

Fume Hood

FH(A) series

MAINTENANCE MANUAL

(Apply to FH1000(A), FH1200(A), FH1500(A), FH1800(A) Fume Hood)

CONTENT


Part 1. Failure and Maintenance 1

- Failure 1. The device is not powered 1
- Failure 2. Digital tube does not shine (The buzzer sounds normally after powering on) 5
- Failure 3. Button no response and Digital tube is not bright(power on alarm) 6
- Failure 4. Front window fail to work 6
- Failure 5. Front window fail to work 13
- Failure 6. Fluorescent lamp doesn' t work 15
- Failure 7. UV lamp fail to work 17
- Failure 8. Fan does not work 19
- Failure 9. Fan speed adjustment failure 23

Part 2. The replacement of spare parts 24

Part 3. Appendix: wiring diagram 27


Part 1. Failure and Maintenance

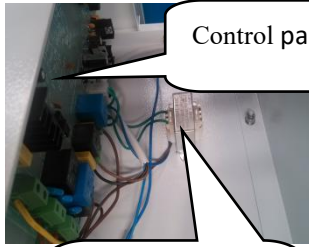
 Note: The following maintenance testing, please allow professionals to operate, to avoid accidents caused by improper operation.


Failure 1. The device is not powered

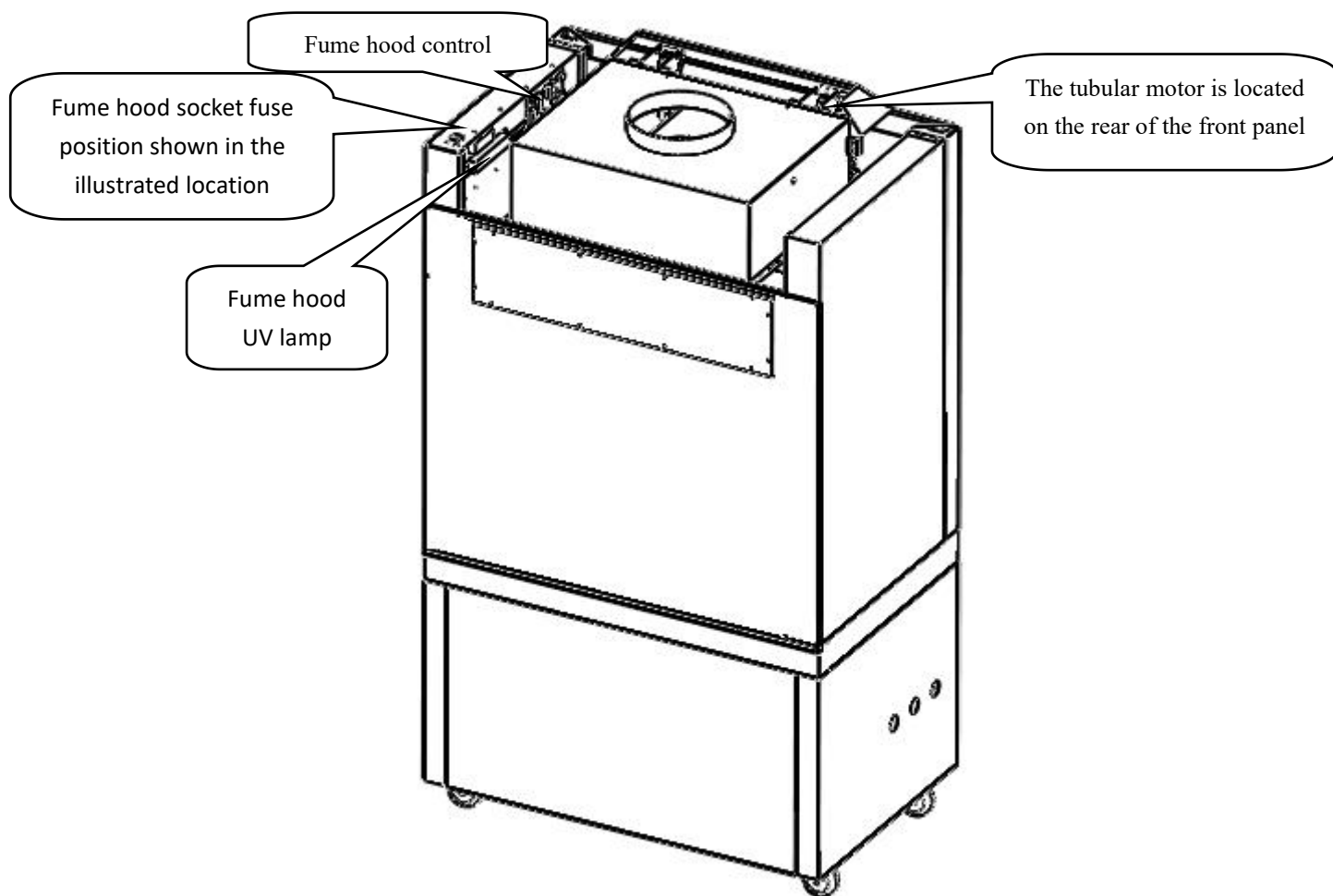
It means there is not any response, when the power switch and control panel switch is turned on(buzzer does not ring, display screen does not light, button has no response).

