AIR CONDITIONER

SERVICE MANUAL

[FAIRY SERIES]

GWH18ACD-K6DNA1DD
(GWH18ACD-K6DNA1D/I+ GWH18QD-K6DNA1D/O)

EN

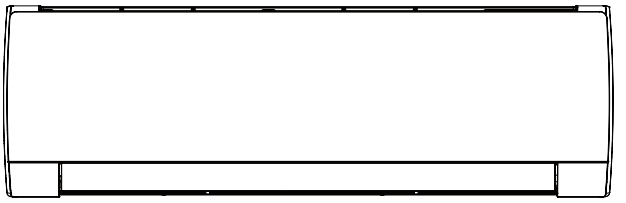
ORIGINAL INSTRUCTIONS, VER. 01 2019-12-11

Part Ⅰ : Technical Information

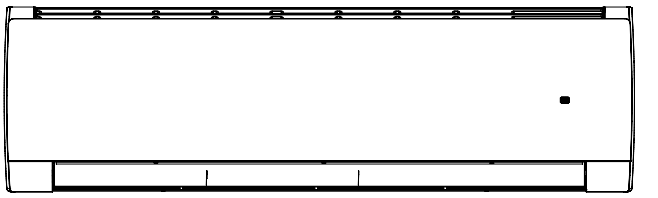
1. Summary

Indoor Unit

GWC09ACC-K6DNA1C/I
GWH09ACC-K6DNA1A/I
GWC12ACC-K6DNA1D/I
GWH12ACC-K6DNA1D/I
GWC18ACD-K6DNA1D/I
GWH18ACD-K6DNA1D/I



GWC24ACE-K6DNA1A/I
GWH24ACE-K6DNA1A/I



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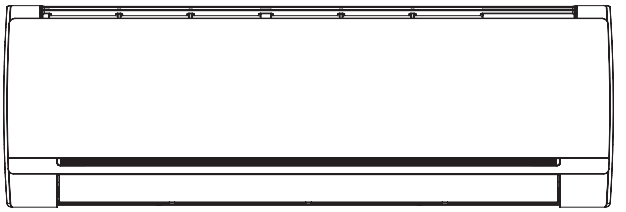
GWH12ACC-K6DNA4D/I
GWH18ACD-K6DNA4D/I
GWH24ACE-K6DNA4A/I



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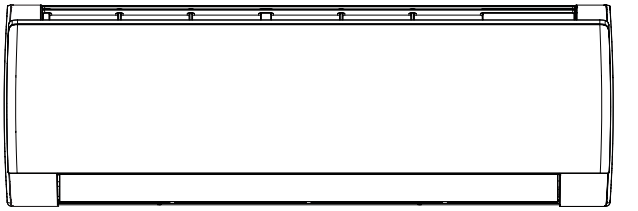
GWH12ACC-K6DNA5D/I
GWH18ACD-K6DNA5D/I
GWH24ACE-K6DNA5A/I



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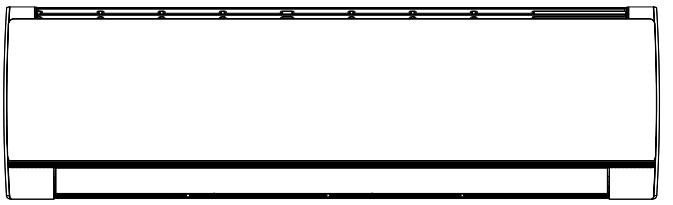
GWH18ACD-K6DNA2D/I
GWH24ACE-K6DNA2A/I



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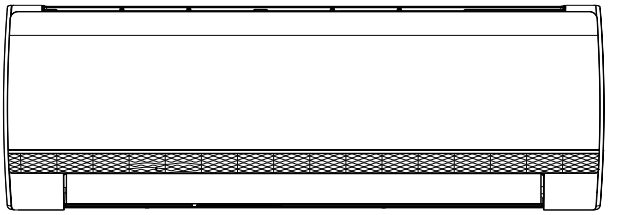
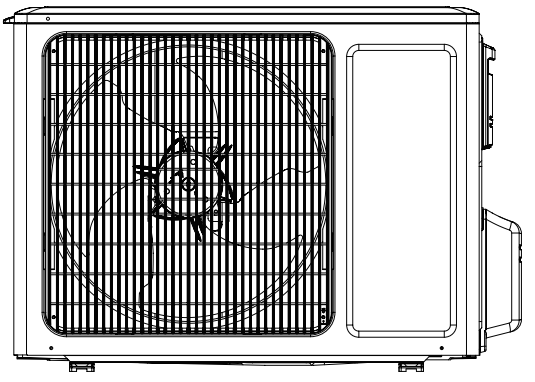
GWH12ACC-K6DNA3D/I
GWH18ACD-K6DNA3D/I
GWH24ACE-K6DNA3A/I



Outdoor Unit

GWH12QC-K6DNA1D/O



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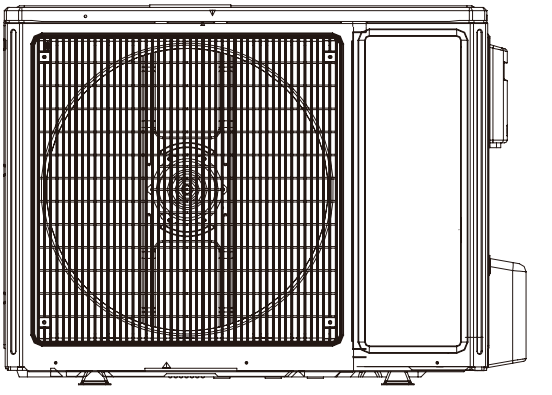
GWH24QE-K6DNA1E/O



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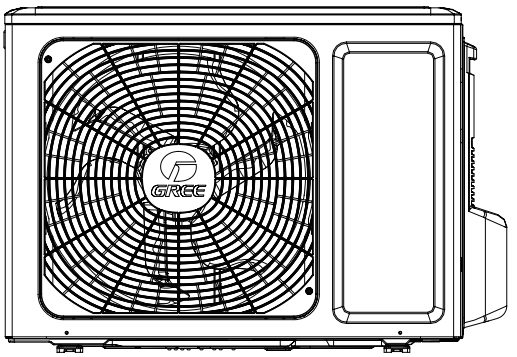
GWH09ACC-K6DNA1A/O



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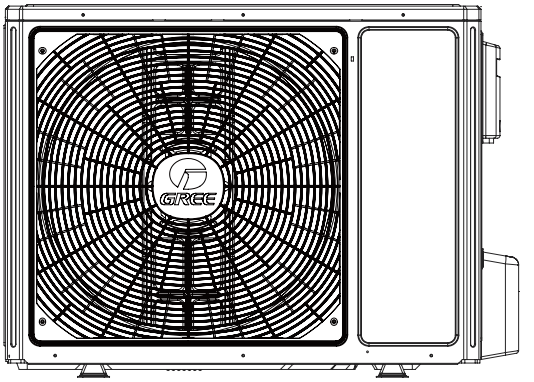
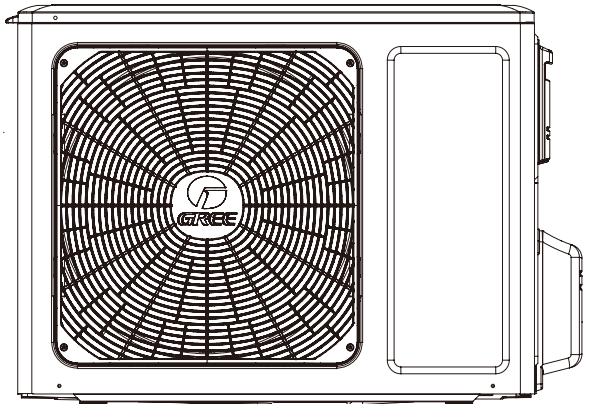
OGWC24ACE-K6DNA1A/O



GWC12ACC-K6DNA1D/O



Remote Controller

YAC1FB9(WiFi)

Model List:

No	Model	Product code	Indoor model	Indoor product code	Outdoor model	Outdoor product code	Remote Controller
1	GWC09ACC-K6DNA1C	CB497008000	GWC09ACC-K6DNA1C/I	CB497N08000	GWC09ACC-K6DNA1C/O	CB497W08000	YAC1FB9 (WiFi)
2	GWH09ACC-K6DNA1A	CB497003000	GWH09ACC-K6DNA1A/I	CB497N03000	GWH09ACC-K6DNA1A/O	CB497W03000	
3		CB497003002		CB497N03002			
4	GWH09ACC-K6DNA5A	CB341000800	GWH09ACC-K6DNA5A/I	CB341N00800			
5	GWH09ACC-K6DNA3A	CB343000600	GWH09ACC-K6DNA3A/I	CB343N00600			
6	GWH09ACC-K6DNA2A	CB342000800	GWH09ACC-K6DNA2A/I	CB342N00800			
7	GWH09ACC-K6DNA1A	CB497003001	GWH09ACC-K6DNA1A/I	CB497N03000		CB497W03001	
8	GWH09ACC-K6DNA4A	CB344001001	GWH09ACC-K6DNA4A/I	CB344N01000			
9	GWH09ACC-K6DNA3A	CB343000601	GWH09ACC-K6DNA3A/I	CB343N00600			
10	GWC12ACC-K6DNA1D	CB497008700	GWC12ACC-K6DNA1D/I	CB497N08700	GWC12ACC-K6DNA1D/O	CB497W08700	
11	GWH12ACC-K6DNA1D	CB497001601	GWH12ACC-K6DNA1D/I	CB497N01600	GWH12QC-K6DNA1D/O	CB419W15501	
12		CB497001602		CB497N01602			
13		CB497001604		CB497N01604			
14	GWH12ACC-K6DNA3D	CB343000701	GWH12ACC-K6DNA3D/I	CB343N00700			
15	GWH12ACC-K6DNA4D	CB344000701	GWH12ACC-K6DNA4D/I	CB344N00700			
16	GWH12ACC-K6DNA5D	CB341000600	GWH12ACC-K6DNA5D/I	CB341N00600		CB419W15500	
17	GWH12ACC-K6DNA1D	CB497001600	GWH12ACC-K6DNA1D/I	CB497N01600			
18		CB497001603		CB497N01603			
19	GWH12ACC-K6DNA2D	CB342000600	GWH12ACC-K6DNA2D/I	CB342N00600			
20	GWH12ACC-K6DNA3D	CB343000700	GWH12ACC-K6DNA3D/I	CB343N00700			
21	GWC18ACD-K6DNA1D	CB497008900	GWC18ACD-K6DNA1D/I	CB497N08900	GWC18ACD-K6DNA1D/O	CB497W08900	
22	GWH18ACD-K6DNA1D	CB497002100	GWH18ACD-K6DNA1D/I	CB497N02100	GWH18QD-K6DNA1D/O	CB419W15600	
23		CB497002103		CB497N02102			
24	GWH18ACD-K6DNA5D	CB341000700	GWH18ACD-K6DNA5D/I	CB341N00700			
25	GWH18ACD-K6DNA3D	CB343000800	GWH18ACD-K6DNA3D/I	CB343N00800			
26	GWH18ACD-K6DNA2D	CB342000700	GWH18ACD-K6DNA2D/I	CB342N00700			
27	GWH18ACD-K6DNA4D	CB344000901	GWH18ACD-K6DNA4D/I	CB344N00900		CB419W15601	
28	GWH18ACD-K6DNA1D	CB497002101	GWH18ACD-K6DNA1D/I	CB497N02100			
29		CB497002102		CB497N02102			
30		CB497002104		CB497N02104			
31	GWH18ACD-K6DNA3D	CB343000801	GWH18ACD-K6DNA3D/I	CB343N00800			
32	GWC24ACE-K6DNA1A	CB497007900	GWC24ACE-K6DNA1A/I	CB497N07900	GWC24ACE-K6DNA1A/O	CB497W07900	
33	GWH24ACE-K6DNA1A	CB497001901	GWH24ACE-K6DNA1A/I	CB497N01900	GWH24QE-K6DNA1E/O	CB419W15701	
34		CB497001903		CB497N01903			
35		CB497001905		CB497N01905			
36	GWH24ACE-K6DNA3A	CB343000901	GWH24ACE-K6DNA3A/I	CB343N00900			
37	GWH24ACE-K6DNA4A	CB344000801	GWH24ACE-K6DNA4A/I	CB344N00800			
38	GWH24ACE-K6DNA1A	CB497001900	GWH24ACE-K6DNA1A/I	CB497N01900		CB419W15700	
39		CB497001904		CB497N01903			
40	GWH24ACE-K6DNA2A	CB342000500	GWH24ACE-K6DNA2A/I	CB342N00500			
41	GWH24ACE-K6DNA5A	CB341000900	GWH24ACE-K6DNA5A/I	CB341N00900			

