

OXYGEN CONCENTRATOR
8F-3AW/8F-5AW

Technical Service Manual

8F-3AW/8F-5AW Oxygen Concentrator Technical Service Manual

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1. TROUBLESHOOTING GUIDE:

SN	Symptom	Probable Cause	Solution
1	Power Interruption Alarm: Press the power switch on the control panel, buzzer alarming, display not lit, device not work.	1) Power cord and wall outlet have poor contact.	1) Re-insert the power cord into wall outlet securely.
		2) Wall outlet no power	2) Change to another wall outlet.
		3) Low power of wall outlet.	3) Change to another wall outlet. Do not use any extension cord.
		4) Breaker reset button raised.	4) Press down the breaker reset button.
		5) If the device is still not working, please contact the supplier.	
2	Concentrator is working, the operating sound is normal, the flowmeter knob can be adjusted but no oxygen output or weak output	1) Leakage between humidifier bottle and cap.	1) Re-insert the power cord into wall outlet securely.
		2) The safety valve of humidifier is opened.	2) Change to another wall outlet.
		3) The connection between oxygen output and humidifier is leaking.	3) Re-install the humidifier tubing.
		4) The accessory (nasal cannula, mask, humidifier, tubing..., etc.) is leaking.	4) Replace the leaked accessory.
		5) If the phenomenon is still appeared, please contact the supplier.	
3	Concentrator is working, but green light, yellow light illuminate at the same time.	1) $50\% \leq \text{Oxygen Purity} \leq 82\%$.	1) Clean or replace the filter. (Figure 1)
		2) Oxygen flow rate over the maximum recommend flow rate: 3L/min(8F-3AW); 5L/min(8F-5AW).	2) Adjust the flow rate only according to the advice of a physician.
		3) If the phenomenon is still appeared, stop using the device, please contact the supplier immediately.	
4	Concentrator is not working, the red light illuminate, buzzer alarm, the display show "LO".	1) Oxygen Purity $\leq 50\%$.	1) Clean or replace the filter.
		2) Oxygen flow rate over the maximum recommend flow rate: 3L/min(8F-3AW); 5L/min(8F-5AW).	2) Turn off and re-turn on the device. Adjust the flow rate only under the advice of a physician.
		3) If the phenomenon is still appeared, stop using the device, please contact the supplier immediately.	
5	Concentrator is not working, the red light illuminate, buzzer alarm, the display show "E1".	1) System cycle pressure is too low.	1) Clean or replace the filter.
		2) If the phenomenon is still appeared, stop using the device, please contact the supplier immediately.	
6	Concentrator is not	System cycle pressure is too high.	Stop using the device, please contact the

	working, the red light illuminate, buzzer alarm, the display show "E2".		supplier immediately.
7	Concentrator is not working, the red light illuminate, buzzer alarm, the display show "E3".	Compressor circuit is opened.	Stop using the device, please contact the supplier immediately.
8	Concentrator is not working, the red light illuminate, buzzer alarm, the display show "E4".	Compressor circuit is closed.	Stop using the device, please contact the supplier immediately.
9	The nasal cannula is fogged with vapor or full of liquid drops.(Remove the vapor or liquid drops method: Turn on the device and connect the tubing to the oxygen outlet. Use your finger to block and release the end of the tubing several times to remove the moisture and liquid.)	1) Poor ventilation around the around the device, so operating temperature is too high.	1) Make sure the device is at least 10 cm away from the walls, other jam or heater.
		2) The water which added to humidifier is too hot.	2) Add cold water to humidifier.
		3) Add too many water into humidifier.	3) Water added should between the maximum and minimum levels in humidifier.
		4) The device stops suddenly during operating.	4) Turn off the device immediately. Restart the device to remove the moisture and liquid.
		5) Accessory is connected to the device. The tubing is kinked and the device stops suddenly	5) Smooth the nasal cannula and tubing.
		6) Cooling fan which mounted inside the device stop running or rotate slowly, make the operating temperature is too hot.	6) Replace the cooling fan. ⊙ Note: Cut off the power first. And perform by qualified personnel only.
		7) If the phenomenon is still appeared, the device can be used but please contact the supplier.	
10	*During nebulizing operating, the nebulizing rate is too small or not working. (8F-3AW, 8F-5AW)	1) Neublizer components installed incorrect.	1) Install the nebulizer correctly.
		2) Neublizer deformed due to washing or disinfection.	2) Replace the nebulizer.
		3) Neublizer output is blocked.	3) Clean or replace the nebulizer.
		4) Add too much medicinal liquid into the nebulizer.	4) Add medicinal liquid into the nebulizer according to physician prescription and not over the maximum level.
		5) If the phenomenon is still appeared, stop using nebulizer, please contact the supplier.	

