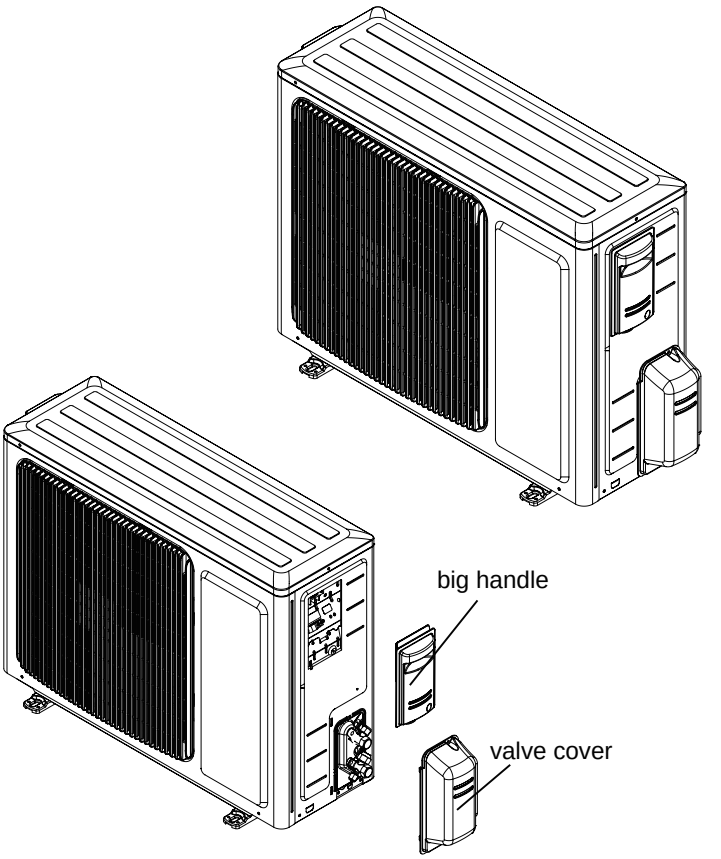
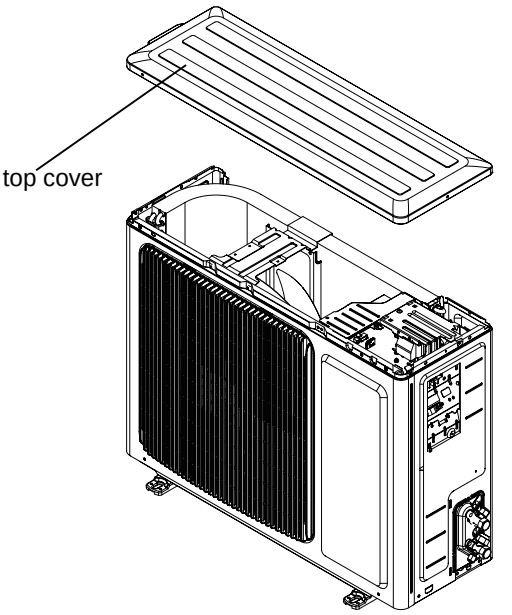
Steps	Procedure
9. Remove compressor	
	Remove the 3 foot nuts fixing the compressor and then remove the compressor.
10.Remove condenser sub-assy	
a	Remove the screws connecting the support (condenser) and condenser assy,and then remove the support(condenser).
b	Dissemble the chassis sub-assy and condenser sub-assy.



