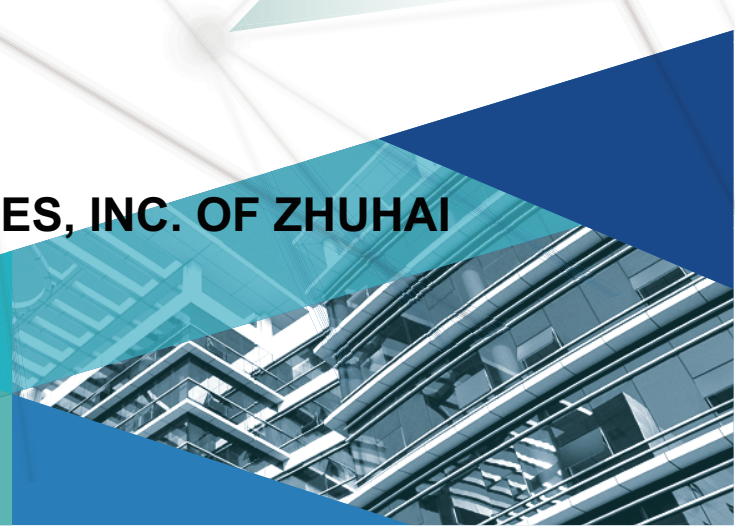
GREE
Change for life

Service Manual



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

Table of Contents

Abbreviations Used Within this Manual:

Abbreviation	Clear Words
OFDN	Oxygen free and dry nitrogen
PPE	Personnel protective equipment
LFL	Lower flammability level
UFL	Upper flammability level
HC	Hydrocarbon

INTRODUCTION

ATTENTION

Please read this manual carefully before installing and operating the GREE Hydrocarbon Air– Conditioner unit.

Careless installation and operation could cause severe injuries to operators, workers and damage to the air-conditioner unit itself.

Keep this manual in a location for easy access as it is needed for reference during installation, maintenance, service and operation of the unit.

This manual does not cover all aspects of installation, maintenance and service of the chiller units; if additional information is needed, contact the GREE Costumer Service or Sales Office.

General Information

Warning and cautions appear at appropriate locations throughout this manual book.

Notices

General Safety Instructions

Please pay careful attention to these safety instructions, to avoid risks to people and property. Before starting work on maintenance read this manual thoroughly and pay particular attention to the relevant chapters.

Regardless of further requirements of the country, in which the equipment will be installed: assembly, first start up, technical service, maintenance and repair and as well as dismantling and disposal have to be carried out by authorised personnel only.

During every operation strictly follow the instructions within this manual. Pay attention to the specific rules of air conditioning, electrics and refrigerant handling of the country within which the equipment is installed.

Key sections and/or sentences are highlighted with specific icons and symbols to the right side of the page. Please pay particular attention to this information.

The Symbols Used in this Manual are as Follows

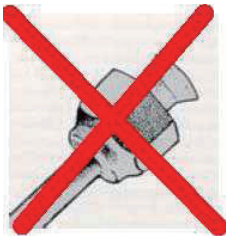
This is a specific remark and points out the importance of a specific section

Information window highlighting important content of the specific section or additional information to consider.

This sign will indicate that you are handling a flammable substance and the surrounding environment can possibly contain it.

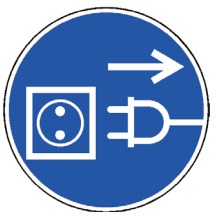
This is a general warning sign.

The Label is used to indicate that the flammable refrigerant is present within the application and service equipment.



Images that indicate something what you should strictly avoid.

Specific bans!



Specific commandments!

Instructions for first aid!

Fire protection!

Carefully read the instructions!

Working on components with safety-relevant functions jeopardise the safe operation of the installation. In case it is necessary to replace components, only use approved parts from GREE Electric, the Original Equipment Manufacturer(OEM) or Gree released or authorised components. The system contains the refrigerant R-290 (propane). This condition requires special safety precautions to be observed. Maintenance for the system is strictly prohibited. At the installation site, no matter what kind of activities are executed, smoking is strictly prohibited!
Likewise, ensure the installation site is well ventilated. For further details as far as it concerns the handling of the refrigerant R-290 (propane) .

ONLY original GREE (OEM) spare-parts are permitted for Service and Repair!

The Symbols Used in this Manual are as Follows

Electric operations (installation, repair, modification, maintenance, adjustment) have to be fulfilled by trained and authorised personnel only. When dealing with electrical issues, the specific rules of the country within which the equipment is installed must be followed, in addition to the instructions within this manual.

When working on the equipment or parts of it, the system has to be deenergised (by master switch, circuit breaker or separate cut-out) and made safe against restart of the system. Do not reconnect the system to the electric circuit until all work is done and all connections are tested. If handled unsafely or unprofessionally, severe electric shocks can occur. Consider the wiring diagram and follow the instructions of this manual very carefully whilst working on electrical parts. Wrong connections or incorrect grounding may lead to severe injuries and mortal danger.

Proceed according the manuals Instructions!

Ground the system according to the particular requirements of the country within which the equipment is installed.
Connect all the wires properly and durably. Loose cables may lead to overheating or fire

Minimum Room Size

HC R290 is a flammable refrigerant and can form explosive mixtures in low concentrations. To minimise the risk of fire or explosion, the system must be installed in a room with a minimum floor area.

Pay attention to the room size for indoor unit installation!

For specific information refer page XXX of this manual.

Unless there are further requirements, standards and legislation of the country within which the equipment is installed may apply. Any technicians that works on GREE hydrocarbon air– conditioners must be competent in the safe handling of flammable refrigerants, in addition to being in possession of knowledge and skills to maintain best refrigeration installation and servicing practices.

There are already training activities in place for engineers, technicians and sales staff to provide professional knowledge and skills for the handling of HC refrigerants and refrigeration systems operating with HCs.

Get your Best Practices knowledge and skills update for HC refrigerants and be certificated for these jobs!

Get trained and have your "HC Refrigeration Professional" certification!

Basics in RAC

Knowledge of the basic SI standard units for temperature, pressure, mass, density, energy.

Understanding of the basic theory of refrigeration systems including the functions of the main components in the system (compressor, evaporator, condenser, thermostatic expansion valves).
Understanding how to read a refrigerant flow chart and an electrical circuit diagram.

The determination of non condensable gases in the refrigeration system and how to eliminate them.
The importance of the use of oxygen free dry nitrogen (OFDN) for system flushing, leak test and strength test.
The elimination of humidity from the refrigeration system and how to recover or vent HC refrigerant from a system.

Usage of tables and diagrams (log p/h diagram, saturation tables of a refrigerant, diagram of a single compression refrigeration cycle) and interpretation of these tables and diagrams.

Knowledge of the basic operation of the following components in a refrigeration system and their role and importance for refrigerant leakage prevention and identification:

- Temperature and pressure controls
- Sight class and moisture indicators
- Defrost controls, reverse cycle operation
- System protectors
- Measuring devices such as the pressure gauge manifold
- Thermometer
- Leak detector
- Refrigerant charging devices
- Vacuum pump
- Oxygen free dry nitrogen cylinder and pressure regulator

Fault finding – analysis and repair.
- Knowledge of flammable refrigerants
- Risk analysis for the application of flammable refrigerant and properties of flammable refrigerants
- Electrical circuit assessment and repair

Read More!
SAFETY CODE OF PRACTICE FOR REFRIGERATING SYSTEMS *UTILISING A2 & A3 REFRIGERANTS*

ISBN
1 872719 15 5

Checks before putting in operation, after a long period of nonuse, after maintenance or repair intervention or during operation.

Carry out a pressure and leak test to check the strength and the tightness of the system.
Usage of a vacuum pump.
Evacuation of the system to remove air and moisture according to standard practice.

Checks for Leakage

Knowledge of potential leakage points of refrigeration, air-conditioning and heat pump equipment. Making a visual and manual inspection of the whole system.
Carry out a check for leakage of the system using an indirect method and/or one of the direct methods.

Direct leak detection methods:
1. Fixed leakage detection systems
2. Portable electronic gas detectors
3. Ultraviolet (UV) indication fluids
4. Weak soapy water solution (bubble test) also in combination with OFDN
5. New installation tightness test for leakage detection procedure e.g. H2/N2
6. Operational system tightness test for leakage detection procedure

Indirect refrigerant detection methods:
1. Visual
2. Manual checks

HC R290 Refrigerant Lssues

Please notice that the unit is filled with propane. Details to this refrigerant are found in chapter “refrigerant”. Propane is highly flammable and leads to explosion under certain conditions. Inappropriate treatment of the unit involves the risk of severe damages of people and material.

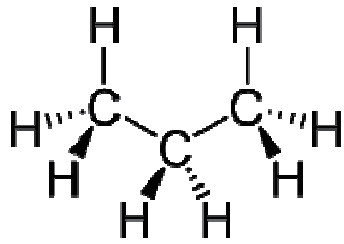
Basics

HC R-290 (propane) is an odourless and colourless gas of the group of hydrocarbons.
HC R-290 is heavier than air and at high concentrations can cause narcotic effects and eventually asphyxiation.
R-290 is highly flammable within the range of 2,1% and 9,5% by volume, or 38 g/m3 to 170 g/m3 in air. The auto-ignition temperature is about 470°C.
Since R-290 is an odourless and colourless gas, it is difficult to perceive that it is present (as with most other refrigerants).
Propane is often used as a fuel such as for heating or barbecues. However, for use on refrigeration systems, fuel-grade propane is not suitable since it contains high levels of impurities, which would damage the refrigeration system and may not provide the desired refrigerating capacity or efficiency.

HC R-290 refrigerant has a high grade of purity.

Propane as a cooking gas is not useful for refrigeration purpose!

The structural formula of HC R-290 (propane)



Important Refrigerant Properties and Parameters:

Molecular formula	C3H8
Melting point [°C]	-188
Boiling point under atmospheric pressure [°C]	-42
Molar mass [g mol -1]	44,10
Critical temperature [°C]	96,8
Critical pressure [bar]	42
Practical limit [g/m3]	8
Lower flammability level LFL [g/m3]	38
Lower flammability level LFL [%]	2,1
Upper flammability level UFL [g/m3]	171
Upper flammability level UFL [%]	9,5
Ignition temperature [°C]	470

Read More!

Guidlines for the safe use of hydrocarbon refrigerants

GIZ—PROKLIMA

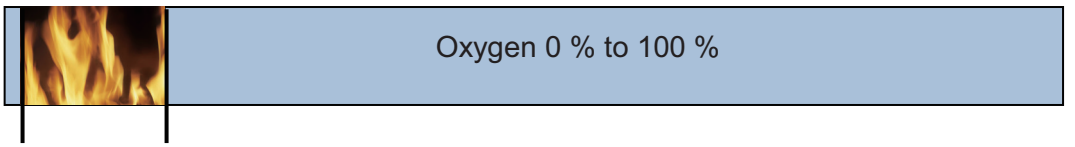
http://www.gtz.de/proklima

Flammability

Three components are needed simultaneously for causing fire:

1. Oxygen
2. Ignition source
3. The flammable concentration of HC

For ignition, the concentration of HC in air has to be between the lower and upper flammable limits. If the concentration is below the lower flammability limit (LFL) of about 2% by volume in air, there is not enough HC for combustion. If the concentration is above the upper flammability limit (UFL) of about 10% there is insufficient oxygen for combustion.



By way of illustration please compare to the schematic view:

To ignite HC R-290, three (3) components must exist at the same time at work area to cause the refrigerant burning!

Possible ignition sources are:

1. A flame, for example from brazing torch, halide torch leak lamp, match or lighter, cigarette
2. A spark from an electrical component
3. Static electricity
4. Hot surfaces

Safety Data

Hazard Identification

1 kg of liquid HC R-290 refrigerant creates about 250 litres of gas

- Extremely flammable (F+).
- Readily forms an explosive air-vapour mixture at ambient temperatures.
- Vapour is heavier than air and may travel to remote sources of ignition (e.g. along drainage systems, into basements etc).
- Liquid releases generate large volumes of flammable vapour (approx 250:1)
- Cold burns (frostbite) will result from skin / eye contact with liquid.
- Liquid release or vapour pressure jets present a risk of serious damage to the eyes.
- Abuse involving inhalation of high concentrations of vapour, even for short periods, which can produce unconsciousness or may prove fatal. Inhalation may cause irritation to the nose and throat, headache, nausea, vomiting, dizziness and drowsiness. In poorly ventilated areas unconsciousness or asphyxiation may result.

Beside the flammability, most other safety properties are similar to other refrigerants!

Rely always on best service practices in refrigeration!

First Aid Measures

Inhalation:
Remove the affected person to fresh air. If breathing has stopped, administer artificial respiration. Give external cardiac massage if necessary. If the person is breathing but unconscious, place them in the recovery position. Obtain medical assistance immediately.

Skin:
In case of cold burns: flush with water to normalize temperature. Cover the burns with sterile dressings Do not use ointments or powders. Obtain medical assistance immediately.

Eyes:
Cold burns should be flushed with water to normalise temperature, cover the eye with a sterile dressing and obtain medical assistance immediately.

Fire Fighting Measures

HC R-290 is delivered, stored, and used at temperatures above their flash point. Avoid all naked flames, sparks, cigarettes etc.

- In case of fire, immediately alert fire brigade
- Ensure an escape path is always available from any fire
- If gas has ignited do not attempt to extinguish but stop gas flow and allowto burn out.
- Use water spray to cool heat-exposed containers, and to protect surroundingareas and personnel effecting the shut off
- Every precaution must be taken to keep containers cool to avoid the possibilityof a boiling liquid expanding vapour explosion (BLEVE)

Extinguishing Media:

In case of a large fire:
Release must be stopped and container cooled by water spray.
Water mist should be used to assist approach to the source of the fire.
Large fires should only be handled by Fire Brigade.

DO NOT USE WATER JET

Small fire:
Use dry powder extinguisher

DO NOT USE WATER JET

Special protective equipment for fire fighters:
In confined spaces use self-contained breathing apparatus

Hazardous combustion products:
Incomplete combustion may form carbon monoxide.

Accidental Release Measures

Immediate emergency action:
- Clear people away from the area to a safe place
- Do not operate electrical equipment unless “Ex”-rated
- Summon the emergency services
- Treat or refer casualties if necessary

Further action (when release is made safe):
- Extinguish all naked lights – avoid creating sparks
- Position fire fighting equipment
- Cover drains and disperse vapour with water spray.

Note: vapour may collectin confined spaces.

Further actions:
- Stop release
- Use dry powder or carbon dioxide extinguishers
- Cool containers exposed to fire by using water / mist spray.

Accidental Release Measures

Due to the flammability of R-290 and the risk of fire or explosion during servicing, special safety rules must be followed during operation. In order to avoid damage for people and property, particular requirements are listed hereafter.

Before servicing the unit, the surrounding area were the work will be done must be clear of safety hazards to ensure safe working. Nevertheless it is required to carry out a risk assessment in order to minimise the risk of ignition of R-290.

The following safety measures must be followed:

1. Any employees and other present persons must be informed about the service and the way the service is done, first.
2. It is recommended to isolate the working environment in order to keep out any unauthorised personnel.
3. It is useful to set up signs such as „no smoking“ or „access denied“.
4. It is prohibited to store any combustible goods within the working environment.
5. Within two (2) metres radius, ignition sources are not allowed in the working area.
6. Fire extinguisher (dry powder) must be easily accessible at any time.
7. During service work, proper ventilation of the environment must be ensured.

The HC leak detector is indeed a Personal Protective Equipment (PPE) device!

Sign plate to protect and mark the working area.

Appropriate detectors, suitable for hydrocarbons, must be available and operational all the time. Appropriate tools and appliances must be available and ready for operation.
Any employees need to be instructed extensively about the safety measures and the possible safety hazard.

Gas Detection

While servicing the unit it is recommended for the whole period of work — before,during and after — to monitor the gas concentration in the air within the work environment. By monitoring the air within the work environment the danger of a possible formation of flammable atmosphere can be detected early.

The HC leak detector is indeed a PPE device!

Doing the monitoring, ensure that the gas detectors are suitable for hydrocarbon detection. Never use open fire or a device with an ignition source for the detection of gas or for leak detection.

Before operation of the gas detector the instruction manual must be read carefully. In case of any questions refer to the detector manufacturer. Furthermore ensure the detector is correctly calibrated. Instructions for calibration can be found in the instruction manual of the detector or upon request from the manufacturer.

A possible re-calibration must be done within an area which is free of refrigerants.

In case of a positive detection by the detector any work must be stopped immediately. Any open flames or ignition sources must be extinguished or removed. In addition to a suitable and approved HC gas detectors, portable gas detectors can be used.

Such a detector can be clipped to clothing or placed on the floor within the working area. It should be switched on for the duration of the work, and set to alarm at 15% of the lower flammability level (LFL), to warn that flammable concentration may be nearby. In this way, technicians can be alerted whenever an inadvertent release of flammable refrigerant occurs, and can immediately act upon the relevant emergency procedures.

Portable HC Gas Detector

Pressure—Temperature Chart

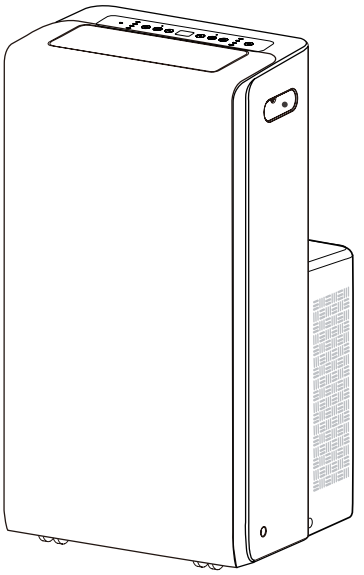
HC Refrigerant R-290							
Temperature		Absolute pressure			Gauge pressure		
°C	°F	kPa	bar	PSI	kPa(g)	bar(g)	PSI(g)
-40	-40	111,12	1,11	16,12	11,12	0,11	1,61
-39	-38,2	116,00	1,16	16,83	16,00	0,16	2,32
-38	-36,4	121,05	1,21	17,56	21,05	0,21	3,05
-37	-34,6	126,27	1,26	18,31	26,27	0,26	3,81
-36	-32,8	131,66	1,32	19,10	31,66	0,32	4,59
-35	-31	137,23	1,37	19,90	37,23	0,37	5,40
-34	-29,2	142,97	1,43	20,74	42,97	0,43	6,23
-33	-27,4	148,90	1,49	21,60	48,90	0,49	7,09
-32	-25,6	155,02	1,55	22,48	55,02	0,55	7,98
-31	-23,8	161,33	1,61	23,40	61,33	0,61	8,89
-30	-22	167,83	1,68	24,34	67,83	0,68	9,84
-29	-20,2	174,54	1,75	25,31	74,54	0,75	10,81
-28	-18,4	181,44	1,81	26,32	81,44	0,81	11,81
-27	-16,6	188,56	1,89	27,35	88,56	0,89	12,84
-26	-14,8	195,89	1,96	28,41	95,89	0,96	13,91
-25	-13	203,43	2,03	29,51	103,43	1,03	15,00
-24	-11,2	211,19	2,11	30,63	111,19	1,11	16,13
-23	-9,4	219,18	2,19	31,79	119,18	1,19	17,29
-22	-7,6	227,39	2,27	32,98	127,39	1,27	18,48
-21	-5,8	235,84	2,36	34,21	135,84	1,36	19,70
-20	-4	244,52	2,45	35,46	144,52	1,45	20,96
-19	-2,2	253,44	2,53	36,76	153,44	1,53	22,26
-18	-0,4	262,61	2,63	38,09	162,61	1,63	23,58
-17	1,4	272,03	2,72	39,45	172,03	1,72	24,95
-16	3,2	281,70	2,82	40,86	181,70	1,82	26,35
-15	5	291,62	2,92	42,30	191,62	1,92	27,79
-14	6,8	301,81	3,02	43,78	201,81	2,02	29,27
-13	8,6	312,27	3,12	45,29	212,27	2,12	30,79
-12	10,4	323,00	3,23	46,85	223,00	2,23	32,34
-11	12,2	334,00	3,34	48,44	234,00	2,34	33,94
-10	14	345,28	3,45	50,08	245,28	2,45	35,58
-9	15,8	356,85	3,57	51,76	256,85	2,57	37,25
-8	17,6	368,70	3,69	53,48	268,70	2,69	38,97
-7	19,4	380,85	3,81	55,24	280,85	2,81	40,73
-6	21,2	393,29	3,93	57,04	293,29	2,93	42,54
-5	23	406,04	4,06	58,89	306,04	3,06	44,39
-4	24,8	419,09	4,19	60,78	319,09	3,19	46,28
-3	26,6	432,45	4,32	62,72	332,45	3,32	48,22
-2	28,4	446,13	4,46	64,71	346,13	3,46	50,20
-1	30,2	460,13	4,60	66,74	360,13	3,60	52,23
0	32	474,46	4,74	68,82	374,46	3,74	54,31
1	33,8	489,11	4,89	70,94	389,11	3,89	56,44
2	35,6	504,10	5,04	73,11	404,10	4,04	58,61
3	37,4	519,43	5,19	75,34	419,43	4,19	60,83
4	39,2	535,10	5,35	77,61	435,10	4,35	63,11
5	41	551,12	5,51	79,93	451,12	4,51	65,43
6	42,8	567,49	5,67	82,31	467,49	4,67	67,80
7	44,6	584,22	5,84	84,74	484,22	4,84	70,23
8	46,4	601,31	6,01	87,21	501,31	5,01	72,71
9	48,2	618,77	6,19	89,75	518,77	5,19	75,24
10	50	636,60	6,37	92,33	536,60	5,37	77,83

HC Refrigerant R-290							
Temperature		Absolute pressure			Gauge pressure		
11	51,8	654,81	6,55	94,97	554,81	5,55	80,47
12	53,6	673,40	6,73	97,67	573,40	5,73	83,17
13	55,4	692,38	6,92	100,42	592,38	5,92	85,92
14	57,2	711,75	7,12	103,23	611,75	6,12	88,73
15	59	731,51	7,32	106,10	631,51	6,32	91,59
16	60,8	751,68	7,52	109,02	651,68	6,52	94,52
17	62,6	772,25	7,72	112,01	672,25	6,72	97,50
18	64,4	793,24	7,93	115,05	693,24	6,93	100,55
19	66,2	814,64	8,15	118,16	714,64	7,15	103,65
20	68	836,46	8,36	121,32	736,46	7,36	106,82
21	69,8	858,71	8,59	124,55	758,71	7,59	110,04
22	71,6	881,39	8,81	127,84	781,39	7,81	113,33
23	73,4	904,51	9,05	131,19	804,51	8,05	116,69
24	75,2	928,07	9,28	134,61	828,07	8,28	120,10
25	77	952,07	9,52	138,09	852,07	8,52	123,58
26	78,8	976,53	9,77	141,64	876,53	8,77	127,13
27	80,6	1001,45	10,01	145,25	901,45	9,01	130,75
28	82,4	1026,83	10,27	148,93	926,83	9,27	134,43
29	84,2	1052,68	10,53	152,68	952,68	9,53	138,18
30	86	1079,00	10,79	156,50	979,00	9,79	141,99
31	87,8	1105,79	11,06	160,38	1005,79	10,06	145,88
32	89,6	1133,08	11,33	164,34	1033,08	10,33	149,84
33	91,4	1160,85	11,61	168,37	1060,85	10,61	153,87
34	93,2	1189,12	11,89	172,47	1089,12	10,89	157,97
35	95	1217,88	12,18	176,64	1117,88	11,18	162,14
36	96,8	1247,16	12,47	180,89	1147,16	11,47	166,38
37	98,6	1276,94	12,77	185,21	1176,94	11,77	170,70
38	100,4	1307,24	13,07	189,60	1207,24	12,07	175,10
39	102,2	1338,07	13,38	194,07	1238,07	12,38	179,57
40	104	1369,42	13,69	198,62	1269,42	12,69	184,12
41	105,8	1401,31	14,01	203,25	1301,31	13,01	188,74
42	107,6	1433,73	14,34	207,95	1333,73	13,34	193,44
43	109,4	1466,71	14,67	212,73	1366,71	13,67	198,23
44	111,2	1500,23	15,00	217,59	1400,23	14,00	203,09
45	113	1534,31	15,34	222,54	1434,31	14,34	208,03
46	114,8	1568,96	15,69	227,56	1468,96	14,69	213,06
47	116,6	1604,18	16,04	232,67	1504,18	15,04	218,17
48	118,4	1639,97	16,40	237,86	1539,97	15,40	223,36
49	120,2	1676,34	16,76	243,14	1576,34	15,76	228,63
50	122	1713,30	17,13	248,50	1613,30	16,13	233,99
51	123,8	1750,86	17,51	253,94	1650,86	16,51	239,44
52	125,6	1789,02	17,89	259,48	1689,02	16,89	244,98
53	127,4	1827,79	18,28	265,10	1727,79	17,28	250,60
54	129,2	1867,17	18,67	270,81	1767,17	17,67	256,31
55	131	1907,17	19,07	276,62	1807,17	18,07	262,11
56	132,8	1947,80	19,48	282,51	1847,80	18,48	268,01
57	134,6	1989,07	19,89	288,49	1889,07	18,89	273,99
58	136,4	2030,98	20,31	294,57	1930,98	19,31	280,07
59	138,2	2073,54	20,74	300,75	1973,54	19,74	286,24
60	140	2116,75	21,17	307,01	2016,75	20,17	292,51

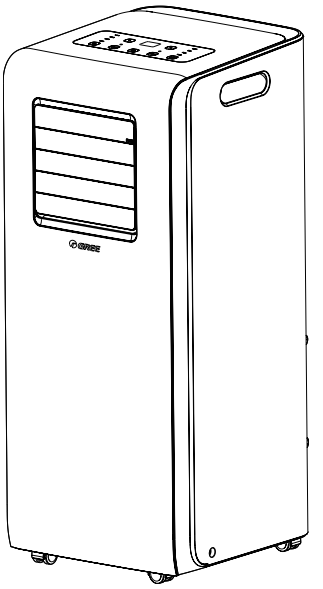
Part I : Technical Information

1. Summary

GPH12AQC-K5NNA1A
GPC12AQC-K5NNA1A
GPC10AQC-K5NNA1A



GPC07AQA-K5NNA1A
GPC07AQA-K5NNA1D
GPC07AQA-K5NNA1C
GPC09AQA-K5NNA1B
GPC09AQA-K5NNA1D
GPC07AQA-K5NNA1E



Remote Controller:

YAW1F7(WiFi)

Model List:

No.	Model	Product Code	Remote Controller
1	GPC07AQA-K5NNA1A	CK010039200	YAW1F7(WiFi)
2	GPC07AQA-K5NNA1C	CK010042900	
3	GPC07AQA-K5NNA1D	CK010048600	
4	GPC07AQA-K5NNA1E	CK010052500	
5		CK010052501	
6	GPC09AQA-K5NNA1B	CK010042300	
7	GPC09AQA-K5NNA1D	CK010048700	
8	GPC10AQC-K5NNA1A	CK010040800	
9	GPH12AQC-K5NNA1A	CK010038000	
10	GPC12AQC-K5NNA1A	CK010038300	

2. Specifications

Parameter		Unit	Value	
Model			GPC12AQC-K5NNA1A	GPH12AQC-K5NNA1A
Product Code			CK010038300	CK010038000
Power Supply	Rated Voltage	V ～	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Cooling Capacity		W	3520	3520
Heating Capacity		W	/	3100
Cooling Power Input		W	1345	1345
Heating Power Input		W	/	1190
Cooling Power Current		A	5.9	5.9
Heating Power Current		A	/	5.3
Rated Input		W	1550	1550
Rated Current		A	8.8	8.8
Air Flow Volume(H/M/L)		m^3/h	385/355/325	385/355/325
Dehumidifying Volume		L/h	1.6	1.6
EER		W/W	2.6	2.6
COP		W/W	/	2.6
SEER			/	/
HSPF			/	/
Application Area		m^2	16-23	16-23
Climate Type			T1	T1
Isolation			I	I
Moisture Protection			IPX0	IPX0
Permissible Excessive Operating Pressure for the Discharge Side		MPa	3	3
Permissible Excessive Operating Pressure for the Suction Side		MPa	1.5	1.5
Throttling Method			Capillary	Capillary
Defrosting Method			/	Automatic Defrosting
Fuse current		A	3.15	3.15
Operation Temp		°C	16~30	16~30
Ambient Temp (Cooling)		°C	16~35	16~35
Ambient Temp (Heating)		°C	/	10~27
Sound Pressure Level (H/M/L)		dB (A)	53/51/49	53/51/49
Sound Power Level (H/M/L)		dB (A)	65/64/62	65/64/62
Dimension (WXHXD)		mm	395X804X425	395X804X425
Dimension of Carton Box (LXWXH)		mm	511X448X861	511X448X861
Dimension of Package (LXWXH)		mm	514X451X876	514X451X876
Net Weight		kg	34.5	35
Gross Weight		kg	38.5	39
Refrigerant			R290	R290
Refrigerant Charge		kg	0.22	0.22

Compressor	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO., LTD	ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXD-B222A130C	QXD-B222A130C
	Compressor Oil		FW68DA or equivalent	FW68DA or equivalent
	Compressor Type		Rotary	Rotary
	L.R.A.	A	26.7	26.7
	Compressor RLA	A	4.5	4.5
	Compressor Power Input	W	1022	1022
	Overload Protector		HPA-225L	HPA-225L
Evaporator	Fan Type		Centrifugal	Centrifugal
	Diameter Length(DXL)	mm	Φ207.4X85	Φ207.4X85
	Cooling Speed	r/min	840/760/700	840/760/700
	Heating Speed	r/min	/	840/760/760
	Output of Fan Motor	W	23	23
	Fan Motor RLA	A	0.25	0.25
	Fan Motor Capacitor	μF	2.5	2.5
	Form		Aluminum Fin-Aluminum Tube	Aluminum Fin-Aluminum Tube
	Pipe Diameter	mm	Φ5	Φ5
	Row-fin Gap	mm	3-1.3	3-1.3
	Coil Length (LXDXW)	mm	310X34.2X304.8	310X34.2X304.8
	Swing Motor Model		MP24AA	MP24AA
	Output of Swing Motor	W	1.5	1.5
Condenser	Fan Type		Centrifugal	Centrifugal
	Fan Diameter	mm	Φ224.7X95	Φ224.7X95
	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ5	Φ5
	Rows-fin Gap	mm	1-1.3/2-1.3	1-1.3/2-1.3
	Coil Length (LXDXW)	mm	297X11.4X342.9/297X22.8X381	297X11.4X342.9/297X22.8X381
	Fan Motor Speed	rpm	1080/890	1080/890
	Output of Fan Motor	W	45	45
	Fan Motor RLA	A	0.43	0.43
	Fan Motor Capacitor	μF	2.5	2.5

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

Parameter		Unit	Value	
Model			GPC07AQA-K5NNA1A	GPC10AQC-K5NNA1A
Product Code			CK010039200	CK010040800
Power Supply	Rated Voltage	V ～	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Cooling Capacity		W	2000	2900
Heating Capacity		W	/	/
Cooling Power Input		W	765	935
Heating Power Input		W	/	/
Cooling Power Current		A	3.5	4.06
Heating Power Current		A	/	/
Rated Input		W	880	1070
Rated Current		A	4.3	5.3
Air Flow Volume(H/M/L)		m^3/h	230/200/180	385/355/325
Dehumidifying Volume		L/h	1.0	1.5
EER		W/W	2.61	3.1
COP		W/W	/	/
SEER			/	/
HSPF			/	/
Application Area		m^2	10-16	13-19
Climate Type			T1	T1
Isolation			I	I
Moisture Protection			IPX0	IPX0
Permissible Excessive Operating Pressure for the Discharge Side		MPa	3	3
Permissible Excessive Operating Pressure for the Suction Side		MPa	1.5	1.5
Throttling Method			Capillary	Capillary
Defrosting Method			/	/
Fuse current		A	3.15	3.15
Operation Temp		°C	16~30	16~30
Ambient Temp (Cooling)		°C	16~35	16~35
Ambient Temp (Heating)		°C	10~27	10~27
Sound Pressure Level (H/M/L)		dB (A)	52/49/47	52/49/47
Sound Power Level (H/M/L)		dB (A)	63/60/58	63/60/58
Dimension (WXHXD)		mm	287X705X326	395X804X425
Dimension of Carton Box (LXWXH)		mm	383X355X861	511X448X861
Dimension of Package (LXWXH)		mm	386X358X876	514X451X876
Net Weight		kg	22.5	33.5
Gross Weight		kg	27	37.5
Refrigerant			R290	R290
Refrigerant Charge		kg	0.15	0.22

Compressor	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO., LTD	ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXD-A121L130C	QXD-B160T130C
	Compressor Oil		5GSD-TB or equivalent	5GSD-TB or equivalent
	Compressor Type		Rotary	Rotary
	L.R.A.	A	14.00	19.00
	Compressor RLA	A	2.70	3.20
	Compressor Power Input	W	573	726
	Overload Protector		HPA-414	HPA-018
Evaporator	Fan Type		Centrifugal	Centrifugal
	Diameter Length(DXL)	mm	Φ156.6X108.4	Φ207.4X85
	Cooling Speed	r/min	1270/1130/1000	840/760/700
	Heating Speed	r/min	/	/
	Output of Fan Motor	W	45	23
	Fan Motor RLA	A	0.5	0.25
	Fan Motor Capacitor	μF	2.5	2.5
	Form		Aluminum Fin-Aluminum Tube	Aluminum Fin-Aluminum Tube
	Pipe Diameter	mm	Φ7	Φ5
	Row-fin Gap	mm	2-1.3	2-1.3
	Coil Length (LXDXW)	mm	390X25.4X90.5	310X34.2X304.8
	Swing Motor Model		/	/
	Output of Swing Motor	W	/	MP24AA
Condenser	Fan Type		Centrifugal	Centrifugal
	Fan Diameter	mm	Φ185	Φ224.7X95
	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ5	Φ5
	Rows-fin Gap	mm	2-1.4	1-1.3/2-1.3
	Coil Length (LXDXW)	mm	377X266.7X11.4,377X266.7X11.4	297X11.4X342.9/ 297X22.8X381
	Fan Motor Speed	rpm	1270/1130/1000	1080/890
	Output of Fan Motor	W	45	45
	Fan Motor RLA	A	0.5	0.43
	Fan Motor Capacitor	μF	2.5	2.5