11	Remote control malfunction.	1) Do not use the remote controller in the receiving area.	1) Operate the remote controller in the front side of the device.
		2) Low battery.	2) Replace the battery in the remote controller.

2. DISASSEMBLE STEPS (For qualified maintenance personnel)

⚠ NOTICE : PLS SWITCH OFF THE POWER BEFORE DISASSEMBLING THE DEVICE TO PROTECT FROM THE RISK OF ELECTRIC SHOCK

1) DISASSEMBLE THE FRONT AND BACK COVERS

- Ø Shut off the power switch, pull out the power plug.
- Ø Using the cross screwdriver to unscrew the 7 screws in the back over and 4 screws on the button, unclench the back cover with straight screwdriver along with the position of picture , and then separate the front and back covers. (Figure 1,Figure 2)
- Ø Pull out the alarm detecting wire, Two-core wire of switch and, and remove the back cover. (Figure 3,Figure 4)
- Ø Cut out the tieline buckle on the nebulizer PU tube , pull out the PU tube.(Figure5)
(Only supply to 8F-5AW)
- Ø Pull out the pipeline of the air tank(Figure 6)
- Ø Pull up the Severn-core wire of display board and Four-core wire of oxygen sensor, take down the front cover(Figure 7)

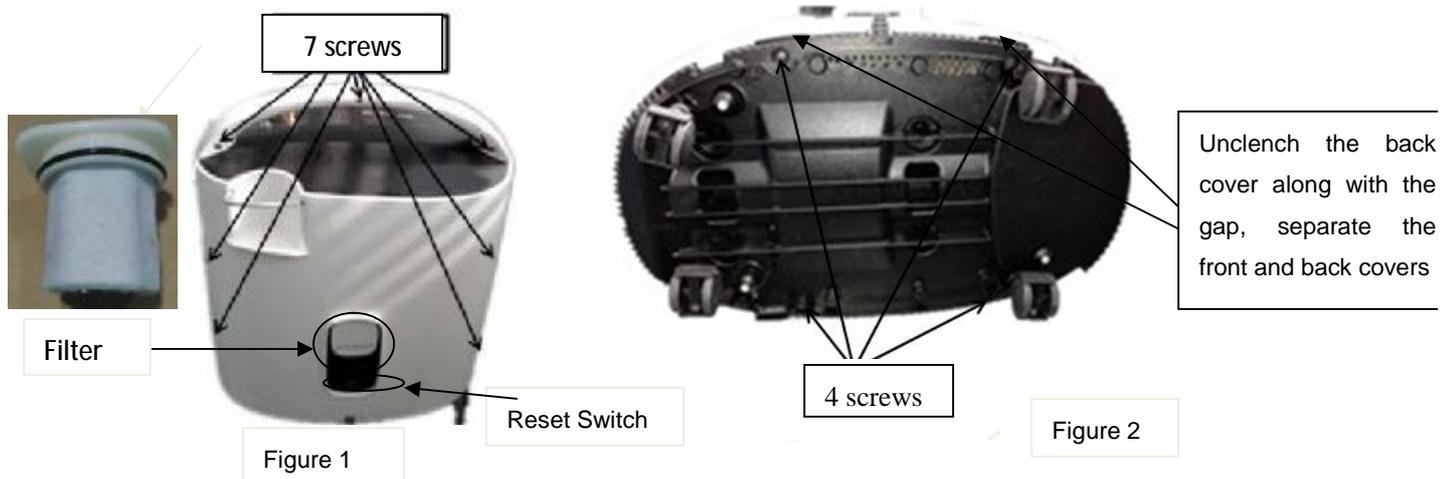




Figure 3

Inlet muffle



Figure 4

Alarm detecting wire

Two-core wire of switch



Cut out the tieline buckle
(only apply to 8F-5AW)

Figure 5



Pull out the pipeline

Figure 6



Figure 7

Severn-core wire of display

2) DISASSEMBLE OXYGEN SENSOR

- Ø Take down the front cover,pull out the inlet&outlet pipelines and the two plugins on the Oxygen Sensor
- Ø Using the straight screwdriver to unclench the left Buckle on the Oxygen Sensor, then pull out the Oxygen Sensor.(Figure 8)

