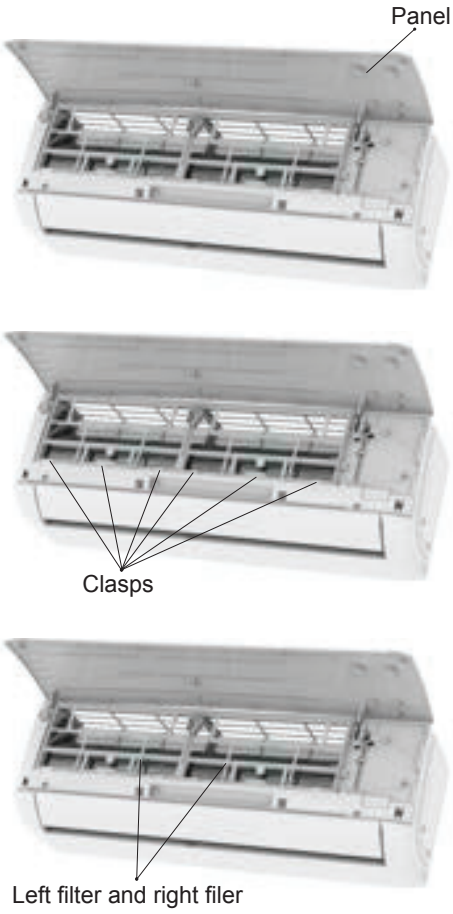
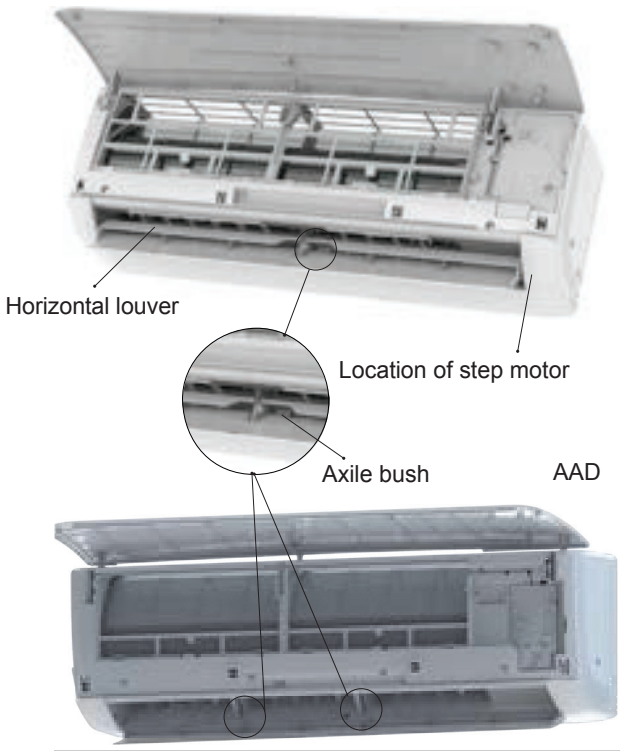
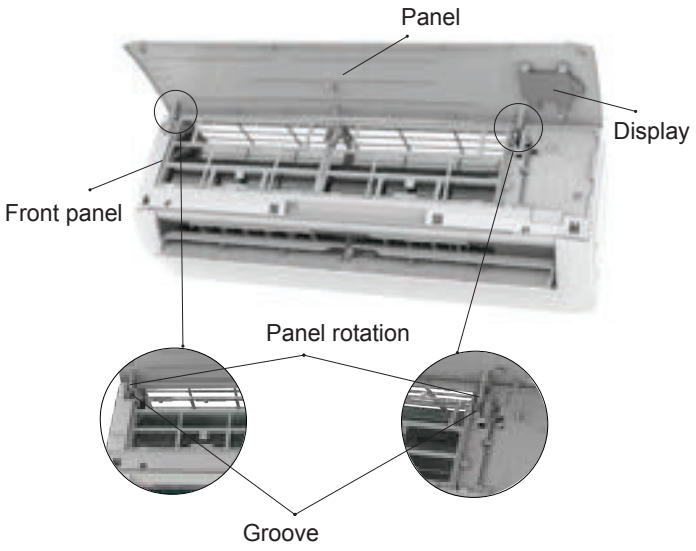
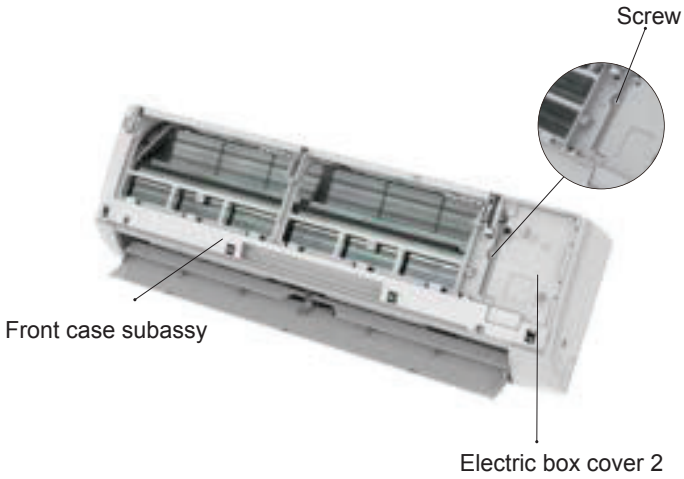
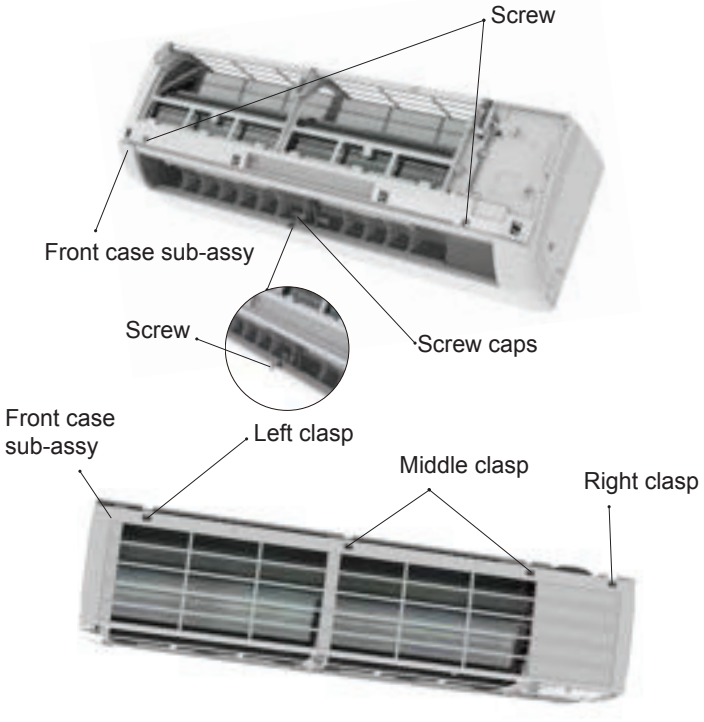
11. Removal Procedure

11.1 Removal Procedure of Indoor Unit

⚠ **Caution: discharge the refrigerant completely before removal.**

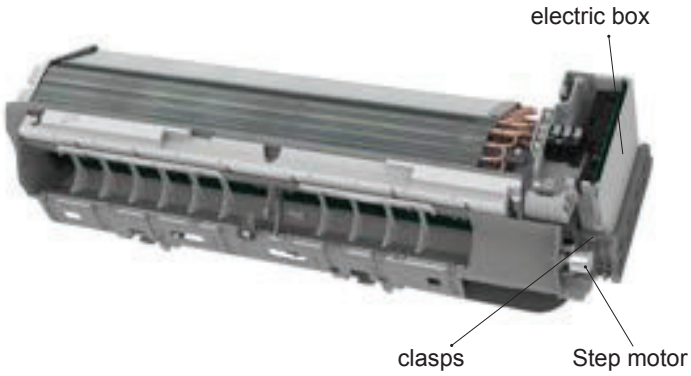
Step	Procedure
1.Remove filter	
a	Open the panel.
b	Loosen the clasp shown in the fig and then pull the left filter and right filer outwards to remove them.
2.Remove horizontal louver	
	Push out the axile bush on horizontal louver. Bend the horizontal louver with hand and then separate the horizontal louver from the crankshaft of step motor to remove it.