Handling methods and steps are as below,

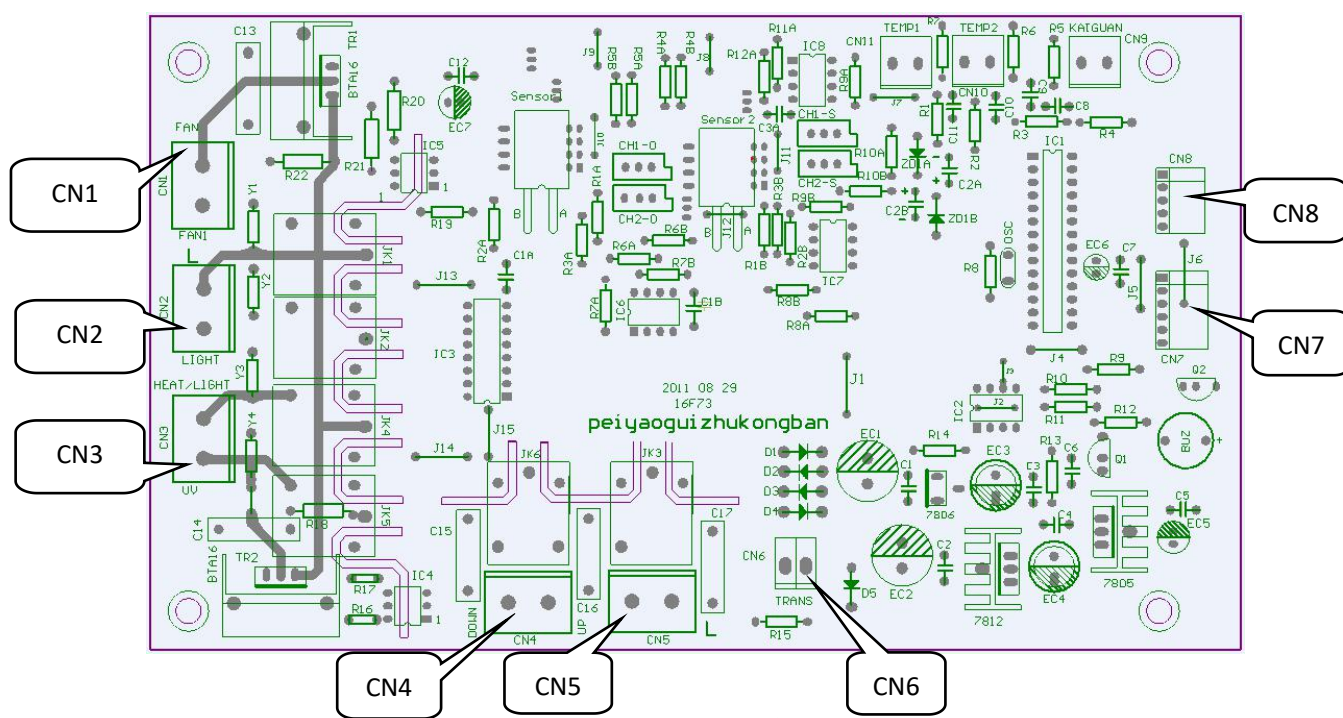
Detection location	Processing method	Changing method	Diagram
Power Wire	Use a multimeter to determine whether the power wire is broken or damaged.		
Power Fuse	After confirming that there is no problem in the above items, make sure the fuse is blown, and the fuse is on the top of the right side of the fume hood. If the fuses are blown, please replace the fuses with same specification on the label.	The round fuse holder on the top of the right board of fuse cabinet according to the label to determine, F5A $\phi 5 \times 20$ mm and F10A $\phi 5 \times 20$ mm. Turn off the power and unplug the plug, rotate the socket fuse holder counter-clockwise with the Phillips screwdriver, then replace a new socket fuse and Press clockwise to turn on the socket fuse. Similarly, replace live wire	

		fuse with the Flat-blade screwdriver.	
transformer	<ol style="list-style-type: none"> 1. Confirm the above items no problems, turn on the power and use a multimeter to check the input voltage of the transformer (the voltage value should be the supply voltage of the equipment) and the output voltage. 2. First of all, with a multimeter AC test transformer input voltage on both inputs AC (this voltage is the grid voltage). 3. Then test the transformer output voltage: test with the multimeter AC file between the two lines CN6 is between 12V-14V voltage, indicating that this group of voltage output is correct, if the test no voltage, indicating transformer bad, 	<ol style="list-style-type: none"> 1. Turn off the power, mark and take pictures of the transformer harness, separate the transformer harness from the circuit board, remove the old transformer with a wrench. 2. Take a new transformer, in accordance with the photo and markings connected to the wire lines, and then tighten the wrench, power can be. 	 <p>Control panel</p> <p>Top is input, bottom is output</p>

