

Service Manual

Models: GDN12AJ-K4EBC1A
GDN12AJ-K4EBC1B
GDN16AJ-K4EBC1A
(Refrigerant R134a)

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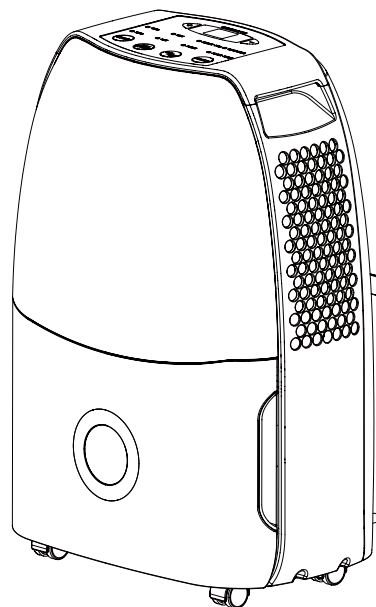
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Part I : Technical Information

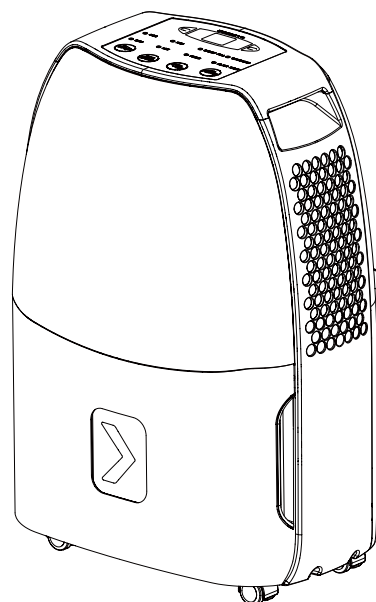
1.Summary

Models:

GDN12AJ-K4EBC1A
GDN16AJ-K4EBC1A



GDN12AJ-K4EBC1B

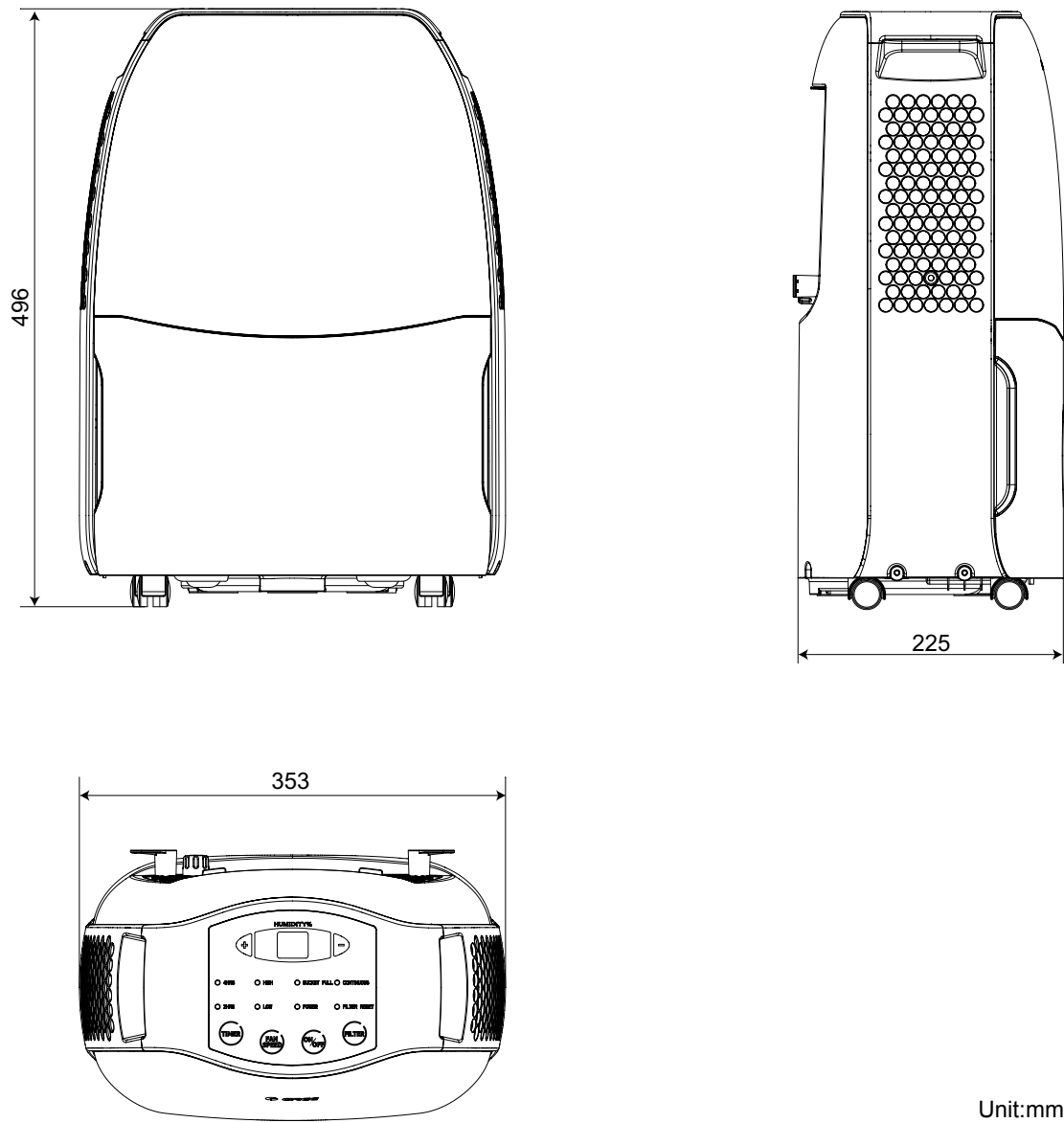


2.Specifications

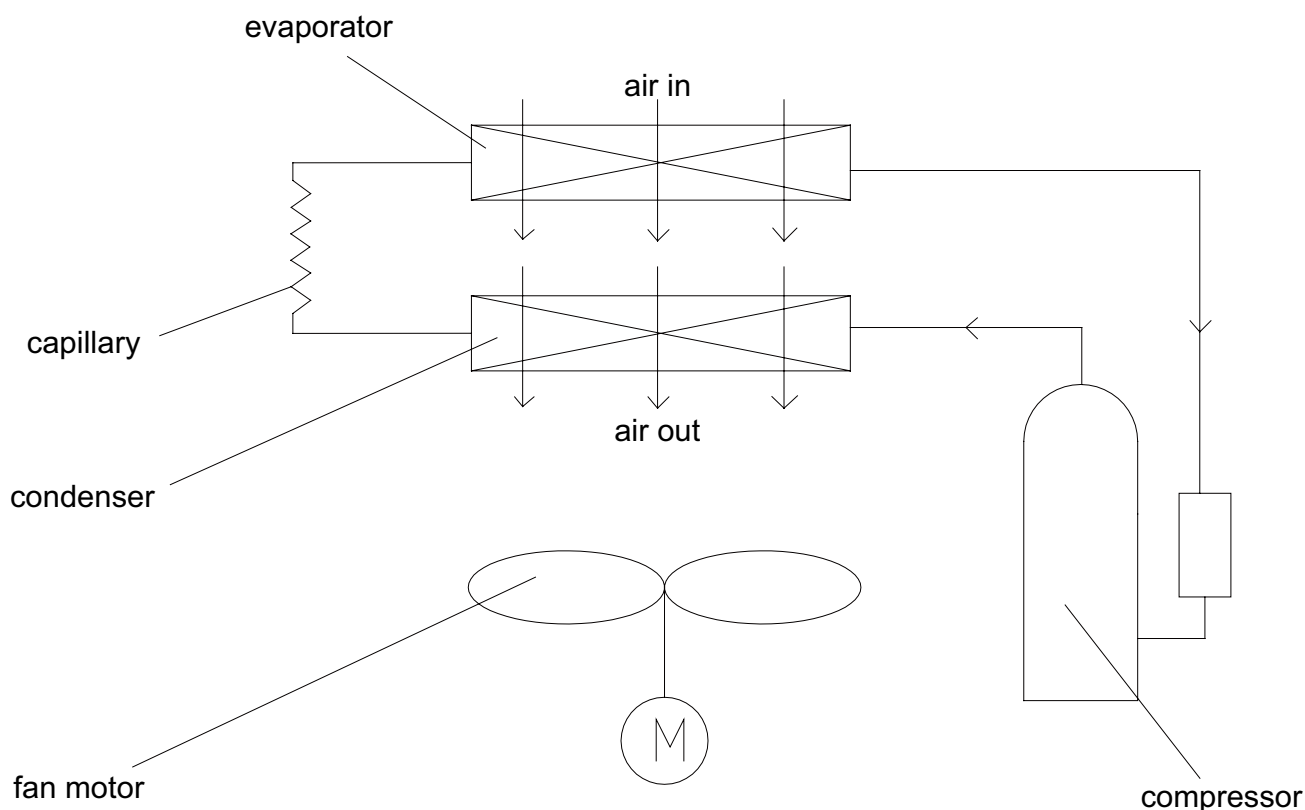
Model			1.GDN12AJ-K4EBC1A 2.GDN12AJ-K4EBC1B	GDN16AJ-K4EBC1A
Product Code			1.CK051012901/CK051012902 2.CK051019102	CK051013001 CK051013003
Power Supply	Rated Voltage	V~	220-240	220-240
	Rated Frequency	Hz	50	50
	Phases		1	1
Rated Dehumidifying Volume		L/h	0.23	0.4
Power Input		W	230	295
Power Current		A	1.3	1.3
Set Humidity Range		%	35~80	35~80
Air Flow Volume(H/M/L)		m ³ /h	115/-/100	115/-/100
Fan Motor Speed (H/M/L)		r/min	1100/-/950	1100/-/950
Output of Fan Motor		W	4	4
Fan Motor Capacitor		μF	1.5	1.5
Fan Type			Centrifugal	Centrifugal
Diameter Length(DXL)		mm	Φ180X54.5	Φ180X54.5
Throttling Method			Capillary	Capillary
Fuse		A	3.15	3.15
Sound Pressure Level (H/M/L)		dB (A)	43/-/41	45/-/43
Sound Power Level ((H/M/L)		dB (A)	53/-/51	53/-/51
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	1.8	1.8
Dimension (WXHXD)		mm	353X496X225	353X496X225
Dimension of Carton Box (LXWXH)		mm	393X271X510	393X271X510
Dimension of Package (LXWXH)		mm	396X274X525	396X274X525
Application Area		m ²	15	20
Net Weight		kg	11	13.5
Gross Weight		kg	12	14.5
Refrigerant			R134a	R134a
Refrigerant Charge		kg	0.09	0.17
Bucket Capacity		L	3/3.5	3/3.5
Control Type			Electronic	Electronic
Evaporator	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7	Φ7
	Row-fin Gap	mm	1-1.4	2-1.6
	Coil Length (LXDXW)	mm	210X12.7X152.4	210X25.4X152.4
Condenser	Form		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ5	Φ7
	Rows-fin Gap	mm	2-1.4	2-1.4
	Coil Length (LXDXW)	mm	210X22.8X152.4	210X25.4X152.4
Compressor	Compressor Manufacturer/Trademark		Shanghai Hitachi Electrical Appliances Co.,Ltd/HIGHLY	Shanghai Hitachi Electrical Appliances Co.,Ltd/HIGHLY
	Model		BSA418CV-R1AUN	39E0G3HR&F^YA
	Type		Rotary	Rotary
	Power Input	W	213	265
	Overload Protector		URP-191-78 or equivalent	UP3-106
	L.R.A.	A	3.4	5.5
Working Current		A	1.1	1.2