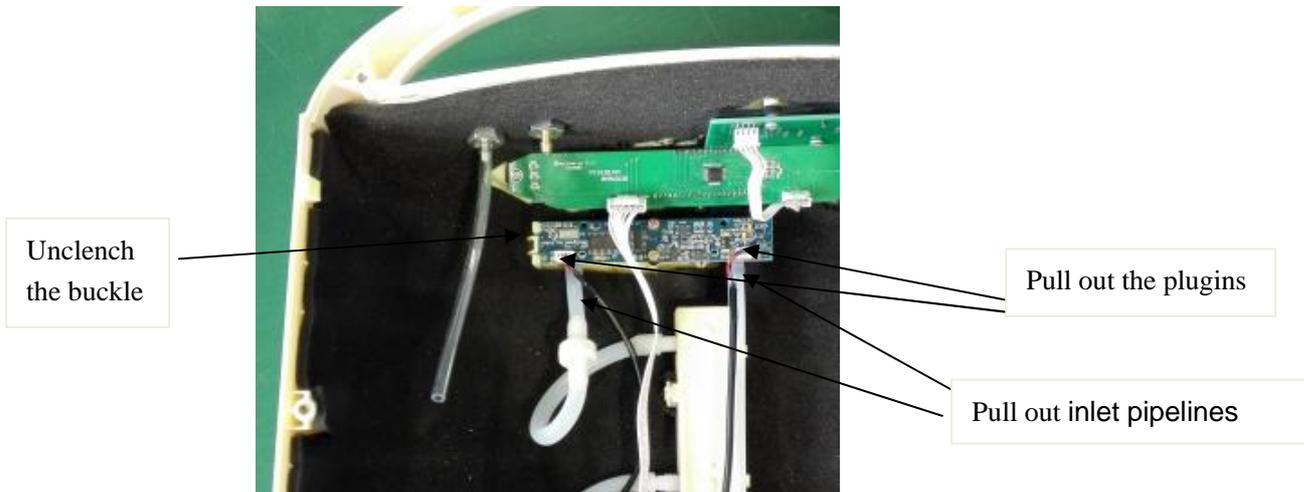


Figure 8

3) DISASSEMBLE DISPLAY BOARD AND BUTTONS BOARD

- Ø Take down the front cover, pull out the plugings on the display board and buttons board.
- Ø Using the cross screwdriver to screw the two screws on the display board, then disassemble the display board .
- Ø Using the cross screwdriver to screw the two screws on the buttons board, then disassemble the buttons board. (Figure 9)