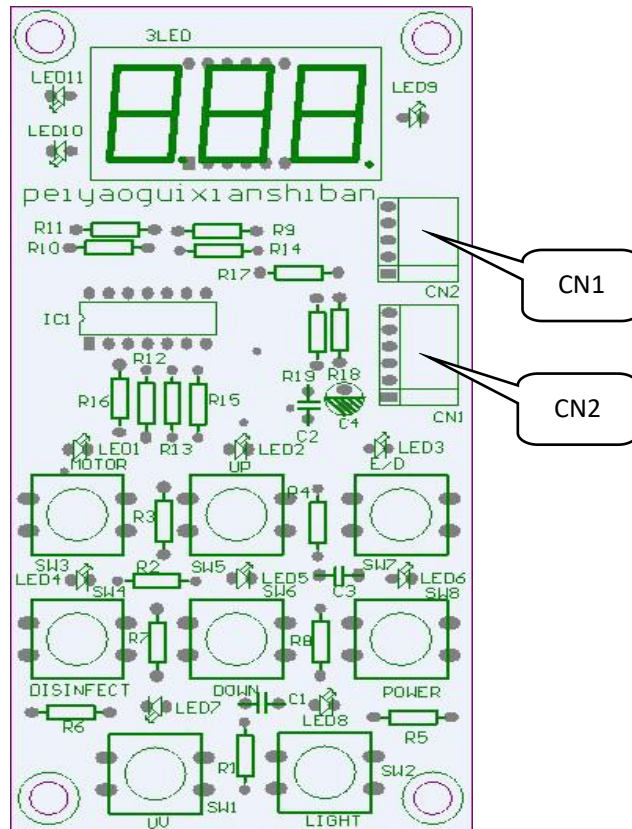
	replace the transformer.		
Cable	After the confirmation of the above items, then confirm whether the cable CN7 in picture2 and CN1 in picture 3 are connected well. Then confirm whether CN8 in picture2 and the CN2 in picture3 are connected well and re-plug.		As shown in picture2 and picture3
Control panel	After the confirmation of the above items, please replace the new control panel.	<ol style="list-style-type: none"> 1. Mark and take photos of the position where the control panel and the beam line connected, then use a wrench to remove the old control panel. 2. Take the new control board, wire the control board according to the previous mark and photo, and install it in the original position with a wrench. 3. Power running, can be correct. 	 <p>Control panel</p>



Picture1



Picture 2 control panel





picture3 Display board

Failure 2. Digital tube does not shine (The buzzer sounds normally after powering on)

Digital tube does not shine (The buzzer sounds normally after power on), It refers to alarm all button function is normal after power on, but the digital tube does not light or no response.

When dealing with such failure, processing method and steps are as follows:

Detection location	Processing method	Changing method	Diagram
Digital tube	Confirm whether the digital tube is damaged or not, replace the new display board if it was damaged.	<ol style="list-style-type: none"> 1. Remove the fume hood display film. 2. Take the Phillips screwdriver to remove the four screws on the display mounting plate and remove the display 	As shown in picture4, picture5

		<p>mounting plate.</p> <p>3. Mark and take a picture of the display panel, then remove the old display board with a wrench, take a new display board, connect the wire with the previously taken picture, then fasten it with a wrench, and attach the display mounting board to the cabinet Body, take the display film attached to the cabinet.</p>	
Cable connection	Confirm whether cable connecting the display board to the control board is in bad contact.		
Control board	Please replace the new control board when above items were confirmed correct.	Control board replacement method refers to Failure 1 mentioned.	

Failure 3. Button no response and digital tube is not bright(power on alarm)




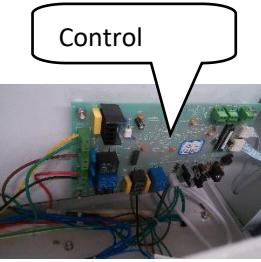
It refers to alarm when power on,button has no response and the digital tube is not bright.

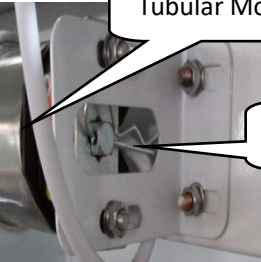
The processing methods can be referred to failure 2 when dealing with such failures.


Failure 4. Front window fail to work



When press "  " or "  " button, the front window glass has no action.