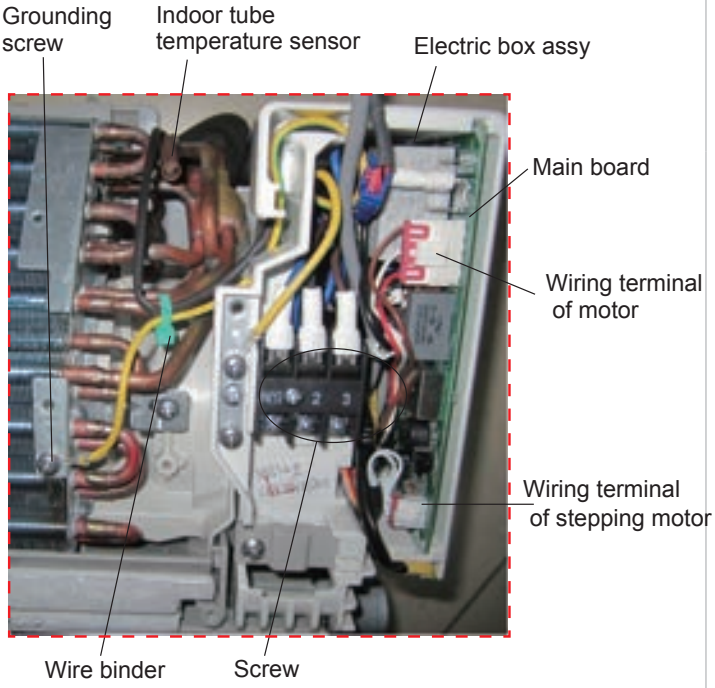
11. Removal Procedure

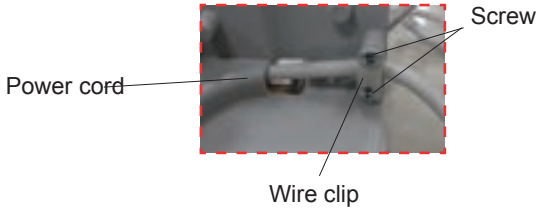
Step	Procedure
3.Remove panel	
Open the front panel; separate the panel rotation shaft from the groove fixing the front panel and then removes the front panel. Note: The display of some models is fixed on the panel; unscrew the screws fixing the display on the panel before removing the panel.	
4.Remove electric box cover 2	
Remove the screws on the electric box cover 2 to remove the electric box cover 2.	
5.Remove front case sub-assy	
Remove the screws fixing front case. Note: a (1) Open the screw caps before removing the screws around the air outlet. (2) The quantity of screws fixing the front case sub-assy is different for different models.	
b Loosen the clasps at left, middle and right sides of front case. Life the front case sub-assy upwards to remove it.	

11. Removal Procedure

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

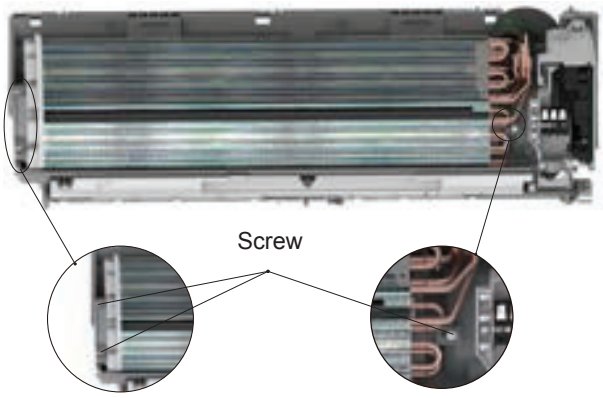


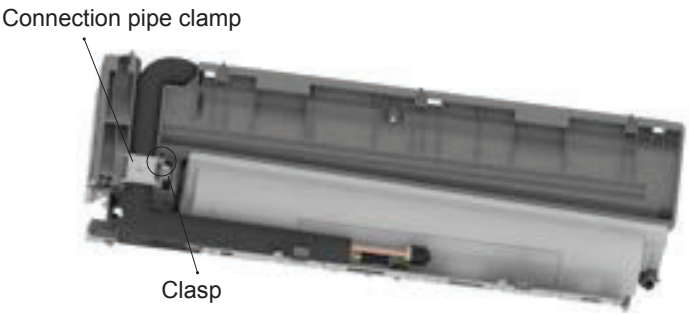


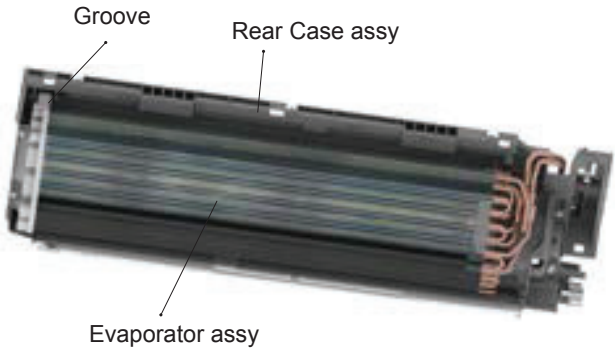


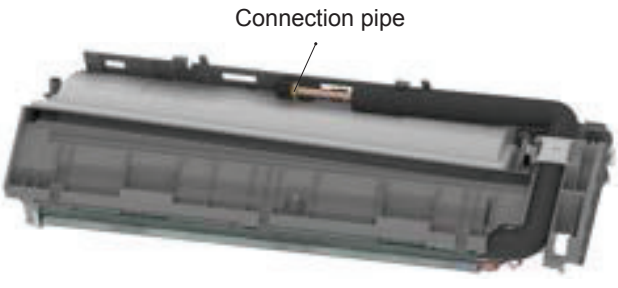
11. Removal Procedure

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



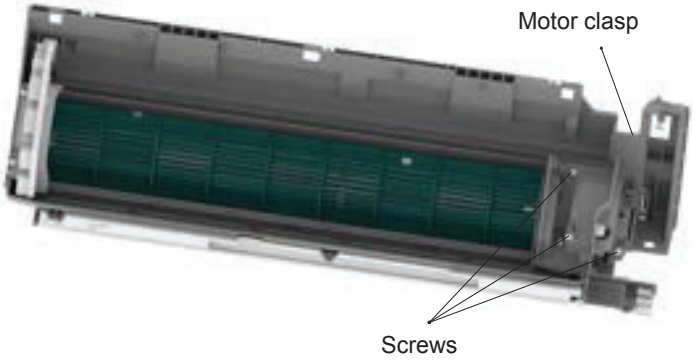


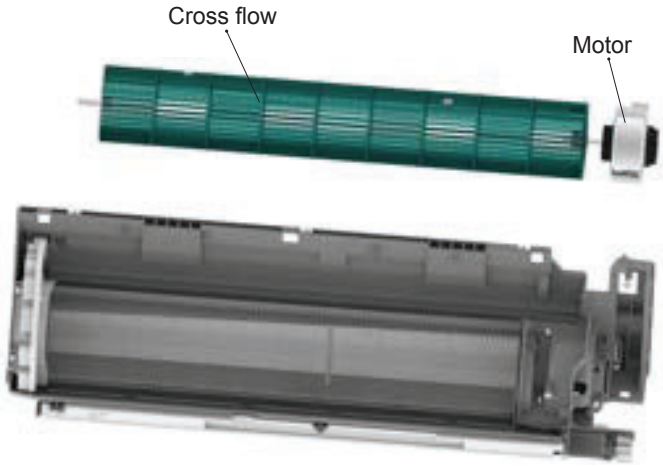


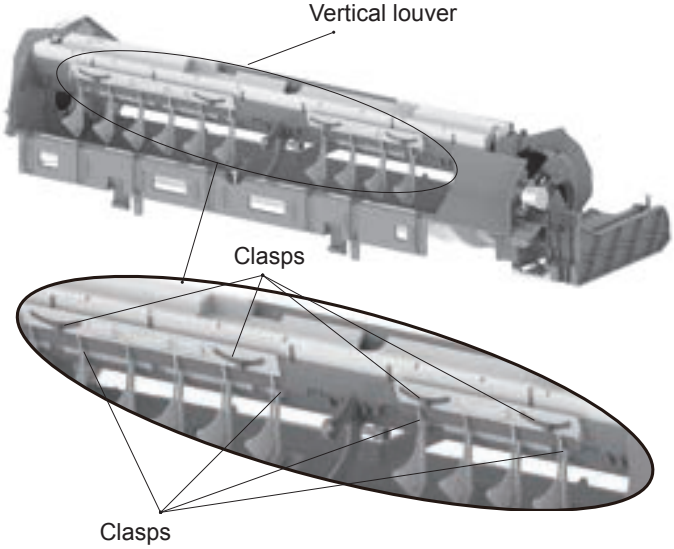


11. Removal Procedure

Step	Procedure
8.Remove motor and cross flow blade	
a	Remove 3 screws fixing motor clamp and then remove the motor clamp.
b	Remove the at the connection place of cross flow blade and motor; lift the motor and cross flow blade upwards to remove them.
9.Remove vertical louver	
	Loosen the connection clasps between vertical louver and bottom case to remove vertical louver.







