Service Manual

Ver. 01 | 30-03-2022

EN

MONOBLOCK SERIES

WALL-MOUNTED AIR CONDITIONER

ASM-12PI

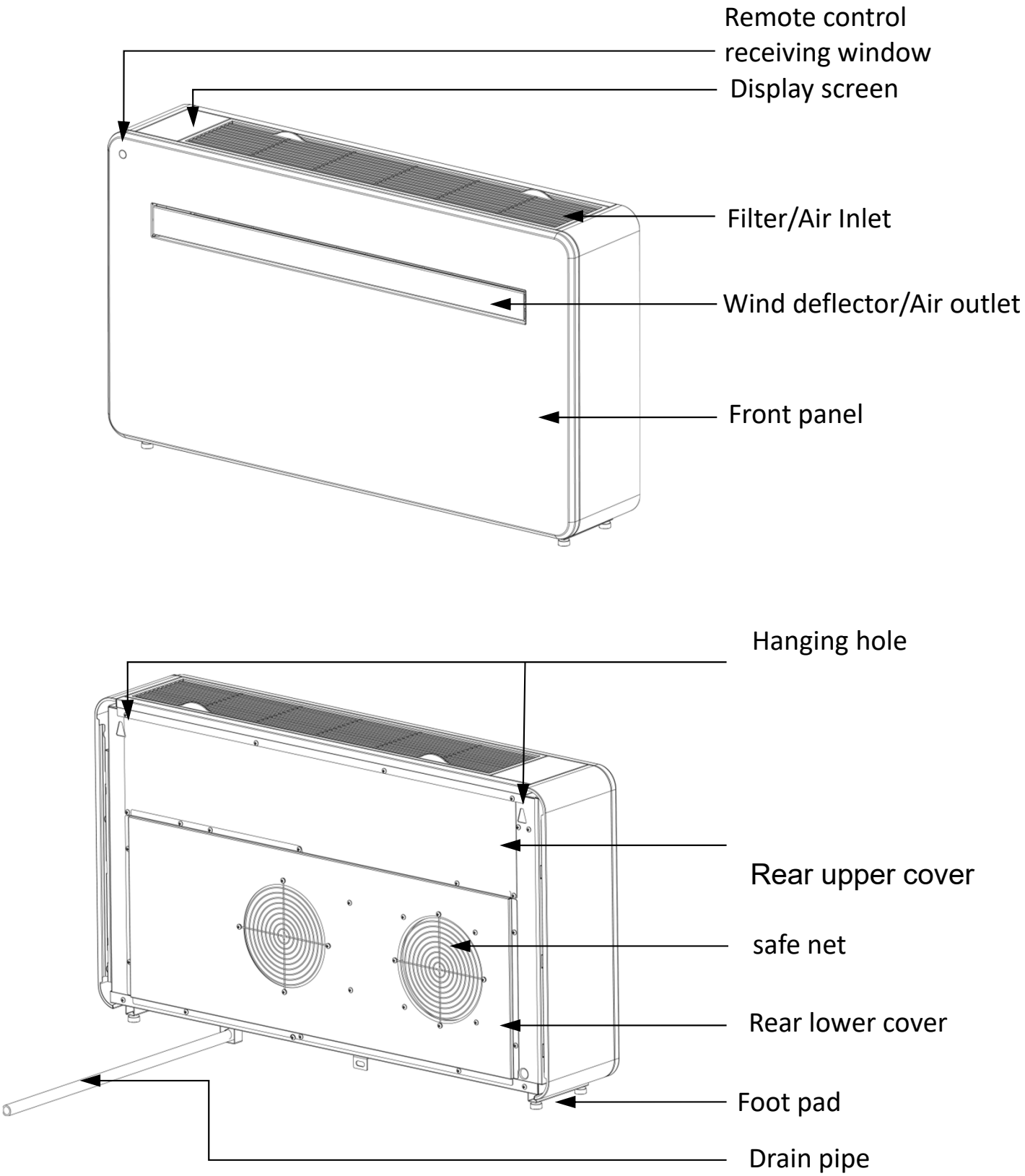
sinclair

AIR CONDITIONING

IMPORTANT NOTE:

Read this manual carefully before installing or operating your new air conditioning unit.
Make sure to save this manual for future reference.

Main Structure



Disassembly Process Description

1. Appearance disassembly icon

1.1 Top disassembly

1) Lift the lugs with both hands (two places in the figure) to remove the filter

2) Use a tool to remove the screws (two in the picture), then the decorative cover can be removed
Note: The screw specification is ST3.9×12/large flat head/pointed tail

3) The top disassembly is complete

1.2 Disassembly of the left and right sides

1) Use a tool to remove the screws (six in the figure), then the left and right panels can be removed
Note: The screw specification is ST3.9×10/large flat head/pointed tail

2) The left and right side disassembly is completed

Note: The installation level is detailed in the figure below

①The installation plane of the left and right panels is located on the back side under the support bar

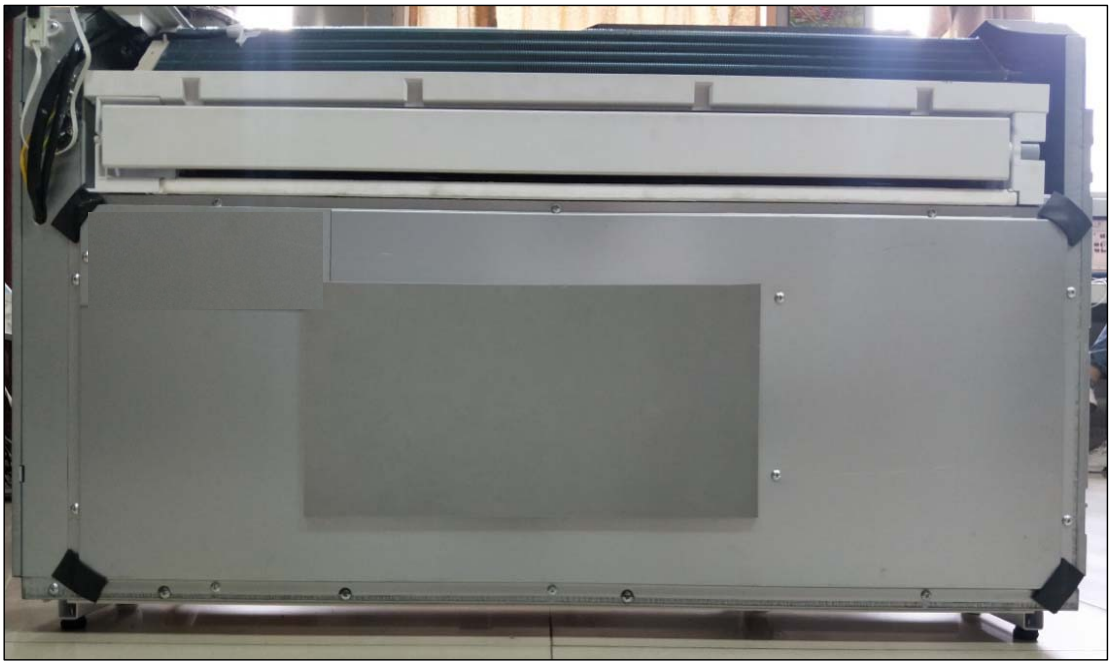
②The installation plane of the left and right panels is above the front panel on the front side.