Methods and steps to deal with this failure are as follows:

Detection location	Processing method	Changing method	Diagram
Control panel	<p>Power on the device, start the "  " key, hold down the "  " key to find the control panel (the position of the control panel is shown in picture 1), and then use a multimeter to test the CN4 terminal on the control panel (picture 2) Voltage (voltage values should be the supply voltage of the device). Press and hold "  " button, use the multimeter to detect the voltage between blue and black line of the CN4 terminal (picture 2) on the control panel (the voltage value should be the equipment's supply voltage). If no voltage, control panel is damaged, replace the control panel.</p>	<ol style="list-style-type: none"> 1. Mark and take photos of the position where the control panel and the beam line connected, then use a wrench to remove the old control panel. 2. Take the new control board, wire the control board according to the previous mark and photo, and install it in the original position with a wrench. 3. Power running, can be correct. 	
Tubular Motor	As normal above,	<ol style="list-style-type: none"> 1. Turn off the power, 	

	<p>respectively, the motor brown and blue line or black and blue line directly to the power supply , if tubular motor has no action, it's damaged, replace the tubular motor (tubular motor position as shown in picture 6).</p>	<p>remove the water, gas faucet and sink piping to move the fume hood to the proper position.</p> <ol style="list-style-type: none"> 2. While holding the front panel section, remove the screw shown in picture 4 with a Phillips screwdriver. 3. Lift the front panel up and tilt the front panel forward as shown in picture 5. 4. Then mark and take a picture of the harness part of the display board, disassemble the cable of the display board, remove the connection of the outlet. 5. Hold the front plate section, secure the faucet control valve with the wrench on the inside of the right rim, and use a wrench to turn the inlet water through the counterclockwise stainless steel braided hose(Can be controlled by the arrow on the valve resolution, the 	
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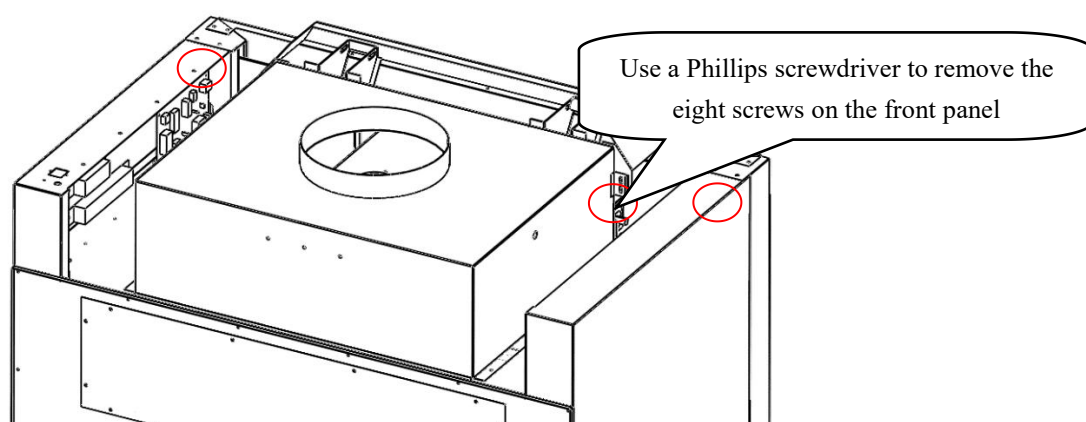
		<p>arrow points to the control valve hose for the inlet pipe, the arrow refers to the control valve for the outlet pipe), separate the hose from the control valve, Then use a wrench to release the faucet control valve so that it can rotate on the right edge, fix the outlet stainless steel braided hose with a wrench and separate the outlet stainless steel braided hose from the control valve by turning the tap control valve counterclockwise , in the same way, separate the faucet control valve and its pipe and then remove the front plate section.</p> <p>6. Detach the belt from the front glass section by loosening the adjustment lock and take care to protect the front glass section.</p> <p>7. Remove the screw on the tubular motor bracket with a</p>	 <p>After removing the fixing pin, remove the fixing bolt and lift the tubular motor</p>
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		<p>wrench, remove the retaining pin on one end of the tubular motor, remove the tubular motor mounting bolt (M4 long bolt shown on the right), and lift another side of tubular motor, then you can remove the tubular motor.</p> <p>8. Take a new same tubular motor, install it in the opposite direction to the tubular motor holder and install the fixing pins. Wiring correctly as the pictures taken before, and use the adjustment locking button to connect the conveyor belt to the glass, and adjust the lock to make tension of the conveyors consistent.</p> <p>9. Power on to test tube motor, and determine if the speed of the conveyor belt tension is same by eyeballing the lifting speed of the both sides of glass door, Whether left and right sides of the front glass is flush , if not, continue to</p>	 
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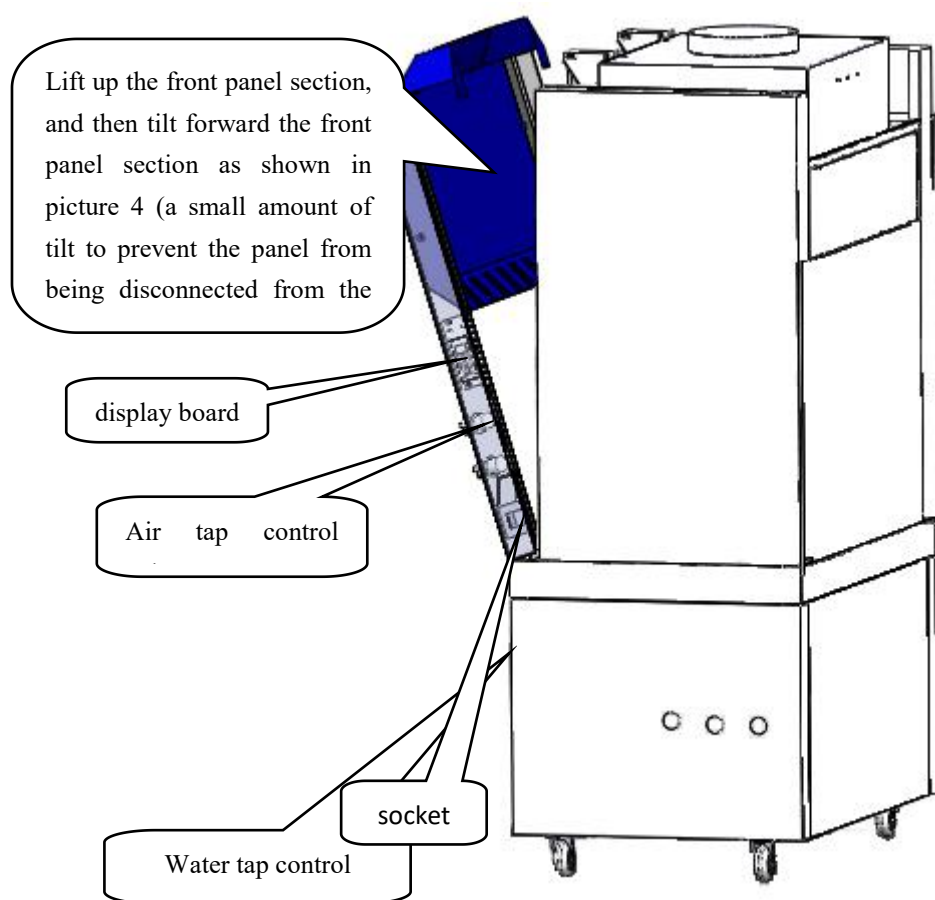
hexagonal
adjusting
rod of the
tubular
motor