2. Specifications

2.1 Specification Sheet

Parameter		Unit	Value	
Model			1.GWH09ACC-K6DNA1A 2.GWH09ACC-K6DNA5A 3.GWH09ACC-K6DNA2A 4.GWH09ACC-K6DNA3A	1.GWH09ACC-K6DNA1A 2.GWH09ACC-K6DNA4A 3.GWH09ACC-K6DNA3A
Product Code			1.CB497003000/CB497003002 2.CB341000800 3.CB342000800 4.CB343000600	1.CB497003001 2.CB344001001 3.CB343000601
Power Supply	Rated Voltage	V~	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Power Supply Mode			Outdoor	Outdoor
Cooling Capacity		W	2700	2700
Heating Capacity		W	3000	3000
Cooling Power Input		W	805	805
Heating Power Input		W	779	779
Cooling Current Input		A	3.8	3.8
Heating Current Input		A	3.5	3.5
Rated Input		W	1500	1500
Rated Current		A	3.8	3.8
Air Flow Volume(SS/H/MH/M/ML/L/SL)		m^3/h	610/570/540/470/440/420/390	610/570/540/470/440/420/390
Dehumidifying Volume		L/h	0.8	0.8
EER		W/W	3.35	3.35
COP		W/W	3.85	3.85
SEER		W/W	6.8	6.8
SCOP(Average/Warmer/Colder)		W/W	4.1/5.1/3.3	4.1/5.1/3.3
Application Area		m^2	12-18	12-18
Indoor Unit	Indoor Unit Model		1.GWH09ACC-K6DNA1A/I 2.GWH09ACC-K6DNA5A/I 3.GWH09ACC-K6DNA2A/I 4.GWH09ACC-K6DNA3A/I	1.GWH09ACC-K6DNA1A/I 2.GWH09ACC-K6DNA4A/I 3.GWH09ACC-K6DNA3A/I
	Indoor Unit Product Code		1.CB497N03000/CB497N03002 2.CB341N00800 3.CB342N00800 4.CB343N00600	1.CB497N03000 2.CB344N01000 3.CB343N00600
	Fan Type		Cross-flow	Cross-flow
	Fan Diameter Length(DXL)	mm	Φ98X633.5	Φ98X633.5
	Cooling Speed(SS/H/MH/M/ML/L/SL)	r/min	1200/1100/1050/950/900/850/800	1200/1100/1050/950/900/850/800
	Heating Speed(SS/H/MH/M/ML/L/SL)	r/min	1150/1100/1050/1000/950/900/850	1150/1100/1050/1000/950/900/850
	Fan Motor Power Output	W	20	20
	Fan Motor RLA	A	0.31	0.31
	Fan Motor Capacitor	μF	1.5	1.5
	Evaporator Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Evaporator Pipe Diameter	mm	Φ5	Φ5
	Evaporator Row-fin Gap	mm	2-1.4	2-1.4
	Evaporator Coil Length (LXDXW)	mm	635X22.8X306.3	635X22.8X306.3
	Swing Motor Model		MP24HF	MP24HF
	Swing Motor Power Output	W	1.5	1.5
	Fuse Current	A	3.15	3.15
	Sound Pressure Level(SS/H/MH/M/ML/L/SL)	dB (A)	40/37/35/32/30/28/26	40/37/35/32/30/28/26
	Sound Power Level(SS/H/MH/M/ML/L/SL)	dB (A)	54/48/46/44/41/35/33	54/48/46/44/41/35/33
	Dimension (WXHXD)	mm	889X294X212	889X294X212
	Dimension of Carton Box (LXWXH)	mm	935X349X273	935X349X273
	Dimension of Package(LXWXH)	mm	940X365X284	940X365X284
	Net Weight	kg	11	11
	Gross Weight	kg	13	13

Outdoor Unit	Outdoor Unit Model		GWH09ACC-K6DNA1A/O	GWH09ACC-K6DNA1A/O
	Outdoor Unit Product Code		CB497W03000	CB497W03001
	Compressor Manufacturer		ZHUHAI LANDA COMPRESSOR CO., LTD	ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXF-A079zE190A	QXF-A079zE190A
	Compressor Oil		FW68DA	FW68DA
	Compressor Type		Rotary	Rotary
	Compressor LRA.	A	/	/
	Compressor RLA	A	4.6	4.6
	Compressor Power Input	W	790	790
	Compressor Overload Protector		HPC115/95U1/KSD115℃	HPC115/95U1/KSD115℃
	Throttling Method		Capillary	Capillary
	Set Temperature Range	ºC	16~30	16~30
	Cooling Operation Ambient Temperature Range	ºC	-15~43	-15~43
	Heating Operation Ambient Temperature Range	ºC	-22~24	-15~24
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7	Φ7
	Condenser Rows-fin Gap	mm	1-1.4	1-1.4
	Condenser Coil Length (LXDXW)	mm	710X19.05X508	710X19.05X508
	Fan Motor Speed	rpm	900	900
	Fan Motor Power Output	W	30	30
	Fan Motor RLA	A	0.36	0.36
	Fan Motor Capacitor	μF	/	/
	Outdoor Unit Air Flow Volume	m^3/h	1600	1600
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	Φ400	Φ400
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5	2.5
	Sound Pressure Level (H/M/L)	dB (A)	50/-/-	50/-/-
	Sound Power Level (H/M/L)	dB (A)	61/-/-	61/-/-
	Dimension(WXHXD)	mm	782X540X320	782X540X320
	Dimension of Carton Box (LXWXH)	mm	820X355X580	820X355X580
	Dimension of Package(LXWXH)	mm	823X358X595	823X358X595
	Net Weight	kg	27.5	27.5
	Gross Weight	kg	30	30
	Refrigerant		R32	R32
	Refrigerant Charge	kg	0.55	0.55
Connection Pipe	Connection Pipe Length	m	5	5
	Connection Pipe Gas Additional Charge	g/m	16	16
	Outer Diameter Liquid Pipe	mm	Φ6	Φ6
	Outer Diameter Gas Pipe	mm	Φ9.52	Φ9.52
	Max Distance Height	m	10	10
	Max Distance Length	m	15	15
	Note: The connection pipe applies metric diameter.			

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

Parameter		Unit	Value	
Model			GWC09ACC-K6DNA1C	GWC12ACC-K6DNA1D
Product Code			CB497008000	CB497008700
Power Supply	Rated Voltage	V~	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Power Supply Mode			Outdoor	Outdoor
Cooling Capacity		W	2700	3500
Heating Capacity		W	/	/
Cooling Power Input		W	770	1000
Heating Power Input		W	/	/
Cooling Current Input		A	3.8	4.5
Heating Current Input		A	/	/
Rated Input		W	1200	1600
Rated Current		A	5.4	7.0
Air Flow Volume(SH/H/MH/M/ML/L/SL)		m^3/h	600/570/540/470/440/420/390	680/620/560/490/450/420/390
Dehumidifying Volume		L/h	0.8	1.4
EER		W/W	3.51	3.50
COP		W/W	/	/
SEER		W/W	6.8	6.6
SCOP(Average/Warmer/Colder)		W/W	/	/
Application Area		m^2	12-18	16-24
Indoor Unit	Indoor Unit Model		GWC09ACC-K6DNA1C/I	GWC12ACC-K6DNA1D/I
	Indoor Unit Product Code		CB497N08000	CB497N08700
	Fan Type		Cross-flow	Cross-flow
	Fan Diameter Length(DXL)	mm	Φ98X633.5	Φ98X633.5
	Cooling Speed(SH/H/M/L/SL)	r/min	1200/1100/1050/950/900/850/800	1350/1200/1100/1000/920/850/800
	Heating Speed(SH/H/M/L/SL)	r/min	/	/
	Fan Motor Power Output	W	20	20
	Fan Motor RLA	A	0.31	0.31
	Fan Motor Capacitor	μF	1.5	1.5
	Evaporator Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Evaporator Pipe Diameter	mm	Φ5	Φ5
	Evaporator Row-fin Gap	mm	2-1.4	2-1.4
	Evaporator Coil Length (LXDXW)	mm	635X22.8X306.3	635X22.8X306.3
	Swing Motor Model		MP24HF	MP24HF
	Swing Motor Power Output	W	1.5	1.5
	Fuse Current	A	3.15	3.15
	Sound Pressure Level(SH/H/MH/M/ML/L/SL)	dB (A)	39/36/35/32/30/28/26	42/38/35/32/30/28/27
	Sound Power Level(SH/H/MH/M/ML/L/SL)	dB (A)	52/48/47/44/42/40/38	57/50/47/44/42/40/39
	Dimension (WXHXD)	mm	889X294X212	889X294X212
	Dimension of Carton Box (LXWXH)	mm	935X349X273	935X349X273
	Dimension of Package(LXWXH)	mm	940X365X284	940X365X284
	Net Weight	kg	11	11
	Gross Weight	kg	13	13

Outdoor Unit	Outdoor Unit Model		GWC09ACC-K6DNA1C/O	GWC12ACC-K6DNA1D/O
	Outdoor Unit Product Code		CB497W08000	CB497W08700
	Compressor Manufacturer		ZHUHAI LANDA COMPRESSOR CO., LTD	ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXF-A079zE190A	QXF-A102zE190B
	Compressor Oil		FW68DA	FW68DA
	Compressor Type		Rotary	Rotary
	Compressor LRA.	A	/	/
	Compressor RLA	A	4.7	4.6
	Compressor Power Input	W	790	1023
	Compressor Overload Protector		HPC115/95U1/KSD115ºC	HPC115/95U1/KSD115ºC
	Throttling Method		Capillary	Electron expansion valve
	Set Temperature Range	ºC	16~30	16~30
	Cooling Operation Ambient Temperature Range	ºC	18~48	-15~43
	Heating Operation Ambient Temperature Range	ºC	/	/
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7.94	Φ7.94
	Condenser Rows-fin Gap	mm	1-1.4	1-1.4
	Condenser Coil Length (LXDXW)	mm	710X19.05X508	731X19.05X550
	Fan Motor Speed	rpm	900	900
	Fan Motor Power Output	W	30	30
	Fan Motor RLA	A	0.36	0.36
	Fan Motor Capacitor	μF	/	/
	Outdoor Unit Air Flow Volume	m^3/h	1600	2200
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	Φ400	Φ438
	Defrosting Method		/	/
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5	2.5
	Sound Pressure Level (H/M/L)	dB (A)	49/-/-	52/-/-
	Sound Power Level (H/M/L)	dB (A)	61/-/-	62/-/-
	Dimension(WXHXD)	mm	782X540X320	848X596X320
	Dimension of Carton Box (LXWXH)	mm	820X355X580	878X360X630
	Dimension of Package(LXWXH)	mm	823X358X595	881X363X645
	Net Weight	kg	26.5	30.5
	Gross Weight	kg	29	33.5
	Refrigerant		R32	R32
	Refrigerant Charge	kg	0.55	0.7
Connection Pipe	Connection Pipe Length	m	5	5
	Connection Pipe Gas Additional Charge	g/m	12	12
	Outer Diameter Liquid Pipe	mm	Φ6	Φ6
	Outer Diameter Gas Pipe	mm	Φ9.52	Φ9.52
	Max Distance Height	m	10	10
	Max Distance Length	m	15	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.