1.3 Front disassembly

1) Use a tool to remove the screws (four in the picture), then the left and right panels can be removed
Note: The screw specification is ST3.9×10/large flat head/pointed tail

2) The disassembly of the front side is complete

2. Internal disassembly

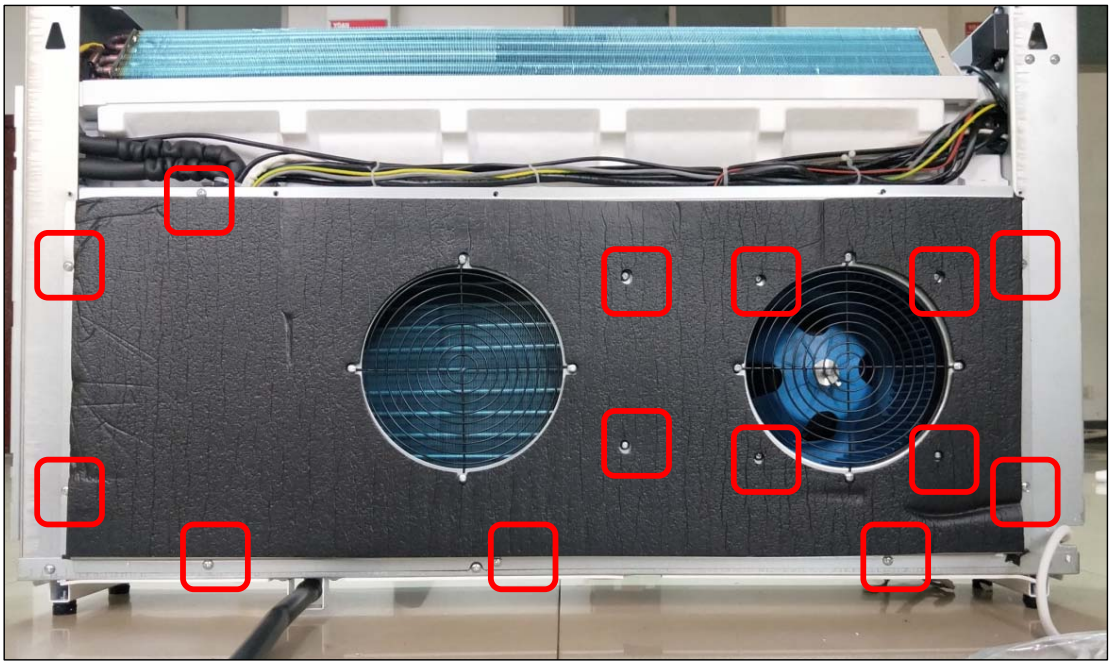


2.1 Disassembly of the rear upper side

1) Use a tool to remove the screws (a total of seven marked locations), then the upper rear part can be removed together
Note: The screw specification is ST3.9×10/large flat head/pointed tail

2) The disassembly of the upper rear side is complete

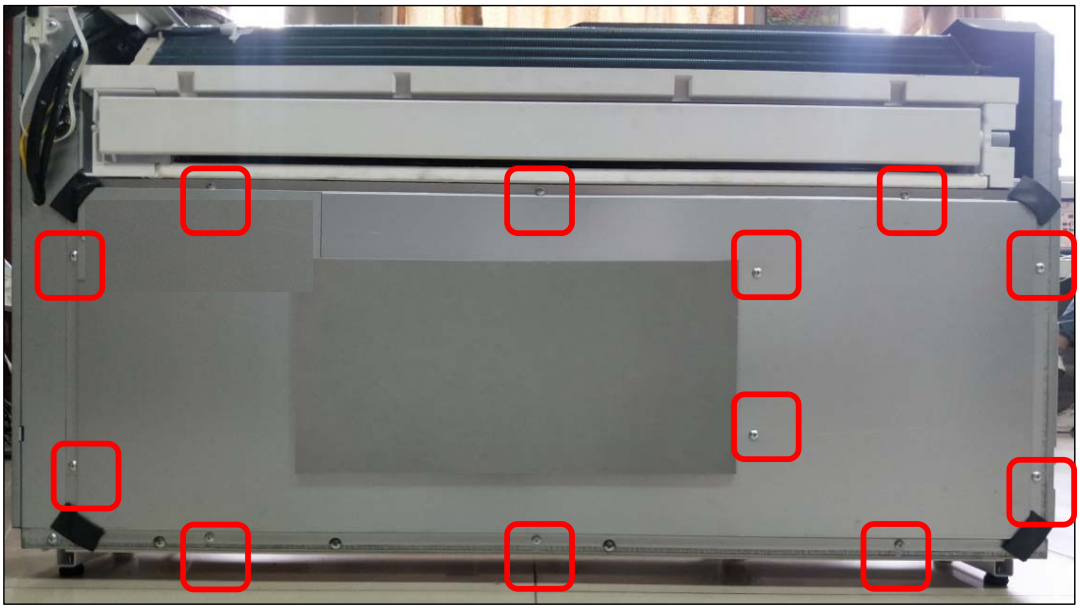
2.2 Disassembly of the rear lower side



1) Use a tool to remove the screws (a total of fourteen in the marked position), then the rear cover can be removed
Note: The screw specification is ST3.9×10/large flat head/pointed tail

2) The disassembly of the rear lower side is completed

2.2 Front disassembly



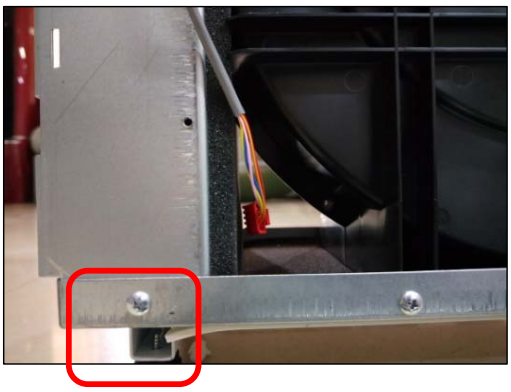
1) Use a tool to remove the screws (twelve in the marked position), then the front cover can be removed
Note: The screw specification is ST3.9×10/large flat head/pointed tail

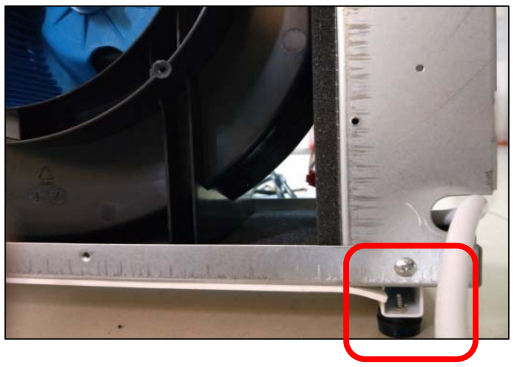
2) The disassembly of the front cover is complete

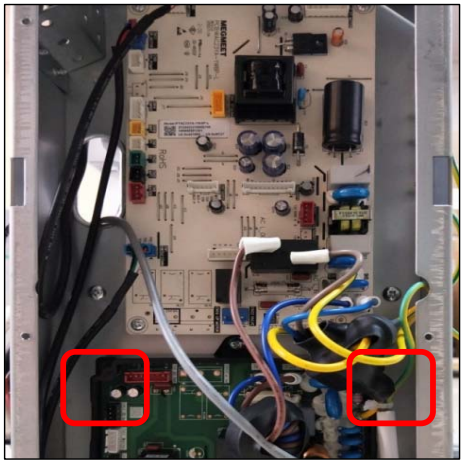
2.3 Disassembly on the left

1) Use a tool to remove the screws (three in the marked position), then the electric control box cover can be removed
Note: The screw specification is ST3.9×10/large flat head/pointed tail

2) Unplug the plug end
Note: Some parts can be plugged in (WIFI plug, fan plug, power cord, motherboard connection line)





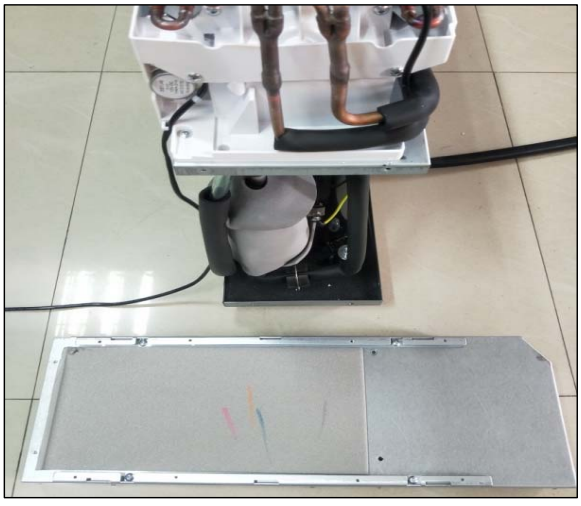


3) Use a tool to remove the screws (a total of four in the marked position), then the electric control box can be removed
Note: The screw specification is ST3.9×10/large flat head/pointed tail