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

Parameter		Unit	Value	
Model			GPC07AQA-K5NNA1C	GPC09AQA-K5NNA1B
Product Code			CK010042900	CK010042300
Power Supply	Rated Voltage	V ～	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Cooling Capacity		W	2000	2700
Heating Capacity		W	/	/
Cooling Power Input		W	645	1035
Heating Power Input		W	/	/
Cooling Power Current		A	3.5	4.5
Heating Power Current		A	/	/
Rated Input		W	800	1200
Rated Current		A	3.7	6
Air Flow Volume(H/M/L)		m^3/h	250/230/210	250/230/210
Dehumidifying Volume		L/h	0.85	1.38
EER		W/W	3.1	2.6
COP		W/W	/	/
SEER			/	/
HSPF			/	/
Application Area		m^2	10-16	12-18
Climate Type			T1	T1
Isolation			I	I
Moisture Protection			IPX0	IPX0
Permissible Excessive Operating Pressure for the Discharge Side		MPa	3	3
Permissible Excessive Operating Pressure for the Suction Side		MPa	1.5	1.5
Throttling Method			Capillary	Capillary
Defrosting Method			/	/
Fuse current		A	3.15	3.15
Operation Temp		°C	16~30	16~30
Ambient Temp (Cooling)		°C	16~35	16~35
Ambient Temp (Heating)		°C	/	/
Sound Pressure Level (H/M/L)		dB (A)	52/49/47	53/50/48
Sound Power Level (H/M/L)		dB (A)	63/62/59	63/62/60
Dimension (WXHXD)		mm	287X705X326	287X705X326
Dimension of Carton Box (LXWXH)		mm	383X355X861	383X355X861
Dimension of Package (LXWXH)		mm	386X358X876	386X358X876
Net Weight		kg	22.5	26
Gross Weight		kg	25.5	29
Refrigerant			R290	R290
Refrigerant Charge		kg	0.15	0.18

Compressor	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO., LTD	ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXD-N115L130A	QXD-B180T130A
	Compressor Oil		RA46XA or equivalent	ZEROL RA 46XA or equivalent
	Compressor Type		Rotary	Rotary
	L.R.A.	A	12.00	20.50
	Compressor RLA	A	2.45	3.60
	Compressor Power Input	W	553	805
	Overload Protector		HPA-310	HPA-318
Evaporator	Fan Type		Centrifugal	Centrifugal
	Diameter Length(DXL)	mm	Φ156.7X98.5	Φ156.7X98.5
	Cooling Speed	r/min	1275/1110/990	1275/1110/990
	Heating Speed	r/min	/	/
	Output of Fan Motor	W	45	45
	Fan Motor RLA	A	0.44	0.44
	Fan Motor Capacitor	μF	4	4
	Form		Aluminum Fin-Aluminum Tube	Aluminum Fin-Aluminum Tube
	Pipe Diameter	mm	Φ7	Φ7
	Row-fin Gap	mm	3-1.6	3-1.6
	Coil Length (LXDXW)	mm	365X38.1X190.5	365X38.1X190.5
	Swing Motor Model		/	/
	Output of Swing Motor	W	/	MP24AA
Condenser	Fan Type		Centrifugal	Centrifugal
	Fan Diameter	mm	Φ185	Φ185
	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ5	Φ5
	Rows-fin Gap	mm	3-1.4	3-1.4
	Coil Length (LXDXW)	mm	422X266.7X11.4+368X266.7X11.4+350X266.7X11.4	422X266.7X11.4+368X266.7X11.4+350X266.7X11.4
	Fan Motor Speed	rpm	1275/1110/990	1275/1110/990
	Output of Fan Motor	W	45	45
	Fan Motor RLA	A	0.44	0.44
	Fan Motor Capacitor	μF	4	4

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

Parameter		Unit	Value	
Model			GPC07AQA-K5NNA1D	GPC09AQA-K5NNA1D
Product Code			CK010048600	CK010048700
Power Supply	Rated Voltage	V ～	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Cooling Capacity		W	2000	2600
Heating Capacity		W	/	/
Cooling Power Input		W	765	1000
Heating Power Input		W	/	/
Cooling Power Current		A	3.5	4.5
Heating Power Current		A	/	/
Rated Input		W	900	1200
Rated Current		A	4.5	6
Air Flow Volume(H/M/L)		m^3/h	260/240/220	260/240/220
Dehumidifying Volume		L/h	0.9	1.38
EER		W/W	2.6	2.6
COP		W/W	/	/
SEER			/	/
HSPF			/	/
Application Area		m^2	10-16	12-18
Climate Type			T1	T1
Isolation			I	I
Moisture Protection			IPX0	IPX0
Permissible Excessive Operating Pressure for the Discharge Side		MPa	3	3
Permissible Excessive Operating Pressure for the Suction Side		MPa	1.5	1.5
Throttling Method			Capillary	Capillary
Defrosting Method			/	/
Fuse current		A	3.15	3.15
Operation Temp		°C	16~30	16~30
Ambient Temp (Cooling)		°C	16~35	16~35
Ambient Temp (Heating)		°C	/	/
Sound Pressure Level (H/M/L)		dB (A)	53/50/48	53/50/48
Sound Power Level (H/M/L)		dB (A)	63/62/59	64/62/60
Dimension (WXHXD)		mm	287X705X326	287X705X326
Dimension of Carton Box (LXWXH)		mm	367X328X861	367X328X861
Dimension of Package (LXWXH)		mm	370X331X876	370X331X876
Net Weight		kg	21.5	24.5
Gross Weight		kg	24.5	27.5
Refrigerant			R290	R290
Refrigerant Charge		kg	0.13	0.175

Compressor	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO., LTD	ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXD-N121L130A	QXD-B175T130C
	Compressor Oil		5GSD-TB or equivalent	ZEROL RA 46XA or equivalent
	Compressor Type		Rotary	Rotary
	L.R.A.	A	12.00	19.00
	Compressor RLA	A	2.62	3.60
	Compressor Power Input	W	592	825
	Overload Protector		HPA-310	HPA-420
Evaporator	Fan Type		Centrifugal	Centrifugal
	Diameter Length(DXL)	mm	Φ156.7×98.5	Φ156.7X98.5
	Cooling Speed	r/min	1275/1110/990	1275/1110/990
	Heating Speed	r/min	/	/
	Output of Fan Motor	W	45	45
	Fan Motor RLA	A	0.44	0.44
	Fan Motor Capacitor	μF	4	4
	Form		Aluminum Fin-Aluminum Tube	Aluminum Fin-Aluminum Tube
	Pipe Diameter	mm	Φ7	Φ7
	Row-fin Gap	mm	2-1.3	2-1.3
	Coil Length (LXDXW)	mm	380 x 25.4 x 190.5	380 x 25.4 x 190.5
	Swing Motor Model		/	/
	Output of Swing Motor	W	/	/
Condenser	Fan Type		Centrifugal	Centrifugal
	Fan Diameter	mm	Φ185	Φ185
	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ5	Φ5
	Rows-fin Gap	mm	2-1.4	3-1.4
	Coil Length (LXDXW)	mm	422X266.7X11.4+ 372X266.7X11.4	422X266.7X11.4+368X266.7X11.4+ 350X266.7X11.4
	Fan Motor Speed	rpm	1275/1110/990	1275/1110/990
	Output of Fan Motor	W	45	45
	Fan Motor RLA	A	0.44	0.44
	Fan Motor Capacitor	μF	4	4

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

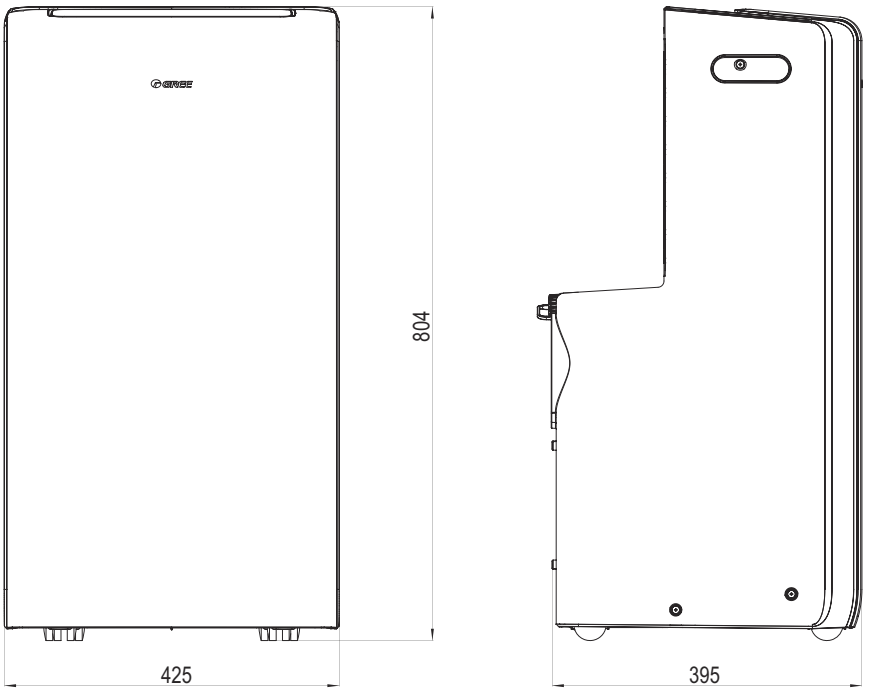
Parameter		Unit	Value
Model			GPC07AQA-K5NNA1E
Product Code			CK010052500 CK010052501
Power Supply	Rated Voltage	V ～	220-240
	Rated Frequency	Hz	50
	Phases		1
Cooling Capacity		W	2000
Heating Capacity		W	/
Cooling Power Input		W	645
Heating Power Input		W	/
Cooling Power Current		A	2.9
Heating Power Current		A	/
Rated Input		W	800
Rated Current		A	3.7
Air Flow Volume(H/M/L)		m^3/h	250/230/210
Dehumidifying Volume		L/h	0.85
EER		W/W	3.1
COP		W/W	/
SEER			/
HSPF			/
Application Area		m^2	10-16
Climate Type			T1
Isolation			I
Moisture Protection			IPX0
Permissible Excessive Operating Pressure for the Discharge Side		MPa	3
Permissible Excessive Operating Pressure for the Suction Side		MPa	1.5
Throttling Method			Capillary
Defrosting Method			/
Fuse current		A	3.15
Operation Temp		°C	16~30
Ambient Temp (Cooling)		°C	16~35
Ambient Temp (Heating)		°C	/
Sound Pressure Level (H/M/L)		dB (A)	52/49/47
Sound Power Level (H/M/L)		dB (A)	63/62/59
Dimension (WXHXD)		mm	287X705X326
Dimension of Carton Box (LXWXH)		mm	367X328X861
Dimension of Package (LXWXH)		mm	370X331X876
Net Weight		kg	22.5
Gross Weight		kg	25.5
Refrigerant			R290
Refrigerant Charge		kg	0.145

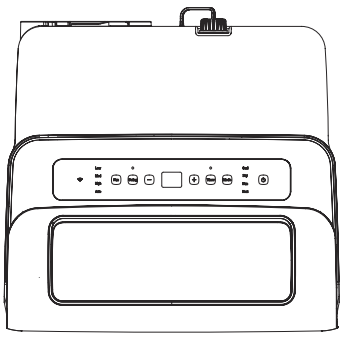
Compressor	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXD-N115L130A
	Compressor Oil		RA46XA or equivalent
	Compressor Type		Rotary
	L.R.A.	A	12.00
	Compressor RLA	A	2.45
	Compressor Power Input	W	553
	Overload Protector		HPA-310
Evaporator	Fan Type		Centrifugal
	Diameter Length(DXL)	mm	Φ156.7×98.5
	Cooling Speed	r/min	1275/1110/990
	Heating Speed	r/min	/
	Output of Fan Motor	W	45
	Fan Motor RLA	A	0.44
	Fan Motor Capacitor	μF	4
	Form		Aluminum Fin-Aluminum Tube
	Pipe Diameter	mm	Φ7
	Row-fin Gap	mm	3-1.6
	Coil Length (LXDXW)	mm	365 x 38.1 x 190.5
	Swing Motor Model		/
	Output of Swing Motor	W	/
Condenser	Fan Type		Centrifugal
	Fan Diameter	mm	Φ185
	Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ5
	Rows-fin Gap	mm	3-1.4
	Coil Length (LXDXW)	mm	422X266.7X11.4+ 368X266.7X11.4+ 350X266.7X11.4
	Fan Motor Speed	rpm	1275/1110/990
	Output of Fan Motor	W	45
	Fan Motor RLA	A	0.44
	Fan Motor Capacitor	μF	4

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

3. Outline Dimension Diagram

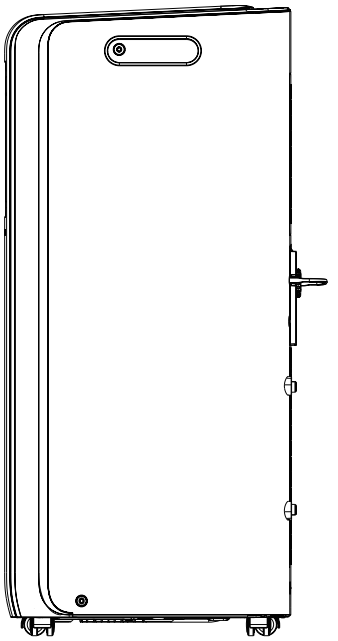
GPH12AQC-K5NNA1A
GPC12AQC-K5NNA1A
GPC10AQC-K5NNA1A

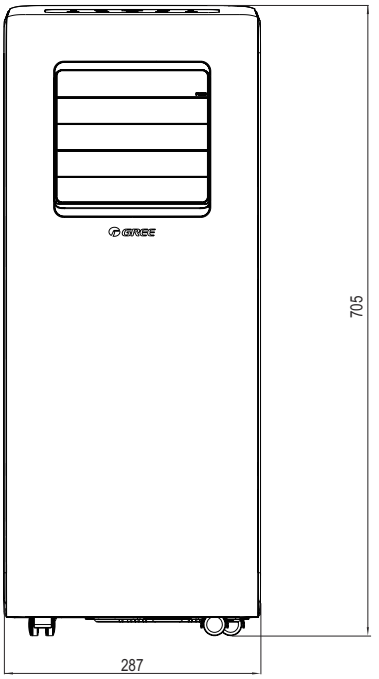


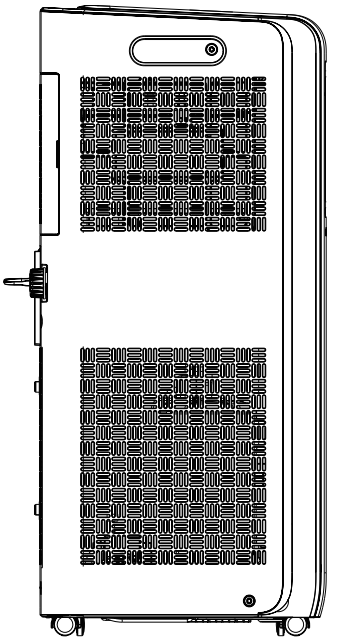


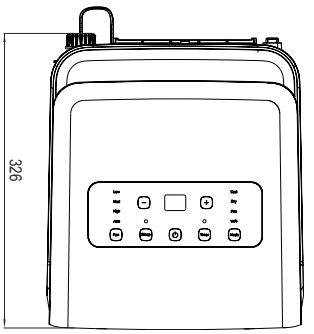
Unit:mm

GPC07AQA-K5NNA1A
GPC09AQA-K5NNA1B
GPC07AQA-K5NNA1C
GPC07AQA-K5NNA1D
GPC09AQA-K5NNA1D
GPC07AQA-K5NNA1E



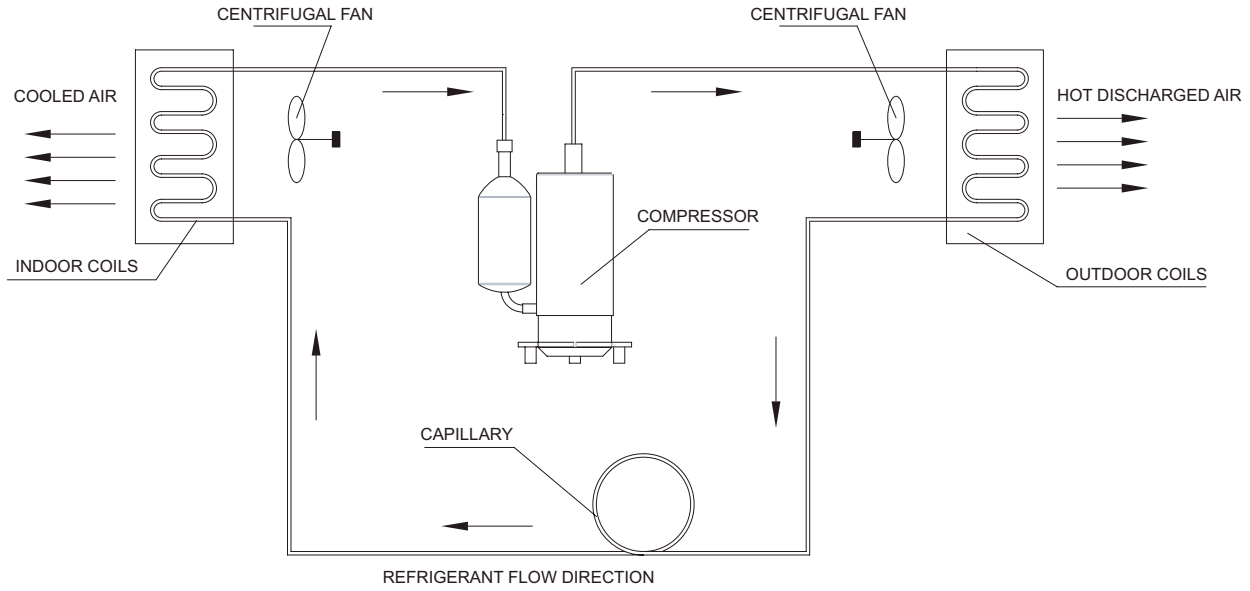




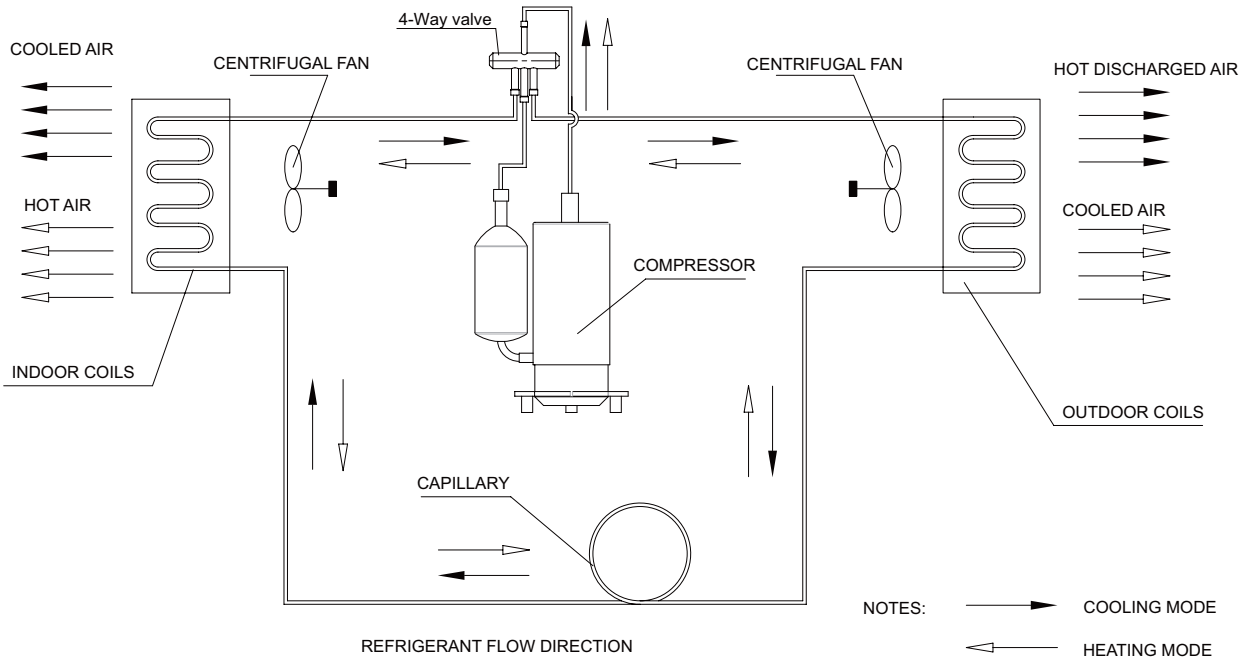


4. Refrigerant System Diagram

Cooling Only Model



Cooling & Heating Model



5. Electrical Part

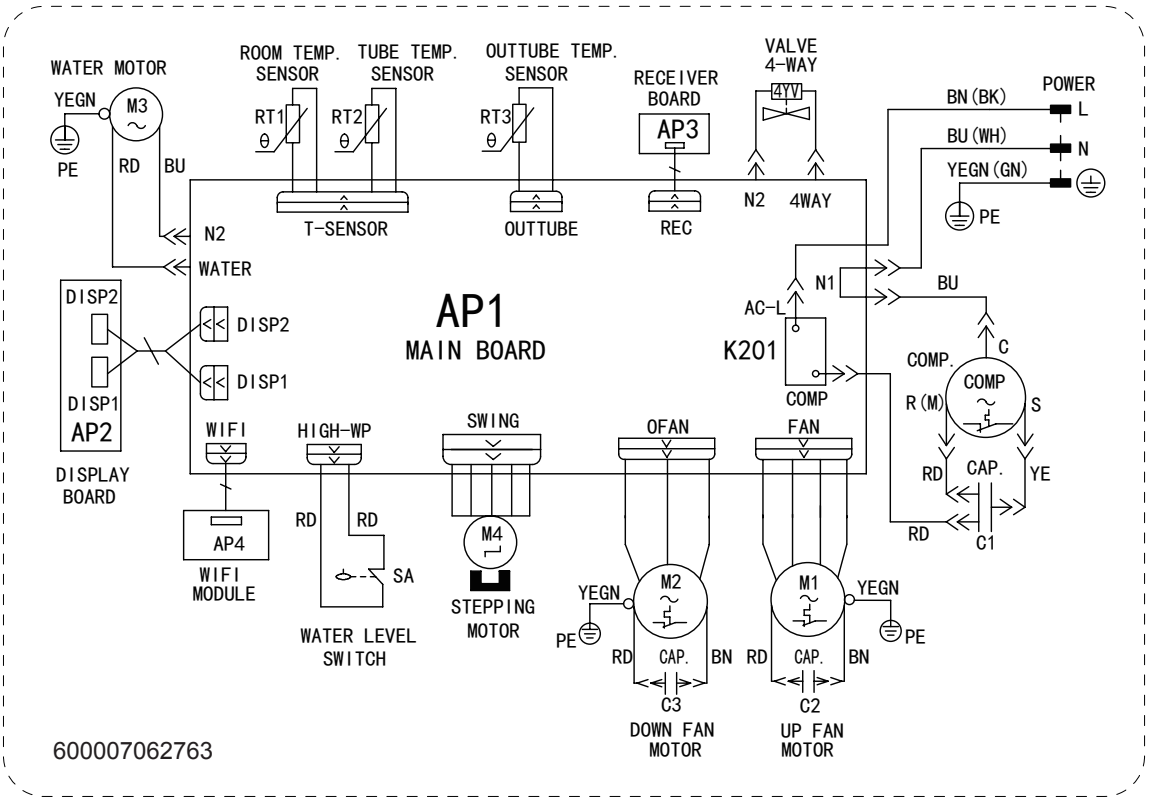
5.1 Wiring Diagram

●Instruction

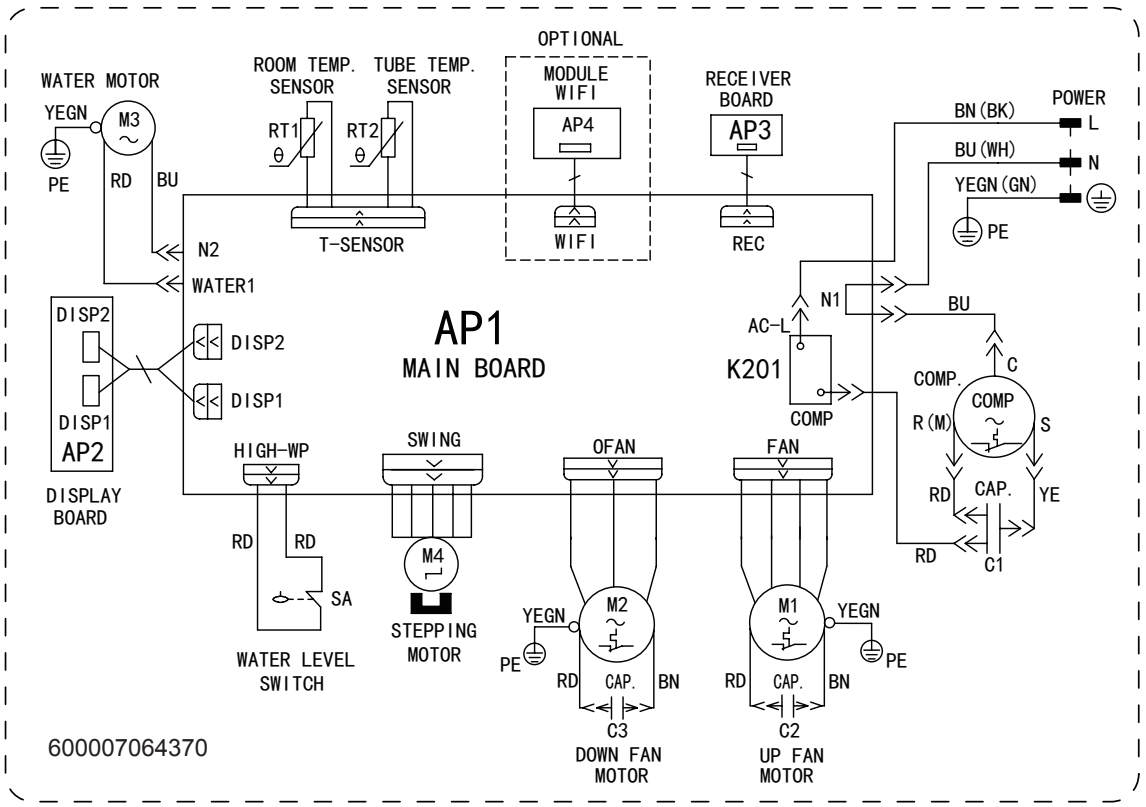
Symbol	Symbol Color	Symbol	Symbol Color	Symbol	Name
WH	White	GN	Green	COMP	Compressor
YE	Yellow	BN	Brown	⏚	Grounding wire
RD	Red	BU	Blue	/	/
YEGN	Yellow/Green	BK	Black	/	/
VT	Violet	OG	Orange	/	/

●Electric Diagram

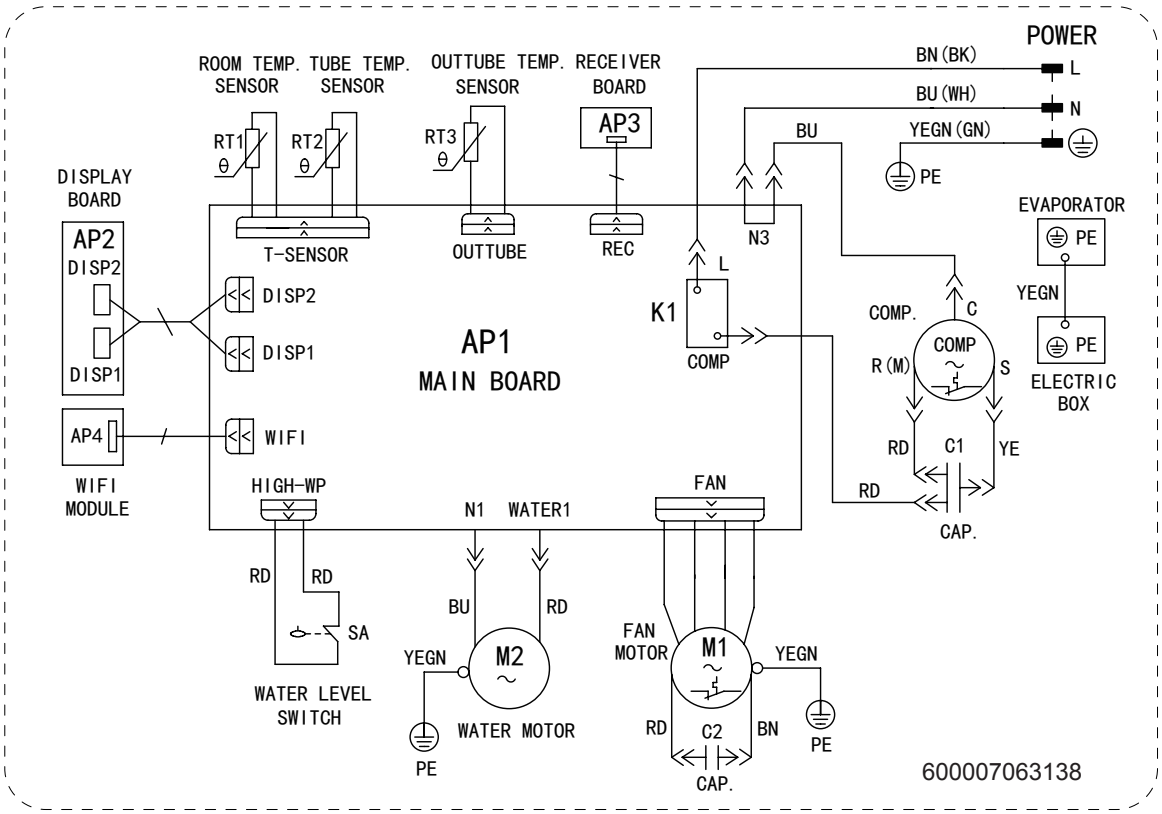
GPH12AQC-K5NNA1A



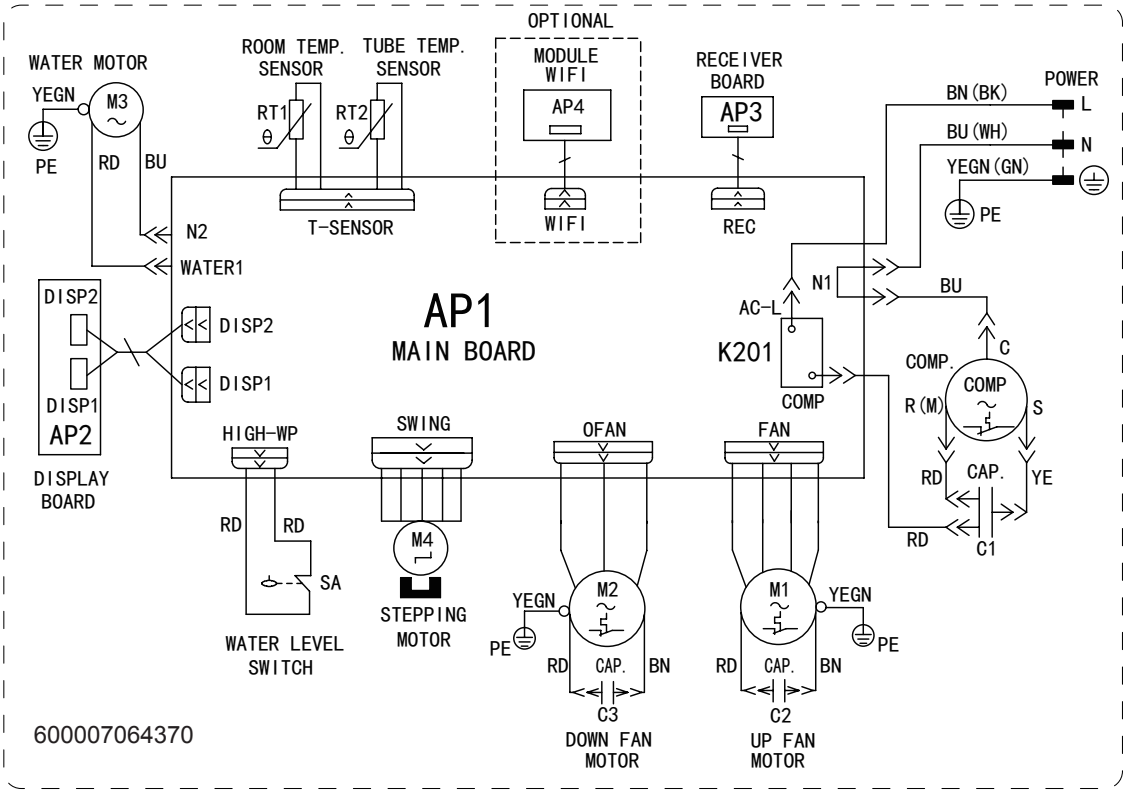
GPC12AQC-K5NNA1A



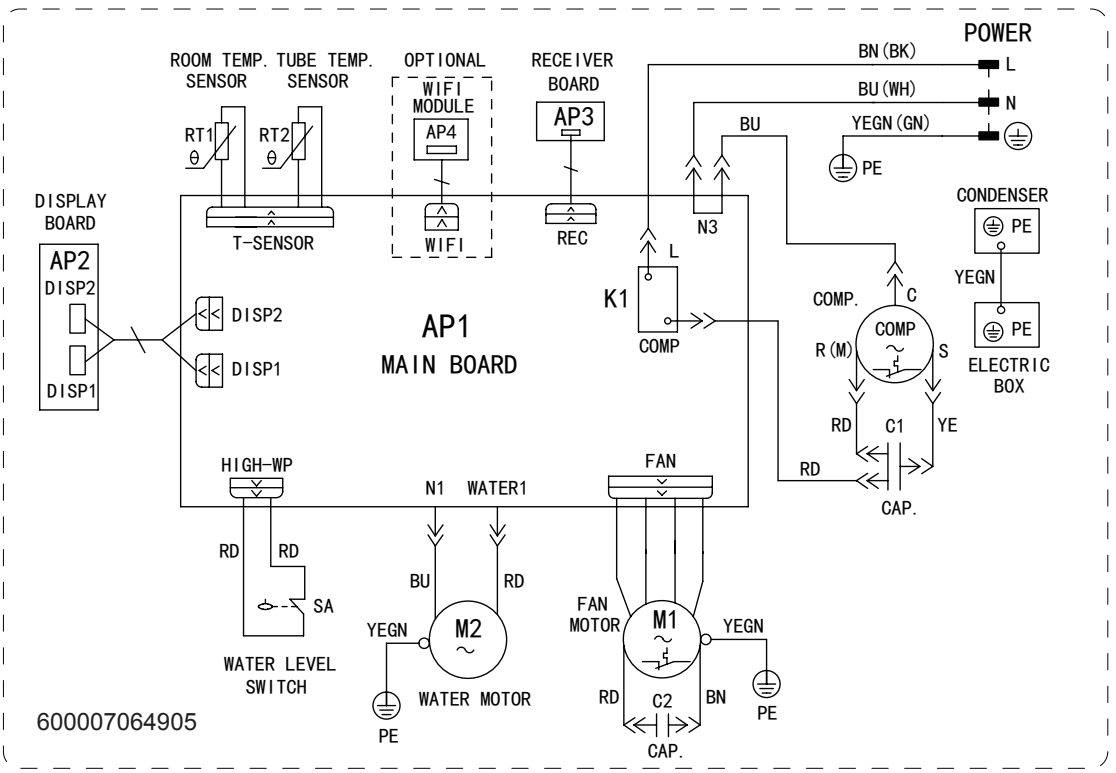
GPC07AQA-K5NNA1A



GPC10AQC-K5NNA1A

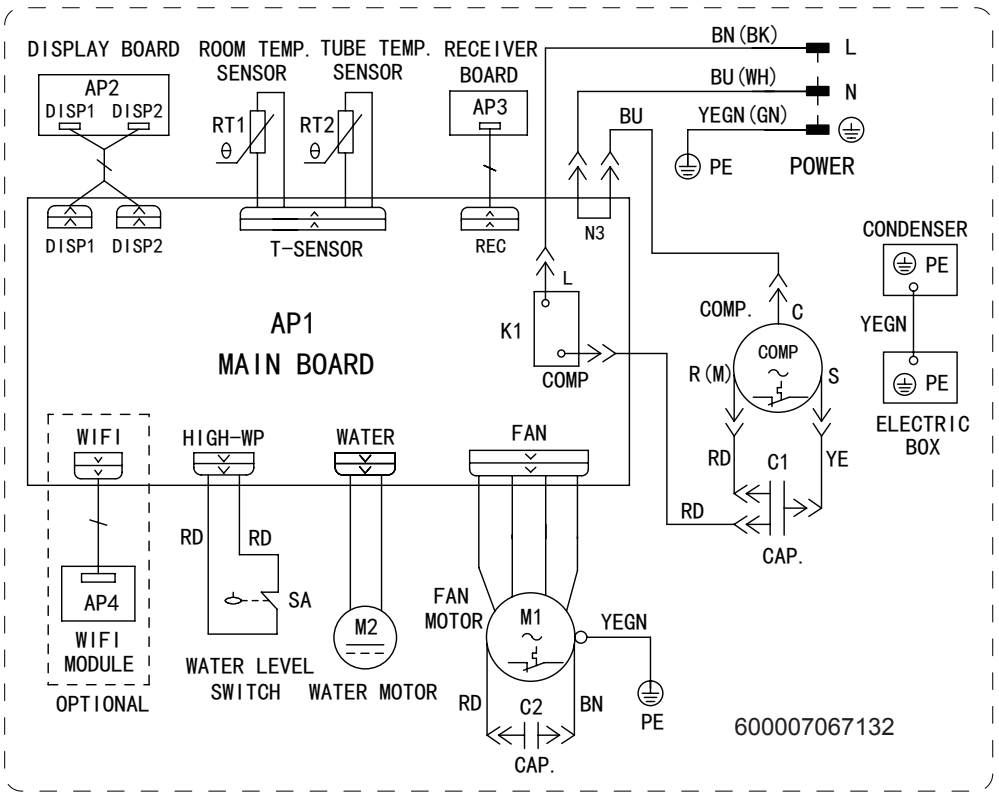


GPC09AQA-K5NNA1B
GPC07AQA-K5NNA1C
GPC07AQA-K5NNA1D
GPC09AQA-K5NNA1D
GPC07AQA-K5NNA1E(CK010052500)



