



# Service Manual

---

## Easy Cool Serie

Please be aware that all product codes beginning with GPC are to be seen as the TOSOT units beginning with TPC.

### **TOSOT unit in this manual:**

TPC12AF-K3NNA7B  
(Refrigerant R410A)

## Table of Contents

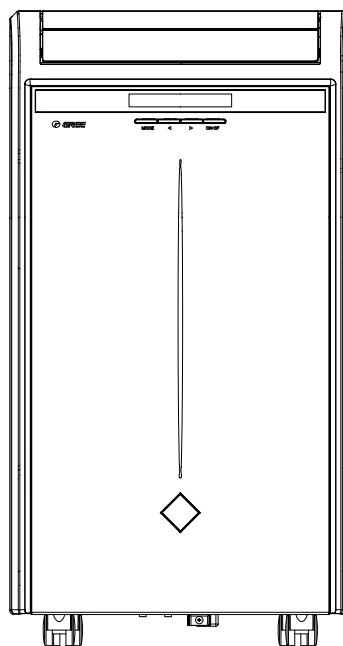
<b>Part I : Technical Information</b>	3
1. Summary	3
2. Specifications	4
3. Outline Dimension Diagram	10
4. Refrigerant System Diagram	11
5. Electrical Part	12
5.1 Wiring Diagram	12
5.2 PCB Printed Diagram	14
6. Function and Control	16
6.1 Remote Controller Introduction	16
6.2 Introduction of Basic Mode Function	19
<b>Part II : Maintenance</b>	21
7. Notes Maintenance	21
8. Installation	23
9. Maintenance	25
9.1 Error Code	25
9.2 Malfunction Detection Flowchart	27
9.3 Maintenance Method for Common Malfunction	30
10. Exploded View and Parts' List	32
11. Removal Procedure	41
Appendix:	47
Appendix 1: Reference Sheet of Celsius and Fahrenheit	47
Appendix 2: Resistance Table of Ambient Temperature Sensor	48
Appendix 3: Resistance Value Table of Humidity Sensor	51

# Part I : Technical Information

## 1. Summary

Models:

GPC12AF-K3NNA7A  
GPE12AF-K3NNA7A  
GPH12AF-K3NNA7A



Remote Controller

YB1F2(X-FAN)



## 2. Specifications

Model			GPC12AF-K3NNA7A
Product Code			CK01001212
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50
	Phases		1
Cooling Capacity		W	3500
Heating Capacity		W	/
Cooling Power Input		W	1340
Heating Power Input		W	/
Cooling Power Current		A	7.5
Heating Power Current		A	/
Rated Input		W	1550
Rated Current		A	6.7
Input of Heater		W	/
Air Flow Volume(H/M/L)		m <sup>3</sup> /h	450/420/390
Dehumidifying Volume		L/h	1.5
EER		W/W	2.61
COP		W/W	/
SEER		W/W	/
HSPF		W/W	/
Application Area		m <sup>2</sup>	15-22
Climate Type			T1
Isolation			I
Moisture Protection			IP24
Permissible Excessive Operating Pressure for the Discharge Side		MPa	3.8
Permissible Excessive Operating Pressure for the Suction Side		MPa	1.2
Throttling Method			Capillary
Defrosting Method			/
Fuse		A	3.15
Operation Temp		℃	16~30
Ambient Temp (Cooling)		℃	10~35
Ambient Temp (Heating)		℃	/
Sound Pressure Level (H/M/L)		dB (A)	58/56/52
Sound Power Level (H/M/L)		dB (A)	68/66/62
Dimension (WXHXD)		mm	500/840/460
Dimension of Carton Box (L/W/H)		mm	581/531/862
Dimension of Package (L/W/H)		mm	584/534/877
Net Weight		kg	45
Gross Weight		kg	52.5
Refrigerant			R410A
Refrigerant Charge		kg	0.8



Compressor	Compressor Manufacturer/Trademark		Zhuhai Landa Compressor Co., Ltd/GREE
	Compressor Model		QXA-C133B030gA
	Compressor Oil		RB68EP/FVC68D
	Compressor Type		Rotary
	L.R.A.	A	32
	Compressor RLA	A	5.05
	Compressor Power Input	W	1130
	Overload Protector		build in
Evaporator	Fan Type		Centrifugal
	Diameter Length(DXL)	mm	Φ218X109
	Fan Motor Speed(H/ML)	r/min	800/700/600
	Output of Fan Motor	W	23
	Fan Motor RLA	A	0.1
	Fan Motor Capacitor	μF	2
	Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Row-fin Gap	mm	3-1.6
	Coil Length (LXDXW)	mm	363X38.1X285
	Swing Motor Model		MP28GA
	Output of Swing Motor	W	2
Condenser	Fan Type		Centrifugal
	Fan Diameter	mm	218X109
	Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Rows-fin Gap	mm	4-1.6
	Coil Length (LXDXW)	mm	350X50.8X350
	Fan Motor Speed	rpm	1160
	Output of Fan Motor	W	65
	Fan Motor RLA	A	0.28
	Fan Motor Capacitor	μF	3

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

Model			GPE12AF-K3NNA7A
Product Code			CK01001452
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50
	Phases		1
Cooling Capacity		W	3500
Heating Capacity		W	2000
Cooling Power Input		W	1340
Heating Power Input		W	2100
Cooling Power Current		A	7.50
Heating Power Current		A	9.00
Rated Input		W	2200
Rated Current		A	11.00
Input of Heater		W	1200
Air Flow Volume(H/M/L)		m <sup>3</sup> /h	450/420/390
Dehumidifying Volume		L/h	1.5
EER		W/W	2.61
COP		W/W	0.95
SEER		W/W	/
HSPF		W/W	/
Application Area		m <sup>2</sup>	15-22
Climate Type			T1
Isolation			I
Moisture Protection			IP24
Permissible Excessive Operating Pressure for the Discharge Side		MPa	3.8
Permissible Excessive Operating Pressure for the Suction Side		MPa	1.2
Throttling Method			Capillary
Defrosting Method			/
Fuse		A	3.15
Operation Temp		℃	16~30
Ambient Temp (Cooling)		℃	10~35
Ambient Temp (Heating)		℃	/
Sound Pressure Level (H/M/L)		dB (A)	58/56/52
Sound Power Level (H/M/L)		dB (A)	68/66/62
Dimension (WXHXD)		mm	500/840/460
Dimension of Carton Box (L/W/H)		mm	581/531/862
Dimension of Package (L/W/H)		mm	584/534/877
Net Weight		kg	45
Gross Weight		kg	52.5
Refrigerant			R410A
Refrigerant Charge		kg	0.80

Compressor	Compressor Manufacturer/Trademark		Zhuhai Landa Compressor Co., Ltd/GREE
	Compressor Model		QXA-C133B030gA
	Compressor Oil		RB68EP/FVC68D
	Compressor Type		Rotary
	L.R.A.	A	32.00
	Compressor RLA	A	5.05
	Compressor Power Input	W	1130
	Overload Protector		build in
Evaporator	Fan Type		Centrifugal
	Diameter Length(DXL)	mm	Φ218X109
	Fan Motor Speed(H/ML)	r/min	800/700/600
	Output of Fan Motor	W	23
	Fan Motor RLA	A	0.10
	Fan Motor Capacitor	μF	2
	Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Row-fin Gap	mm	3-1.6
	Coil Length (LXDXW)	mm	363X38.1X285
	Swing Motor Model		MP28GA
	Output of Swing Motor	W	2
Condenser	Fan Type		Centrifugal
	Fan Diameter	mm	218X109
	Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Rows-fin Gap	mm	4-1.6
	Coil Length (LXDXW)	mm	350X50.8X350
	Fan Motor Speed	rpm	1160
	Output of Fan Motor	W	65
	Fan Motor RLA	A	0.28
	Fan Motor Capacitor	μF	3

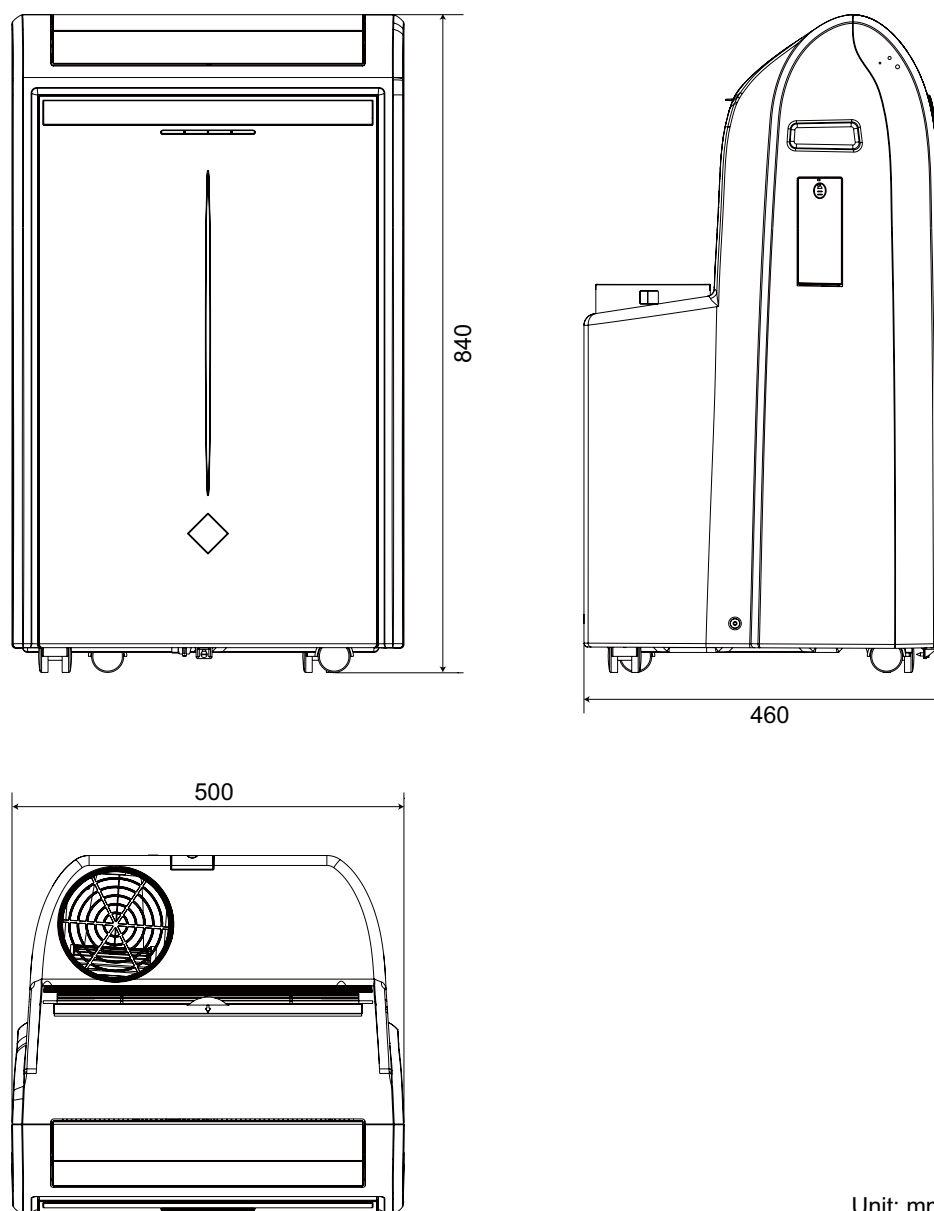
The above data is subject to change without notice. Please refer to the nameplate of the unit.

Model			GPH12AF-K3NNA7A
Product Code			CK01001491
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50
	Phases		1
Cooling Capacity		W	3500
Heating Capacity		W	3500
Cooling Power Input		W	1340
Heating Power Input		W	1200
Cooling Power Current		A	6.22
Heating Power Current		A	5.57
Rated Input		W	1550
Rated Current		A	7.20
Input of Heater		W	/
Air Flow Volume(H/M/L)		m <sup>3</sup> /h	450/420/390
Dehumidifying Volume		L/h	1
EER		W/W	2.61
COP		W/W	2.92
SEER		W/W	/
HSPF		W/W	/
Application Area		m <sup>2</sup>	16-24
Climate Type			T1
Isolation			I
Moisture Protection			IP24
Permissible Excessive Operating Pressure for the Discharge Side		MPa	3.8
Permissible Excessive Operating Pressure for the Suction Side		MPa	1
Throttling Method			Capillary
Defrosting Method			Auto
Fuse		A	3.15
Operation Temp		℃	16~30
Ambient Temp (Cooling)		℃	18~43
Ambient Temp (Heating)		℃	5~24
Sound Pressure Level (H/M/L)		dB (A)	53/51/48
Sound Power Level (H/M/L)		dB (A)	63/61/58
Dimension (WXHXD)		mm	500X840X460
Dimension of Carton Box (L/W/H)		mm	581/531/862
Dimension of Package (L/W/H)		mm	584/534/877
Net Weight		kg	47
Gross Weight		kg	55
Refrigerant			R410A
Refrigerant Charge		kg	0.80

Compressor	Compressor Manufacturer/Trademark		Zhuhai Landa Compressor Co., Ltd/GREE
	Compressor Model		QXA-C133B030gA
	Compressor Oil		RB68EP/FVC68D
	Compressor Type		Rotary
	L.R.A.	A	32.00
	Compressor RLA	A	5.00
	Compressor Power Input	W	1130
	Overload Protector		build in
Evaporator	Fan Type		Centrifugal
	Diameter Length(DXL)	mm	Φ218X109
	Fan Motor Speed(H/ML)	r/min	800/700/610
	Output of Fan Motor	W	23
	Fan Motor RLA	A	0.10
	Fan Motor Capacitor	μF	2
	Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Row-fin Gap	mm	3-1.6
	Coil Length (LXDXW)	mm	363X38.1X285
	Swing Motor Model		MP28GA
	Output of Swing Motor	W	2
Condenser	Fan Type		Centrifugal
	Fan Diameter	mm	218
	Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Rows-fin Gap	mm	4-1.6
	Coil Length (LXDXW)	mm	350X50.8X350
	Fan Motor Speed	rpm	1160/910
	Output of Fan Motor	W	65
	Fan Motor RLA	A	0.28
	Fan Motor Capacitor	μF	3