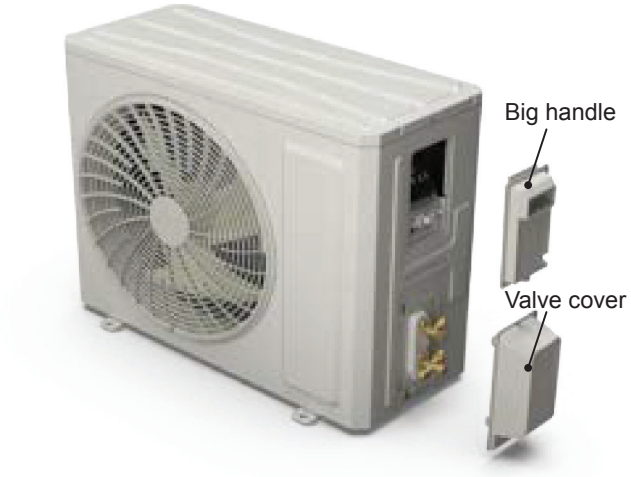
11. Removal Procedure

11.2 Removal Procedure of Outdoor Unit

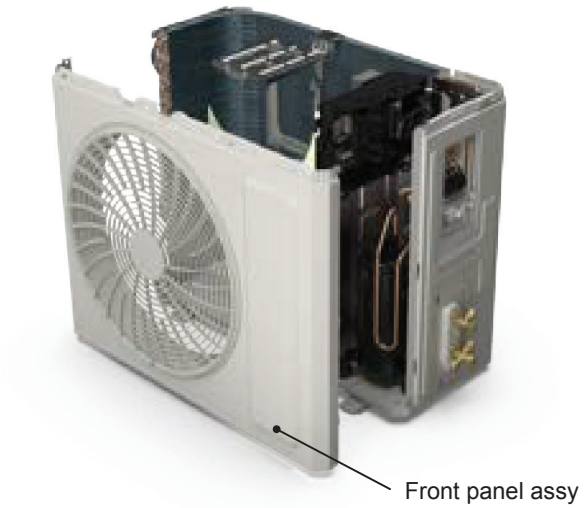
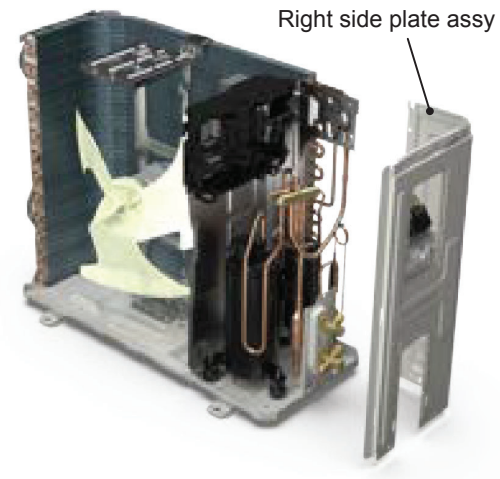
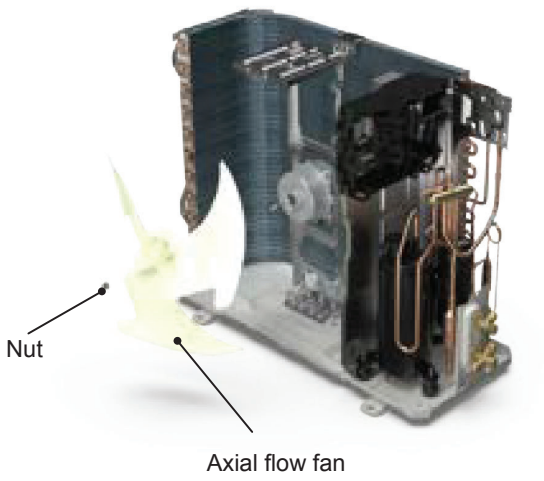
Caution: discharge the refrigerant completely before removal.

09K

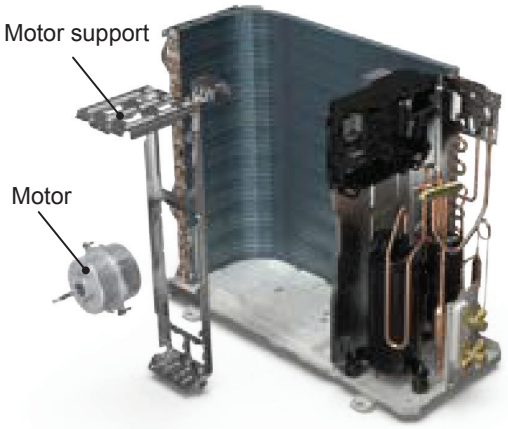
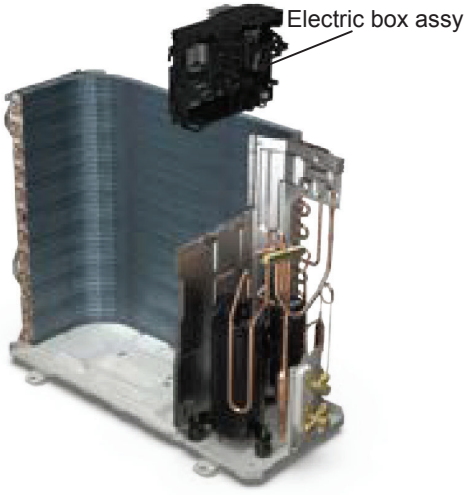
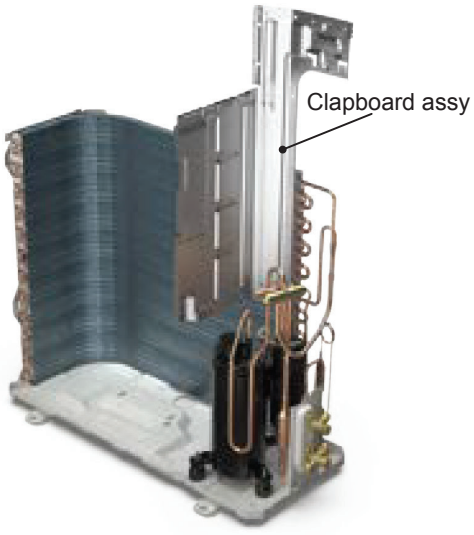
NOTE:Take heat pump for example.

Step	Procedure
1. Before disassembly	
2. Remove big handle and valve cover Remove the screws fixing big handle, valve cover and then remove them.	
3. Remove top cover Remove the screws fixing top panel and then remove the top panel.	

11. Removal Procedure

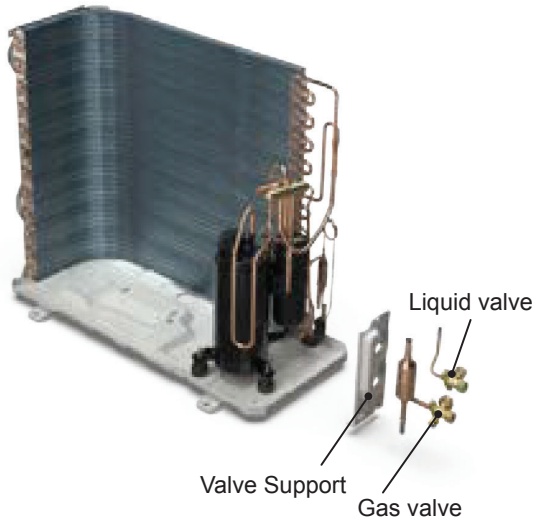
Step	Procedure
4. Remove front panel assy	
	Remove connection screws connecting the front panel assy with the chassis and the motor support, and then remove the front panel assy.
	
5. Remove right side plate assy	
	Rescrew the ground screws, remove the ground wires, loosen the screws fixing terminal board, remove the terminal board, rescrew the screws fixing the right plate, and remove the right side plate assy.
	
6. Remove axial flow fan	
	Remove the nut on the fan and then remove the axial flow fan.
	

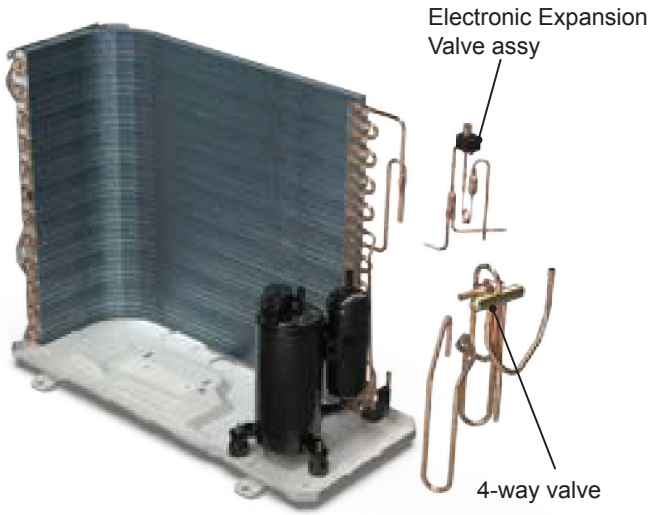
11. Removal Procedure

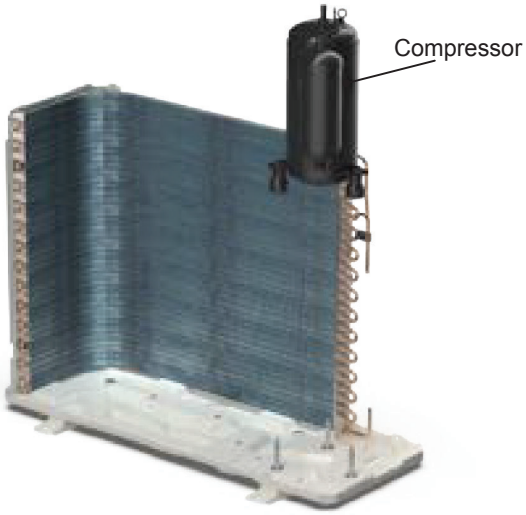
Step	Procedure
7. Remove motor support and motor	
Remove the screws fixing the motor support and lift the motor support to remove it. Remove the screws fixing the motor and then remove the motor.	
8. Remove electric box assy	
Remove the terminals, lift up and rotate the electrical box assy to the right so that the snaps on the clapboard are removed and the electrical box assy are removed.	
9. Remove clapboard assy	
Remove the screws fixing the clapboard assy and then remove the clapboard assy.	