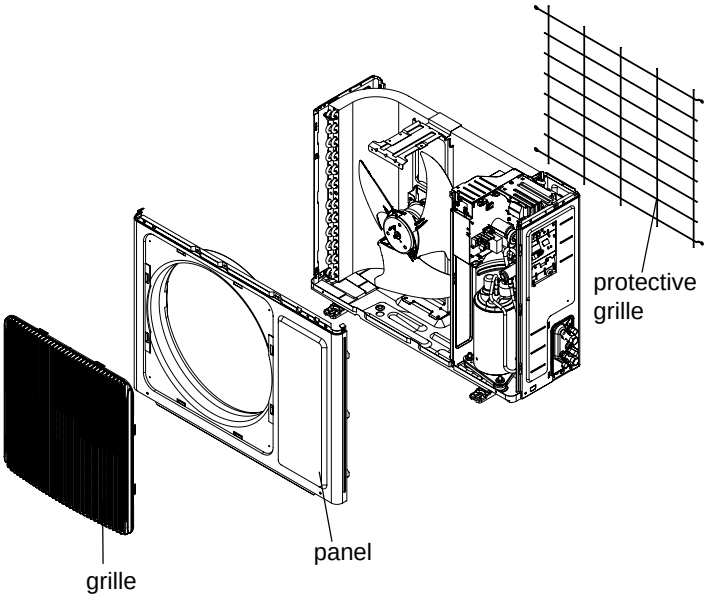


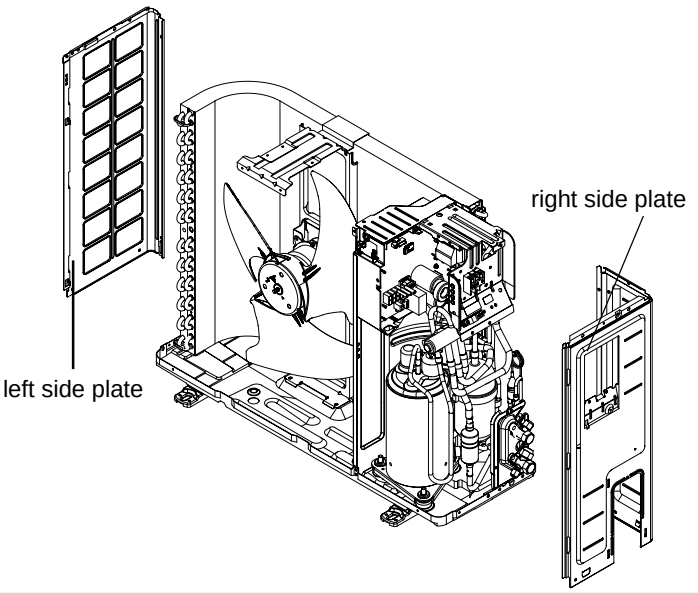


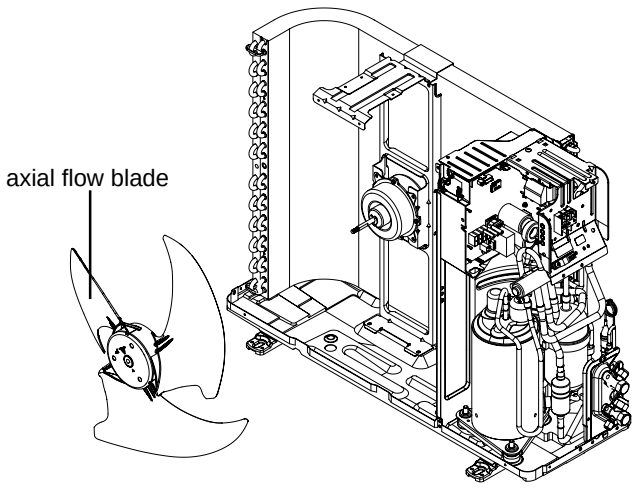
12K

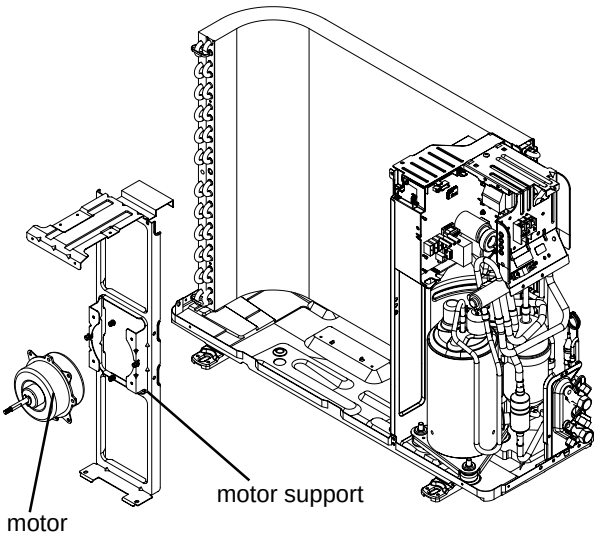
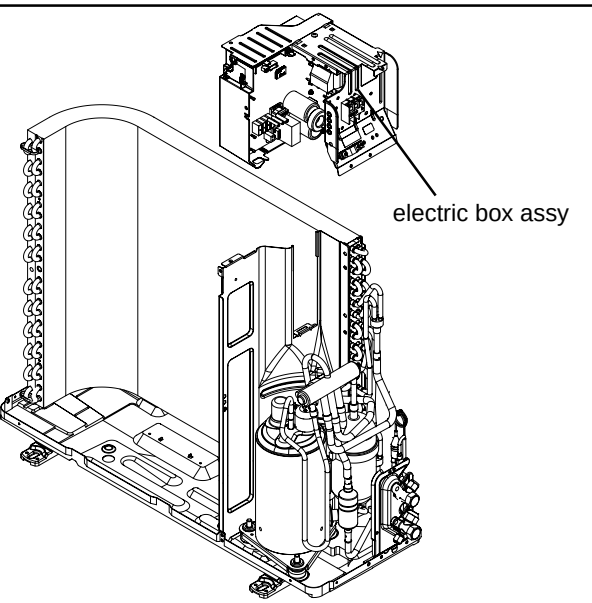
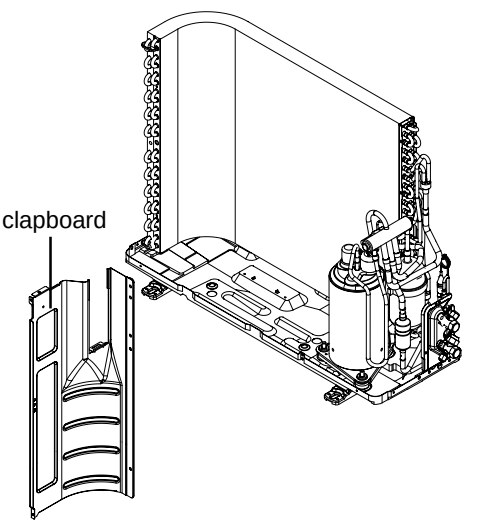
Steps	Procedure
1.Remove big handle	
Before disassamble. Remove the screws fixing big handle、valve cover and then remove them.	
2. Remove top cover	
Remove the screws fixing top panel and then remove the top panel.	