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

3.Outline Dimension Diagram



4.Refrigerant System Diagram



Dehumidifying principle of dehumidifier:

When temperature is decreased to the temperature point of dew, water vapor in humid air will condensate. Dehumidifier is dehumidifying the air by using this principle.

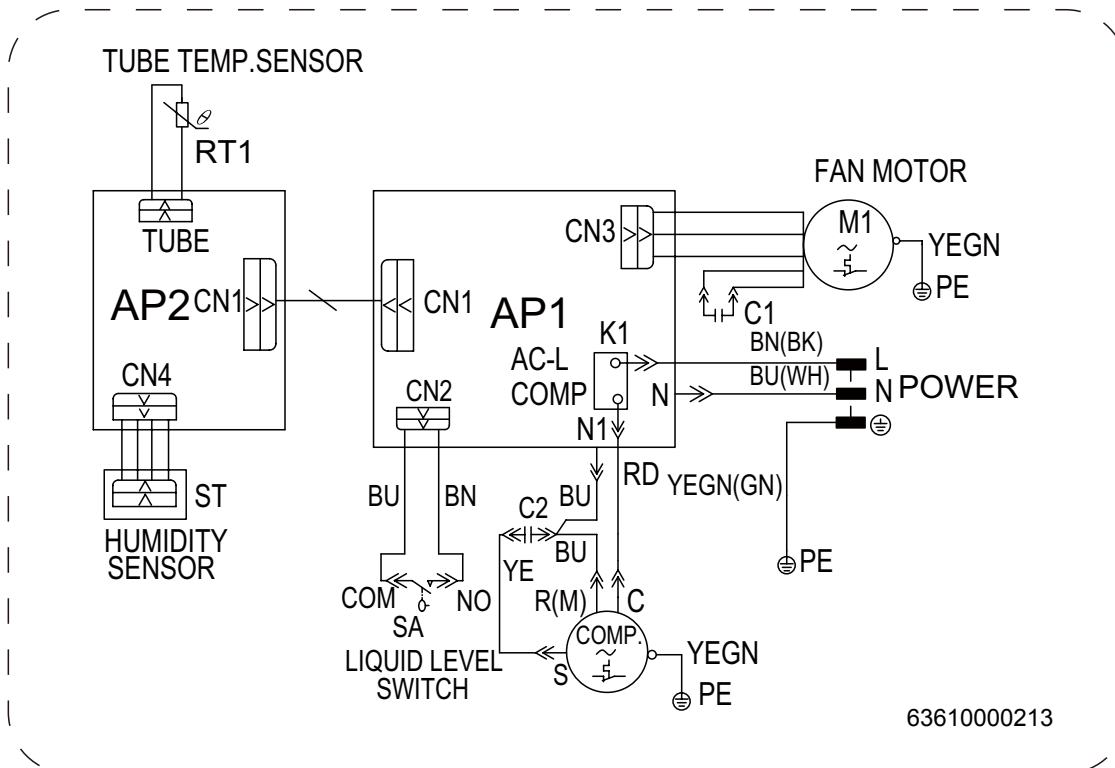
During operation of the system, air will pass through evaporator and condenser in turn and then be discharged due to centrifugal blade. When the air is passing through evaporator, refrigerant will absorb the heat in air to let its temperature decrease to the temperature point of dew, water vapor in air will condensate. Condensate water comes into water tank through water tray, or is discharged directly through drainage hose. The saturated low-temperature air passed through the evaporator will absorb the heat when flowing along the condenser, and then become the dry air. Under normal condition, the nearby air will become warm during operation of dehumidifier.

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	/	/

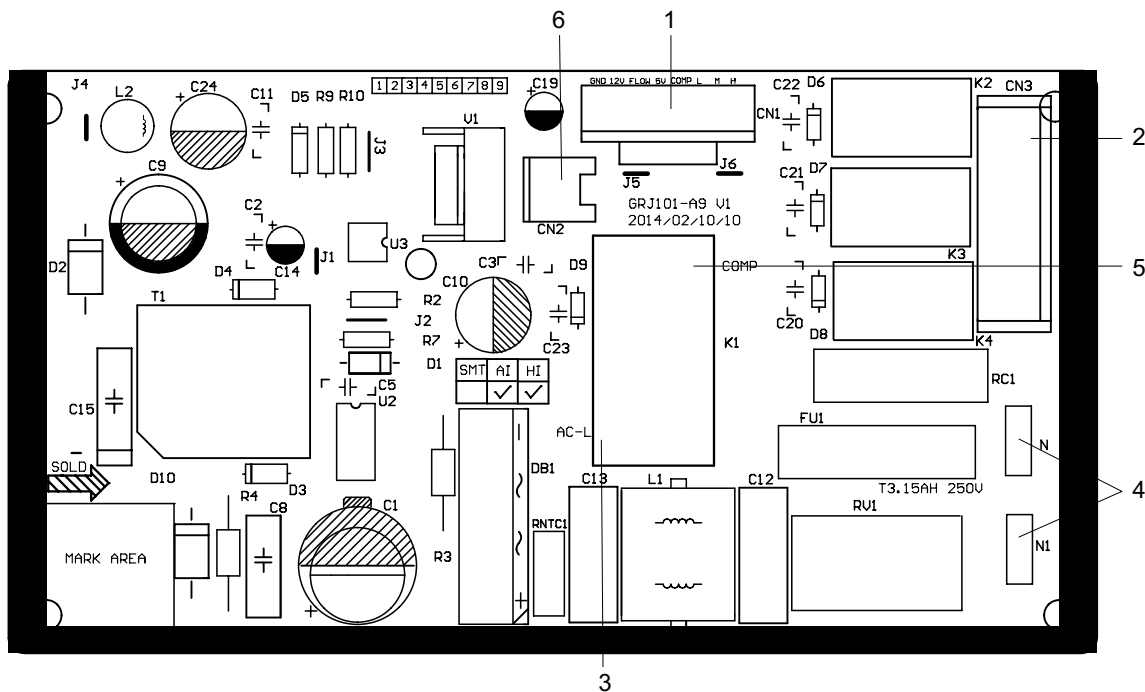


These circuit diagrams are subject to change without notice ,please refer to the one supplied with the unit.