Parameter		Unit	Value	
Model			1.GWH12ACC-K6DNA1D 2.GWH12ACC-K6DNA4D 3.GWH12ACC-K6DNA3D	1.GWH12ACC-K6DNA1D 2.GWH12ACC-K6DNA5D 3.GWH12ACC-K6DNA2D 4.GWH12ACC-K6DNA3D
Product Code			1.CB497001601/CB497001602/ CB497001604 2.CB344000701 3.CB343000701	1.CB497001600/CB497001603 2. CB341000600 3.CB342000600 4.CB343000700
Power Supply	Rated Voltage	V~	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Power Supply Mode			Outdoor	Outdoor
Cooling Capacity		W	3500	3500
Heating Capacity		W	3670	3670
Cooling Power Input		W	1085	1085
Heating Power Input		W	990	990
Cooling Current Input		A	5.0	5.0
Heating Current Input		A	4.5	4.5
Rated Input		W	1500	1500
Rated Current		A	6.6	6.6
Air Flow Volume(SS/H/MH/M/ML/L/SL)		m^3/h	680/620/560/490/450/420/390	680/620/560/490/450/420/390
Dehumidifying Volume		L/h	1.4	1.4
EER		W/W	3.23	3.23
COP		W/W	3.71	3.71
SEER		W/W	7	7
SCOP(Average/Warmer/Colder)		W/W	4/5.1/3.3	4/5.1/3.3
Application Area		m^2	16-24	16-24
Indoor Unit	Indoor Unit Model		1.GWH12ACC-K6DNA1D/I 2.GWH12ACC-K6DNA4D/I 3.GWH12ACC-K6DNA3D/I	1.GWH12ACC-K6DNA1D/I 2.GWH12ACC-K6DNA5D/I 3.GWH12ACC-K6DNA2D/I 4.GWH12ACC-K6DNA3D/I
	Indoor Unit Product Code		1.CB497N01600/CB497N01602/ CB497N01604 2.CB344N00700 3.CB343N00700	1.CB497N01600/CB497N01602 2.CB341N00600 3.CB342N00600 4.CB343N00700
	Fan Type		Cross-flow	Cross-flow
	Fan Diameter Length(DXL)	mm	Φ98X633.5	Φ98X633.5
	Cooling Speed(SS/H/MH/M/ML/L/SL)	r/min	1350/1200/1100/1000/920/850/800	1350/1200/1100/1000/920/850/800
	Heating Speed(SS/H/MH/M/ML/L/SL)	r/min	1300/1200/1120/1050/980/900/850	1300/1200/1120/1050/980/900/850
	Fan Motor Power Output	W	20	20
	Fan Motor RLA	A	0.31	0.31
	Fan Motor Capacitor	μF	1.5	1.5
	Evaporator Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Evaporator Pipe Diameter	mm	Φ5	Φ5
	Evaporator Row-fin Gap	mm	2-1.5	2-1.5
	Evaporator Coil Length (LXDXW)	mm	635X22.8X306.3	635X22.8X306.3
	Swing Motor Model		MP24HF	MP24HF
	Swing Motor Power Output	W	1.5	1.5
	Fuse Current	A	3.15	3.15
	Sound Pressure Level(SS/H/MH/M/ML/L/SL)	dB (A)	42/38/35/32/30/28/26	42/38/35/32/30/28/26
	Sound Power Level(SS/H/MH/M/ML/L/SL)	dB (A)	57/50/47/44/42/40/38	57/50/47/44/42/40/38
	Dimension (WXHXD)	mm	889X294X212	889X294X212
	Dimension of Carton Box (LXWXH)	mm	935X349X273	935X349X273
	Dimension of Package(LXWXH)	mm	940X365X284	940X365X284
	Net Weight	kg	11	11
	Gross Weight	kg	13	13

Outdoor Unit	Outdoor Unit Model		GWH12QC-K6DNA1D/O	GWH12QC-K6DNA1D/O
	Outdoor Unit Product Code		CB419W15501	CB419W15500
	Compressor Manufacturer		ZHUHAI LANDA COMPRESSOR CO.,LTD	ZHUHAI LANDA COMPRESSOR CO.,LTD
	Compressor Model		QXF-A102zE190B	QXF-A102zE190B
	Compressor Oil		FW68DA	FW68DA
	Compressor Type		Rotary	Rotary
	Compressor LRA.	A	/	/
	Compressor RLA	A	4.6	4.6
	Compressor Power Input	W	1023	1023
	Compressor Overload Protector		HPC115/95U1/KSD115℃	HPC115/95U1/KSD115℃
	Throttling Method		Electron expansion valve	Electron expansion valve
	Set Temperature Range	ºC	16~30	16~30
	Cooling Operation Ambient Temperature Range	ºC	-15~43	-15~43
	Heating Operation Ambient Temperature Range	ºC	-15~24	-22~24
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7.94	Φ7.94
	Condenser Rows-fin Gap	mm	1-1.4	1-1.4
	Condenser Coil Length (LXDXW)	mm	731X19.05X550	731X19.05X550
	Fan Motor Speed	rpm	900	900
	Fan Motor Power Output	W	30	30
	Fan Motor RLA	A	0.36	0.36
	Fan Motor Capacitor	μF	/	/
	Outdoor Unit Air Flow Volume	m^3/h	2200	2200
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	Φ438	Φ438
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5	2.5
	Sound Pressure Level (H/M/L)	dB (A)	52/-/-	52/-/-
	Sound Power Level (H/M/L)	dB (A)	62/-/-	62/-/-
	Dimension(WXHXD)	mm	848X596X320	848X596X320
	Dimension of Carton Box (LXWXH)	mm	878X360X630	878X360X630
	Dimension of Package(LXWXH)	mm	881X363X645	881X363X645
	Net Weight	kg	31	31
	Gross Weight	kg	34	34
	Refrigerant		R32	R32
	Refrigerant Charge	kg	0.7	0.7
Connection Pipe	Connection Pipe Length	m	5	5
	Connection Pipe Gas Additional Charge	g/m	16	16
	Outer Diameter Liquid Pipe	mm	Φ6	Φ6
	Outer Diameter Gas Pipe	mm	Φ9.52	Φ9.52
	Max Distance Height	m	10	10
	Max Distance Length	m	20	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.

Parameter		Unit	Value	
Model			1.GWH18ACD-K6DNA1D 2.GWH18ACD-K6DNA5D 3.GWH18ACD-K6DNA2D 4.GWH18ACD-K6DNA3D	1.GWH18ACD-K6DNA1D 2.GWH18ACD-K6DNA4D 3.GWH18ACD-K6DNA3D
Product Code			1.CB497002100/CB497002103 2.CB341000700 3.CB342000700 4.CB343000800	1.CB497002101/CB497002102/ CB497002104 2.CB344000901 3.CB343000801
Power Supply	Rated Voltage	V~	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Power Supply Mode			Outdoor	Outdoor
Cooling Capacity		W	5200	5200
Heating Capacity		W	5300	5300
Cooling Power Input		W	1528	1528
Heating Power Input		W	1410	1410
Cooling Current Input		A	6.78	6.78
Heating Current Input		A	6.26	6.26
Rated Input		W	2600	2600
Rated Current		A	6.78	6.78
Air Flow Volume(SH/H/MH/M/ML/L/SL)		m^3/h	800/720/650/610/570/520/470	800/720/650/610/570/520/470
Dehumidifying Volume		L/h	1.8	1.8
EER		W/W	3.40	3.4
COP		W/W	3.76	3.76
SEER		W/W	7	7
SCOP(Average/Warmer/Colder)		W/W	4.0/5.1/3.4	4.0/5.1/3.4
Application Area		m^2	23-34	23-34
Indoor Unit	Indoor Unit Model		1.GWH18ACD-K6DNA1D/I 2.GWH18ACD-K6DNA5D/I 3.GWH18ACD-K6DNA2D/I 4.GWH18ACD-K6DNA3D/I	1.GWH18ACD-K6DNA1D/I 2.GWH18ACD-K6DNA4D/I 3.GWH18ACD-K6DNA3D/I
	Indoor Unit Product Code		1.CB497N02100/CB497N02102 2.CB341N00700 3.CB342N00700 4.CB343N00800	1.CB497N02100/CB497N02102/ CB497N02104 2.CB344N00900 3.CB343N00800
	Fan Type		Cross-flow	Cross-flow
	Fan Diameter Length(DXL)	mm	Φ106X706	Φ106X706
	Cooling Speed(SH/H/M/L/SL)	r/min	1230/1150/1080/980/900/850/800	1230/1150/1080/980/900/850/800
	Heating Speed(SH/H/M/L/SL)	r/min	1350/1250/1150/1050/980/900/850	1350/1250/1150/1050/980/900/850
	Fan Motor Power Output	W	35	35
	Fan Motor RLA	A	0.35	0.35
	Fan Motor Capacitor	μF	2.5	2.5
	Evaporator Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Evaporator Pipe Diameter	mm	Φ7	Φ7
	Evaporator Row-fin Gap	mm	2-1.4	2-1.4
	Evaporator Coil Length (LXDXW)	mm	715X25.4X304.8	715X25.4X304.8
	Swing Motor Model		MP35CP	MP35CP
	Swing Motor Power Output	W	2.5	2.5
	Fuse Current	A	3.15	3.15
	Sound Pressure Level(SH/H/MH/M/ML/L/SL)	dB (A)	45/43/41/38/35/34/31	45/43/41/38/35/34/31
	Sound Power Level(SH/H/MH/M/ML/L/SL)	dB (A)	59/57/55/52/49/48/45	59/57/55/52/49/48/45
	Dimension (WXHXD)	mm	1013X307X221	1013X307X221
	Dimension of Carton Box (LXWXH)	mm	1077X375X300	1077X375X300
	Dimension of Package(LXWXH)	mm	1080X378X315	1080X378X315
	Net Weight	kg	13.5	13.5
	Gross Weight	kg	16.5	16.5

Outdoor Unit	Outdoor Unit Model		GWH18QD-K6DNA1D/O(LCLH)	GWH18QD-K6DNA1D/O(LC)
	Outdoor Unit Product Code		CB419W15600	CB419W15601
	Compressor Manufacturer		ZHUHAI LANDA COMPRESSOR CO.,LTD	ZHUHAI LANDA COMPRESSOR CO.,LTD
	Compressor Model		QXF-B141ZF030F	QXF-B141ZF030F
	Compressor Oil		FW68DA or equivalent	FW68DA or equivalent
	Compressor Type		Rotary	Rotary
	Compressor LRA.	A	25	25
	Compressor RLA	A	6.5	6.5
	Compressor Power Input	W	1410	1410
	Compressor Overload Protector		HPC115/95U1 KSD115℃	HPC115/95U1 KSD115℃
	Throttling Method		Electron expansion valve	Electron expansion valve
	Set Temperature Range	ºC	16~30	16~30
	Cooling Operation Ambient Temperature Range	ºC	-15~43	-15~43
	Heating Operation Ambient Temperature Range	ºC	-22~24	-15~24
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7	Φ7
	Condenser Rows-fin Gap	mm	2-1.4	2-1.4
	Condenser Coil Length (LXDXW)	mm	851X38.1X660	851X38.1X660
	Fan Motor Speed	rpm	800	800
	Fan Motor Power Output	W	60	60
	Fan Motor RLA	A	0.4	0.4
	Fan Motor Capacitor	μF	/	/
	Outdoor Unit Air Flow Volume	m^3/h	3200	3200
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	Φ520	Φ520
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5	2.5
	Sound Pressure Level (H/M/L)	dB (A)	57/-/-	57/-/-
	Sound Power Level (H/M/L)	dB (A)	64/-/-	64/-/-
	Dimension(WXHXD)	mm	965X700X396	965X700X396
	Dimension of Carton Box (LXWXH)	mm	1026X455X735	1026X455X735
	Dimension of Package(LXWXH)	mm	1029X458X750	1029X458X750
	Net Weight	kg	45	45
	Gross Weight	kg	49.5	49.5
	Refrigerant		R32	R32
	Refrigerant Charge	kg	1	1
Connection Pipe	Connection Pipe Length	m	5	5
	Connection Pipe Gas Additional Charge	g/m	16	16
	Outer Diameter Liquid Pipe	mm	Φ6	Φ6
	Outer Diameter Gas Pipe	mm	Φ12	Φ12
	Max Distance Height	m	10	10
	Max Distance Length	m	25	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.

Parameter		Unit	Value	
Model			GWC18ACD-K6DNA1D	GWC24ACE-K6DNA1A
Product Code			CB497008900	CB497007900
Power Supply	Rated Voltage	V~	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Power Supply Mode			Outdoor	Outdoor
Cooling Capacity		W	5200	7000
Heating Capacity		W	/	/
Cooling Power Input		W	1485	1930
Heating Power Input		W	/	/
Cooling Current Input		A	6.8	8.73
Heating Current Input		A	/	/
Rated Input		W	2300	1900
Rated Current		A	10.9	8.73
Air Flow Volume(SH/H/MH/M/ML/L/SL)		m^3/h	800/720/650/610/570/520/470	1250/1100/1000/950/900/850/750
Dehumidifying Volume		L/h	1.8	2.4
EER		W/W	3.50	3.68
COP		W/W	/	/
SEER		W/W	6.5	6.5
SCOP(Average/Warmer/Colder)		W/W	/	/
Application Area		m^2	23-34	27-42
Indoor Unit	Indoor Unit Model		GWC18ACD-K6DNA1D/I	GWC24ACE-K6DNA1A/I
	Indoor Unit Product Code		CB497N08900	CB497N07900
	Fan Type		Cross-flow	Cross-flow
	Fan Diameter Length(DXL)	mm	Φ106X706	Φ108X830
	Cooling Speed(SH/H/M/L/SL)	r/min	1230/1150/1080/980/900/850/800	1250/1150/1050/950/900/850/800
	Heating Speed(SH/H/M/L/SL)	r/min	/	/
	Fan Motor Power Output	W	35	35
	Fan Motor RLA	A	0.35	0.45
	Fan Motor Capacitor	μF	2.5	3
	Evaporator Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Evaporator Pipe Diameter	mm	Φ7	Φ7
	Evaporator Row-fin Gap	mm	2-1.4	2-1.4
	Evaporator Coil Length (LXDXW)	mm	715X25.4X304.8	850X25.4X342.9
	Swing Motor Model		MP35CP	MP35CP
	Swing Motor Power Output	W	2.5	2.5
	Fuse Current	A	3.15	3.15
	Sound Pressure Level(SH/H/MH/M/ML/L/SL)	dB (A)	45/43/41/38/35/34/32	48/45/42/39/37/36/33
	Sound Power Level(SH/H/MH/M/ML/L/SL)	dB (A)	59/57/55/52/49/48/46	58/55/52/49/47/46/43
	Dimension (WXHXD)	mm	1013X307X221	1122X329X247
	Dimension of Carton Box (LXWXH)	mm	1077X375X300	1193X410X350
	Dimension of Package(LXWXH)	mm	1080X378X315	1148X413X350
	Net Weight	kg	13.5	16.5
	Gross Weight	kg	16.5	20