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

GPC07AQA-K5NNA1E(CK010052501)

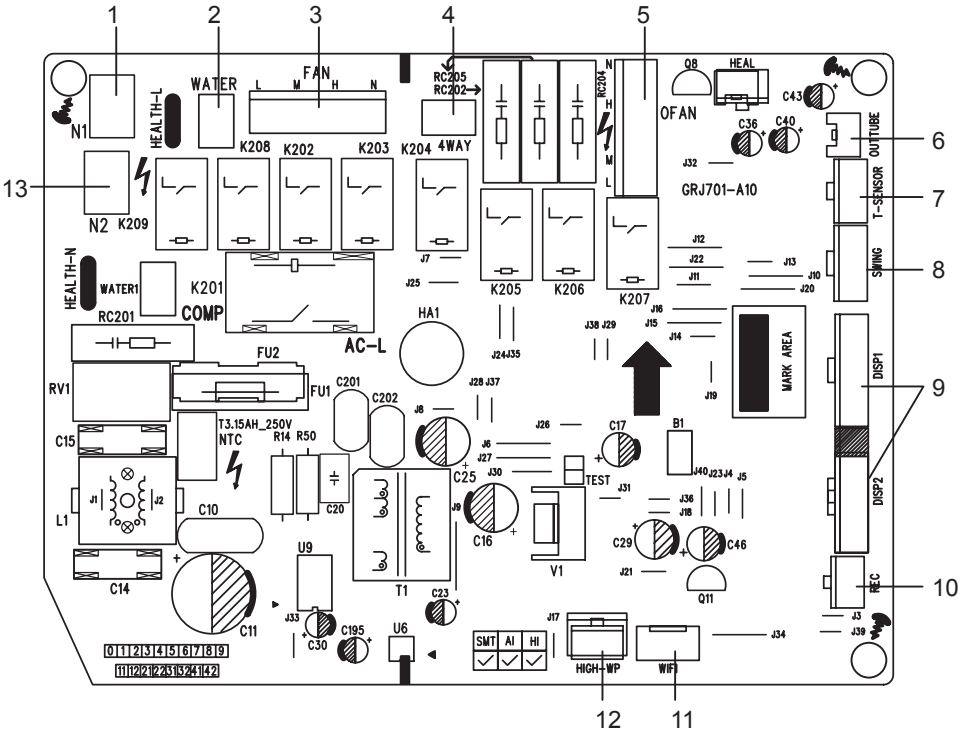


5.2 PCB Printed Diagram

(1)Silk screen on main board

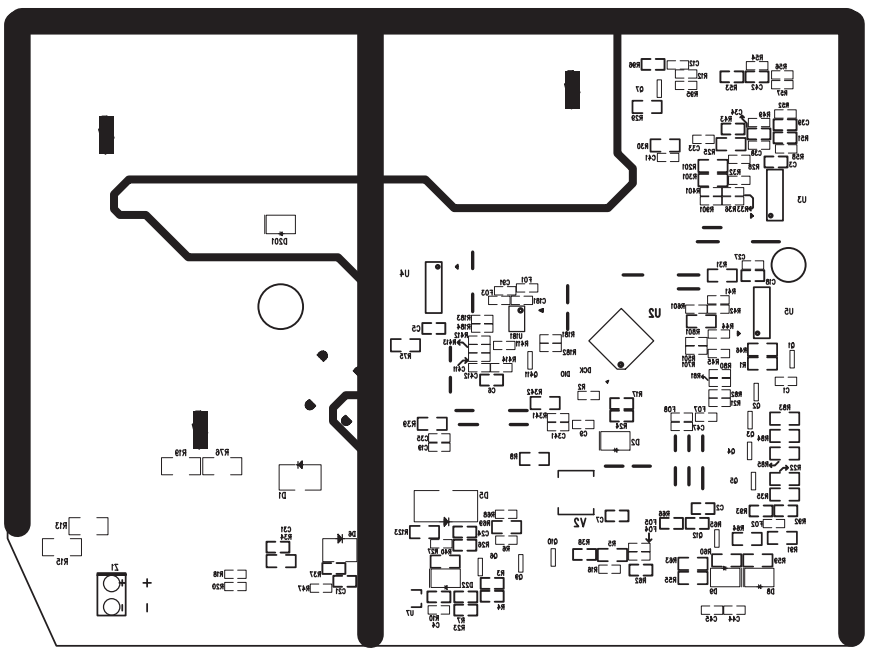
GPH12AQC-K5NNA1A
GPC12AQC-K5NNA1A
GPC10AQC-K5NNA1A

● **TOP VIEW**



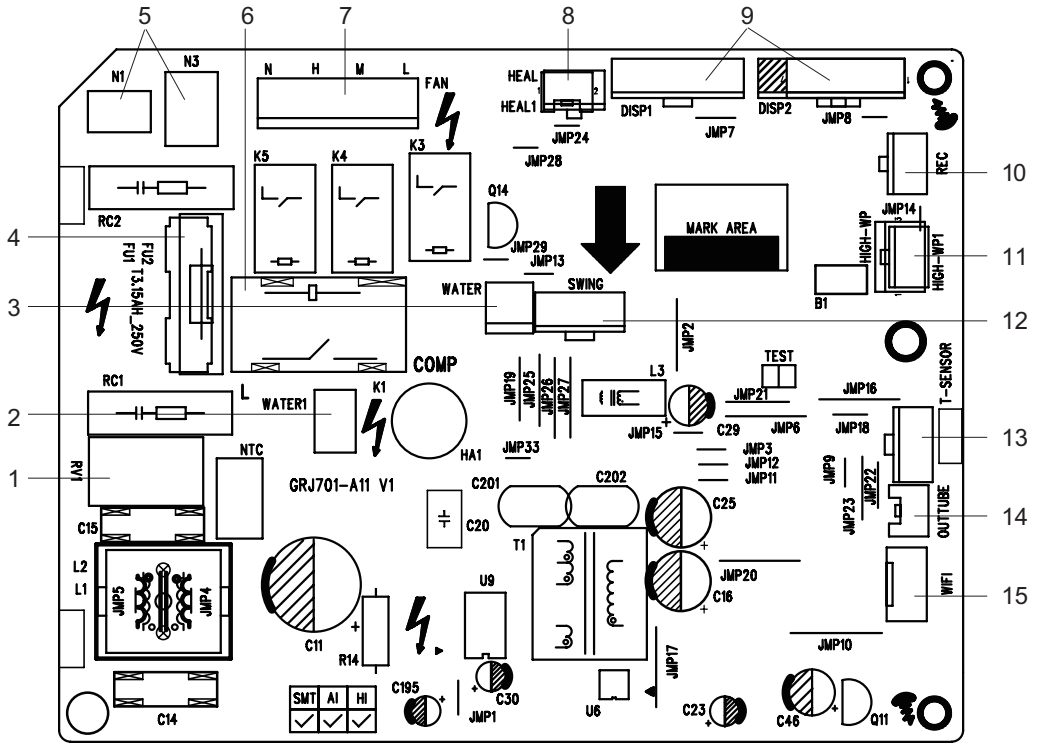
No.	Name
1	Copper fin N1 of neutral wire
2	Copper fin water o f motor
3	Indoor fan
4	4-way valve terminal
5	Interface of outdoor fan
6	Outtube temperature sensor
7	Wiring terminal of indoor unit temperature sensor
8	Interface of swing
9	Interface of display board
10	Interface of remoter
11	Interface of wifi board
12	High Level Switch
13	Copper fin N2 of neutral wire

● **BOTTOM VIEW**



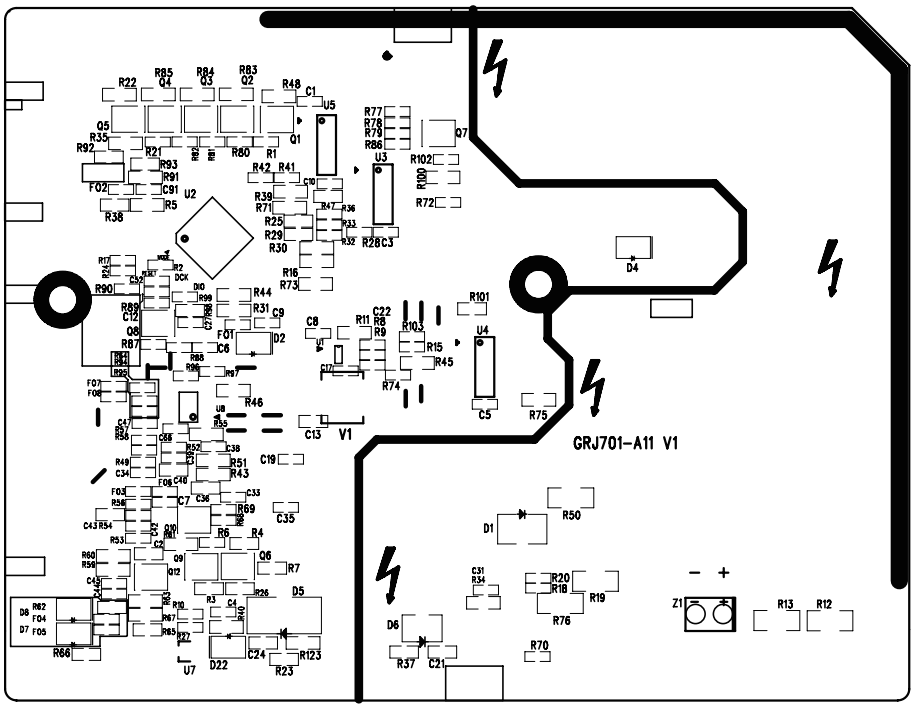
GPC07AQA-K5NNA1A
GPC09AQA-K5NNA1B
GPC07AQA-K5NNA1C
GPC07AQA-K5NNA1D
GPC09AQA-K5NNA1D
GPC07AQA-K5NNA1E

● **TOP VIEW**



No.	Name
1	Varistor
2	Copper fin of propeller motor
3	Interface of DC water motor
4	Fuse
5	Copper fin of neutral wire
6	Compressor relay
7	Interface of motor
8	Interface of ultra violet light
9	Interface of display board
10	Interface of remoter
11	Interface of water level switch
12	Interface of stepper motor
13	Interface of temperature sensor
14	Interface of out-tube temperature sensor
15	Interface of WiFi

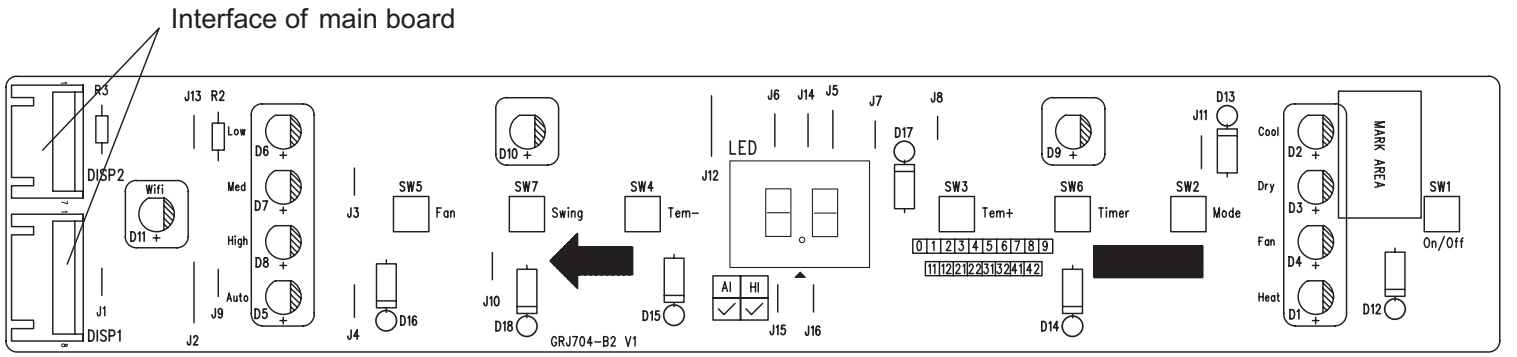
● **BOTTOM VIEW**



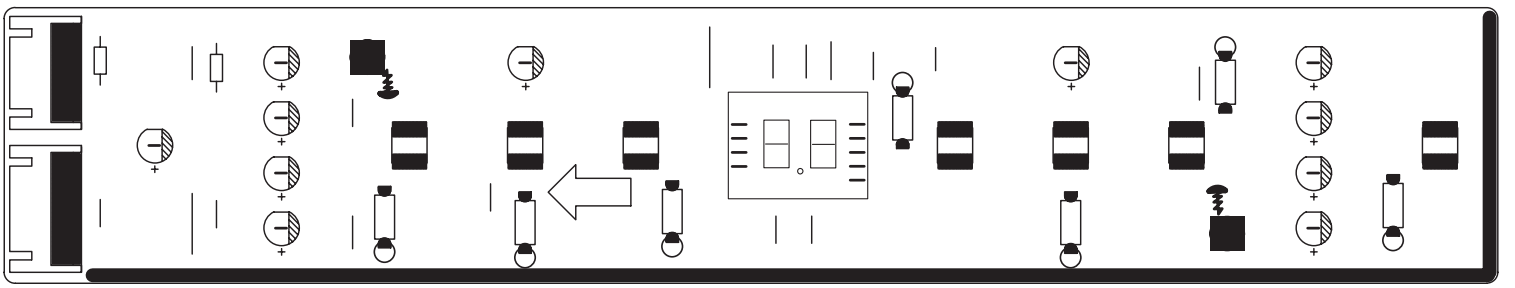
(2)Silk screen on display board

GPH12AQC-K5NNA1A
GPC12AQC-K5NNA1A
GPC10AQC-K5NNA1A

● **TOP VIEW**

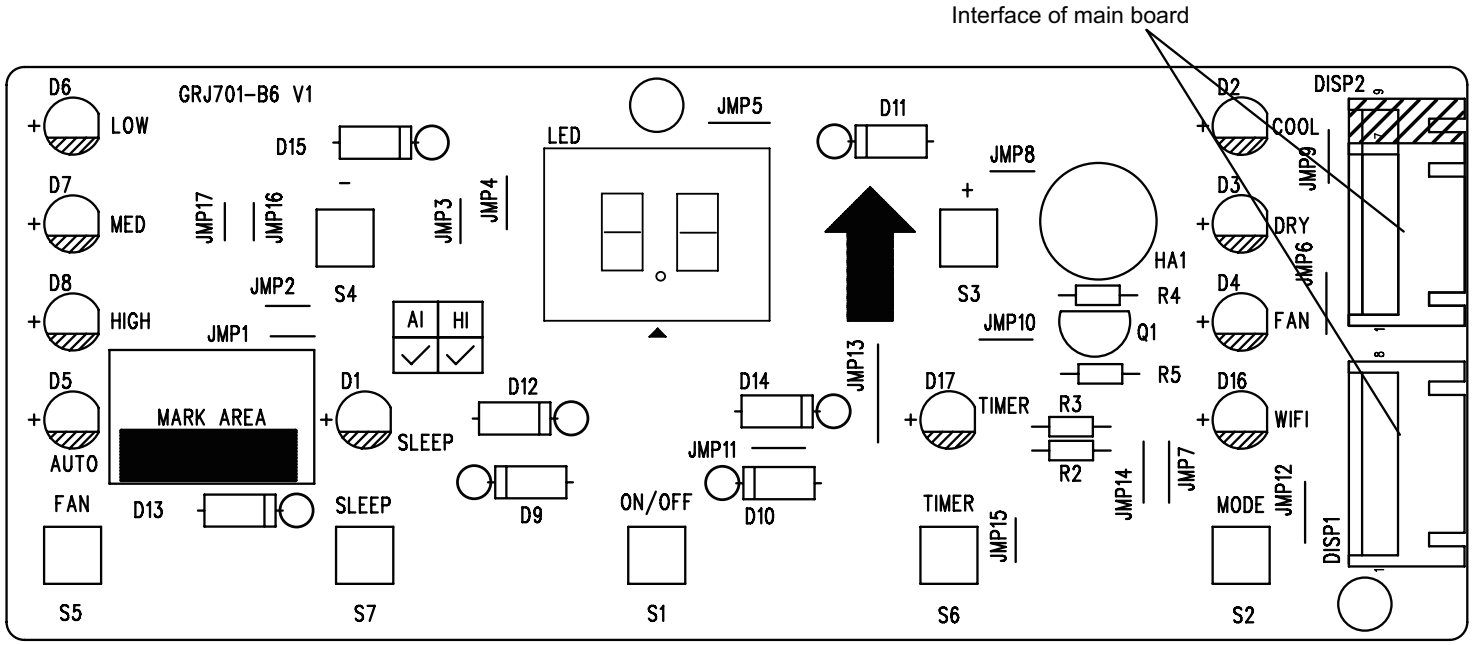


● **BOTTOM VIEW**

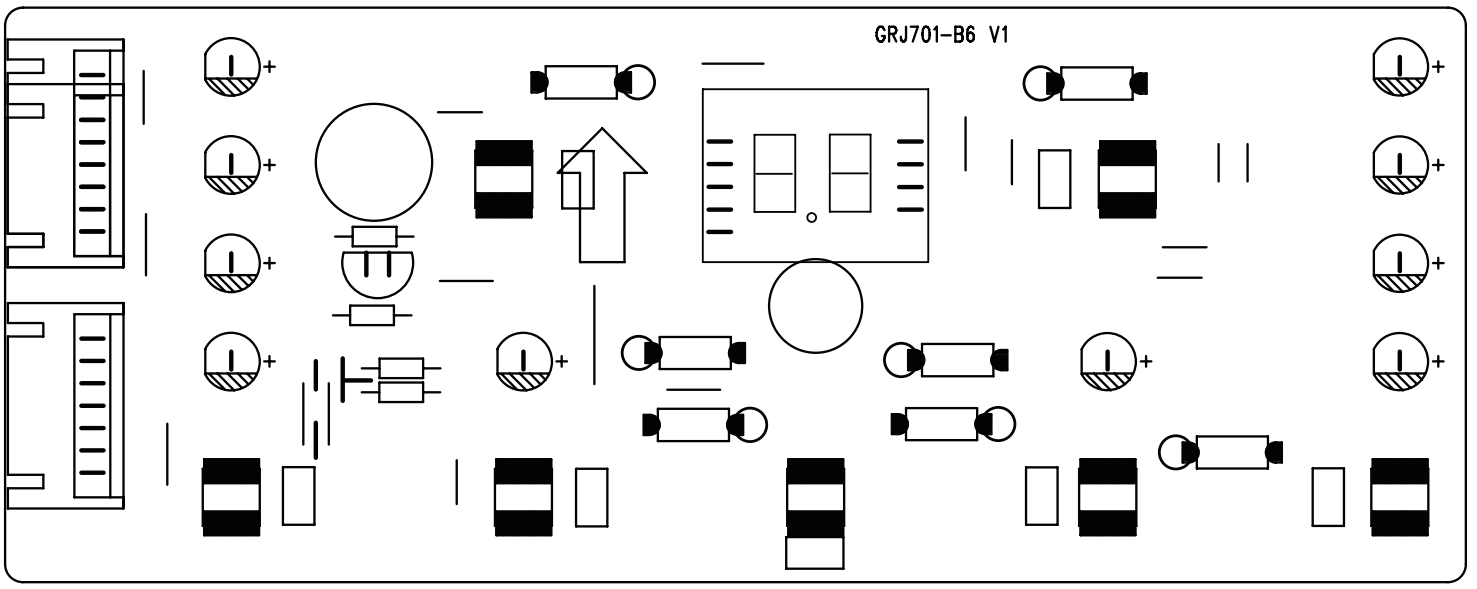


GPC07AQA-K5NNA1A
GPC09AQA-K5NNA1B
GPC07AQA-K5NNA1C
GPC07AQA-K5NNA1D
GPC09AQA-K5NNA1D
GPC07AQA-K5NNA1E

● **TOP VIEW**



● **BOTTOM VIEW**

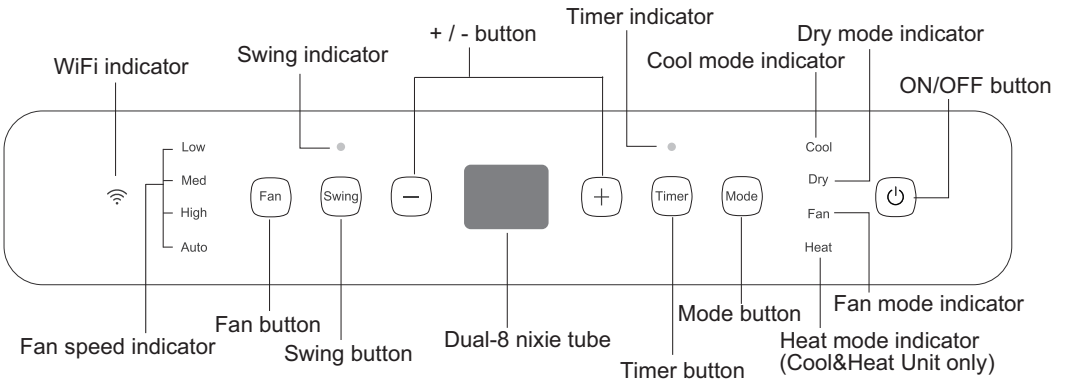


6. Function and Control

GPH12AQC-K5NNA1A
GPC12AQC-K5NNA1A
GPC10AQC-K5NNA1A

6.1 Introduction of control panel

Name of control panel



Notice

- After putting through the power, the air conditioner will give out a sound. After that, you can operate the air conditioner by the control panel.
- Under ON status, after each pressing of the button on control panel, the air conditioner will give out a sound.Meanwhile, corresponding indicator on control panel will be bright.
- Under OFF status, dual-8 nixie tube on control panel won't display. Under ON status, dual-8 nixie tube on control panel will display set temperature under cooling mode and Heating mode (Cool&Heat Unit only),while it won't display under other modes.

Operation of control panel

1 ON/OFF button

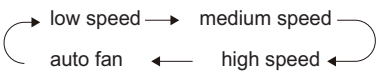
Pressing this button can turn on or turn off the air conditioner.

2 + / - button

Under cooling or heating mode, press "+" or "-" button to increase or decrease set temperature by 1°C(°F). Set temperature range is 16°C(61°F)~30°C(86°F). Under dry or fan mode, this button is invalid.

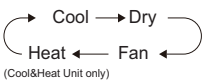
3 Fan button

Press this button and the fan speed will circulate as:



4 Mode button

Press this button and the mode will circulate as:



Cool: Under this mode, cooling mode indicator is bright. Dual-8 nixie tube displays set temperature. Temperature setting range is 16°C (61°F)~30°C(86°F)

Dry: Under this mode, drying mode indicator is bright. Dual-8 nixie tube won't display.

Fan: Under this mode, the air conditioner onlyblow fan. Fan indicator is bright. Dual-8 nixie tube won't display.

Heat (Cool&Heat Unit onl y) : Under this mode,eating mode indicator is bright. Dual-8 nixietube displays set temperature. Temperature setting range is 16°C(61°F)~30°C(86°F).

5 Timer button

Press this button and the mode will circulate according to below sequence:Press timer button to enter into timer setting mode. Under this mode, press "+" or "- " button to adjust the timer setting. Timer setting will increase or decrease 0.5 hour by pressing " + "or " - " button within 10 hours, while timer setting will increase or decrease 1 hour by pressing"+" or " - " button beyond 10 hours. After timer setting is finished, the unit will display temperature if there's no operation for 5s. If timer function is started up, the upper indicator will keep the display status. Others, it won't be displayed.

Under timer mode, press timer button again to cancel timer mode.

6 display

When the pattern is bright, it shows wifi opened

7 Swing

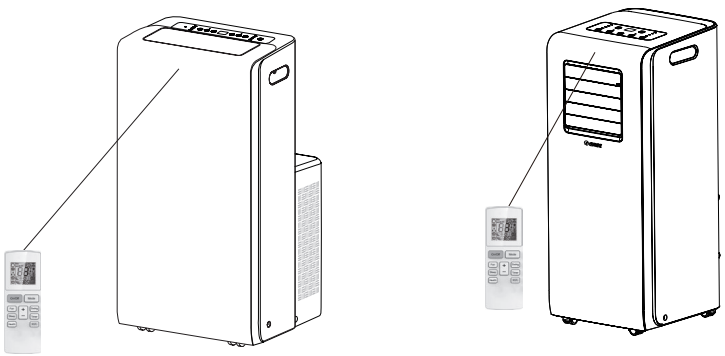
Press this button,horizontal louver of air conditioner will swing up&down automatically.Single press it to switchover between on and off.

Using the remote controller

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.

How to use the remote controller

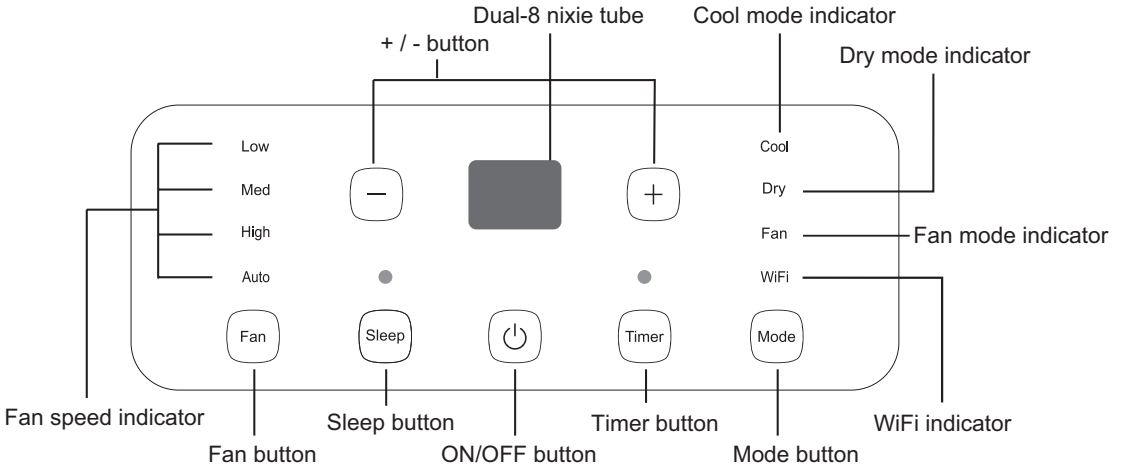
Point the remote control toward the Signal receiver and press the desired button. The unit generates a beep when it receives the signal.
• Make sure nothing, such as curtains, blocks the signal receiver window.
• The signal effective distance is no more than 8m.



CAUTION:
• Do not expose the receiver window to direct sunlight.
This may adversely affect its operation.
• Use of certain fluorescent lamp in the same room htsignal receiver window.
This may adversely affect its operation.
• Do not leave the remote control in direct sunlight or near a heater. Protect the remote control from moisture and shock.

GPC07AQA-K5NNA1A GPC09AQA-K5NNA1B GPC07AQA-K5NNA1C GPC07AQA-K5NNA1D GPC09AQA-K5NNA1D GPC07AQA-K5NNA1E

Name of control panel



Notice

- After putting through the power, the air conditioner will give out a sound. After that, you can operate the air conditioner by the control panel.
- Under ON status, after each pressing of the button on control panel, the air conditioner will give out a sound.Meanwhile, corresponding indicator on control panel will be bright.
- Under OFF status, dual-8 nixie tube on control panel won't display. Under ON status, dual-8 nixie tube on control panel will display set temperature under cooling mode and Heating mode (Cool&Heat Unit only),while it won't display under other modes.

Operation of control panel

1 ON/OFF button

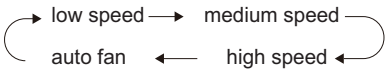
Pressing this button can turn on or turn off the air conditioner.

2 + / - button

Under cooling or heating mode, press "+" or "-" button to increase or decrease set temperature by 1°C(°F). Set temperature range is 16°C(61°F)~30°C(86°F). Under dry or fan mode, this button is invalid.

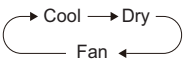
3 Fan button

Press this button and the fan speed will circulate as:



4 Mode button

Press this button and the mode will circulate as:



Cool: Under this mode, cooling mode indicator is bright. Dual-8 nixie tube displays set temperature. Temperature setting range is 16°C (61°F)~30°C(86°F)
Dry: Under this mode, drying mode indicator is bright. Dual-8 nixie tube won't display.
Fan: Under this mode, the air conditioner only blow fan. Fan indicator is bright. Dual-8 nixie tube won't display.

5 Timer button

Press this button and the mode will circulate according to below sequence:Press timer button to enter into timer setting mode. Under this mode, press "+" or "- " button to adjust the timer setting. Timer setting will increase or decrease 0.5 hour by pressing " + "or " - " button within 10 hours, while timer setting will increase or decrease 1 hour by pressing"+" or " - " button beyond 10 hours. After timer setting is finished, the unit will display temperature if there's no operation for 5s. If timer function is started up, the upper indicator will keep the display status. Others, it won't be displayed.
Under timer mode, press timer button again to cancel timer mode.

6 Sleep button

Press sleep button to enter into sleep mode. If the controller operates at cooling mode, after sleep mode is started up, preset temperature will increase by 1°C(2°F) within 1 hour ;preset temperature will increase by 2°C(4°F) within 2 hours and then the unit will operate at this temperature all the time; Sleep function is not available for fan mode, drying mode. If sleep function is started up, the upper indicator will keep the display status. Others, it won't be displayed.

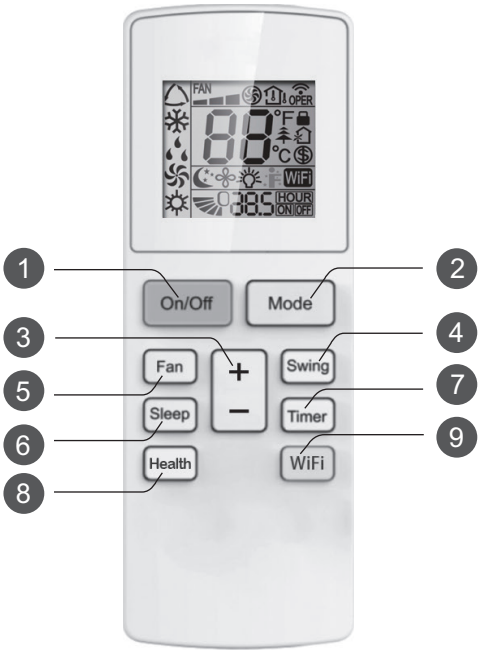
7 WiFi indicator display

When the indicator is bright, it shows WiFi opened.

6.2 Remote Controller Introduction

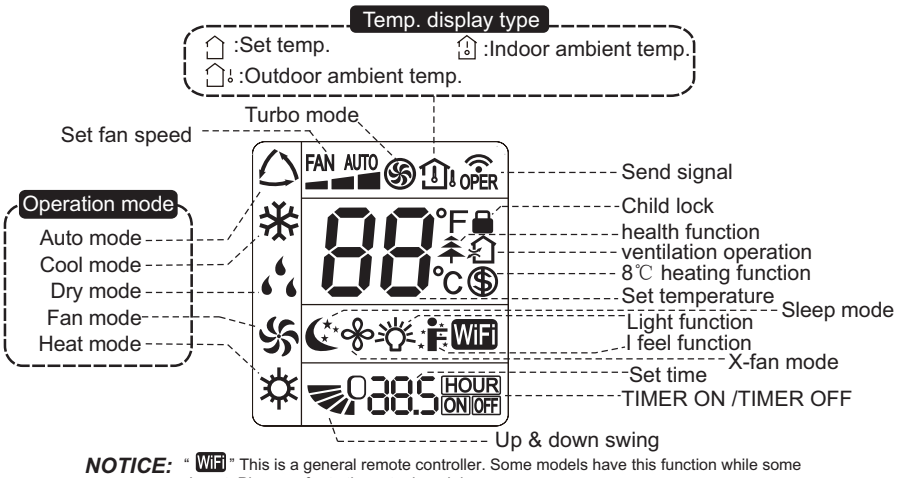
Buttons on Remote Controller

YAW1F7(WiFi)



1. On/Off button
2. Mode button
3. + / - button
4. Swing button
5. Fan button
6. Sleep button
7. Timer button
8. Health button
9. WiFi button

Introduction for Icons on Display Screen



NOTICE: " WiFi " This is a general remote controller. Some models have this function while some do not. Please refer to the actual models.

Introduction for Buttons on Remote Controller

Note:

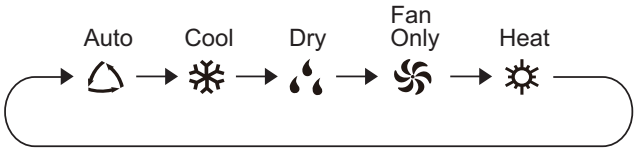
- This is a general use remote controller, it could be used for the air conditionerswith multifunction; For some function, which the model doesn't have, if pressthe corresponding button on the remote controller that the unit will keep the original running status.