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

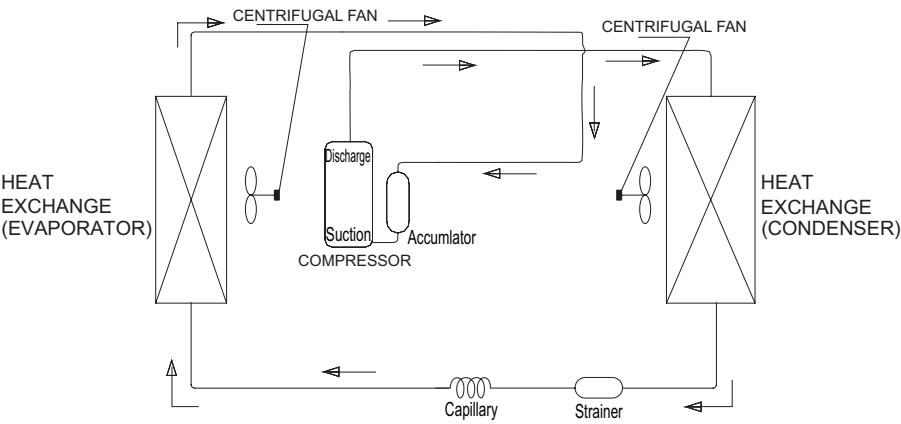
### 3. Outline Dimension Diagram



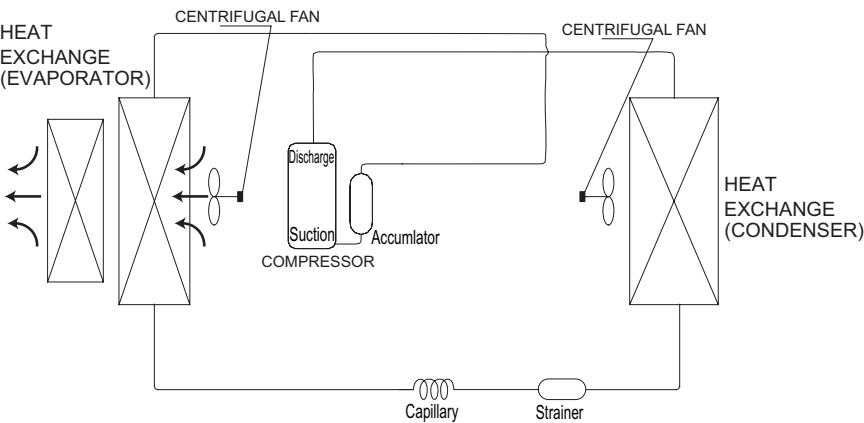
Unit: mm

# 4. Refrigerant System Diagram

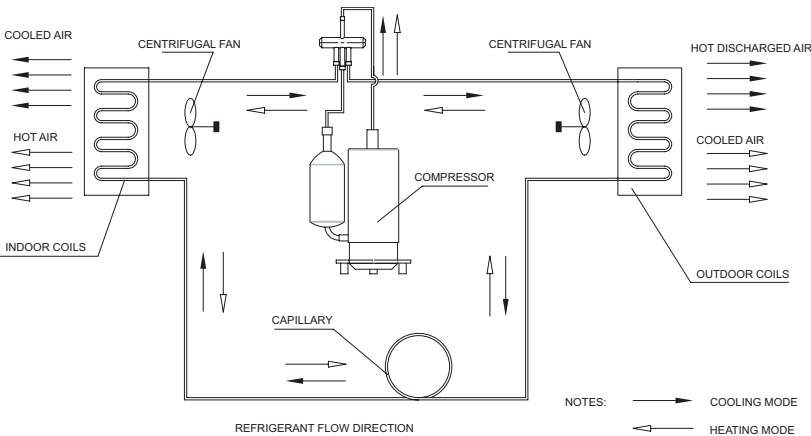
GPC12AF-K3NNA7A



GPE12AF-K3NNA7A



GPH12AF-K3NNA7A



## 5. Electrical Part

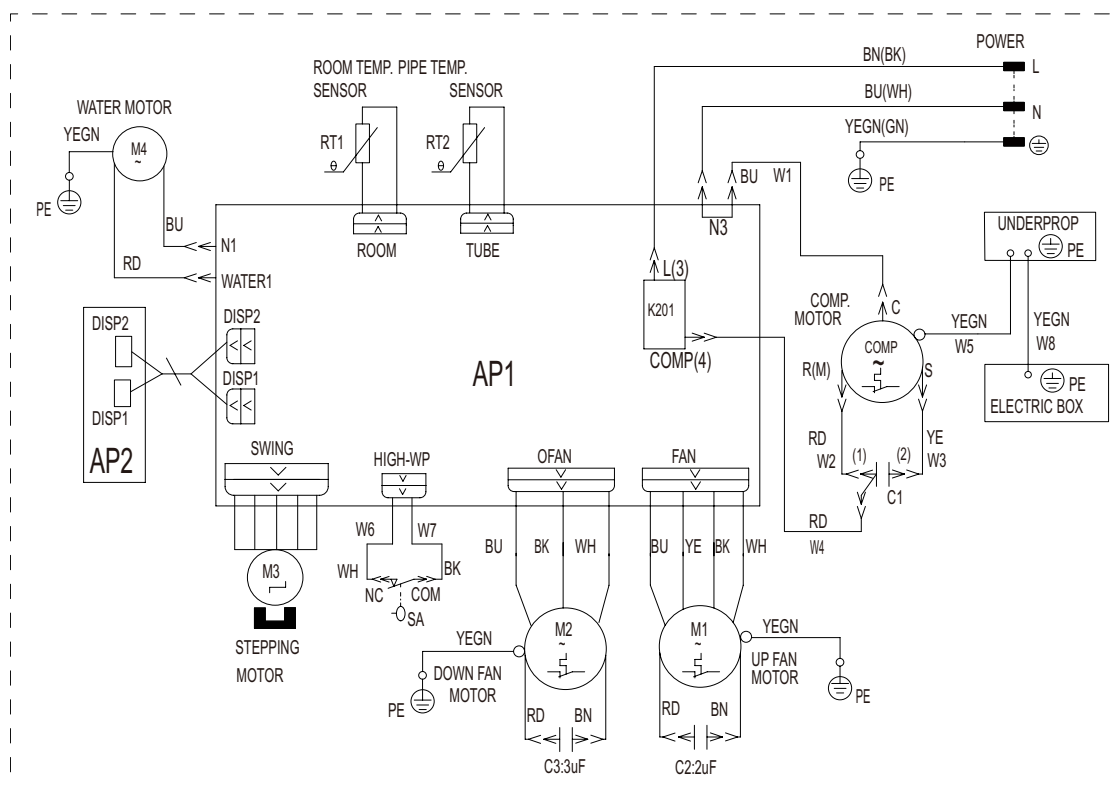
### 5.1 Wiring Diagram

#### •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	/	/

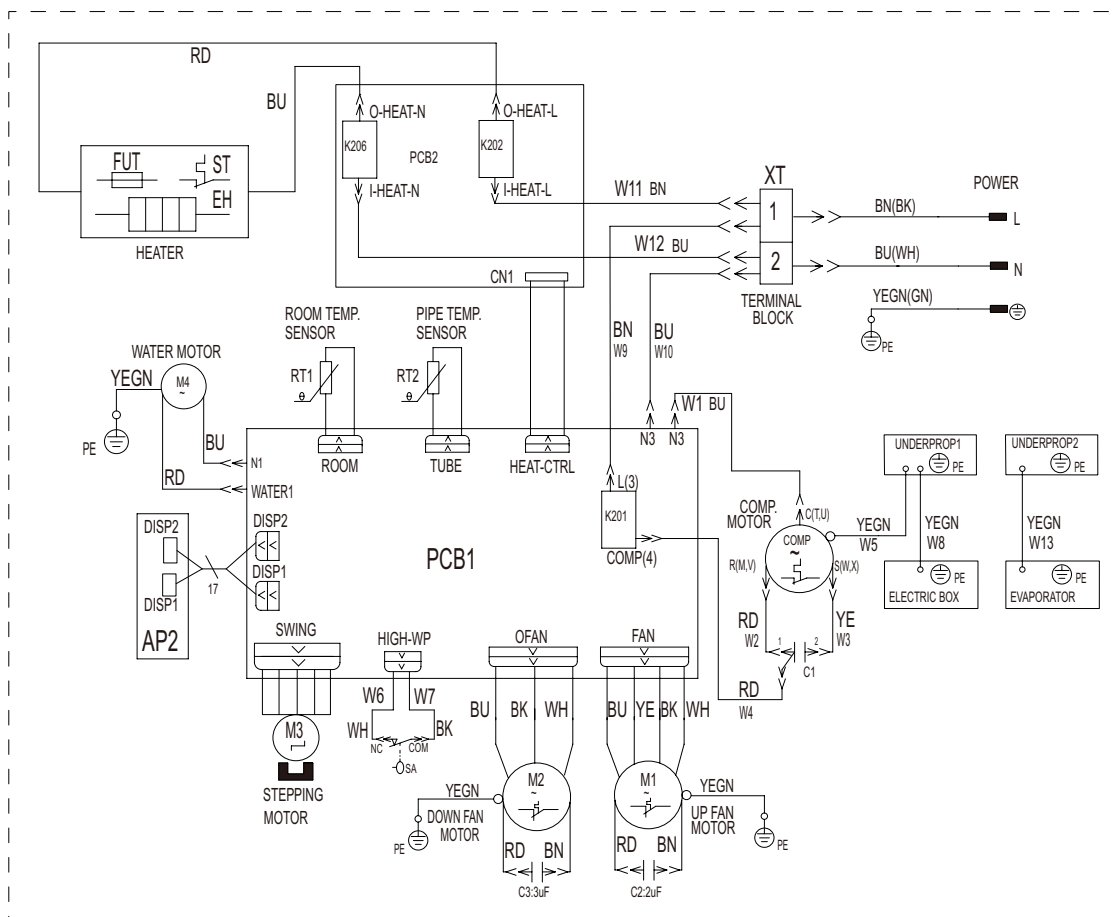
#### •Electric Diagram

GPC12AF-K3NNA7A

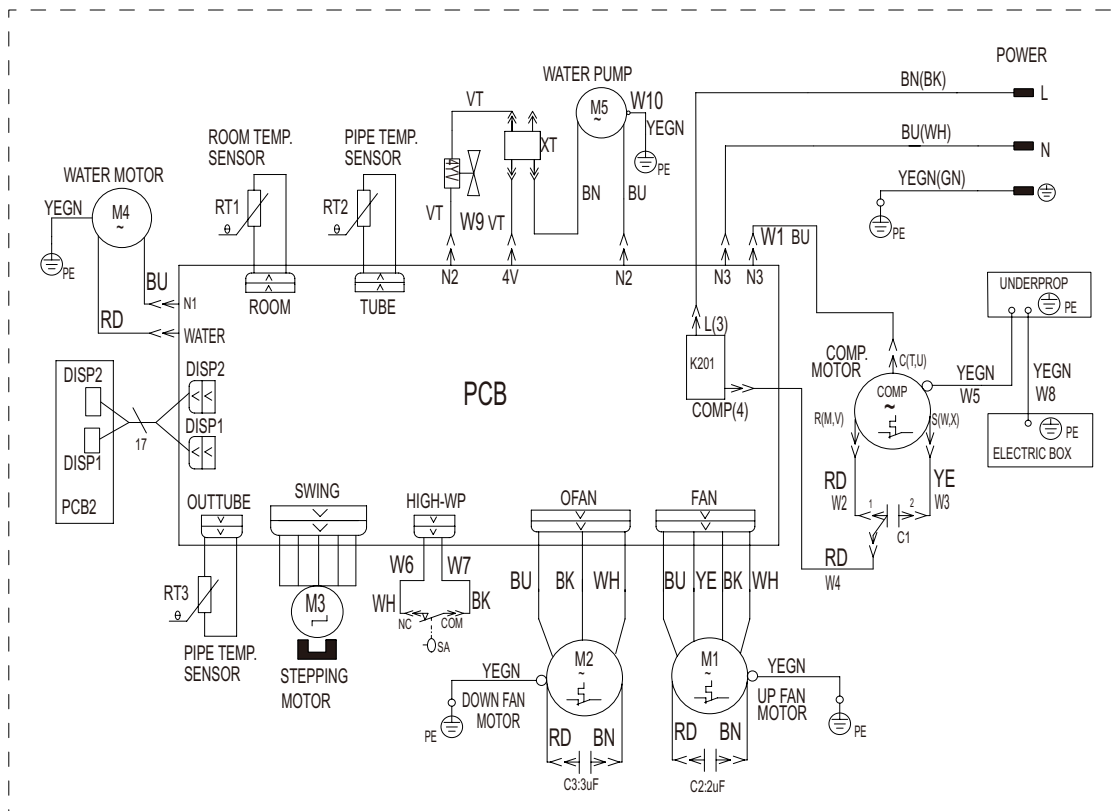




## GPE12AF-K3NNA7A



## GPH12AF-K3NNA7A

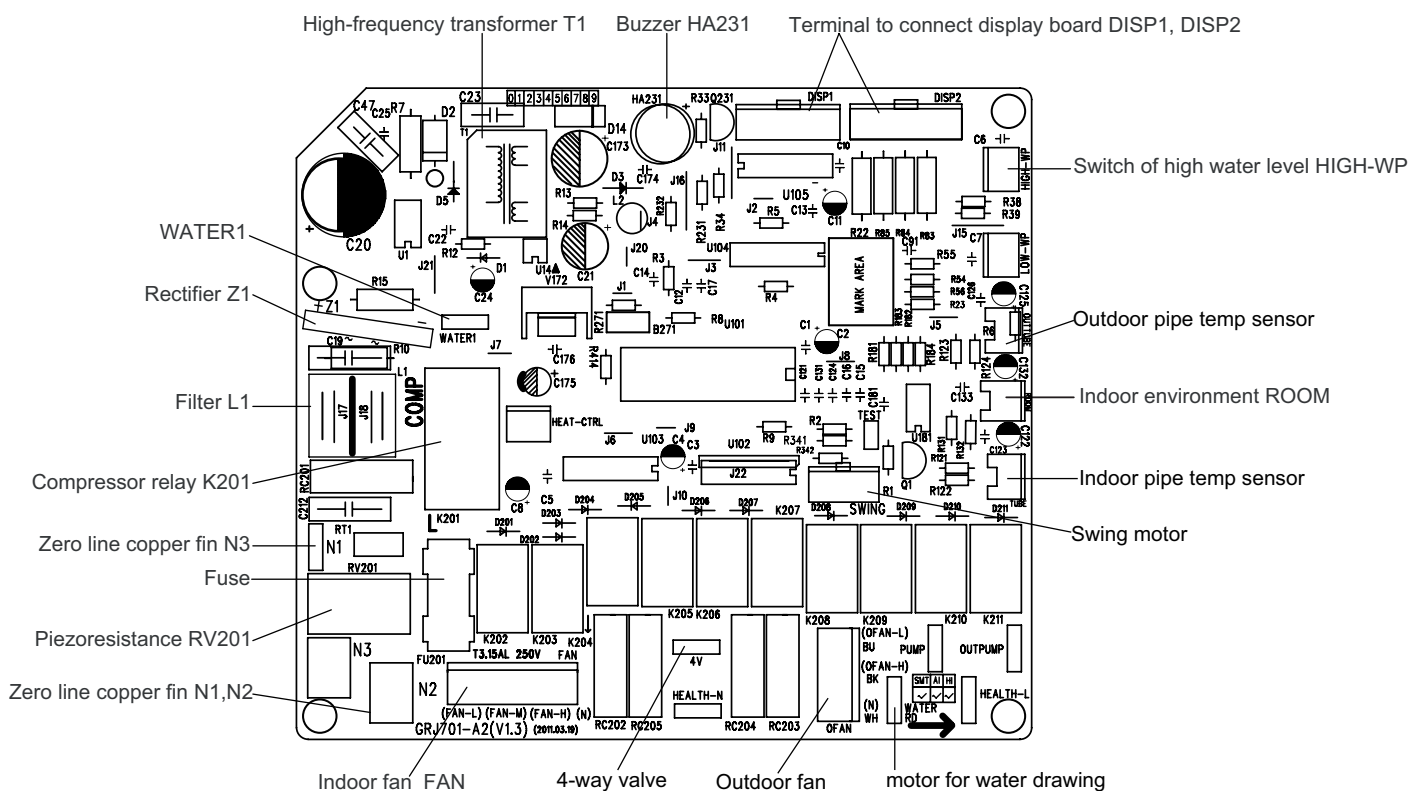


These wiring diagrams are subject to change without notice; please refer to the one supplied with the unit.