		<p>adjust the locking button until the front window glass is flush and the tension is the same.</p> <p>10. Take the hexagonal adjusting rod of the tubular motor (as shown on the right) to adjust Motor stroke. Press the glass door up key on the operator panel, If the glass can not reach the required height, please</p> <p>Counterclockwise turn the regulation hole on the upper side of the tubular motor;</p> <p>If the height of the glass is too high, please turn the regulation hole on the upper side of the tubular motor in clockwise direction ;</p> <p>If the glass does not reach the bottom, please</p> <p>Counterclockwise turn the regulation hole on the lower side of the tubular motor ; if</p> <p>Leaking a long part of the conveyor belt when the glass door down in the end, please turn the regulation hole on the lower side of the tubular motor in clockwise direction ;</p>	
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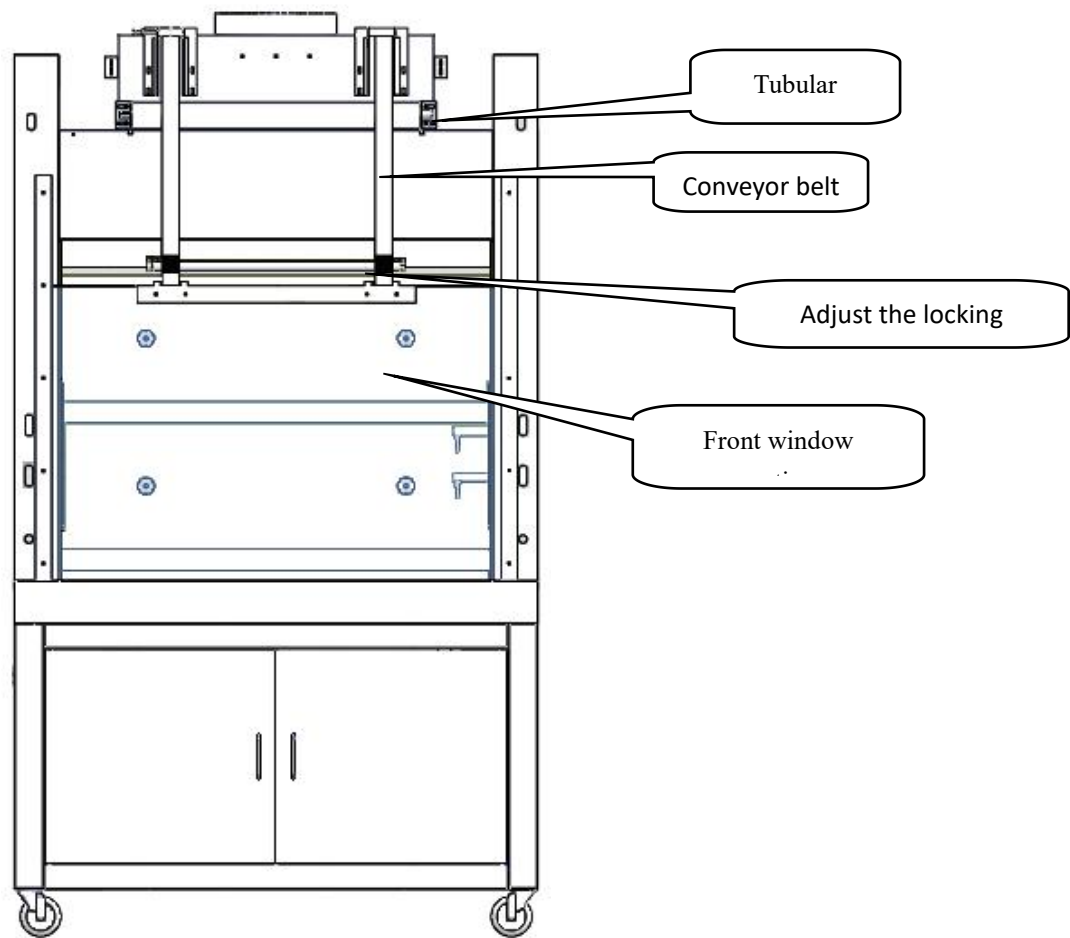
		<p>So let the conveyor belt straightened but not tight when the glass door down in the end, there is $520 \pm 5\text{mm}$ between glass and table support when rise to the highest.</p> <p>11. Restore it in the opposite direction.</p>	
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Picture 4