5.2 PCB Printed Diagram

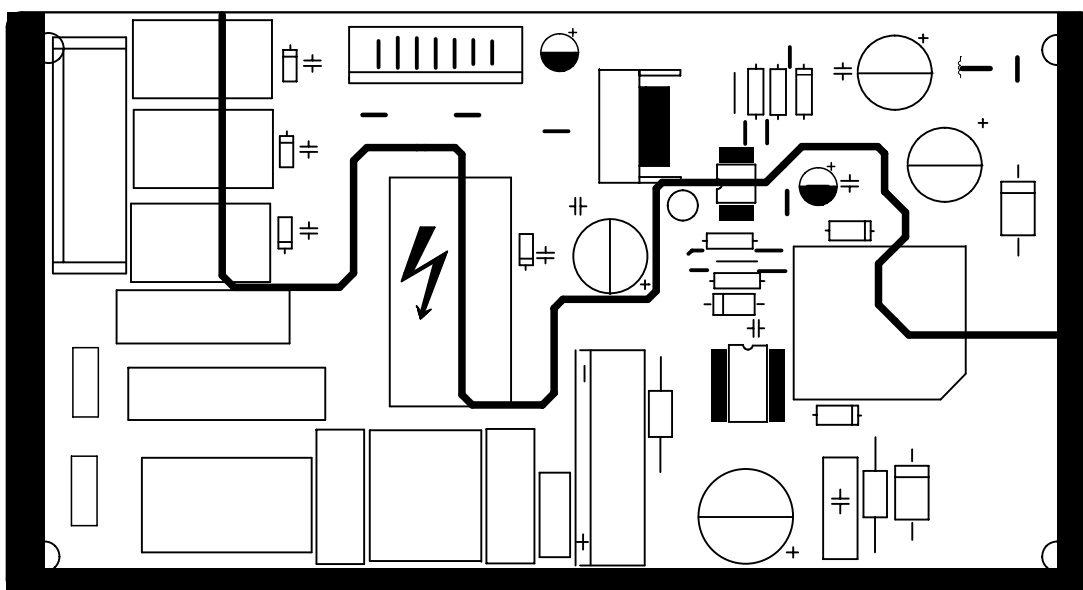
Silk Screen on Main Board

• Top view



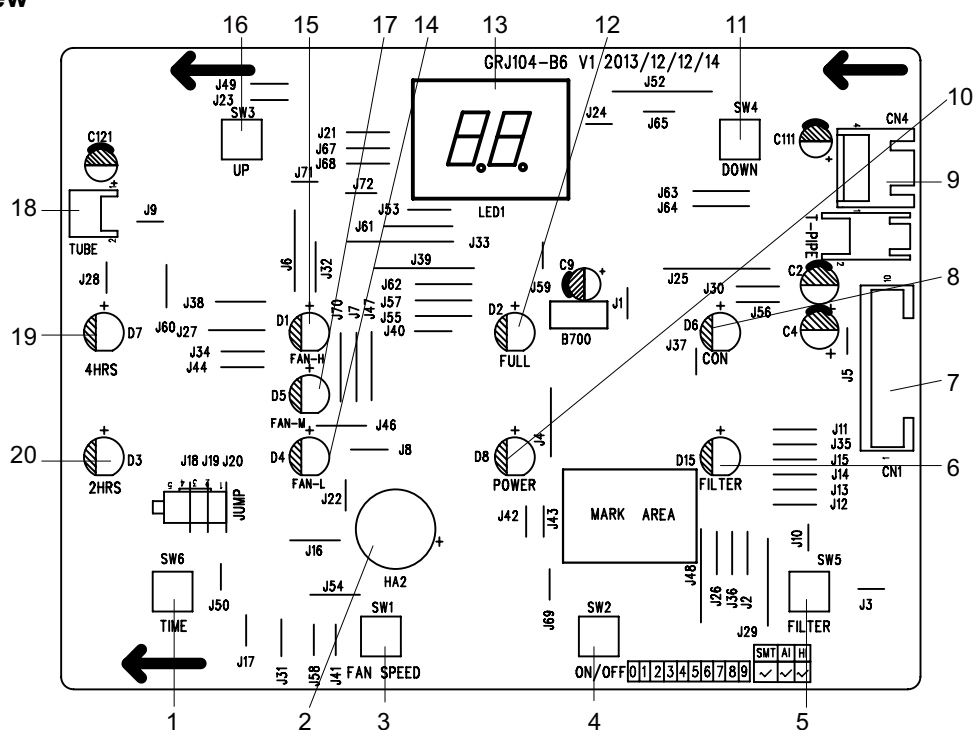
No.	Name	Description	No.	Name	Description
1	Needle stand of board connection wire	Connect to display board	4	Interface of neutral wire	Connect to neutral wire of commercial wire
2	Needle stand of fan	Connect to fan	5	Interface of compressor	Connect to compressor
3	Interface of live wire	Connect to live wire of commercial wire	6	Needle stand of water blow protection switch	Connect to water blow protection switch

• Bottom view



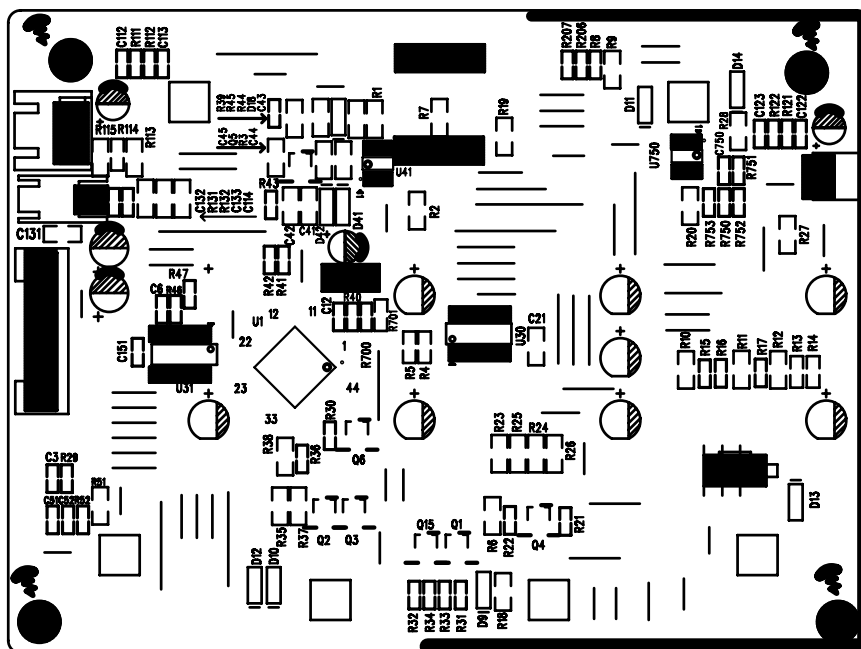
Silk Screen on Display Board

• Top view



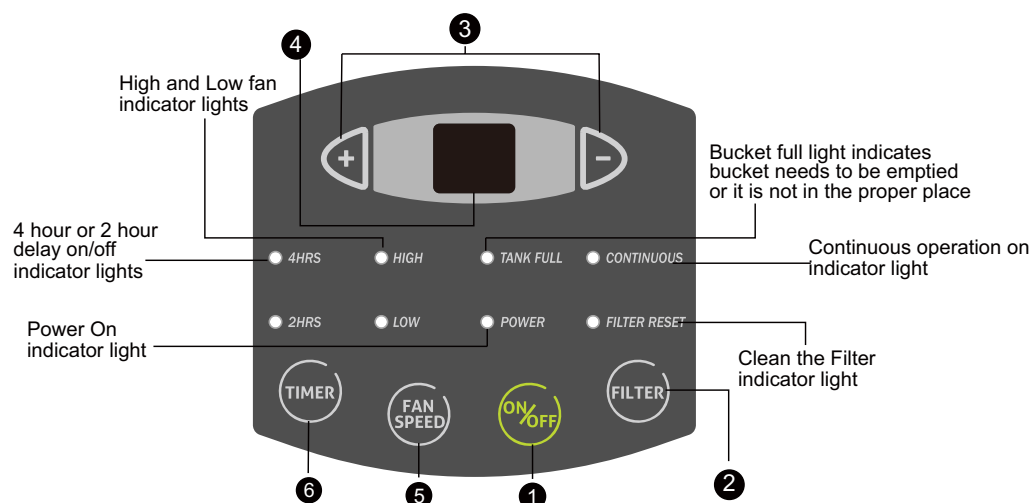
1 Timer button	8 Indicator of dehumidifying continuously	15 Indicator of high fan speed
2 Buzzer	9 Connection between humidity sensor (needle stand)	16 Button for setting humidity (+)
3 Fan speed button	10 Power indicator	17 Indicator of mid fan speed
4 ON/OFF button	11 Button for setting humidity (-)	18 Needle stand for tube temperature sensor
5 Reset button for filter	12 Indicator for bucket full protection	19 4H timer indicator
6 Alarming indicator for cleaning filter	13 Dual-8 nixie tube	20 2H timer indicator
7 Wire connection	14 Indicator for low fan speed	

• Bottom view



6.Function and Control

6.1 Control Panel Instruction



1.ON/OFF Pad

Press to turn the dehumidifier on or off.

2.FILTER Pad

After 250 hours of operation, the Clean the Filter indicator light will glow to remind you to clean the filter. Remove the filter and clean it. Press to turn off the Clean the Filter light. See the Care and Cleaning section.