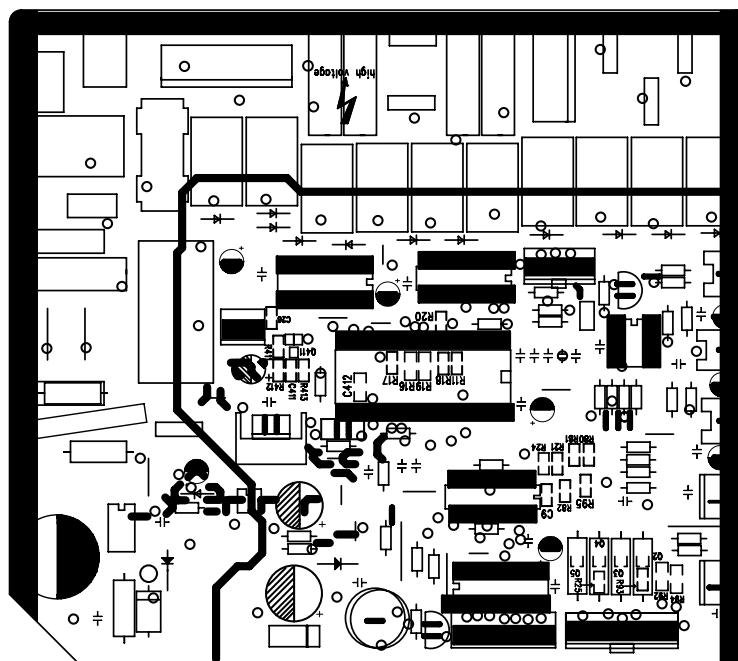
## 5.2 PCB Printed Diagram

GPC12AF-K3NNA7A, GPE12AF-K3NNA7A, GPH12AF-K3NNA7A

### ● Top View

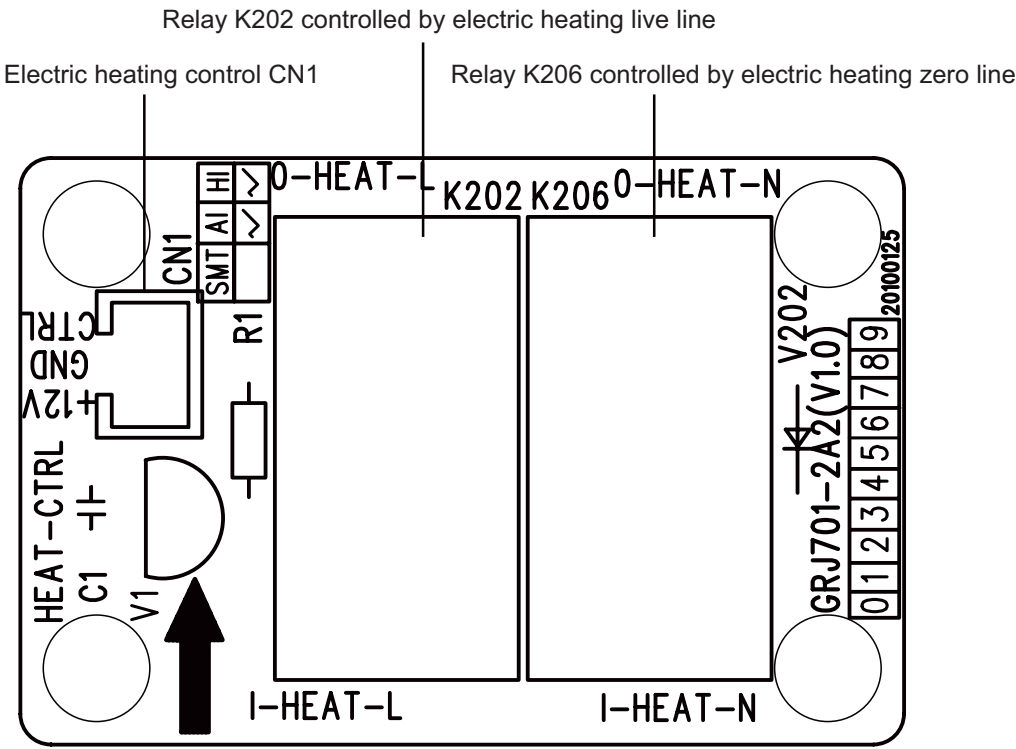


### ● Bottom View

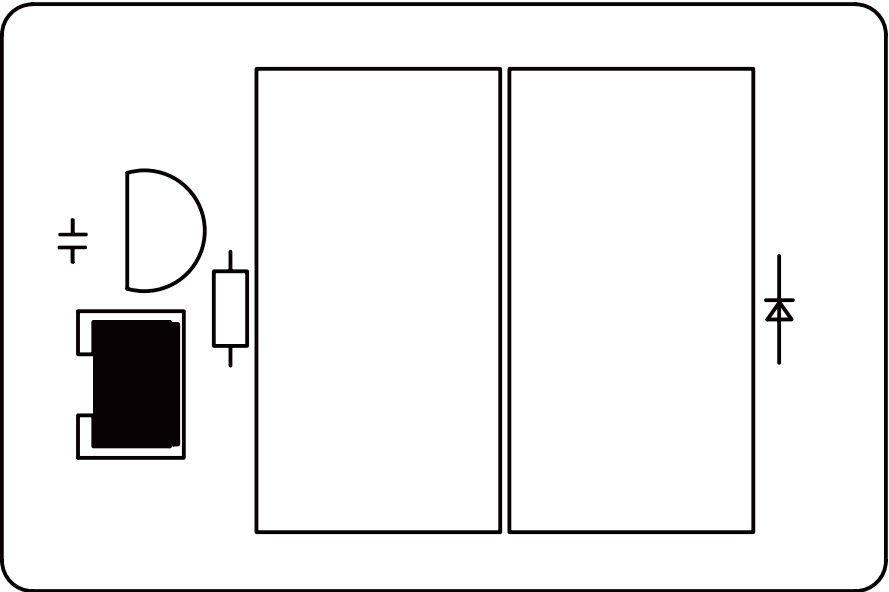


GPE12AF-K3NNA7A

● Top View

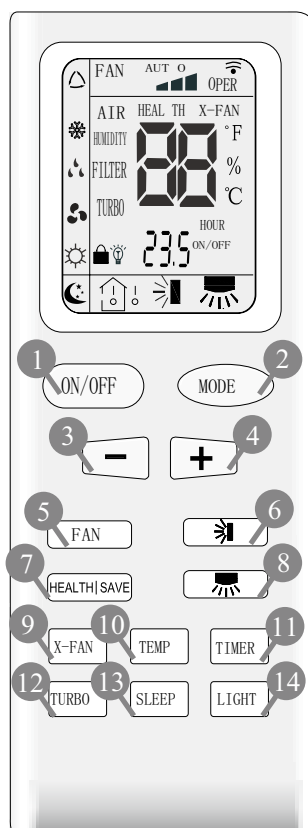


● Bottom View



## 6. Function and Control

### 6.1 Remote Controller Introduction



#### 1 ON/OFF

Press it to start or stop operation.

#### 2 MODE

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

#### 3 -

Press it to decrease temperature setting.

#### 4 +

Press it to increase temperature setting.

#### 5 FAN

Press it to set fan speed.

#### 6

Press it to set swing angle.

#### 7 HEALTH|SAVE

Press it to turn on or off health function.

#### 8

Press it to set left & right swing angle.

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

#### 10 TEMP

#### 11 TIMER

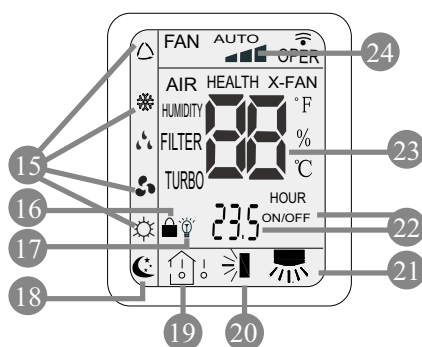
Press it to set timer ON/ timer OFF.

#### 12 TURBO

#### 13 SLEEP

#### 14 LIGHT

Press it to turn on/off the light.



#### 15 MODE icon:

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

#### 16 LOCK icon:

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

#### 17 LIGHT icon:

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

#### 18 SLEEP icon :

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

#### 19 TEMP icon:

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

## 20 Up & down swing icon:

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

## 21 Left & right swing icon:

is displayed when pressing the left & right swing button. Press this button again to clear the display.

## 22 SET TIME display:

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

## 23 DIGITAL display:

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

## 24 FAN SPEED display:

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

## 1 ON/OFF:

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

## 2 MODE:

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



\*Note: Only for models with heating function.

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




## 3 + :

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




## 4 - :

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





## 5 FAN :

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



 Low speed  Medium speed  High speed


## 6

- Press  button to start or stop up & down swing function. The remote controller defaults to simple swing condition.
- Press + button and  button at the same time at unit OFF to switch between simple swing and static swing;  blinks for 2 seconds.
- In static swing condition, pressing  button, the swing angle of up & down louver changes as below:






- If the unit is turned off during swing operation, the louver will stop at present position.

## 7 HEALTH|SAVE:

Press HEALTH part of this button to turn on or off HEALTH function. Pressing SAVE part of this button,  is displayed and the unit goes into SAVE operation mode. Press SAVE part of the button again to cancel SAVE function. During SAVE operation, the temperature and fan speed is not adjustable.

## 8

- Press  button to start or stop left & right swing function. The remote controller defaults to simple swing condition.
- Press + button and  button at the same time at unit OFF to switch between simple swing and static swing;  blinks for 2 seconds.

- In static swing condition, pressing  button, the swing angle of left & right louver changes as below:




- If the unit is turned off during swing operation, the louver will stop at present position.

## 9 X-FAN:

Pressing X-FAN button in COOL or DRY mode, the icon "X-FAN" is displayed and the indoor fan will continue operation for 10 minutes in order to dry the indoor unit even though you have turned off the unit. After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO, FAN and HEAT mode.

10 TEMP:

Press this button, could select displaying the indoor setting temperature or indoor ambient temperature. When the indoor unit firstly power on it will display the setting temperature, if the temperature's displaying status is changed from other status to "  ", displays the ambient temperature, 5s later or within 5s, it receives other remote control signal that will return to display the setting temperature. if the users haven't set up the temperature displaying status, that will display the setting temperature.

**11** **TIMER:**

Press TIMER button at unit ON to set TIMER OFF; HOUR OFF blinks. Press TIMER button at unit OFF to set TIMER ON; HOUR ON blinks. In this case, pressing + or - button changes time setting. Holding down either button rapidly changes time setting (time setting range 0.5-24hours). Press TIMER button again to confirm setting; HOUR ON/OFF stops blinking. If there is not any operation of button within 5 seconds during HOUR ON/OFF blinking, TIMER setting will be cancelled.



## 12 TURBO:

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


## 13 SLEEP :

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

**14 LIGHT:**

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

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

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

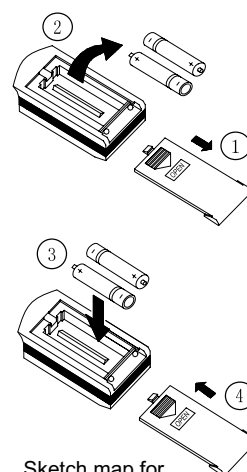
16 Combination of "MODE" and "-" buttons: About switch between Fahrenheit and Centigrade. At unit OFF, press "MODE" and "-" buttons simultaneously to switch between      and      .

## Replacement of Batteries

- 1.Remove the battery cover plate from the rear of the remote controller.  
(As shown in the figure)
- 2.Take out the old batteries.
- 3.Insert two new AAA1.5V dry batteries, and pay attention to the polarity.
4. Reinstall the battery cover plate.

Notes:

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



Sketch map for replacing batteries

## 6.2 Introduction of Basic Mode Function

### 1 Cooling mode

#### Cooling condition and process

When  $T_{amb} \geq T_{preset} + 1^{\circ}\text{C}$  ( $2^{\circ}\text{F}$ ), the unit operates in cooling mode. Meanwhile, compressor, draw water motor start operation. Indoor fan operates at set fan speed. If indoor fan operates at high fan speed or middle fan speed, outdoor fan operates at high fan speed. If indoor fan operates at low fan speed, outdoor fan operates at low fan speed.

When  $T_{amb} \leq T_{preset} - 1^{\circ}\text{C}$  ( $2^{\circ}\text{F}$ ), compressor, outdoor fan and draw water motor stop operation, while indoor fan operates at set fan speed.

$T_{preset} - 1^{\circ}\text{C}$  ( $2^{\circ}\text{F}$ )  $< T_{amb} < T_{preset} + 1^{\circ}\text{C}$  ( $2^{\circ}\text{F}$ ), the unit keeps original operation status.

Under this mode, 4-way valve is de-energized. The temperature setting range is  $16\sim 30^{\circ}\text{C}$  ( $61\sim 86^{\circ}\text{F}$ ).

### 2 Dry mode

#### Drying condition and process

Under this mode, set temperature and ambient temperature won't be displayed. Indoor fan operates at low fan speed. Compressor, outdoor fan and draw water motor operates continuously.

### 3 Heating mode

#### Working conditions and process for heat pump unit

When  $T_{amb} \leq T_{preset} + 3^{\circ}\text{C}$  ( $6^{\circ}\text{F}$ ), the unit operates in heating mode. Meanwhile, 4-way valve, compressor operates, and indoor fan operates at cold air prevention condition; if indoor fan operates at high fan speed or middle fan speed, outdoor fan operates at high fan speed. If indoor fan operates at low fan speed, outdoor fan operates at low fan speed.

When  $T_{preset} + 3^{\circ}\text{C}$  ( $6^{\circ}\text{F}$ )  $< T_{amb} < T_{preset} + 5^{\circ}\text{C}$  ( $10^{\circ}\text{F}$ ), the unit keeps original operation status,

When  $T_{amb} \geq T_{preset} + 5^{\circ}\text{C}$  ( $10^{\circ}\text{F}$ ), compressor and outdoor fan stop operation simultaneously. 4-way valve stop operation after the compressor has stopped for 2 minutes. Indoor fan operates at blowing residual heat conditioner.

Under this mode, the temperature setting range is  $16\sim 30^{\circ}\text{C}$  ( $61\sim 86^{\circ}\text{F}$ ).

#### Working conditions and process for electric heating type unit

When  $T_{amb} \leq T_{preset} + 3^{\circ}\text{C}$ , the unit enters heating operation. In that case, electric heater starts up and the indoor fan operates at setting speed;

When  $T_{preset} + 3^{\circ}\text{C} < T_{amb} < T_{preset} + 5^{\circ}\text{C}$ , the unit will keep its original status.

When  $T_{amb} \geq T_{preset} + 5^{\circ}\text{C}$ , electric heater will be turned off and indoor fan will stop after it operates at low speed for 60s.

The temperature setting range is  $16\sim 30^{\circ}\text{C}$  ( $61\sim 86^{\circ}\text{F}$ ) under this mode.

### 4 Fan mode

Under this mode, set temperature and ambient temperature won't be displayed. Indoor fan operates at set fan speed. Compressor, outdoor fan, 4-way valve and draw water motor operates continuously.

Under this mode, the temperature setting range is  $16\sim 30^{\circ}\text{C}$  ( $61\sim 86^{\circ}\text{F}$ ).

### 5 Auto mode

5.1 Under auto mode, standard cooling  $T_{preset} = 25^{\circ}\text{C}$  ( $77^{\circ}\text{F}$ ); standard heating  $T_{preset} = 20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ )

5.2 Heat pump unit:  $T_{amb} > 26^{\circ}\text{C}$  ( $79^{\circ}\text{F}$ ), the unit turns into auto cooling mode;  $T_{amb} < 20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ ), the unit turns into heating mode;  $23^{\circ}\text{C}$  ( $73^{\circ}\text{F}$ )  $\geq T_{amb} \geq 20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ ), if the unit operates at heating mode previously, the unit keeps heating operation status. If the unit didn't operate at heating mode previously, the unit will turn to dry mode;  $26^{\circ}\text{C}$  ( $79^{\circ}\text{F}$ )  $\geq T_{amb} \geq 24^{\circ}\text{C}$  ( $74^{\circ}\text{F}$ ), the unit turns into auto dry mode. For the first energization,  $26^{\circ}\text{C}$  ( $79^{\circ}\text{F}$ )  $\geq T_{amb} \geq 20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ ), the unit turns into drying operation mode.

5.3 Cooling only unit:  $T_{amb} > 26^{\circ}\text{C}$  ( $79^{\circ}\text{F}$ ), the unit turns into auto cooling mode;  $T_{amb} < 20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ ), the unit turns into auto fan mode;  $20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ )  $\geq T_{amb} \geq 23^{\circ}\text{C}$  ( $73^{\circ}\text{F}$ ), if the unit operates at fan mode previously, the unit keeps fan mode operation status. If the unit didn't operate at fan mode previously, the unit will turn to dry mode;  $26^{\circ}\text{C}$  ( $79^{\circ}\text{F}$ )  $\geq T_{amb} \geq 24^{\circ}\text{C}$  ( $74^{\circ}\text{F}$ ), the unit turns into auto dry mode. For the first energization,  $26^{\circ}\text{C}$  ( $79^{\circ}\text{F}$ )  $\geq T_{amb} \geq 20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ ), the unit turns into drying operation mode.

### 6 Other function

#### 6.1 Timer

##### 6.1.1 General Timer

Timer ON can be set at unit OFF. If selected ON time is reached, the unit will start to operate according to previous setting status. Time setting range is 0.5-24hr in 30-minute increments.

Timer OFF can be set at unit ON. If selected OFF time is reached, the unit will stop operation. Time setting range is 0.5-24hr in 30-minute increments.

##### 6.1.2 Clock Timer

#### Timer ON:

If timer ON is set during operation of the unit, the unit will continue to operate. If timer ON is set at unit OFF, upon ON time reaches the unit will start to operate according to previous setting status.

#### Timer OFF:

If timer OFF is set at unit OFF, the system will keep standby status. If timer OFF is set at unit ON, upon OFF time reaches the unit will stop operation.

## 6.2 Sleep function

When setting sleep function under cooling mode, Tpreset will increase 1°C (2°F) after 1 hours. 2 hours later, Tpreset will increase 2°C (4°F) automatically. The upper limit of temperature is 30°C (86°F).

When setting sleep function under heating mode, Tpreset will decrease 1°C (2°F) after 1 hours. 2 hours later, Tpreset will decrease 2°C (4°F) automatically. The lower limit of temperature is 30°C (86°F).

6.3 Buzzer: Upon energization or operation, the buzzer will give out sound.

## 6.4 Control button

ON/OFF button: turn on or turn off unit.

Mode button: the mode will be switched as below sequence:

Heat pump unit: cooling-drying-fan-heating

Cooling only unit: Cooling-drying-fan

Temperature “-” button: If set temperature under ON status, temperature will decrease 1°C or °F after each pressing of this button. The temperature can't be set lower than 16°C or 61°F. The button is invalid under auto, drying and fan mode.

Temperature “+” button: If set temperature under ON status, temperature will increase 1°C or °F after each pressing of this button. The temperature can't be set higher than 30°C or 86°F. The button is invalid under auto, drying and fan mode.

## 6.5 Display

### 6.5.1 Display of indicator

When turning of the unit, the current operation mode indicator will be displayed. (LED lamps for Cooling, Heating, Drying and Fan)

### 6.5.2 Dual-8 display

When the unit is turned on for the first time, nixie tube is defaulted to display set temperature. When the unit received the signal of set temperature, nixie tube display set temperature. When the unit received the signal of ambient temperature, the nixie tube displays current indoor ambient temperature.

### 6.5.3 Light control

When the unit is turned on for the first time, light is defaulted ON. If setting light ON by remote controller, indicator and dual-8 nixie tube displays current set status. If setting light OFF by remote controller, light will be turned off immediately. If there's operation for button on panel and remote controller when setting light OFF by remote controller, indicator and dual-8 nixie tube will display set status for 5s and then turn off the light.