1 ON/OFF button

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

2 MODE button

NOTE: The remote controller can not set the SE mode. SE mode can only beset by control panel or APP.
Press this button can your required operation mode in turn. Corresponding indicator will be on.



- **Auto:**Under this mode, the unit will operate automatically according to ex-factory setting. In this case, set temperature cannot be adjusted.
- **Cool:**Under this mode, air conditioner operates under cooling mode. Cooling indicator will be on. Press “Fan Speed” button can adjust the fan speed. **:**
- **Dry:**Under this mode, the unit runs in low fan speed for dehumidification and the corresponding indicator is on; under dry mode, the fan speed cannot be adjusted.
- **Fan Only:**Under this mode, air conditioner will not cool or heat, only blow wind.Fan indicator will be on. Press “Fan Speed” button can adjust the fan speed.
- **Heat:**Under this mode, air conditioner operates under heating mode. Press “Fan Speed” button can adjust the fan speed. (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.)

3 + / - button

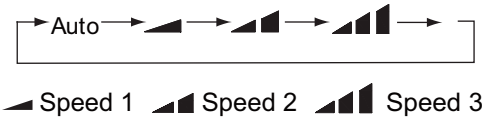
- Pressing “+” or “-” button once will increase or decrease set temperature by 1°F(°C).Hold “+” or “-” button for 2s, set temperature on remote controller will change.quickly. Release the button after your required set temperature is reached.
- Under timer setting status, after each pressing of “+” or “-” button, time will increase or decrease 0.5h. Hold “ + ” or “-” button, 2s later, time displayed on dual-8 nixie tube will change quickly. Loosen the button until the time is reached to your set time.

4 Swing button

NOTE: This function is not available for this model.
Press this button to turn “ON” & “OFF” swing.

5 Fan button

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



NOTE: There are 3 speeds for the Fan Speed of this model.

6 Sleep button

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

7 Timer button

Under ON status, press this button to set timer OFF; Under OFF status, press this button to set timer ON.
Press this button once and the characters of HOUR ON (OFF) will flash to be displayed. Meanwhile, press “+” button or “-” button to adjust timer setting (time will change quickly if holding “+” or “-” button). Time setting range is 0.5~24 hours.
Press this button again to confirm timer setting and the characters of HOUR ON (OFF)will stop flashing.If the characters are flashing but you haven’t press timer button,timer setting status will be quit after 5s.If timer is confirmer, press this button again

8 Health 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.

9 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.

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.

Function introduction for combination buttons

Temperature display switchover function

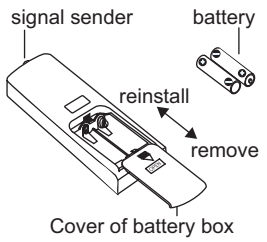
Under OFF status, press "-" and "Mode" buttons simultaneously to switch temperature display between °C and °F

Light function

Under switch-on or switch-off state, you may hold "+"and "FAN" buttons simultaneously to set the lamp on or off and send the code. After being energized the lamp is defaulted on.

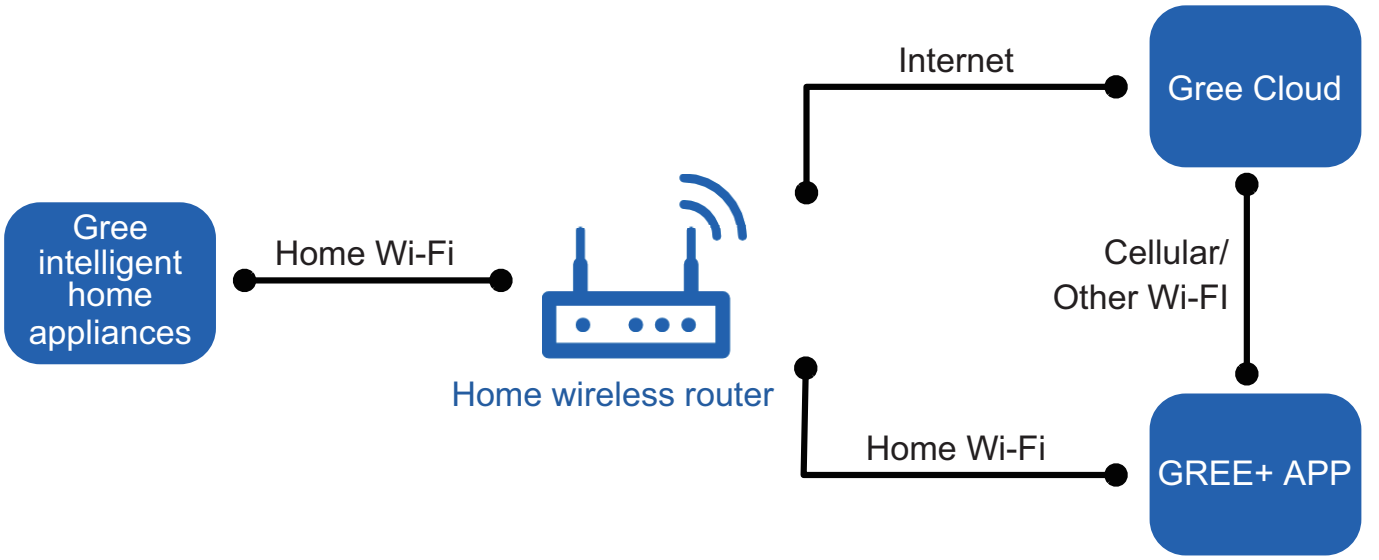
Replacement of batteries in remote controller

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



6.3 GREE+ App Operation Manual

Control Flow Chart



Operating Systems

Requirement for User's smart phone:

iOS system
Support iOS7.0 and above version

Android system
Support Android 4.4 and above version

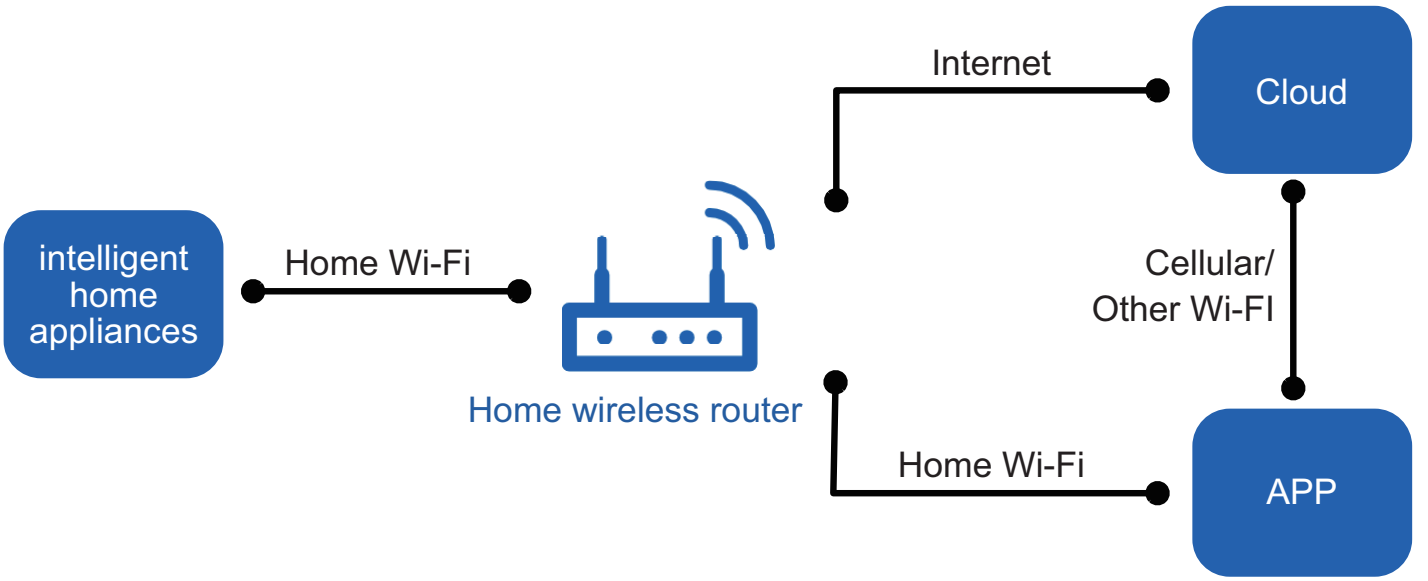
Download and installation

GREE+ App Download Linkage

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

6.4 Ewpe Smart App Operation Manual

Control Flow Chart



Operating Systems

Requirement for User's smart phone:

iOS system
Support iOS7.0 and above version

Android system
Support Android 4.4 and above version

Download and installation

App Download Linkage

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

6.5 Introduction of Basic Mode Function

1. Temperature Parameter

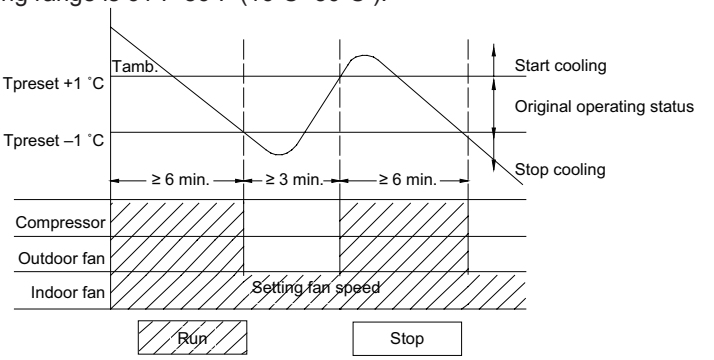
◆ Indoor setting temperature (T_{preset})
◆ Indoor ambient temperature ($T_{amb.}$)

2. Basic Functions of System

After the unit is energized, the interval of start-up time for compressor is no less than 3min under any conditions; when the compressor is started, the unit is off without the temperature change in 6min.

2.1 Cool Mode

a) When $T_{abm.} \geq T_{preset}$ + 1°C (2°F), the unit will start to run in cooling mode, the compressor and kick motor start to run, and fan motor runs under preset fan speed.
b) When $T_{abm.} \leq T_{preset}$ - 1°C (2°F), the compressor and kick motor stop to run, and fan motor runs under preset fan speed.
c) When T_{preset} - 1°C (2°F)<$T_{amb.}$<T_{preset} + 1°C (2°F), the unit will keep the current running status.
Under this mode, the temperature setting range is 61°F-86°F (16°C -30°C).



2.2 Dry mode

Under this mode, set temperature and ambient temperature won't be displayed. Indoor fan operates at low fan speed. 2°C(36°F)≤Tamb.≤45°C(113°F), Compressor and draw water motor operates continuously.

2.3 Fan mode

Under this mode, set temperature and ambient temperature won't be displayed. Indoor fan operates at set fan speed.

3. Other Control Function Introduction

3.1 TIMER Function

● General timer
a) TIMER ON: It can set timer on when the system is off, the setting time range is 0.5h-24h, when the time of setting timer on reaches, and the system runs with the previous setting mode.
b) TIMER OFF: It can set timer on when the system is on, the setting time range is 0.5h-24h, when the time of setting timer off reaches, the system stop to work.
● Clock timer
a) TIMER ON: If set timer on when the system is running, it continues to run; if set timer on when the system is off, when the time of setting timer on reaches, and the system runs with the previous setting mode.
b) TIMER OFF: If set timer off when the system is off, the system keeps the stand-by status when setting timer off; if set timer off when the system is on, when the time of timer off reaches, the system stops to run.

3.2 SLEEP Function

a) Under cooling mode, after 1h of setting sleep process, Tpreset increases 2°F(1°C); 2h later, Tpreset increases 4°F(2°C). After 2h, the setting temperature never increases, but the upper limit of increased setting temperature is 86°F(30°C)
b) Under heating mode, after 1h of setting sleep process, Tpreset decreases 2°F(1°C); 2h later, Tpreset decreases 4°F(2°C). After 2h, the setting temperature never decreases, but the upper limit of decreased setting temperature is 61°F(16°C)
c) There is no sleep function under fan and dry mode.
d) When set sleep function, shift mode will cancel sleep function.
e) The setting temperature display is the same with remote controller; it is not influenced by the setting temperature increases/ decreases.

3.3 Auto Fan speed control

a) Auto fan speed under Cooling mode;
Tamb≥Tpreset+4°F(2°C) High fan;
Tpreset<Tamb.< Tpreset+4°F(2°C) Med fan;
Tamb≤Tpreset Low fan
b) There is 3.5min delay for auto fan shift.

3.4 Memory Function

The system memories the setting running status of previous power-off, and runs automatically with the setting running status before it power-off when it is energized again. If the unit is on before power-off, the compressor will 3min delay protection when it is energized again.

3.5 Indicator Lamp, dual-8 digital pipe

a) When the unit runs, under cooling mode, cooling indicator lamp lights, dual-8 displays preset temperature.
b) When the unit runs, under fan mode, fan indicator lamp lights, dual-8 does not display.
c) When the unit runs, under dry mode, dry indicator lamp lights, dual-8 does not display.
d) When the unit runs, under heating mode, heating indicator lamp lights, dual-8 displays preset temperature.

3.6 Setting button function

a) ON/OFF button: It controls system's switch.
b) Mode button: Mode setting cycle with below sequence: Cooling only unit: cooling-> dry-> fan.
c) Temp. ▼ button: Set temperature when the unit is on, the setting temperature decreases 1°C or °F per press Temp. ▼ button; it will never setting when the setting reaches to 16°C or 61°F. The button is not valid under dry and fan mode.
d) Temp. ▲ button: Set temperature when the unit is on, the setting temperature increases 1°C or °F per press Temp. ▲ button; it will never setting when the setting reaches to 30°C or 86°F. The button is not valid under dry and fan mode.

4. Protection Function

4.1 Anti-freeze Protection

When the anti-freeze protection is inspected, the compressor stops, fan motor runs with setting fan speed.
When the anti-freeze protection is canceled and reaches to the 3min time-delay, it runs with the original status.
Temperature sensor failure inspection
a) Environment temperature sensor is open, short circuit: dual-8 displays F1, the cooling indicator lamp goes out 3S and blinks 1 time, and it will light up 0.5S and go out 0.5S when it is blinking.
b) Indoor pipe temperature sensor is open, short circuit: dual-8 displays F2, the cooling indicator lamp goes out 3S and blinks 2 times, and it will light up 0.5S and go out 0.5S when it is blinking.
c) Outdoor pipe temperature sensor is open, short circuit: dual-8 displays F4, the cooling indicator lamp goes out 3S and blinks 4 times, and it will light up 0.5S and go out 0.5S when it is blinking.
d) The compressor or electric heating pipe stops when the temperature sensor failure and the unit is on, The fan motor will be deal regarding compressor or electric pipe reach to the temperature point and stops.

4.2 Water over-flow protection

If the Water over-flow protection is detected for 3S, it will enter into Water over-flow protection. Display code H8.

4.3 Compressor protection

Compressor can be restarted only after 3 minutes delayed.

Part II : Installation and Maintenance

7. Notes Maintenance Safety Precautions: Important!

Please read the safety precautions carefully before installation and maintenance.
The following contents are very important for installation and maintenance.
Please follow the instructions below.
●The installation or maintenance must accord with the instructions.
●Comply with all national electrical codes and local electrical codes.
●Pay attention to the warnings and cautions in this manual.
●All installation and maintenance shall be performed by distributor or qualified person.
●All electric work must be performed by a licensed technician according to local regulations and the instructions given in this manual.
●Be caution during installation and maintenance. Prohibit incorrect operation to prevent electric shock, casualty and other accidents.

Warnings

Electrical Safety Precautions:

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

Refrigerant Safety Precautions:

When refrigerant leaks or requires discharge during installation, maintenance, or disassembly, it should be handled by certified professionals or otherwise in compliance with local laws and regulations.

1. This unit adopts R290 refrigerant. System maintenance is strictly prohibited.
2. If the refrigerant leaks or the pipeline is damaged, it is forbidden to conduct the maintenance. The unit should be recycled and disposed according to local regulations.
3. It is strictly forbidden to cut or weld the refrigerant. Otherwise, it may lead to explosion.

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


Appliance filled with flammable gas R290.


Before install and use the appliance, read the owner's manual first.


Before install the appliance, read the installation manual first.


Before repair the appliance, read the service manual first.

The Refrigerant

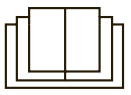
- To realize the function of the air conditioner unit, a special refrigerant circulates in the system. The used refrigerant is the fluoride R290, which is specially cleaned.
  The refrigerant is flammable and inodorous. Furthermore, it can leads to explosion under certain conditions.
- Compared to common refrigerants, R290 is a nonpolluting refrigerant with no harm to the ozonosphere.
  The influence upon the greenhouse effect is also lower. R290 has got very good thermodynamic features which lead to a really high energy efficiency. The units therefore need a less filling.
- Please refer to the nameplate for the charging quantity of R290.

WARNING :

- Appliance filled with flammable gas R290.
- Appliance shall be installed, operated and stored in a room with a floor area larger than Xm^2.

model	Xm^2
GPC07AQA-K5NNA1A GPC07AQA-K5NNA1C GPC07AQA-K5NNA1D GPC07AQA-K5NNA1E	4
GPC09AQA-K5NNA1B GPC09AQA-K5NNA1D GPC10AQC-K5NNA1A GPH12AQC-K5NNA1A GPC12AQC-K5NNA1A	11

- The appliance shall be stored in a room without continuously operating ignition sources . (for example: open flames, an operating gas appliance or an operating electric heater.)
- The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified foroperation.
- The appliance shall be stored so as to prevent mechanical damage from occurring.
- Ducts connected to an appliance shall not contain an ignition source.
- Keep any required ventilation openings clear of obstruction.
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odour.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by themanufacturer.
- Servicing shall be performed only as recommended by the manufacturer.
- Should repair be necessary, contact your nearest authorized Service Centre.
  Any repairs carried out by unqualified personnel may be dangerous.
- Compliance with national gas regulations shall be observed.
- Read specialist's manual.

Frequency band(s) in which the radio equipment operates: 2400MHz-2483.5MHz
Maximum radio-frequency power transmitted in the frequency band(s) in which the radio equipment operates: 20dBm
R290:3

This marking indicates that this product should not be disposed with other house hold wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal , recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

8. Installation Precaution

⚠ WARNING:

- Observe all governing codes and ordinances.
- Do not use damaged or non-standard power cord.
- Be caution during installation and maintenance. Prohibit incorrect operation to prevent electric shock, casualty and other accidents.

8.1 Selection of installation location

Basic requirement

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

1.The place with strong heat sources,vapors,flammable or explosive gas,or volatile objects spread in the air.
2. The place with high-frequency devices (such as welding machine, medical equipment).
3. The place near coast area.
4. The place with oil or fumes in the air.
5. The place with sulfureted gas.
6. Other places with special circumstances.
7. It's not allowed to be installed on the unstable or motive base structure (such as truck) or in the corrosive environment (such as chemical factory).

Requirement of air conditioner

1. Air inlet should be far away from obstacles and do not put any objects near air outlet.Otherwise, it will affect the radiation of heat discharge pipe.
2. Select a location where the noise and outflow air emitted by the outddor unit will not affect neighborood.
3. Please try your best to keep far away from fluorescent lamp.
4.The appliance shall not be installed in the laundry.

8.2 Requirements for electric connection

Safety precaution

1. Must follow the electric safety regulations when installing the unit.
2. According to the local safety regulations, use qualified power supply circuit.
3. For appliances with type Y attachment,the instructions shall contain the substance of the following.If the supply cord is damaged,it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
4. Properly connect the live wire, neutral wire and grounding wire of power socket.
5. Be sure to cut off the power supply before proceeding any work related to electricity and safety.
6. Do not put through the power before finishing installation.
7.The air conditioner is first class electric appliance. It must be properly grounding with specialized grounding device by a professional. Please make sure it is always grounded effectively, otherwise it may cause electric shock.
8. The yellow-green wire or green wire in air conditioner is grounding wire, which can't be used for other purposes.
9. The grounding resistance should comply with national electric safety regulations.
10. The appliance shall be installed in accordance with national wiring regulations.
11. To be in compliance with IEC 61000-3-11, impedance value of power-supply system connected to product must be less than or equal to the allowable maximum value of |Zsys| in the following sheet:

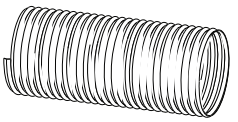
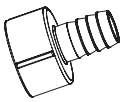
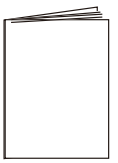
models	max |Zsys| unit:ohms
All models	0.13

8.3 Preparation before Installation

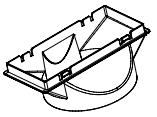
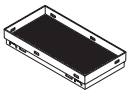
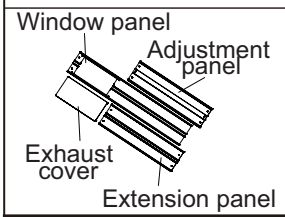
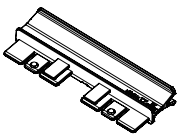
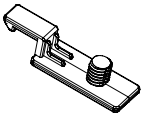
GPH12AQC-K5NNA1A
GPC10AQC-K5NNA1A
GPC12AQC-K5NNA1A

Note:check if the accessories are available before installation

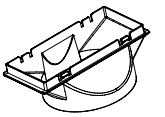
Accessory list

 Joint A	 Heat discharge pipe	
 Drain connector	 Power cord hooks	 Screws
 Remote controller	 User's manual	 Battery (AAA 1.5V)

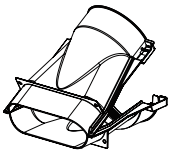
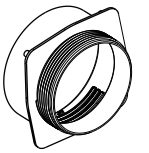
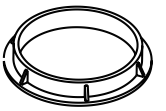
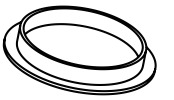
Optional 1

 Rear clip	 Mothproof net
 Window panel, Adjustment panel, Exhaust cover, Extension panel	 Fixed base
 Fixed clip	 Mounting plate
 Bracket	 Screw
 Sponge A	 Sponge B

Optional 2


Rear clip

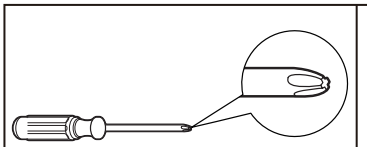
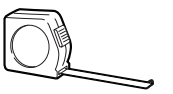
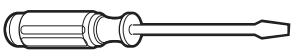
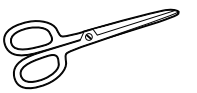
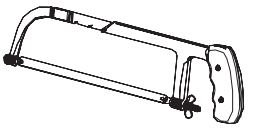
Optional 3

 Joint H	 Joint D
 Joint E	 Plastic Cover

Optional 4

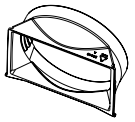
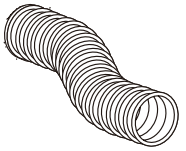
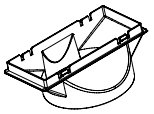
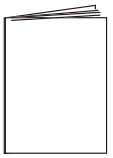
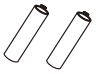

Drainage hose

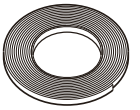
Tools needed for installation

 Phillips head screwdriver	 Tape measure
 Flathead screwdriver	 Scissors
 Saw	 Pencil

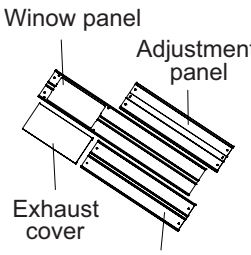
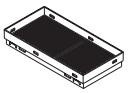
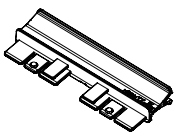
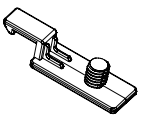
GPC07AQA-K5NNA1A GPC09AQA-K5NNA1B GPC07AQA-K5NNA1C

Accessory list

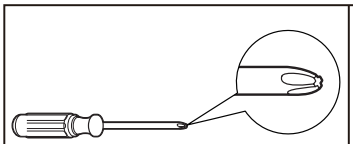
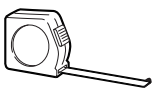
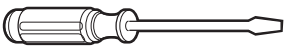
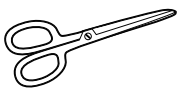
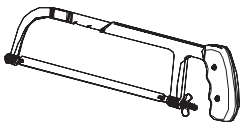
 Joint	 Heat discharge pipe	
 Rear clip	 Cord hook	 Screws
 Remote controller	 User's manual	 Battery (AAA 1.5V)

 Foam seal A	 Foam seal B (adhesive type)

Optional

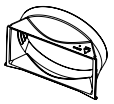
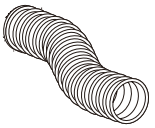
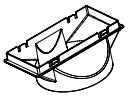
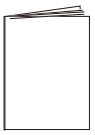
	 Mothproof net
	 Fixed base
 Fixed clip	 Mounting plate
 Bracket	 Screw

Tools needed for installation

 Phillips head screwdriver	 Tape measure
 Flathead screwdriver	 Scissors
 Saw	 Pencil

GPC07AQA-K5NNA1D GPC09AQA-K5NNA1D GPC07AQA-K5NNA1E

Accessory list

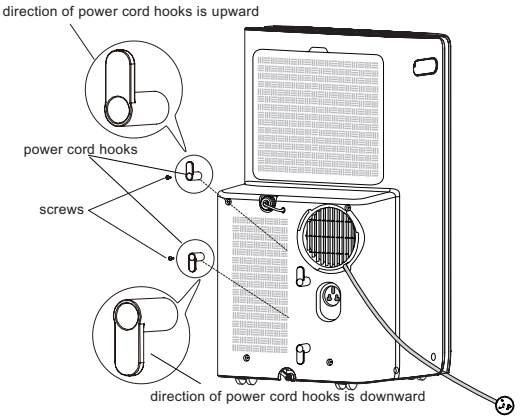
 Joint	 Heat discharge pipe	
 Rear clip	 Cord hook	 Screws
 Remote controller	 User's manual	 Battery (AAA 1.5V)

8.4 Install

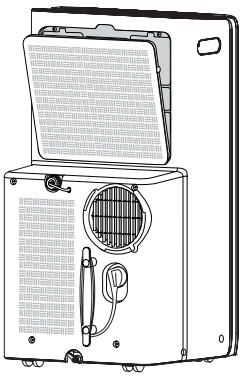
GPH12AQC-K5NNA1A
GPC10AQC-K5NNA1A
GPC12AQC-K5NNA1A

(1) Install Power cord Hooks

● Assemble the power cord hooks at the back of the unit with screws (the direction of power cord hooks is as shown in following fig).

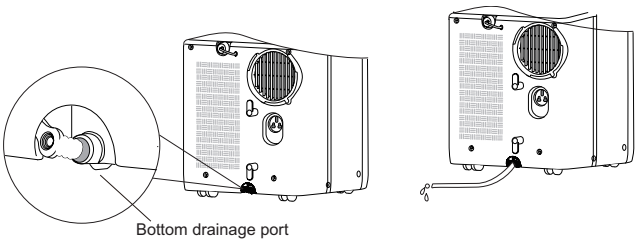


● Wind the power cord around the power cord hooks.



(2) Drain Water

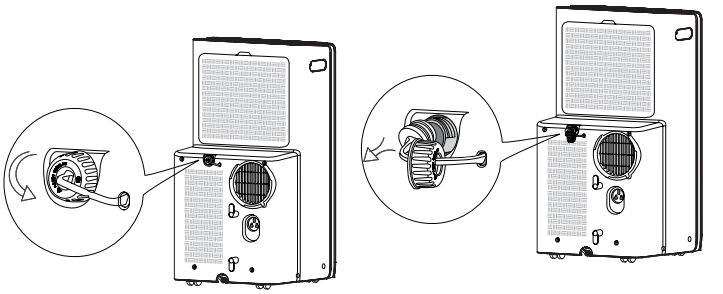
To reach the maximum performance, it is not recommended to drain water, during Cool mode.
It is recommended to use the middle drainage port to drain water, during Dry mode.
It is recommended to use the bottom drainage port to drain water, during Heat mode.
To drain water from the bottom drainage port when the display shows "H8".
1 Drain water from the bottom drainage port.
Turn off the unit and pull out the plug from the socket.
Place a water container under the bottom drainage port, or move the machine to a place where it can drain.
Remove the rubber plug of the bottom drainage port to drain water.
After draining, insert the rubber plug. Press ON/OFF button to restart.



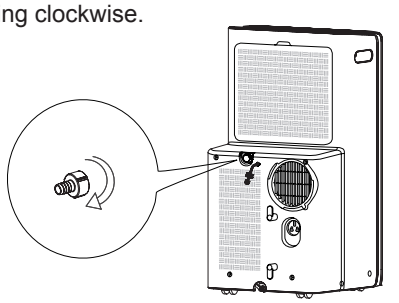
2、Drain water from the middle drainage port.

Notice: Water can be automatically emptied into a floor drain by attaching 14mm inner diameter hose (not included).

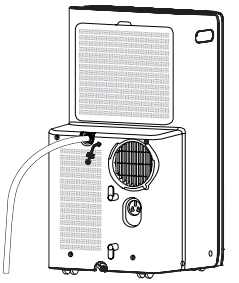
(1) Remove the continuous drain cap 1 by turning it counter clockwise then remove the rubber stopper 2 from the spout.



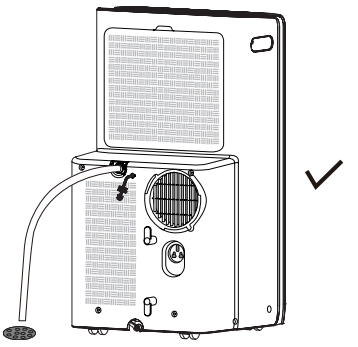
(2) Screw the drain connector to(included in the package) the spout by turning clockwise.



(3) Insert the drainage hose into drain connector

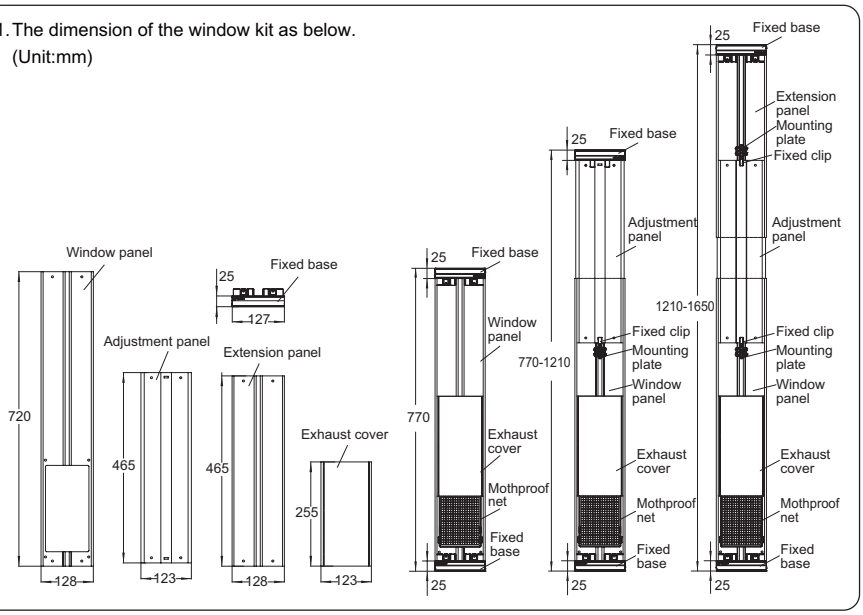


ATTENTION:
When using continuous drainage option from the middle hole, place portable on a level surface and make sure garden hose is clear of any obstructions and is directed downward. Placing portable on an uneven surface or improper hose installation may result in water filling up the chassis and causing the unit to shut off. Empty water in the chassis if shut off occurs, then check portable location and hose for proper setup.

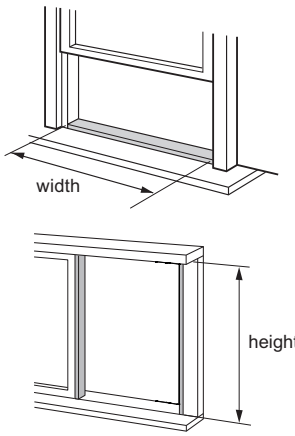


(3)Installation in sash window (Optional)

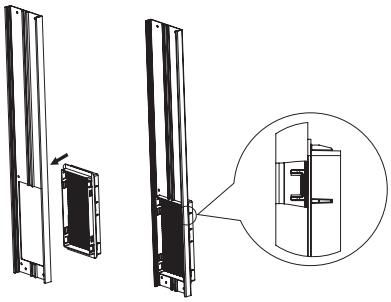
1. The dimension of the window kit as below.
(Unit:mm)



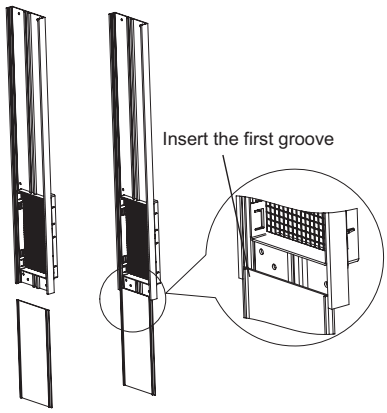
2. Open the window and measure the width or height inside the window frame.



3. Attach the Mothproof net to the back side of the Window Panel. Push the Mothproof net securely into the Window Panel to ensure that is fit ssecurely.

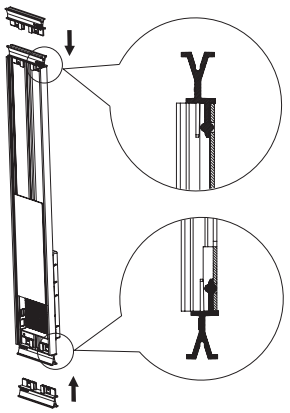


4. Insert the Exhaust cover to the Window Panel.



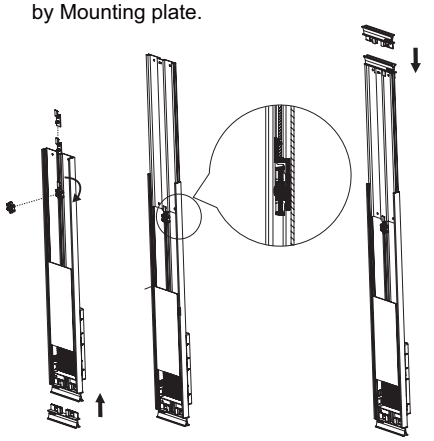
5. Assemble the window kit as below.

A)For windows with inner width or height of 770mm, push two fixed bases to the end of Window Panel.



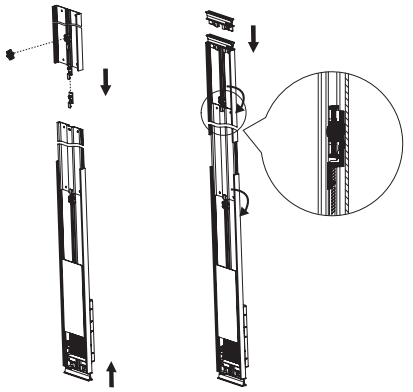
B)For windows with inner width or height over 770mm up to 1210mm, use two fixed bases, Adjustment Panel ,Fixed clip and Mounting plate.