11. Removal Procedure

Step	Procedure
10. Remove gas valve and liquid valve	Remove the valve support bolck, remove the screws fixing the gas valve and the liquid valve,unsolder the welding joint connecting the gas valve and the liquid valve, remove them. Note: Discharge the refrigerant completely befor unsoldering; when unsoldering, wrap the gas valve with a wet cloth completely to avoid damage to the valve caused by high temperature.
11. Remove 4-way valve and Electronic Expansion Valve assy	Unsolder the welding joints connecting Electronic Expansion Valve assy and then remove it. Unsolder the welding joints connecting the 4-way valve assy with capillary sub-assy, compressor and condenser; remove the 4-way valve.Cooling only unit removes Discharge Tube and Inhalation Tube. Note: Before unsoldering the welding joint, wrap the 4-way valve with a wet cloth completely to avoid damage to the valve caused by high temperature.
12. Remove compressor	Remove the 3 foot nuts on the compressor and then remove the compressor.

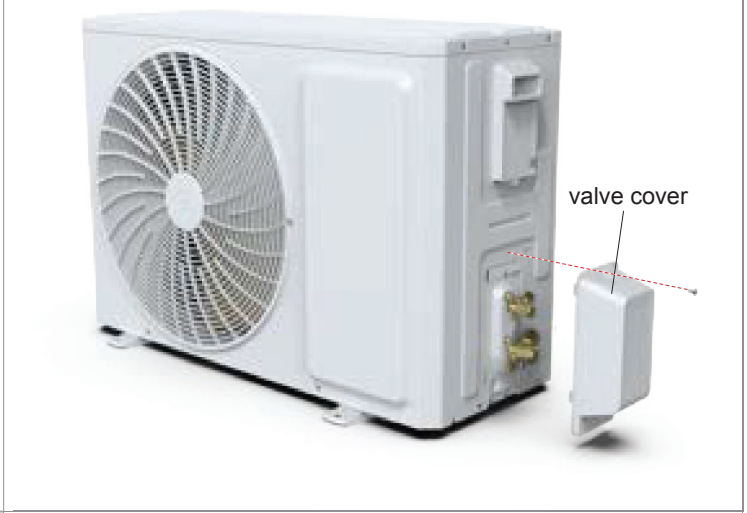






11. Removal Procedure

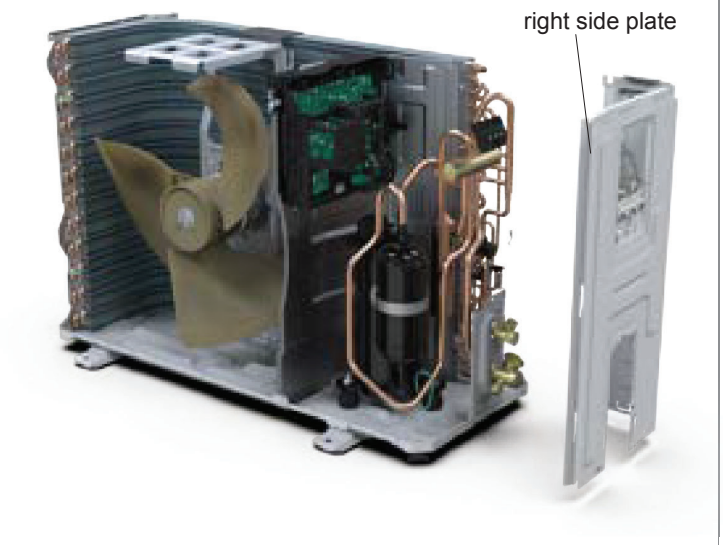
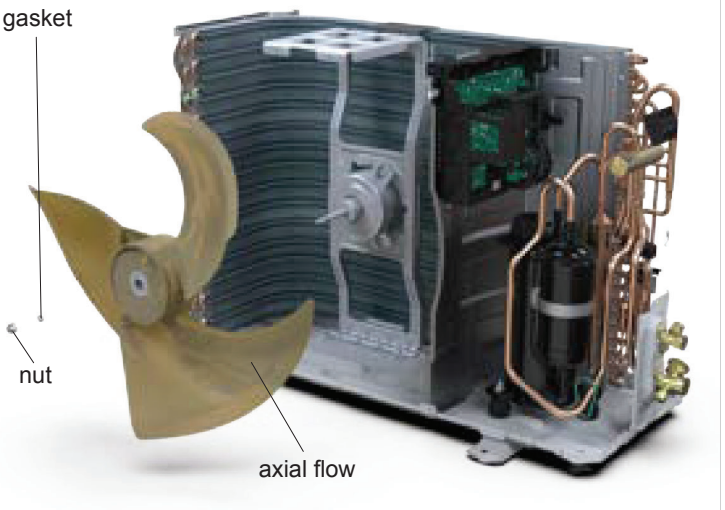
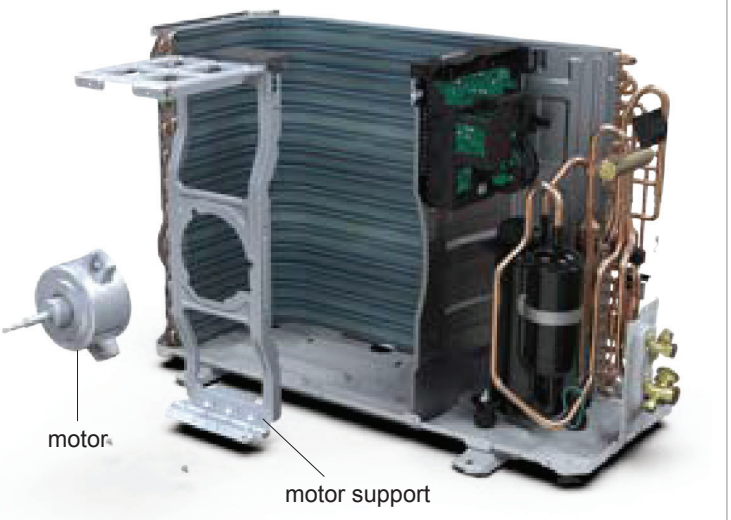
18K
NOTE:Take heat pump for example.

Step	Procedure
1. Before disassembly	
2. Remove valve cover Remove the connection screw and then remove the valve cover.	
3. Remove big handle Remove the connection screw and then remove the big handle.	