## 6.6 Auto fan speed control

6.6.1 Heating mode: under auto heating or normal heating mode, auto fan speed will operate as below mode:

When  $T_{amb} \leq T_{preset} + T_{compensation} - 2^{\circ}\text{C} (4^{\circ}\text{F})$ , indoor fan operates at high fan speed;

When  $T_{preset} + T_{compensation} - 2^{\circ}\text{C} (4^{\circ}\text{F}) < T_{amb} < T_{preset} + T_{compensation}$ , indoor fan operates at middle fan speed;

When  $T_{amb} \geq T_{preset} + T_{compensation}$ , indoor fan operates at low speed;

6.6.2 Cooling mode: under auto cooling or normal cooling mode, auto fan speed will operate as below mode:

When  $T_{amb} \geq T_{preset} + T_{compensation} + 2^{\circ}\text{C} (4^{\circ}\text{F})$ , indoor fan operates at high fan speed;

When  $T_{preset} + T_{compensation} < T_{amb} < T_{preset} + T_{compensation} + 2^{\circ}\text{C} (4^{\circ}\text{F})$ , indoor fan operates at middle fan speed;

When  $T_{amb} \leq T_{preset} + T_{compensation}$ , indoor fan operates at low speed;

Auto fan under fan mode is as the same of cooling mode;

## 6.7 Power-off memory function

Memory content: mode, light, set temperature, set fan speed, swing. When power failure, the unit will operate at previous operation status automatically after power recovered.

## 6.8 Swing motor control

After energization, the swing blade will rotate to OFF position. If swing function hasn't been set after turning on unit, the swing blade will rotate to ON position. If swing function has been set when turning on unit, swing blade will rotate to-and-fro.

## 6.9 X-FAN control mode

X-FAN function can be set under cooling and dry mode (X-FAN function is unavailable under auto, heating and fan mode)

## 7 Protection function

### 7.1.1 Water overflow protection

Buzzer will give out sound for 8 times for warning. The complete unit will stop operation. Error code H8 is displayed and heating indicator OFF 3s and blinks 8 times.

### 7.2 Malfunction of indoor ambient temp sensor

“Dual 8” nixie tube displays F1, LED lamp for cooling blinks once. Compressor, electric heater, draw water motor, 4-way valve and outdoor fan stop. Indoor fan will operate at set speed.

### 7.3 Malfunction of outdoor pipe temp sensor

“Dual 8” nixie tube displays F2, LED lamp for cooling blinks twice. Compressor, electric heater, draw water motor, 4-way valve and outdoor fan stop. Indoor fan will operate at set speed.

### 7.4 Freeze prevention protection

Under freeze prevention protection, compressor, outdoor fan and draw water motor stop operation. Indoor fan operates at set fan speed.

### 7.5 Compressor protection

Compressor can be restarted only after 3 minutes delayed.



## Part II : Maintenance

## 7. Notes Maintenance

## Safety Precautions: Important!

**Please read the safety precautions carefully before maintenance:**

**The following contents are very important for installation and maintenance.**

**Please follow the instructions below.**

- The 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.
- Be caution during maintenance. Prohibit incorrect operation to prevent electric shock and other accidents.



## Warnings

### Electrical Safety Precautions:

1. Cut off the power supply before maintenance.
2. Specialized circuit must be applied; prohibit sharing the same circuit with other electric appliances; protection switch must be installed.
3. Have the unit adequately grounded. The grounding wire can't be used for other purposes.
4. 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 dehumidifier.
5. The power cord can't be pressed by hard objects.
6. If the power cord or connection wire is not long enough, please get the specialized power cord or connection wire from the manufacture or distributor. Prohibit prolong the wire by yourself.
7. Replace the fuse with a new one of the same specification if it is burnt down; don't replace it with a cooper wire or conducting wire.
8. Use the power supply with same voltage and frequency as shown in rating label.
9. Do not pull out the power plug when the unit is operating to avoid damaging the circuit.
10. Do not place anything at the top of dehumidifier; ensure the air outlet or air inlet is not blocked; do not use the unit near wall and curtain.
11. Do not use heating equipment around the unit.

### Refrigerant Safety Precautions:

- 1. Avoid contact between refrigerant and fire as it generates poisonous gas. Recycle the refrigerant inside the unit completely before welding pipes.**
- 2. Apply specified refrigerant only. Never have it mixed with any other refrigerant. Never have air remain in the refrigerant line as it may lead to rupture or other hazards.**
- 3.If refrigerant is leaking seriously, it may cause suffocation or explosion. When using the combustible refrigerant, please put the unit at ventilated place.**
- 4. Never touch the refrigerant piping or compressor without wearing glove to avoid scald or frostbite.**

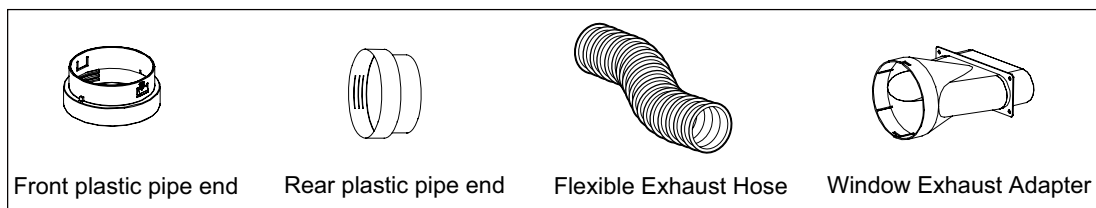
**Improper installation may lead to fire hazard explosion, electric shock or injury.**

## Main Tools for Installation and Maintenance

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

## 8. Installation

Parts included

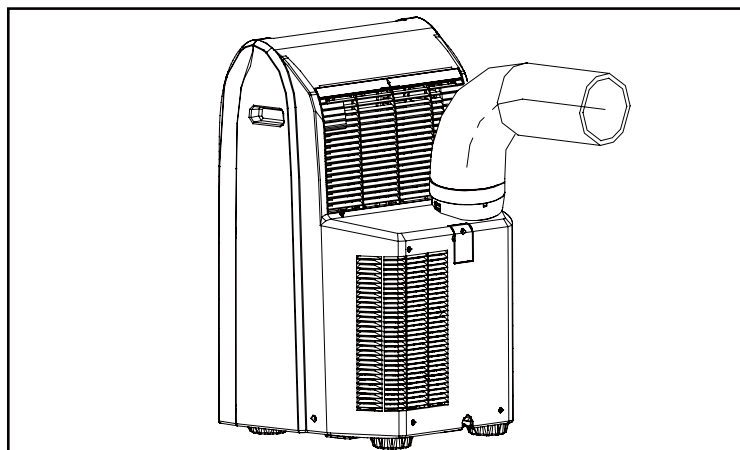


- The length of the exhaust pipe is less than 1m.

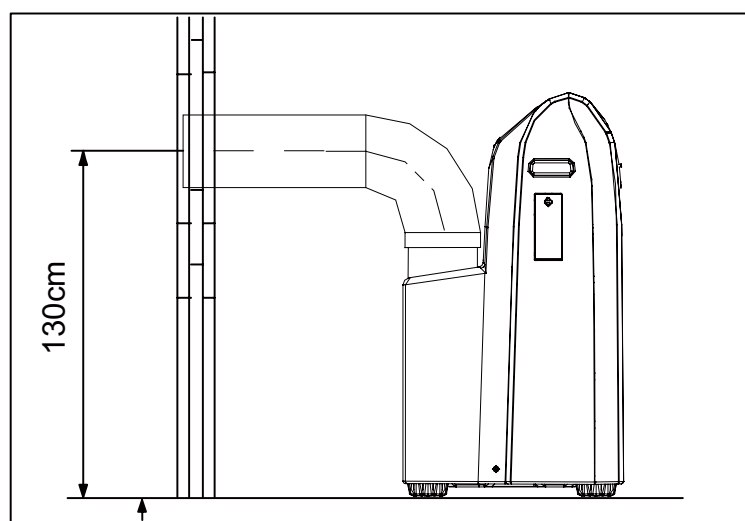
It is recommended to use it with shortest length.

- When installing, exhaust pipe should be as flat as possible.

Don't prolong the pipe or connect it with other exhaust pipe, or it would cause abnormal operation.

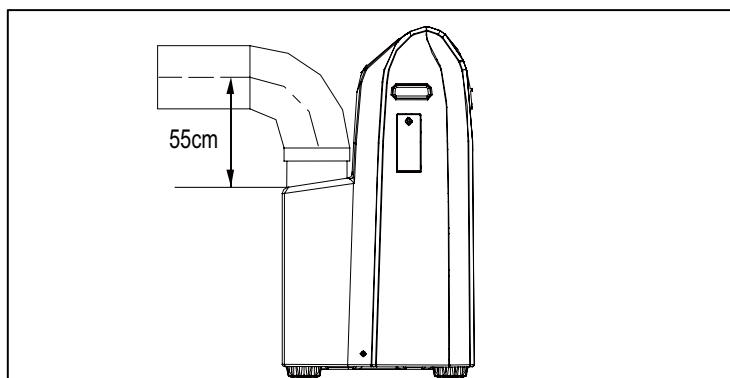


Correct installation is as shown in figure (When installing it on wall, height of wall should be about 130cm from floor).

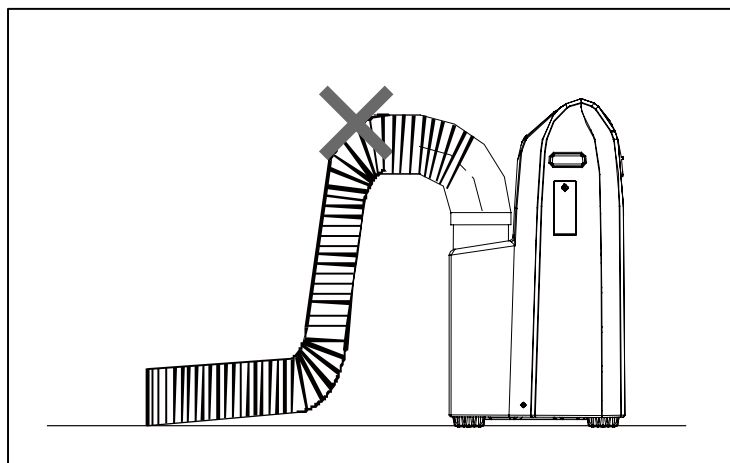




If the pipe are to be bent, please install it by considering following dimension.



Wrong installation is shown in following figure (If the pipe is bent too much, it would easily cause malfunction.)



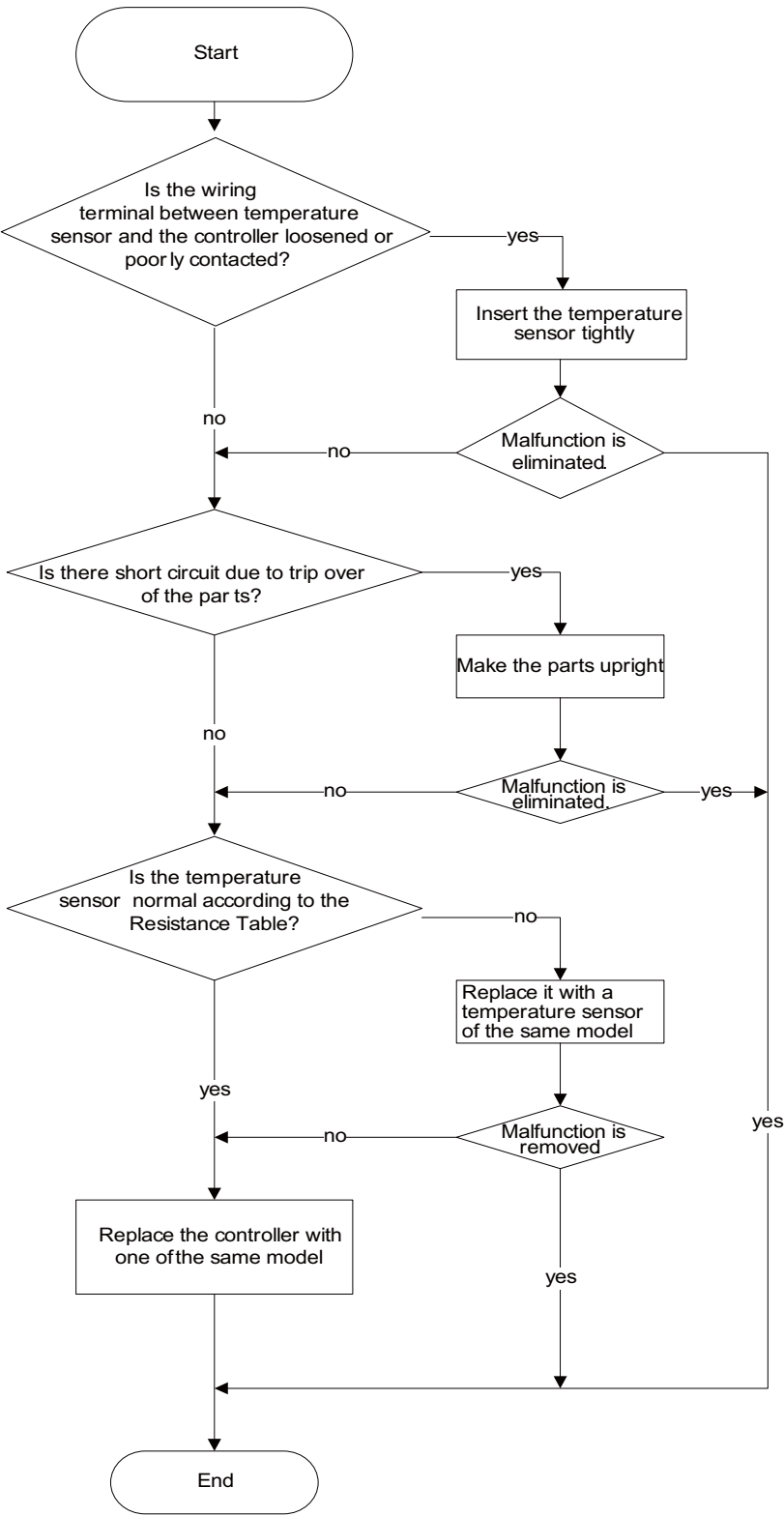
## 9.1 Error Code

NO.	Malfunction Name	Display Method of Indoor Unit				A/C Status	Possible Causes
		Error Code	Indicator lamp				
			(During blinking, ON for 0.5S and OFF for 0.5 S)				
			Operation Lamp	COOL Lamp	HEAT Lamp		
1	Indoor ambient temperature sensor is open/short-circuited	F1		OFF 3S and blinks once		<p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads (such as compressor, outdoor fan, 4-way valve) stop operation; During heating operation, the complete unit stops operation.</p>	<p>1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted;</p> <p>2. There's short circuit due to trip-over of the parts on controller;</p> <p>3. Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor)</p> <p>4. Main board is broken.</p>
2	Indoor evaporator temperature sensor is open/short-circuited	F2		OFF 3S and blinks twice		<p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation.</p>	<p>1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted;</p> <p>2. There's short circuit due to the trip-over of the parts on controller;</p> <p>3. Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor)</p> <p>4. Main board is broken.</p>
3	Outdoor condenser temperature sensor is open/short-circuited	F4		OFF 3S and blinks 4 times		<p>The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.</p>	<p>1. The wiring terminal between outdoor condenser temperature sensor and controller is loosened or poorly contacted;</p> <p>2. There's short circuit due to the trip-over of the parts on controller;</p> <p>3. Outdoor condenser temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor)</p> <p>4. Main board is broken.</p>

4	Overcurrent protection	E5	OFF 3S and blinks 5 times (inverter unit); running indicator blinks (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement.			During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.	1. Unstable supply voltage. Normal fluctuation shall be within 10% of the rated voltage on the nameplate.
							2. Supply voltage is too low and load is too high.
							3. Measure the current of live wire on main board. If the current isn't higher than the overcurrent protection value, please check the controller.
							4. The indoor and outdoor heat exchangers are too dirty, or the air inlet and air outlet are blocked.
							5. The fan motor is not running. Abnormal fan speed: fan speed is too low or the fan doesn't run
							6. The compressor is not running normally. There is abnormal sound, oil leakage or the temperature of the shell is too high, etc.
							7. There's blockage in the system (filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely)
5	Over-blow protection	H8			Over-blow indicator lamp goes out 3S blinks 8 times		Refer to the indication of instruction to discharge the water of chassis.