1) Push one fixed base to the end of Window Panel.
2) Attach a fixed clip in the groove of the Window Panel and a Mounting plate.
3) Insert Adjustment Panel to the end of Window Panel, until the fixed clip connect the gap on the Adjustment Panel.
4) Push fixed bases to the end of Adjustment Panel.
5) Adjust the wide fix to window and screw down by Mounting plate.



C)For windows with inner width or height over 1210mm up to 1650mm. Use two fixed bases, Adjustment Panel ,Extension panel, Mounting plate and fixed clip.

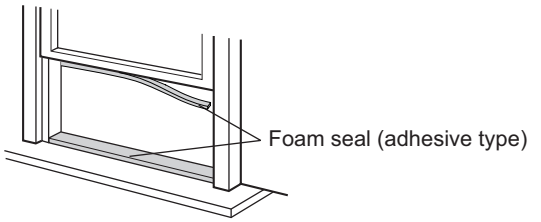
1) Push one fixed base to the end of Window Panel.
2) Attach with a fixed clip in the groove of the Window Panel and a Mounting plate.
3) Insert Adjustment Panel to the end of Window Panel, until the fixed clip connect the gap on the Adjustment Panel.
4) Attach with a fixed clip in the groove of the Extension panel and a Mounting plate.
5) Insert Extension Panel to the end of Adjustment Panel, until the fixed clip connect the gap on the Adjustment Panel.
6) Push fixed bases to the end of Extension panel.
7) Adjust the wide fix to the dimension of window and screw down by a Mounting plate.



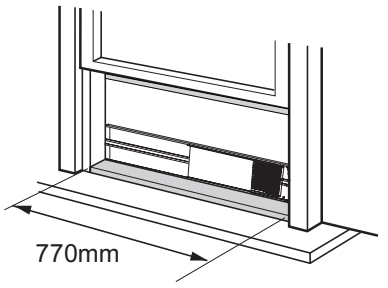
Notice

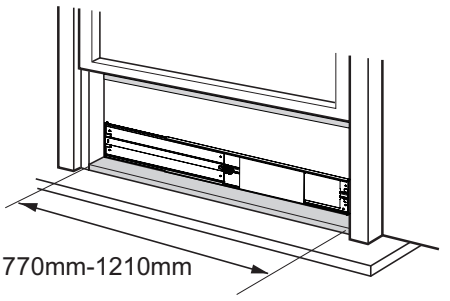
- If Extension Panel or Adjustment Panel are too long, use a Pencil and Saw to cut panels to fit window frame.

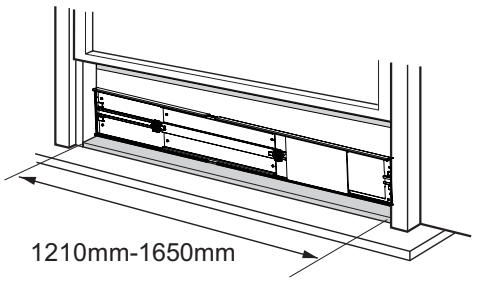
1. Cut the Foam seal (adhesive type) to the proper length and attach it to the window stool and to the bottom of sash.



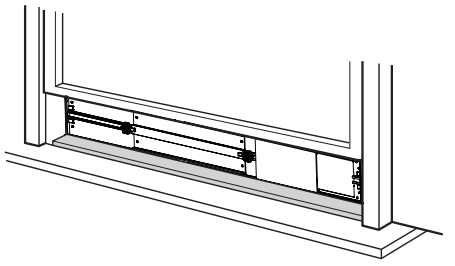
2. Attach the window panel to the window stool. Make sure that the exhaust cover is attached to the window panel.



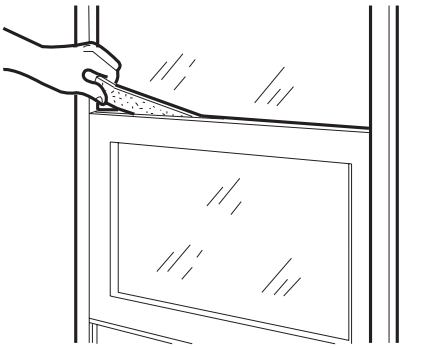




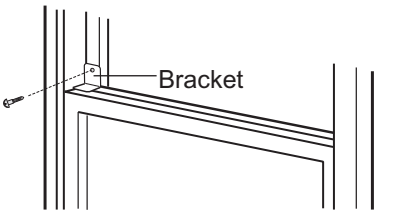
3. Close the window sash securely against the Window panel.



4. Stuff the Foam seal A between the glass and the window to prevent air and insects from getting into the room.

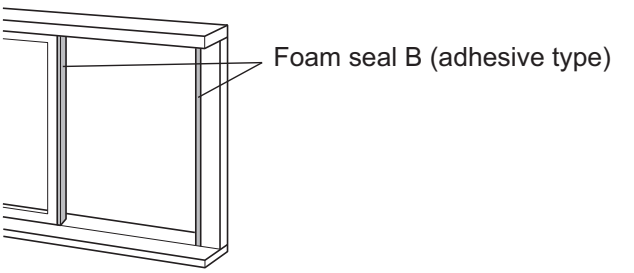


5. Attach the bracket with a screw.(Recommended)

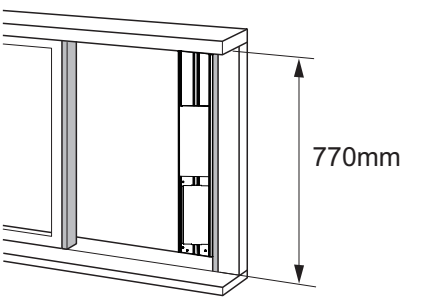


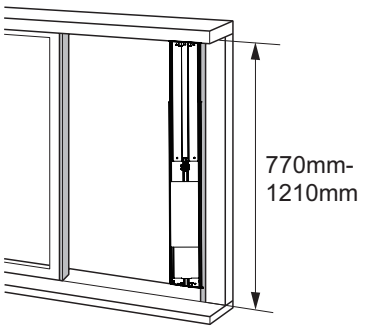
Please lay a tabular material underneath the window panel in case you could not attach the Rear clip properly due to the deep window sill.

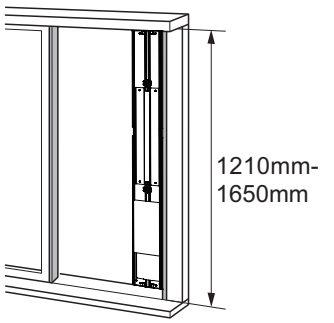
1. Cut the Foam seal B (adhesive type) to the proper length and attach it to the window frame and to the side of sash.



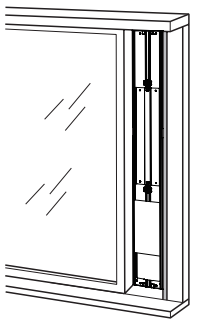
2. Install the window panel into the window frame. Make sure that the exhaust cover is attached to the window panel.



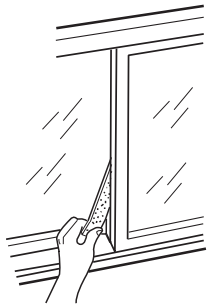




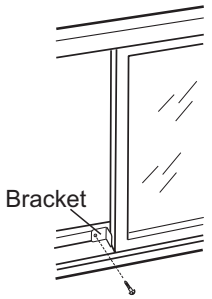
3. Close the window sash securely against the window panel.



4. Stuff the foam seal A between the glass and the window to prevent air and insects from getting into the room.



5. Attach the bracket with a screw.(Recommended)

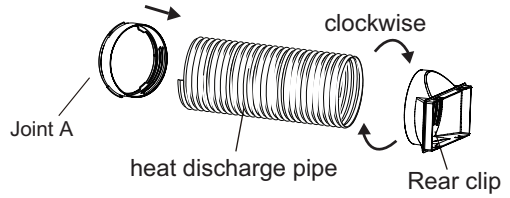


Please lay a tabular material underneath the window panel in case you could not attach the Rear clip properly due to the deep window sill.

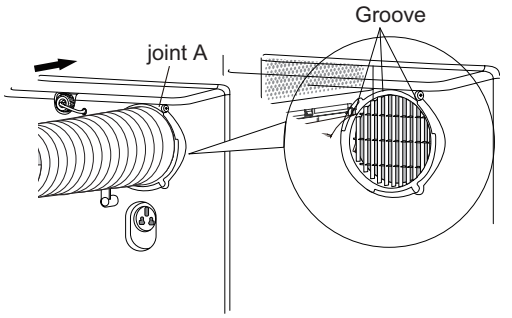
(5) Installation and Disassembly of Heat Discharge Pipe(Optional 1&2)

Install heat discharge pipe

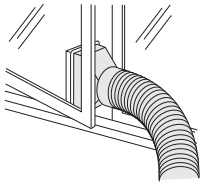
1、Rotate joint A and Rear clip clockwise into the two ends of heat discharge pipe.



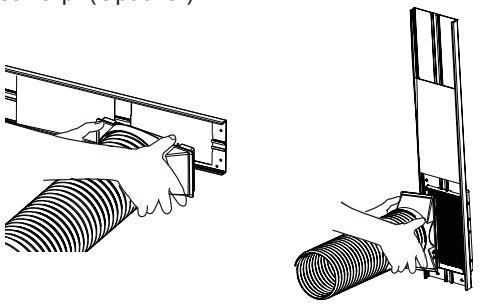
2、Insert joint A of heat discharge pipe into the groove until you hear a sound.



3、Lead the exhaust hose outdoors.

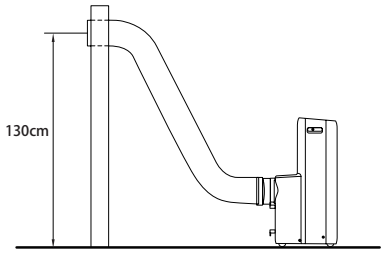


4、Slide and open the exhaust cover on the window panel,and attach the Rear clip. (Optional)

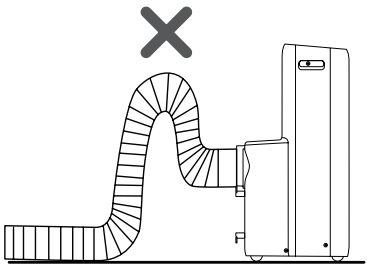


Note of Installing heat discharge pipe

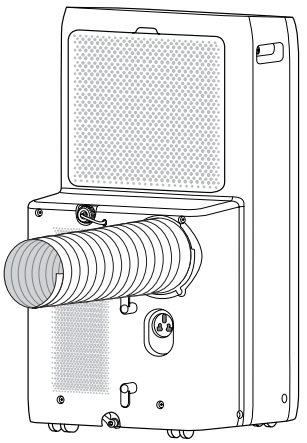
In order to improve cooling efficiency,the heat discharge pipe should be as short as possible and flat without curve to ensure smooth heat discharge.
The discharge pipe is suggested to be installed according to below figure by the manufacturer.



User can adjust the installation method of the discharge pipe basing on the requirement, while the similar installation methods as below which will lead to unsmoothly air-out are not allowed.

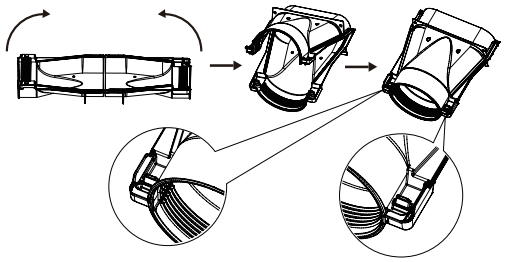


● The length of the heat discharge pipe is less than 40 inches. It is recommended to use it with shortest length.
● When installing,heat discharge pipe should be as flat as possible. Don't prolong the pipe or connect it with other heat discharge pipe.

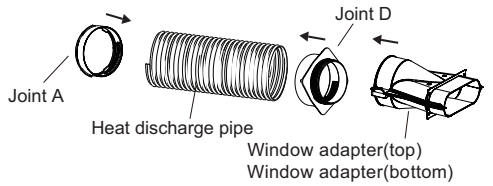


Optional 3-1:
Installation in the window

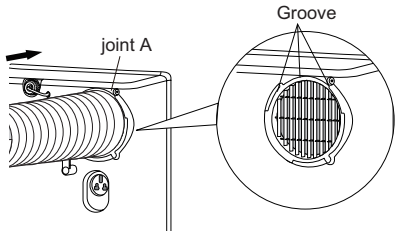
1、Fold the rear joint inwards unit these two clasps have tightly connected the rear joint together.



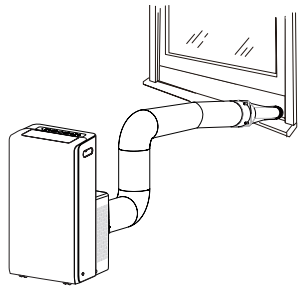
2、Rotate joint A and joint D and Window adapter(top)+Window adapter(bottom) into the two ends of heat discharge pipe.



3、Insert joint A of heat discharge pipe into the groove until you hear a sound.

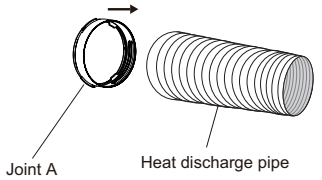


4、Lead the exhaust house outdoors.



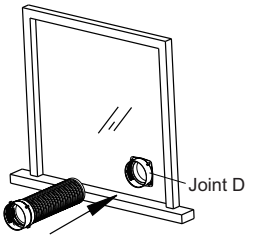
Optional 3-2:
Installation in immovable window

1、Rotate joint A into the ends of heat discharge pipe.

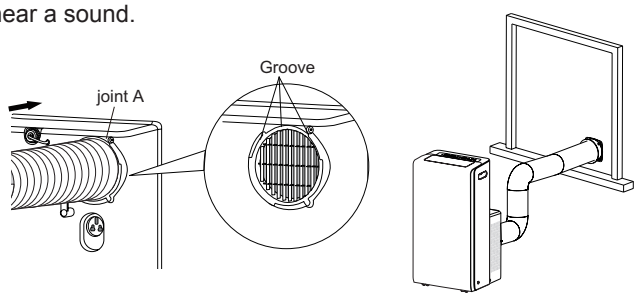


2、If the window is immovable, cut a hole to install joint D and joint E tightly.

3、Install the other side of heat discharge pipe clockwise into joint D.



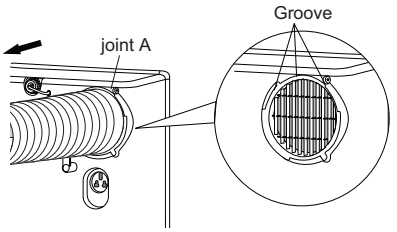
4、Insert joint A of heat discharge pipe into the groove until you hear a sound.



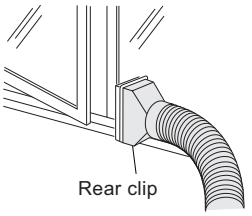
(4) Disassembly of Heat Discharge Pipe

Optional 1& 2:
Disassemble for installation in double window

1、Remove joint A:
Press the clasp and lift joint A upwards to remove it.

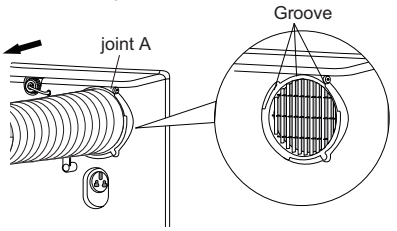


2、Remove Rear clip from outdoors.

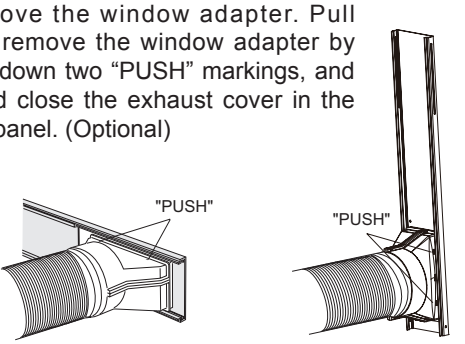


Optional 2:
Disassemble for installation in sash window

1、Remove joint A:
Press the clasp and lift joint A upwards to remove it.

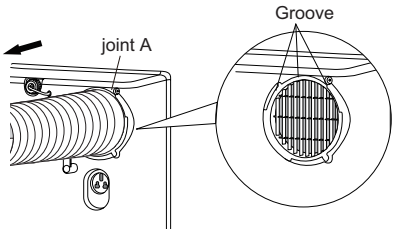


2、Remove the window adapter. Pull out and remove the window adapter by pushing down two “PUSH” markings, and slide and close the exhaust cover in the window panel. (Optional)

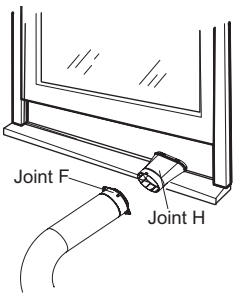


Optional 3:
Disassembly for installation in window

1、Remove joint A:
Press the clasp and lift joint A upwards to remove it.

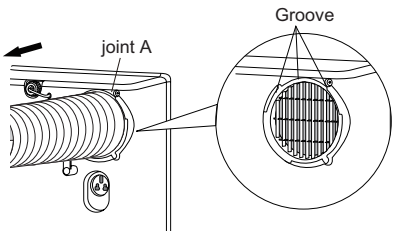


2、Remove joint F:
Remove joint F from joint H.

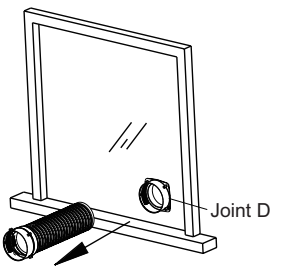


Optional 4:
Disassembly for installation in immovable window

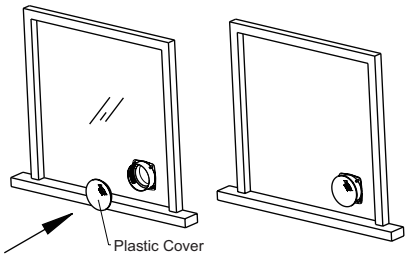
1、Remove joint A:
Press the clasp and lift joint A upwards to remove it.



2、Remove the heat discharge pipe from the joint D.



3、When heat discharge pipe is removed, Install the plastic cover into joint F in case of the insect into the house.



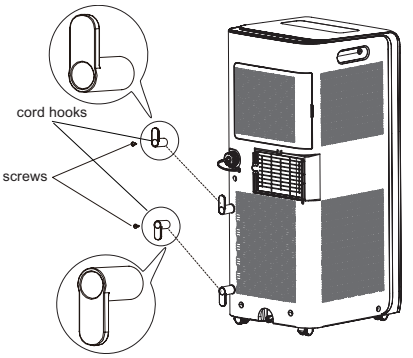
(5) Operation Test

● Put through the power supply and then press ON/OFF button on remote controller to start the unit.
● Press mode button to select auto, cooling, drying,fan or heating function, and then check if the unit operates normally.
● If ambient temperature is below 16°C(61°F) , the unit can't operate in cooling mode.

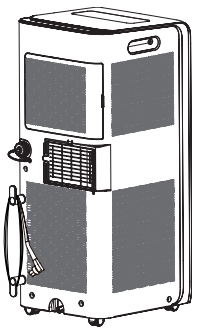
GPC09AQA-K5NNA1B GPC07AQA-K5NNA1A
GPC07AQA-K5NNA1C

(1) Install Cord hook

● Install the cord hook at the back of the unit with 2 screws. The top cord hook should face upward, and the bottom cord hook should face downward.



● Wind the power cord around the cord hook.

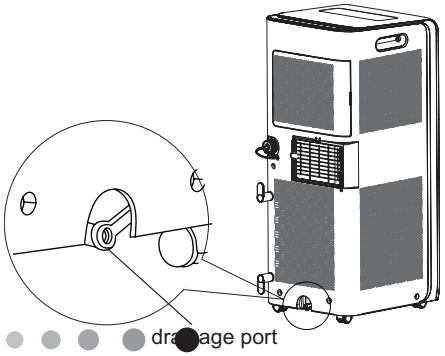


(2) Removing Collected Water

There are 2 ways to remove collected water: the middle hole or the lower hole.
It need to use the lower hole to drain outlet from the chassis.
During Cool mode or Auto mode, it is not recommended to use the middle hole to drain outlet, for improve the performance and save energy.
During Dry mode, it is recommended to use the middle hole to drain outlet.

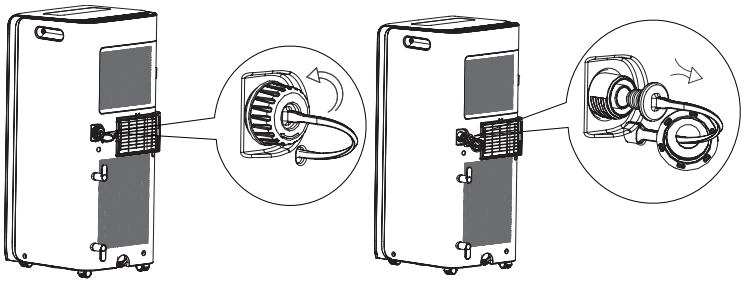
1.Use the drainage option from the lower hole

When the chassis is full with water, the buzzer will give out 8 sounds and "H8" is displayed to remind user to discharge water, the unit will turned off 2min latter, and all buttons are invalid.
To empty the chassis, please follow the instructions bellow.
(1) Turn the unit off and unplug from the electrical outlet.
(2) Use a small pan or move the unit to a suitable place to drain the water.
(3) Remove the preinstalled drain cap from the unit,If you have selected the drainage hose, insert it into the drainage outlet.
(4) Drain the water into the small pan or a suitable place.
(5) Once draining is complete,reinstall drain cap.
(6) Press ON/OFF button to restart the unit.

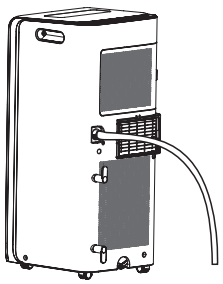


2、Use the continuous drainage option from the middle hole.

Notice: Water can be automatically emptied into a floor drain by attaching 13.5mm inner diameter hose or garden hose (not included).
(1)Remove the continuous drain cap by turning it from the spout. counter clockwise then remove the rubber plug

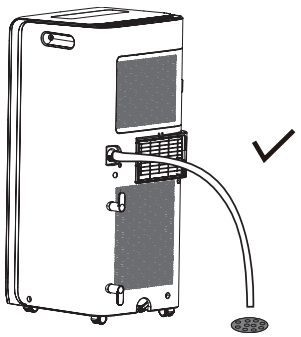


(2) Insert the drainage hose into drain connector.



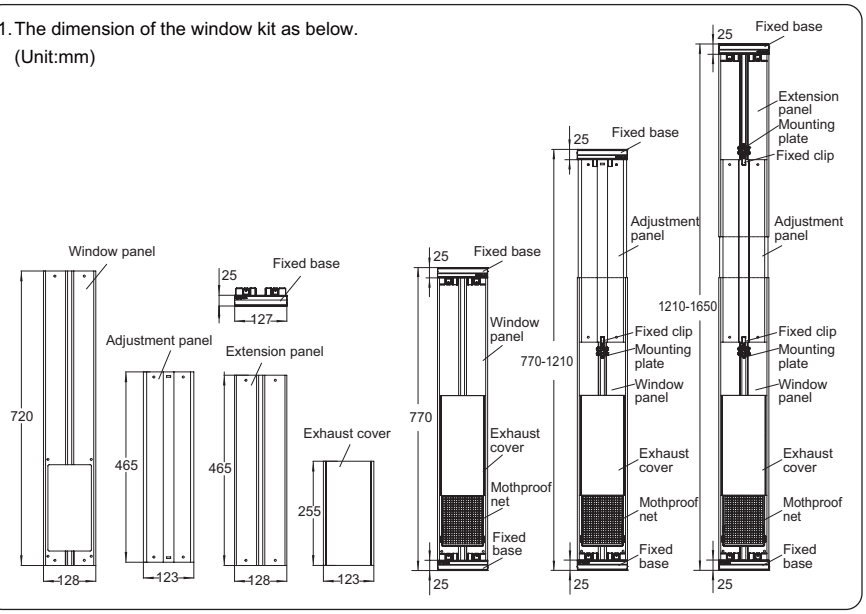
ATTENTION:

When using continuous drainage option from the middle hole, place portable on a level surface and make sure garden hose is clear of any obstructions and is directed downward. Placing portable on an uneven surface or improper hose installation may result in water filling up the chassis and causing the unit to shut off. Empty water in the chassis if shut off occurs, then check portable location and hose for proper setup.

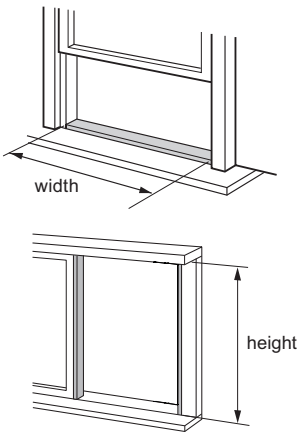


(3)Installation in sash window (Optional)

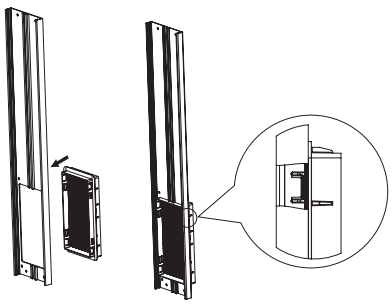
1. The dimension of the window kit as below.
(Unit:mm)



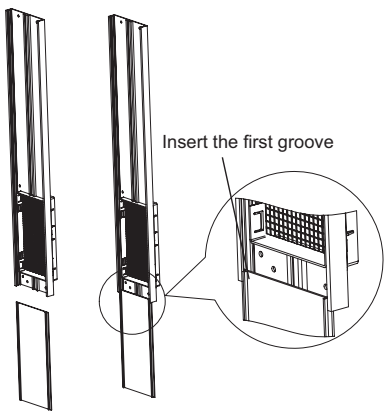
2. Open the window and measure the width or height inside the window frame.



3. Attach the Mothproof net to the back side of the Window Panel. Push the Mothproof net securely into the Window Panel to ensure that is fit ssecurely.

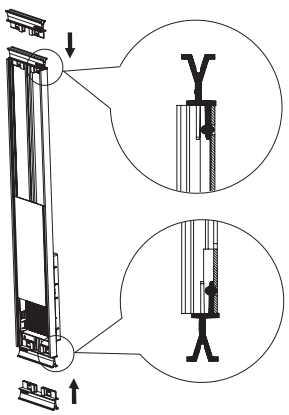


4. Insert the Exhaust cover to the Window Panel.



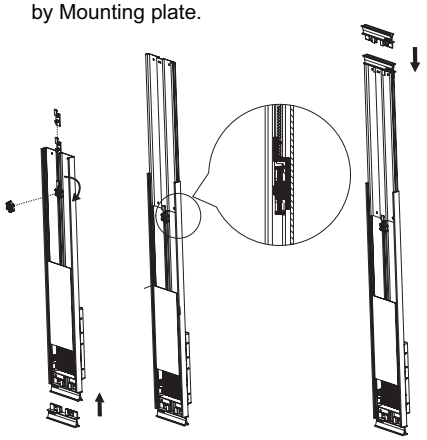
5. Assemble the window kit as below.

A) For windows with inner width or height of 770mm, push two fixed bases to the end of Window Panel.



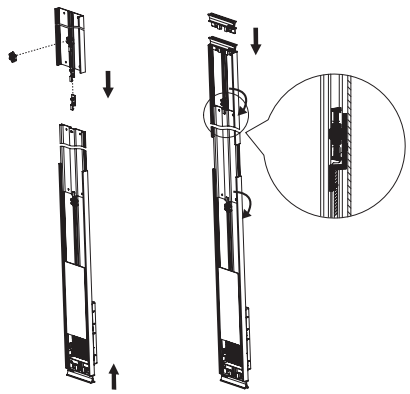
B) For windows with inner width or height over 770mm up to 1210mm, use two fixed bases, Adjustment Panel ,Fixed clip and Mounting plate.

1) Push one fixed base to the end of Window Panel.
2) Attach a fixed clip in the groove of the Window Panel and a Mounting plate.
3) Insert Adjustment Panel to the end of Window Panel, until the fixed clip connect the gap on the Adjustment Panel.
4) Push fixed bases to the end of Adjustment Panel.
5) Adjust the wide fix to window and screw down by Mounting plate.



C) For windows with inner width or height over 1210mm up to 1650mm. Use two fixed bases, Adjustment Panel ,Extension panel, Mounting plate and fixed clip.

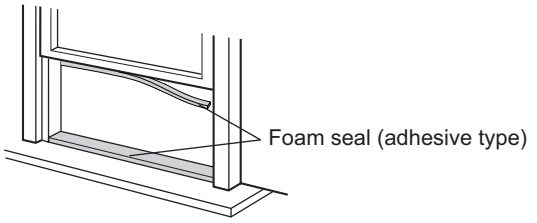
1) Push one fixed base to the end of Window Panel.
2) Attach with a fixed clip in the groove of the Window Panel and a Mounting plate.
3) Insert Adjustment Panel to the end of Window Panel, until the fixed clip connect the gap on the Adjustment Panel.
4) Attach with a fixed clip in the groove of the Extension panel and a Mounting plate.
5) Insert Extension Panel to the end of Adjustment Panel, until the fixed clip connect the gap on the Adjustment Panel.
6) Push fixed bases to the end of Extension panel.
7) Adjust the wide fix to the dimension of window and screw down by a Mounting plate.



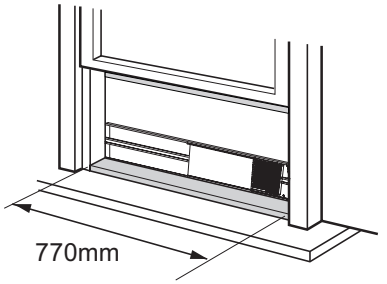
Notice

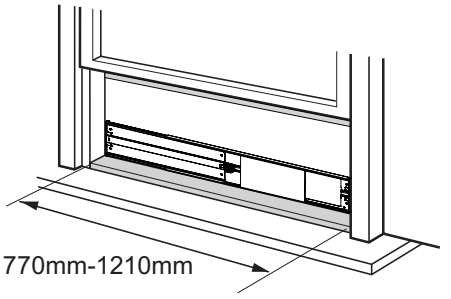
- If Extension Panel or Adjustment Panel are too long, use a Pencil and Saw to cut panels to fit window frame.

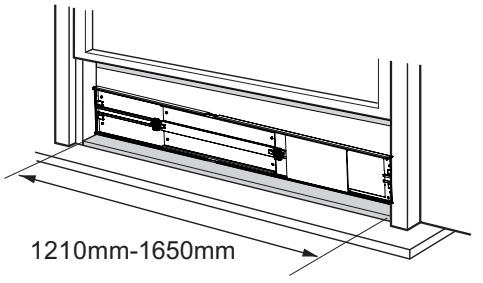
1. Cut the Foam seal (adhesive type) to the proper length and attach it to the window stool and to the bottom of sash.



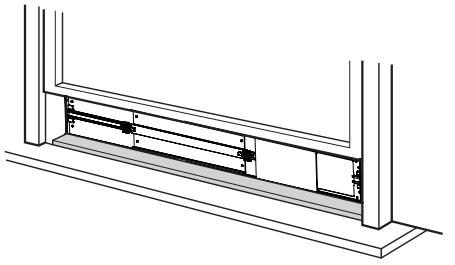
2. Attach the window panel to the window stool. Make sure that the exhaust cover is attached to the window panel.



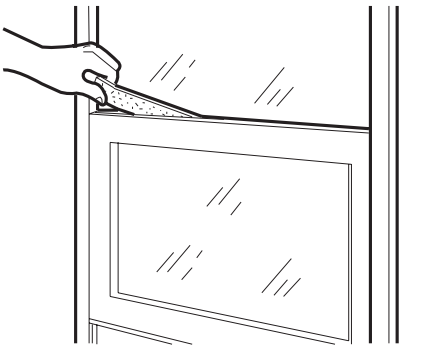




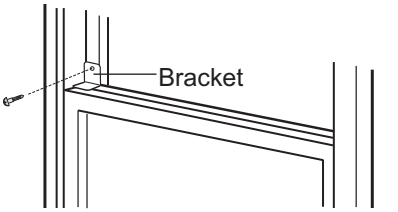
3. Close the window sash securely against the Window panel.



4. Stuff the Foam seal A between the glass and the window to prevent air and insects from getting into the room.

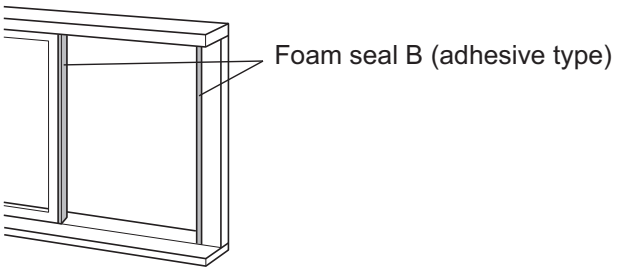


5. Attach the bracket with a screw.(Recommended)

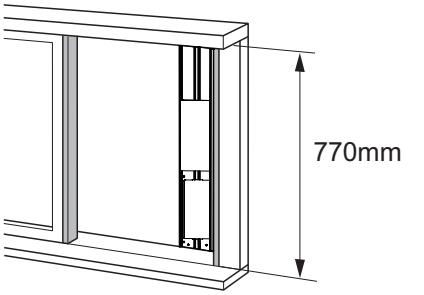


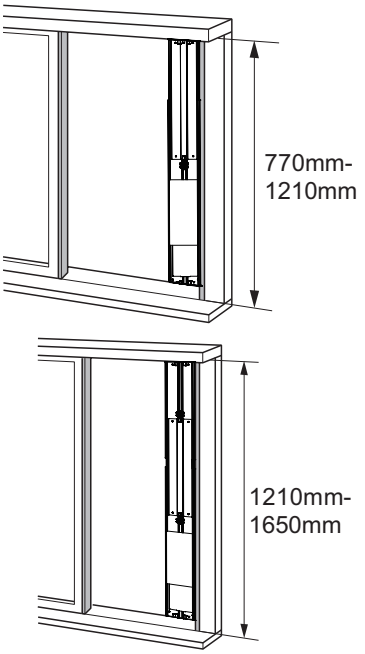
Please lay a tabular material underneath the window panel in case you could not attach the Rear clip properly due to the deep window sill.

1. Cut the Foam seal B (adhesive type) to the proper length and attach it to the window frame and to the side of sash.

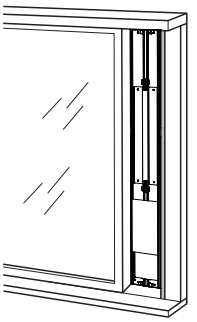


2. Install the window panel into the window frame. Make sure that the exhaust cover is attached to the window panel.

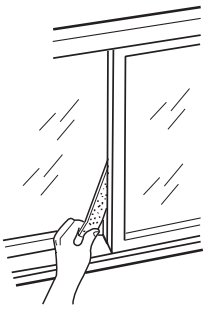




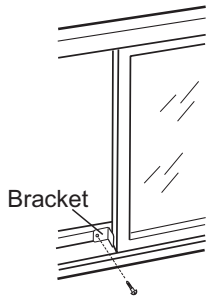
3. Close the window sash securely against the window panel.