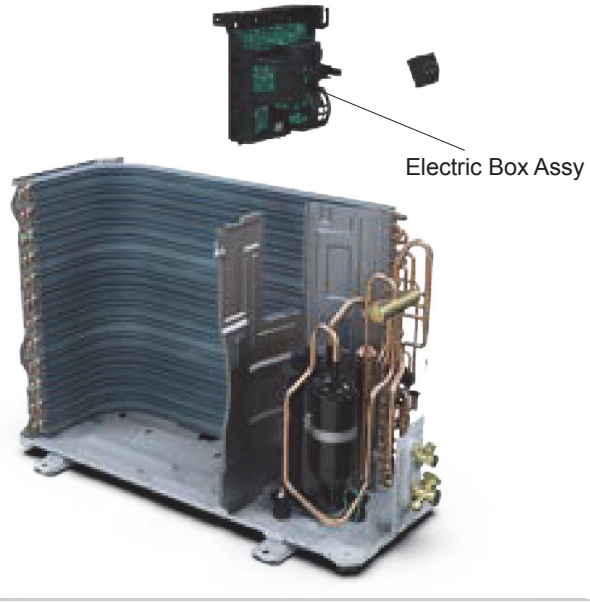
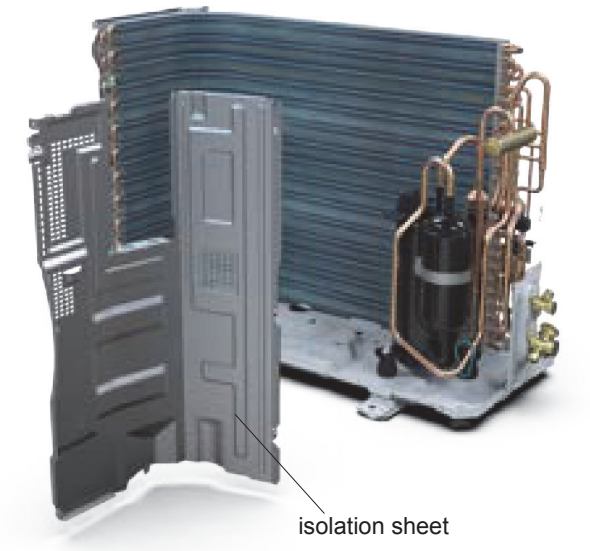
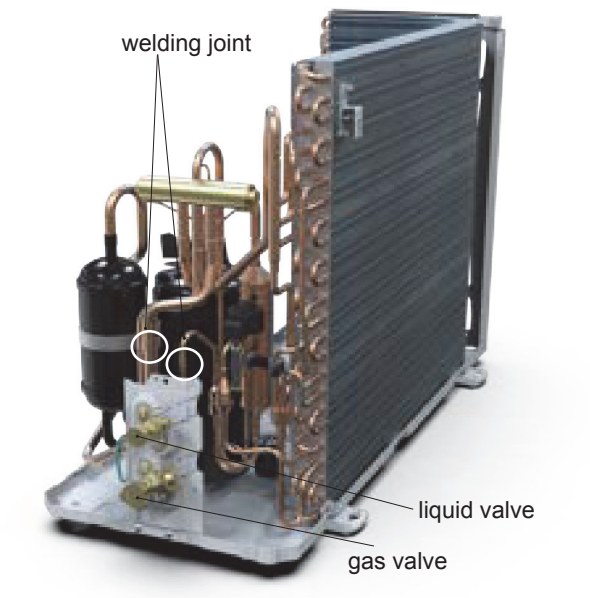
11. Removal Procedure

Step	Procedure
4. Remove top cover	
Remove connection screws connecting the top panel with the front panel and the right side plate, and then remove the top panel.	
5. Remove grille	
Remove connection screws between the front grille and the front panel. Then remove the grille.	
6. Remove front panel	
Remove connection screws connecting the front panel with the chassis and the motor support and then remove the front panel.	

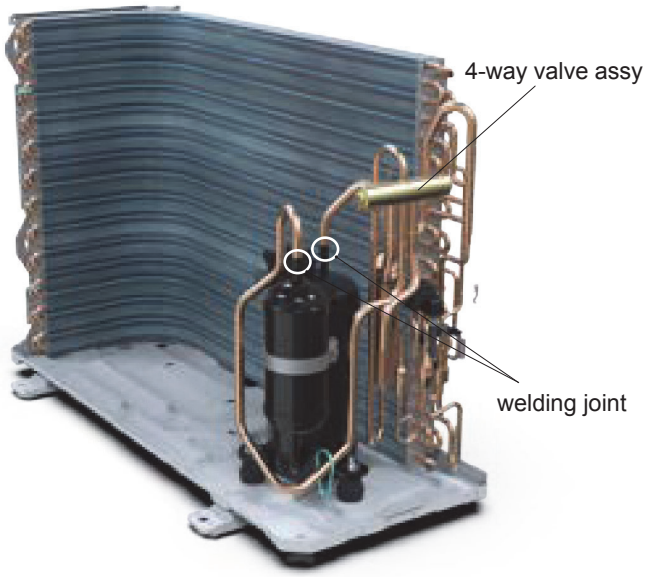
11. Removal Procedure

Step	Procedure
7. Remove right side plate Remove connection screws connecting the right side plate with the valve support and the electric box. Then remove the right side plate.	
8. Remove the nut and gasket on the blade and then remove the axial flow blade Remove the nut and gasket on the blade and then remove the axial flow blade.	
9. Remove motor and motor support Remove the tapping screws fixing the motor and disconnect the leading wire insert of the motor. Then remove the motor. Remove the tapping screws fixing the motor support and lift the motor support to remove it.	

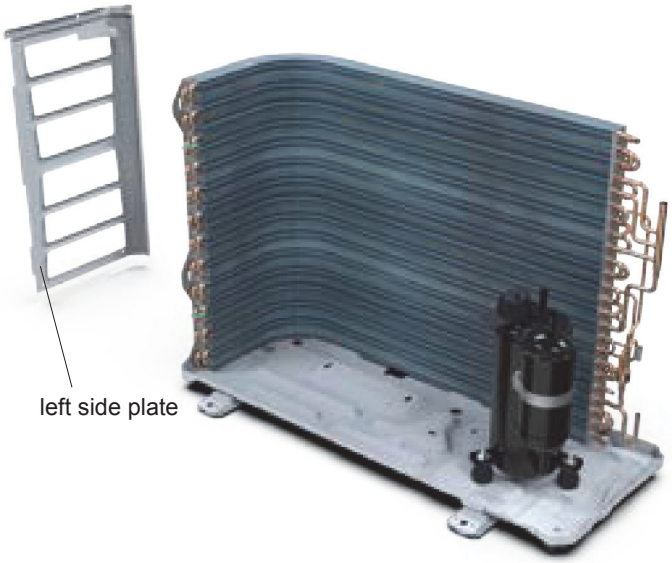
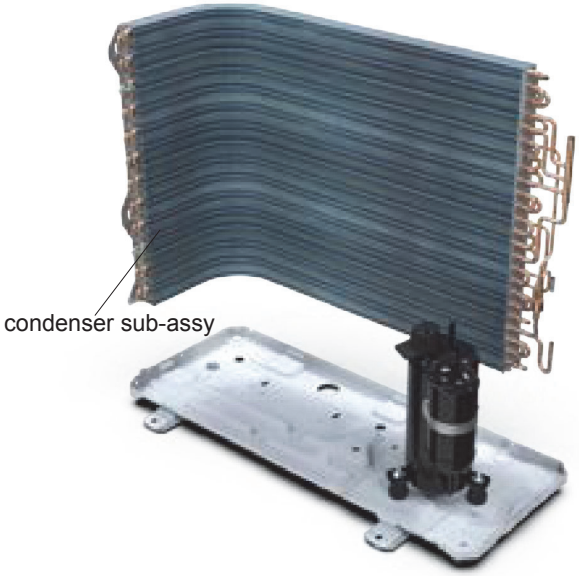
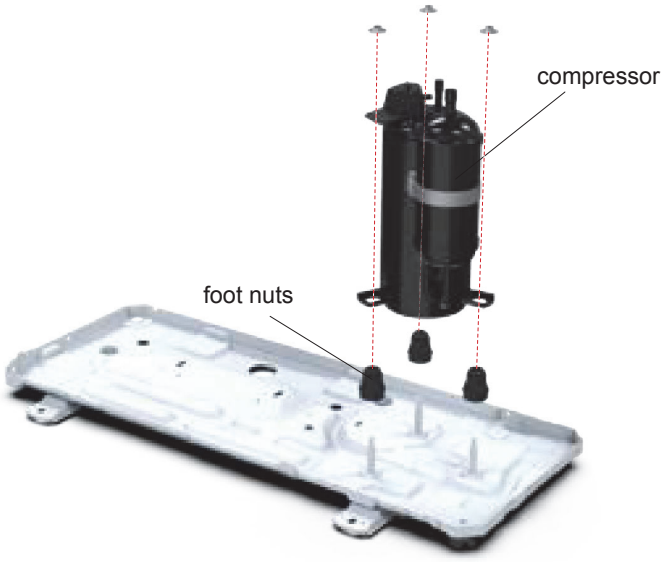
11. Removal Procedure

Step	Procedure
10. Remove Electric Box Assy	
Remove screws fixing the electric box subassembly; loosen the wire bundle and unplug the wiring terminals. Then lift the electric box to remove it.	
11. Remove isolation sheet	
Remove the screws fixing the isolation sheet and then remove the isolation sheet.	
12.Remove liquid valve and gas valve	
Unsolder the welding joint connecting the valve with capillary and condenser; unsolder the welding joint connecting the gas valve and air-return pipe; remove the 2 screws fixing the gas valve to remove the gas valve. Unsolder the welding joint connecting the liquid valve and Y-shaped pipe; remove the 2 screws fixing the liquid valve to remove the liquid valve. Note: Before unsoldering the welding joint, wrap the gas valve with a wet cloth completely to avoid damage to the valve caused by high temperature.	