## 9.2 Malfunction Detection Flowchart

(1) Malfunction of temperature sensor F1, F2

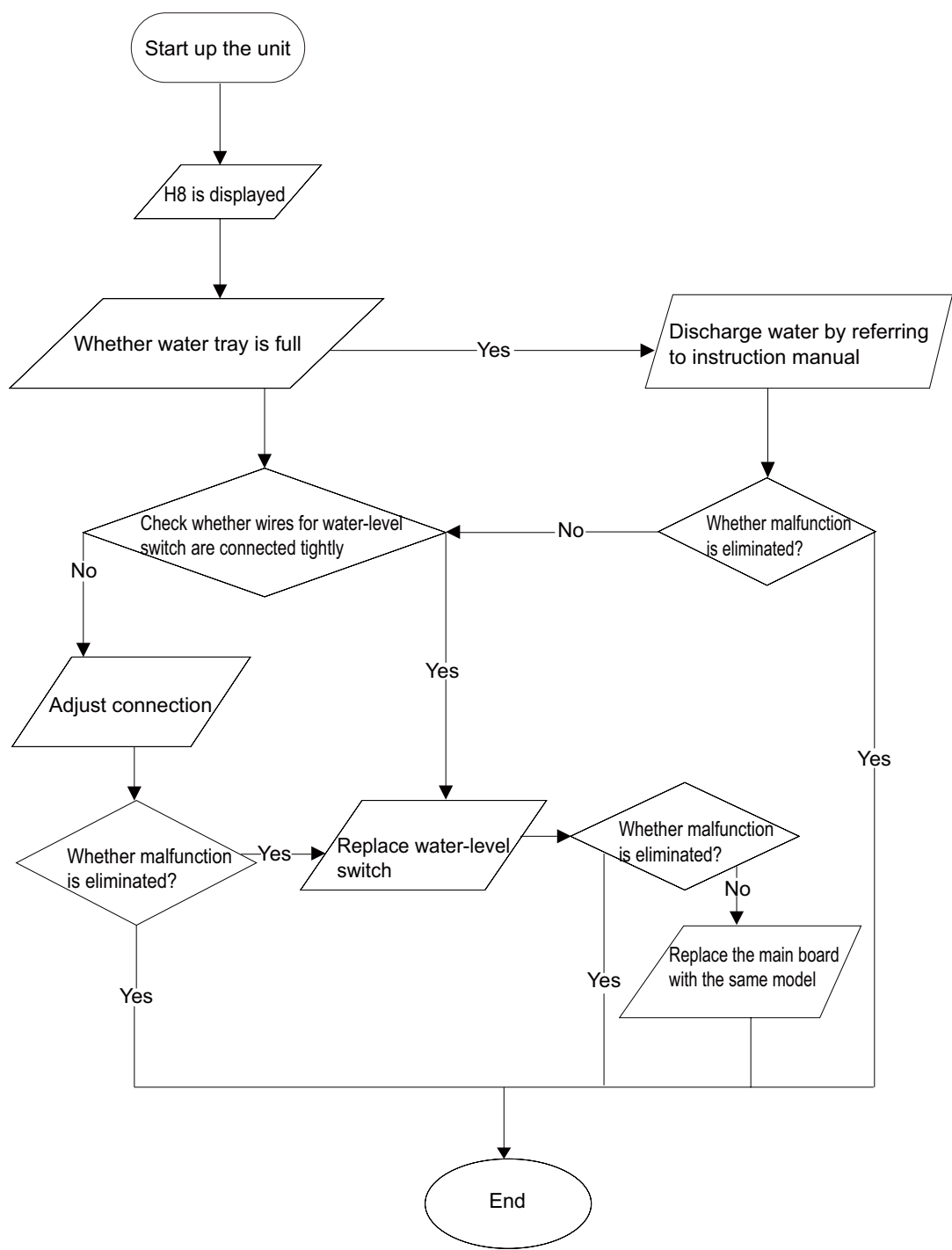


## (2) Malfunction of Overcurrent Protection E5





(3) Bucket full protection H8



## 9.3 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 hasn't been inserted tightly and poorly connected; wires hasn't been connected well.	Operation indicator is OFF and buzzer won't give out sound.	Check whether there's 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 it's blocked by sundries	Clean the filter.
Refrigerant is leaking	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Unit's pressure is much lower than regulated range	Find out the leakage causes and deal with it. Add refrigerant.
Evaporator is frosted	Has set COOL (DRY) mode, but there's no cool fan	The system is defrosting. Resume operation after defrosting is finished.
Malfunction of capillary	Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Unit's pressure is much lower than regulated range. If refrigerant isn't leaking, part of capillary is blocked	Replace the capillary.
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.

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

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

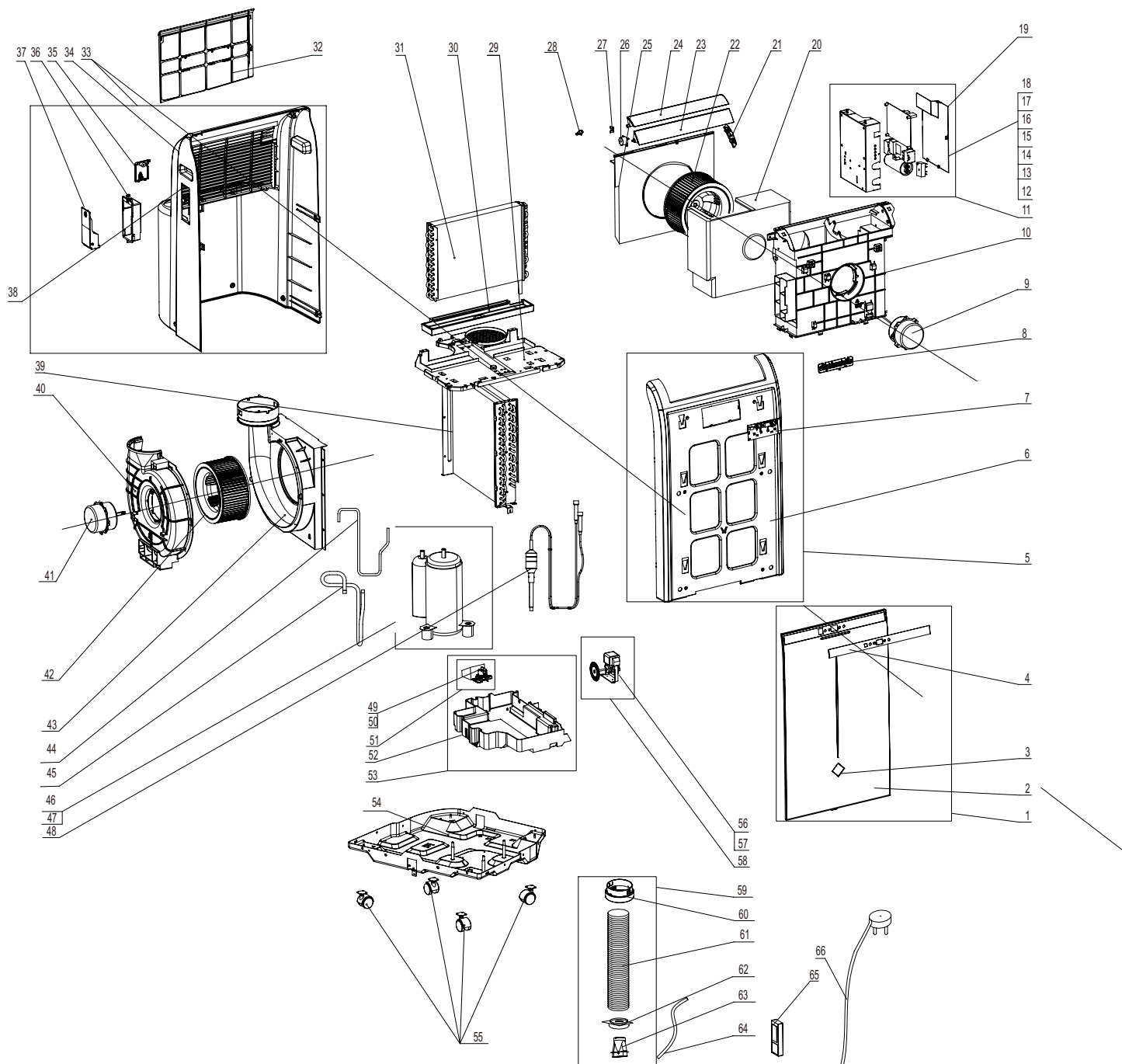
Possible causes	Discriminating method (air conditioner status)	Troubleshooting
Water-level switch is open-circuited	The unit hasn't stop operation when water is full and there's water leakage	Check and repair the water-level switch
Draw water motor is damaged	Water over-flow protection occurs frequently and H8 is displayed	Replace draw water motor

Possible causes	Discriminating method (air conditioner status)	Troubleshooting
When turn on or turn off the unit, the panel and other parts will expand and there's abnormal sound	There's the sound of "PAPA"	Normal phenomenon. Abnormal sound will disappear after a few minutes.
When turn on or turn off the unit, there's abnormal sound due to flow of refrigerant inside air conditioner	Water-running sound can be heard	Normal phenomenon. Abnormal sound will disappear after a few minutes.
There're foreign objects inside air conditioner or parts are contacting with each other	Abnormal 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.
Abnormal sound inside the compressor	Abnormal sound inside the compressor	If add too much refrigerant during maintenance, please reduce refrigerant properly. Replace compressor for other circumstances.

# 10. Exploded View and Parts' List

## • Exploded View

GPC12AF-K3NNA7A



- **Parts List**

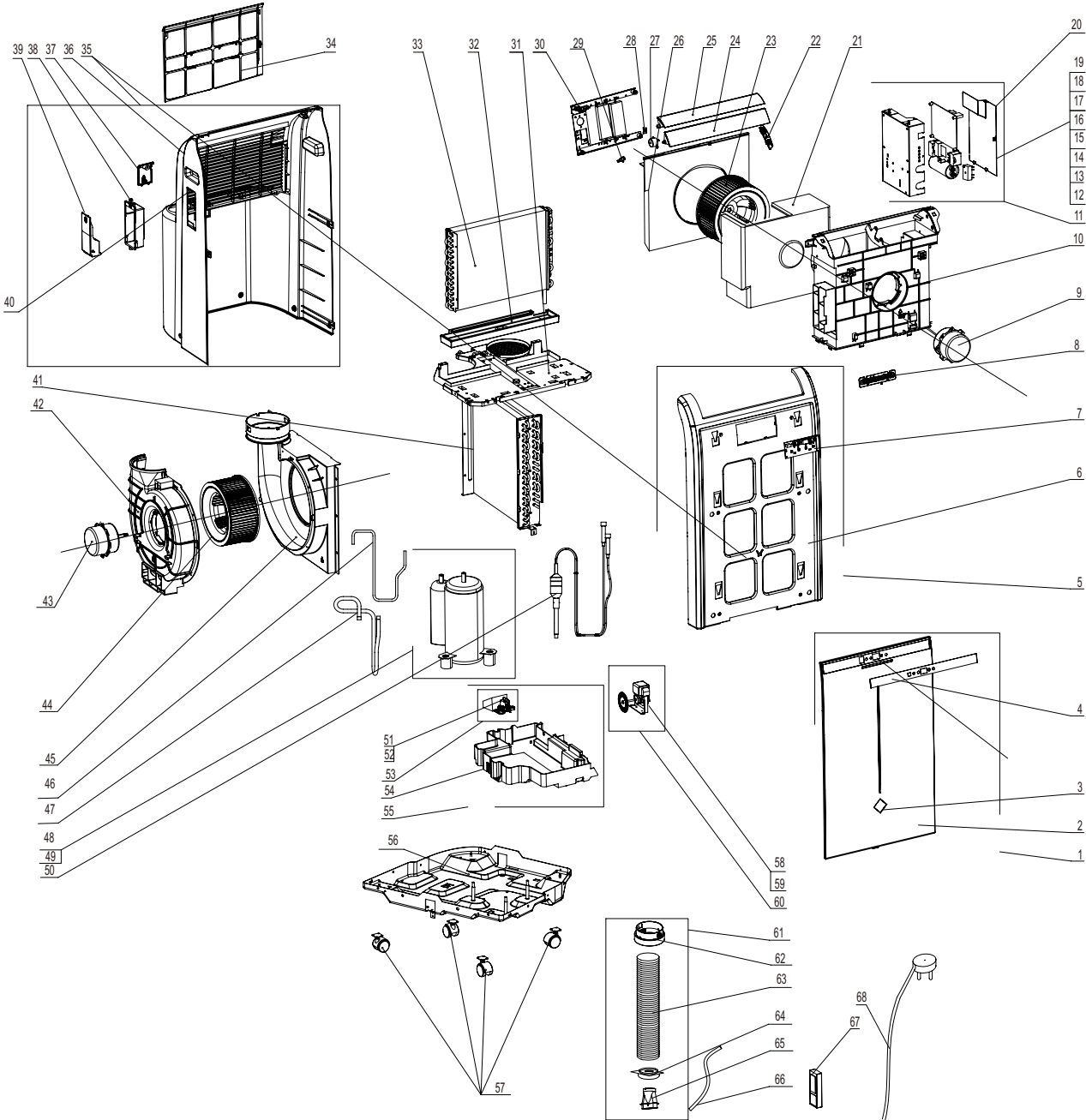
NO.	Description	Part Code	Qty
		GPC12AF-K3NNA7A	
		Product Code	
		CK01001212	
1	Decorative Board sub-assy	20196011	1
2	Decorative Board	20196006S	1
3	Decorative Block	20196013	1
4	Decorative Strip	20196012	1
5	Front Panel Sub-Assy	20006061	1
6	Front Panel	20006059	1
7	Display Board	30567012	1
8	Button	45036021	1
9	Fan Motor	1501603903	1
10	Motor holder (upper)	26156043	1
11	Electric Box Assy	01406016	1
12	Main Board	30137003	1
13	Ambient Temperature Sensor	390000451	1
14	Tube Sensor	390000594	1
15	Capacitor CBB65	33010743	1
16	Capacitor CBB61	33010025	1
17	Capacitor CBB61	33010027	1
18	Transformer	43110295	1
19	Electric Box Cover	1416010	1
20	Propeller Housing	12316036	1
21	Gear Sub-Assy	10546005	1
22	Centrifugal fan	10316058	1
23	Guide Louver 1	10516051	1
24	Guide Louver 2	10516052	1
25	Diversion Circle (upper)	10376035	1
26	Step Motor	1521210301	1
27	Left Axile Bush	10512037	1
28	Crank	10582070	1
29	Mid-Clapboard	20056095	1
30	Water Tray	12416008	1
31	Evaporator Assy	1006050	1
32	Filter Sub-Assy	11126011	1
33	Rear Plate Sub-Assy	20056105	1
34	backboard 1	20056096	1
35	Remote control box	20116012	1
36	Cover of Remote control box	20126072	1
37	Cable Cross Plate	26116060	1
38	Latch	70810302	1
39	Condenser Assy	110610301	1
40	Motor holder b (lower)	26156046	1
41	Fan Motor	1501603902	1
42	Centrifugal fan	10316058	1
43	Diversion Circle (lower)	10376034	1
44	Discharge Tube	03616079	1
45	InhalationTube	03626095	1
46	Compressor and fittings	00103781G	1
47	Compressor Gasket	76710253	3

48	Capillary Sub-Assy	3006095	1
49	water level switch base	26156041	1
50	Water Level Switch	45010211	1
51	Water level switch sub-assy	26156045	1
52	Water Tray	20186072	1
53	Water Tray Sub-Assy	20186141	1
54	Chassis Sub-assy	01206038P	1
55	Castor	24236051	4
56	Splash Water Flywheel	10336003	1
57	Fan Motor	150162122	1
58	Motor sub-assy(flutter)	15006032	1
59	Exhaust Pipe Sub-Assy	5236034	1
60	Tie-in 1	6646021	1
61	Pipe	5236058	1
62	Joint 3	26116064	1
63	RearClip	2611601001	1
64	Drainage Hose	05230013	1
65	Remote Controller	305100611	1
66	Power Cord	400204648	1

The data above are subject to change without notice.