4) The disassembly on the left side is complete

2.4 Disassembly on the right

1) Use a tool to remove the screws (a total of five marked positions), then the right support plate can be removed
Note: The screw specification is ST3.9×10/large flat head/pointed tail

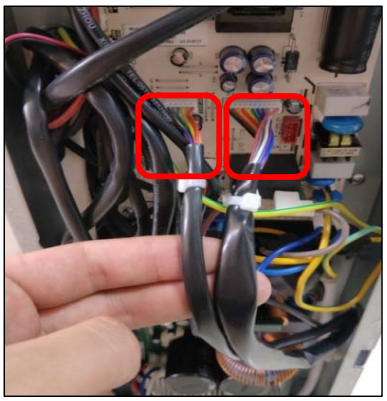


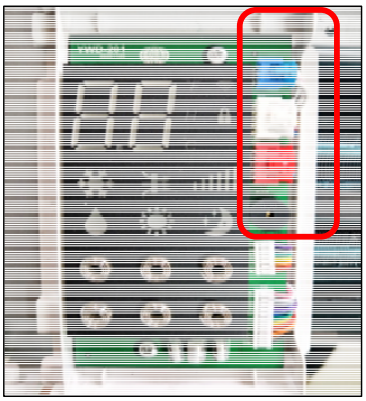
2) The disassembly on the right side is complete

2.5 Disassembly of functional parts

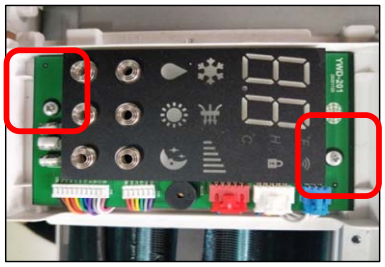
2.5.1 Removal of display light board

1) Use a tool to remove the screws (three in the marked position), then the electric control box cover can be removed
Note: The screw specification is ST3.9×10/large flat head/flat tail



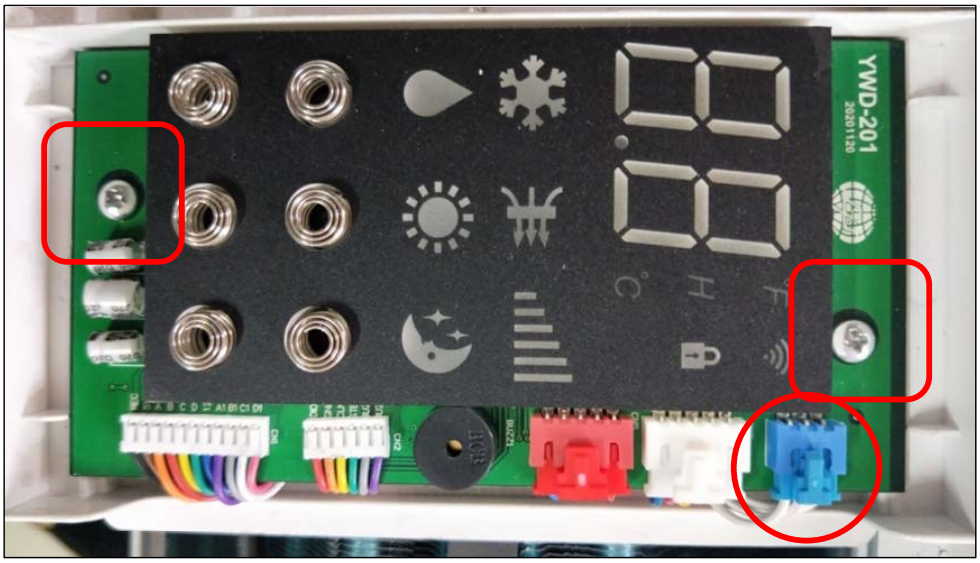


2) Unplug the plug end (there are four marking positions)



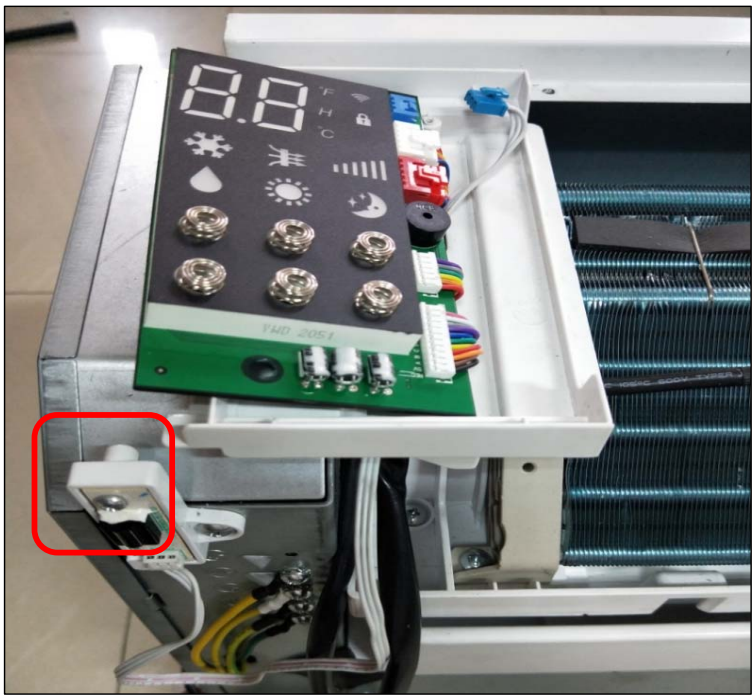
3) Use a tool to remove the screws (two in the marked position), then the display light board can be removed
Note: The screw specification is ST2.9×8/large flat head/flat tail

2.5.2 Removal of the remote control receiving board



1) Use a tool to remove the screws (two in the marked position)Note: The screw specification is ST2.9×8/large flat head/flat tail

2) Pull out the plug-in end (the circular mark positions are in one place)



3) Use a tool to remove the screws (there are one in the marked position), and then the remote control receiving board can be removed
Note: The screw specification is ST2.9×8/large flat head/flat tail