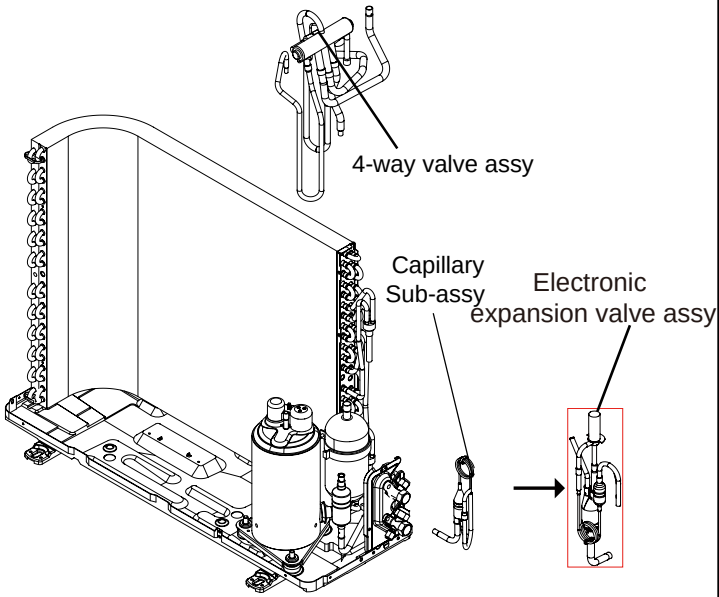
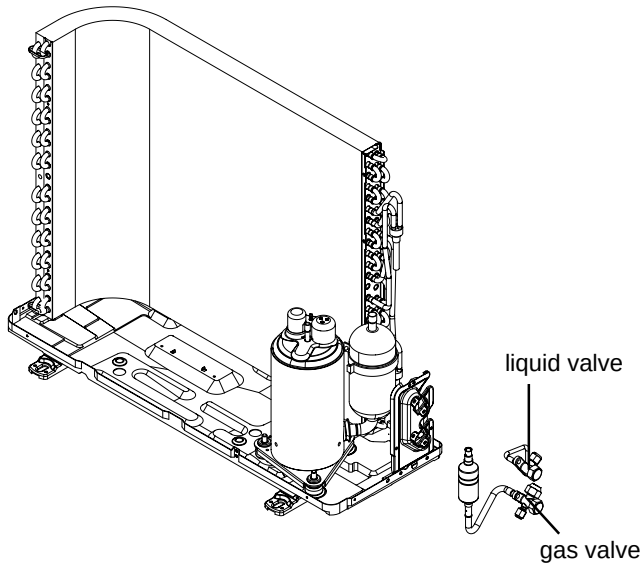
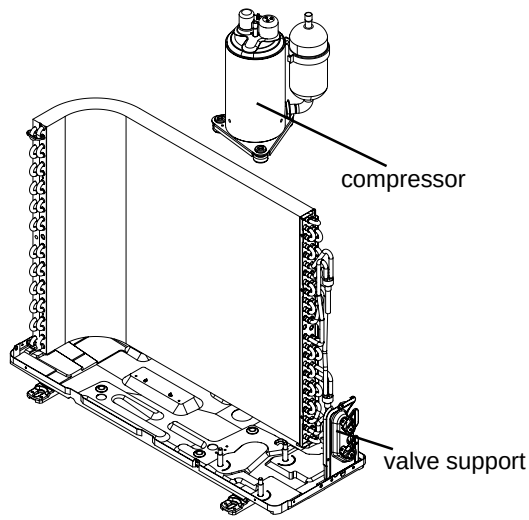
Step	Procedure
3.Remove grille 、 protective grille and front panel	
	Remove connection screws between the front grille and the front panel. Then remove the front grille. Remove connection screws connecting the front panel with the chassis and the motor support, and then remove the front panel. Remove the screws fixing protective grille and then remove the protective grille.
4.Remove right side plate、left side plate	
	Remove the screws fixing right side plate、left side plate and then remove them.
5.Remove axial flow blade	
	Remove the nut fixing the blade and then remove the axial flow blade.



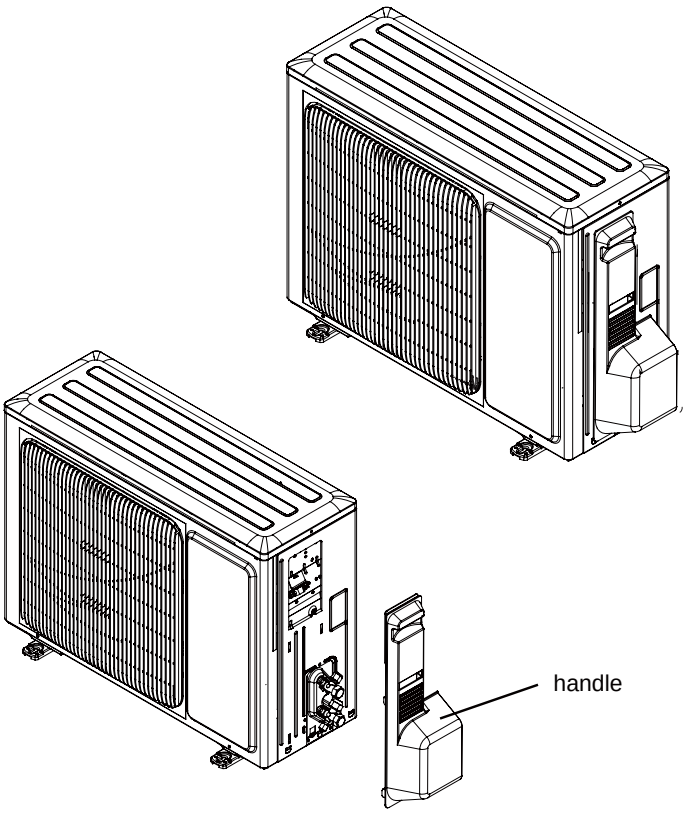
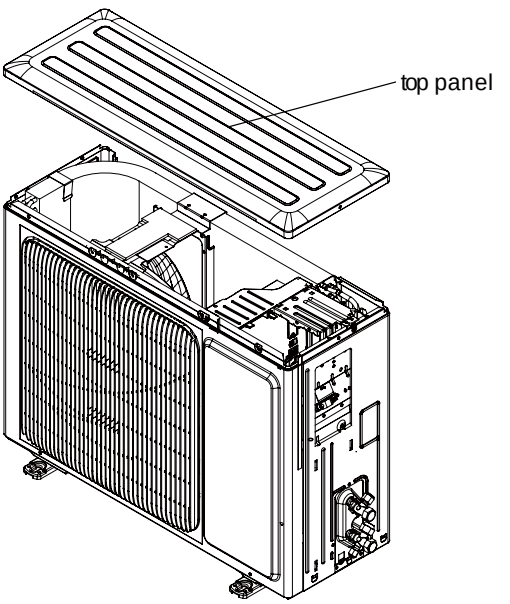