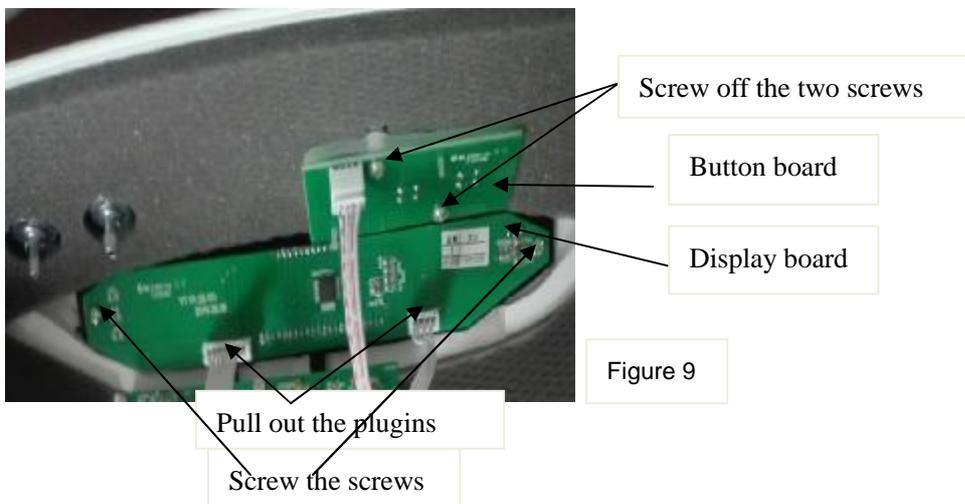
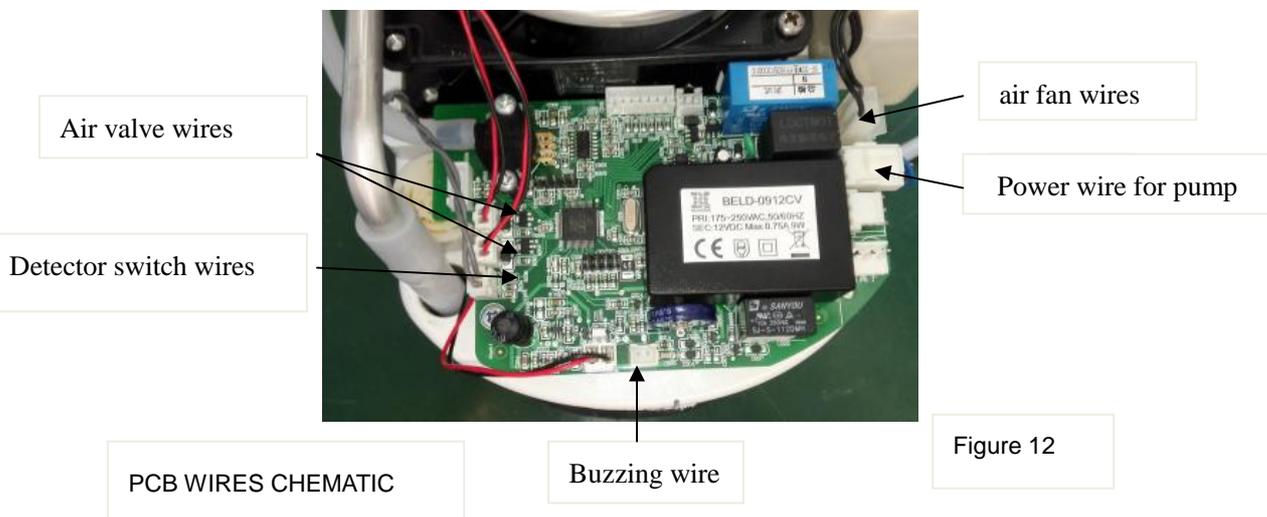
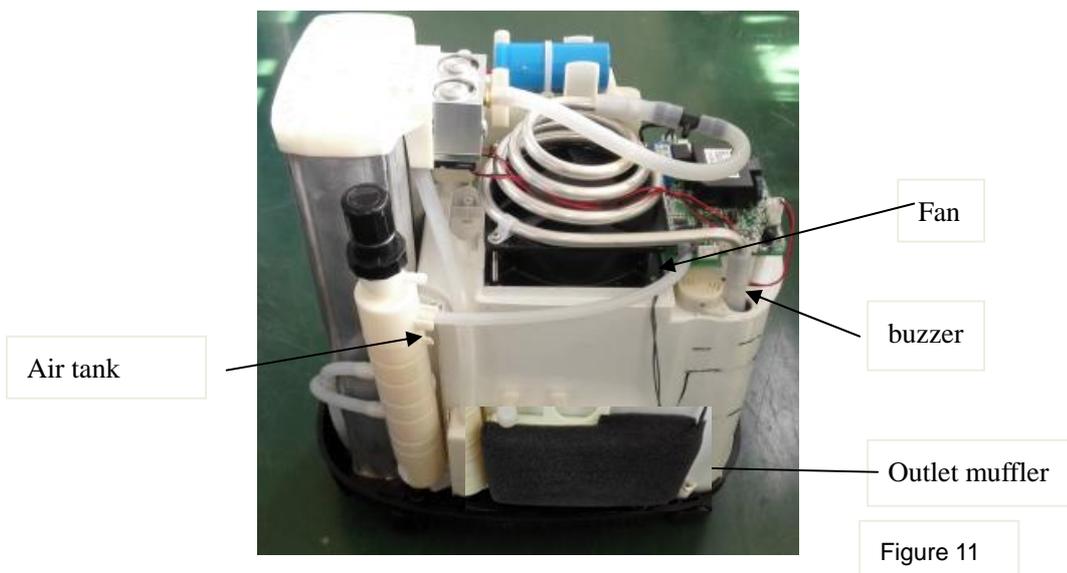
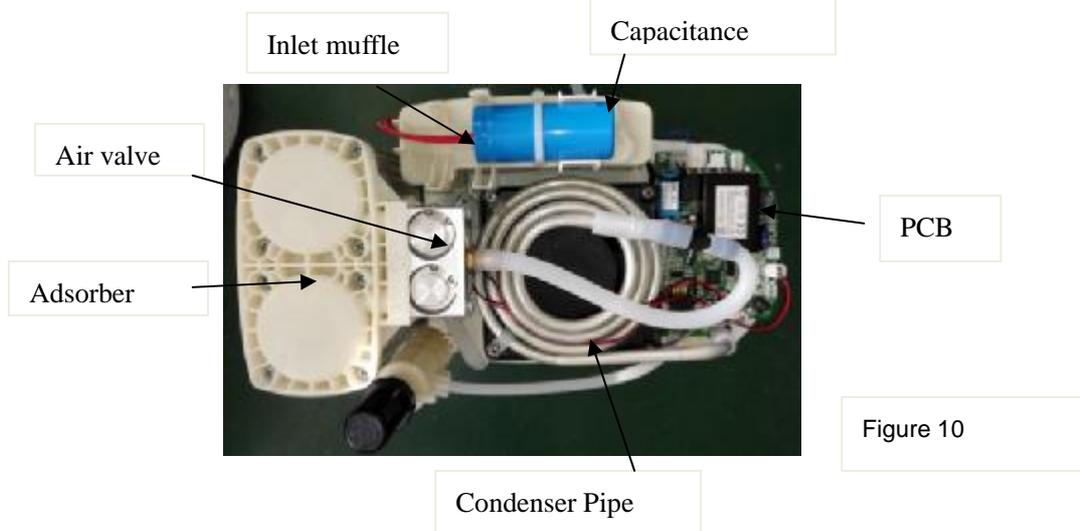