- **Exploded View**

GPE12AF-K3NNA7A



## ● Parts List

NO.	Description	Part Code	Qty
		GPE12AF-K3NNA7A	
		CK01001452	
1	Decorative Board sub-assy	20196011	1
2	Decorative Board	20196006S	1
3	Decorative Block	20196013	1
4	Decorative Strip	20196012	1
5	Front Panel Sub-Assy	20006061	1
6	Front Panel	20006059	1
7	Display Board	30567012	1
8	Button	45036021	1
9	Fan Motor	1501603903	1
10	Motor holder (upper)	26156043	1
11	Electric Box Assy	01406231	1
12	Main Board	30137011	1
13	Main Board 2	30137012	1
14	Terminal Board	42011103	1
15	Ambient Temperature Sensor	390000451	1
16	Tube Sensor	390000594	1
17	Capacitor CBB65	33010743	1
18	Capacitor CBB61	33010025	1
19	Capacitor CBB61	33010027	1
20	Electric Box Cover	1416010	1
21	Propeller Housing	12316036	1
22	Gear Sub-Assy	10546005	1
23	Centrifugal fan	10316058	1
24	Guide Louver 1	10516051	1
25	Guide Louver 2	10516052	1
26	Diversion Circle (upper)	10376035	1
27	Step Motor	1521210301	1
28	Left Axile Bush	10512037	1
29	Crank	10582070	1
30	Electric Heater	32006023	1
31	Mid-Clapboard	20056095	1
32	Water Tray	12416008	1
33	Evaporator Assy	1006050	1
34	Filter Sub-Assy	11126011	1
35	Rear Plate Sub-Assy	20056105	1
36	backboard 1	20056096	1
37	Remote control box	20116012	1
38	Cover of Remote control box	20126072	1
39	Cable Cross Plate	26116060	1
40	Latch	70810302	1
41	Condenser Assy	110610301	1
42	Motor holder b (lower)	26156046	1
43	Fan Motor	1501603902	1
44	Centrifugal fan	10316058	1
45	Diversion Circle (lower)	10376034	1
46	Discharge Tube	03616079	1
47	InhalationTube	03626095	1

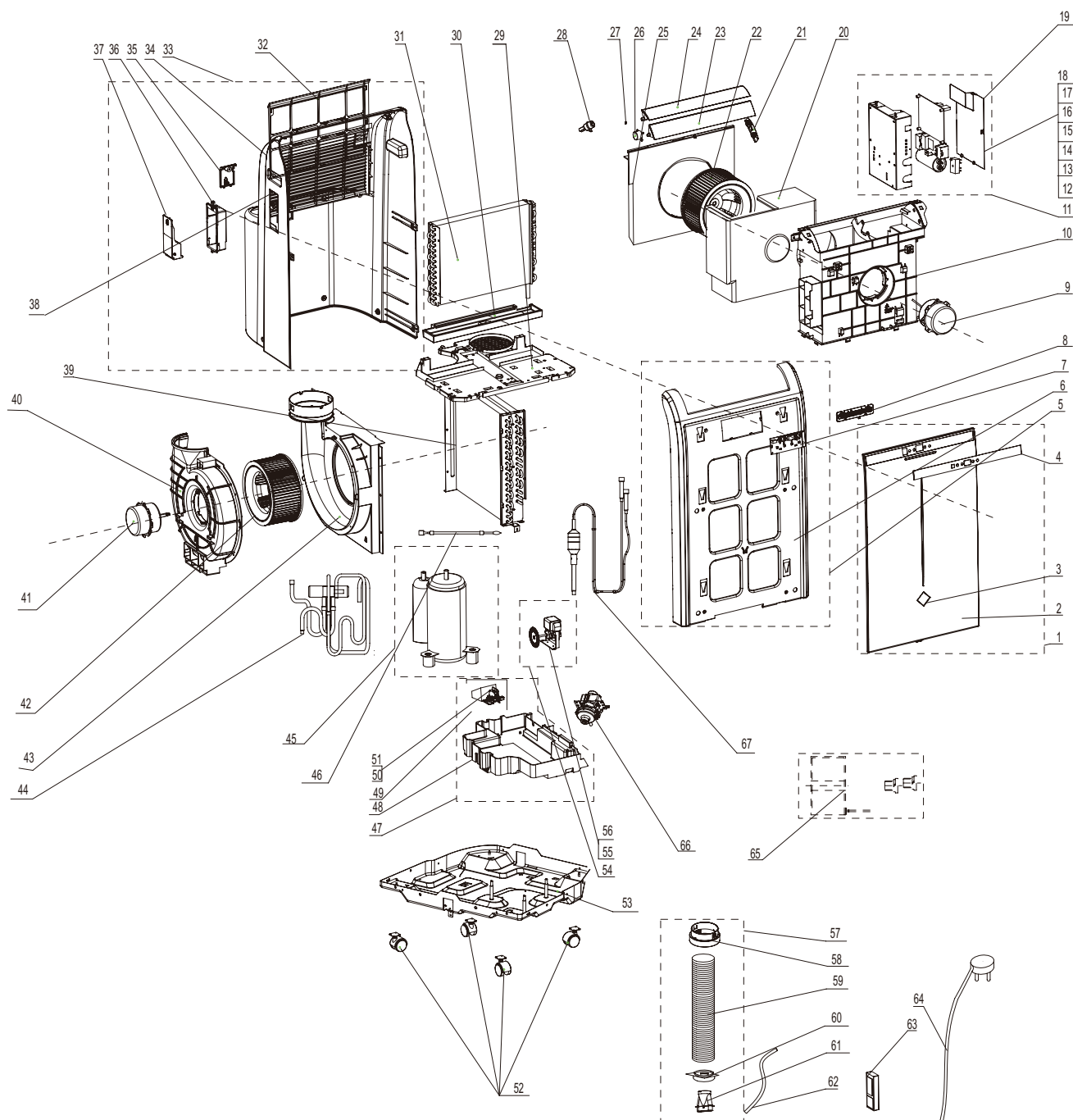


48	Compressor and fittings	00103781G	1
49	Compressor Gasket	76710253	3
50	Capillary Sub-Assy	3006095	1
51	water level switch base	26156041	1
52	Water Level Switch	45010211	1
53	Water level switch sub-assy	26156045	1
54	Water Tray	20186072	1
55	Water Tray Sub-Assy	20186141	1
56	Chassis Sub-assy	01206038P	1
57	Castor	24236051	4
58	Splash Water Flywheel	10336003	1
59	Fan Motor	150162122	1
60	Motor sub-assy(flutter)	15006032	1
61	Exhaust Pipe Sub-Assy	5236034	1
62	Tie-in 1	6646021	1
63	Pipe	5236058	1
64	Joint 3	26116064	1
65	RearClip	2611601001	1
66	Drainage Hose	05230013	1
67	Remote Controller	305100611	1
68	Power Cord	400204648	1

The data above are subject to change without notice.

# ● Exploded View

GPH12AF-K3NNA7A




## ● Parts List

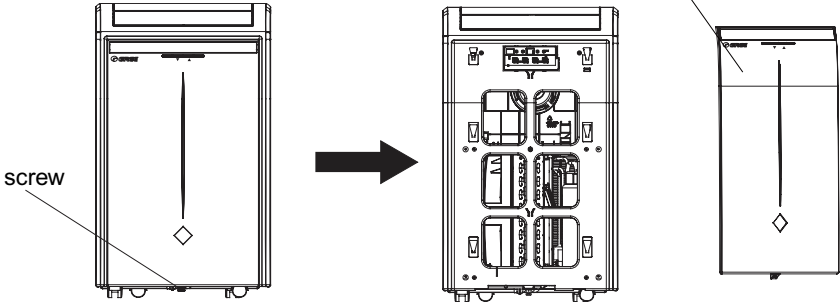
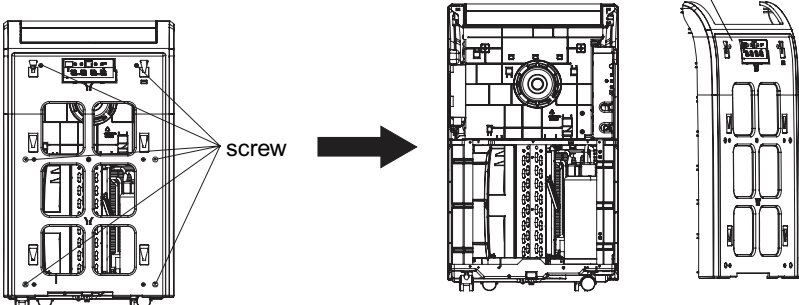
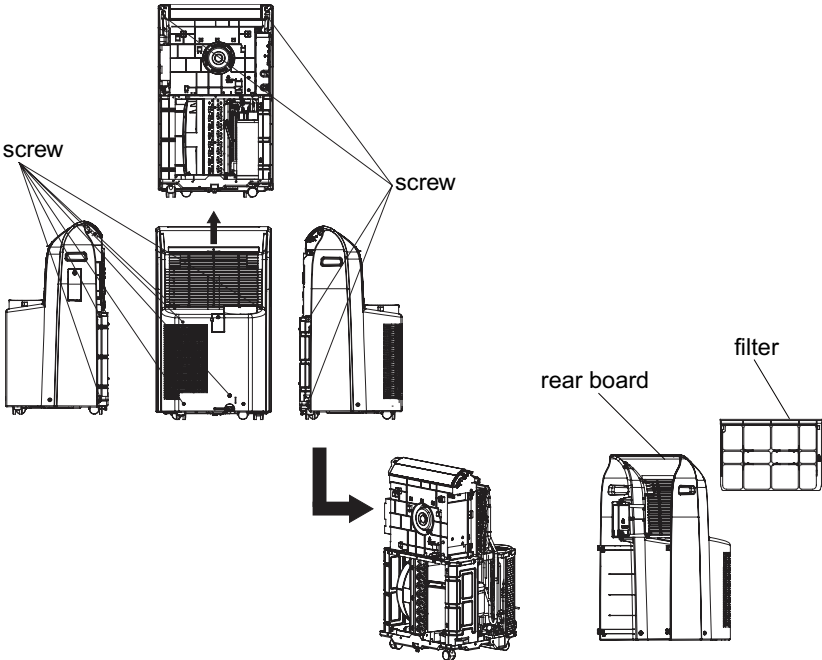
NO.	Description	Part Code	Qty
		GPH12AF-K3NNA7A	
		Product Code	
		CK01001491	
1	Decorative Board sub-assy	20196011	1
2	Decorative Board	20196006S	1
3	Decorative Block	20196013	1
4	Decorative Strip	20196012	1
5	Front Panel Sub-Assy	20006061	1
6	Front Panel	20006059	1
7	Display Board	30567012	1
8	Button	45036021	1
9	Fan Motor	15016212	1
10	Motor holder (upper)	26156043	1
11	Electric Box Assy	01406027	1
12	Main Board	30137013	1
13	Ambient Temperature Sensor	390000451	1
14	Tube Sensor	390000594	1
15	Capacitor CBB65	33010743	1
16	Capacitor CBB61	33010027	1
17	Capacitor CBB61	33010025	1
18	Terminal Board 2	42011147	1
19	Electric Box Cover	01416010	1
20	Propeller Housing	12316036	1
21	Gear Sub-Assy	10546005	1
22	Centrifugal fan	10316058	1
23	Guide Louver 1	10516051	1
24	Guide Louver 2	10516052	1
25	Diversion Circle (upper)	10376035	1
26	Step Motor	1521210301	1
27	Left Axile Bush	10512037	3
28	Crank	10582070	1
29	Mid-Clapboard	20056095	1
30	Water Tray	12416008	1
31	Evaporator Assy	01006050	1
32	Filter Sub-Assy	11126011	1
33	Rear Plate Sub-Assy	20056105	1
34	backboard 1	20056096	1
35	Remote control box	20116012	1
36	Cover of Remote control box	20126072	1
37	Cable Cross Plate	26116060	1
38	Latch	70810302	1
39	Condenser Assy	01106107	1
40	Motor holder b (lower)	26156046	1
41	Fan Motor	1501603903	1
42	Centrifugal fan	10316058	1
43	Diversion Circle (lower)	10376034	1
44	4-way Valve Assy	03026001	1
45	Compressor and fittings	00103781G	1
46	Ambient Temperature Sensor	390000372	1
47	Water Tray Sub-Assy	20186142	1

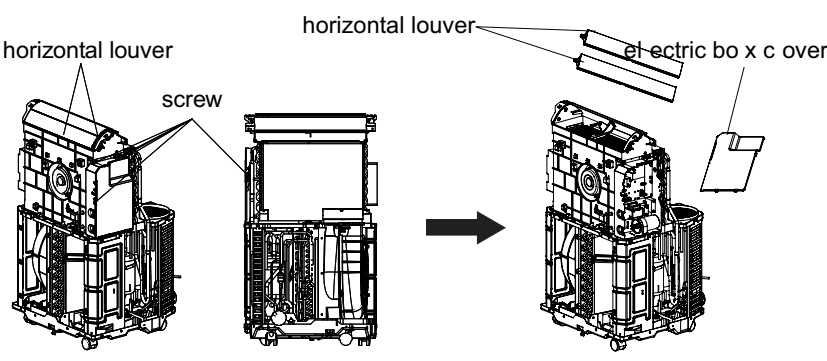
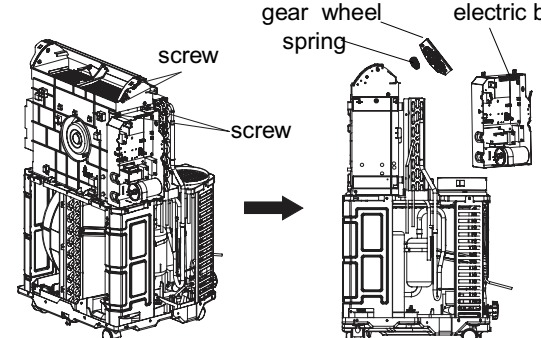
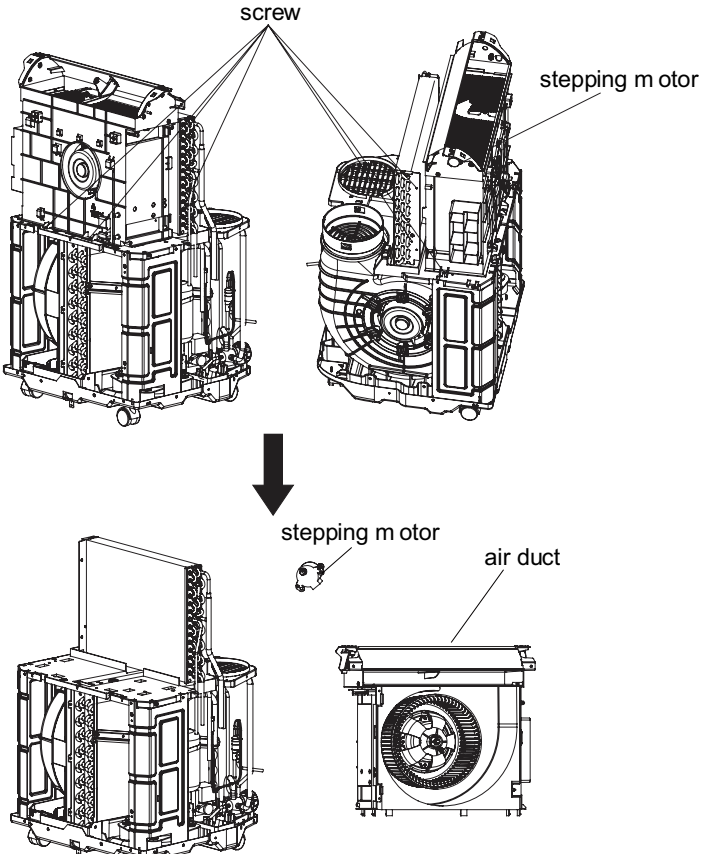
48	Water Tray	20186123	1
49	Water level switch sub-assy	26156045	1
50	water level switch base	26156041	1
51	Water Level Switch	45010211	1
52	Castor	24236051	4
53	Chassis Sub-assy	01206038P	1
54	Motor sub-assy(flutter)	15006006	1
55	Fan Motor	15016212	1
56	Splash Water Flywheel	10336003	1
57	Exhaust Pipe Sub-Assy	05236034	1
58	Tie-in 1	06646021	1
59	Pipe	05236058	1
60	Joint3	26116064	1
61	RearClip	2611601001	1
62	Drainage hose	05230013	1
63	Remote Controller	305100611	1
64	Power Cord	400204917	1
65	Magnet Coil	430004002	1
66	Water Pump	43130327	1
67	Capillary Sub-Assy	03006095	1

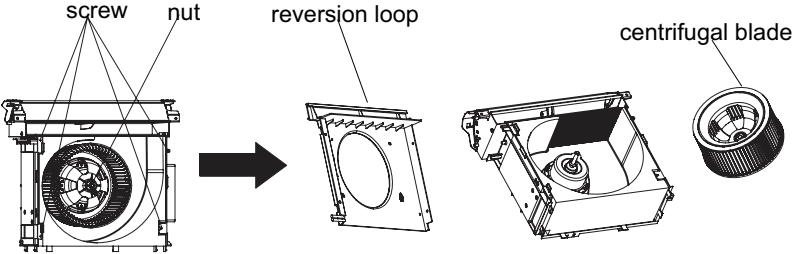
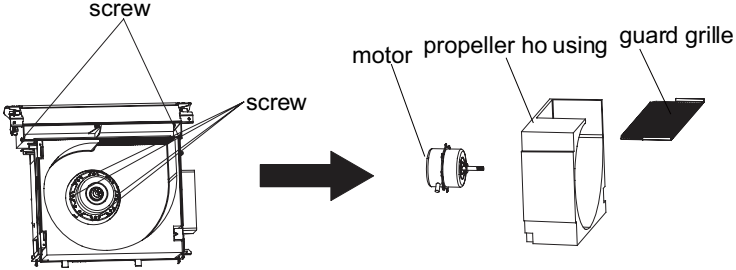
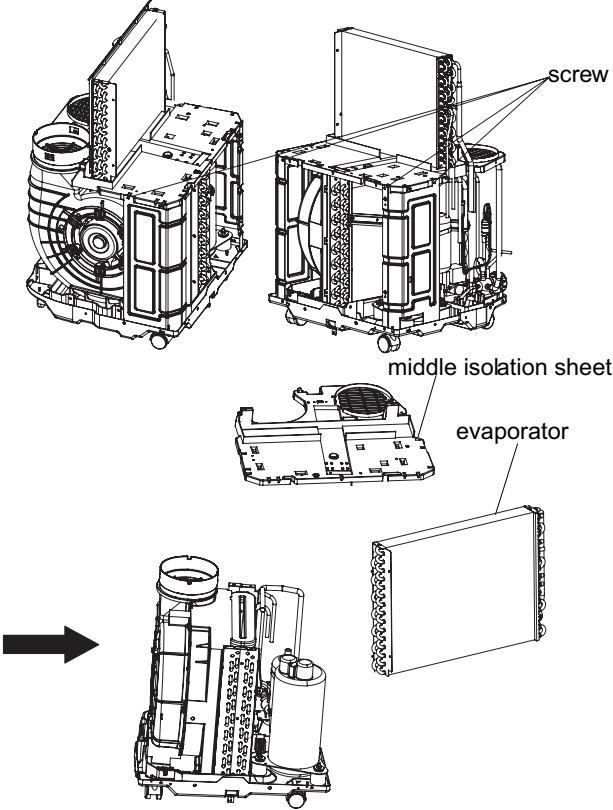
The data above are subject to change without notice.