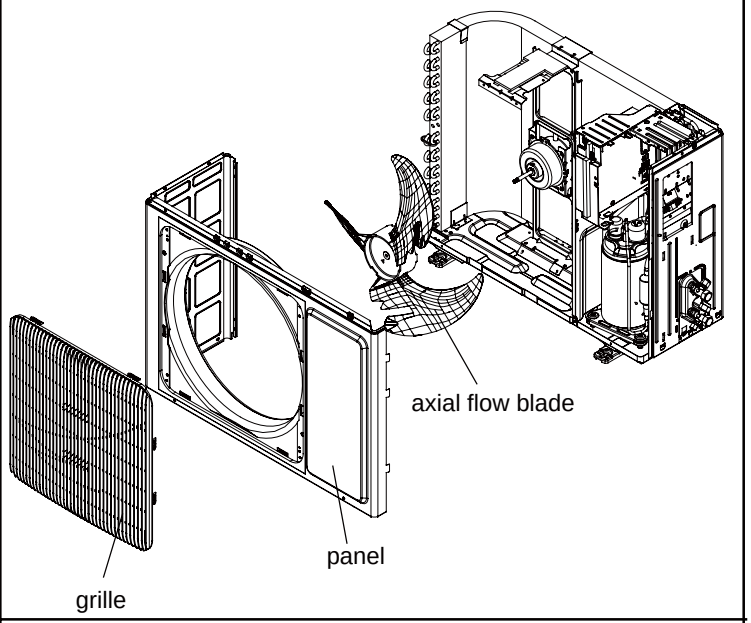
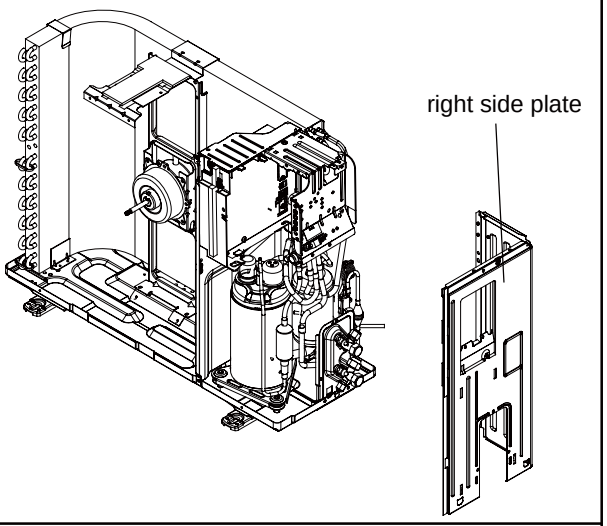
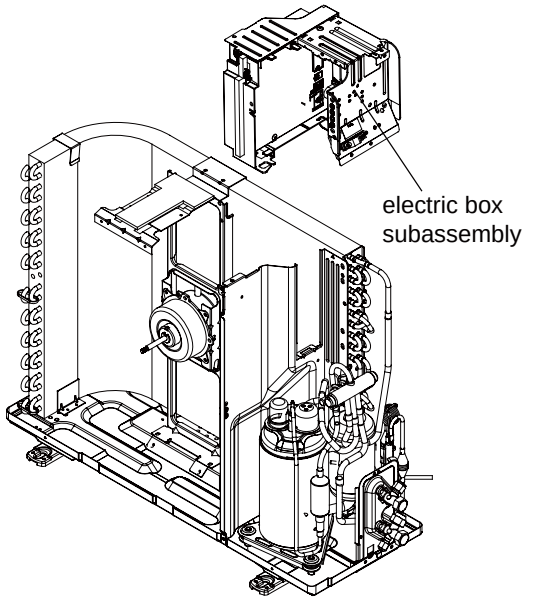