3.Humidity Set Control Pads

The humidity level can be set within a range of 80% RH (Relative Humidity) to 35% RH (Relative Humidity) in 5% reduce or at CO for continuous operation.

NOTE: If CO (Continuous) is selected, the dehumidifier will operate continuously at its maximum dehumidification settings if attached to a hose to drain or until the bucket is full.

For drier air, press the - pad and set to a lower percent value (%).

For damper air, press the + pad and set to a higher percent value (%).

When you first use the dehumidifier, set the humidity control to 45% or 50%. Allow at least 24 hours for the dehumidifier to achieve the humidity level. If you still have damper air than desired, set the humidity level to a lower setting or select Continuous for maximum dehumidification.

This unit has 3-min lag due to the device for protecting circuit. In order to prolong the compressor's working life, the compressor will not start until the unit has run for 3 minutes.

4.Display

Shows the set % humidity level while setting, then shows the actual (+/- 5% accuracy) room % humidity level.

5.FAN SPEED Pad

Controls the fan speed. Press to select High or Mid or Low fan speed.

Set the fan control to High for maximum moisture removal. When the humidity has been reduced and quiet operation is preferred, set the fan control to Mid or Low.

6.TIMER Pad

If unit is turned on and running in timer mode for 2hr or 4hr, can turn off the unit. When unit stand by and running in timer mode for 2hr or 4hr can turn on the unit.

Other Features

BUCKET FULL Light

Glow when the bucket is ready to be emptied, or when the bucket is removed or not replaced in the proper position.

Alarm

If the bucket is full or missing for more than three minutes, an alarm will sound for about 10 seconds to remind you to empty and replace the bucket.

Auto Shut Off

The Water Level Control Switch shuts off the dehumidifier when the bucket is full, or when the bucket is removed or not replaced in the proper position.

Auto Defrost

When frost builds up on the evaporator coils, the compressor will cycle off and the fan will continue to run until the frost disappears.

Power Outage

In the case of a power outage or interruption, the unit will automatically re-start, in the settings last used, after the power is restored.

6.2 Introduction of Basic Mode Function

1. Basic functions of system

(1) Drying mode

① Dry conditions and process: under operation status

- When set humidity $\leq$ ambient humidity - 5%, compressor and fan will operate.
- When set humidity $\geq$ ambient humidity + 5%, compressor stop operation and fan will stop operation after 3min.
- When ambient humidity - 5% $<$ set humidity $<$ ambient humidity + 5%, if compressor is operating, and it will operation with condition a; if compressor stops operation, it will operate with condition b.

② Humidity Range

- 5% is the first notch. It can be adjusted continuously from CO, 35%-80% (CO stands for dehumidify continuously).
- Adjust set humidity by "+" and "-" buttons.

2. Protection Function

(1) Compressor Protection

After energization, under any situation and after compressor stops, it will restart 3min delay at least.

Under operation state except there's malfunction of temperature sensor, when turn off unit by on/off button, water-blow protection, or after compress is starts up, the compressor will stop operation after it operates for 3min at least.

(2) Detection for temperature sensor malfunction

When there's malfunction for temperature sensor, compressor and fan stop operation. LED indicator is OFF and buttons are invalid. Nixie tube displays F2. After the temperature is resumed normally, restart the unit.

(3) Bucket full protection (off switch)

Under operation status, if there's bucket full protection or the water tank hasn't been installed well, compressor stop operation and the fan also stop operation after the fan operates continuously for 3min. If water blow protection occurred for 3min, the buzzer will stop after it gives out a beep for 10s. Indicator of bucket full blinks and all the buttons are invalid except on/off button. When the water level or assembly of water tank resume to normal, signal of bucket full protection will cancelled. Indicator is off, buzzer stops to give out a beep and the fan resumes to normal operation state. Compressor resumes to operation normally after 3mins. When the unit is off, bucket full protection is occurred, water blow indicator blinks, compressor and fan stop operation, and all the buttons are invalid except on/off button.

(4) Freeze protection

If freeze protection is detected during operation, compressor stops operation, fan operates at compulsory high speed and the fan speed buttons are invalid. When freeze protection is completed, fan speed button are valid, fan operates at set status and the compressor can be restarted up after stopping for 3 minutes.

3. Other Functions

(1) Buttons on front panel

Timer button: use for timer setting

Fan speed button: adjust fan speed

+/- button : adjust humidity

Filter button: adjust filter function

Power button: turn on or turn off unit

(2) LED indicator

2H timer indicator: the indicator is on after setting 2H timer;

4H timer indicator: the indicator is on after setting 4H timer;

High fan speed indicator: the indicator is on after the fan is set at high fan speed;

Low fan speed indicator: the indicator is on after the fan is set at low fan speed;

CONTINUOUS indicator: After continue humidifying is set, continue humidifying indicator is on;

FILTER RESET indicator: the indicator is on when the operation time of fan reaches to 250h totally. After filter is cleaned, press

FILTER button and then this indicator is off.

BUCKET FULL indicator: the indicator blinks if bucket full protection is occurred or the water tank hasn't been installed well.

(3) Timer OFF control

2h or 4h timer OFF can be set. Timer off can be set under on status. Timer setting is recorded every 30min by memory function.

(4) Display of nixie tube (green)

Under on status, the nixie tube displays current humidity. Press "+" button or "-" button to display set humidity. After humidity is set for 5s, it resumes to display current ambient humidity. If "CO" is set, the nixie tube displays "CO";

When there's malfunction of temperature sensor, nixie tube displays "F2" and LED is OFF.

(5) Filter alarming function

a. After the fan operates for 250s totally, the filter indicator is on for reminding customer to clean filter. User presses "filter" button to clear time and then filter indicator is OFF.

b. Under off status, the filter indicator is off; the filter clean time is recorded every 30mins.

(6) Buzzer

When the controller is energized or receives any command or signal from the buttons or the remote controller, the buzzer will give out a beep.

(7) Power-off memory function

System can memorize the operation status before power failure. The unit can operate at that status automatically when power recovery.

(8) Ex-factory default setting

Ex-factory default setting: fan speed: high speed

humidity: continue humidifying (CO).

7.Notes Maintenance

Please read the safety precautions carefully before 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.

- 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.