Picture 5




Picture 6

Failure 5. Socket without electricity

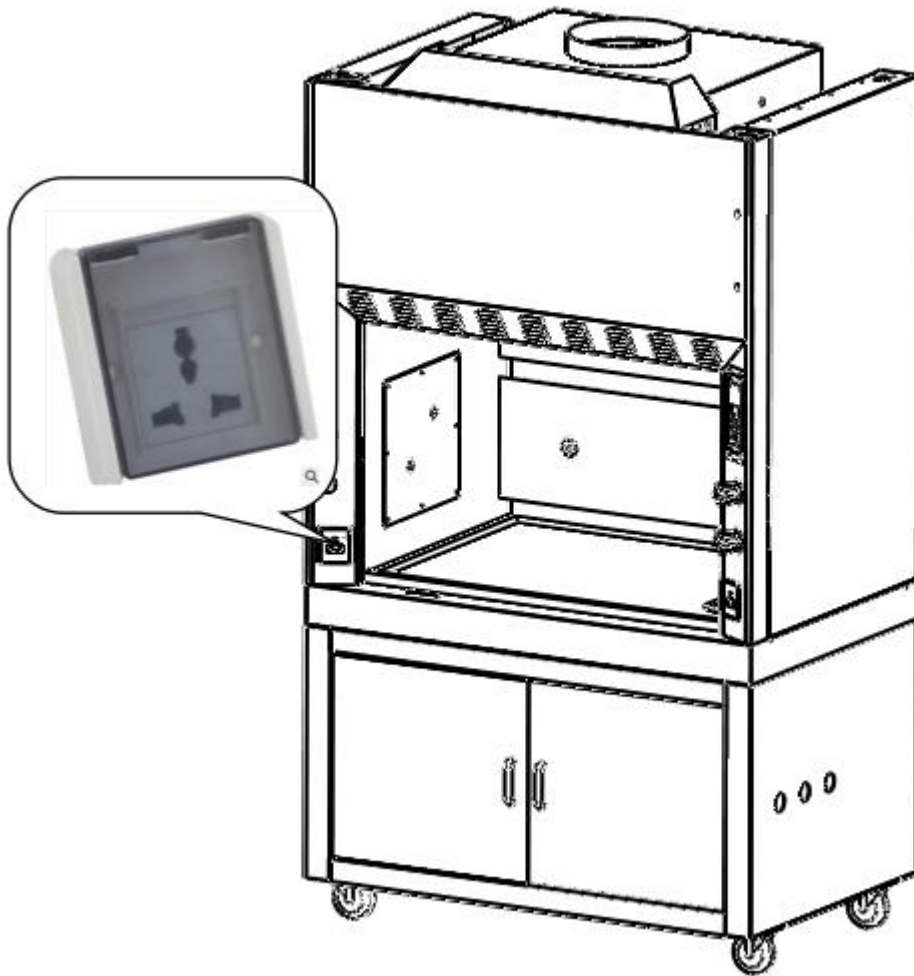
Socket without electricity means turn power on a switch , open the control panel power key, Socket on the cabinet has no electric when start "  " button