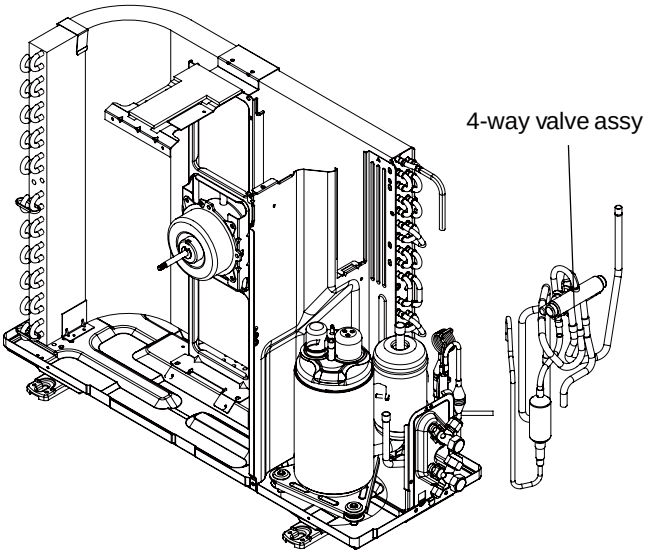
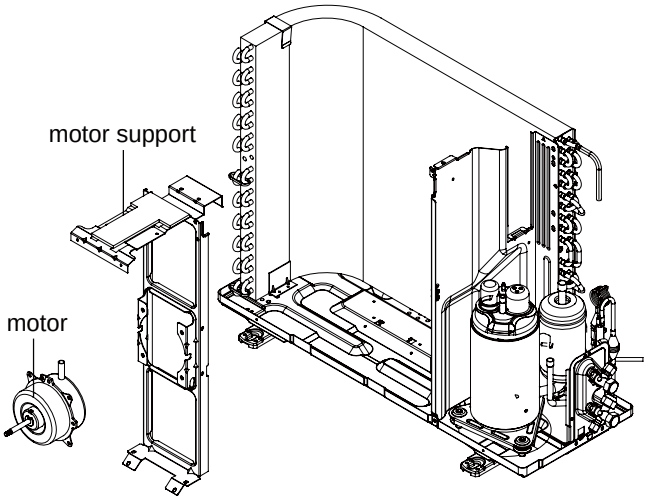
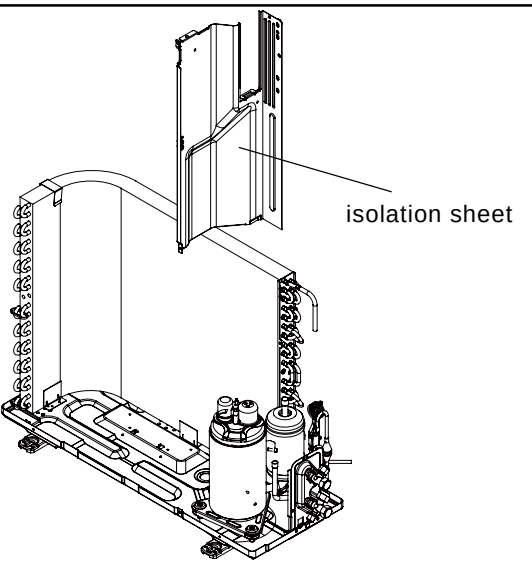
Step	Procedure
6.Remove motor and motor support	
Remove the screws fixing motor and then remove the motor. Remove the screws fixing motor support and then remove the motor support.	
7.Remove electric box assy	
Remove the screws fixing electric box assy; cut off the tieline; pull out each wiring terminal; lift the electric box assy upwards to remove it. Note: When pulling out the wiring terminal, pay attention to loose the clasp and don't pull it so hard.	
8.Remove clapboard	
Remove the screws fixing clapboard and then remove the clapboard.	