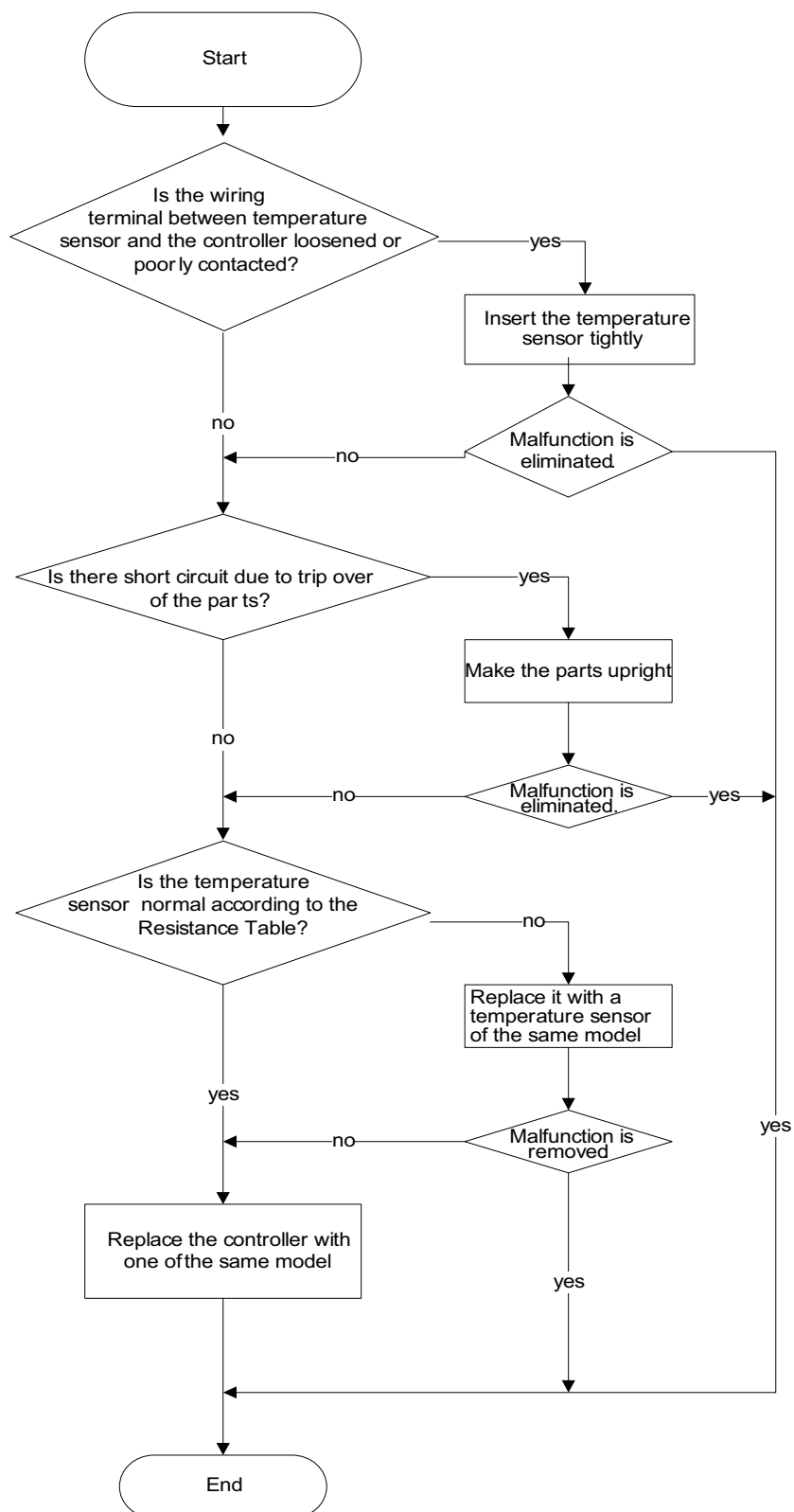
8.Maintenance

8.1 Error Code

No.	Malfunction Name	Nixie tube display	Unit status	Possible Causes
1	Malfunction of ambient temp. sensor	F1	The compressor, fan and water pump stop; buttons are invalid	1. The wiring terminal between ambient temperature sensor and main board is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3. Ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor); 4. Main board is broken.
2	Malfunction of tube temp. sensor	F2		1. The wiring terminal between evaporator temperature sensor and main board is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor); 4. Main board is broken.

8.2 Malfunction Detection Flowchart

Malfunction of temperature sensor F1, F2



8.3 Maintenance Method for Common Malfunction

1.The Unit Can't Start Up

Possible causes	Discriminating method (dehumidifier status)	Troubleshooting
No power supply, or poor connection for power plug	After energization, operation indicator isn't bright and the buzzer can't give out sound	Confirm whether it's due to power failure. If yes, wait for power recovery. If not, check power supply circuit and make sure the power plug is connected well.
Poor connection between wiring terminals	Power indicator is not on after the unit is energized	Check the circuit according to wiring diagram and connect wire properly; ensure each wiring terminal contact firmly
There is electric leakage in the unit	Circuit breaker jump off immediately after the unit is energized	Make sure the unit is properly grounded; Make sure the wiring is correct; Check if the insulating layer of wires inside the unit and power cord is in good condition; if the layer is broken, please replace it.
Placing position of water tank is not correct. Water is removed or the water is full.	Wall-full indicator flashes.	Make sure the water tank is placed correctly.

2. Poor Dehumidifying Effect

Possible causes	Discriminating method (dehumidifier status)	Troubleshooting
Set humidity is irrational	Observe the displayed set humidity	Adjust set humidity
Filter is blocked	Check the filter to see it's blocked	Clean the filter
Placing position of water tank is improper.	Check whether there're obstacles around the dehumidifier blocked the air outlet.	Make sure there're no obstacles around the dehumidifiers.
Refrigerant is leaking	Air outlet temperature is lower than normal temperature during dehumidifying period.	Find out the cause of leakage and solve the problem; charge refrigerant
Malfunction of capillary	Air outlet temperature is lower than normal temperature during dehumidifying period. If the refrigerant isn't leaking, some parts of capillary is blocked.	Replace capillary
Malfunction of fan	Fan can't operate.	Refer to point 3 of maintenance method for details
Malfunction of compressor	Compressor can't operate	Refer to point 4 of maintenance method for details

3.Fan Can't Operate

Possible causes	Discriminating method (dehumidifier 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
Needle stand of connection wire between mainboard and display board is loosened	Check if the needle stand is loosened	Reinsert the needle stand firmly
Fan capacitor is broken	Test the voltage between two ends of fan capacitor with universal meter and the value is 0	Replace fan capacitor
Power supply voltage is too low or too high	Test the power supply voltage with universal meter and the value is too high or too low	Apply voltage regulator
Fan is broken	The above situation is normal but the fan does not operate	Repair or replace the fan

4. Compressor Can't Operate

Possible causes	Discriminating method (dehumidifier 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
Compressor relay on the mainboard is broken or the compressor needle stand is loosened	Check if the relay is sucked in cooling mode	Replace the mainboard with the same model
Capacity of compressor is damaged	After tuning on the unit, the unit can't dehumidify. Use universal meter to measure the resistance value of two contact points of capacitor. If the resistance value is too big or 0, the capacitor is damaged.	Replace the compressor
Power voltage is a little low or high	After turning on the unit, dehumidifying effect is poor or compressor is turned on or off frequently. Use universal meter to measure the power supply voltage directly	The fluctuation of voltage is 10% rated power. If the power is too low or too high, you are suggested to equip wit voltage regulator.
Coil of compressor is burnt out	There is no dehumidifying effect after turning on the unit; test the resistance of the wiring poles of compressor with universal meter; if the resistance is infinite or zero, it means it is broken	Repair or replace compressor
Cylinder of compressor is blocked	The dehumidifying effect is poor after turning on the unit; the noise of compressor is big and the compressor is hot	Repair or replace compressor

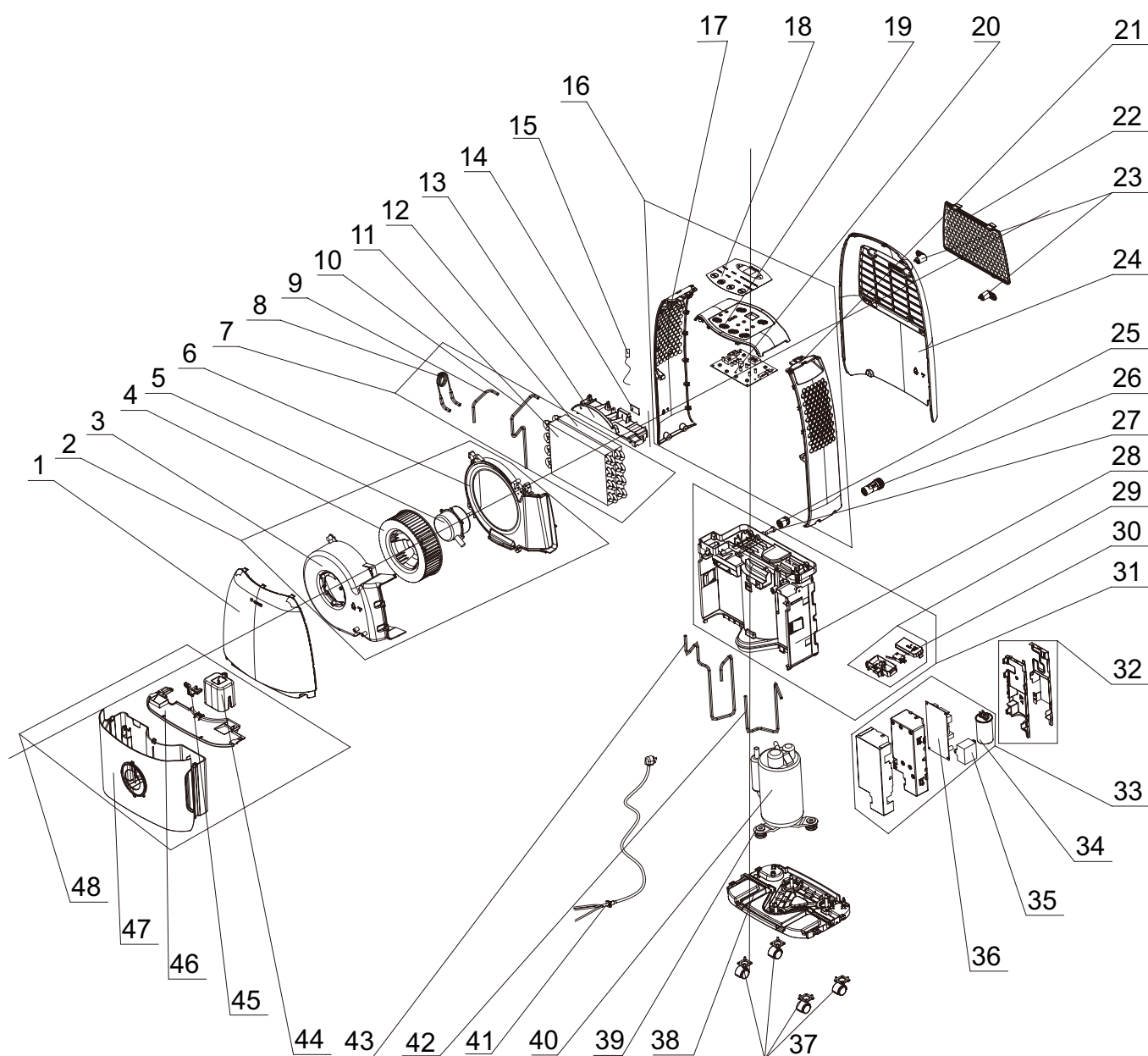
5. Water Leakage

Possible causes	Discriminating method (dehumidifier status)	Troubleshooting
Drainage pipe hasn't been installed correctly.	Water is coming out from indoors.	Eliminate the blocking objects inside the drainage channel.