The handling methods and procedures for handling such faults are as follows:

Detection method	Processing method	Changing method	Diagram
Socket fuse	Check whether the fuse of the socket in operating zone is fusing.If the fuse is fusing(specific location as shown in figure 1) please replace it with a corresponding oneaccording	The replacement method of the fuse as shown in Failure 1.	As shown in picture 1


	to its specification.		
socket	<p>After confirming that there is no problem with the above item,remove the socket on the front side (as shown in figure7), knob down the socket key, use the multimeter to measure the voltage of the wire which is connected with the socket (the voltage value is the supply voltage of the equipment) and then check whether the socket is broken or not.</p> <p>If the voltage of the wire which is connected with the socket shows normally,but the socket is broken,replace the socket with a new one(Bring a new socket and then reversely install it according to the disassembling method).</p>	<p>Just remove the 2 screws on each side of the socket during the disassembly(Before removing the outlet, make sure that the equipment is powered off. And when taking out, please pay attention to the internal wire connection,and avoid disconnecting the wires. Behind "L" is the Fire Wire interface, "N" is the zero line interface “⏏” is grounding interface).</p>	<p>As shown in picture 7.</p> 
Socket line	<p>After confirming that there is no problem with the above item,use the multimeter to check whether there is breakage of the socket line.If the socket line is broken,re-connect the socket line after outage,find the control panel and then</p>		<p>As shown in picture 2 and 7.</p>

	connect it with the socket line (the location of the control panel as shown in figure 1,the location of the socket line that connected with the control panel as shown in CN3 of figure 2).		
The control panel (or display panel)	After confirming that there is no problem with the above item, Powering on the device, press ""and""in turn, Use the multimeter to check whether the CN3 red wire (socket wire) and the blue wire (neutral wire) are energized on the control panel (The value should be the supply voltage of the device), If not powered, The control panel (or display panel) may be damaged, please Replace the new control board (or display board).。	<p>The method of replacing the control board is shown in the control panel replacement method in Failure 1.</p> <p>The method of replacing the display board is shown in the digital panel replacement method in Failure 2.</p>	As shown in picture 2, picture 5.






Picture 7

Failure 6. Fluorescent lamp doesn't work

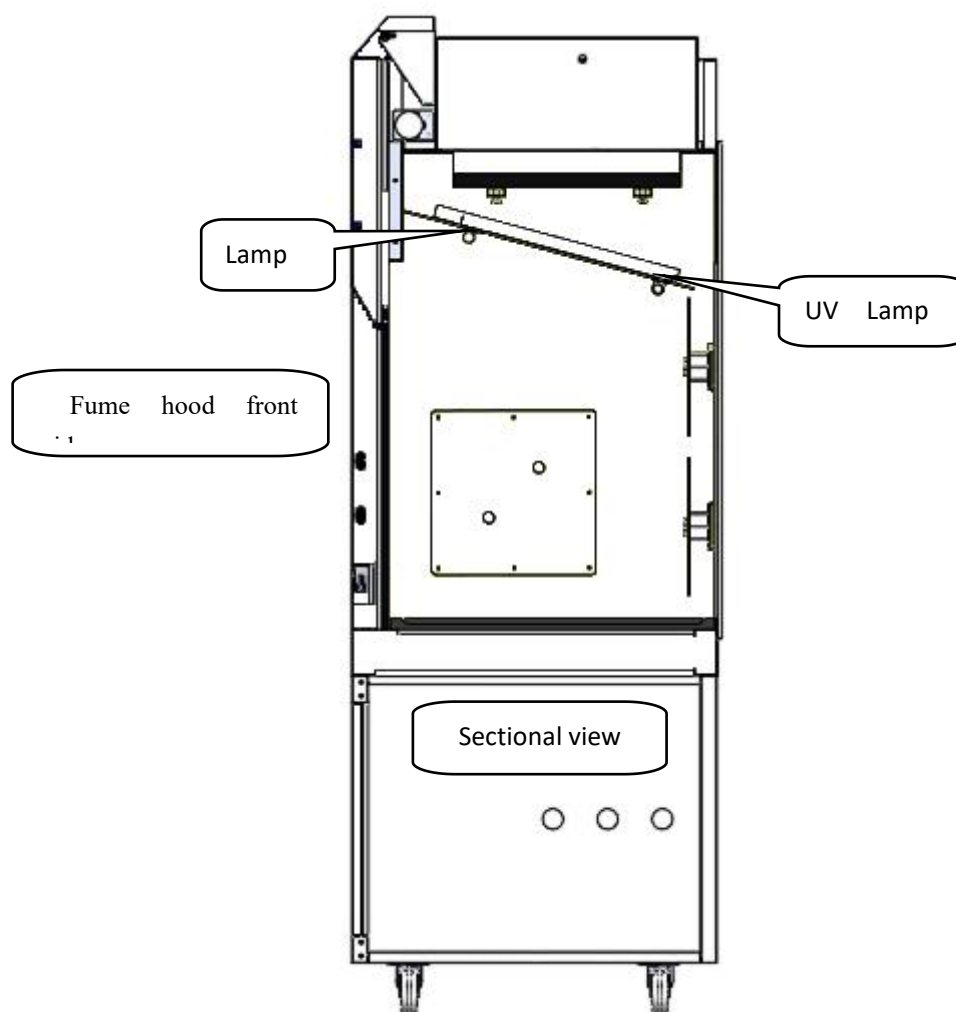
The fluorescent lamp doesn't work after turning on the power of the fume hood and control panel and pressing the “  ”button