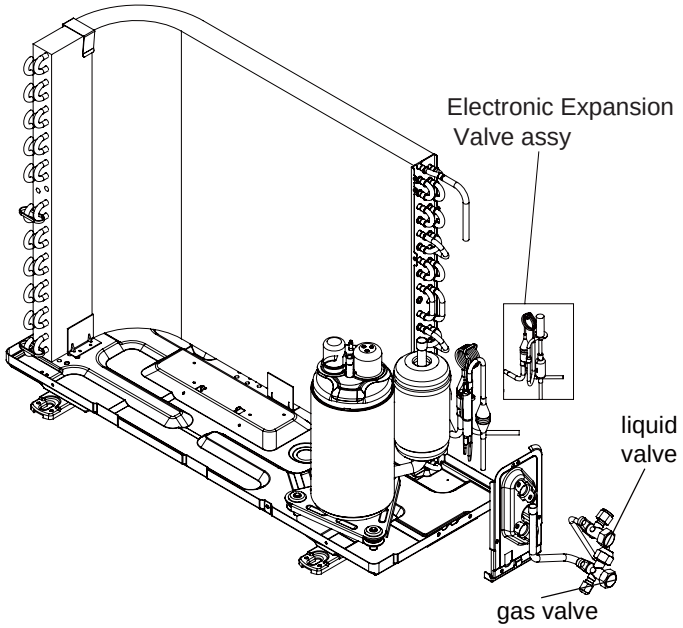
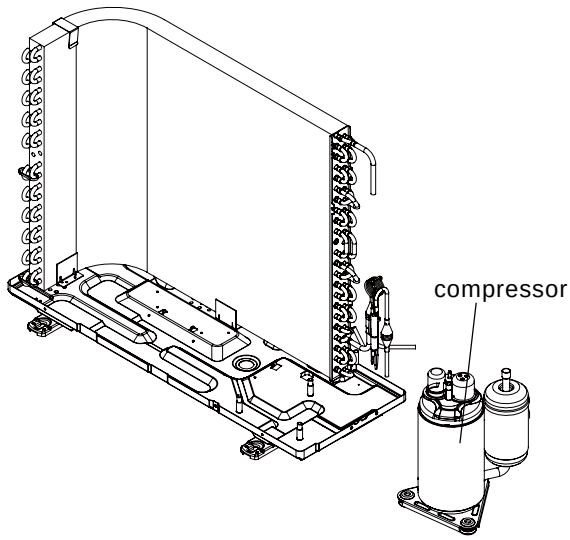
Step	Procedure
9.Remove 4-way valve assy and capillary sub-assy	
Unsolder the welding joints connecting the 4-way valve assy with capillary sub-assy, compressor and condenser; remove the 4-way valve. Note: Before unsoldering the welding joint, wrap the 4-way valve with a wet cloth completely to avoid damage to the valve caused by high temperature. Unsolder weld point of capillary Sub-assy,valve and outlet pipe of condensator. Then remove the capillary Sub-assy. Do not block the capillary when unsoldering it. (Note: before unsoldering,discharge refrigerants completely)	
10.Remove liquid valve and gas valve	
Unsolder the welding joint connecting the valve with capillary and condenser; unsolder the welding joint connecting the gas valve and air-return pipe; remove the 2 screws fixing the gas valve to remove the gas valve. Unsolder the welding joint connecting the liquid valve and Y-shaped pipe; remove the 2 screws fixing the liquid valve to remove the liquid valve. Note: Before unsoldering the welding joint, wrap the gas valve with a wet cloth completely to avoid damage to the valve caused by high temperature.	
11.Remove compressor	
Remove the 3 footing screws of the compressor and remove the compressor. Remove the screws fixing valve support and then remove the valve support.	

09K

Steps	Procedure
1.Remove big handle	
a	Before disassembly.
b	Remove the connection screw fixing the big handle and then remove the handle.
2. Remove top cover	
	Remove connection screws connecting the top cover plate with the front panel and the right side plate, and then remove the top panel.