2.5.3 Removal of the electric control board

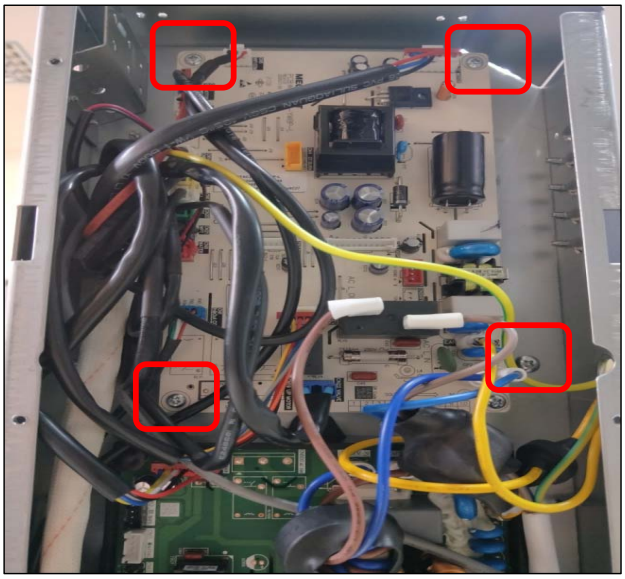


figure 1

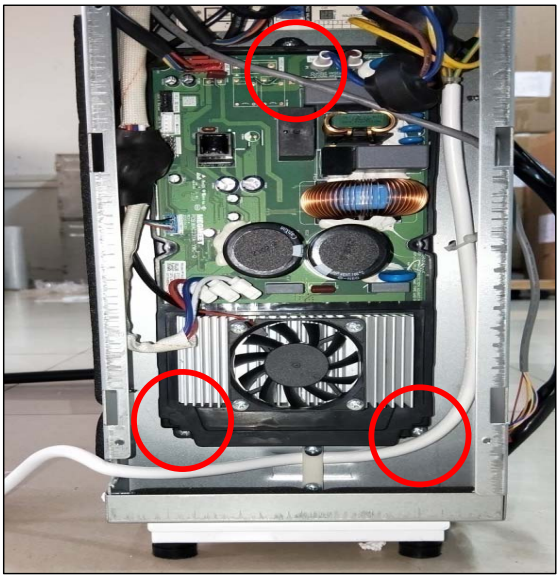
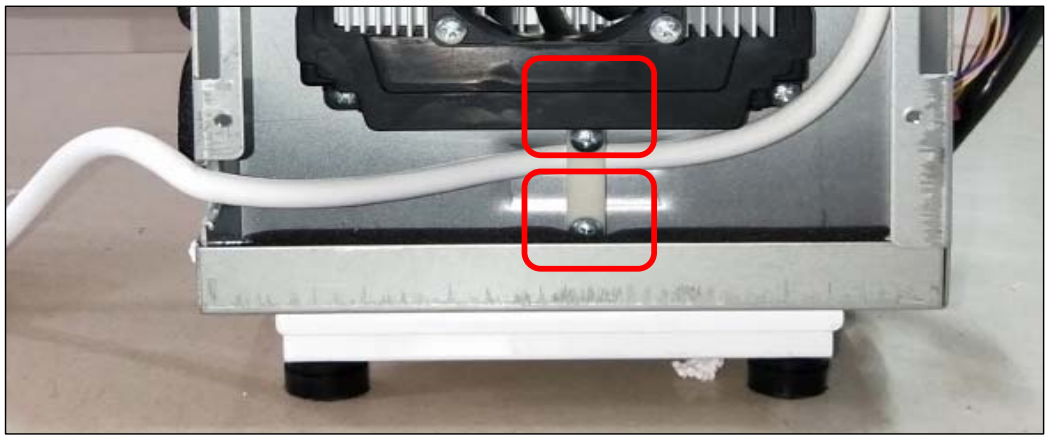


figure 2

1) Use a tool to remove the screws shown in Figure 1 (a total of four square markings), and then the electronic control board can be removedNote: The screw specification is ST2.9×10/large flat head/flat tail

2) Use a tool to remove the screws shown in Figure 2 (a total of three round mark positions), then the inverter mainboard can be removedNote: The screw specification is ST3.9×12/large flat head/flat tail

2.5.4 Power cord removal



1) Use a tool to remove the screws (two in the marked position), then the power cord can be removed
Note: The screw specification is ST3.9×16/large flat head/pointed tail

2.5.5 Disassembly of WIFI module

figure 1

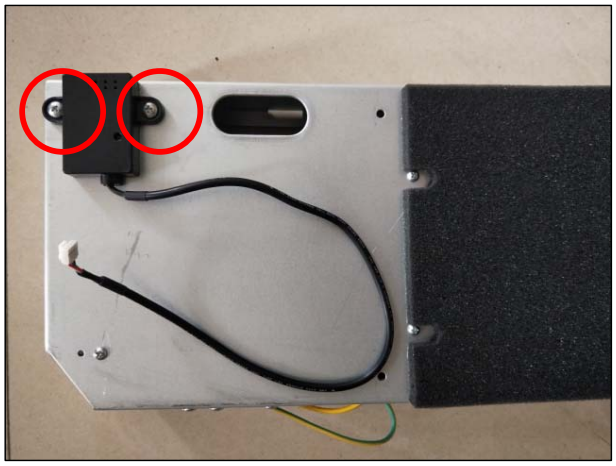
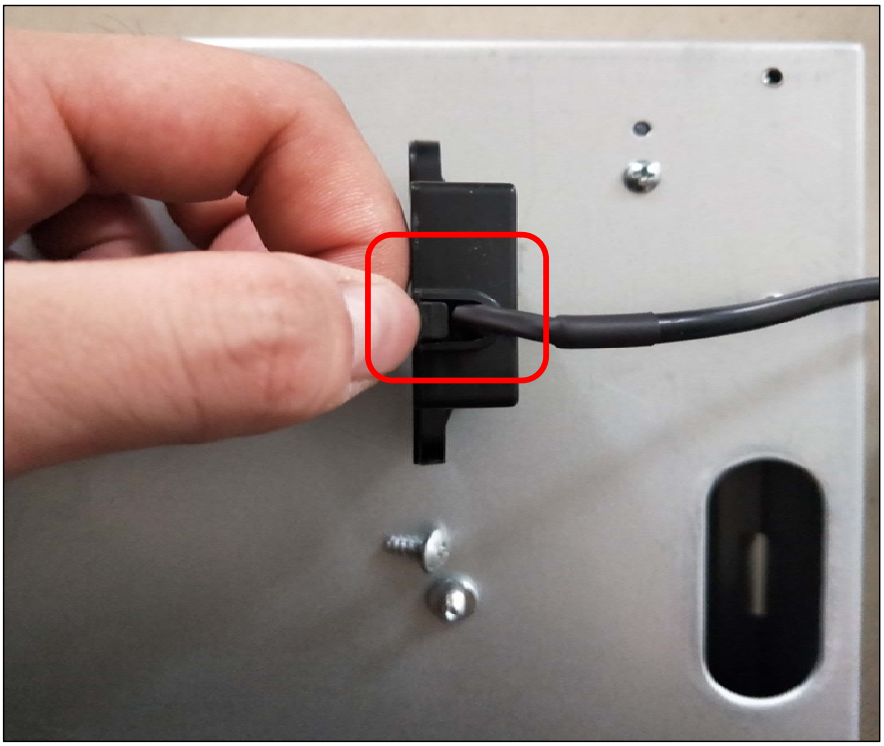


figure 2

1) Unplug the connector end shown in Figure 1 (the square mark positions are in one place)

2) Use a tool to remove the screws shown in Figure 2 (there are two round mark positions), then the WIFI box can be removedNote: The screw specification is ST3.9×10/large flat head/flat tail



3) Remove the WIFI box cover by tilting the position shown in the figure, then the WIFI module can be taken out

2.5.6 Disassembly of pendulum wind motor

figure 1

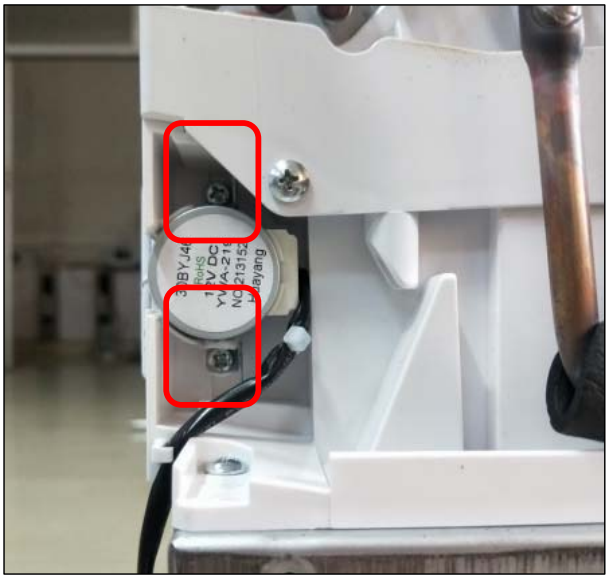
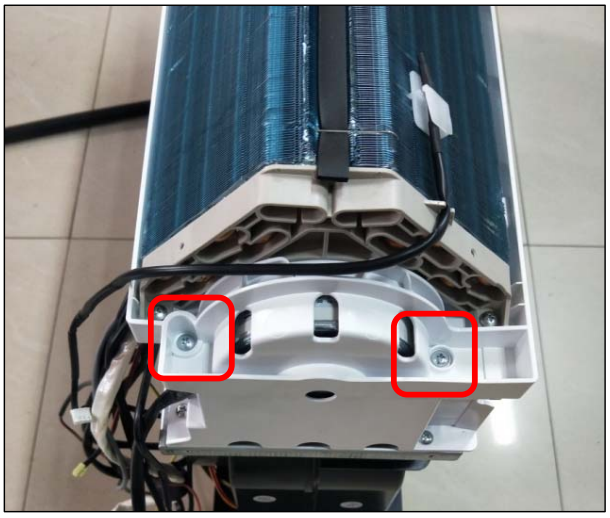