Outdoor Unit	Outdoor Unit Model		GWC18ACD-K6DNA1D/O	GWC24ACE-K6DNA1A/O
	Outdoor Unit Product Code		CB497W08900	CB497W07900
	Compressor Manufacturer		ZHUHAI LANDA COMPRESSOR CO.,LTD	ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXF-B141ZF030A	QXFS-D25zX090H
	Compressor Oil		FW68DA or equivalent	FW68DA
	Compressor Type		Rotary	Rotary
	Compressor LRA.	A	25	24
	Compressor RLA	A	6.5	11.7
	Compressor Power Input	W	1410	2420
	Compressor Overload Protector		HPC115/95, KSD115ºC or 1NT11L-6233	HPC115/95U1/ KSD115ºC/1NT11L-6233
	Throttling Method		Electron expansion valve	Electron expansion valve
	Set Temperature Range	ºC	16~30	16~30
	Cooling Operation Ambient Temperature Range	ºC	18~48	-15~48
	Heating Operation Ambient Temperature Range	ºC	/	/
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7	Φ7
	Condenser Rows-fin Gap	mm	2-1.4	2-1.4
	Condenser Coil Length (LXDXW)	mm	851X38.1X660	935X38.1X660
	Fan Motor Speed	rpm	800	800
	Fan Motor Power Output	W	60	60
	Fan Motor RLA	A	0.4	0.58
	Fan Motor Capacitor	μF	/	/
	Outdoor Unit Air Flow Volume	m^3/h	3200	3200
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	Φ520	Φ520
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5	2.5
	Sound Pressure Level (H/M/L)	dB (A)	57/-/-	57/-/-
	Sound Power Level (H/M/L)	dB (A)	64/-/-	67/-/-
	Dimension(WXHXD)	mm	965X700X396	965X700X396
	Dimension of Carton Box (LXWXH)	mm	1026X455X735	1026X455X735
	Dimension of Package(LXWXH)	mm	1029X458X750	1029X458X750
	Net Weight	kg	43.5	53.5
	Gross Weight	kg	48	58
	Refrigerant		R32	R32
	Refrigerant Charge	kg	0.88	1.7
Connection Pipe	Connection Pipe Length	m	5	5
	Connection Pipe Gas Additional Charge	g/m	12	12
	Outer Diameter Liquid Pipe	mm	Φ6	Φ6
	Outer Diameter Gas Pipe	mm	Φ12	Φ16
	Max Distance Height	m	10	10
	Max Distance Length	m	25	25
	Note: The connection pipe applies metric diameter.			

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

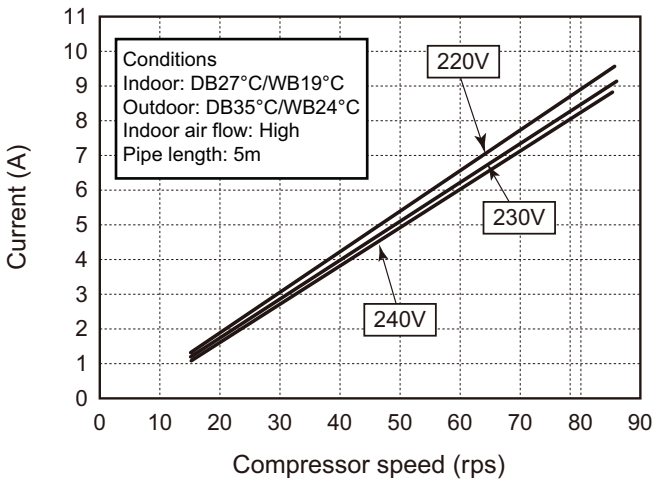
Model			1.GWH24ACE-K6DNA1A 2.GWH24ACE-K6DNA4A 3.GWH24ACE-K6DNA3A	1.GWH24ACE-K6DNA1A 2.GWH24ACE-K6DNA2A 3.GWH24ACE-K6DNA5A
Product Code			1.CB497001901/CB497001903/ CB497001905 2.CB344000801 3.CB343000901	1.CB497001900/CB497001904 2.CB342000500 3.CB341000900
Power Supply	Rated Voltage	V ～	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Power Supply Mode			Outdoor	Outdoor
Cooling Capacity		W	7000	7000
Heating Capacity		W	7400	7400
Cooling Power Input		W	1900	1900
Heating Power Input		W	1897	1897
Cooling Power Current		A	8.73	8.73
Heating Power Current		A	8.84	8.84
Rated Input		W	3750	3750
Rated Current		A	8.73	8.73
Air Flow Volume(SH/H/M/L/SL)		m^3/h	660/590/540/490/450/420/390	660/590/540/490/450/420/390
Dehumidifying Volume		L/h	2.4	2.4
EER		W/W	3.68	3.68
COP		W/W	3.90	3.90
SEER		W/W	6.5	6.5
SCOP(Average/Warmer/Colder)		W/W	4.0/5.1/3.3	4.0/5.1/3.3
Application Area		m^2	27-42	27-42
Indoor Unit	Model of Indoor Unit		1.GWH24ACE-K6DNA1A/I 2.GWH24ACE-K6DNA4A/I 3.GWH24ACE-K6DNA3A/I	1.GWH24ACE-K6DNA1A/I 2.GWH24ACE-K6DNA2A/I 3.GWH24ACE-K6DNA5A/I
	Indoor Unit Product Code		1.CB497N01900/CB497N01903/ CB497N01905 2.CB344N00800 3.CB343N00900	1.CB497N01900/CB497N01903 2.CB342N00500 3.CB341N00900
	Fan Type		Cross-flow	Cross-flow
	Diameter Length(DXL)	mm	Φ108X830	Φ108X830
	Fan Motor Cooling Speed(SH/H/M/L/SL)	r/min	1250/1150/1050/950/900/850/800	1250/1150/1050/950/900/850/800
	Fan Motor Heating Speed(SH/H/M/L/SL)	r/min	1250/1150/1050/1000/950/900/850	1250/1150/1050/1000/950/900/850
	Output of Fan Motor	W	35	35
	Fan Motor RLA	A	0.35	0.35
	Fan Motor Capacitor	μF	3	3
	Evaporator Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Row-fin Gap	mm	2-1.4	2-1.4
	Coil Length (LXDXW)	mm	850X25.4X342.9	850X25.4X342.9
	Swing Motor Model		MP35CP	MP35CP
	Output of Swing Motor	W	2.5	2.5
	Fuse	A	3.15	3.15
	Sound Pressure Level (SH/H/M/L/SL)	dB (A)	48/45/42/39/37/36/33	48/45/42/39/37/36/33
	Sound Power Level (SH/H/M/L/SL)	dB (A)	58/55/52/49/47/46/43	58/55/52/49/47/46/43
	Dimension (WXHXD)	mm	1122X329X247	1122X329X247
	Dimension of Carton Box (LXWXH)	mm	1193X410X350	1193X410X350
	Dimension of Package (LXWXH)	mm	1148X413X350	1193X410X350
	Net Weight	kg	17.5	17.5
	Gross Weight	kg	21	21

Outdoor Unit	Outdoor Unit Model		GWH24QE-K6DNA1E/O	GWH24QE-K6DNA1E/O
	Outdoor Unit Product Code		CB419W15701	CB419W15700
	Compressor Manufacturer		ZHUHAI LANDA COMPRESSOR CO., LTD	ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXFS-D25zX090H	QXFS-D25zX090H
	Compressor Oil		FW68DA	FW68DA
	Compressor Type		Rotary	Rotary
	Compressor LRA.	A	24	24
	Compressor RLA	A	11.7	11.7
	Compressor Power Input	W	2420	2420
	Compressor Overload Protector		HPC115/95U1/KSD115ºC	HPC115/95U1/KSD115ºC
	Throttling Method		Electron expansion valve	Electron expansion valve
	Set Temperature Range	ºC	16~30	16~30
	Cooling Operation Ambient Temperature Range	ºC	-15~43	-15~43
	Heating Operation Ambient Temperature Range	ºC	-15~24	-22~24
	Condenser Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7	Φ7
	Condenser Rows-fin Gap	mm	2-1.4	2-1.4
	Condenser Coil Length (LXDXW)	mm	935X38.1X660	935X38.1X660
	Fan Motor Speed	rpm	800	800
	Fan Motor Power Output	W	60	60
	Fan Motor RLA	A	0.58	0.58
	Fan Motor Capacitor	μF	/	/
	Outdoor Unit Air Flow Volume	m^3/h	3200	3200
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	Φ520	Φ520
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5	2.5
	Sound Pressure Level (H/M/L)	dB (A)	57/-/-	57/-/-
	Sound Power Level (H/M/L)	dB (A)	67/-/-	67/-/-
	Dimension(WXHXD)	mm	965X700X396	965X700X396
	Dimension of Carton Box (LXWXH)	mm	1026X455X735	1026X455X735
	Dimension of Package(LXWXH)	mm	1029X458X750	1029X458X750
	Net Weight	kg	53.5	53.5
	Gross Weight	kg	58	58
	Refrigerant		R32	R32
	Refrigerant Charge	kg	1.7	1.7
Connection Pipe	Connection Pipe Length	m	5	5
	Connection Pipe Gas Additional Charge	g/m	50	50
	Outer Diameter Liquid Pipe	mm	Φ6	Φ6
	Outer Diameter Gas Pipe	mm	Φ16	Φ16
	Max Distance Height	m	10	10
	Max Distance Length	m	25	25
	Note: The connection pipe applies metric diameter.			

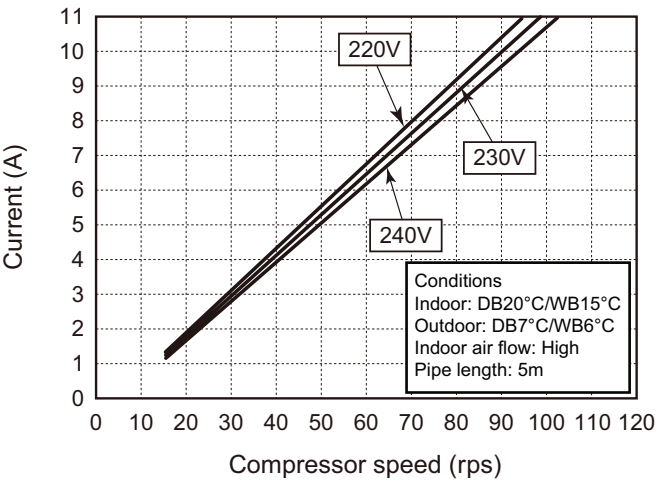
The above data is subject to change without notice. Please refer to the nameplate of the unit.