Figure 9

4) Device diagram after removing the front and back covers (Figure 10,11,12)



5) DISASSEMBLE EXHAUST MUFFLE

After pulling up the exhaust muffle, pull out the upper pipeline to take away the exhaust muffle(Figure 12)

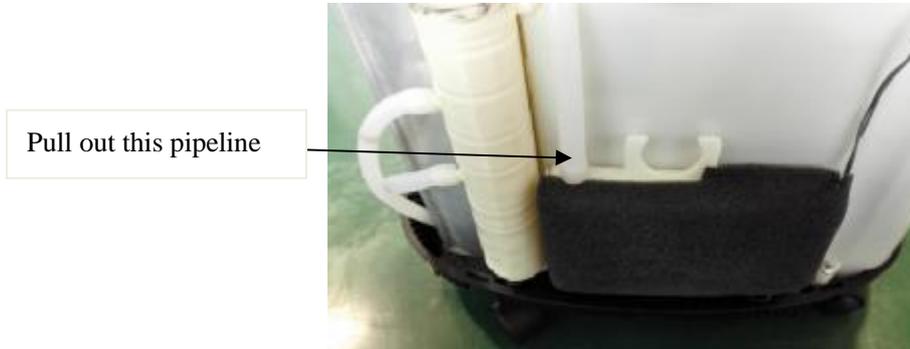


Figure 13

6) DISASSEMBLE THE AIR TANK

Ø Pull out the two pipelines at the inlet-end of the air tank and test-end pipeline, pull upright the air tank (Figure 13)