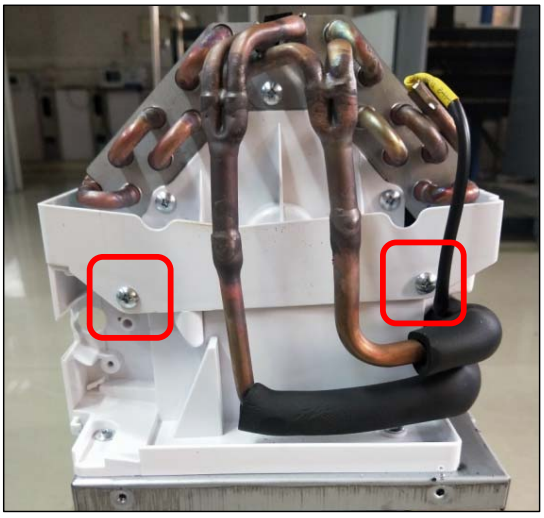
figure 2

1) Rotate the air guide to the angle shown in Figure 1 and pull it out from the end to remove the air guide

2) Use a tool to remove the screws shown in Figure 2 (there are two marked locations), then the pendulum motor can be removedNote: The screw specification is ST3.9×8/pan head/cut tail

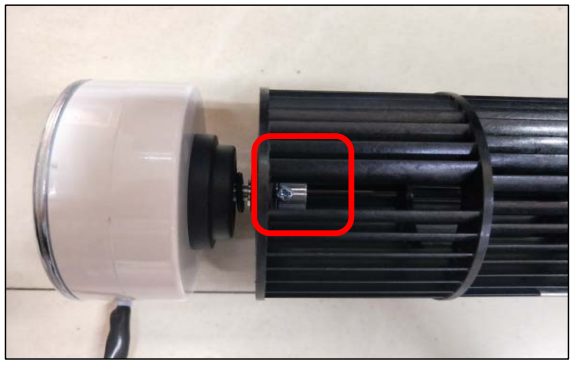
2.5.7 Disassembly of fan motor





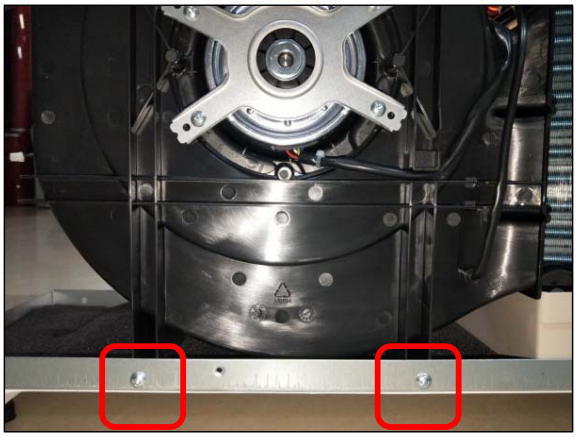
1) Use a tool to remove the screws (a total of four marked positions)
Note: The screw specification is ST3.9×12/large flat head/flat tail

2) After the drain pan is lifted, pull out the fan motor and fan wheel.



3) Use a tool to remove the bolts (1 in the marked position), then the fan motor can be removed
Note: Bolt specification is M4×8/pan head

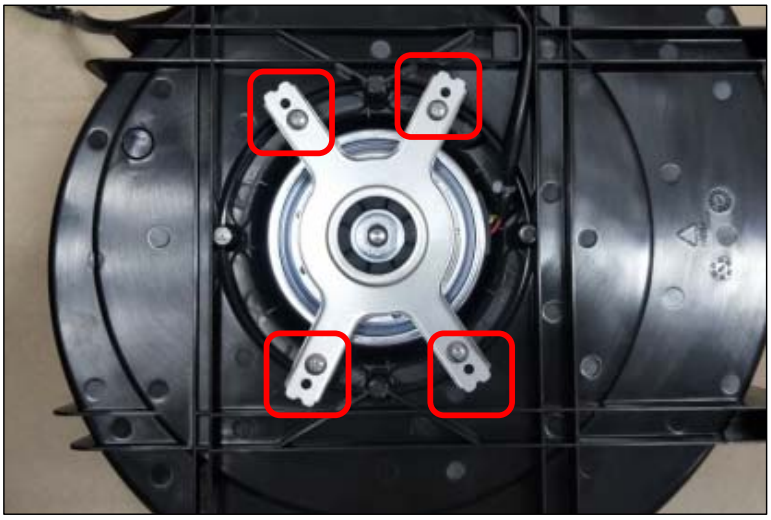
2.5.8 Disassembly of exhaust motor



1) Use a tool to remove the screws (two in the marked position)
Note: The screw specification is ST3.9×16/large flat head/flat tail

2) Use a tool to remove the screws (a total of four in the marked position), then half of the fan housing can be removed.
Note: The screw specification is ST3.9×16/large flat head/flat tail

3) Use a wrench to remove the bolts (1 in the marked position),then the fan wheel can be removed
Note: The bolt specification is M6×8



4) Use a tool to remove the screws (a total of four in the marked position), then the exhaust motor can be removed
Note: The screw specification is ST3.9×16/large flat head/flat tail

Note: The dismantling parts of the exhaust air duct are shown in the following figure:

2.5.9 Disassembly of the water pump motor

figure 1

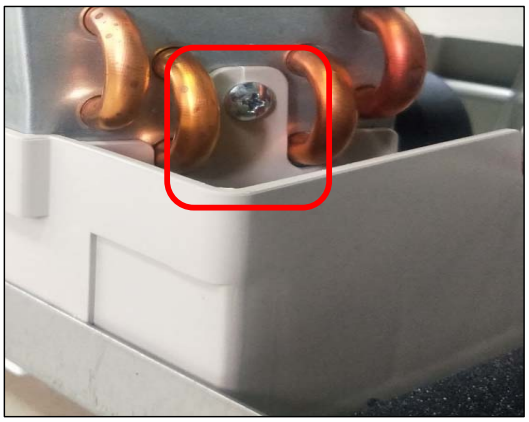


figure 2

figure 3

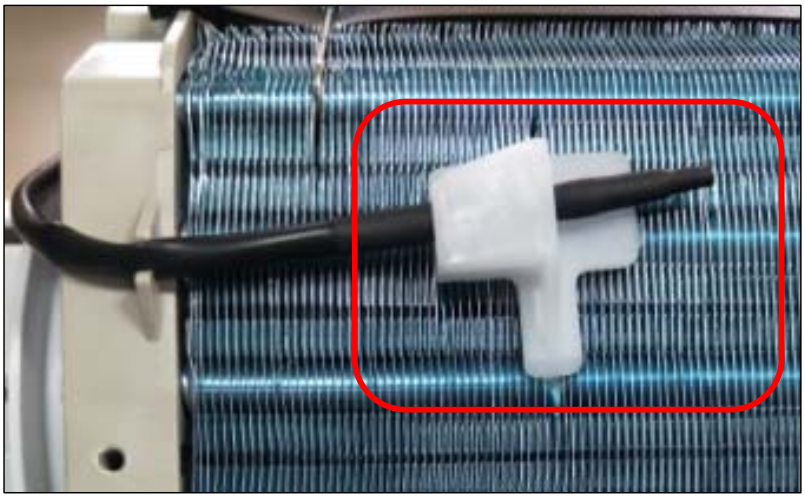
1) Use a tool to remove the screws shown in Figure 1 (there are two in the marked position)Note: The screw specification is ST3.9×12/large flat head/flat tail

2) Use tools to remove the screws shown in Figure 2 and Figure 3 (there are two in the marked position)Note: The screw specification is ST3.9×12/large flat head/pointed tail

3) Lift the upper part of the water pumping motor to take out the water pumping motor