4. Stuff the foam seal A between the glass and the window to prevent air and insects from getting into the room.



5. Attach the bracket with a screw.(Recommended)

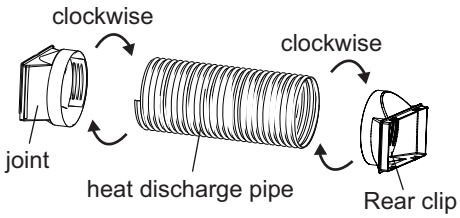


Please lay a tabular material underneath the window panel in case you could not attach the Rear clip properly due to the deep window sill.

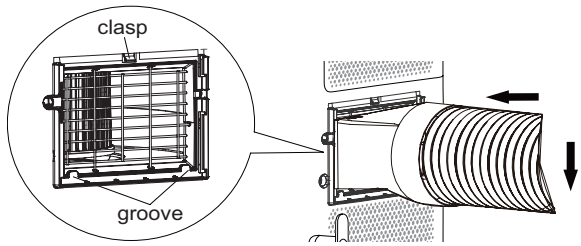
(5) Install heat discharge pipe

Install heat discharge pipe

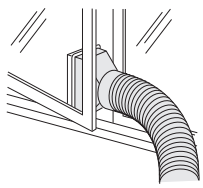
1、Rotate joint and Rear clip clockwise into the two ends of heat discharge pipe.



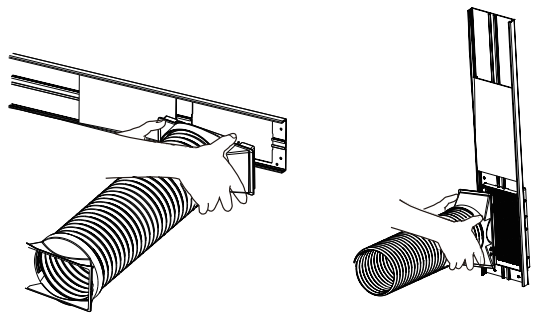
2、Insert joint of heat discharge pipe into the groove until you hear a sound.



3、Lead the heat discharge pipe outdoors.



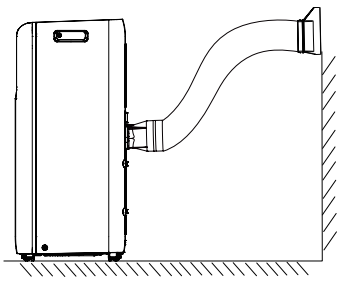
4、Slide and open the exhaust cover on the window panel, and attach the Rear clip. (Optional)



Note of Installing heat discharge pipe

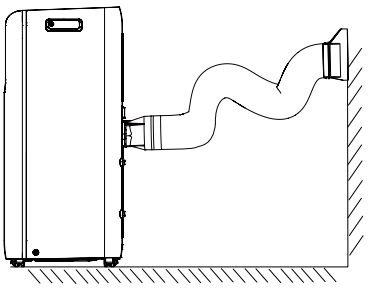
In order to improve cooling efficiency,the heat discharge pipe should be as short as possible and flat without curve to ensure smooth heat discharge.
The discharge pipe is suggested to be installed according to below figure by the manufacturer.

correct

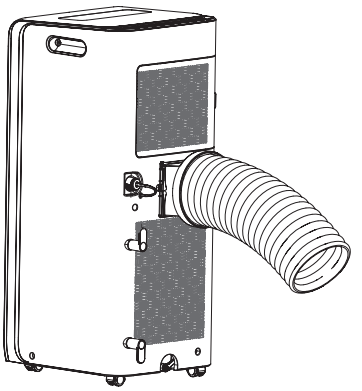


User can adjust the installation method of the discharge pipe basing on the requirement, while the similar installation methods as below which will lead to unsmoothly air-out are not allowed.

wrong

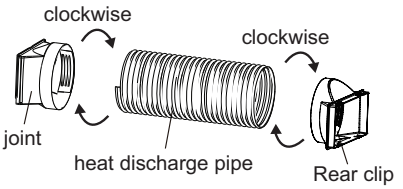


● The length of the heat discharge pipe is less than 40 inches. It is recommended to use it with shortest length.
● When installing,heat discharge pipe should be as flat as possible. Don't prolong the pipe or connect it with other heat discharge pipe.

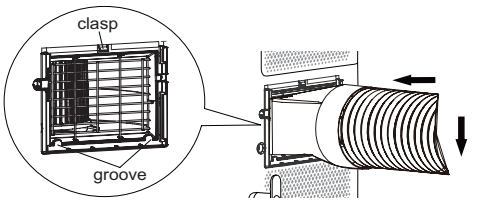


Install heat discharge pipe

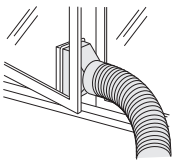
1.Rotate joint and Rear clip clockwise into the two ends of heat discharge pipe.



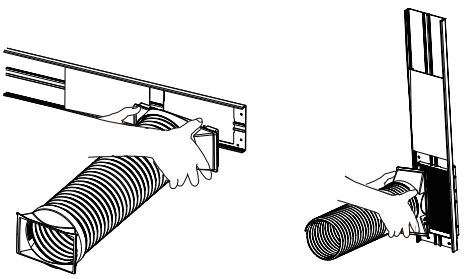
2.Insert joint of heat discharge pipe into the groove until you hear a sound.



3.Lead the heat discharge pipe outdoors.



4.Slide and open the exhaust cover on the window panel, and attach the Rear clip. (Optional)



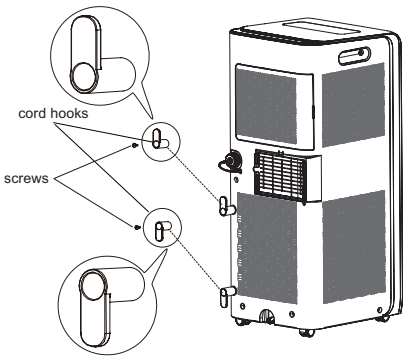
Operation Test

● Put through the power supply and then press ON/OFF button on remote controller to start the unit.
● Press mode button to select auto, cooling, drying, fan or heating function, and then check if the unit operates normally.
● If ambient temperature is below 16°C, the unit can't operate in cooling mode.

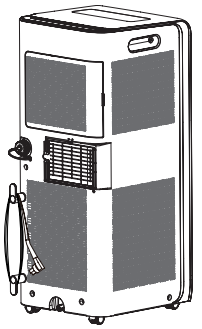
GPC07AQA-K5NNA1D GPC09AQA-K5NNA1D GPC07AQA-K5NNA1E

(1) Install Cord hook

● Install the cord hook at the back of the unit with 2 screws. The top cord hook should face upward, and the bottom cord hook should face downward.



● Wind the power cord around the cord hook.

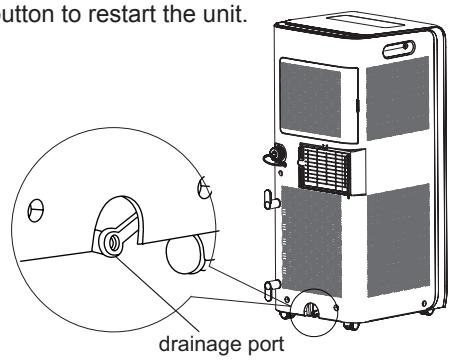


(2) Removing Collected Water

There are 2 ways to remove collected water: the middle hole or the lower hole.
It need to use the lower hole to drain outlet from the chassis.
During Cool mode or Auto mode, it is not recommended to use the middle hole to drain outlet, for improve the performance and save energy.
During Dry mode, it is recommended to use the middle hole to drain outlet.

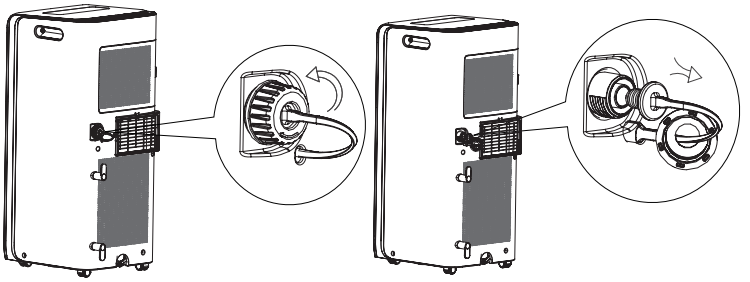
1.Use the drainage option from the lower hole

When the chassis is full with water, the buzzer will give out 8 sounds and "H8" is displayed to remind user to discharge water, the unit will turned off 2min latter, and all buttons are invalid.
To empty the chassis, please follow the instructions bellow.
(1) Turn the unit off and unplug from the electrical outlet.
(2) Use a small pan or move the unit to a suitable place to drain the water.
(3) Remove the preinstalled drain cap from the unit,If you have selected the drainage hose, insert it into the drainage outlet.
(4) Drain the water into the small pan or a suitable place.
(5) Once draining is complete,reinstall drain cap.
(6) Press ON/OFF button to restart the unit.

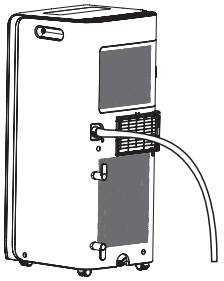


2、Use the continuous drainage option from the middle hole.

Notice: Water can be automatically emptied into a floor drain by attaching 13.5mm inner diameter hose or garden hose (not included).
(1)Remove the continuous drain cap by turning it from the spout. counter clockwise then remove the rubber plug

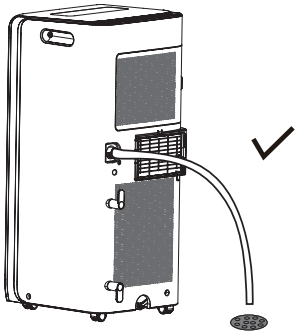


(2) Insert the drainage hose into drain connector.



ATTENTION:

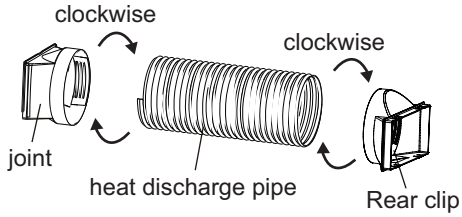
When using continuous drainage option from the middle hole, place portable on a level surface and make sure garden hose is clear of any obstructions and is directed downward. Placing portable on an uneven surface or improper hose installation may result in water filling up the chassis and causing the unit to shut off. Empty water in the chassis if shut off occurs, then check portable location and hose for proper setup.



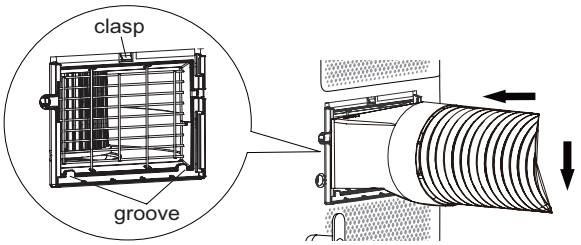
(3) Install heat discharge pipe

Install heat discharge pipe

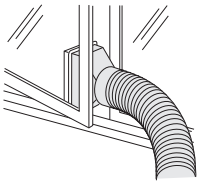
1、Rotate joint and Rear clip clockwise into the two ends of heat discharge pipe.



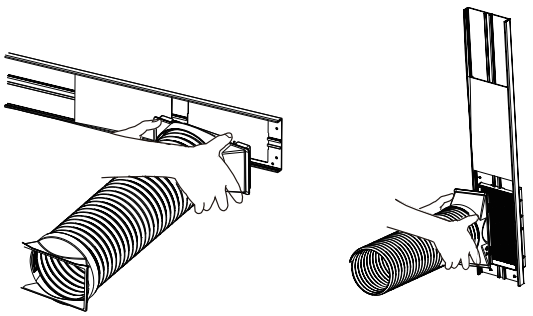
2、Insert joint of heat discharge pipe into the groove until you hear a sound.



3、Lead the heat discharge pipe outdoors.



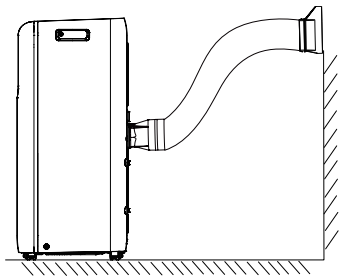
4、Slide and open the exhaust cover on the window panel, and attach the Rear clip. (Optional)



Note of Installing heat discharge pipe

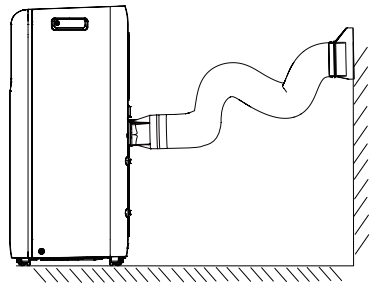
In order to improve cooling efficiency,the heat discharge pipe should be as short as possible and flat without curve to ensure smooth heat discharge.
The discharge pipe is suggested to be installed according to below figure by the manufacturer.

correct

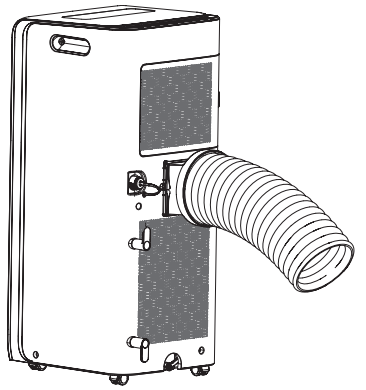


User can adjust the installation method of the discharge pipe basing on the requirement, while the similar installation methods as below which will lead to unsmoothly air-out are not allowed.

wrong



● The length of the heat discharge pipe is less than 40 inches. It is recommended to use it with shortest length.
● When installing,heat discharge pipe should be as flat as possible. Don’t prolong the pipe or connect it with other heat discharge pipe.



Operation Test

● Put through the power supply and then press ON/OFF button on remote controller to start the unit.
● Press mode button to select auto, cooling, drying, fan or heating function, and then check if the unit operates normally.
● If ambient temperature is below 16°C, the unit can't operate in cooling mode.

9. Maintenance

9.1 Safety Principle of Maintenance

1. The maintenance spot must have good ventilation. Do not close the door or the window.
2. Do not use naked flame, including welding, smoking. Do not use power tools.Do not use mobile phone. Tell the user not to cook with naked flame.
3. Take antistatic measures, including wearing pure cotton clothes and gloves etc.
4. If flammable refrigerant leakage is found during maintenance,it is a must to reinforce ventilation and take effective protective measures.
5. During maintenance, it is necessary to keep the spot safe when fetching the lacked spare parts.
6. It is necessary to keep the case of the air conditioner grounded during maintenance.
7.The maintenance irrelated to refrigerant vessel, inner refrigerant pipe and cooling component can be performed in the user's place, including cleaning the cooling system and sludging.
8. Ensure that the density tester is working during maintenance.
9. Ensure there is necessary safety precaution and emergency measures on the spot. Put suitable fire extinguishers(CO_2 or dry powder) in the nearest area.
10. There must be natural ventilation in the maintenance spot.
11. The maintenance staff shall take safety actions.
12. Paste suitable signs such as "No Smoking" and "No Entry".

9.2 Preparation before Maintenance

1. Inspection of Environment
(1) Ensure that electric product with radiation is power off in the maintenance area. All the persons in the room shall turn off the mobile phone.
(2) Check if there is refrigerant leakage in the maintenance area. Ensure that all the leak testers are suitable for this air conditioner.
(3) Ensure that the room area reaches the requirement.
(4) Check if the maintenance area is ventilated. Keep the room ventilated.
2. Inspection of Air Conditioner
(1) Ensure that the air conditioner is reliably grounded.
(2) Ensure that the power supply of the air conditioner is cut off. Discharge the electricity of the capacitor. If power supply is necessary, perform leak test to prevent the potential danger.
3. Inspection of Maintenance Equipment
(1) Check if the maintenance equipment is suitable for the refrigerant. Only the special equipment recommended by the air conditioner supplier can be used.
(2) The set alarm density of the leak tester shall not be higher than 25% of the LEL. The tester must keep operating during maintenance.
4. Leak Test before Maintenance
(1) After cutting off the power supply, perform leak test with the recommended leak detector or density tester (pump suction type) (ensure the equipment is calibrated; leakage ratio of leak detector is 2g/year.)
Note: do not use resolvent with chlorine in case causing corrosion of the steel pipe.
(2) If leakage is found, remove all fire source ensure good ventilation of the area.
5. Check List

No.	Check information	Result	Yes/No
1	Maintenance equipment is complete		
2	Persons in the maintenance area turn off the mobile phone.		
3	Power supply of tools is 2m away.		
4	Density tester can be used.		
5	Other tools are normal.		
6	Maintenance staffs are qualified.		
7	The spare parts are provided by the manufacturer and qualified.		
8	The air conditioner needed to be serviced is under safe state.		
9	The wire of power socket is reliably connected.		
10	There is natural ventilation in maintenance area.		
11	There is no operating electric appliance or naked flame within 2m of Maintenance area.		

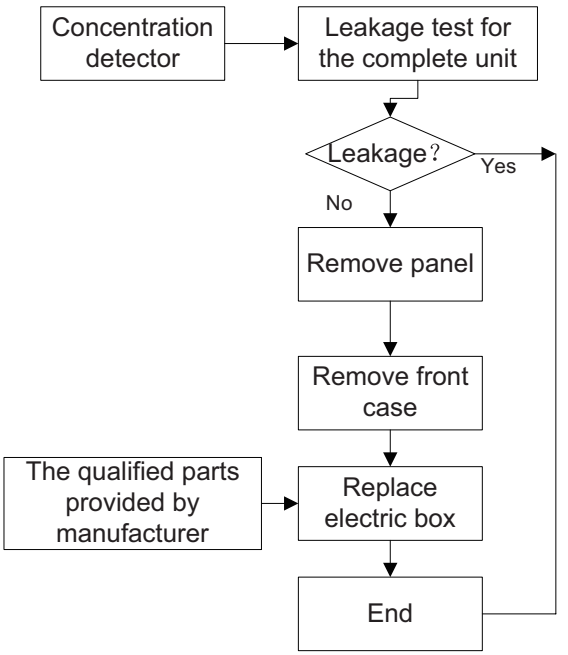
9.3 Maintenance Cautions

If it is necessary to replace components, all the components used shall be made by manufacturer. Otherwise, the supplier shall not bear the responsibility.

1.Maintenance of Electrical Parts

(1)Replace the power cord and connecting wire with that of the same specification.
(2)When inspecting the circuit with power on, check if there is electric leakage for the metal component such as evaporator or condenser. During inspection, do not touch the circuit so as to prevent electric shock.
(3)When inspecting the capacitor, ensure that the maintenance area is well ventilated. After conforming there is no refrigeration leakage, discharge electricity of capacitor.
(4)Before replacing the component, cut of the power supply of the air conditioner.
(5)Cut off the power before disconnecting and connecting the wire. Disconnect the live wire first and then ground wire.
(6)During maintenance, do not remove the protective component. Use the component of same supplier and specification.
(7)When servicing the hermetic parts, cut of the power of the air conditioner before opening the sealing cover. If it is necessary to use power supply, perform leak test to prevent potential danger.
(8)Do not replace the case which may affect the protective grade.
(9)Ensure that the sealing material is not degraded and that it can prevent entry of flammable gas. The parts used for replacement must reach the requirement of the suppler.

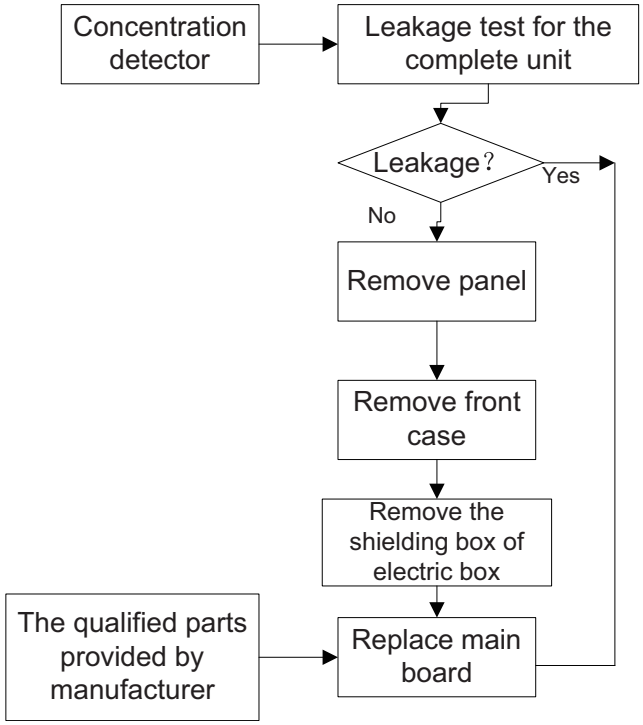
(1).Replace electric box



2.Maintenance of Refrigeration System

Before the maintenance, check whether there is any leakage or blockage in the refrigeration system. If yes, it is forbidden to conduct the maintenance. The unit should be recycled and disposed according to local regulations.

(2).Replace main board



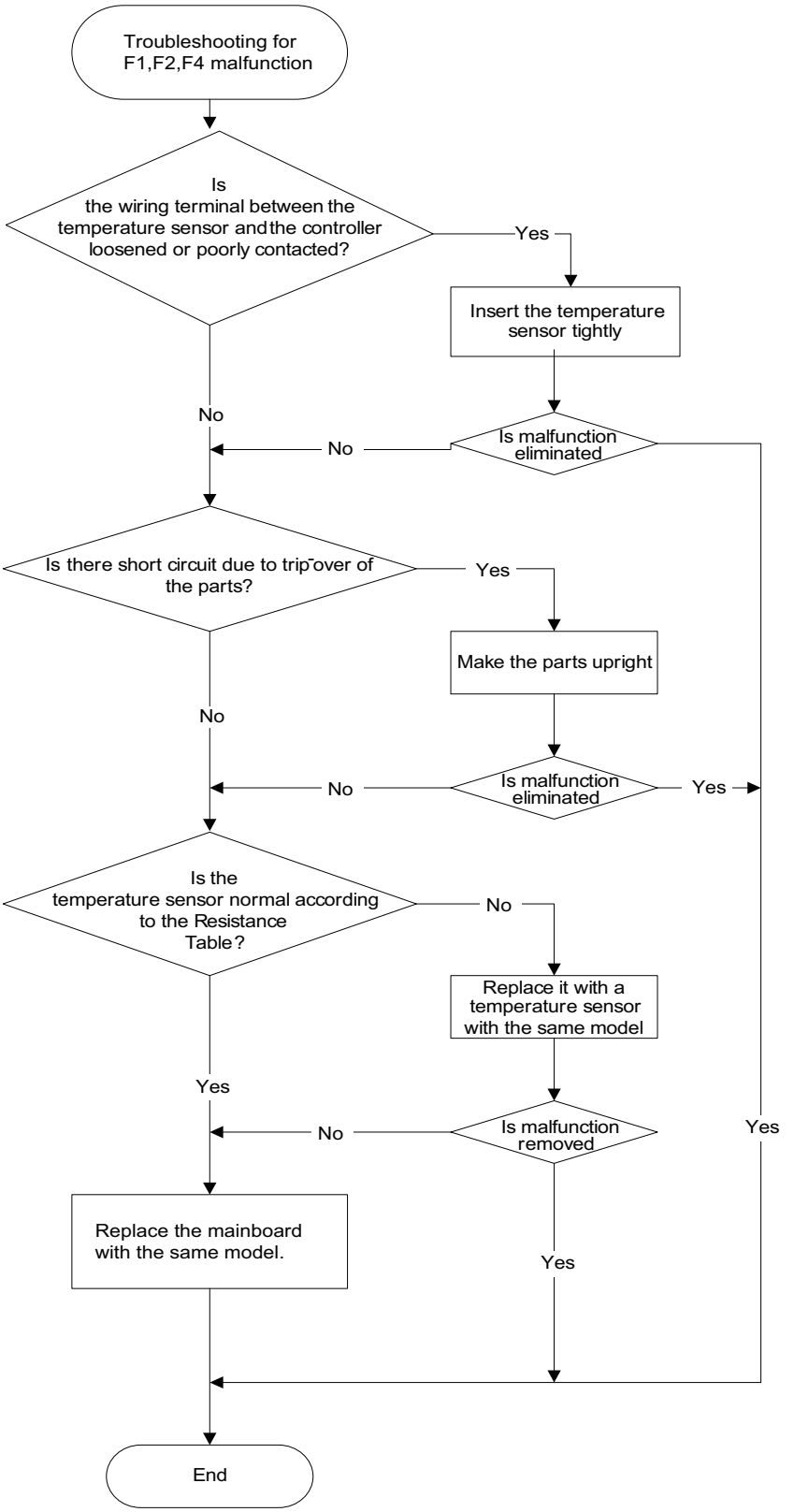
9.4 Error Code

NO.	Malfunction Name	Display Method of Indoor Unit Error Code	A/C Status	Possible Causes
1	Indoor ambient temperature sensor is open/short-circuited	F1	Compressor and draw water motor stop operation. Fan stop operation after 2min.	1. The wiring terminal between indoor ambient temperature sensor and main board is loosened or poorly contacted.
				2. Theres short circuit due to trip-over of the parts on main board.
				3.Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor).
				4. Main board is damaged.
2	Indoor evaporator temperature sensor is open/short-circuited	F2	Compressor and draw water motor stop operation. Fan stop operation after 2min.	1. The wiring terminal between indoor evaporator temperature sensor and main board is loosened or poorly contacted.
				2. Theres short circuit due to the trip-over of the parts on main board.
				3.Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor).
				4. Main board is damaged.
3	Outdoor condenser temperature sensor is open/short-circuited	F4	Compressor and draw water motor stop operation. Fan stop operation after 2min.	1. The wiring terminal between outdoor condenser temperature sensor and main board is loosened or poorly contacted.
				2. Theres short circuit due to the trip-over of the parts on main board.
				3. Outdoor condenser temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor).
				4. Main board is damaged.
4	Water over-flow protection	H8	Compressor and draw water motor stop operation. Fan stop operation after 2min.	During cooling or drying operation,condensate water will flow into chassis. If its detected that water inside water chassis is full for 3s successively, it comes into water over-flow protection. Buzzer will give out 8 sounds and dual-8 nixie tube displays error code “H8”.
5	Insufficient Refrigerant protection	F0	Indoor and outdoor fan keeps on running,other loads stop operation	1. Heat exchangers are too dirty or the air inlet/outlet is blocked. 2. Compressor doesnt work normally. Strange noise or leakage occurs. Temperature of the shell is too high. 3. System is blocked inside(dirt block, ice block, oil block, Y-valve not fully open). 4. The refrigerant is leaking.

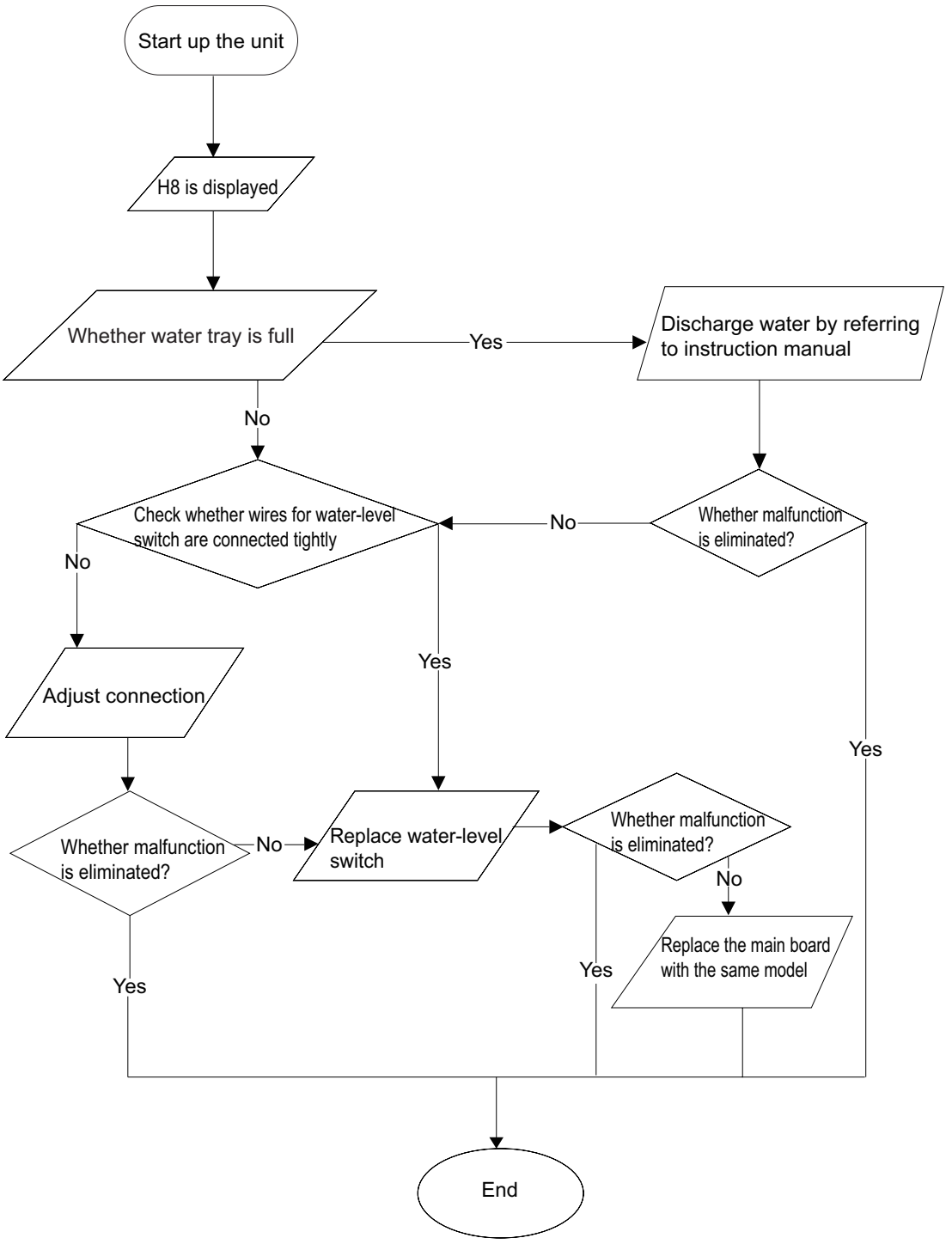
NO.	Malfunction Name	Display Method of Indoor Unit Error Code	A/C Status	Possible Causes
6	Overload protection for compressor	H3	Indoor and outdoor fan keeps on running,other loads stop operation	1. Heat exchangers are too dirty or the air inlet/outlet is blocked. 2. Fan motor doesn't work at a normal fan speed; fan speed is too low or the fan doesn't run. 3. Compressor doesnt work normally. Strange noise or leakage occurs. Temperature of the shell is too high. 4. System is blocked inside(dirt block, ice block, oil block, Y-valve not fully open). 5. Draw-water motor Can't operate normally. 6. Water outlet hasnt been blocked well by rubber cork . 7. The refrigerant is leaking and cause overheating protection to compressor.
7	Overload malfunction	E8	Indoor and outdoor fan keeps on running,other loads stop operation	1. The environment is formidable. 2. Heat exchangers are too dirty or the air inlet/outlet is blocked. 3. Fan motor doesn't work at a normal fan speed; fan speed is too low or the fan doesn't run. 4. Compressor doesnt work normally. Strange noise or leakage occurs. Temperature of the shell is too high. 5. System is blocked inside(dirt block, ice block, oil block, Y-valve not fully open). 6.Temperature sensor of main board Can't detect correctly.
8	Communication malfunction between indoor unit and inspection board	JF	Normal operation	1. Poor connection between the indoor unit and the inspection board. 2.The main board of indoor unit is damaged; 3. The inspection board is damaged;

9.5 Malfunction Detection Flowchart

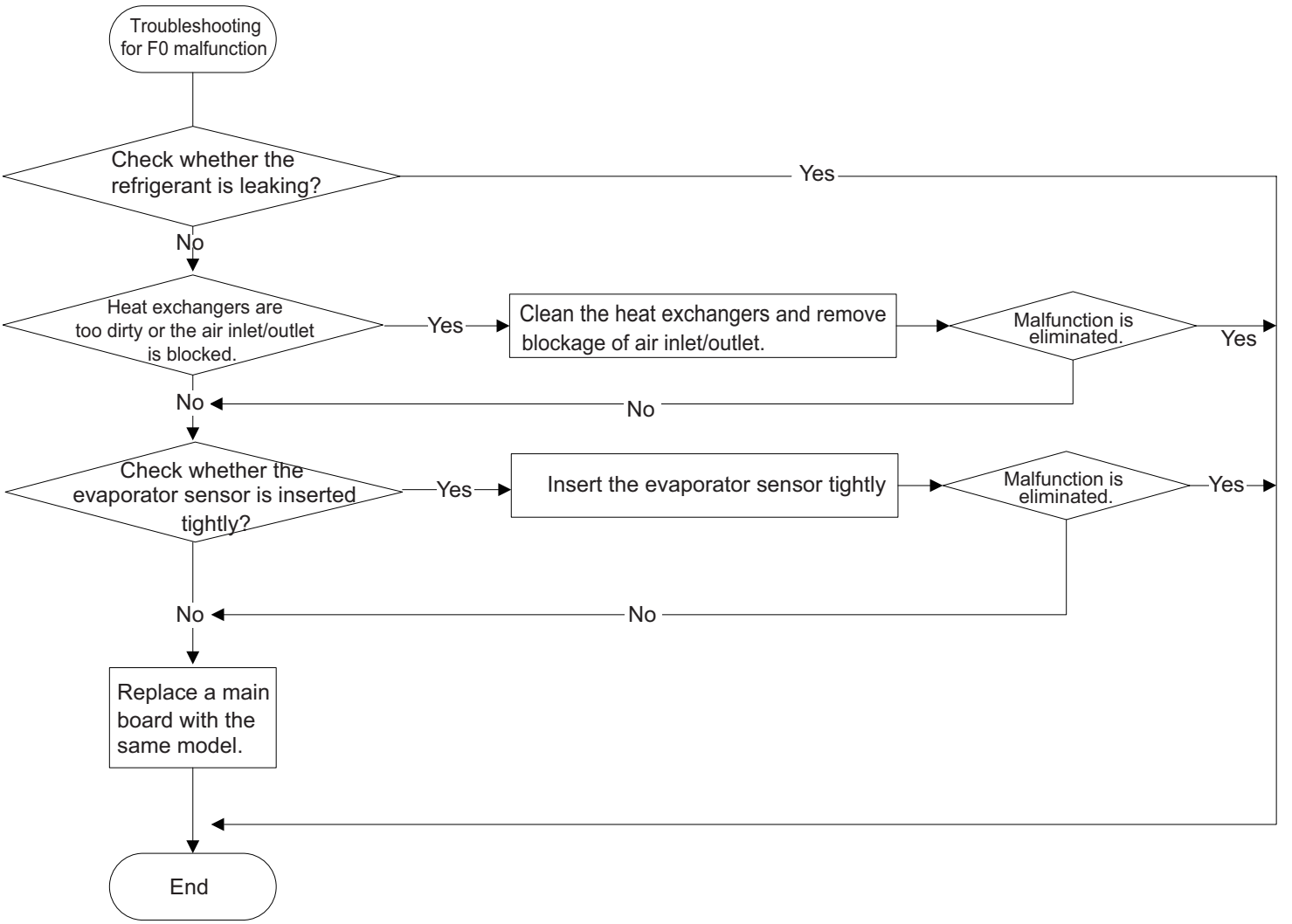
(1) Malfunction of temperature sensor F1, F2, F4