6. Abnormal Sounds and Vibration

Possible causes	Discriminating method (dehumidifier status)	Troubleshooting
There is abnormal sound in some parts when just turning on or turning off the unit	There's the sound of "PAPA"	Normal phenomenon. Abnormal sound will disappear after a few minutes.
There is abnormal sound of refrigerant flowing when just turning on or turning off the unit	Water-running sound can be heard	Normal phenomenon. Abnormal sound will disappear after a few minutes.
There is touching sound of foreign objects or parts inside the unit	The unit gives out abnormal sound	Take out the foreign objects; adjust the position of each part inside the unit; tighten the connection screws; apply some damping gum on the touching 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.

9.Exploded View and Parts List



No.	Description	Part Code		Qty
		GDN12AJ-K4EBC1A		
	Product code	CK051012901	CK051012902	
1	Front Panel	20006221	20006221	1
2	Centrifugal Fan sub-assy	00001100035	00001100035	1
3	Propeller Housing	22206232	22206232	1
4	Centrifugal Fan	10316065	10316065	1
5	Fan Motor	1501651506	1501651506	1
6	Diversion Circle	10376045	10376045	1
7	Heat-exchange Equipment	01100400036	01100400036	1
8	Capillary Sub-assy	03000600363	03000600363	1
9	Connecting Pipe(Evaporator)	05016155	05016155	1
10	Connecting Pipe(Condenser)	05016154	05016154	1
11	Condenser Sub-Assy	01136220	01136220	1
12	Evaporator Sub-Assy	01036095	01036095	1
13	Cover Plate	20126125	20126125	1
14	Humidity Sensor	32210113	32210113	1
15	Tube Sensor	390000594	390000594	1
16	Top Cover Assy	00009700005	00009700011	1
17	Left Side Plate	20056132	2005613203	1
18	Membrane	63066057	63066527	1
19	Coping	22246096	2224609603	1
20	Display Board	30561058	30561058	1
21	Right Side Plate	20056133	2005613303	1
22	Filter Sub-Assy	11126106	11126106	1
23	Wire catch	71016006	71016006	2
24	Rear Case	22206210	22206210	1
25	Cover of drainage hole	22246097	22246097	1
26	Adaptor sub-assy	26116155	26116155	1
27	Rubber Plug(Water Tray)	76716054	76716054	1
28	Water Tray	20186143	20186143	1
29	Liquid Level Switch Sub-assy	00019400004	00019400004	1
30	Inching Switch	45016514	45016514	1
31	Water Tray Assy	00006900061	00006900061	1
32	Electric Box Cover Sub-Assy	20126131	20126131	1
33	Electric Box Assy	10000201923	10000201923	1
34	Capacitor CBB65	3300002237	3300002237	1
35	Capacitor CBB61S	3301074701	3301074701	1
36	Main Board	30131458	30131458	1
37	Castor	24236019	24236019	4
38	Chassis Sub-assy	2222607701	2222607701	1
39	Compressor Gasket	76716100	76716100	3
40	Compressor and Fittings	00106107	00106107	1
41	Power Cord	4002039116	4002028617	1
42	Discharge Tube Sub-assy	03001300247	03001300247	1
43	Inhalation Tube Sub-assy	03001000248	03001000248	1
44	Buoy	2611613101	2611613101	1
45	Press Plate	2611613001	2611613001	1
46	Water Tank Cover	22246098	22246098	1
47	Water Tank Sub-Assy	20186149	20186149	1
48	Water Tank Assy	20186540	20186540	1

Above data is subject to change without notice.

No.	Description	Part Code	Qty
		GDN12AJ-K4EBC1B	
		Product code	
		CK051019102	
1	Front Panel	20006221	1
2	Centrifugal Fan sub-assy	00001100035	1
3	Propeller Housing	22206232	1
4	Centrifugal Fan	10316065	1
5	Fan Motor	1501651506	1
6	Diversion Circle	10376045	1
7	Heat-exchange Equipment	01100400036	1
8	Capillary Sub-assy	03000600363	1
9	Connecting Pipe(Evaporator)	05016155	1
10	Connecting Pipe(Condenser)	05016154	1
11	Condenser Sub-Assy	01136220	1
12	Evaporator Sub-Assy	01036095	1
13	Cover Plate	20126125	1
14	Humidity Sensor	32210113	1
15	Tube Sensor	390000594	1
16	Top Cover Assy	00009700005	1
17	Left Side Plate	20056132	1
18	Membrane	63066057	1
19	Coping	22246096	1
20	Display Board	30561058	1
21	Right Side Plate	20056133	1
22	Filter Sub-Assy	11126106	1
23	Wire catch	71016006	2
24	Rear Case	22206210	1
25	Cover of drainage hole	22246097	1
26	Adaptor sub-assy	26116155	1
27	Rubber Plug(Water Tray)	76716054	1
28	Water Tray	20186143	1
29	Liquid Level Switch Sub-assy	00019400004	1
30	Inching Switch	45016514	1
31	Water Tray Assy	00006900061	1
32	Electric Box Cover Sub-Assy	20126131	1
33	Electric Box Assy	10000201923	1
34	Capacitor CBB65	3300002237	1
35	Capacitor CBB61S	3301074701	1
36	Main Board	30131458	1
37	Castor	24236019	4
38	Chassis Sub-assy	2222607701	1
39	Compressor Gasket	76716100	3
40	Compressor and Fittings	00106107	1
41	Power Cord	4002039116	1
42	Discharge Tube Sub-assy	03001300247	1
43	Inhalation Tube Sub-assy	03001000248	1
44	Buoy	2611613101	1
45	Press Plate	2611613001	1
46	Water Tank Cover	22246098	1
47	Water Tank Sub-Assy	2018614902S	1
48	Water Tank Assy	20186545	1

Above data is subject to change without notice.

No.	Description	Part Code		Qty
		GDN16AJ-K4EBC1A		
		Product code		
		CK051013001	CK051013003	
1	Front Panel	20006221	20006221	1
2	Centrifugal Fan sub-assy	00001100035	00001100035	1
3	Propeller Housing	22206232	22206232	1
4	Centrifugal Fan	10316065	10316065	1
5	Fan Motor	1501651506	1501651506	1
6	Diversion Circle	10376045	10376045	1
7	Heat-exchange Equipment	01100400037	01100400037	1
8	Capillary Sub-assy	03000600364	03000600364	1
9	Connecting Pipe(Evaporator)	05016155	05016155	1
10	Connecting Pipe(Condenser)	05016513	05016513	1
11	Condenser Sub-Assy	01136224	01136224	1
12	Evaporator Sub-Assy	01036094	01036094	1
13	Cover Plate	20126125	20126125	1
14	Humidity Sensor	32210113	32210113	1
15	Tube Sensor	390000594	390000594	1
16	Top Cover Assy	00009700005	00009700008	1
17	Left Side Plate	20056132	2005613204	1
18	Membrane	63066057	63066524	1
19	Coping	22246096	2224609604	1
20	Display Board	30561058	30561058	1
21	Right Side Plate	20056133	2005613304	1
22	Filter Sub-Assy	11126106	11126106	1
23	Wire catch	71016006	71016006	2
24	Rear Case	22206210	22206210	1
25	Cover of drainage hole	22246097	22246097	1
26	Adaptor sub-assy	26116155	26116155	1
27	Rubber Plug(Water Tray)	76716054	76716054	1
28	Water Tray	20186143	20186143	1
29	Liquid Level Switch Sub-assy	00019400004	00019400004	1
30	Inching Switch	45016514	45016514	1
31	Water Tray Assy	00006900061	00006900061	1
32	Electric Box Cover Sub-Assy	20126131	20126131	1
33	Electric Box Assy	10000201923	10000201923	1
34	Capacitor CBB65	3300002242	3300002242	1
35	Capacitor CBB61S	3301074701	3301074701	1
36	Main Board	30131458	30131458	1
37	Castor	24236019	24236019	4
38	Chassis Sub-assy	2222607603	2222607603	1
39	Compressor Gasket	76716097	76716097	3
40	Compressor and Fittings	00106538	00106538	1
41	Power Cord	4002039116	4002039116	1
42	Discharge Tube Sub-assy	03001300271	03001300271	1
43	Inhalation Tube Sub-assy	03001000280	03001000280	1
44	Buoy	2611613101	2611613101	1
45	Press Plate	2611613001	2611613001	1
46	Water Tank Cover	22246098	22246098	1
47	Water Tank Sub-Assy	20186149	2018614903	1
48	Water Tank Assy	20186540	00009500007	1

Above data is subject to change without notice.