# 11. Removal Procedure

 **Warning: disconnect power supply before removal; discharge the refrigerant completely before unsoldering the pipes.**

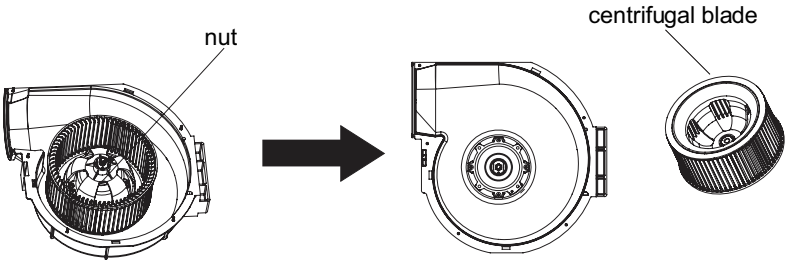
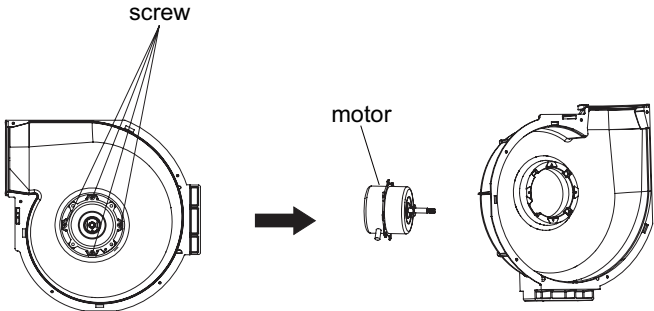
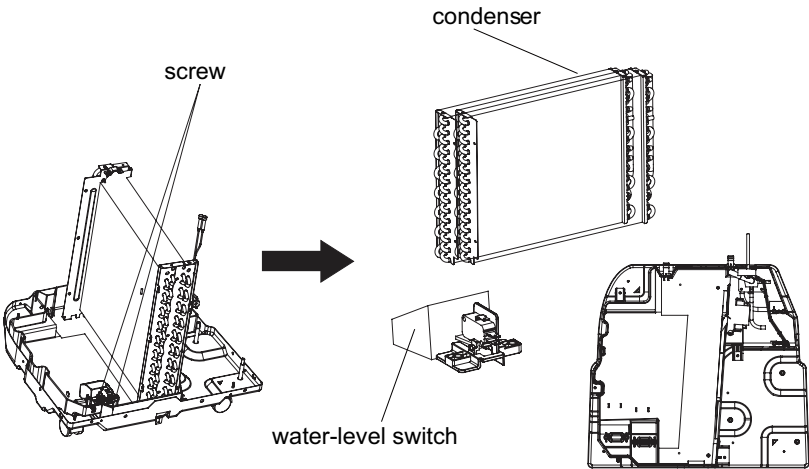
Steps	Produce	
1	Remove decoration board Remove screws fixing decoration board and then lift the decoration board upwards to remove it.	
2	Remove panel Remove screws on panel and then remove the panel.	
3	Remove rear board, filter Remove screws fixing rear board and then remove the rear board. Lift up the filter along arrow direction and then draw out the filter.	

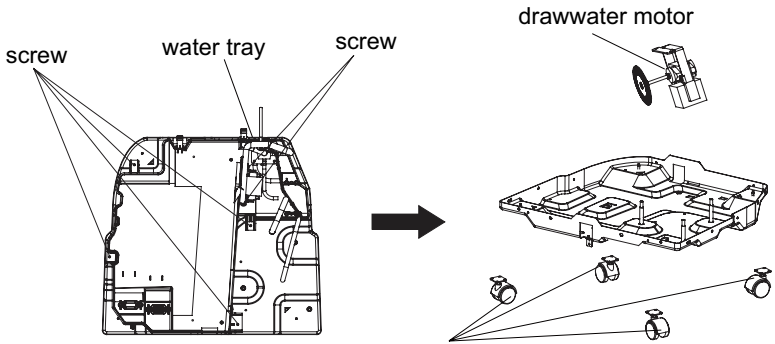
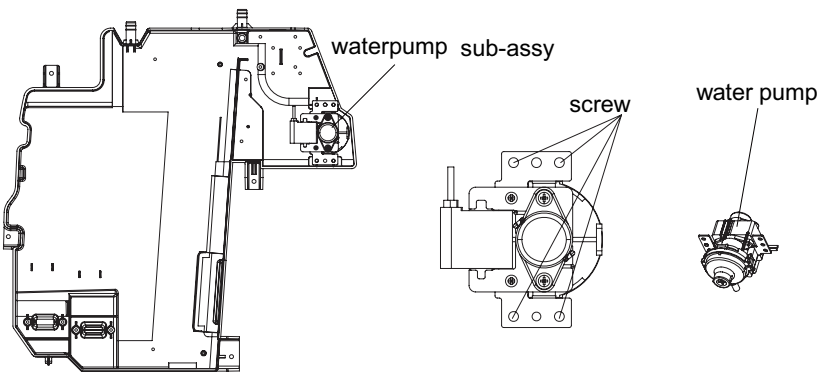
Steps		Produce
4	<p>Remove electric box cover, horizontal louver</p> <p>Remove screws fixing electric box cover and then remove the electric box cover. Adjust the horizontal louver lightly and then remove the horizontal louver.</p>	
5	<p>Remove electric box, gear wheel and spring</p> <p>Remove screws on electric box and gear wheel, pull out the wires and then remove electric box, gear wheel and spring.</p>	
6	<p>Remove stepping motor and upper air duct</p> <p>Remove screws fixing upper air duct and then remove the upper air duct. Remove screws fixing stepping motor and then remove the stepping motor.</p>	

Steps	Produce	
7	<p>Remove reversion loop, centrifugal blade</p> <p>Remove screws fixing reversion loop and then remove the reversion loop.</p> <p>Remove nuts fixing centrifugal blade, and then remove the centrifugal blade.</p>	
8	<p>Remove motor, propeller housing and guard grille</p> <p>Remove screws fixing guard grille and motor, and then remove the guard grille and motor. Take out the propeller housing.</p>	
9	<p>Remove evaporator and middle isolation sheet</p> <p>Unsolder the spotweld connectedwith evaporator and then remove the evaporator. Remove screws fixing middle isolation sheet and then remove the middle isolation sheet.</p>	

Steps		Produce
10	<p>Remove support board and compressor</p> <p>Twist off screws fixing support board and remove 2 support board. Unsolder the spotweld between compressor and condenser, remove 3 nuts fixing compressor and then remove the compressor.</p>	
11	<p>Remove air duct sub-assy</p> <p>Remove screws fixing air duct sub-assy, and then remove the air duct sub-assy.</p>	
12	<p>Remove reversion loop</p> <p>Remove screws fixing reversion loop, and then remove the reversion loop.</p>	



Steps	Produce	
13	Remove centrifugal blade Remove nuts fixing centrifugal blade and then remove the centrifugal blade.	
14	Remove motor Remove screws fixing motor and then remove the motor.	
15	Remove water-level switch and condenser Remove screws fixing water-level switch and then remove the water-level switch. Pull it upward to remove the condenser.	

Steps	Produce	
16	<p>Remove drawwater motor,water tray and castor</p> <p>Remove screws fixing drawwater motor and water tray and then remove the draw water motor and water tray</p> <p>Remove screws fixing castor and then remove 4 castors.</p>	
17	<p>Remove waterpump</p> <p>Remove screws fixingwater pump sub-assy and then remove the water pump sub-assy. And then remove the screws fixing water pump and the remove the water pump.</p>	

# Appendix:

## Appendix 1: Reference Sheet of Celsius and Fahrenheit

Conversion formula for Fahrenheit degree and Celsius degree:  $T_f = T_c \times 1.8 + 32$

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: Resistance Table of Ambient Temperature Sensor

Resistance table of ambient 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 ambient 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 ambient 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

Appendix 3: Resistance Value Table of Humidity Sensor

HIS-06 temperature and humidity characteristic5℃～14℃ Unit:KΩ

Relative humidity	Temperature (℃)									
%RH	5℃	6℃	7℃	8℃	9℃	10℃	11℃	12℃	13℃	14℃
90	5.35	4.92	4.55	4.23	3.95	3.70	3.47	3.25	3.05	2.87
89	5.80	5.33	4.93	4.58	4.27	4.00	3.74	3.51	3.29	3.09
88	6.29	5.77	5.33	4.95	4.62	4.32	4.03	3.78	3.54	3.32
87	6.82	6.25	5.77	5.36	4.99	4.66	4.35	4.08	3.82	3.58
86	7.40	6.78	6.25	5.80	5.40	5.04	4.70	4.40	4.11	3.85
85	8.03	7.35	6.78	6.28	5.84	5.45	5.09	4.75	4.45	4.16
84	8.71	7.97	7.35	6.81	6.33	5.91	5.50	5.14	4.80	4.49
83	9.44	8.65	7.97	7.39	6.87	6.41	5.96	5.56	5.19	4.84
82	10.25	9.39	8.65	8.02	7.46	6.96	6.47	6.03	5.62	5.24
81	11.13	10.19	9.40	8.71	8.10	7.56	7.03	6.54	6.09	5.68
80	12.09	11.07	10.21	9.46	8.80	8.21	7.62	7.08	6.59	6.13
79	13.14	12.03	11.09	10.28	9.57	8.93	8.28	7.70	7.16	6.66
78	14.27	13.07	12.05	11.17	10.40	9.70	8.99	8.35	7.75	7.20
77	15.50	14.20	13.10	12.14	11.30	10.55	9.78	9.07	8.43	7.83
76	16.84	15.43	14.24	13.21	12.30	11.48	10.64	9.87	9.16	8.51
75	18.31	16.78	15.49	14.37	13.38	12.50	11.58	10.75	9.98	9.26
74	19.91	18.25	16.85	15.64	14.57	13.62	12.62	11.72	10.89	10.12
73	21.67	19.87	18.35	17.04	15.88	14.84	13.71	12.67	11.72	10.84
72	23.61	21.66	20.00	18.57	17.31	16.18	14.98	13.90	12.89	11.96
71	25.78	23.64	21.84	20.27	18.89	17.66	16.35	15.16	14.06	13.05
70	28.15	25.82	23.85	22.15	20.65	19.30	17.91	16.63	15.46	14.37
69	30.78	28.24	26.10	24.24	22.60	21.13	19.60	18.19	16.91	15.71
68	33.69	30.92	28.58	26.55	24.76	23.16	21.48	19.94	18.53	17.22
67	36.90	33.88	31.33	29.11	27.16	25.42	23.56	21.86	20.29	18.85
66	40.45	37.16	34.37	31.96	29.84	27.93	25.83	23.92	22.15	20.52
65	44.38	40.78	37.74	35.11	32.78	30.70	28.42	26.34	24.42	22.65
64	48.75	44.81	41.48	38.59	36.05	33.77	31.24	28.93	26.80	24.83
63	53.64	49.31	45.65	42.48	39.68	37.17	34.34	31.74	29.36	27.15
62	59.14	54.36	50.32	46.82	43.73	40.97	37.83	34.96	32.32	29.87
61	65.31	60.02	55.55	51.68	48.26	45.20	41.70	38.51	35.58	32.86
60	72.27	66.40	61.43	57.13	53.33	49.94	46.07	42.53	39.28	36.27
59	80.13	73.58	68.04	63.25	59.01	55.23	50.94	47.03	43.43	40.10
58	88.92	81.61	75.43	70.08	65.36	61.14	56.40	52.08	48.11	44.43
57	98.86	90.68	83.77	77.78	72.50	67.78	62.49	57.67	53.23	49.12
56	112.59	102.79	94.50	87.33	81.00	75.33	69.42	64.03	59.07	54.48
55	122.69	112.51	103.91	96.45	89.88	84.00	77.42	71.41	65.88	60.76
54	137.09	125.76	116.19	107.89	100.57	94.03	86.69	79.99	73.82	68.11
53	153.46	140.88	130.25	121.03	112.91	105.64	97.26	89.61	82.58	76.06
52	172.19	158.19	146.35	136.10	127.05	118.96	109.52	100.90	92.97	85.63
51	193.69	178.04	164.81	153.36	143.25	134.21	123.35	113.43	104.31	95.86
50	218.48	200.85	185.94	173.02	161.63	151.44	139.14	127.90	117.57	108.01
49	247.23	227.16	210.19	195.49	182.52	170.92	156.84	143.98	132.15	121.20
48	278.74	256.20	237.15	220.64	206.08	193.06	177.34	163.00	149.80	137.58
47	315.50	289.95	268.35	249.64	233.14	218.37	200.56	184.30	169.34	155.49
46	357.93	328.94	304.43	283.20	264.47	247.72	227.57	209.18	192.25	176.59
45	406.44	373.72	346.05	322.08	300.94	282.03	259.22	238.40	219.24	201.51
44	463.66	426.44	394.96	367.70	343.66	322.14	296.25	272.62	250.87	230.74
43	531.25	488.59	452.53	421.28	393.73	369.08	339.44	312.38	287.50	264.45
42	611.22	562.01	520.40	484.35	452.55	424.11	390.24	359.31	330.86	304.52
41	707.78	650.29	601.68	559.58	522.44	489.21	450.38	414.92	382.31	352.11
40	823.98	756.22	698.93	649.30	605.53	566.37	521.46	480.46	442.74	407.81
39	962.72	882.62	814.90	756.23	704.48	658.19	604.79	556.03	511.18	469.66

38	1128.50	1033.61	953.39	883.90	822.61	767.78	704.83	647.37	594.51	545.56
37	1325.87	1213.40	1118.31	1035.94	963.29	898.30	823.48	755.17	692.34	634.16
36	1563.51	1430.14	1317.38	1219.71	1133.55	1056.48	967.04	885.39	810.28	740.74
35	1855.67	1695.83	1560.69	1443.63	1340.37	1248.00	1140.34	1042.06	951.64	867.93
34	2213.60	2020.33	1856.92	1715.37	1590.51	1478.82	1349.81	1232.04	1123.70	1023.39
33	2665.63	2426.92	2225.10	2050.27	1896.06	1758.12	1605.77	1466.69	1338.74	1220.28
32	3230.73	2933.36	2681.95	2464.17	2272.06	2100.23	1916.82	1749.39	1595.37	1452.76
31	3962.78	3585.59	3266.69	2990.44	2746.77	2528.80	2308.12	2106.66	1921.33	1749.74
30	4915.40	4431.65	4022.65	3668.35	3355.84	3076.30	2801.20	2550.06	2319.03	2105.13
29	6180.16	5548.66	5014.73	4552.22	4144.26	3779.32	3431.59	3114.13	2822.10	2551.72
28	7874.08	7035.10	6325.74	5711.27	5169.27	4684.43	4243.82	3841.57	3471.54	3128.95
27	10162.49	9029.08	8070.80	7240.70	6508.50	5853.53	5293.25	4781.75	4311.22	3875.57
26	13243.42	11702.63	10399.92	9271.46	8276.08	7385.69	6658.01	5993.68	5382.56	4816.75
25	17366.01	15270.67	13499.09	11964.48	10610.86	9400.00	8447.52	7577.98	6778.07	6037.48
24	22845.46	20023.30	17637.20	15570.26	13747.10	12116.22	10866.57	9725.72	8676.25	7704.59
23	30130.06	26367.98	23187.18	20431.85	18001.48	15827.43	14156.73	12631.50	11228.43	9929.38
22	39673.45	34712.87	30518.76	26885.65	23681.03	20814.39	18624.92	16626.08	14787.33	13084.91
21	51880.00	45447.42	40008.75	35297.56	31142.00	27424.72	24504.12	21837.82	19385.06	17114.16
20	68057.37	59623.21	52492.24	46315.10	40866.49	35992.53	32084.71	28517.14	25235.30	22196.79