11. Removal Procedure

Step	Procedure
13. Remove valve suppprt Remove the screws fixing valve support, remove the screws fixing the liquid valve and gas valve then remove the valve support.	
14. Remove 4-way valve assy Unsolder the welding joints connecting the 4-way valve assy, remove the 4-way valve. Note: Before unsoldering the welding joint, wrap the 4-way valve with a wet cloth completely to avoid damage to the valve caused by high temperature.	
15. Remove electronic expansion valve Remove the terminals of the electric expand valve fitting and rotate to remove the electric expand valve fitting. Unsolder the welding joint connecting the electronic expansion Valve and then remove the electronic expansion valve.	

11. Removal Procedure

Step	Procedure
16. Remove left side plate	
Remove the screws fixing the left side plate and then remove the left side plate.	
17. Remove condenser sub-assy	
Remove the screws fixing the Remove condenser sub-assy and then remove the Remove condenser sub-assy.	
18. Remove compressor	
Remove the 3 foot nuts on the compressor and then remove the compressor.	

11. Removal Procedure

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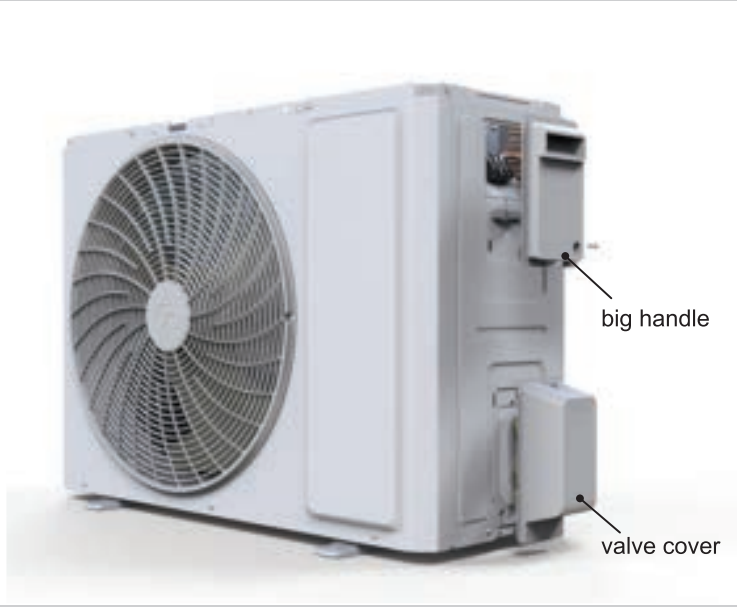
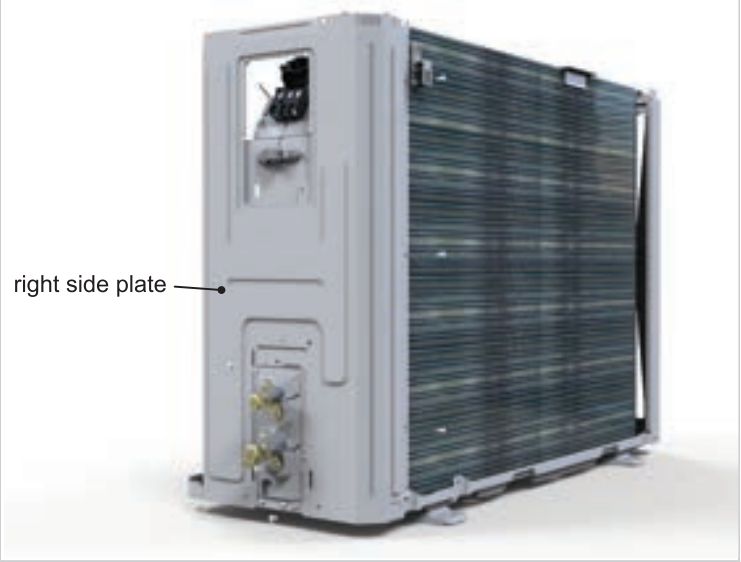
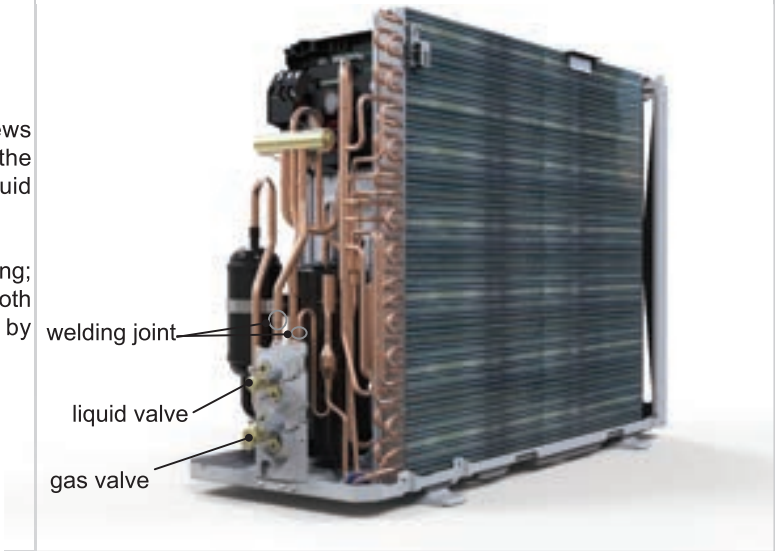
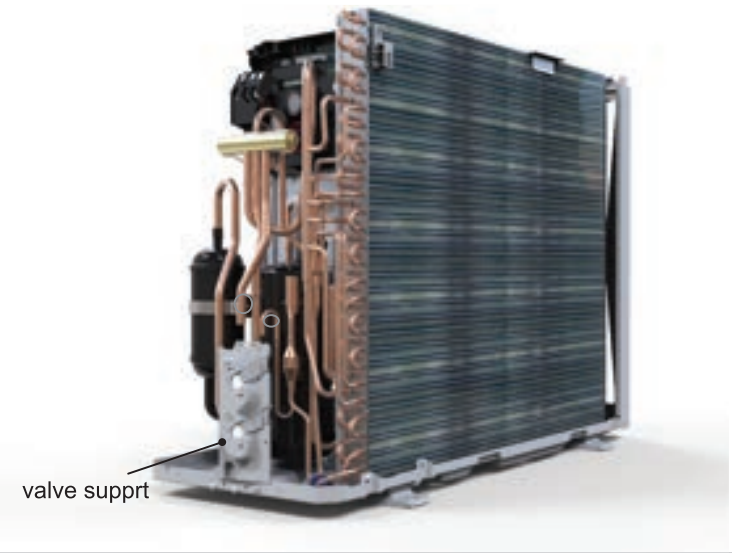
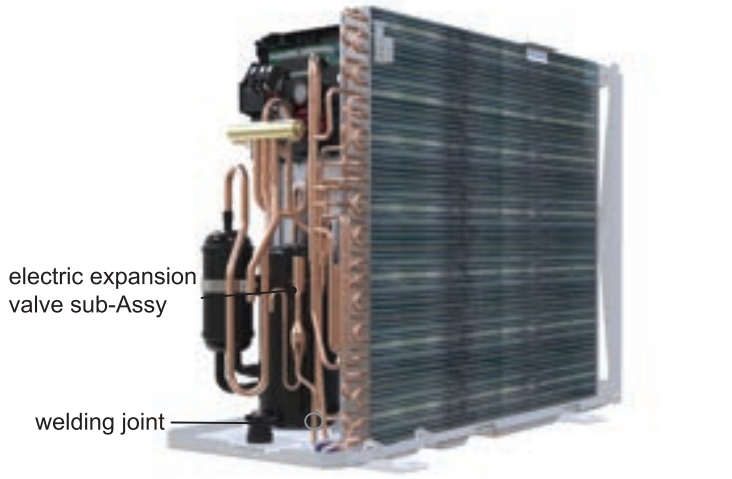
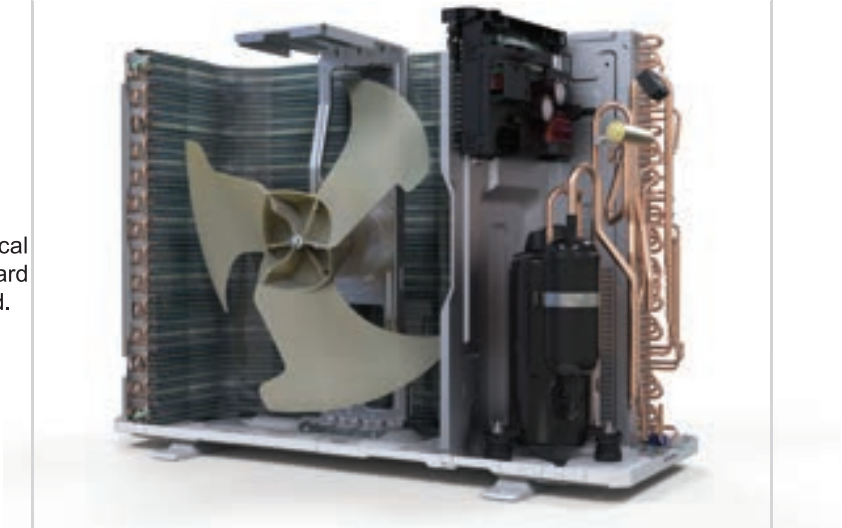
NOTE:Take heat pump for example.