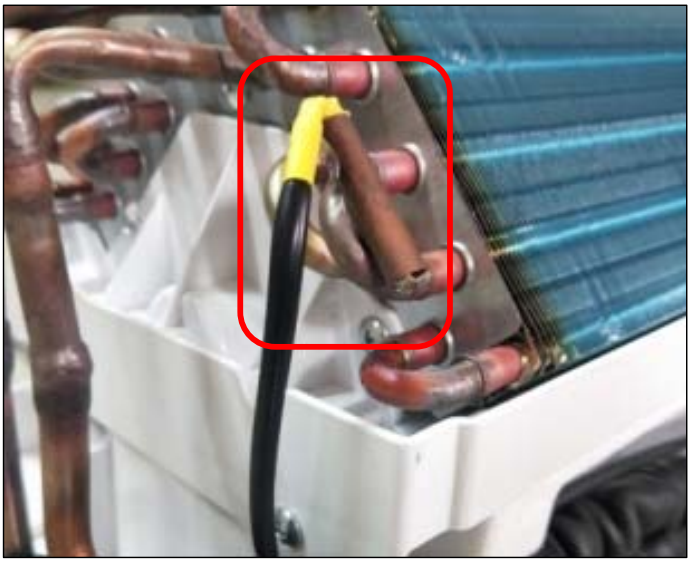
2.5.10 Sensor removal

1) Outdoor temperature sensor. Cooperate with the hole position of the plastic part, can be pulled out directly

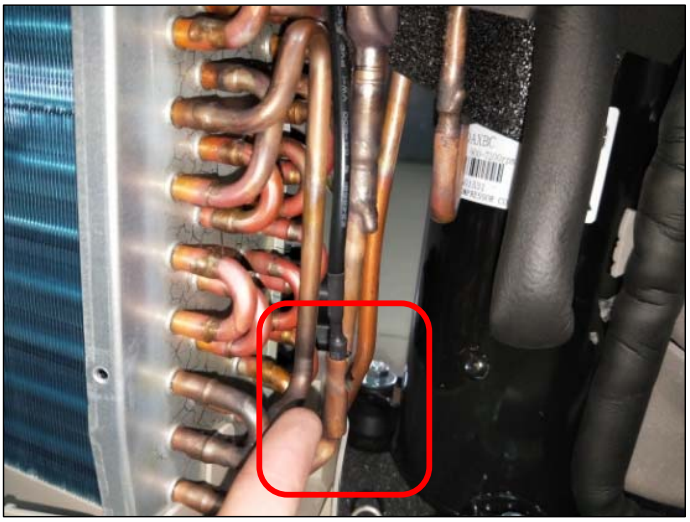


2) Indoor temperature sensor. Cooperate with fixed card, can be removed directly

3) Exhaust pipe temperature sensor. Use circlips, cable ties and copper pipes to lock, use tools to cut the cable ties and remove them
Note: Please pay attention not to lose the metal circlip when disassembling



④Evaporator temperature sensor



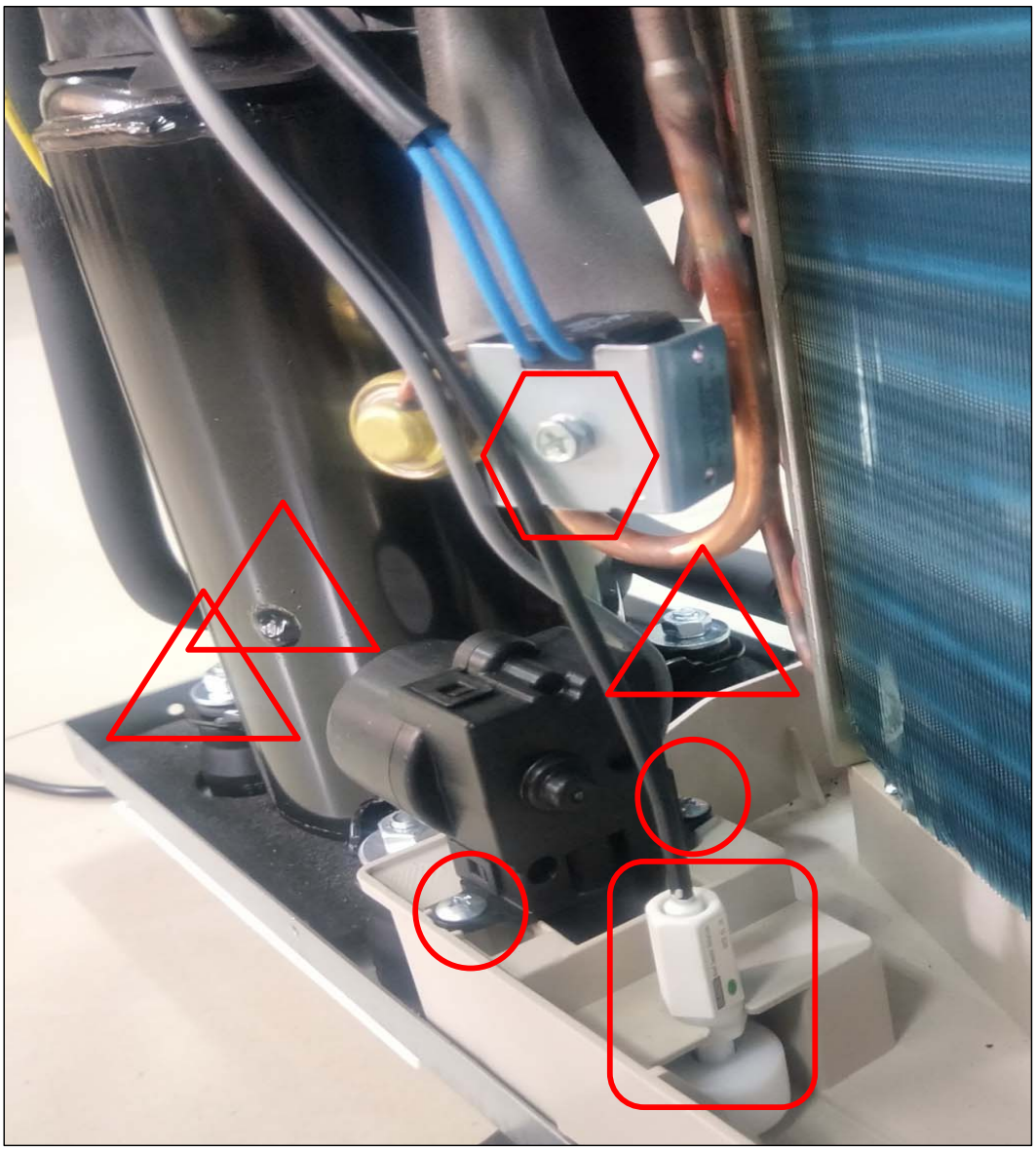
⑤Condenser temperature sensor

⑥Return air pipe temperature sensor

4) ④, ⑤, ⑥The sensor is matched with the copper tube and can be pulled out directly

Note: There is a metal circlip for pressing the sensor in the copper tube, please be careful not to lose it when disassembling