2.2 Operation Characteristic Curve

Cooling



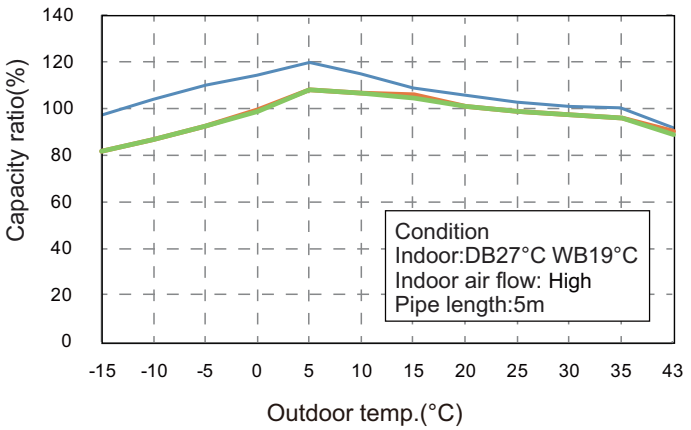
Heating



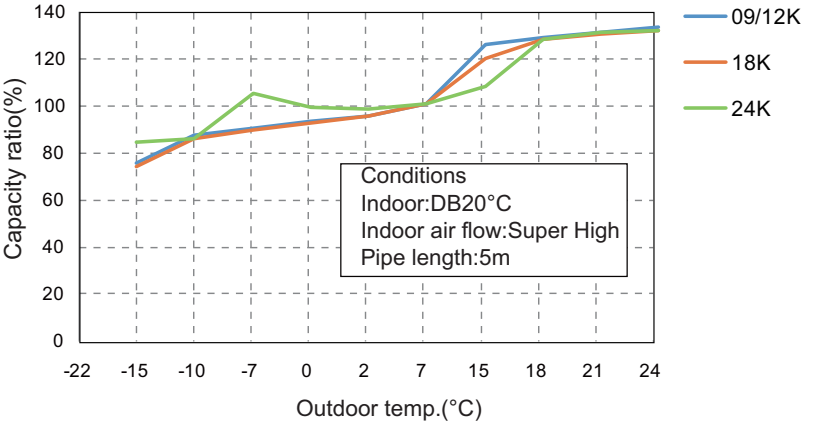
2.3 Capacity Variation Ratio According to Temperature

Heating operation ambient temperature range is -15ºC~24ºC

Cooling

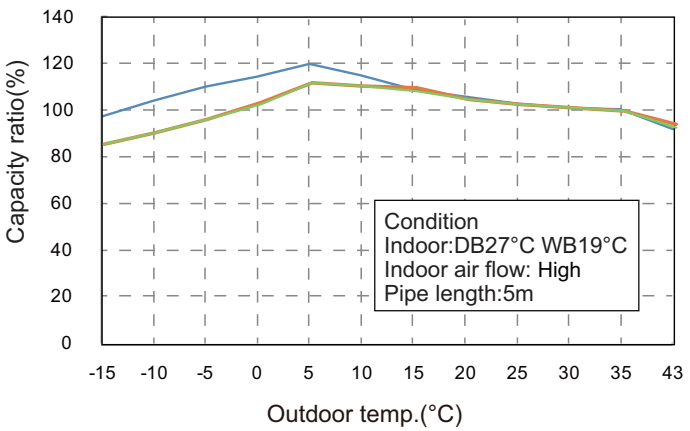


Heating

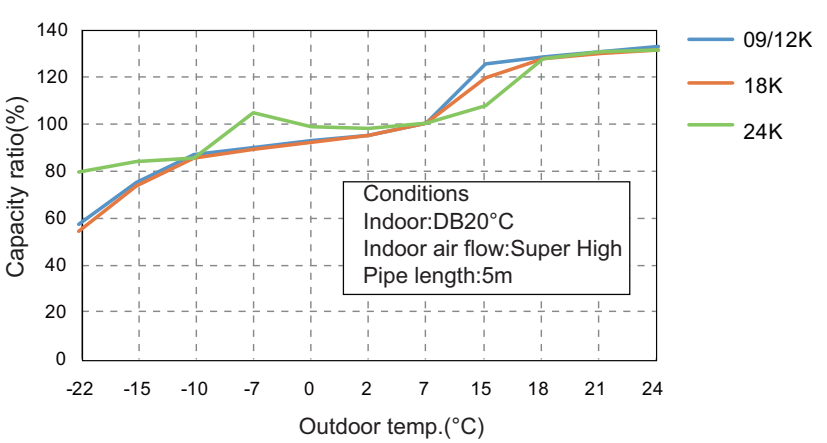


Heating operation ambient temperature range is -22ºC~24ºC

Cooling

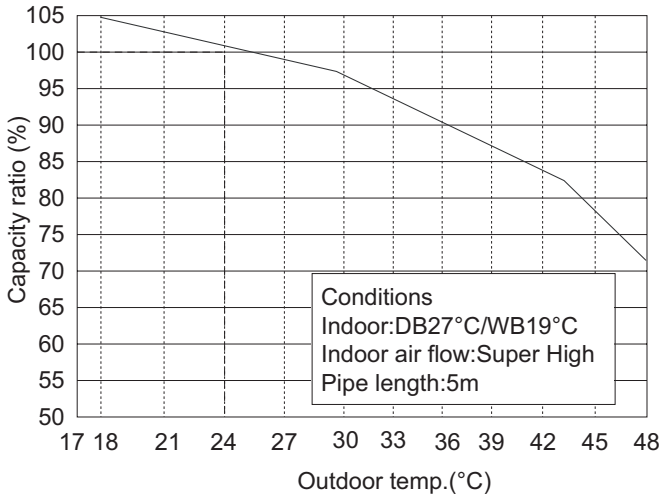


Heating



GWC09ACC-K6DNA1C GWC18ACD-K6DNA1D

Cooling



2.4 Cooling and Heating Data Sheet in Rated Frequency

Cooling:

Rated cooling condition(°C) (DB/WB)		Model	Pressure of gas pipe connecting indoor and outdoor unit	Inlet and outlet pipe temperature of heat exchanger		Fan speed of indoor unit	Fan speed of outdoor unit	Compressor revolution (rps)
Indoor	Outdoor		P (MPa)	T1 (°C)	T2 (°C)			
27/19	35/24	09K	0.8 ~ 1.1	12 to 15	65 to 38	TURBO	High	57
		12K	0.8 ~ 1.1	11 to 14	64 to 37			60
		18K	0.9 ~ 1.1	12 to 14	75 to 37			52
		24K	0.9 ~ 1.1	12 to 14	75 to 37			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	09K	2.8 ~ 3.2	35 to 63	2 to 5	TURBO	High	64
		12K	2.8 ~ 3.2	35 to 65	2 to 5			67
		18K	2.2 ~ 2.4	70 to 35	2 to 4			65
		24K	2.2 ~ 2.4	70 to 35	2 to 4			77

Instruction:

T1: Inlet and outlet pipe temperature of evaporator

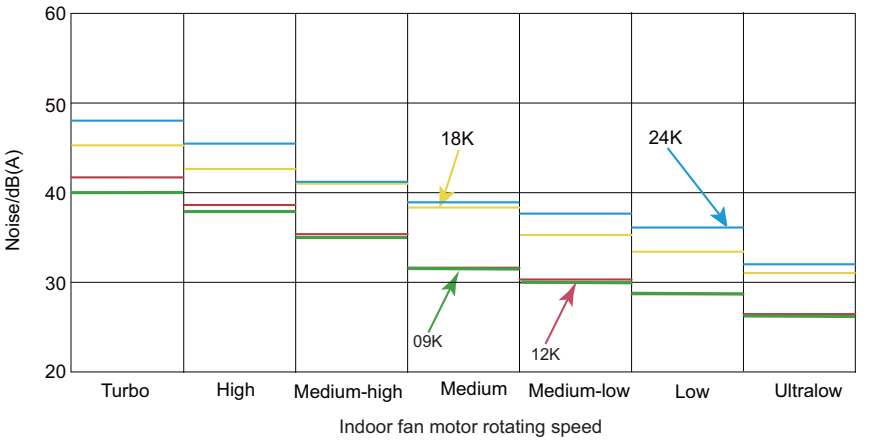
T2: Inlet and outlet pipe temperature of condenser

P: Pressure at the side of big valve

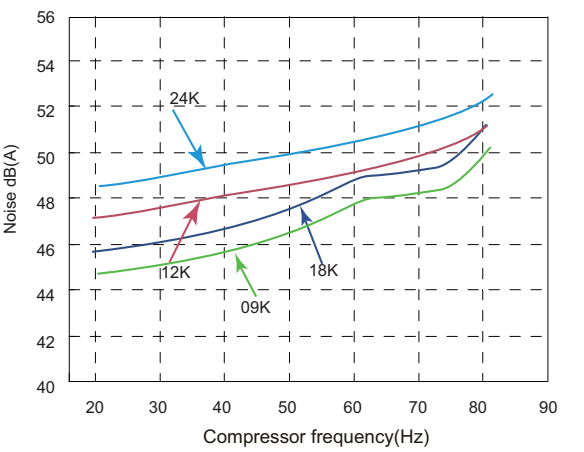
Connection pipe length: 5 m.