Steps	Procedure
3.Remove grille 、axial flow blade and front panel	
Remove connection screws between the front grille and the front panel. Then remove the front grille. Remove connection screws connecting the front panel with the chassis and the motor support, and then remove the front panel. Remove the nut fixing the blade and then remove the axial flow blade.	
4.Remove right side plate	
Remove connection screws connecting the right side plate with the valve support and the electric box. Then remove the right side plate.	
5.Remove electric box subassembly	
Remove screws fixing electric box cover, and then remove the electric box cover.Cut off the tieline, pull out all wiring terminals and remove all connection wires, and then separate connection wires and electric box.Remove screws connecting electric box and middle isolation sheet, motor support, and then remove the electric box.	

Steps	Procedure
6.Remove 4-way valve assy	
	Unscrew the fastening nut of the 4-way valve assy coil and remove the coil. Wrap the 4 way Valve Assy with wet cotton and unsolder the 4 weld spots connecting the 4-way valve assy to take it out.(Note: Refrigerant shouldbe discharged firstly.) Welding process should be as quickly as possible and keep wrapping cotton wet all the time. Be sure not to burn out the lead-out wire of compressor.
	
7.Remove motor and motor support	
	Remove the 4 tapping screws fixing the motor. Pull out the lead-out wire and remove themotor. Remove the 2 tapping screws fixingthe motor support. Lift motor support to re-move it.
	
8.Remove isolation sheet	
	Remove the screws fixing the isolation sheet and then remove the isolation sheet.
	

Steps	Procedure
9.Remove valves	
	Remove the 2 screws fixing the gas valve and unsolder the welding point between the gas valve and the air-return pipe to remove the gas valve. Remove the 2 screws fixing the liquid valve and unsolder the welding joint connecting the liquid valve to the Y-type pipe to remove the liquid valve.
	
10.Remove compressor	
	Remove the foot nuts on the compressor and then remove the compressor.
	

Appendix:

Appendix 1: Reference Sheet of Celsius and Fahrenheit

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

Set temperature

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

Ambient temperature

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

Appendix 2: Configuration of Connection Pipe

1.Standard length of connection pipe

● 5m, 7.5m, 8m.

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

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

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

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

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

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

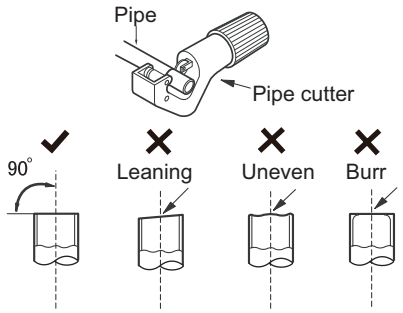
● Basing on the length of standard pipe, add refrigerant according to the requirement as shown in the table. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe. See the following sheet.

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

Appendix 3: Pipe Expanding Method

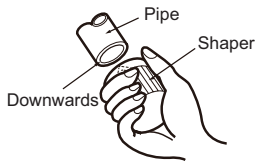
⚠ **Note:**

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



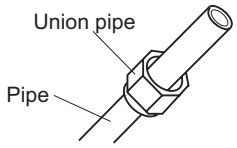
A:Cut the pip
- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.

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



C:Put on suitable insulating pipe

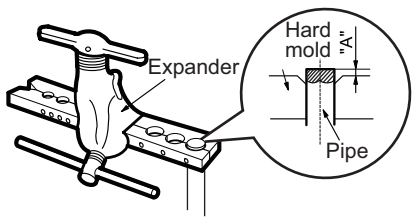
D:Put on the union nut
- Remove the union nut on the indoor connection pipe and outdoor valve; install the union nut on the pipe.



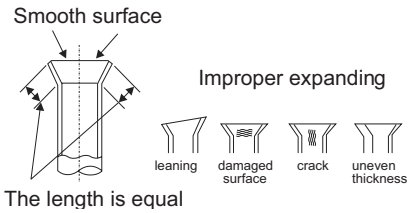
E:Expand the port
- Expand the port with expander.

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

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



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



Appendix 4: List of Resistance for Ambient Temperature Sensor

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

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

Resistance Table of Ambient Temperature Sensor for Indoor and Outdoor Units(20K)

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

Resistance Table of Ambient Temperature Sensor for Indoor and Outdoor Units(50K)

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

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