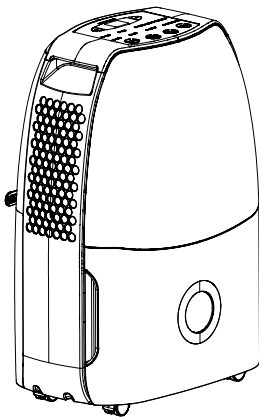
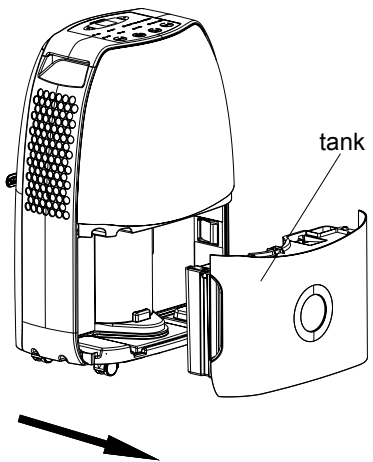
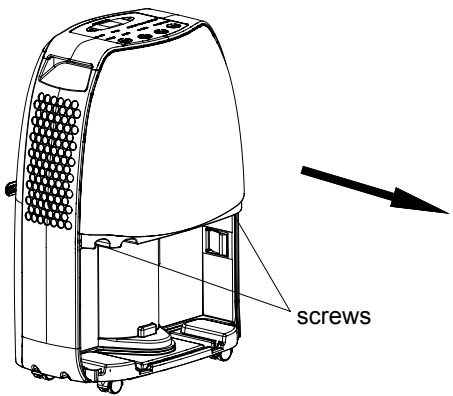
10. Removal Procedure

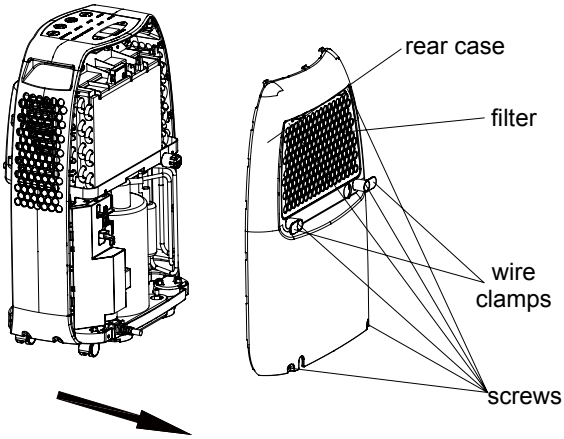
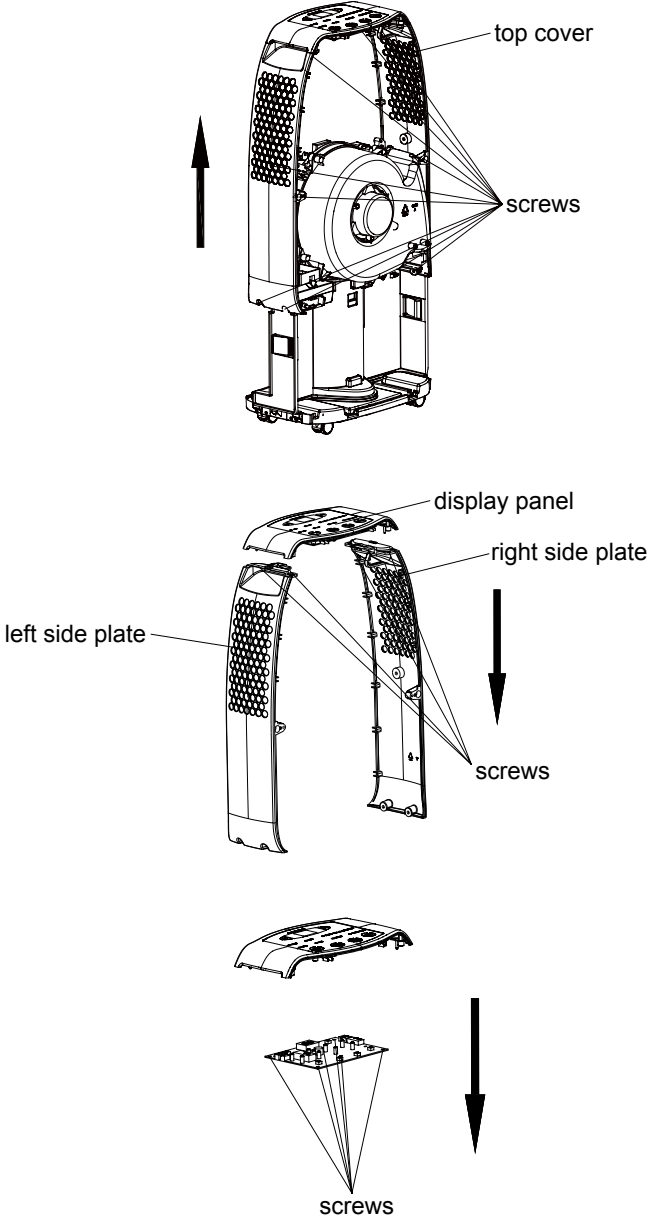


Warning: disconnect power supply before removal; discharge the refrigerant completely before unsoldering the pipes.

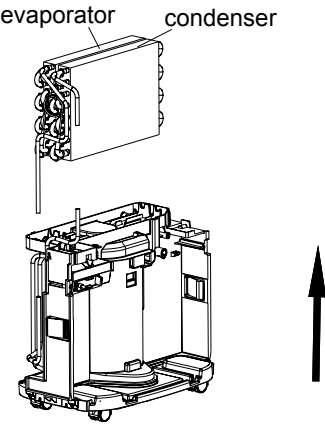
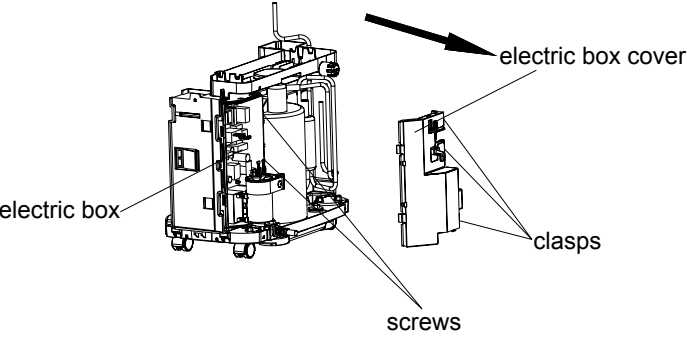
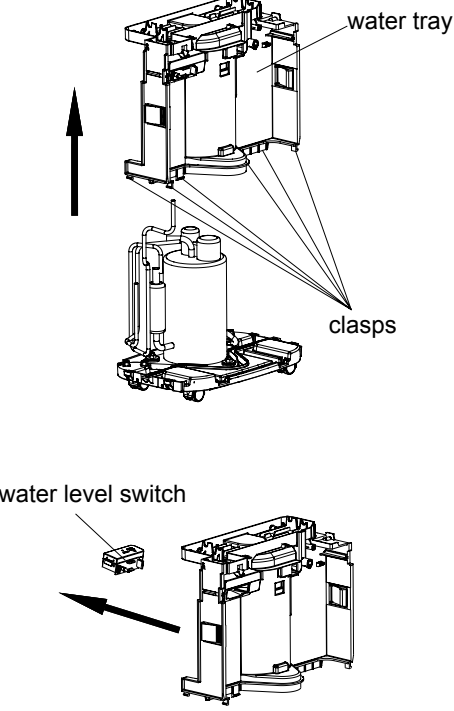
GDN12AJ-K4EBC1A GDN16AJ-K4EBC1A GDN12AJ-K4EBC1B

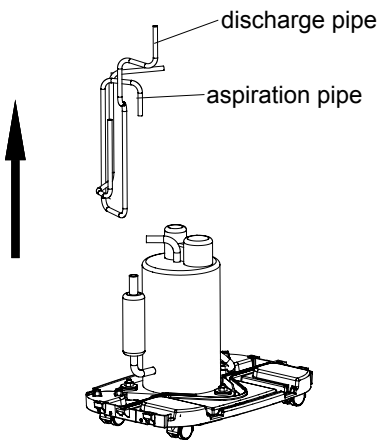
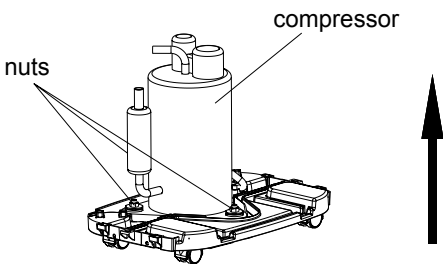
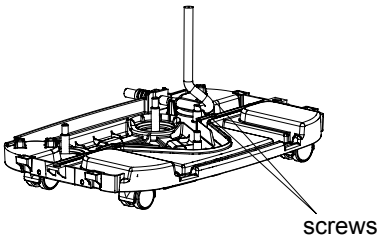
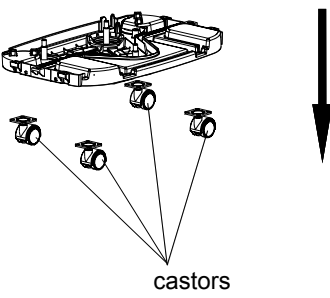
Take GDN12AJ-K4EBC1A GDN16AJ-K4EBC1A for example.

Steps		Procedure
1	Before disassembly	
2	Remove tank Draw the tank outwards to remove the tank.	
3	Remove front panel Remove 2 screws showing in the picture and hold the bottom to draw it. The front panel can be removed.	