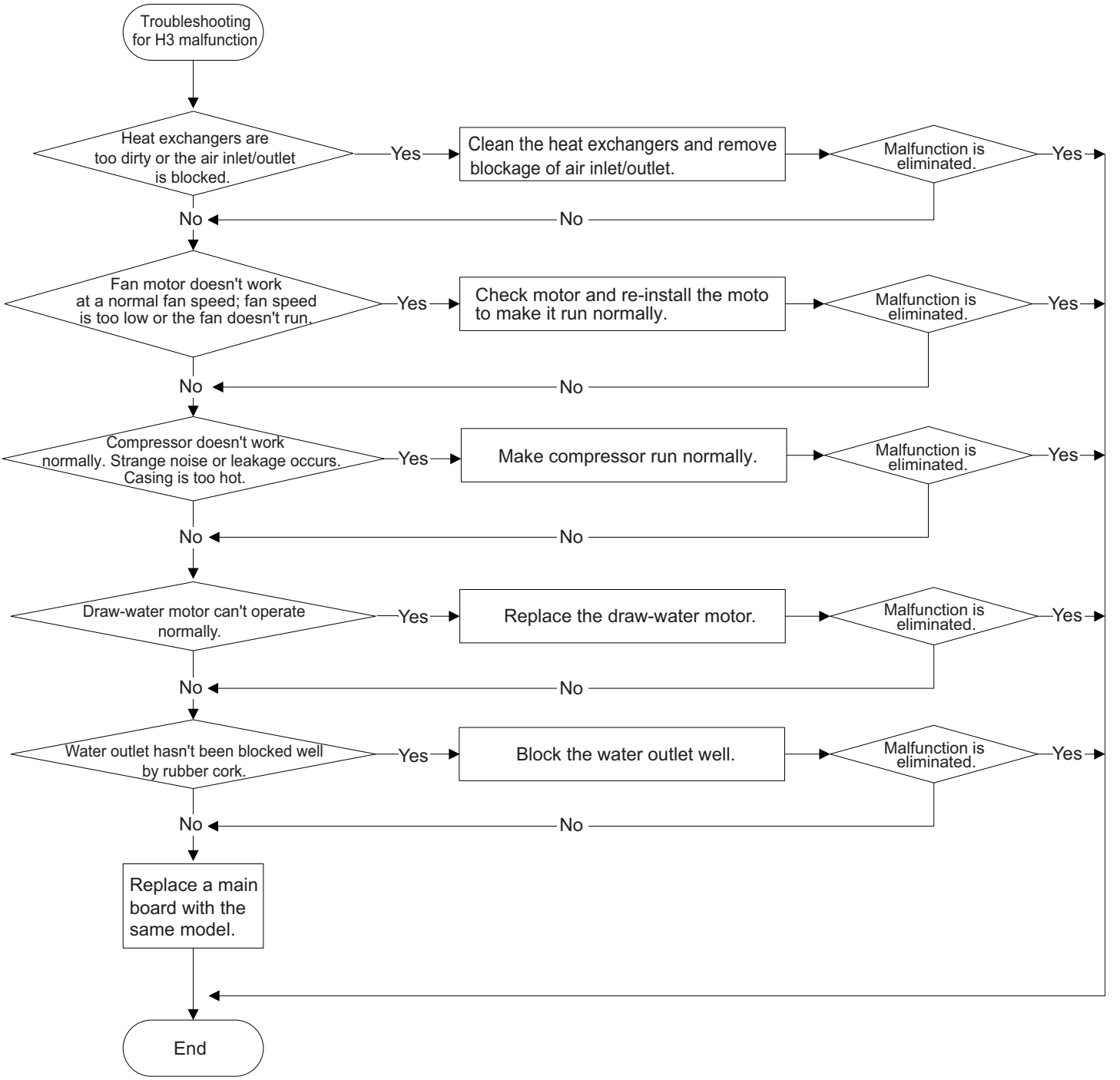
(2) Bucket full protection H8



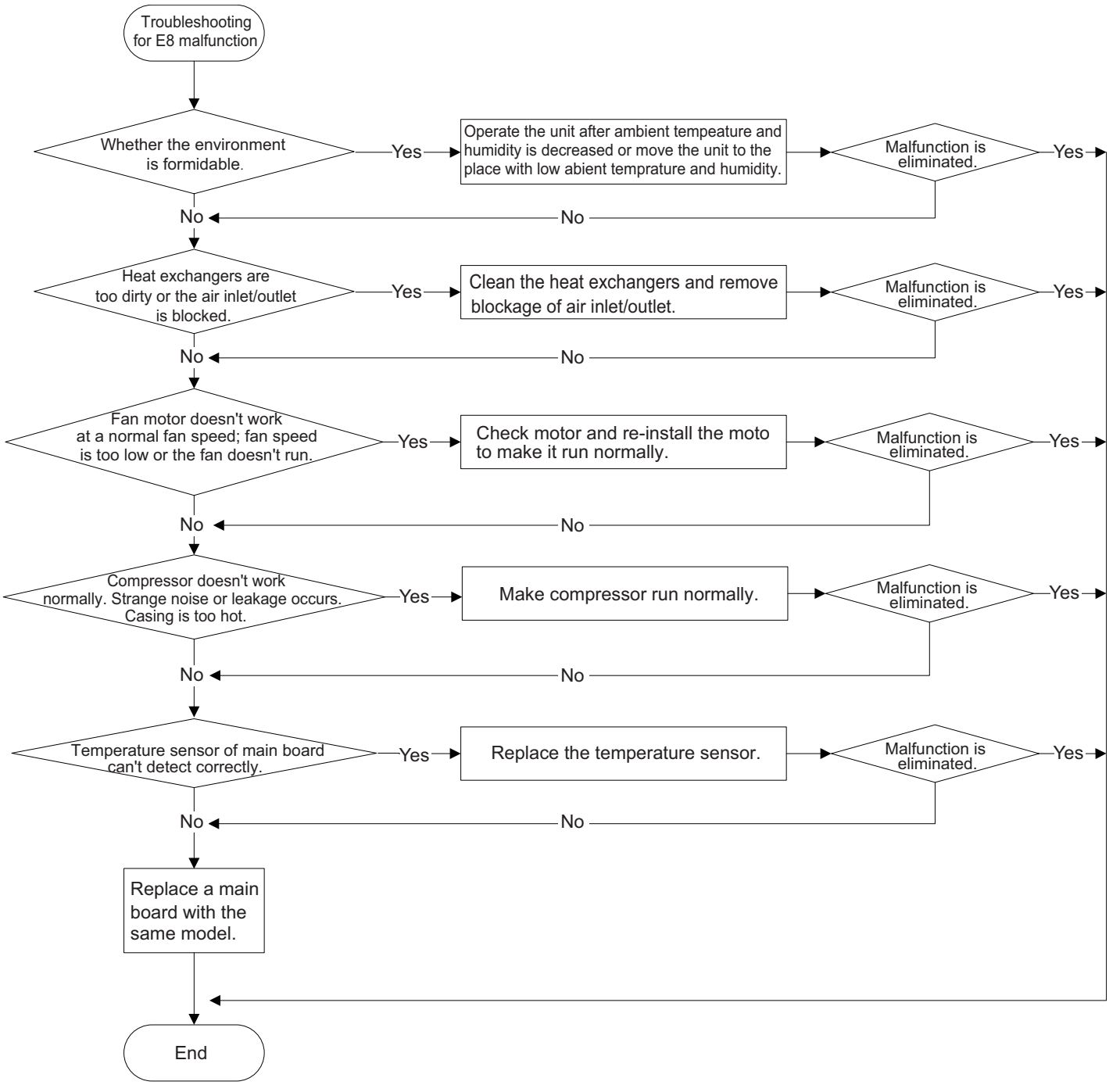
(3) Malfunction of Insufficient Refrigerant protection F0



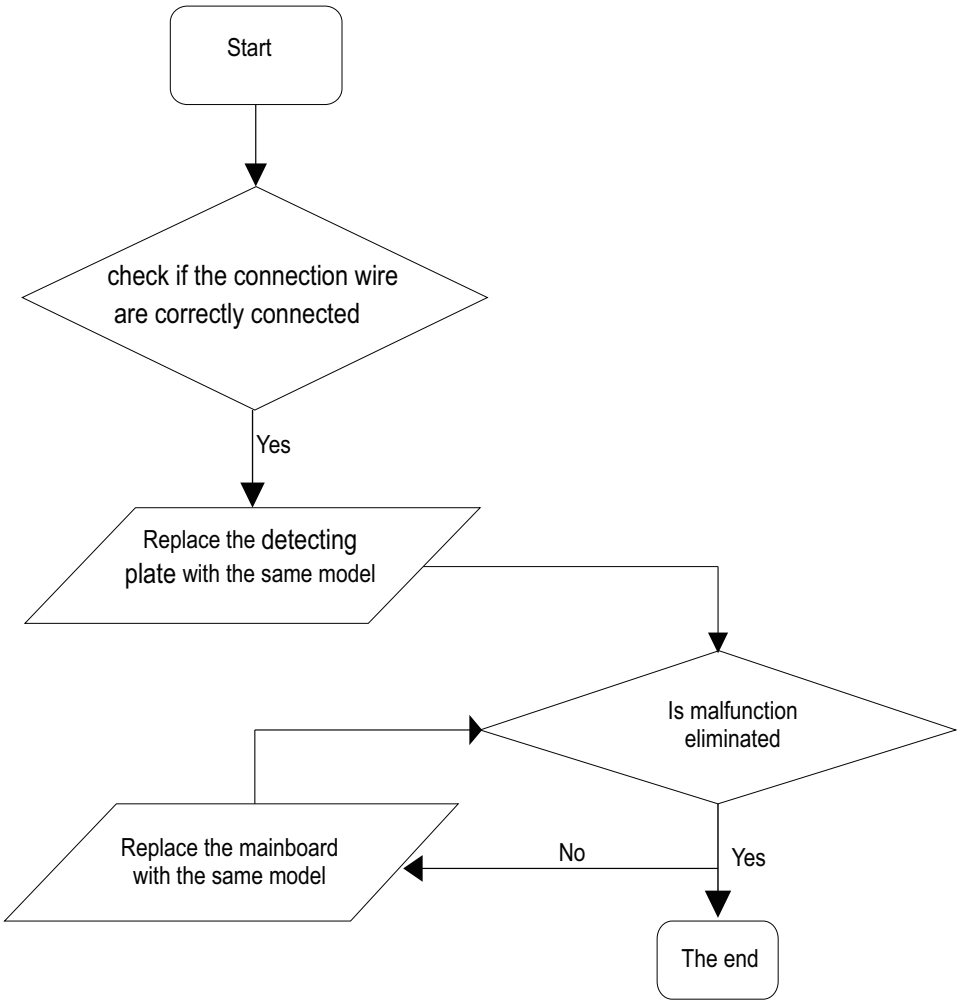
(4) Malfunction of Overload protection for compressor H3



(5) Overload malfunction E8



(6) Malfunction of detecting plate(WIFI) JF



9.6 Maintenance Method for Common Malfunction

1. Air Conditioner Can't be Started Up

Possible Causes for Malfunction	Distinguish Method (A/C status)	Maintenance Method
No power supply; power plug hasnt been inserted tightly and poorly connected; wires hasnt been connected well.	Operation indicator is OFF and buzzer wont give out sound.	Check whether theres power supply; Check power plug and wire connection.
Ambient temperature sensor is damaged (no connection, loosen, wires are damaged, resistance value for temperature sensor is abnormal).	After energization, the unit will give out a sound, while it Can't be started up after pressing ON/ OFF button.	Check wire connection of temperature sensor or replace temperature sensor.
Electric leakage for air conditioner	After energization, room circuit breaker trips off at once.	Make sure the air conditioner is grounded reliably. Make sure wires of air conditioner is connected correctly. Check the wiring inside air conditioner. Check whether the insulation layer of power cord is damaged; if yes, place the power cord.
Model selection for air switch is improper	After energization, air switch trips off.	Select proper air switch.
Malfunction of remote controller	After energization, operation indicator is bright, while no display on remote controller or buttons have no action.	Replace batteries for remote controller. Repair or replace remote controller.
Water inside water chassis is full	Dual8 nixie tube displays H8 and buzzer gives out 8 sounds (water over-flow protection).	Discharge condensate water.
Malfunction of water-level switch		Check water-level switch and connection (refer to detection flow chart 3).

2. Poor Cooling (Heating) for Air Conditioner

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Set temperature is improper	Observe the set temperature on remote controller	Adjust the set temperature.
Fan speed is set too slow	Small fan blow at air outlet	Set the fan speed at high or medium.
Filter unit is blocked	Check the filter to see whether its blocked by sundries	Clean the filter.
Evaporator is frosted	Has set COOL (DRY) mode, but theres no cool fan	The system is defrosting. Resume operation after defrosting is finished.
Malfunction of fan	Fan Can't operate	Refer to point 3 for detailed maintenance method.
Malfunction of compressor	Compressor Can't operate	Refer to point 4 of maintenance method for details.

3. Fan Can't Swing

Possible Causes	Discriminating Method (Air conditioner Status)	Troubleshooting
Wrong wire connection, or poor connection	Check the wiring status according to circuit diagram	Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly
Fan capacitor is damaged	Use universal meter to measure voltage at both ends of fan capacitor	Replace fan capacitor
Supply voltage is too low or too high	Use universal meter to measure the voltage	You are suggested to equip with voltage regulator
Motor is damaged	Above circumstances are normal, while the fan Can't operate	Repair or replace motor

4. Compressor Can't Operate

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

5. Unit hasnt stop operation afer bucket full or bucket full protection occurs frequently

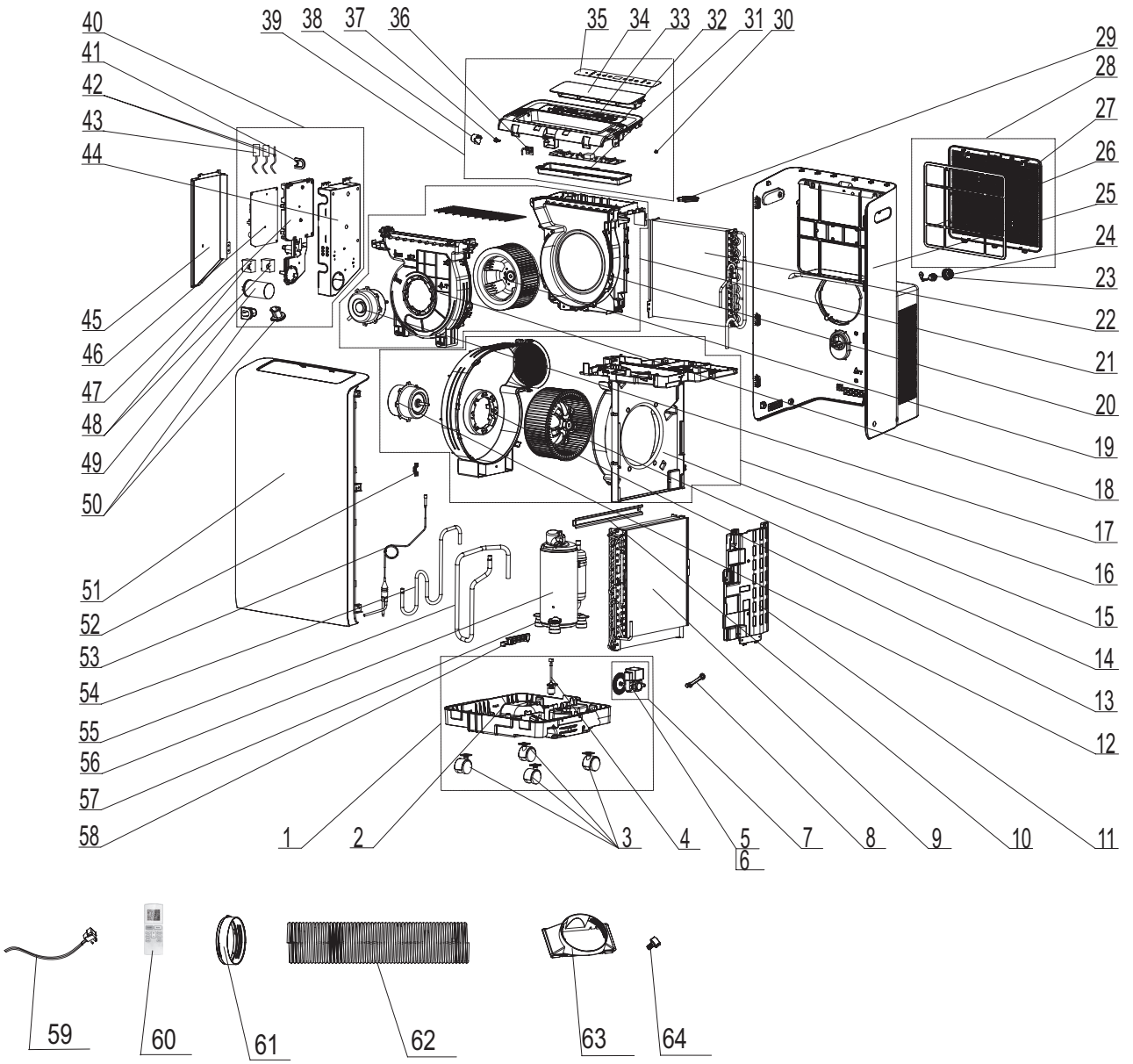
Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Water-level switch is open-circuited	The unit hasnt stop operation when water is full and theres water leakage	Check and repair the water-level switch
Draw water motor is damaged	Water over-flow protection occurs frequently and H8 is displayed	Replace draw water motor

6. Abnormal Sound and Vibration

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
When turn on or turn off the unit, the panel and other parts will expand and theres abnormal sound	Theres the sound of "PAPA"	Normal phenomenon. Abnormal sound will disappear after a few minutes.
When turn on or turn off the unit, theres abnormal sound due to flow of refrigerant inside air conditioner	Water-running sound can be heard	Normal phenomenon. Abnormal sound will disappear after a few minutes.
Therere foreign objects inside air conditioner or parts are contacting with each other	Abnomal sound	Take out foreign objects. Adjust the position of parts. Stick damping plaster between contacting parts.
Abnormal shake of compressor	Outdoor unit gives out abnormal sound	Adjust the support foot mat of compressor, tighten the bolts.

10. Exploded View and Parts List

GPC12AQC-K5NNA1A GPC10AQC-K5NNA1A



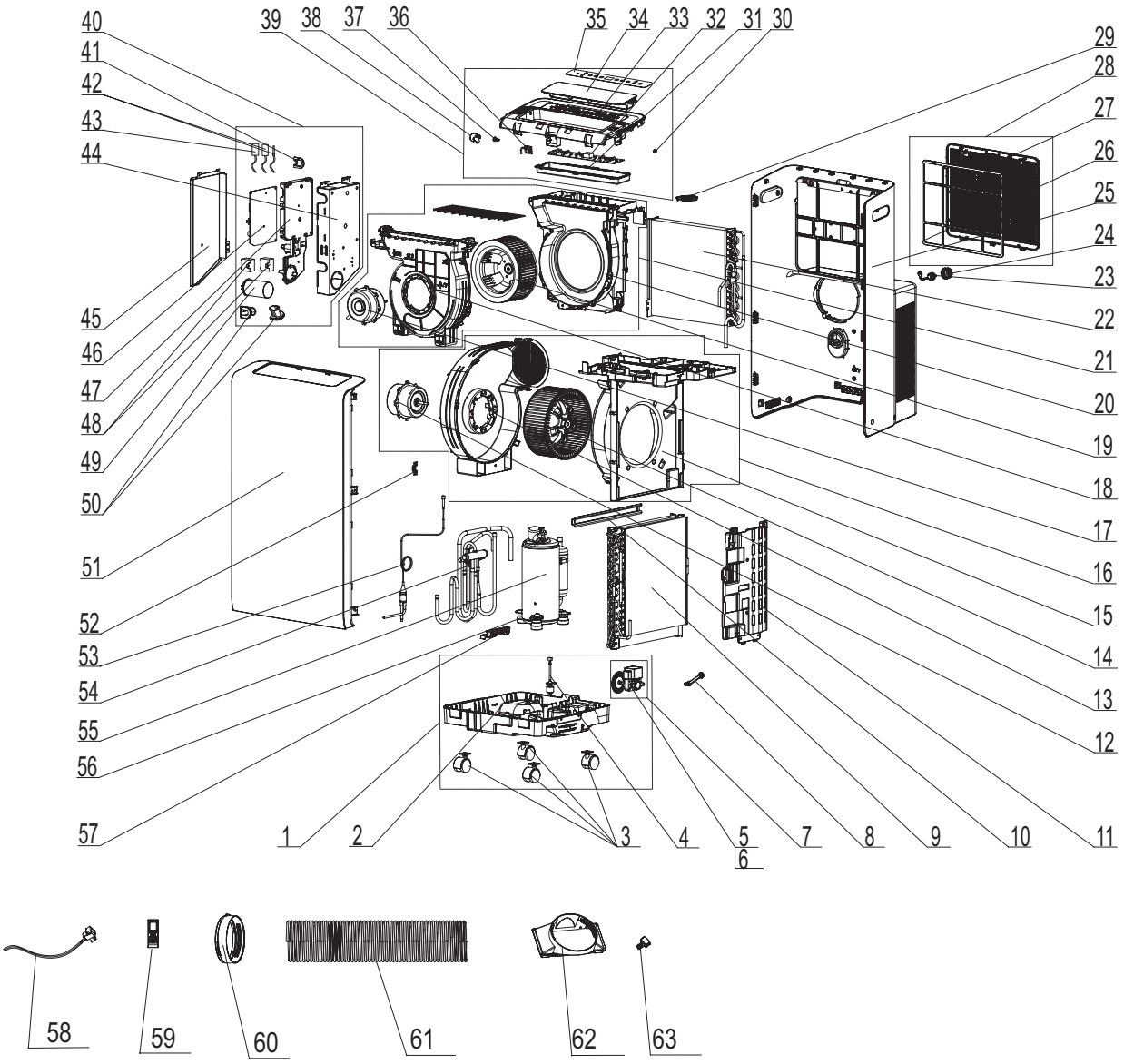
The component picture is only for reference please refer to the actual product.

NO.	Description
1	Chassis Assy
2	Chassis Sub-assy
3	Castor
4	Liquid Level Switch
5	Fan Motor
6	Splash Water Flywheel
7	Motor Sub-assy(Flutter)
8	Drainage Plug for Base Plate
9	Condenser Assy
10	Supporting Strip(Condenser)
11	Supporting Board
12	Fan Motor
13	Motor Holder (Lower)
14	Centrifugal Fan
15	Diversion Circle (lower)
16	Air Duct Sub-assy 1
17	Fan Motor
18	Motor Holder (Upper)
19	Centrifugal Fan
20	Diversion Circle (Upper)
21	Air Duct Sub-assy 2
22	Evaporator Assy
23	Rubber Plug
24	Cover of drainage hole
25	Rear Plate
26	Filter Sub-Assy
27	Front Grill
28	Front Grill Sub-assy
29	Detecting Plate
30	Axile Bush
31	Display Box Cover
32	Display Board

NO.	Description
33	Coping
34	Guide Louver(double-layer)
35	Membrane
36	Display Board
37	Crank
38	Stepping Motor
39	Top Cover Assy
40	Electric Box Assy
41	Pass Wire Ring Sub-assy
42	Temperature Sensor
43	Temperature Sensor
44	Electric Box Sub-Assy
45	Electric Box Cover
46	Main Board
47	fixed support (mainboard)
48	Capacitor CBB61
49	Capacitor CBB65
50	Cable Cross Loop
51	Front Panel
52	Wire Clamp
53	Capillary Sub-assy
54	Discharge Tube
55	Inhalation Tube
56	Compressor and Fittings
57	Compressor Gasket
58	Baffle Plate
59	Power Cord
60	Remote Controller
61	Joint
62	Pipe
63	Rear Clip
64	Drainage Joint Sub-assy

Some models may not contain some parts, please refer to the actual product.

GPH12AQC-K5NNA1A



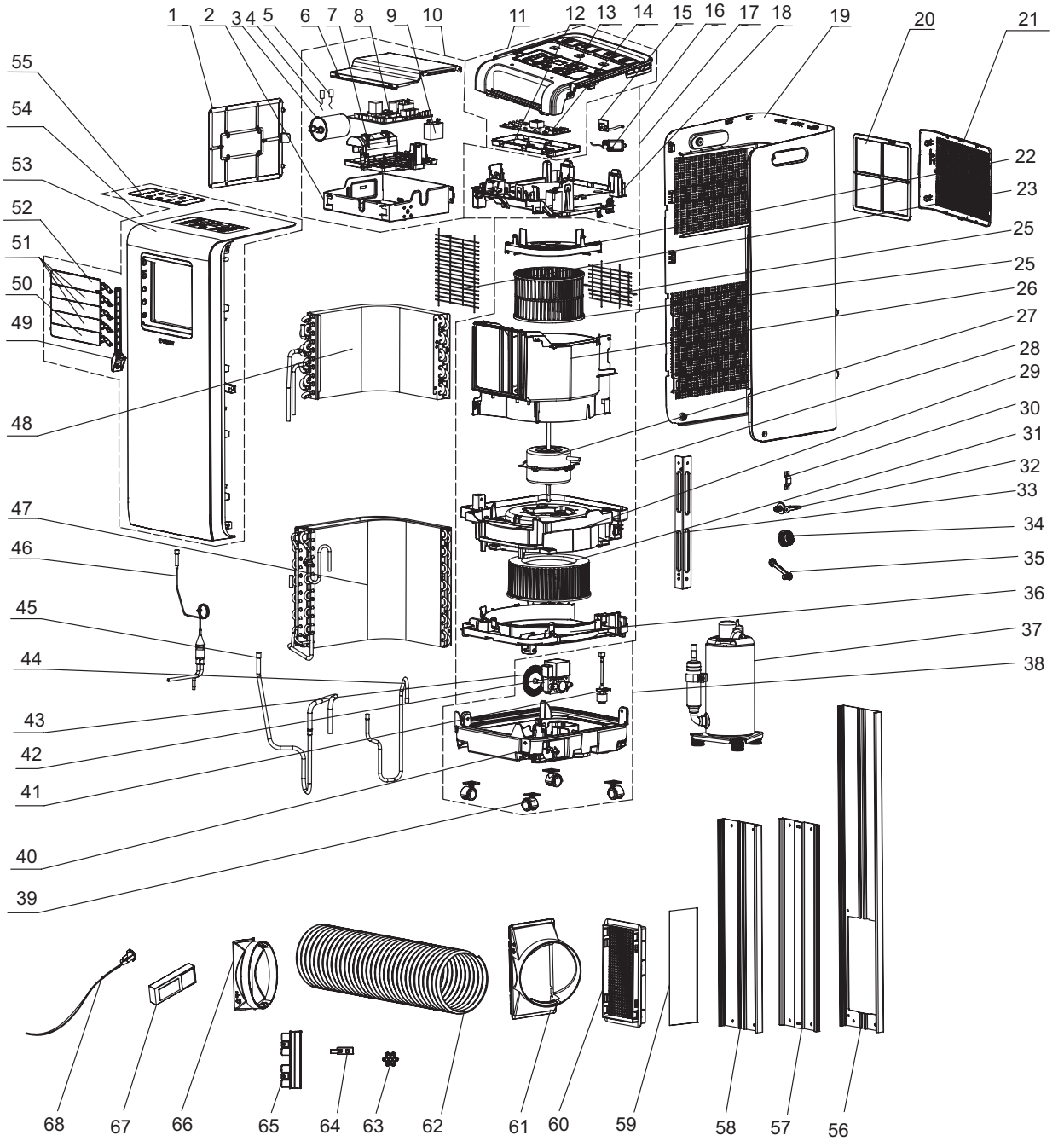
The component picture is only for reference please refer to the actual product.

NO.	Description
1	Chassis Assy
2	Chassis Sub-assy
3	Castor
4	Liquid Level Switch
5	Fan Motor
6	Splash Water Flywheel
7	Motor Sub-assy(Flutter)
8	Drainage Plug for Base Plate
9	Condenser Assy
10	Supporting Strip(Condenser)
11	Supporting Board
12	Fan Motor
13	Motor Holder (Lower)
14	Centrifugal Fan
15	Diversion Circle (lower)
16	Air Duct Sub-assy 1
17	Fan Motor
18	Motor Holder (Upper)
19	Centrifugal Fan
20	Diversion Circle (Upper)
21	Air Duct Sub-assy 2
22	Evaporator Assy
23	Rubber Plug
24	Cover of drainage hole
25	Rear Plate
26	Filter Sub-Assy
27	Front Grill
28	Front Grill Sub-assy
29	Detecting Plate
30	Axile Bush
31	Display Box Cover
32	Display Board

NO.	Description
33	Coping
34	Guide Louver(double-layer)
35	Membrane
36	Display Board
37	Crank
38	Stepping Motor
39	Top Cover Assy
40	Electric Box Assy
41	Pass Wire Ring Sub-assy
42	Temperature Sensor
43	Temperature Sensor
44	Electric Box Sub-Assy
45	Electric Box Cover
46	Main Board
47	fixed support (mainboard)
48	Capacitor CBB61
49	Capacitor CBB65
50	Cable Cross Loop
51	Front Panel
52	Wire Clamp
53	Capillary Sub-assy
54	4-Way Valve Assy
55	Compressor and Fittings
56	Compressor Gasket
57	Baffle Plate
58	Power Cord
59	Remote Controller
60	Joint
61	Pipe
62	Rear Clip
63	Drainage Joint Sub-assy

Some models may not contain some parts, please refer to the actual product.

GPC07AQA-K5NNA1A



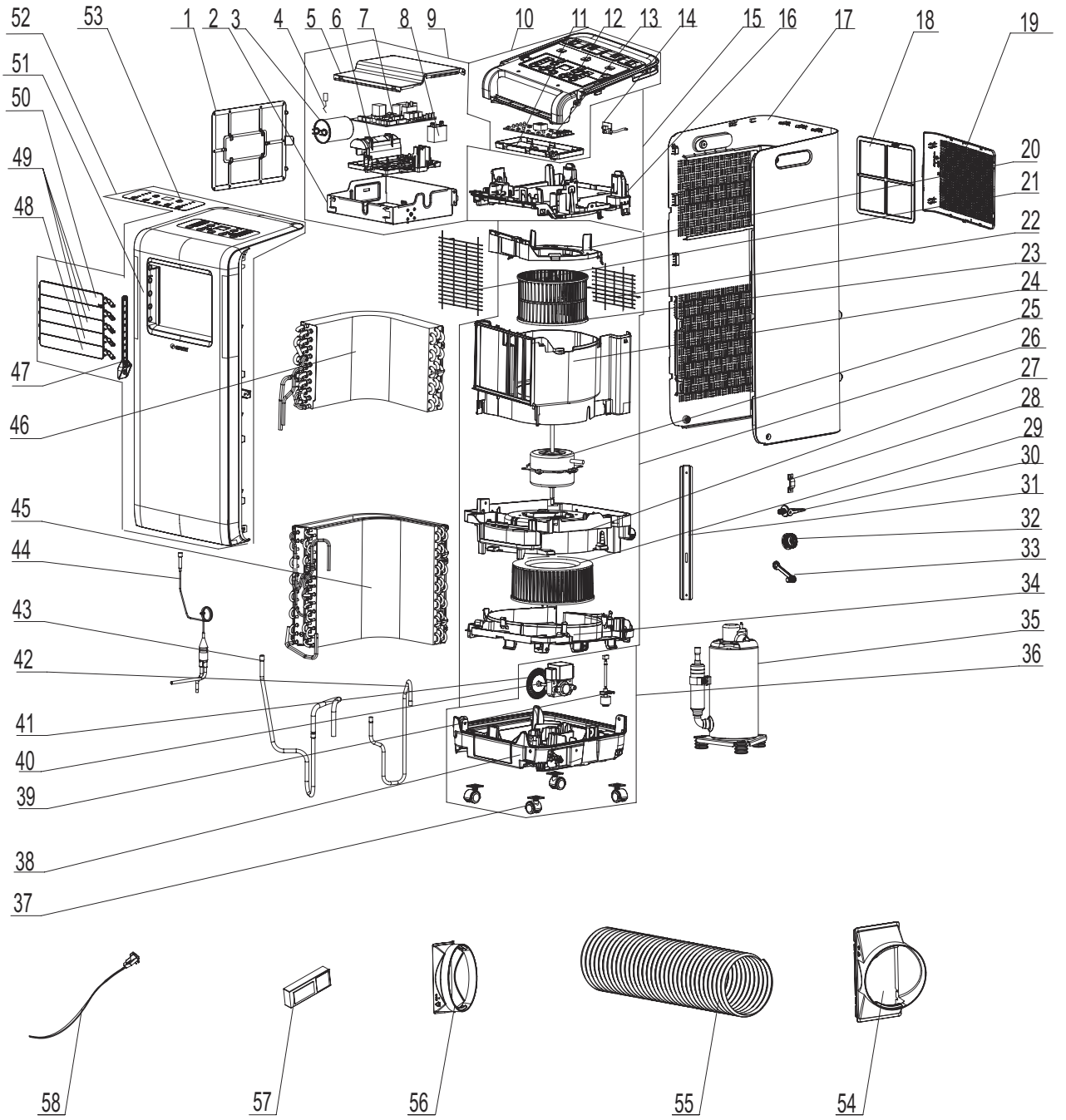
The component picture is only for reference please refer to the actual product.

NO.	Description
1	Filter Sub-assy 2
2	Electric Box
3	Capacitor CBB65
4	Temperature Sensor
5	Temperature Sensor
6	Electric Box Cover
7	Fixed shelf for electronic parts
8	Main Board
9	Capacitor CBB61
10	Electric Box Assy
11	Top Cover Assy
12	Display Box Cover
13	Coping
14	Display Board
15	Display Board
16	Detecting Plate
17	Cover Plate Sub-Assy
18	Cover of Propeller Housing
19	Rear Plate
20	Filter Sub-assy 1
21	Front Grill
22	Cover of Propeller Housing
23	Grill (upper)
24	Grill (down)
25	Centrifugal Fan(upper)
26	Propeller Housing
27	Fan Motor
28	Air Duct Sub-assy
29	Motor Holder
30	Wire Clamp
31	Centrifugal Fan(lower)
32	Rubber Plug
33	Supporting Board 1
34	Cover of drainage hole

NO.	Description
35	Drainage Plug for Base Plate
36	Diversion Circle
37	Compressor and Fittings
38	Chassis Assy
39	Castor
40	Chassis Sub-assy
41	Liquid Level Switch
42	Fan Motor
43	Splash Water Flywheel
44	Discharge Tube
45	Inhalation Tube Sub-assy
46	Capillary Sub-assy
47	Condenser Assy
48	Evaporator Assy
49	Guide Blade Lever
50	Guide Louver 3
51	Guide Louver 2
52	Guide Louver 1
53	Front Panel
54	Front Panel Assy
55	Membrane
56	Baffle Plate (back plate 1)
57	Baffle Plate (adjusting plate)
58	Baffle Plate (back plate 2)
59	Baffle Plate (vent)
60	Mothproof Net
61	Rear Clip
62	Pipe
63	Mounting Plate
64	Mounting Plate
65	Fixed base
66	Joint
67	Remote Controller
68	Power Cord

Some models may not contain some parts, please refer to the actual product.