Step	Procedure
1. Before disassembly	
2. Remove top cover Remove the screws fixing top panel and then remove the top panel.	
3. Remove big handle and valve cover Remove the screws fixing big handle, valve cover and then remove them.	

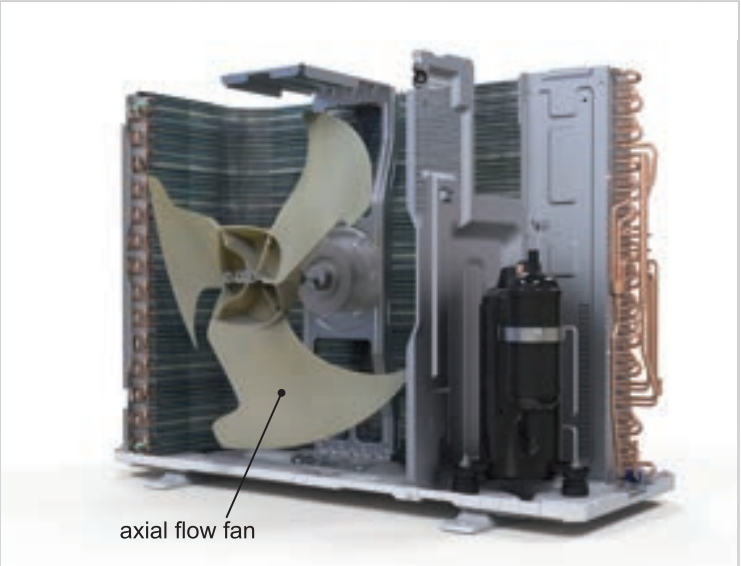
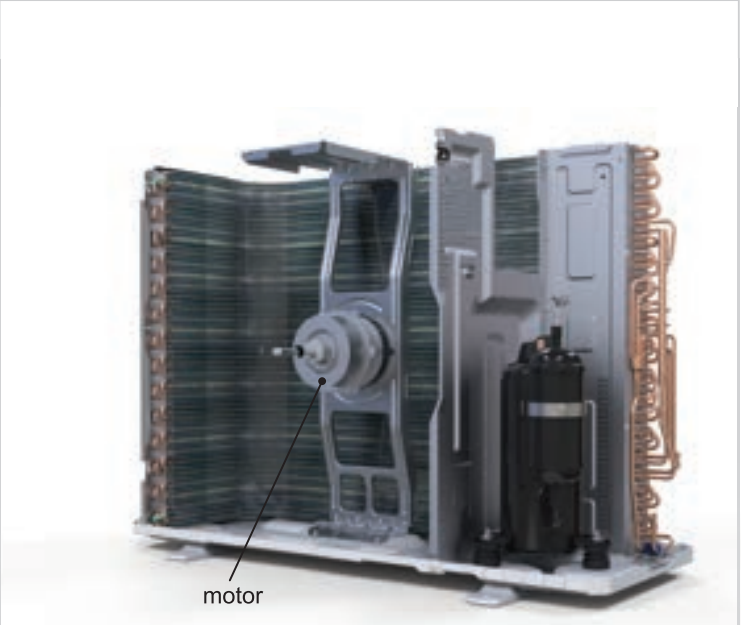
11. Removal Procedure

Step	Procedure
4. Remove front panel assy	
	Remove connection screws connecting the front panel assy with the chassis and the motor support, and then remove the front panel assy.
	
5. Remove right side plate assy	
	Rescrew the ground screws, remove the ground wires, loosen the screws fixing terminal board, remove the terminal board, rescrew the screws fixing the right plate, and remove the right side plate assy.
	
6. Remove gas valve and liquid valve	
	Remove the valve support bolck, remove the screws fixing the gas valve and the liquid valve,unsolder the welding joint connecting the gas valve and the liquid valve, remove them. Note: Discharge the refrigerant completely befor unsoldering; when unsoldering, wrap the gas valve with a wet cloth completely to avoid damage to the valve caused by high temperature.
	

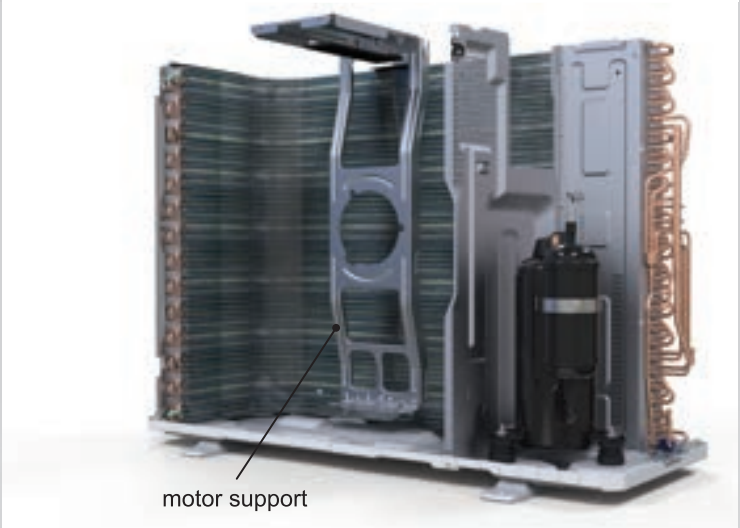
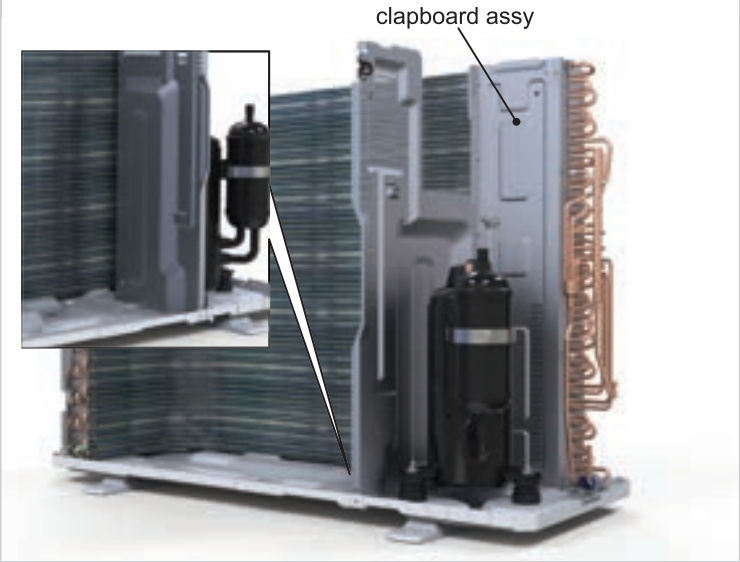
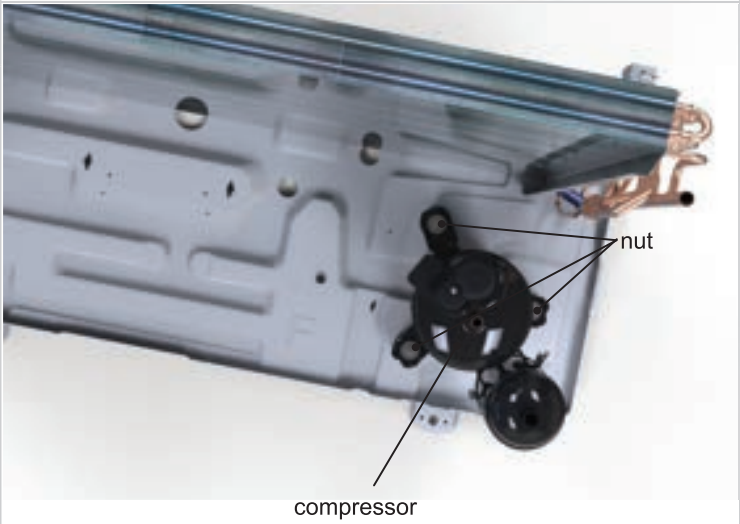
11. Removal Procedure

Step	Procedure
7. Remove valve suppprt	
	Remove the screws fixing valve support, then remove the valve support.
	
8. Remove electronic expansion valve	
	Remove the terminals of the electronic expansion valve coil and rotate to remove the electronic expansion valve coil. Unsolder the welding joint connecting the electronic expansion Valve and then remove the electronic expansion valve.
	
9. Remove electric box assy	
	Remove the terminals, lift up and rotate the electrical box assy to the right so that the snaps on the clapboard are removed and the electrical box assy are removed.
	

11. Removal Procedure

Step	Procedure
10. Remove 4-way valve assy	
Unsolder the welding joints connecting the 4-way valve assy, remove the 4-way valve. Note: Before unsoldering the welding joint, wrap the 4-way valve with a wet cloth completely to avoid damage to the valve caused by high temperature.	
11. Remove axial flow fan	
Remove the nut on the fan and then remove the axial flow fan.	
12. Remove motor	
Remove the screws fixing the motor and then remove the motor.	