Steps	Procedure	
4	Remove rear case Loosen 2 clasps on the filter and then remove the filter. Remove 6 connection screws fixing rear case. Remove 2 wire clamps and then remove rear case.	
5	Remove top cover Remove connection screws fixing top cover (6 screws on the side, 5 screws on the front face). Lift the top cover to remove it. a. Remove side plates Remove connection screws fixing side plates (2 screws on each side). Then remove the right and left side plates. b. Remove display panel Remove 6 connection screws fixing display panel. Then remove display panel.	

Steps	Procedure
6	Remove air duct Remove 2 connection screws between air duct and water tray. Lift the air duct up to remove it. a. Remove cover plate (air duct) Remove 2 connection screws and then remove the cover plate. b. Remove flow guide loop Remove 4 connections screws and then remove the flow guide loop. c. Remove centrifugal fan blade Remove nut fixing centrifugal fan blade. Then remove the fan blade.(as shown in fig3). d. Remove motor Remove 3 connection screws and then remove motor (as shown in fig 4). fig.1 fig.2 fig.3 fig.4

Steps	Procedure	
7	Remove condenser and evaporator Unsolder pipe connecting to aspiration/ discharge pipe. Then remove condenser and evaporator. (Note: before unsoldering, discharge refrigerant completely.	
8	Remove electric box cover and electric box Loosen 5 clasps between electric box cover and electric box. Then remove electric box cover. Then remove 2 connection screws showing in fig 2 and remove electric box subsequently.	
9	Remove water tray and water level switch Remove 6 clasps between chassis and water tray and then remove water tray. Loosen clasps between water level switch and water tray. Then remove water level switch.	

Steps	Procedure	
10	Remove aspiration and discharge pipes Unsolder pipe connecting to compressor. Then remove aspiration and discharge pipes.	 discharge pipe aspiration pipe
11	Remove compressor Remove 3 hold-down nuts of compressor and then remove compressor.	 nuts compressor
12	Remove power cord Remove 2 screws showing in the picture and then remove wire clamp. Then remove power cord.	 screws
13	Remove castors Remove 8 connection screws of 4 castors. Then remove the castors.	 castors

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 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

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 Discharge 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 characteristic 5℃～14℃

Unit:KΩ

Relative humidity %RH	Temperature (℃)									
	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℃ ~24℃

Unit:KΩ

Relative humidity	Temperature (℃)									
%RH	15℃	16℃	17℃	18℃	19℃	20℃	21℃	22℃	23℃	24℃
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

56	50.20	46.55	43.12	39.89	36.83	33.93	31.76	29.69	27.71	25.82
55	56.00	51.92	48.08	44.47	41.05	37.80	35.35	33.02	30.79	28.65
54	62.80	58.20	53.88	49.80	45.95	42.29	39.51	36.87	34.34	31.92
53	70.00	64.95	60.21	55.74	51.51	47.50	44.33	41.31	38.42	35.65
52	78.80	73.12	67.79	62.76	58.00	53.49	49.86	46.40	43.10	39.94
51	88.00	81.79	75.97	70.47	65.27	60.34	56.11	52.08	48.23	44.54
50	99.10	92.12	85.57	79.39	73.55	68.00	63.15	58.52	54.10	49.86
49	111.00	103.28	96.04	89.20	82.74	76.61	70.94	65.54	60.38	55.44
48	126.20	117.27	108.88	100.97	93.48	86.38	79.89	73.71	67.79	62.13
47	142.60	132.48	122.97	114.00	105.52	97.48	90.16	83.18	76.51	70.12
46	162.00	150.38	139.46	129.16	119.43	110.19	101.62	93.45	85.64	78.17
45	185.00	171.49	158.81	146.85	135.53	124.80	115.00	105.66	96.74	88.20
44	212.00	196.23	181.41	167.45	154.23	141.70	130.18	119.19	108.69	98.64
43	243.00	224.65	207.41	191.15	175.78	161.19	148.03	135.48	123.49	112.01
42	280.00	258.38	238.08	218.93	200.82	183.64	168.64	154.32	140.65	127.56
41	324.00	298.37	274.29	251.59	230.12	209.75	192.53	176.11	160.43	145.41
40	375.30	344.95	316.43	289.55	264.12	240.00	220.30	201.52	183.57	166.39
39	431.00	395.97	363.07	332.05	302.71	274.87	251.94	230.08	209.19	189.19
38	500.00	458.51	419.54	382.80	348.04	315.07	289.04	264.21	240.49	217.78
37	580.00	531.11	485.18	441.88	400.92	362.06	332.09	303.52	276.21	250.07
36	676.00	618.14	563.79	512.55	464.08	418.09	383.52	350.57	319.07	288.92
35	790.00	721.80	657.74	597.34	540.20	486.00	445.77	407.41	370.75	335.66
34	930.00	848.96	772.84	701.08	633.19	568.78	521.38	476.19	433.01	391.66
33	1110.00	1011.10	918.19	830.60	747.75	669.14	613.58	560.59	509.97	461.49
32	1320.00	1201.45	1090.09	985.09	885.78	791.56	725.62	662.75	602.68	545.17
31	1590.00	1444.80	1308.40	1179.80	1058.15	942.75	863.43	787.81	715.55	646.36
30	1906.00	1731.91	1568.38	1414.20	1268.36	1130.00	1034.60	943.64	856.73	773.51
29	2300.00	2089.81	1892.37	1706.22	1530.13	1363.08	1244.55	1131.54	1023.56	920.17
28	2810.00	2550.31	2306.37	2076.38	1858.82	1652.43	1505.84	1366.07	1232.52	1104.65
27	3470.00	3144.23	2838.22	2549.70	2276.79	2017.87	1836.86	1664.27	1499.35	1341.45
26	4290.00	3885.50	3505.53	3147.28	2808.41	2486.92	2253.64	2031.21	1818.67	1615.18
25	5348.00	4843.01	4368.65	3921.40	3498.35	3097.00	2802.48	2521.66	2253.33	1996.42
24	6800.00	6152.28	5543.84	4970.19	4427.56	3912.77	3538.27	3181.20	2840.01	2513.33
23	8720.00	7888.61	7107.64	6371.32	5674.82	5014.05	4529.95	4068.38	3627.32	3205.04
22	11500.00	10371.38	9311.21	8311.65	7366.14	6469.15	5839.63	5239.39	4665.85	4116.71
21	15000.00	13512.80	12115.79	10798.65	9552.74	8370.76	7546.29	6760.17	6009.01	5289.82
20	19368.00	17441.37	15631.58	13925.26	12311.23	10780.00	9716.41	8702.31	7733.29	6805.52

HIS-06 temperature and humidity characteristic 25℃～34℃

Unit:KQ

Relative humidity	Temperature (℃)									
%RH	25℃	26℃	27℃	28℃	29℃	30℃	31℃	32℃	33℃	34℃
90	1.68	1.62	1.57	1.52	1.47	1.42	1.37	1.33	1.28	1.24
89	1.78	1.72	1.66	1.61	1.55	1.50	1.45	1.40	1.36	1.31
88	1.89	1.83	1.76	1.70	1.65	1.59	1.54	1.49	1.44	1.39
87	2.02	1.95	1.88	1.81	1.74	1.68	1.63	1.57	1.52	1.47
86	2.16	2.08	2.00	1.93	1.85	1.78	1.72	1.66	1.61	1.55
85	2.30	2.21	2.13	2.05	1.97	1.89	1.82	1.76	1.70	1.64
84	2.48	2.38	2.28	2.19	2.10	2.01	1.94	1.87	1.80	1.73
83	2.65	2.54	2.43	2.33	2.24	2.14	2.06	1.98	1.91	1.83
82	2.83	2.71	2.60	2.49	2.38	2.28	2.19	2.11	2.02	1.94
81	3.06	2.93	2.80	2.67	2.55	2.44	2.34	2.24	2.15	2.06
80	3.28	3.14	3.00	2.86	2.73	2.60	2.49	2.38	2.28	2.18
79	3.51	3.35	3.20	3.05	2.91	2.78	2.65	2.54	2.42	2.31
78	3.78	3.61	3.44	3.28	3.12	2.97	2.83	2.70	2.57	2.45
77	4.06	3.87	3.69	3.51	3.34	3.17	3.03	2.88	2.74	2.61
76	4.38	4.17	3.97	3.77	3.58	3.40	3.23	3.07	2.92	2.77
75	4.70	4.47	4.25	4.04	3.84	3.64	3.46	3.28	3.11	2.94
74	5.09	4.83	4.59	4.35	4.12	3.90	3.70	3.51	3.32	3.14

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

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

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

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GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

Add: West Jinji Rd, Qianshan, Zhuhai, Guangdong, China 519070

Tel: (+86-756) 8522218 Fax: (+86-756) 8669426

Email: gree@gree.com.cn Http://www.gree.com

HONG KONG GREE ELECTRIC APPLIANCES SALES LIMITED

Add: Unit 2612, 26/F., Miramar Tower 132 Nathan Road, TST, Kowloon, HK

Tel: (852) 31658898 Fax: (852) 31651029

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