2.5.11 Removal of other electronic control components



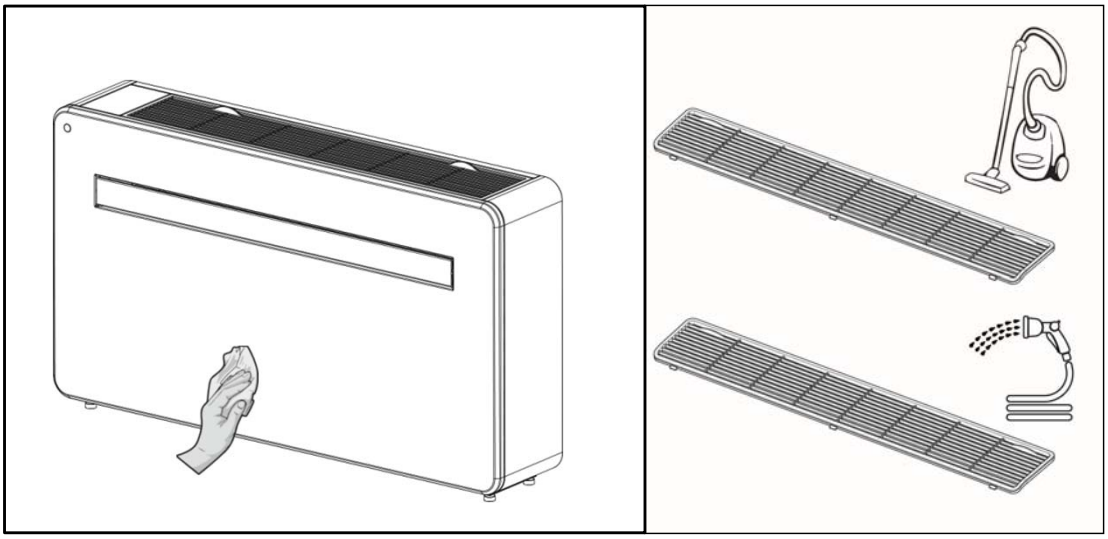
1) Use a tool to remove the screws (a total of two in the circular mark position), then the drain valve assembly can be removedNote: The screw specification is ST3.9×12/large flat head/flat tail

2) Use a tool to remove the bolts of the drawing (there are one hexagon mark position), then the four-way valve coil can be removed
Note: The bolt specification is M5×10/with spring washer

3) Use a wrench to remove the nuts (three in the triangle mark position), then the compressor can be removedNote: The nut specification is M8

4) Manually rotate the plastic column in the square marking area counterclockwise to remove the float assembly

Maintenance



Cleaning: Removing the filter and clean it, then put it back in place after it is clean and dry;
Precautions:
1) Be sure to turn off the machine and pull out the plug before cleaning;
2) If you really need to clean the inside of the unit, please contact a professional;
3) Please use a semi-damp soft cloth or a neutral detergent to clean the surface of the body.
Do not use chemical solvents such as benzene, gasoline, alcohol, etc. to clean the air conditioner

Trouble shooting

Please do the following checks before contacting a professional:

Trouble	Check	Solution
The A/C doesn'twork	Is there a power failure? The plug is not plugged in? Has the fuseblown or turned off? Is the time settingappropriate? Is the water full warning?	normal phenomenon Plug in the power plug firmly. Replace the fuse or turnon the power supply. Change the time setting. Pour out the water.
The cooling/heating effect is not good	Is the air inlet andoutlet blocked? Are there othersources of heating indoors? Is the filter too dirty? Is the temperature settingappropriate? Is the fan speedset at the lowest level?	Clear the blockage. Remove other heat sources. Clean the filter. Change the temperature.Choose the appropriate windspeed.

Note: When the following abnormalities occur to the air conditioner, turn it off and unplug it, and then contact a professional electrician.

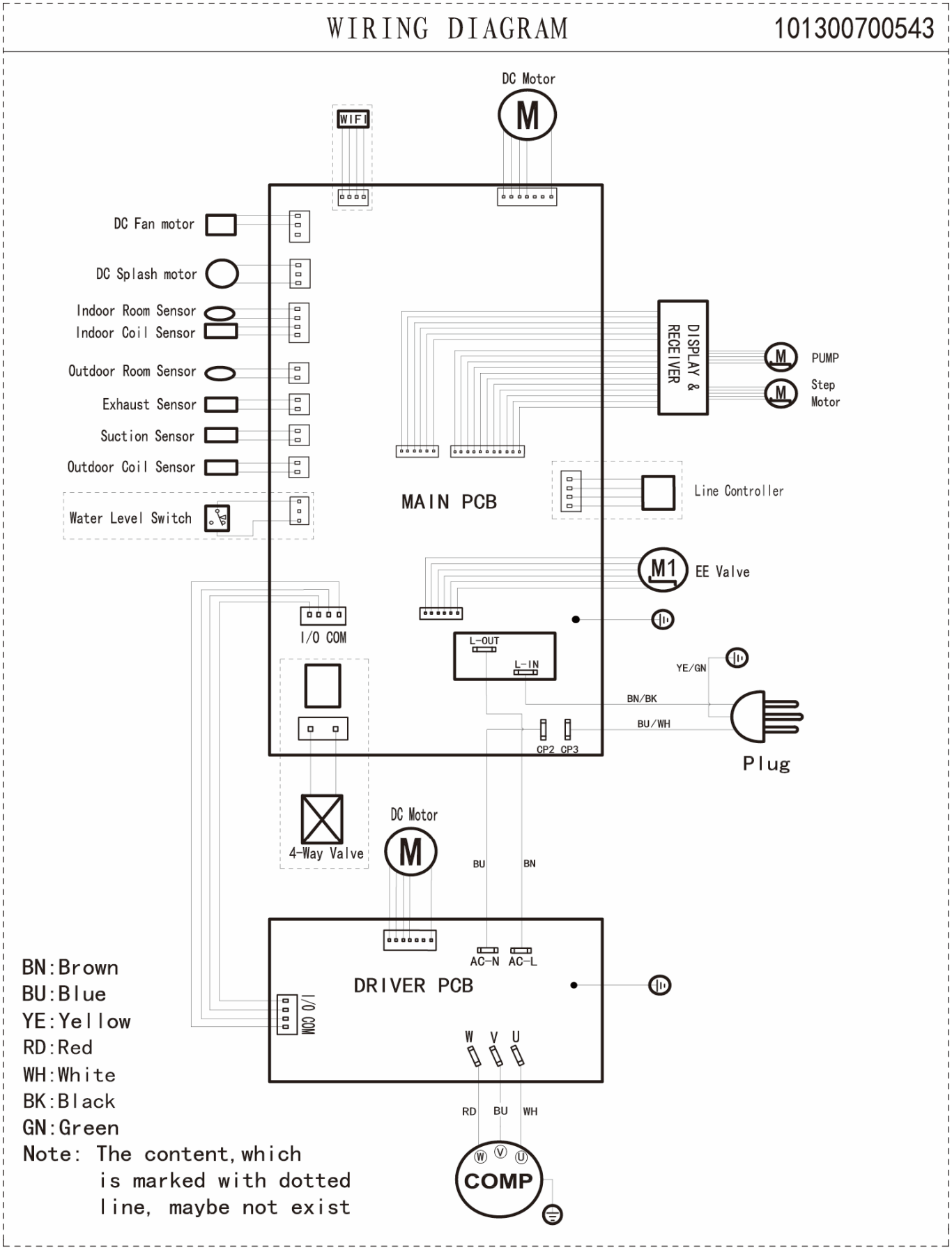
- The fuse is often broken.
- The power cord is overheated or the skin of the cord is exposed.
- The body produces an abnormal smell.