2.5 Noise Curve

Indoor side noise when blowing

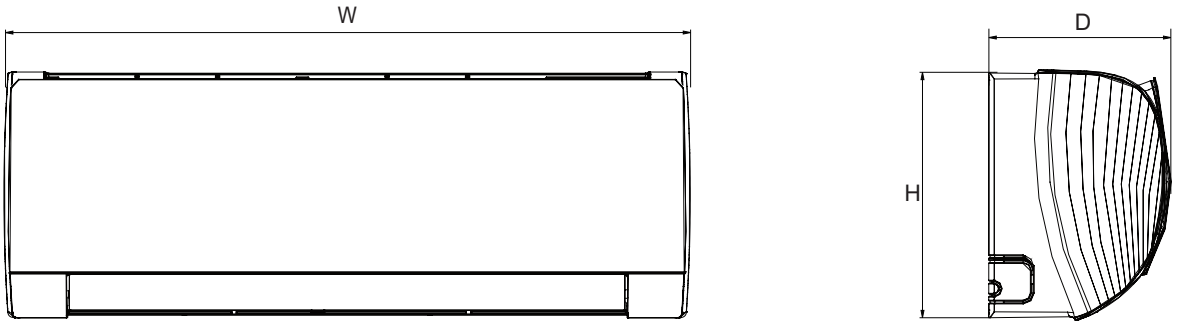


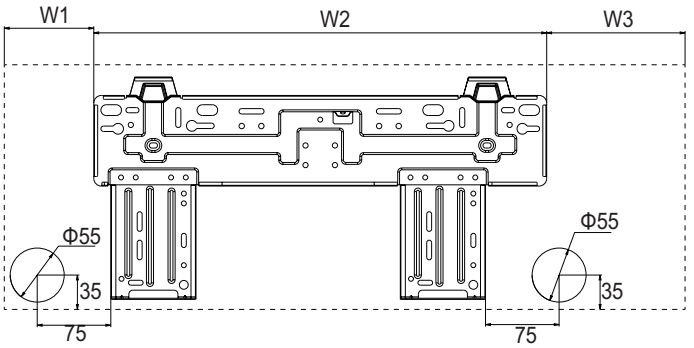
Outdoor side noise when blowing



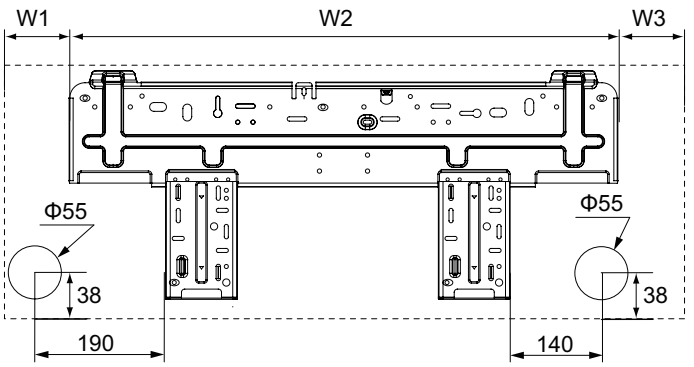
3. Outline Dimension Diagram

3.1 Indoor Unit

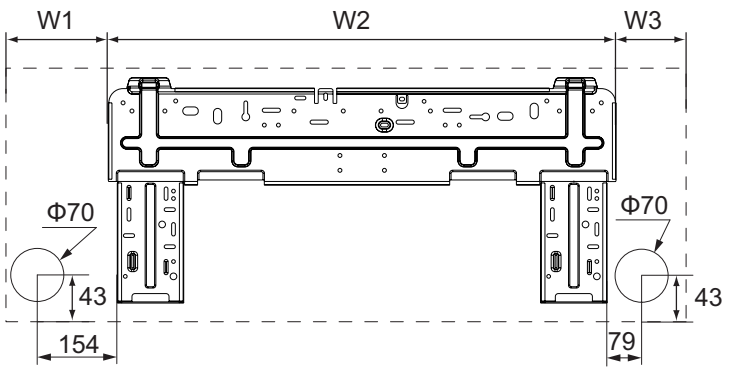




09/12K



18K



24K

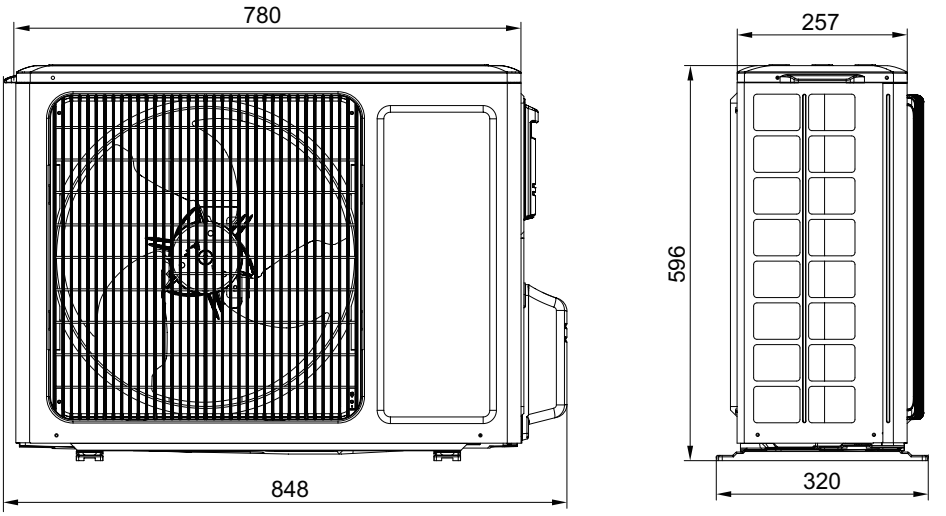
Unit:mm

Unit:mm

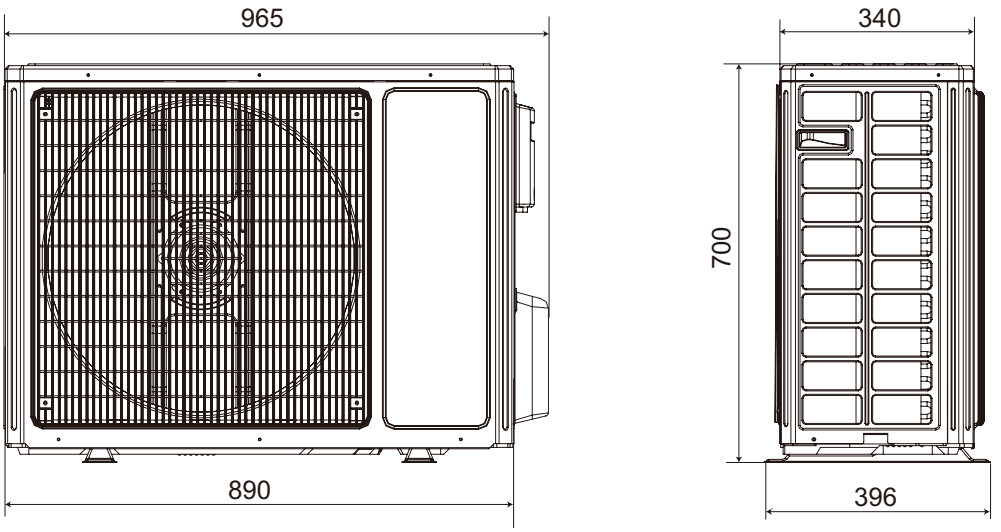
Models	W	H	D	W1	W2	W3
09/12K	889	294	212	201.5	541.5	146
18K	1013	307	221	125.5	685	202.5
24K	1122	329	247	207	685	230

3.2 Outdoor Unit

GWH12QC-K6DNA1D/O

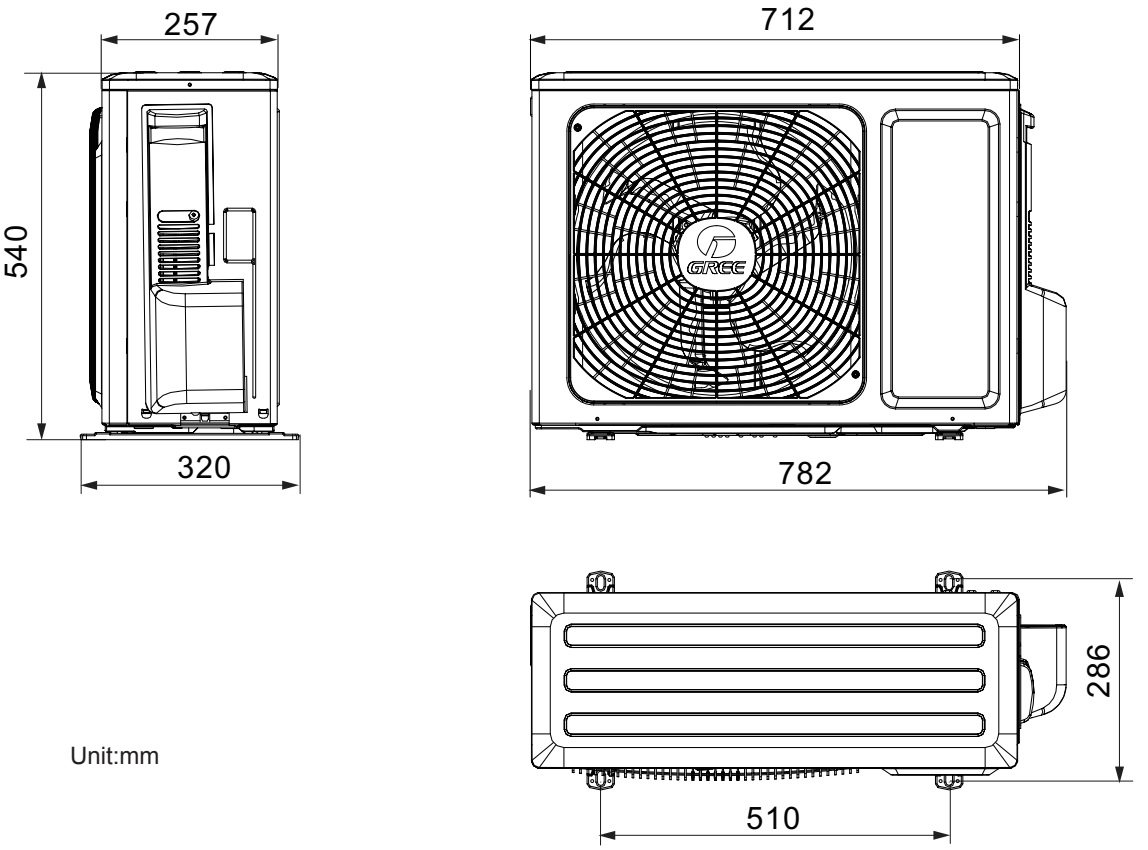


Unit:mm



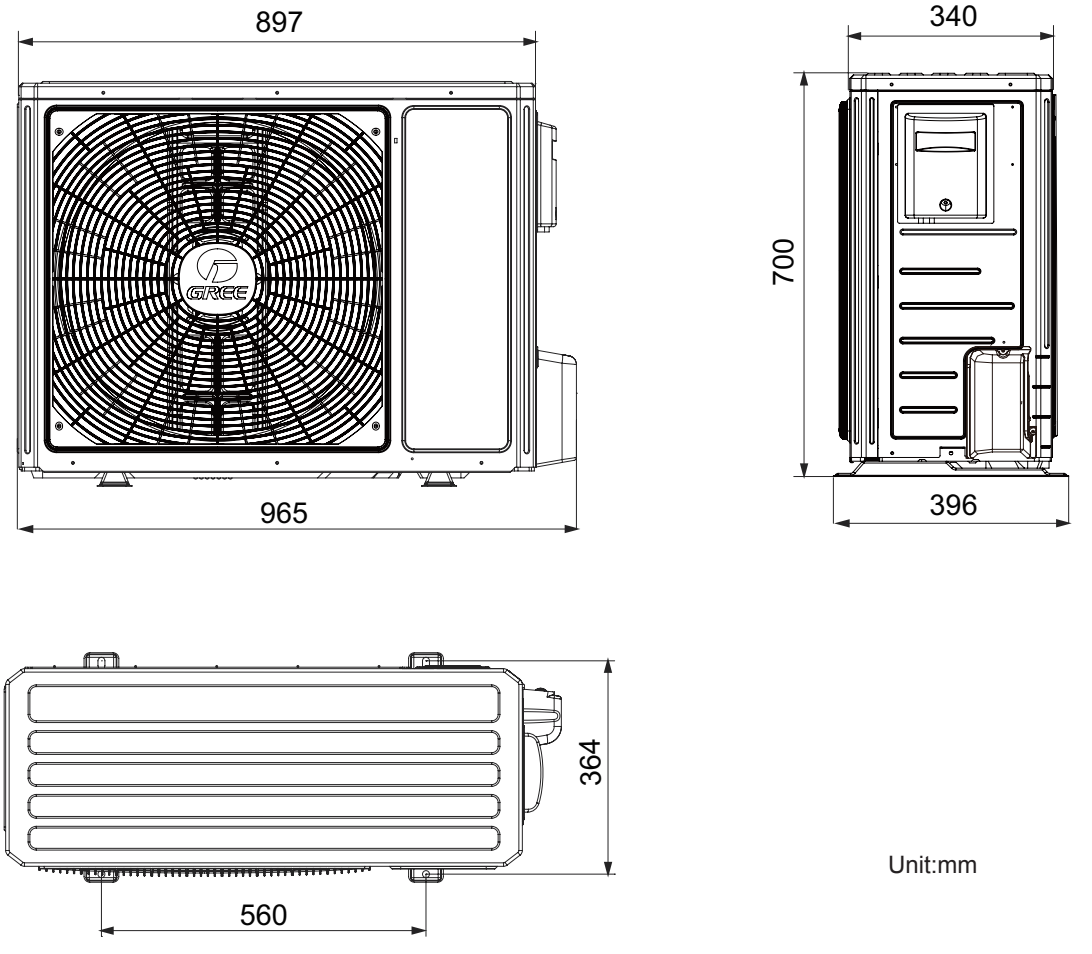
Unit:mm

GWH09ACC-K6DNA1A/O GWC09ACC-K6DNA1C/O



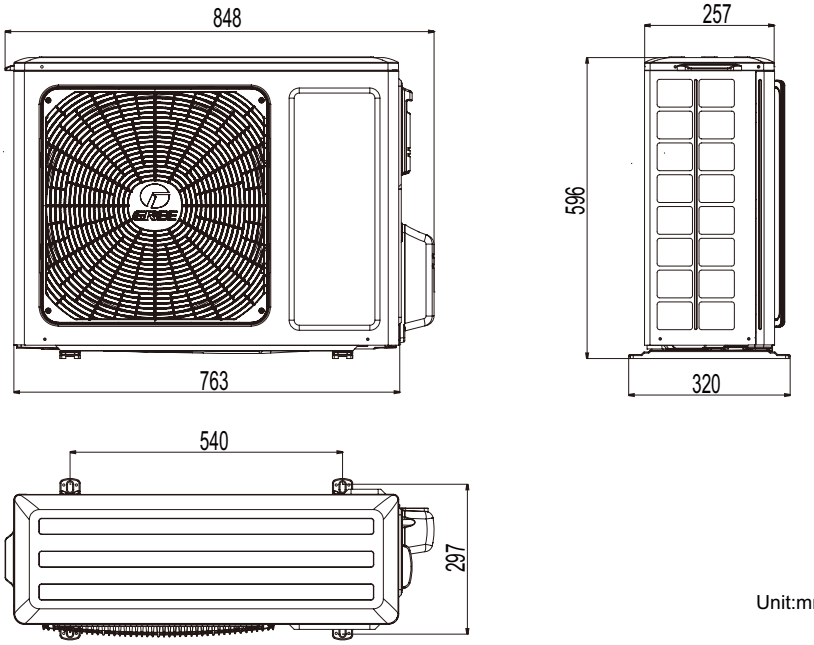
Unit:mm

GWC24ACE-K6DNA1A/O GWC18ACD-K6DNA1D/O



Unit:mm

GWC12ACC-K6DNA1D/O



Unit:mm

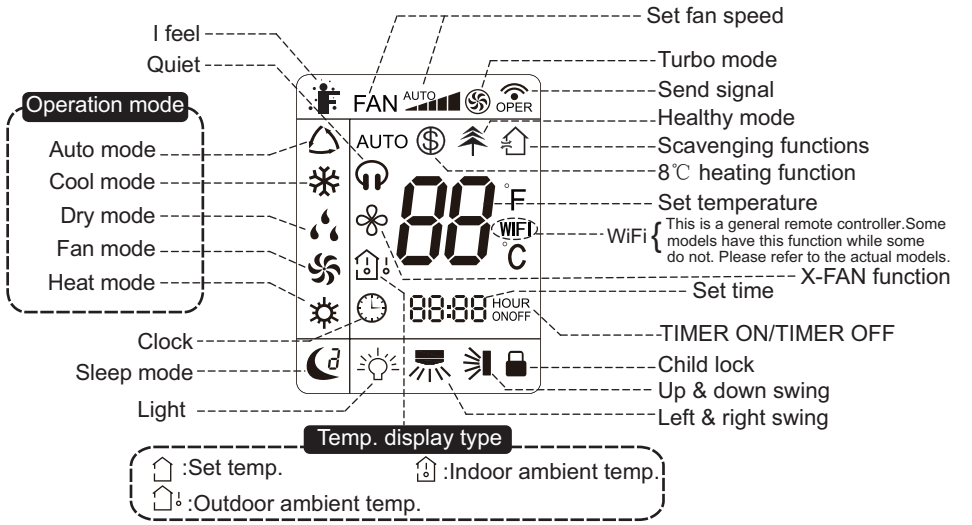
6. Function and Control

6.1 Remote Controller Introduction

Buttons on Remote Controller

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

Introduction for icons on display screen



Introduction for buttons on remote controller

Note:

- This is a general use remote controller, it could be used for the air conditioners with multifunction; For some function, which the model doesn't have, if press the corresponding button on the remote controller that the unit will keep the original running status.
- After putting through the power, the air conditioner will give out a sound. Operation 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 “di” sound, which means the signal has been sent to the air conditioner.