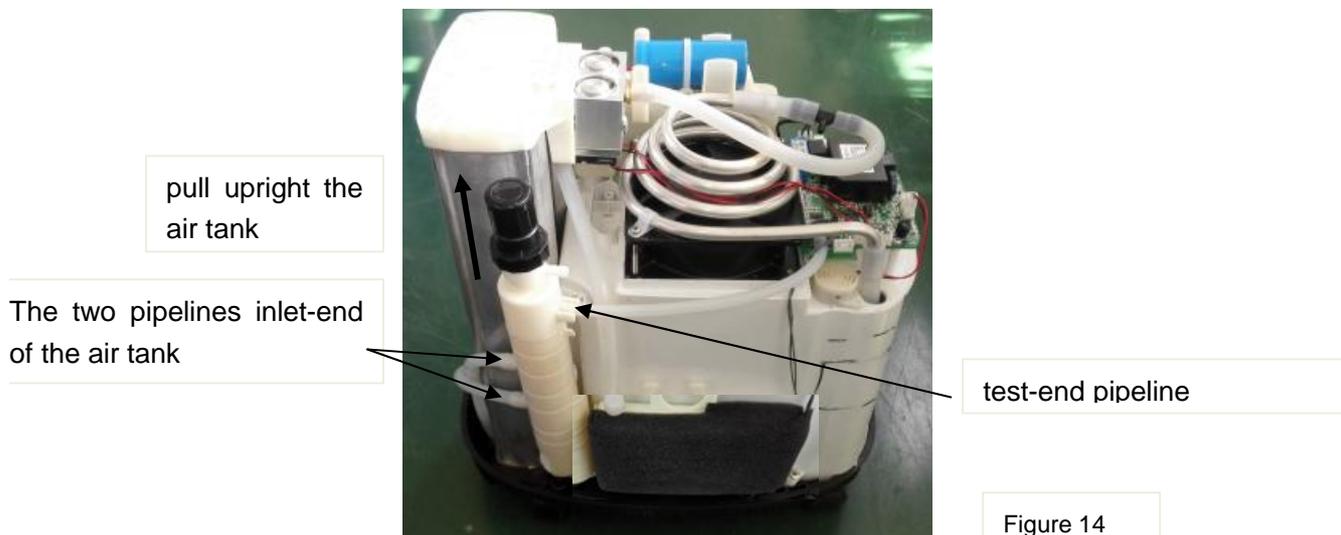
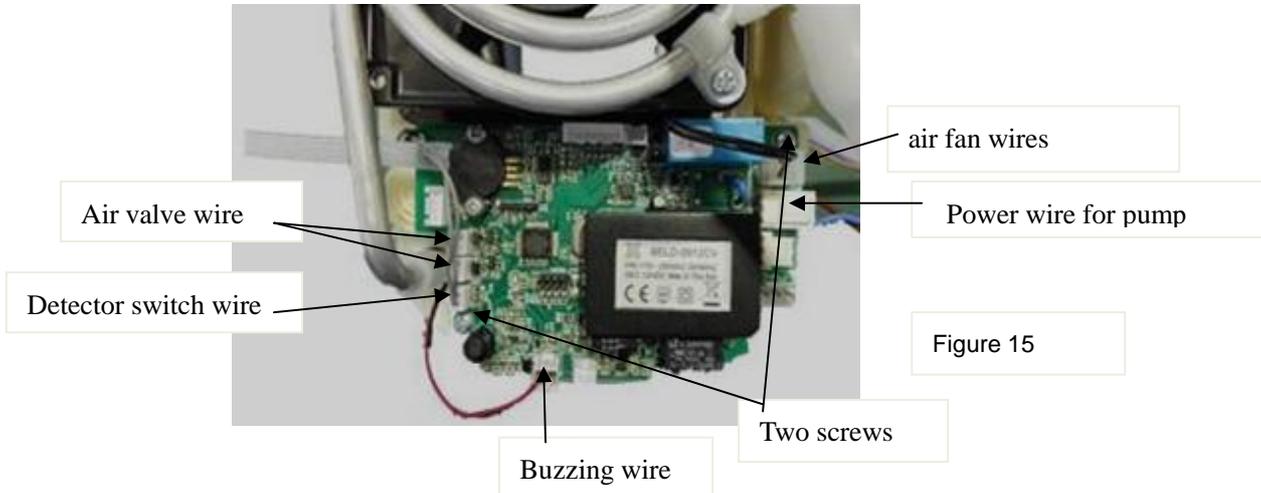


Figure 14

7) DISASSEMBLE PCB

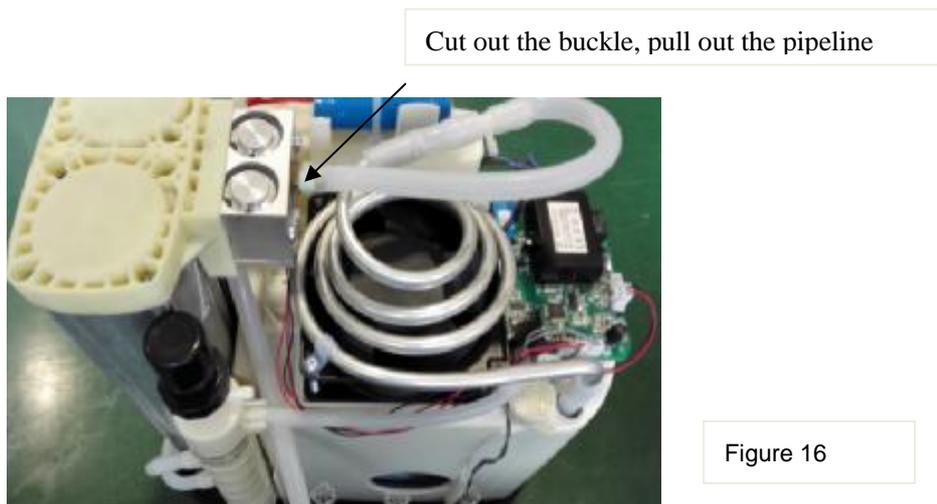
- Ø Pull out the wiring harness on the PCB
- Ø Using the cross screwdriver to screw the two screws. (Figure 15)



8) DISASSEMBLE ADSORBER

- Ø Cut out the tieline buckle on the air valve inlet, and after pulling out the pipeline, take away the adsorber.