HIS-06 temperature and humidity characteristic 15°C ~24°C

Unit:KΩ

Relative humidity	Temperature (°C)									
%RH	15°C	16°C	17°C	18°C	19°C	20°C	21°C	22°C	23°C	24°C
90	2.70	2.56	2.43	2.31	2.19	2.08	1.99	1.91	1.83	1.75
89	2.91	2.76	2.61	2.48	2.35	2.23	2.13	2.04	1.95	1.86
88	3.12	2.96	2.80	2.66	2.52	2.39	2.28	2.18	2.08	1.98
87	3.36	3.18	3.01	2.85	2.70	2.56	2.44	2.33	2.22	2.12
86	3.61	3.42	3.23	3.06	2.90	2.75	2.62	2.50	2.38	2.27
85	3.90	3.69	3.49	3.30	3.12	2.95	2.81	2.67	2.54	2.42
84	4.20	3.97	3.76	3.55	3.36	3.18	3.03	2.88	2.74	2.61
83	4.52	4.28	4.05	3.83	3.63	3.43	3.26	3.10	2.94	2.79
82	4.89	4.63	4.38	4.14	3.92	3.71	3.52	3.33	3.16	2.99
81	5.29	5.00	4.73	4.48	4.24	4.01	3.80	3.60	3.42	3.23
80	5.70	5.39	5.10	4.83	4.57	4.33	4.10	3.88	3.68	3.48
79	6.19	5.85	5.53	5.22	4.94	4.67	4.41	4.17	3.94	3.72
78	6.69	6.32	5.96	5.63	5.32	5.02	4.75	4.49	4.24	4.01
77	7.27	6.85	6.46	6.09	5.74	5.41	5.11	4.83	4.56	4.31
76	7.90	7.44	7.00	6.59	6.20	5.83	5.51	5.21	4.92	4.65
75	8.60	8.08	7.60	7.14	6.71	6.30	5.95	5.62	5.30	4.99
74	9.40	8.82	8.28	7.77	7.29	6.83	6.45	6.09	5.74	5.41
73	10.02	9.44	8.89	8.38	7.89	7.43	7.01	6.60	6.21	5.84
72	11.10	10.43	9.79	9.19	8.63	8.09	7.62	7.17	6.74	6.33
71	12.10	11.36	10.67	10.02	9.40	8.82	8.31	7.82	7.36	6.92
70	13.36	12.52	11.72	10.98	10.27	9.60	9.03	8.49	7.97	7.48
69	14.60	13.67	12.79	11.97	11.19	10.45	9.82	9.23	8.66	8.11
68	16.00	14.96	13.99	13.07	12.20	11.37	10.68	10.02	9.39	8.78
67	17.50	16.35	15.27	14.26	13.30	12.39	11.61	10.86	10.15	9.47
66	19.00	17.76	16.60	15.51	14.47	13.49	12.64	11.83	11.05	10.31
65	21.00	19.59	18.26	17.01	15.82	14.70	13.76	12.86	12.01	11.19
64	23.00	21.43	19.96	18.57	17.25	16.00	14.98	14.00	13.06	12.16
63	25.10	23.38	21.77	20.24	18.80	17.44	16.31	15.24	14.22	13.24
62	27.60	25.66	23.84	22.13	20.51	18.97	17.73	16.55	15.42	14.34
61	30.33	28.17	26.14	24.23	22.42	20.71	19.37	18.10	16.88	15.72
60	33.47	31.05	28.78	26.64	24.62	22.70	21.24	19.84	18.50	17.23
59	37.00	34.31	31.77	29.39	27.13	24.99	23.37	21.83	20.36	18.95
58	41.00	38.00	35.18	32.52	30.00	27.61	25.82	24.11	22.47	20.90
57	45.30	41.99	38.88	35.95	33.18	30.54	28.59	26.72	24.94	23.24





73	5.49	5.21	4.94	4.68	4.43	4.19	3.97	3.75	3.54	3.34
72	5.93	5.62	5.33	5.04	4.77	4.50	4.26	4.02	3.80	3.57
71	6.49	6.13	5.79	5.46	5.14	4.84	4.57	4.32	4.07	3.83
70	7.00	6.61	6.24	5.88	5.53	5.20	4.91	4.63	4.35	4.09
69	7.59	7.16	6.75	6.35	5.96	5.59	5.27	4.97	4.67	4.38
68	8.20	7.73	7.28	6.84	6.42	6.01	5.67	5.34	5.01	4.70
67	8.82	8.32	7.83	7.36	6.91	6.47	6.10	5.74	5.38	5.04
66	9.60	9.03	8.49	7.96	7.46	6.97	6.57	6.18	5.80	5.43
65	10.40	9.78	9.18	8.61	8.06	7.52	7.08	6.65	6.24	5.84
64	11.30	10.62	9.96	9.33	8.72	8.13	7.65	7.19	6.74	6.30
63	12.30	11.55	10.82	10.12	9.45	8.80	8.27	7.75	7.26	6.78
62	13.30	12.49	11.71	10.96	10.23	9.53	8.96	8.41	7.87	7.35
61	14.60	13.69	12.81	11.97	11.15	10.36	9.73	9.12	8.53	7.96
60	16.00	14.99	14.02	13.08	12.17	11.30	10.61	9.94	9.29	8.66
59	17.60	16.48	15.40	14.35	13.35	12.38	11.61	10.87	10.15	9.46
58	19.40	18.15	16.95	15.79	14.68	13.60	12.75	11.93	11.13	10.36
57	21.60	20.18	18.81	17.49	16.22	14.99	14.05	13.14	12.26	11.41
56	24.00	22.40	20.86	19.37	17.94	16.55	15.50	14.48	13.50	12.54
55	26.60	24.81	23.10	21.44	19.84	18.30	17.13	16.00	14.90	13.83
54	29.60	27.59	25.66	23.81	22.01	20.28	18.96	17.69	16.46	15.26
53	33.00	30.74	28.57	26.48	24.46	22.52	21.04	19.62	18.24	16.90
52	36.90	34.35	31.90	29.53	27.25	25.05	23.38	21.77	20.21	18.69
51	41.00	38.18	35.47	32.86	30.34	27.90	26.03	24.22	22.46	20.76
50	45.80	42.62	39.55	36.60	33.75	31.00	28.91	26.89	24.93	23.03
49	50.70	47.20	43.83	40.59	37.45	34.43	32.08	29.81	27.61	25.47
48	56.70	52.72	48.90	45.21	41.66	38.22	35.62	33.10	30.67	28.30
47	64.00	59.37	54.91	50.61	46.46	42.46	39.57	36.78	34.07	31.45
46	71.00	65.89	60.97	56.22	51.65	47.23	43.99	40.85	37.81	34.86
45	80.00	74.13	68.48	63.03	57.78	52.70	49.02	45.46	42.00	38.65
44	89.00	82.54	76.32	70.33	64.54	58.96	54.75	50.69	46.74	42.92
43	101.00	93.48	86.25	79.28	72.55	66.06	61.28	56.65	52.17	47.82
42	115.00	106.23	97.79	89.66	81.81	74.23	68.69	63.33	58.14	53.10
41	131.00	120.81	111.01	101.56	92.44	83.64	77.33	71.23	65.31	59.57
40	149.90	138.01	126.56	115.53	104.88	94.60	87.37	80.37	73.58	66.99
39	170.00	156.52	143.54	131.04	118.97	107.32	99.08	91.11	83.38	75.88
38	196.00	180.09	164.79	150.04	135.81	122.06	112.71	103.65	94.88	86.37
37	225.00	206.61	188.92	171.87	155.41	139.52	128.86	118.54	108.53	98.82
36	260.00	238.50	217.80	197.86	178.62	160.04	147.90	136.16	124.77	113.73
35	302.00	276.83	252.61	229.27	206.76	185.00	170.96	157.37	144.19	131.41
34	352.00	322.66	294.42	267.21	240.96	215.59	199.30	183.53	168.24	153.40
33	415.00	380.13	346.58	314.24	283.04	252.90	233.57	214.84	196.70	179.09
32	490.00	448.82	409.19	371.01	334.16	298.57	275.69	253.53	232.06	211.23
31	580.00	531.32	484.48	439.35	395.79	353.72	326.76	300.66	275.37	250.83
30	693.69	634.81	578.16	523.57	470.89	420.00	387.67	356.36	326.02	296.58
29	821.00	751.60	684.82	620.48	558.38	498.40	459.39	421.61	385.00	349.49
28	982.00	898.01	817.20	739.32	664.18	591.58	544.87	499.65	455.82	413.29
27	1190.00	1085.85	985.63	889.06	795.87	705.85	649.51	594.96	542.09	490.80
26	1420.00	1297.43	1179.49	1065.83	956.17	850.22	781.68	715.32	651.00	588.59
25	1750.00	1597.27	1450.30	1308.67	1172.02	1040.00	954.91	872.53	792.68	715.22
24	2200.00	2005.83	1818.99	1638.94	1465.21	1297.38	1189.66	1085.37	984.29	886.22
23	2800.00	2551.47	2312.32	2081.87	1859.50	1644.68	1506.06	1371.84	1241.75	1115.55
22	3590.00	3270.74	2963.54	2667.51	2381.86	2105.90	1925.97	1751.75	1582.89	1419.07
21	4600.00	4191.56	3798.54	3419.81	3054.38	2701.33	2467.06	2240.24	2020.39	1807.10
20	5915.63	5385.23	4874.84	4383.03	3908.47	3450.00	3152.84	2865.12	2586.25	2315.70

HIS-06 Characteristic of temperature and humidity 35℃ ~ 45℃

Unit:  $K\Omega$ 

Relative humidity	Temperature (℃)											
	%RH	35℃	36℃	37℃	38℃	39℃	40℃	41℃	42℃	43℃	44℃	45℃
90	1.20	1.17	1.14	1.11	1.08	1.05	1.02	1.00	0.98	0.95	0.93	
89	1.27	1.23	1.20	1.16	1.13	1.10	1.07	1.05	1.02	1.00	0.97	
88	1.34	1.30	1.26	1.22	1.19	1.15	1.12	1.09	1.07	1.04	1.02	
87	1.42	1.37	1.33	1.29	1.25	1.21	1.18	1.15	1.12	1.09	1.06	
86	1.50	1.45	1.40	1.36	1.31	1.27	1.24	1.20	1.17	1.14	1.11	
85	1.58	1.53	1.48	1.43	1.38	1.33	1.29	1.26	1.23	1.19	1.16	
84	1.67	1.61	1.56	1.50	1.45	1.40	1.36	1.32	1.29	1.25	1.21	
83	1.76	1.70	1.64	1.58	1.52	1.47	1.43	1.39	1.35	1.31	1.27	
82	1.86	1.79	1.73	1.66	1.60	1.54	1.50	1.45	1.41	1.37	1.33	
81	1.97	1.90	1.82	1.75	1.69	1.62	1.57	1.53	1.48	1.44	1.40	
80	2.08	2.00	1.93	1.85	1.78	1.71	1.66	1.61	1.56	1.51	1.46	
79	2.20	2.12	2.03	1.95	1.88	1.80	1.74	1.69	1.64	1.59	1.54	
78	2.33	2.24	2.15	2.07	1.98	1.90	1.84	1.78	1.72	1.67	1.61	
77	2.48	2.38	2.28	2.18	2.09	2.00	1.94	1.87	1.81	1.75	1.69	
76	2.62	2.51	2.41	2.31	2.21	2.12	2.05	1.98	1.91	1.84	1.78	
75	2.78	2.67	2.56	2.45	2.34	2.24	2.16	2.09	2.01	1.94	1.87	
74	2.96	2.84	2.71	2.60	2.48	2.37	2.29	2.20	2.12	2.04	1.97	
73	3.14	3.01	2.88	2.75	2.63	2.51	2.42	2.33	2.24	2.15	2.07	
72	3.36	3.21	3.06	2.92	2.78	2.65	2.55	2.46	2.36	2.27	2.18	
71	3.60	3.44	3.28	3.12	2.97	2.82	2.71	2.61	2.50	2.40	2.30	
70	3.83	3.65	3.48	3.32	3.16	3.00	2.88	2.77	2.65	2.54	2.43	
69	4.10	3.91	3.73	3.55	3.37	3.20	3.07	2.94	2.82	2.70	2.58	
68	4.40	4.19	3.99	3.79	3.60	3.41	3.27	3.13	2.99	2.86	2.73	
67	4.71	4.49	4.27	4.06	3.85	3.65	3.49	3.34	3.19	3.05	2.90	
66	5.08	4.83	4.59	4.36	4.13	3.91	3.74	3.57	3.41	3.25	3.09	
65	5.45	5.19	4.93	4.68	4.44	4.20	4.01	3.83	3.65	3.47	3.30	
64	5.88	5.59	5.31	5.04	4.78	4.52	4.31	4.11	3.91	3.72	3.53	
63	6.31	6.00	5.70	5.41	5.13	4.85	4.63	4.41	4.20	4.00	3.80	
62	6.84	6.50	6.17	5.84	5.53	5.22	4.98	4.75	4.52	4.30	4.09	
61	7.40	7.03	6.66	6.31	5.97	5.63	5.37	5.12	4.88	4.64	4.41	
60	8.05	7.64	7.24	6.86	6.48	6.11	5.83	5.55	5.28	5.01	4.76	
59	8.78	8.33	7.89	7.46	7.05	6.64	6.33	6.02	5.72	5.43	5.14	
58	9.61	9.10	8.61	8.13	7.66	7.20	6.86	6.52	6.19	5.87	5.56	
57	10.58	10.00	9.43	8.88	8.34	7.82	7.44	7.08	6.72	6.36	6.02	
56	11.61	10.96	10.33	9.71	9.11	8.53	8.11	7.70	7.30	6.91	6.53	
55	12.80	12.07	11.36	10.68	10.00	9.35	8.88	8.42	7.97	7.53	7.10	
54	14.10	13.29	12.50	11.73	10.98	10.25	9.72	9.21	8.70	8.21	7.73	
53	15.60	14.68	13.78	12.90	12.05	11.22	10.63	10.06	9.50	8.96	8.42	
52	17.22	16.18	15.18	14.20	13.24	12.31	11.66	11.02	10.40	9.79	9.19	
51	19.10	17.93	16.79	15.68	14.59	13.54	12.81	12.10	11.40	10.72	10.05	
50	21.18	19.87	18.60	17.36	16.15	14.97	14.14	13.33	12.54	11.77	11.01	
49	23.40	21.97	20.57	19.21	17.89	16.60	15.65	14.73	13.82	12.94	12.08	
48	26.00	24.35	22.75	21.20	19.68	18.20	17.17	16.16	15.18	14.21	13.27	
47	28.90	27.06	25.28	23.54	21.85	20.20	19.03	17.88	16.77	15.68	14.61	
46	32.00	29.95	27.96	26.03	24.14	22.30	21.00	19.74	18.50	17.29	16.11	
45	35.40	33.16	30.99	28.87	26.81	24.80	23.33	21.90	20.50	19.14	17.80	
44	39.20	36.71	34.29	31.93	29.64	27.40	25.79	24.21	22.67	21.17	19.70	
43	43.60	40.77	38.02	35.35	32.74	30.20	28.45	26.73	25.06	23.43	21.83	
42	48.20	45.06	42.00	39.02	36.13	33.30	31.40	29.55	27.74	25.97	24.25	
41	54.00	50.43	46.97	43.59	40.30	37.10	34.98	32.92	30.90	28.93	27.00	
40	60.60	56.63	52.78	49.02	45.36	41.80	39.36	36.98	34.66	32.39	30.17	
39	68.60	64.04	59.61	55.30	51.10	47.00	44.23	41.53	38.89	36.31	33.78	
38	78.10	72.70	67.45	62.33	57.35	52.50	49.44	46.45	43.54	40.69	37.90	

37	89.40	82.99	76.75	70.68	64.76	59.00	55.58	52.24	48.98	45.80	42.68
36	103.00	95.43	88.06	80.89	73.91	67.10	63.17	59.33	55.59	51.93	48.35
35	119.00	110.35	101.94	93.75	85.77	78.00	73.18	68.47	63.88	59.39	55.00
34	139.00	129.32	119.90	110.73	101.80	93.10	86.80	80.66	74.66	68.80	63.07
33	162.00	149.97	138.28	126.90	115.81	105.00	98.24	91.63	85.19	78.89	72.73
32	191.00	176.44	162.29	148.50	135.08	122.00	114.10	106.40	98.87	91.52	84.34
31	227.00	209.28	192.04	175.27	158.93	143.00	133.62	124.46	115.52	106.79	98.25
30	268.00	247.75	228.05	208.88	190.20	172.00	160.04	148.37	136.97	125.83	114.95
29	315.00	291.16	267.97	245.41	223.43	202.00	187.96	174.26	160.88	147.81	135.03
28	372.00	342.25	313.32	285.16	257.73	231.00	215.94	201.25	186.90	172.88	159.17
27	441.00	404.50	369.01	334.45	300.80	268.00	251.39	235.18	219.35	203.88	188.76
26	528.00	484.54	442.27	401.13	361.06	322.00	301.66	281.81	262.43	243.49	224.98
25	640.00	590.21	541.79	494.65	448.75	404.00	375.91	348.49	321.72	295.57	270.00
24	791.00	735.73	681.97	629.64	578.68	529.00	486.67	445.36	405.02	365.60	327.08
23	993.00	926.97	862.74	800.23	739.35	680.00	621.22	563.85	507.84	453.11	399.61
22	1260.00	1171.18	1084.80	1000.72	918.82	839.00	766.05	694.86	625.34	557.42	491.03
21	1600.00	1476.79	1356.97	1240.33	1126.73	1016.00	929.53	845.14	762.74	682.23	603.53
20	2053.00	1880.43	1712.58	1549.22	1390.09	1235.00	1131.26	1030.03	931.17	834.59	740.18