GPC07AQA-K5NNA1C
GPC09AQA-K5NNA1B
GPC07AQA-K5NNA1E(CK010052500)



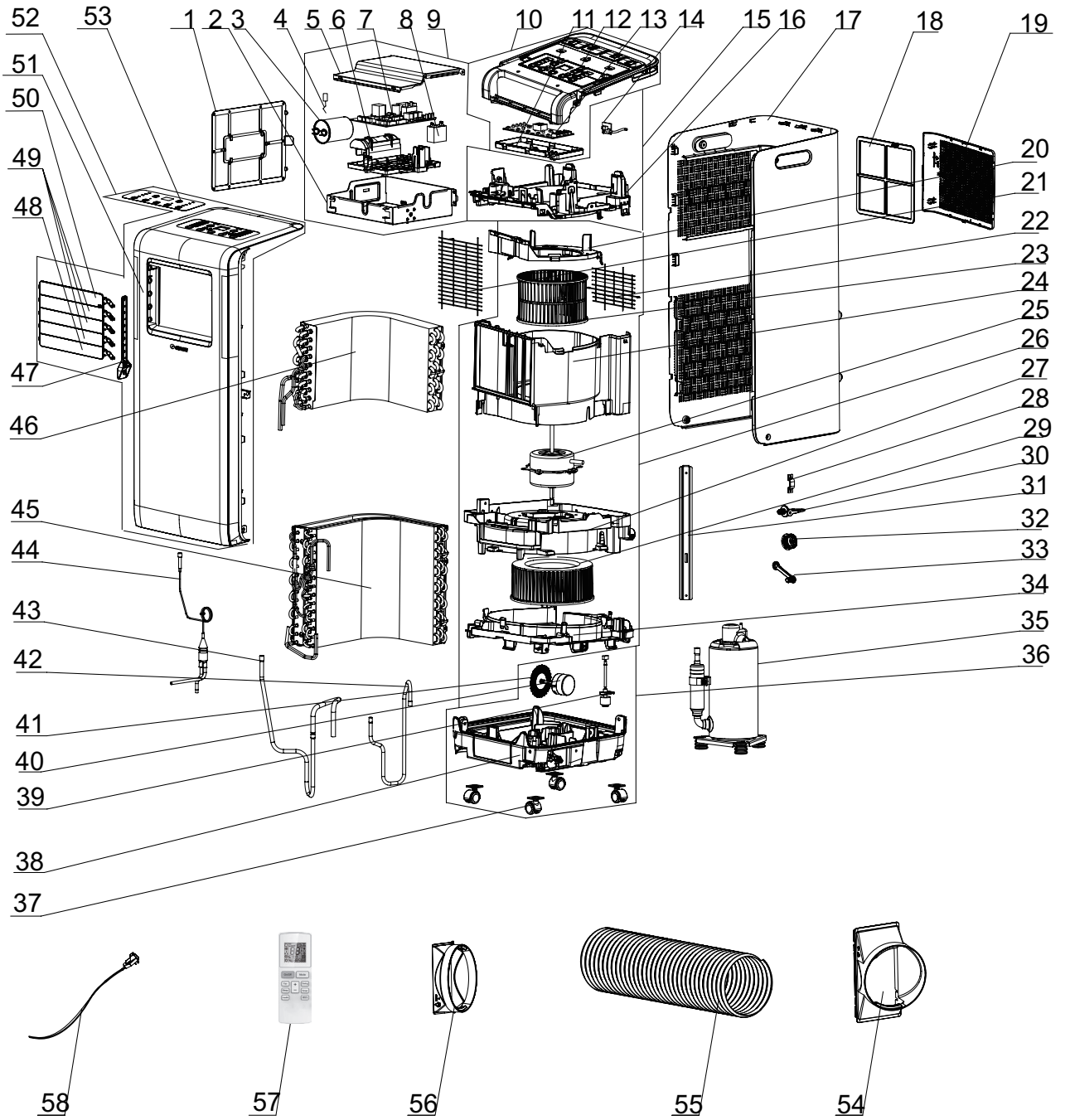
The component picture is only for reference please refer to the actual product.

NO.	Description
1	Filter Sub-assy 2
2	Electric Box
3	Capacitor CBB65
4	Temperature Sensor
5	Electric Box Cover
6	Fixed shelf for electronic parts
7	Main Board
8	Capacitor CBB61S
9	Electric Box Assy
10	Top Cover Assy
11	Display Box Cover
12	Coping
13	Display Board
14	Display Board
15	Cover Plate Sub-Assy
16	Cover of Propeller Housing
17	Rear Plate
18	Filter Sub-assy 1
19	Front Grill
20	Cover of Propeller Housing
21	Grill (upper)
22	Grill (down)
23	Centrifugal Fan(upper)
24	Propeller Housing
25	Fan Motor
26	Air Duct Sub-assy
27	Motor Holder
28	Wire Clamp
29	Centrifugal Fan(lower)

NO.	Description
30	Rubber Plug
31	Supporting Board
32	Cover of drainage hole
33	Drainage Plug for Base Plate
34	Diversion Circle
35	Compressor and Fittings
36	Chassis Assy
37	Castor
38	Chassis Sub-assy
39	Liquid Level Switch
40	Fan Motor
41	Splash Water Flywheel
42	Discharge Tube Sub-assy
43	Inhalation Tube Sub-assy
44	Capillary Sub-assy
45	Condenser Assy
46	Evaporator Assy
47	Guide Blade Lever
48	Guide Louver 3
49	Guide Louver 2
50	Guide Louver 1
51	Front Panel
52	Front Panel Assy
53	Membrane
54	Rear Clip
55	Pipe
56	Joint
57	Remote Controller
58	Power Cord

Some models may not contain some parts, please refer to the actual product.

GPC07AQA-K5NNA1E(CK010052501)



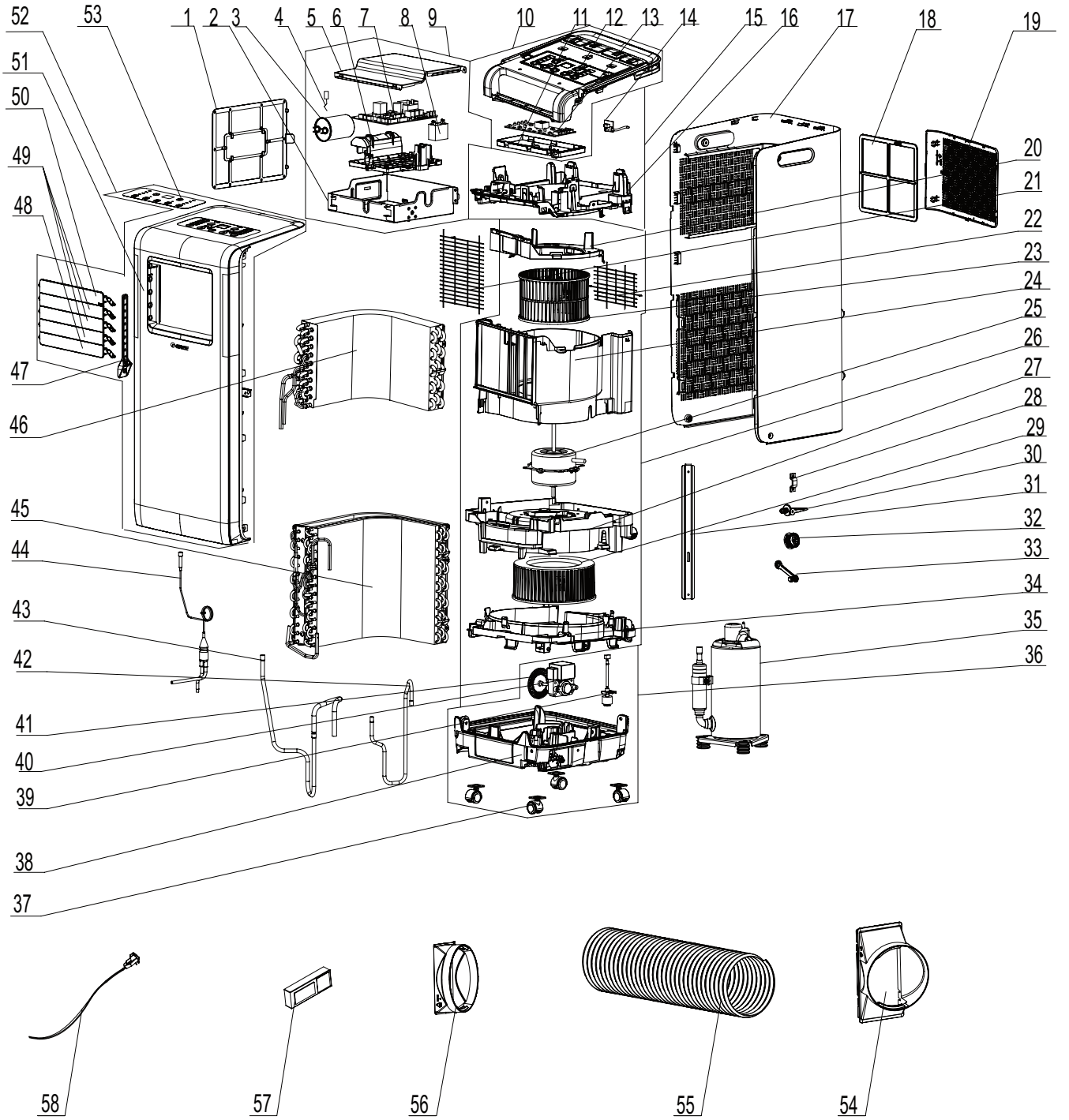
The component picture is only for reference please refer to the actual product.

NO.	Description
1	Filter Sub-assy 2
2	Electric Box
3	Capacitor CBB65
4	Temperature Sensor
5	Electric Box Cover
6	Fixed shelf for electronic parts(mainboard)
7	Main Board
8	Capacitor CBB61S
9	Electric Box Assy
10	Top Cover Assy
11	Display Box Cover
12	Coping
13	Display Board
14	Display Board
15	Cover Plate Sub-Assy
16	Cover of Propeller Housing
17	Rear Plate
18	Filter Sub-assy 1
19	Front Grill
20	Cover of Propeller Housing
21	Grill (upper)
22	Grill (down)
23	Centrifugal Fan(upper)
24	Propeller Housing
25	Fan Motor
26	Air Duct Sub-assy
27	Motor Holder
28	Wire Clamp
29	Centrifugal Fan(lower)

NO.	Description
30	Rubber Plug
31	Supporting Board
32	Cover of drainage hole
33	Drainage Plug for Base Plate
34	Diversion Circle
35	Compressor and Fittings
36	Chassis Assy
37	Castor
38	Chassis Sub-assy
39	Liquid Level Switch
40	Brushless DC Motor
41	Dial Wheel
42	Discharge Tube
43	Inhalation Tube Sub-assy
44	Capillary Sub-assy
45	Condenser Assy
46	Evaporator Assy
47	Guide Blade Lever
48	Guide Louver 3
49	Guide Louver 2
50	Guide Louver 1
51	Front Panel
52	Front Panel Assy
53	Membrane
54	Rear Clip
55	Pipe
56	Joint
57	Remote Controller
58	Power Cord

Some models may not contain some parts, please refer to the actual product.

GPC07AQA-K5NNA1D
GPC09AQA-K5NNA1D



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

NO.	Description
1	Filter Sub-assy 2
2	Electric Box
3	Capacitor CBB65
4	Temperature Sensor
5	Electric Box Cover
6	Fixed shelf for electronic parts
7	Main Board
8	Capacitor CBB61S
9	Electric Box Assy
10	Top Cover Assy
11	Display Box Cover
12	Coping
13	Display Board
14	Display Board
15	Cover Plate Sub-Assy
16	Cover of Propeller Housing
17	Rear Plate
18	Filter Sub-assy 1
19	Front Grill
20	Cover of Propeller Housing
21	Grill (upper)
22	Grill (down)
23	Centrifugal Fan(upper)
24	Propeller Housing
25	Fan Motor
26	Air Duct Sub-assy
27	Motor Holder
28	Wire Clamp
29	Centrifugal Fan(lower)

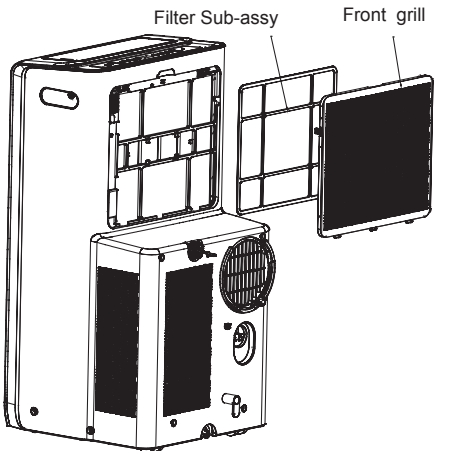
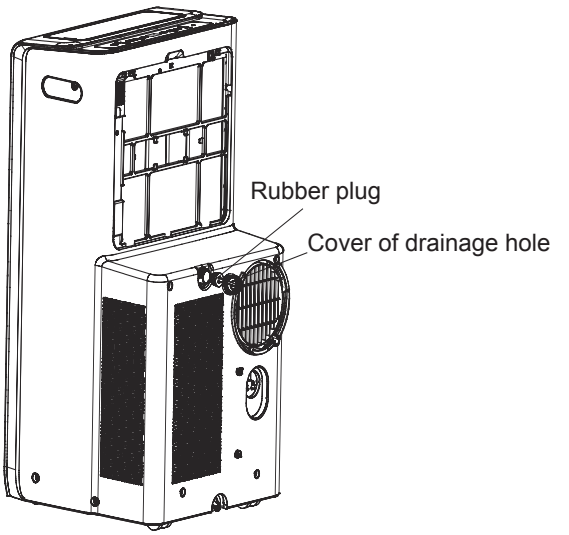
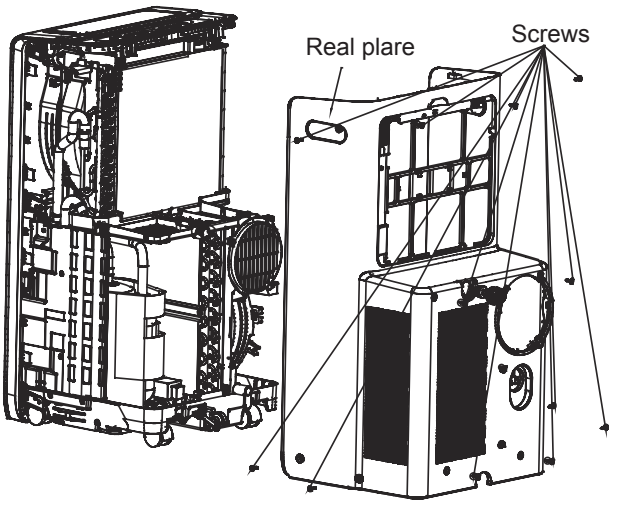
NO.	Description
30	Rubber Plug
31	Supporting Board
32	Cover of drainage hole
33	Drainage Plug for Base Plate
34	Diversion Circle
35	Compressor and Fittings
36	Chassis Assy
37	Castor
38	Chassis Sub-assy
39	Liquid Level Switch
40	Fan Motor
41	Splash Water Flywheel
42	Discharge Tube Sub-assy
43	Inhalation Tube Sub-assy
44	Capillary Sub-assy
45	Condenser Assy
46	Evaporator Assy
47	Guide Blade Lever
48	Guide Louver 3
49	Guide Louver 2
50	Guide Louver 1
51	Front Panel
52	Front Panel Assy
53	Membrane
54	Rear Clip
55	Pipe
56	Joint
57	Remote Controller
58	Power Cord

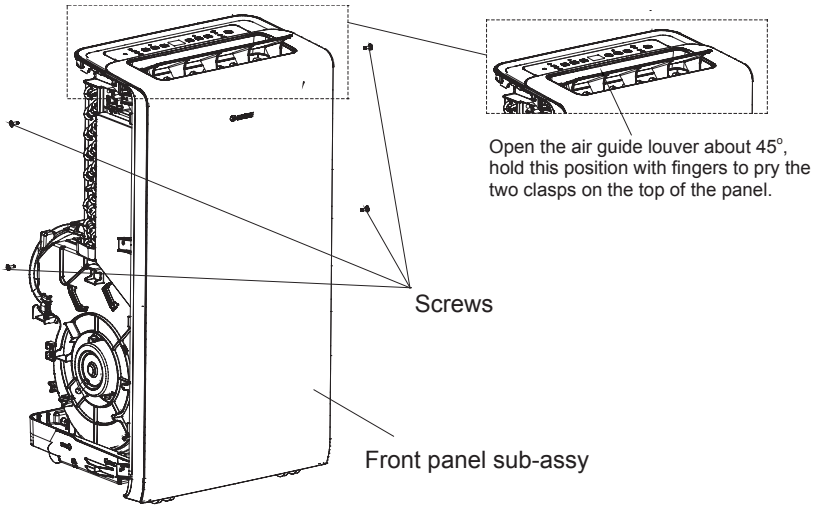
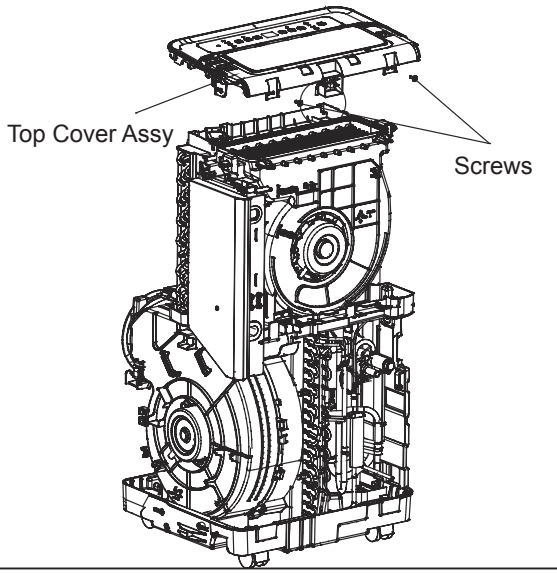
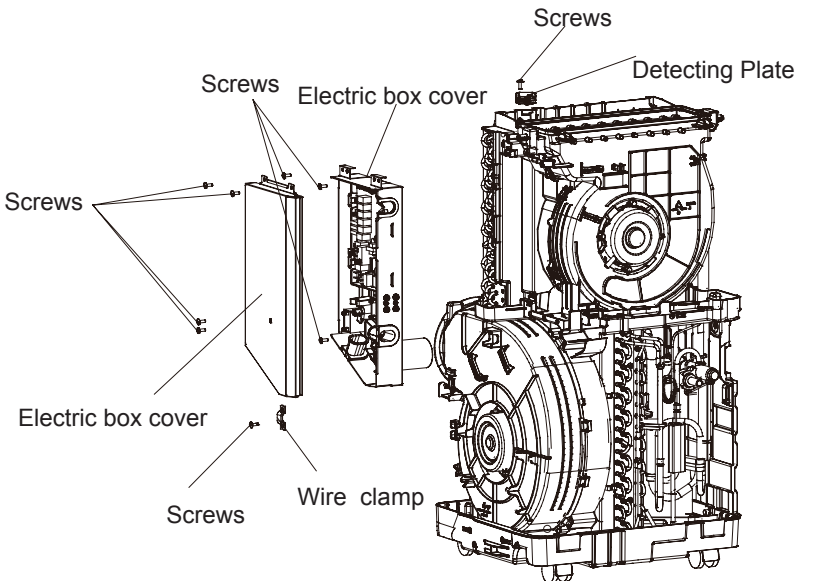
Some models may not contain some parts, please refer to the actual product.

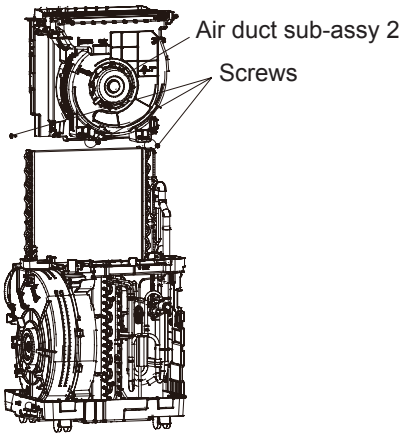
11. Removal Procedure

⚠ Prohibit disassembling and maintaining the refrigeration system pipeline and parts (include evaporator, condenser, compressor, capillary, 4-way valve, etc.)

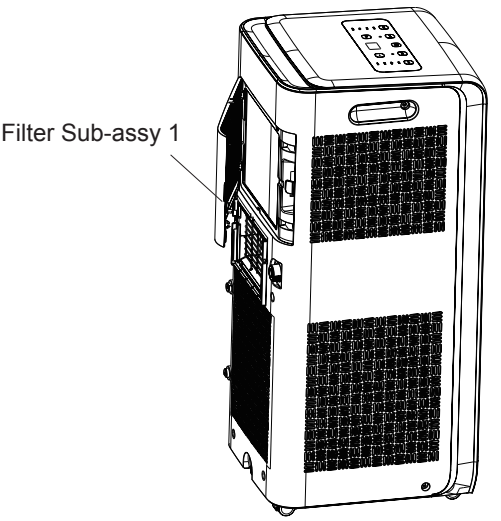
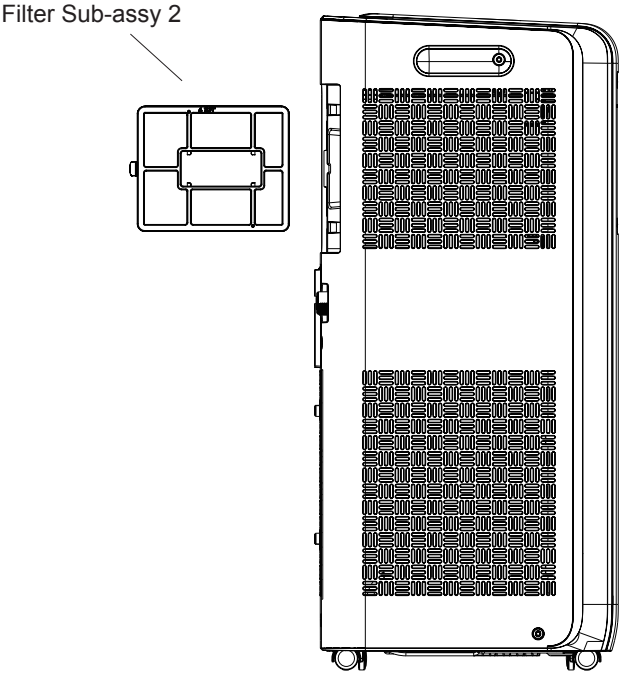
GPH12AQC-K5NNA1A
GPC12AQC-K5NNA1A
GPC10AQC-K5NNA1A

Step	Procedure
1.Remove front grill and filter sub-assy	
Pull the filter sub-assy outward by hand to remove the filter.	
2. Remove rubber plug and cover of drainage hole	
Remove the rubber plug after unscrewing the cover of drainage hole	
3.Remove rear plate	
Unscrew the 12 screws fixing the back plate, and then remove the back plate	

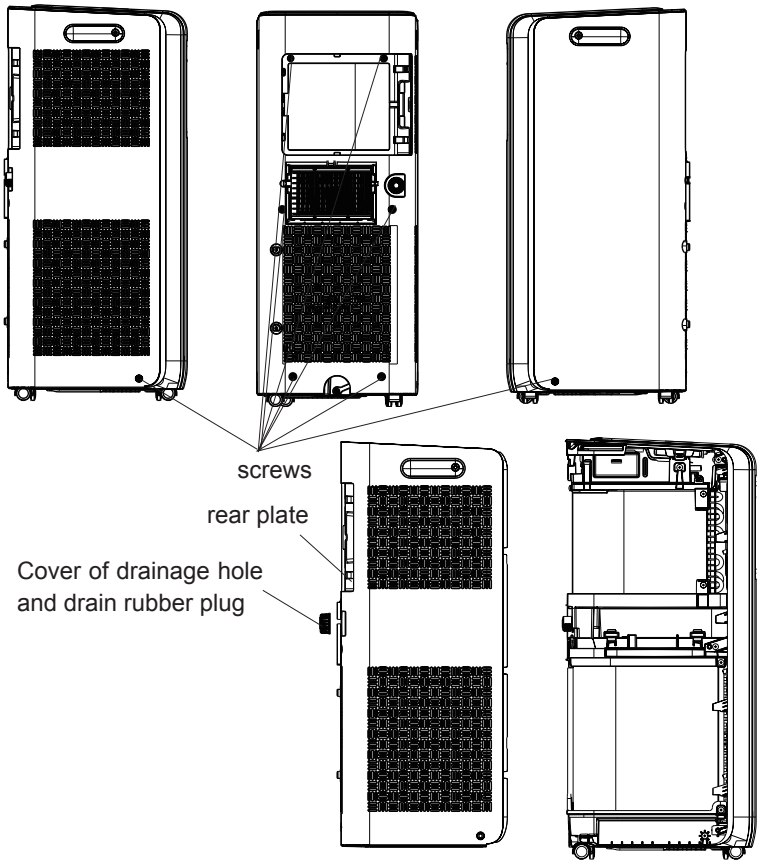
Step	Procedure
4.Remove front panel sub-assy	
Unscrew the 4 screws fixing the front panel sub-assy, and then remove front panel sub-assy	
5.Remove top cover assy	
Unscrew the 2 screws holding the top cover part and remove cover parts	
6.Remove electric box cover	
Unscrew 4 screws to remove the electric box cover assy and wire clamp.	

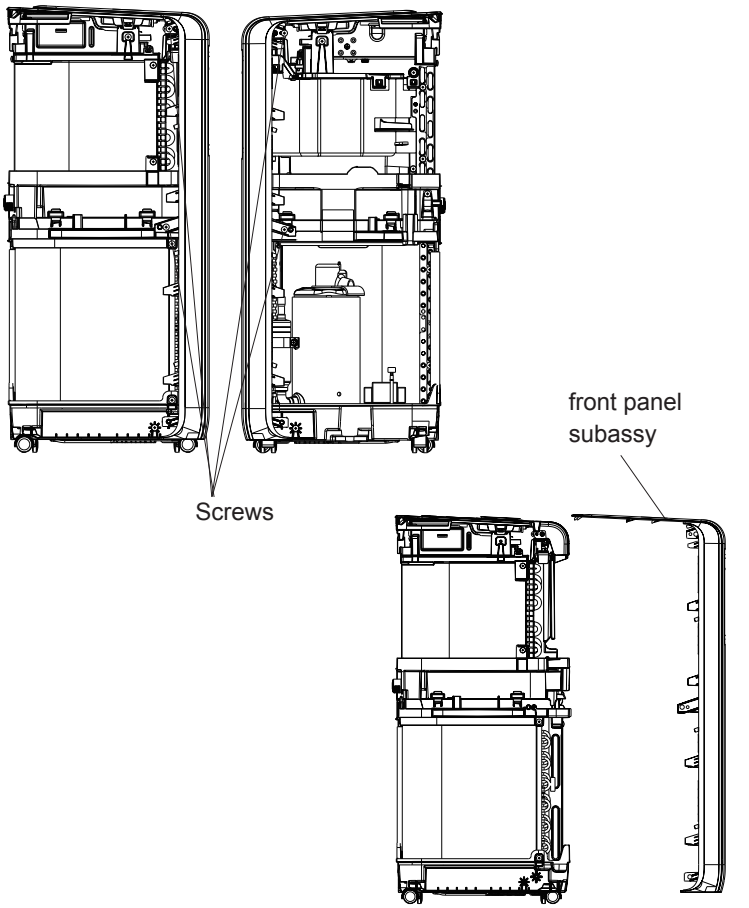
Step	Procedure
7.Remove air duct sub-assy 2	
Unscrew the 3 screws fixing the ir duct sub-assy 2, and then take out the ir duct sub-assy 2	

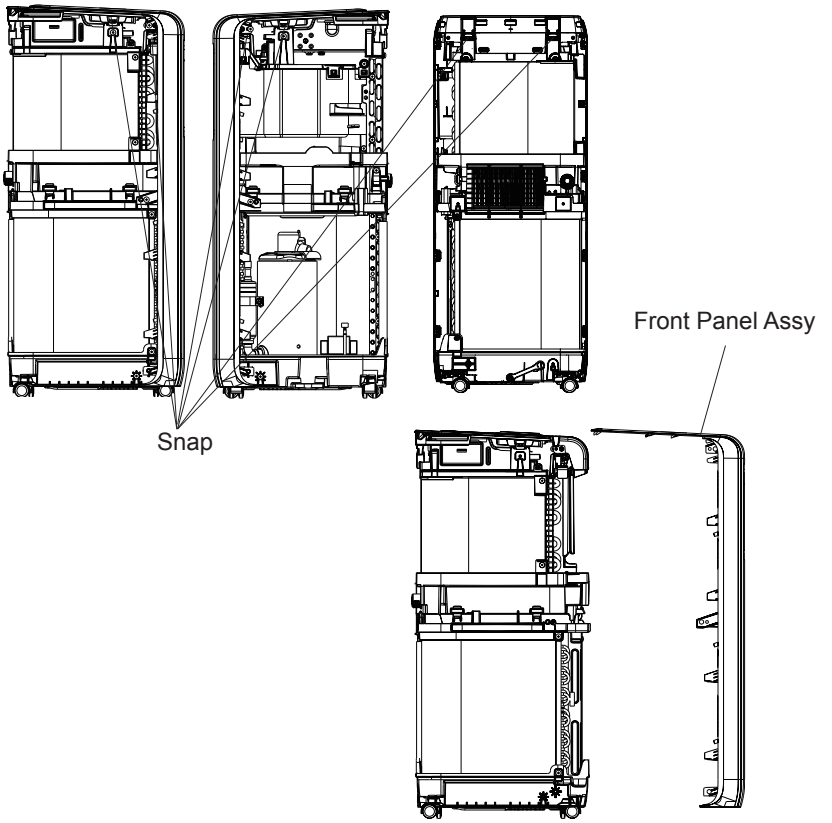
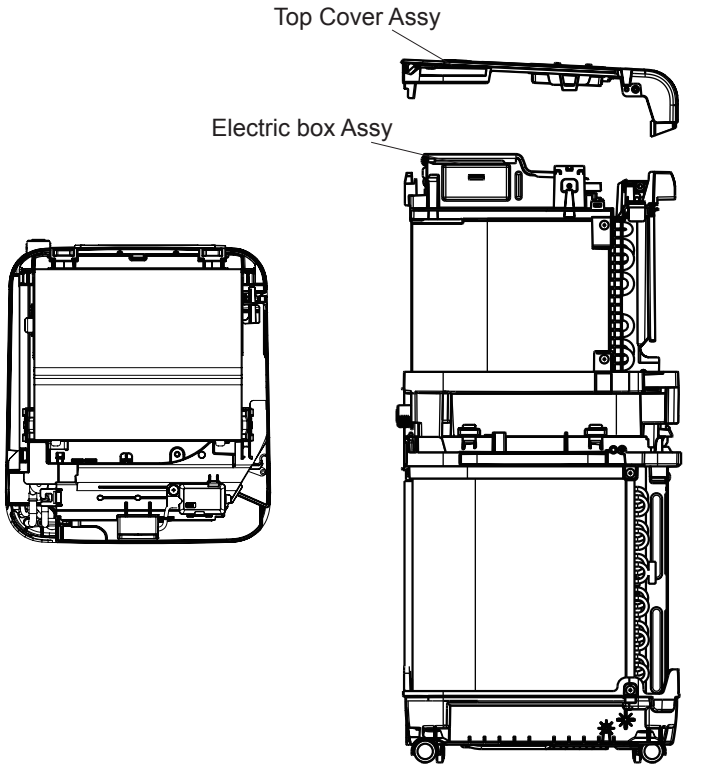
GPC07AQA-K5NNA1A GPC09AQA-K5NNA1B
GPC07AQA-K5NNA1C GPC07AQA-K5NNA1D
GPC09AQA-K5NNA1D GPC07AQA-K5NNA1E
Note:Take GPC07AQA-K5NNA1A for example.

Step	Procedure	
1.Remove filter sub-assy 1		
	Pull the filter sub-assy 1 outward by hand	
2.Remove filter sub-assy 2		
	Pull the filter sub-assy 2 outward by hand	

Step	Procedure
3.Remove rear plate	
	Unscrew the screws as diagram shown to remove the rear plate and cover of drainage hole and drain rubber plug.
4.Remove front panel assy	
	Unscrew the 4 screws as diagram shown to remove the front panel sub-assy.





Step	Procedure
5. Remove Front Panel Assy	
Remove the following 6 snaps to remove the Front Panel Assy .	
6. Remove electric box assy and Top Cover Assy	
Remove the wire connected with mainboard to remove the electric box assy.	

Appendix:

Appendix 1: Reference Sheet of Celsius and Fahrenheit

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

Set temperature

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

Ambient temperature

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

Appendix 2: List of Resistance for Temperature Sensor

Resistance table of temperature sensor (15K)

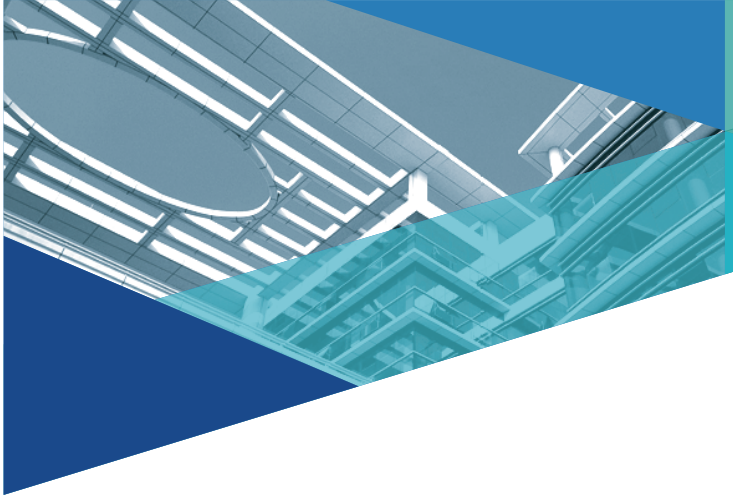
Temp(°C)	Resistance(kΩ)		Temp(°C)	Resistance(kΩ)		Temp(°C)	Resistance(kΩ)		Temp(°C)	Resistance(kΩ)
-19	138.1		20	18.75		59	3.848		98	1.071
-18	128.6		21	17.93		60	3.711		99	1.039
-17	121.6		22	17.14		61	3.579		100	1.009
-16	115		23	16.39		62	3.454		101	0.98
-15	108.7		24	15.68		63	3.333		102	0.952
-14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

Resistance table of temperature sensor (20K)

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

Resistance table of temperature sensor (50K)

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



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GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

Add: West Jinji Rd, Qianshan, Zhuhai,Guangdong, China, 519070
Tel: (+86-756) 8522219
Fax: (+86-756) 8669426
E-mail: global@cn.gree.com www.gree.com