Figure 16



9) DISASSEMBLE CONDENSER PIPE & FANS

- Ø Screwing the 3 screws fixed to condenser pipe & fan.
- Ø Cut out the buckles on the in&outlet-end of the condenser pipe, pull out the pipeline, take away the condenser pipe & fans . Figure 17 ,18 , 19 .

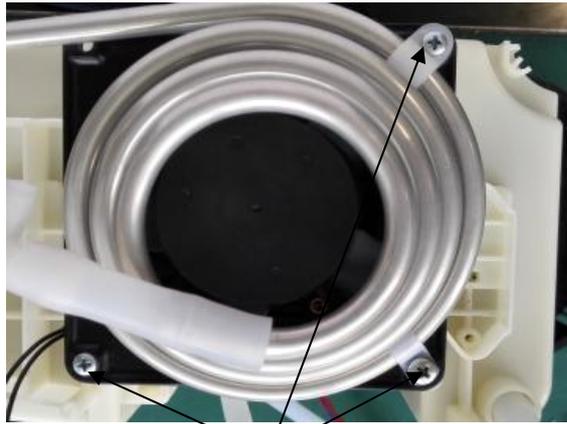


Figure 17

3 screws



Figure 18

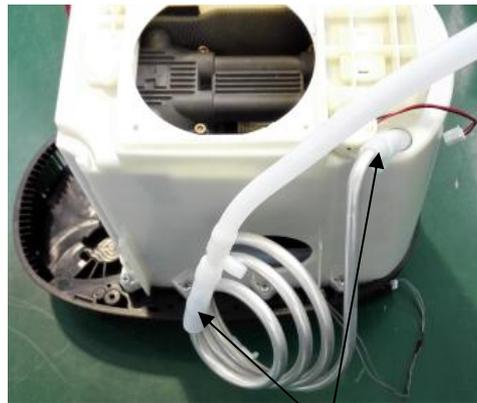
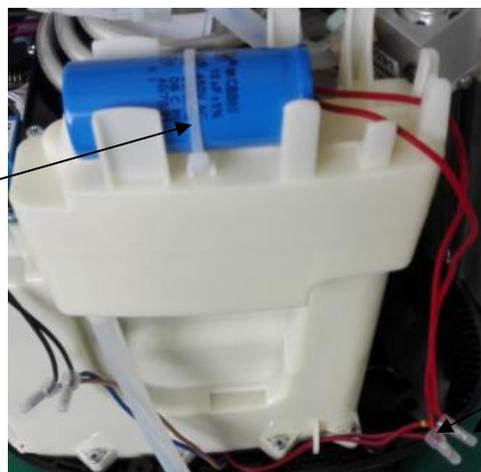


Figure 19

Cut out the buckle, pull out the two silicone tubes

10) DISASSEMBLE CAPACITANCE

- Ø Cut out the fixed buckle
- Ø Cut out the wiring cap then take away the capacitance . Figure 20



Cut out the buckle

Cut out the wiring cap

Figure 20

11) DISASSEMBLE INTAKE MUFFLE

Ø Pull out the intake pipeline of the muffle , the take down the intake muffle .Figure 21