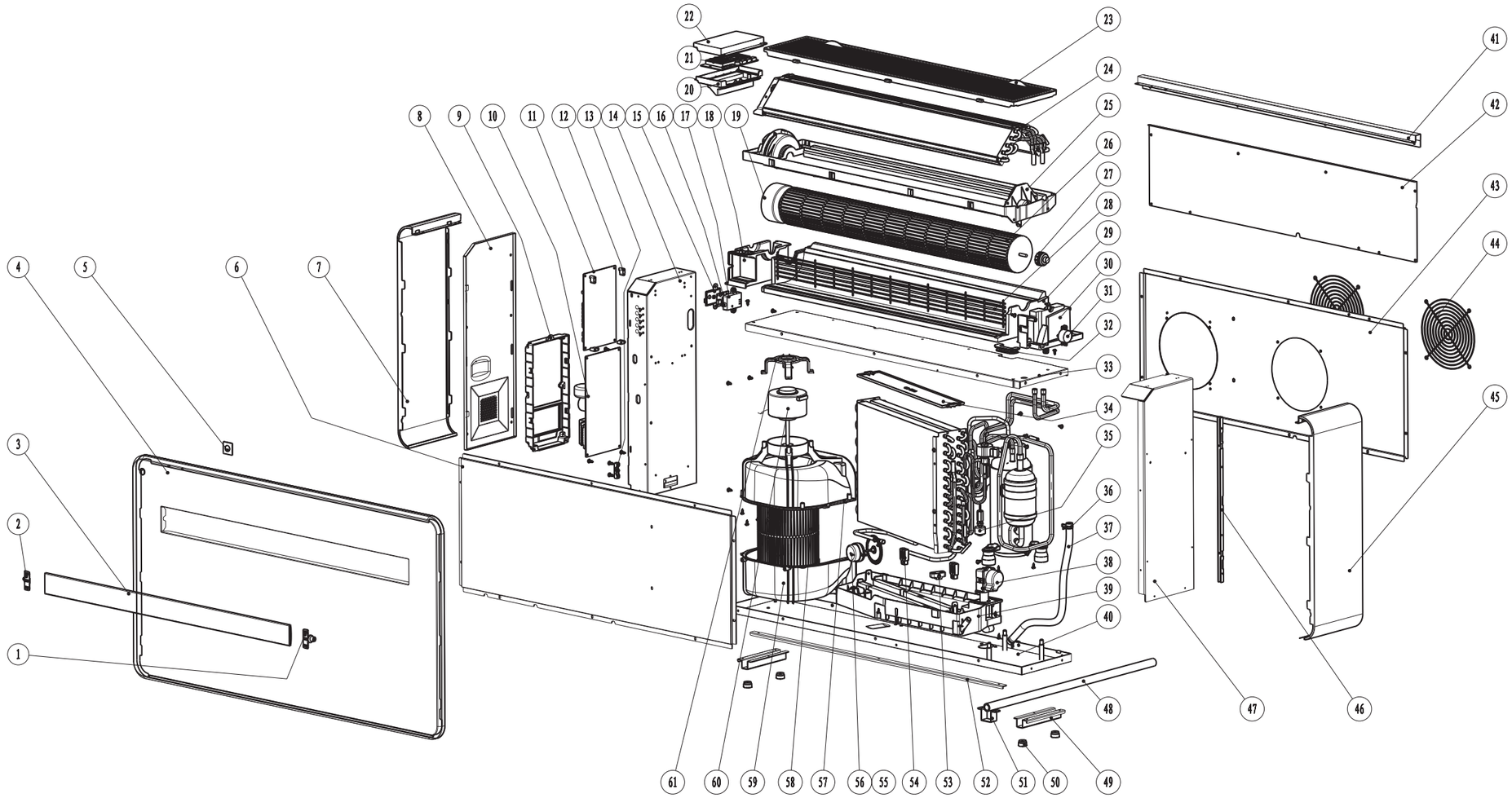
Trouble shootings:

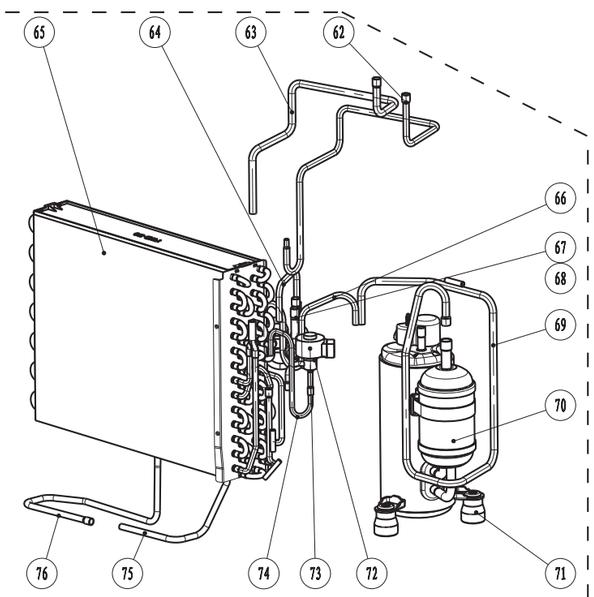
Troubles	Error code
IPM (Compressor IPM error)	F1
PFC/IPM error	F2
Compressor start error	F3
Compressor running out of step	F4
Location detection loop failure	F5
Phase current overcurrent protection	FA
Dc bus voltage Undervoltage protection	P2
Communication error (indoor and outdoor)	E4
PCB communication error	F6
AC Input voltage protection	P3
AC over-current protection	P4
AC undervoltage protection	P5
Coil sensor error (outdoor)	F7
Sensor on suction pipe error	F8
Sensor on discharge pipe error	E0
Temperature sensor error (outdoor)	E6
Fan motor error (outdoor)	E7
EE error (outdoor)	FE
Return air sensor temperature abnormal protection)	PA
Over-heat protection on top of compressor	P1
Abnormal refrigerant circulation	PE
Exhaust temperature protection	PH
Coil tube overload protection (outdoor)	PC
DC fan Feedback failure (indoor)	E3
Coil tube overload protection (indoor)	P6
Defrost protection on coil tube (indoor)	P7
Sensor error on indoor coil tube	E2
Temperature sensor error (indoor)	E1
Zero-crossing fault detection (indoor)	P8
EE error (indoor)	EE
Water-splash motor error	E5
Fan feedback fault	E8
Water-full protection	FL

Attention:
When heating light flashes, it means the unit is in defrost mode, it is normal status.

Wiring diagram







76		Heating tube 2
75		Heating tube 1
74		Electronic expansion valve nozzles
73		Electronic expansion valve
72		Electronic expansion valve coil
71		Compressor footing
70		The compressor
69		Compressor sunction pipe
68		Four way valve coil
67		Four-way valve
66		Compressor discharge pipe
65		Condenser assembly
64		Four way valve connection 1
63		Four way valve connection 2
62		Electronic expansion valve nozzle
61		The motor bracket

60		Plastic sealed dc brushless motor
59		Lower air duct 2
58		Exhaust wind turbines
57		Lower air duct 1
56		Dc water drawing motor
55		Water wheel
54		Rubber support block 1
53		Rubber support block 2
52		Front strap
51		Water Management card

50		The rubber feet
49		Chassis stents
48		Drain pipe
47		Light support plate
46		Right link bar
45		right Left cover
44		Rear protectin filter
43		Back panel
42		The after cover plate
41		Support bar
40		Base
39		Under water pans
38		Water release switch assembly
37		Water pipe
36		Torsion spring
35		Water level switch
34		Condenser cover
33		The partition
32		Middle partition seal rubber
31		Stepper motor
30		The right base
29		Air duct foam
28		Outlet guard
27		Rotor shaft sleeve
26		Air supply wind turbines
25		Water pans
24		Evaporator assembly
23		Filter
22		panel mirror
21		Display light panel
20		Display panel mounting box
19		Plastic sealed dc brushless motor
18		Left base
17		WIFI protective box
16		WiFi module
15		WIFI protection box cover
14		The left support plate
13		Line pressing board
12		Isolation column
11		Main control panel
10		Variable frequency drive plate
9		Plastic electric control box
8		Electronic control box cover
7		Left cover
6		Front cover
5		The front panel
4		Remote control receiver
3		Air deflector
2		Air deflector fixing part
1		Guide vane right fixed card

NOTE CONCERNING PROTECTION OF ENVIRONMENT

This product must not be disposed of via normal household waste after its service life, but must be taken to a collection station for the recycling of electrical and electronic devices. The symbol on the product, the operating instructions or the packaging indicate such disposal procedures. The materials are recyclable in accordance with their respective symbols. By means of re-use, material recycling or any other form of recycling old appliances you are making an important contribution to the protection of our environment. Please ask your local council where your nearest disposal station is located.

INFORMATION CONCERNING USED REFRIGERANT MEDIUM

This unit is containing fluorinated gases included in the Kyoto protocol.
The maintenance and the liquidation must be carried out by qualified personnel.

Type of refrigerant: R32
The quantity of the refrigerant: Please see the unit label.
The value GWP: 675 (1 kg R32 = 0,675 t CO_2 eq)
GWP = Global Warming Potential

 Appliance filled with flammable gas R32.

In case of quality problem or other please contact your local supplier or authorized service center.
Emergency number: 112

PRODUCER

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This product was manufactured in China (Made in China).

REPRESENTATIVE

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AIR CONDITIONING