●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.

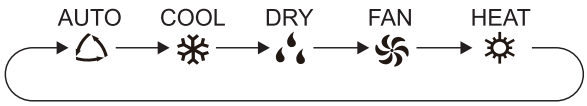
●This remote controller can adjust the temperature under auto mode. When matching with the unit which is without the function of adjustable temperature under auto mode, the set temperature under auto mode may be invalid, or the displayed set temperature on the unit is not same as that on the remote controller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

Press this button to select your required operation mode.



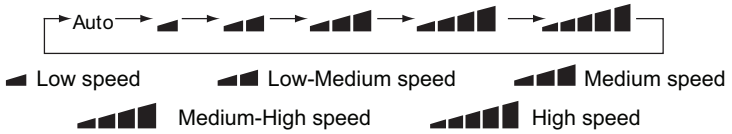
- When selecting auto mode, air conditioner will operate automatically according to ex-factory setting. Press "FAN" button can adjust fan speed. Press " " / " " button can adjust fan blowing angle.
- After selecting cool mode, air conditioner will operate under cool mode. Cool indicator " " "on indoor unit is ON. (This indicator is not available for some models). Press "▲" or " ▼ " button to adjust set temperature. Press "FAN" button to adjust fan speed. Press " " / " " button to adjust fan blowing angle.
- When selecting dry mode, the air conditioner operates at low speed under dry mode. Dry indicator " " on indoor unit is ON. (This indicator is not available for some models). Under dry mode, fan speed can't be adjusted. Press " " / " " button to adjust fan blowing angle.
- When selecting fan mode, the air conditioner will only blow fan, no cooling and no heating. All indicators are OFF. Operation indicator is ON. Press "FAN" button to adjust fan speed. Press " " / " " button to adjust fan blowing angle.
- When selecting heating mode, the air conditioner operates under heat mode. Heat indicator " " on indoor unit is ON. (This indicator is not available for some models). Press "▲" or " ▼ " button to adjust set temperature. Press "FAN" button to adjust fan speed. Press " " / " " button to adjust fan blowing angle. (Cooling only unit won't receive heating mode signal. If setting heat mode with remote controller, press ON/OFF button can't start up the unit.

Note:

- For preventing cold air, after starting up heating mode, indoor unit will delay 1~5 minutes to blow air (actual delay time is depend on indoor ambient temperature).
- Set temperature range from remote controller: 16~30℃ (61-86°F); Fan speed: auto, low speed, low-medium speed,medium speed, medium-high speed,high speed.
- Under auto mode, temperature can be displayed;Under auto mode,set temperature can be adjusted.

3. FAN button

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



Note:

- It's Low fan speed under Dry mode.
- X-FAN function 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 2s 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.

4. TURBO button

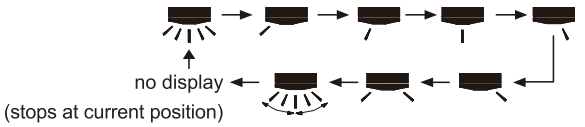
Under COOL or HEAT mode, press this button to turn to quick COOL or quick HEAT mode. " " icon is displayed on remote controller. Press this button again to exit turbo function and " " icon will disappear. If start this function, the unit will run at super-high fan speed to cool or heat quickly so that the ambient temp. approachs the preset temp. as soon as possible.

5. ▲/▼ button

- Press " ▲ " or " ▼ " button once increase or decrease set temperature 1℃ (°F). Holding " ▲ " or " ▼ " button, 2s later, set temperature on remote controller will change quickly. On releasing button after setting is finished, temperature indicator on indoor unit will change accordingly.
- When setting TIMER ON, TIMER OFF or CLOCK, press " ▲ " or " ▼ " button to adjust time. (Refer to CLOCK, TIMER ON, TIMER OFF buttons)

6. button

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



Note:

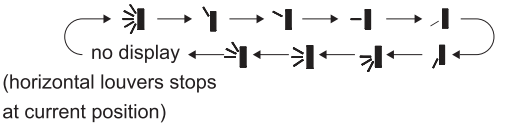
● Press this button continuously more than 2s, the main unit will swing back and forth from left to right, and then loosen the button, the unit will stop swinging and present position of guide louver will be kept immediately.

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

● The function is only available for some mode

7. button

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



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

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

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

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

Note:

● " 、 、 " may not be available. When air conditioner receives this signal, the air conditioner will blow fan automatically.

● Press this 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.

● 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.

8. 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 , two hours, setting temperature increased 2 , then the unit will run at this setting temperature; In Heat mode: sleep status after run for one hour, the setting temperature will decrease 1 , two hours, setting temperature will decrease 2 , then the unit will run at this setting temperature.

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

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

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

(2)Adjust "▲" and " "▲ button, could change the corresponding setting temperature, after adjusted, press “Turbo” button for confirmation;

(3) At this time, 1hour will be automatically increased at the timer 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 8 hours temperature setting finished, sleep,curve setting finished, at this time, the remote controller will resume the original imer 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 within 10s, there is no button pressed, the sleep curve setting within 10s, there is no button pressed, the sleep curve setting status will be automatically quit and resume to display the original displaying. In the presetting or enquiry procedure, press "ON/OFF" button, "Mode" button, "Timer" button or "Sleep" button, the sleep curve setting or enquiry status will quit similarly.

9. I FEEL button

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

● Please put the remote controller near user when this function is set. Do not put the remote controller near the object of high temperature or low temperature in order to avoid detecting inaccurate ambient temperature.

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

10. TIMER ON / TIMER OFF button

● TIMER ON button

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

● TIMER OFF button

"TIMER OFF" button can set the time for timer off. After pressing this button," ◷ "icon disappears and the word "OFF" on remote controller blinks. Press " ▲ " or " ▼ " button to adjust TIMER OFF setting. After each pressing " ▲ " or " ▼ " button, TIMER OFF setting will increase or decrease 1min. Hold " ▲ " or " ▼ " button, 2s later, the time will change quickly until reaching your required time. Press "TIMER OFF" word "OFF" will stop blinking. " ◷ " icon resumes displaying. Cancel TIMER OFF. Under the condition that TIMER OFF is started up, press "TIMER OFF" button to cancel it.

Note:

● Under on and off status, you can set TIMER OFF or TIMER ON simultaneously.
● Before setting TIMER ON or TIMER OFF, please adjust the clock time.
● After starting up TIMER ON or TIMER OFF, set the constant circulating valid. After that, air conditioner will be turned on or turned off according to setting time. ON/OFF button has no effect on setting. If you don't need this function, please use remote controller to cancel it.

11. CLOCK button

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

Note:

● Clock time adopts 24-hour mode.
● The interval between two operation can't exceeds 5s. Otherwise, remote controller will quit setting status. Operation for TIMER ON/TIMER OFF is the same.

12. 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.

Note:

● The Quiet function can be set up in all modes; Under the Quiet mode,the fan speed is not available.
● The Quiet function is only available for some models.
● When quiet function is selected

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.
Under heating mode: indoor fan operates at notch 3 speed or quiet mode according to the comparison between indoor ambient temperature and set temperature.
Under dry, fan mode: indoor fan operates at quiet mode.
Under auto mode: the indoor fan operates at the auto quiet mode according to actual cooling, heating or fan mode.

13.WiFi button

Press " **WiFi** " button 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, press "MODE" and " **WiFi** " buttons simultaneously for 1s, WiFi module will restore to factory default setting.

- This function is only available for some models.

14. LIGHT button

Press this button to turn off display light on indoor unit. " ☼ " icon on remote controller disappears. Press this button again to turn on display light. " ☼ " icon is displayed.

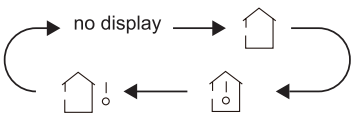
15. 🌲/🏠 button

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 t ime to start healthy function; LCD display " 🌲 " . Press this button again to repeat the operation above.

- This function is applicable to partial of models.

16. TEMP button

By pressing this button, you can see indoor set temperature, indoor ambient temperature or outdoor ambient temperature on indoor unit's display. The setting on remote controlleris selected circularly as below:



● When selecting " " or no display with remote controller, 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.

Note:

● Outdoor temperature display is not available for some models. At that time, indoor unit receives " "signal, while it displays indoor set temperature.
● It's defaulted to display set temperature when turning on the unit.There is no display in the remote controller.
● Only for the models whose indoor unit has dual-8 display.
● When selecting displaying of indoor or outdoor ambient temperature, indoor temperature indicator displays corresponding temperature and automatically turn to display set temperature after three or five seconds.

Function introduction for combination buttons

1. Energy-saving function

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

Note:

● Under energy-saving function, fan speed is defaulted at auto speed and it can't be adjusted.
● Under energy-saving function, set temperature can't be adjusted. Press "TURBO" button and the remote controller won't send signal.
● Sleep function and energy-saving function can't operate at the same time. If energy-saving function has been set under cooling mode, press sleep button will cancel energy-saving function. If sleep function has been set under cooling mode, start up the energy-saving function will cancel sleep function.

2. 8℃ heating function

Under heating mode, press "TEMP" and "CLOCK" buttons simultaneously to start up or turn off 8℃ heating function. When this function is started up, " " and "8℃ " will be shown on remote controller, and the air conditioner keep the heating status at 8℃ . Press "TEMP" and "CLOCK" buttons simultaneously again to exit 8℃ heating function.

Note:

● Under 8℃ heating function, fan speed is defaulted at auto speed and it can't be adjusted.
● Under 8℃ heating function, set temperature can't be adjusted. Press "TURBO" button and the remote controller won't send signal.
● Sleep function and 8℃ heating function can't operate at the same time. If 8℃ heating function has been set under cooling mode, press sleep button will cancel 8℃ heating function. If sleep function has been set under cooling mode, start up the 8℃ heating function will cancel sleep function.
● Under ℉ temperature display, the remote controller will display 46 ℉ heating.

3. Child lock function

Press " ▲ " and " ▼ " simultaneously to turn on or turn off child lock function. When child lock function is on, " " icon is displayed on remote controller. If you operate the remote controller, the " " icon will blink three times without sending signal to the unit.

4. Temperature display switchover function

Under OFF status, press " ▼ " and "MODE" buttons simultaneously to switch temperature display between ℃ and ℉ .

If "H1" is displayed on the remote controller while it's not operated by the professional person/after-sales person, it belongs to the misoperation. Please operate it as below to cancel it.Under the OFF status of remote controller, hold the Mode button for 5s to cancel "H1" display.

Note:

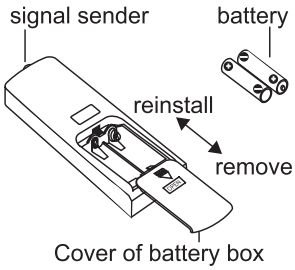
● If remote controller displays "H1", it belongs to the normal function reminder. If the unit is defrosting under heating mode, it operates according to H1 defrosting mode. "H1" won't be displayed on the panel of indoor unit;
● Once you set H1 mode, if you turn off unit by remote controller, H1 will display 3 times on the remote controller and then disappear;
● Also, when you set H1 mode, when you change to heating mode, H1 will display 3 times on the remote controller and then disappear.

Operation guide

1. After putting through the power, press "ON/OFF" button on remote controller to turn on the air conditioner.
2. Press "MODE" button to select your required mode: AUTO, COOL, DRY, FAN, HEAT.
3. Press " ▲ " or " ▼ " button to set your required temperature. (Temperature can't be adjusted under auto mode).
4. Press "FAN" button to set your required fan speed: auto, low, medium and high speed.
5. Press " " button to select fan blowing angle.