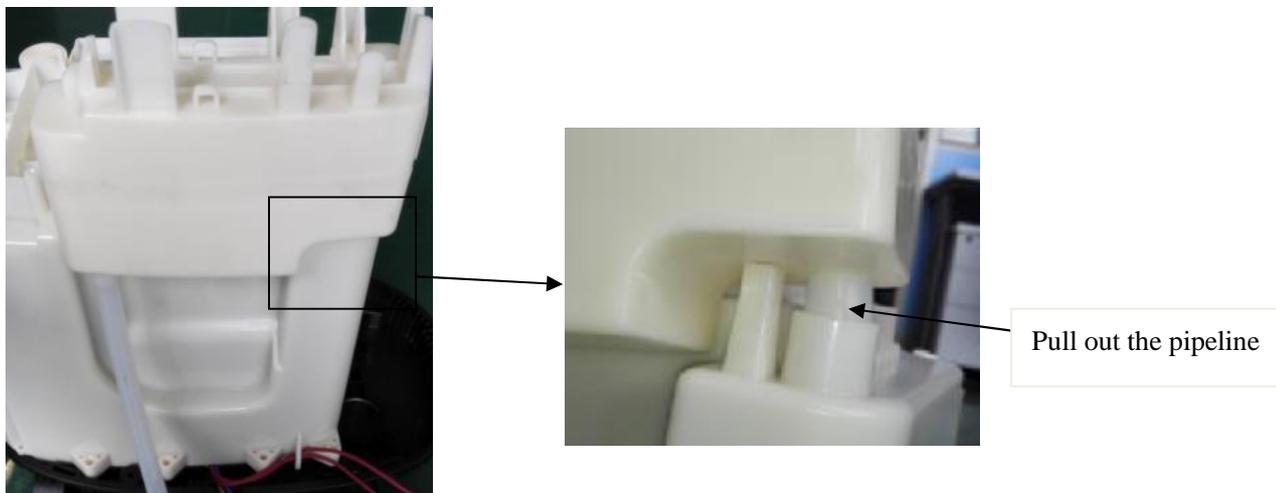


Figure 21

12) DISASSEMBLE THE INSIDE CASE

Ø Using the cross screwdriver to disassemble the 8 screws under the inside case,Figure 22

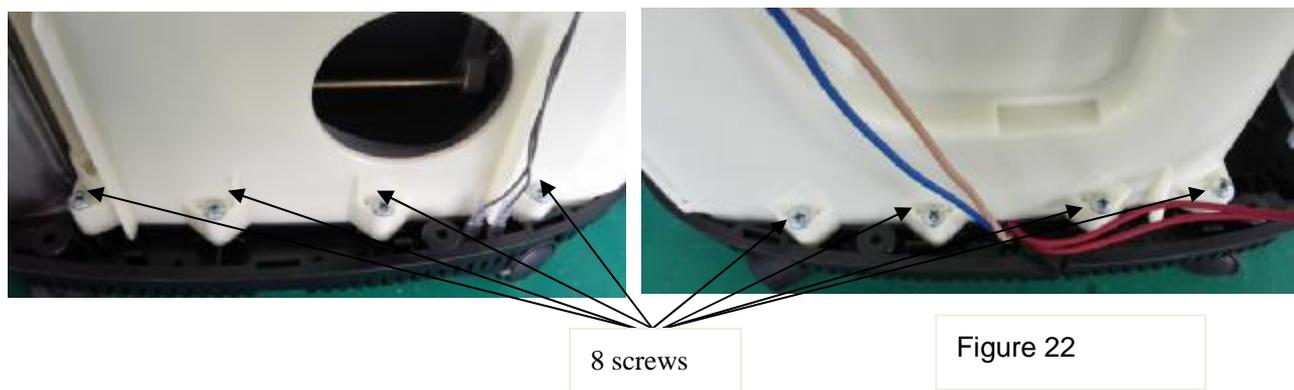


Figure 22

13) DISASSEMBLE COMPRESSOR PUMP

- Ø Pull upward the compressor pump (Figure 23)



Figure 23

14) DISASSEMBLE CASTORS AND DETECTION SWITCH

- Ø Using the straight screwdriver inserting into the gap between the castors and outside case, then disassemble the castors. (Figure 24)
- Ø Push out the detection switch from inside to outside (Figure 25)

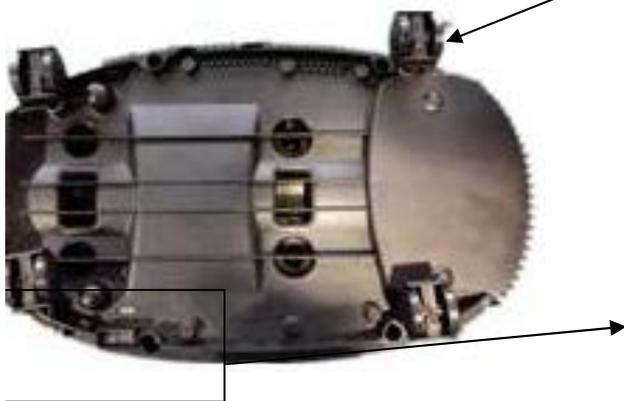


Figure 24

Using the straight screwdriver prying up the castors



Figure 25

Push out the detection switch from inside to outside