11. Removal Procedure

Step	Procedure
13. Remove motor support	
Remove the screws fixing the motor support and lift the motor support to remove it.	
14. Remove clapboard assy	
Remove the screws fixing the clapboard assy and then remove the clapboard assy.	
15. Remove compressor	
Remove the 3 foot nuts on the compressor and then remove the compressor.	

Appendix

Appendix 1: Reference Sheet of Celsius and Fahrenheit

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

Set temperature

Fahrenheit display temperature（˚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: Configuration of Connection Pipe

1.Standard length of connection pipe(More details please refer to the specifications.)

2.Min length of connection pipeFor the unit with standard connection pipe of 5m, there is no limitation for themin length of

connection pipe. For the unit with standard connection pipe of 7.5m and 8m, the min length of connection pipe is 3m.

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

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

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

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

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

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

Additional refrigerant charging amount for R32				
Piping size		Indoor unit throttle	Outdoor unit throttle	
Liquid pipe	Gas pipe	Cooling only, cooling and heating (g / m)	Cooling only(g/m)	Cooling and heating(g/m)
1/4”	3/8” or 1/2”	16	12	16
1/4” or 3/8”	5/8” or 3/4”	40	12	40
1/2”	3/4” or 7/8”	80	24	96
5/8”	1" or 1 1/4”	136	48	96
3/4"	/	200	200	200
7/8"	/	280	280	280

Appendix

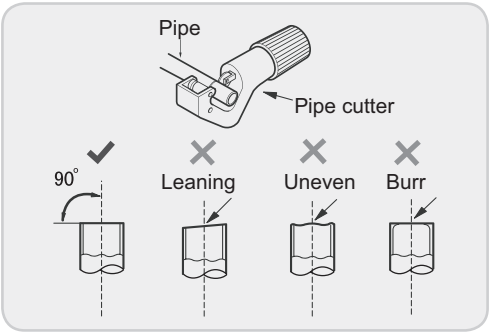
Appendix 3: Pipe Expanding Method

⚠ **Note:**

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

A:Cut the pip

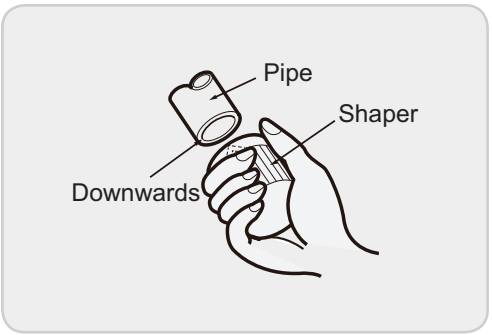
- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.



B:Remove the burrs

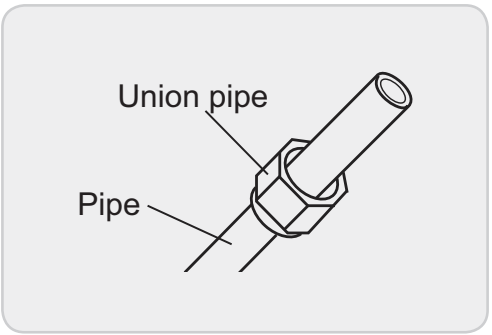
- Remove the burrs with shaper and prevent the burrs from getting into the pipe.

C:Put on suitable insulating pipe.



D:Put on the union nut

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



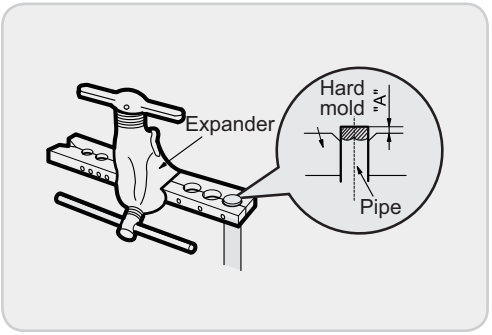
E:Expand the port

- Expand the port with expander.

⚠ **Note:**

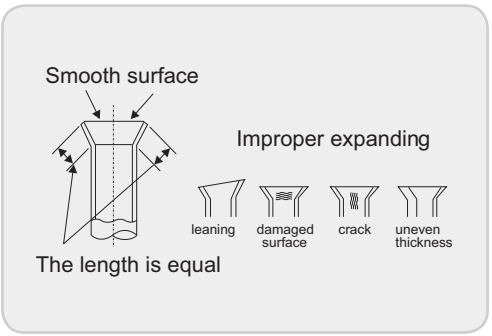
- "A" is different according to the diameter, please refer to the sheet below:

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



F:Inspection

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



Appendix

Appendix 4: List of Resistance for Temperature Sensor

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

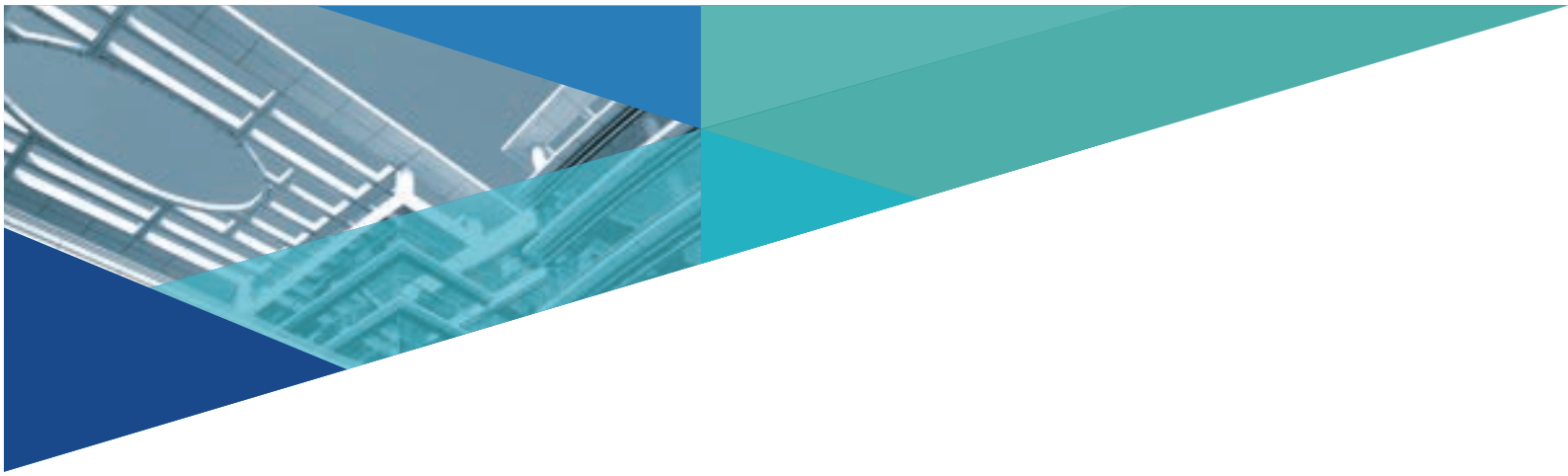
Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)
-19	138.10	0	49.02	20	18.75	40	7.97
-18	128.60	2	44.31	22	17.14	42	7.35
-16	115.00	4	40.09	24	15.68	44	6.79
-14	102.90	6	36.32	26	14.36	46	6.28
-12	92.22	8	32.94	28	13.16	48	5.81
-10	82.75	10	29.90	30	12.07	50	5.38
-8	74.35	12	27.18	32	11.09	52	4.99
-6	66.88	14	24.73	34	10.20	54	4.63
-4	60.23	16	22.53	36	9.38	56	4.29
-2	54.31	18	20.54	38	8.64	58	3.99

Resistance Table of Tube Temperature Sensors for Indoor and Outdoor (20K)

Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)
-19	181.40	20	25.01	60	4.95	100	1.35
-15	145.00	25	20.00	65	4.14	105	1.16
-10	110.30	30	16.10	70	3.48	110	1.01
-5	84.61	35	13.04	75	2.94	115	0.88
0	65.37	40	10.62	80	2.50	120	0.77
5	50.87	45	8.71	85	2.13	125	0.67
10	39.87	50	7.17	90	1.82	130	0.59
15	31.47	55	5.94	95	1.56	135	0.52

Resistance Table of Discharge Temperature Sensor for Outdoor(50K)

Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)	Temp(°C)	Resistance(kΩ)
-30	911.400	10	98	50	17.65	90	4.469
-25	660.8	15	77.35	55	14.62	95	3.841
-20	486.5	20	61.48	60	12.17	100	3.315
-15	362.9	25	49.19	65	10.18	105	2.872
-10	274	30	39.61	70	8.555	110	2.498
-5	209	35	32.09	75	7.224	115	2.182
0	161	40	26.15	80	6.129	120	1.912
5	125.1	45	21.43	85	5.222	125	1.682



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GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

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