Replacement of batteries in remote controller

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



Note:

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

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

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

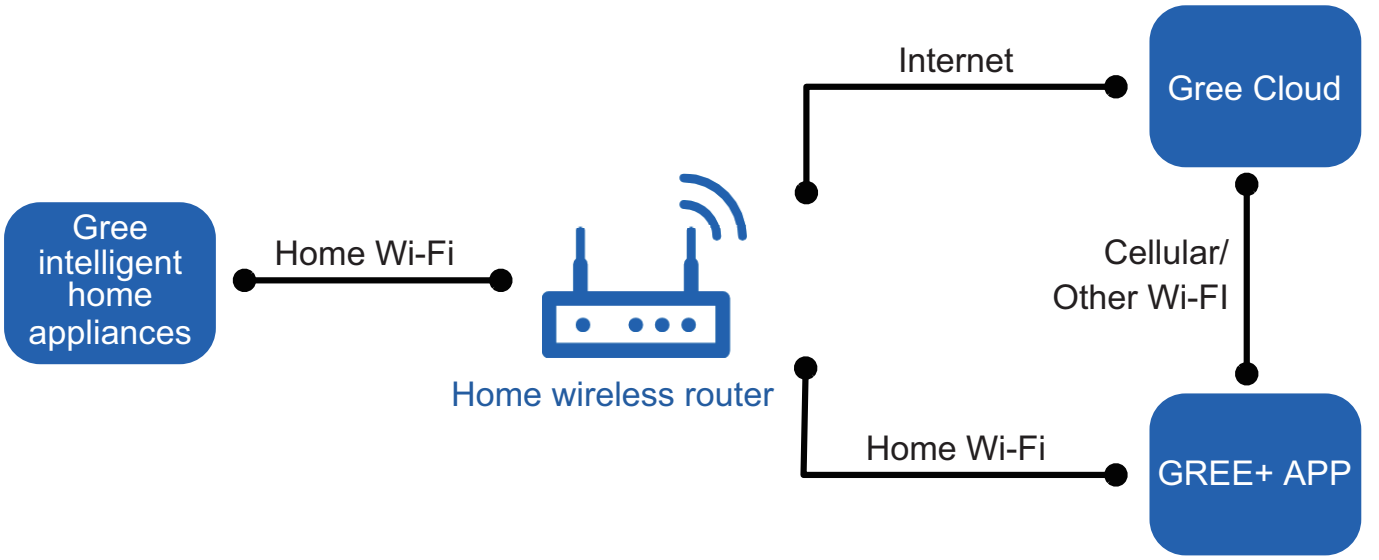
● Replace new batteries of the same model when replacement is required.

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

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

6.2 GREE+ App Operation Manual

Control Flow Chart



Operating Systems

Requirement for User's smart phone:

iOS system
Support iOS7.0 and above version

Android system
Support Android 4.4 and above version

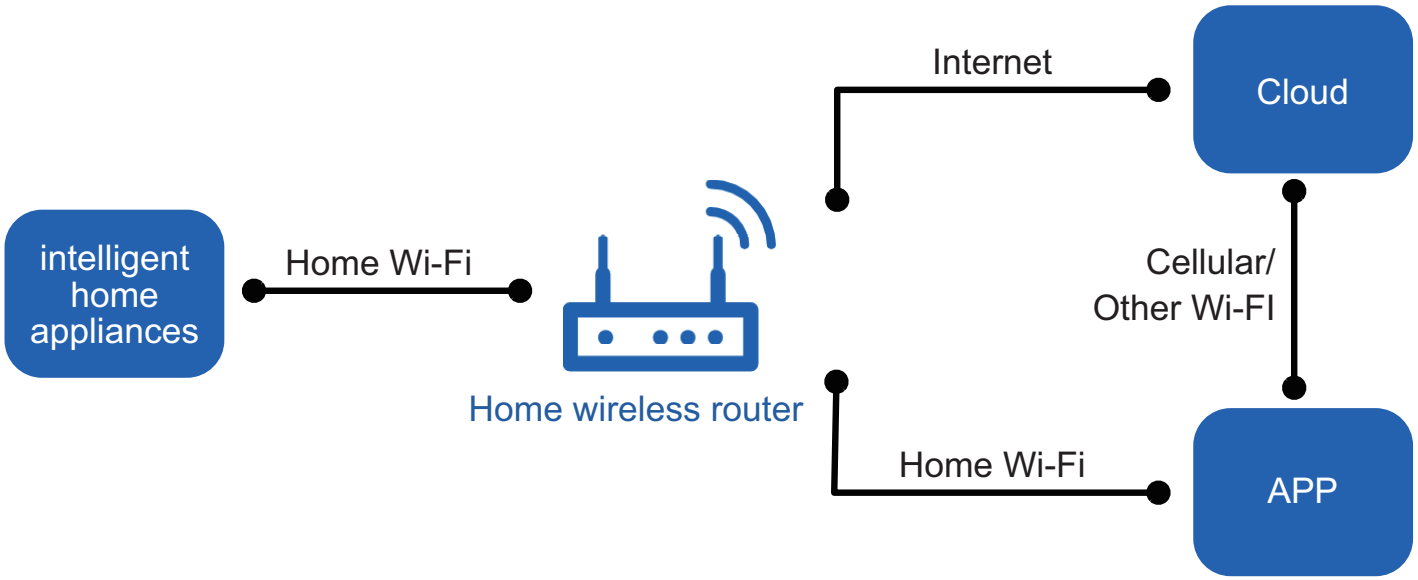
Download and installation

GREE+ App Download Linkage

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

6.3 Ewpe Smart App Operation Manual

Control Flow Chart



Operating Systems

Requirement for User's smart phone:

iOS system
Support iOS7.0 and above version

Android system
Support Android 4.4 and above version

Download and installation

App Download Linkage

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

6.4 Brief Description of Modes and Functions

● Indoor Unit

1.Basic function of system

(1)Cooling mode

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

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

(2)Drying mode

(1) Under this mode, fan operates at low speed and swing operates at setting status. Temperature setting range is 16~30^{O}C.

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

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

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

(3)Heating mode

(1) Under this mode, Temperature setting range is 16~30^{O}C.

(2) Working condition and process for heating mode:

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

(4)Working method for AUTO mode:

1.Working condition and process for AUTO mode:

a.Under auto mode set temperature can be adjusted.The unit switch mode automatically according to ambient temperature.

2.Protection function

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

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

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

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

(5)Fan mode

Under this mode, indoor fan operates at set fan speed. Compressor, outdoor fan, 4-way valve and electric heating tube stop operation. Indoor fan can select to operate at high, medium, low or auto fan speed. Temperature setting range is 16~30^{O}C.

2. Other control

(1) Buzzer

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

(2) Auto button

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

(3) Auto fan

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

(4) Sleep

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

(5) Timer function:

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

(6) Memory function

memorize compensation temperature, off-peak energization value.

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

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

(7) Health function

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

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

(8)I feel control mode

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

(9)Entry condition for compulsory defrosting function

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

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

(2) If theres indoor units controller and outdoor units controller, indoor unit will send compulsory defrosting mode signal to outdoor unit and then outdoor unit will operate under normal defrosting mode. After indoor unit received the signal that outdoor unit has entered into defrosting status, indoor unit will cancel to send compulsory mode to outdoor unit. If outdoor unit hasnt received feedback signal from outdoor unit after 3min, indoor unit will also cancel to send compulsory defrosting signal.

(10)Refrigerant recovery function:

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

(11)Ambient temperature display control mode

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

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

Under this mode, indoor fan operates at set fan speed. Compressor, outdoor fan, 4-way valve and electric heating tube stop operation. Indoor fan can select to operate at high, medium, low or auto fan speed. Temperature setting range is 16~30^{O}C.

(12)Off-peak energization function:

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

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

(13) SE control mode

The unit operates at SE status.

(14) X-fan mode

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

(15) 8^{O}C heating function

Under heating mode, you can set 8^{O}C heating function by remote controller. The system will operate at 8^{O}C set temperature.

(16)Turbo function

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

09/12K

● Outdoor Unit

1. Cooling mode:

Working condition and process of cooling mode:

① When Tindoor ambient temperature≥Tpreset, unit enters into cooling mode. Indoor fan, outdoor fan and compressor start operation. Indoor fan operates according to set fan speed.

② When Tindoor ambient temperature≤Tpreset-2℃, compressor stops operation and outdoor fan will stop 30s later. Indoor fan operates according to set fan speed.

③ When Tpreset-2℃＜ Tindoor ambient temperature ＜ Tpreset, unit operates according to the previous status.

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

2. Drying mode

(1) Working condition and process of drying mode

① When Tindoor ambient temperature ＞ Tpreset, unit will be in drying mode. Outdoor fan and compressor start operation while indoor fan will operate at low fan speed.

② When Tpreset-2℃ ≤Tindoor ambient temperature≤Tpreset, unit operates according to the previous status.

③ When Tindoor ambient temperature ＜ Tpreset-2℃, compressor stops operation and outdoor fan will stop 30s later.

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

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

3. Fan mode

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

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

4. Heating mode

Working condition and process of heating mode:

① When Tpreset-(Tindoor ambient temperature-Tcompensation)≥1℃, unit enters into heating mode. Compressor, outdoor fan and 4-way valve start operation.

② When -2℃＜ Tpreset-(Tindoor ambient temperature-Tcompensation) ＜ 1℃, unit operates according to the previous status.

③ When Tpreset-(Tindoor ambient temperature-Tcompensation)≤-2℃, compressor stops operation and outdoor fan will stop 30s later. Indoor fan will be in residual-heat blowing status.

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

⑤ When Toutdoor ambient temperature ＞ 30℃, compressor stops operation immediately. Outdoor fan will stop 30s later.

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

Note: Tcompensation is determined by IDU and ODU. If IDU controls the compensation temperature, then Tcompensation is determined according to the value sent by IDU to ODU; If IDU does not control the compensation temperature, then Tcompensation will default to 3℃ by the ODU.

5. Freon recovery mode

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

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

6. Compulsory defrosting

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

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

7. Auto mode

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

8. 8^{O}C heating

Set temperature is 8^{O}C. Display board of IDU displays 8^{O}C. Under this mode, “Cold air prevention” function is shielded.

If compressor is operating under this mode, fan speed will adjust according to auto fan speed; if compressor stops operation under this mode, indoor fan will be in residual-heat blowing status.

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

18/24K

Outdoor Units

1. Input Parameter Compensation and Calibration

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

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

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

(2) Check effective judgment controls of parameters

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

a. Judgment of exhaust detection temperature change:

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

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

2. Basic Functions

(1) Cooling Mode

1. Conditions and processes of cooling operation:

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

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

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

2. Temperature setting range

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

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

(2) Dehumidifying Mode

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

(3) Air-supplying Mode

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

(4) Heating Mode

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

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

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

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

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

3. Special Functions

Defrosting Control

① Conditions for starting defrosting

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

② Conditions of finishing defrosting

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

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

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

4. Control Logic

(1) Compressor Control

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

1. Cooling mode

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

2. Dehumidifying mode

Same as the cooling mode.

3. Air-supplying mode

The compressor is switched off.

4. Heating mode

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

(2) Defrosting:

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

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

(2) Outer Fans Control

Notes:

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

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

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

(3) 4-way valve control

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

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

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

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

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

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

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

(3) Defrosting control under heating mode:

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

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

(4) Evaporator frozen-preventing protection function

At the mode of Cooling, dehumidifying:

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

1. Starting estimation:

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

2. Frequency limited

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

3. Reducing frequency at normal speed:

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

4. Reducing frequency at high speed:

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

5. Power turn-off:

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

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

(5) Overload protection function

Overload protection function at the mode of cooling and dehumidifying

1. Starting estimation:

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

2. Frequency limited

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

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

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

4. Reducing frequency at high speed and stop machine:

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

5. Power turn-off:

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

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

Overload protection function at the mode of heating

Starting estimation :

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

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

1. Frequency limited

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

2. Reducing frequency at normal speed and stopping machine:

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

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

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

4. Power turn-off:

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

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

1. Starting estimation:

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

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

2. Frequency limited

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

3. Reducing frequency at normal speed and stopping machine:

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

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

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

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

5. Power turn-off:

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

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

7. Frequency limited

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

8. Reducing frequency:

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

9. Power turn-off:

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

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

(6)Voltage sag protection

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

(7)Communication fault

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

(8)Module protection

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

(9)Module overheating protection

1. Starting estimation:

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

2. Frequency limited

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

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

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

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

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

5. Power turn-off:

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

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

(10)Compressor overloads protection

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

(11)Phase current overcurrent protection of compressor

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

1. Frequency limited

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

2. Reducing Frequency

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

3. Power turn-off

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

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

(12) Starting-up Failure Protection for Compressor

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

(13) Out-of-Step Protection for Compressor

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

(14) Voltage Abnormity Protection for DC Bus

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

1.Over-High Voltage Protection for DC Bus:

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

2.Over-Low Voltage Protection for DC Bus:

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

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

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

(15)Abnormity Protection for Four-way Valve

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

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

(16) PFC Protection

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

(17) Failure Detection for Sensor

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

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

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

4. Module Temperature Sensor:

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

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

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

5. Disposal for Sensor Protection

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

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

6. Electric Heating Function of Chassis

(1) When $T_{outdoor\ amb.} \leq 0^{o}C$, the electric heating of chassis will operate;

(2) When $T_{outdoor\ amb.} > 2^{o}C$, the electric heating of chassis will stop operation;

(3)When $0^{o}C < T_{outdoor\ amb.} \leq 2^{o}C$, the electric heating of chassis will keep original status.

7. Electric Heating Function of Compressor

(1) When $T_{outdoor\ amb.} \leq -5^{o}C$, compressor stops operation, while the electric heating of compressor starts operation;

(2) When $T_{outdoor\ amb.} > -2^{o}C$, the electric heating of compressor stops operation;

(3) When $-5^{o}C < T_{outdoor\ amb.} \leq -2^{o}C$, the electric heating of compressor will keep original status.