Methods and steps as below:

Detection method	Processing method	Changing method	Diagram
Power wire	Raise the front window glass to the highest level, then cut the power make sure if the wire on the right side of the lamp		

	contact well		
Lamp	Replace the fluorescent lamp(the location of the fluorescent lamp as shown in picture7)	<ol style="list-style-type: none"> 1. Remove the lamp wire, then pull the LED lamp holder and take down the broken LED lamp(as shown on the right picture). 2. Change the new LED tube and connect the tube wire 3. Switch on the power and press the button of the power and light to check if the LED works 	
Control panel	<p>If all the above-mentioned items works well, then please find the display panel and control panel, press “  ” then “  ”button, using the multimeter to check the voltage of the green wire and blue wire which on the CN2 wire holder of the control panel(picture 4)(the voltage should be the power supply of the fume hood),if the multimeter doesn't show any voltage and the control panel is broken, please</p>	<p>The way of replacing the control panel see the description in fault 1</p>	<p>As shown in picture 3, picture 4</p>

	replace new control panel.		
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Picture 8

Failure 7. UV lamp fail to work

UV lamp fail to work means that the device is powered on, turn on the power switch and control panel power switch. After pressing "UV" button, UV lamp fail to work.

The processing method and steps are as follows:


Detection method	Processing method	Changing method	Diagram
Fluorescent lamp and blower	Make sure the fluorescent lamp and the blower are		

	<p>completely turned off.</p> <p>If not, the UV lamp will not turn on. If the fluorescent lamp and the blower are turned off, follow the next steps.</p>		
UV lamp tube	<p>1. If there is no problem above, Raise the front window to the highest level. And then cut off the power to confirm the lamp pin and the lamp holder on both sides is in good connection.</p> <p>2. Remove the lamp to confirm whether the filament is open circuit, if yes, UV lamp is damaged, replace the same specifications UV lamp (UV lamp position shown in Figure 8).</p>	<p>1. Rotate the old UV lamp by 90 ° and pull it down to remove the lamp.</p> <p>2. Take a new UV lamp, insert the lamp holder and rotate by 90 ° with slight strength.</p> <p>3. Turn on the power, press the key to open, press the UV key to view the UV lamp.</p>	
Control panel	<p>If there is no problem in the above, power on the device, press "  " and "UV" button in turn, find the control panel (the position of the control panel is shown in Figure 1), use the</p>	<p>For replacement of the control panel, refer to the method of replacing the control panel in the failure 1</p>	<p>As shown in picture 1, picture 2.</p>

	<p>multimeter to detect the voltage of the black wire and blue wire (zero line) of CN3 connector socket in control panel(Figure 2).(voltage value should be the supply voltage of the device).If there is no voltage, control panel is damaged, replace it with a new one.</p>		
<p>The wire between the UV lamp and ballast</p>	<p>If there is no problem in the above, after power off, combing the wires between the UV lamp and UV lamp ballast, also the connection wires between the UV lamp ballast and control board. Verify the connection, if loose, connect the wire again.</p>		<p>As shown in picture 1.</p>
<p>UV lamp ballast</p>	<p>If there is no problem in the above, it is ballast damage, then replace the same specifications UV lamp ballast.</p>	<ol style="list-style-type: none"> 1. Mark and shoot the ballast section harness connection picture, and then remove the old ballast with a Phillips screwdriver. 2. Take the new 	<p>As shown in picture 8.</p>



		<p>ballast, wire it in accordance with the markings and photographs taken, and mount the ballast to the cabinet with a screwdriver.</p> <p>3. Turn on the power, press the open key, next to press the UV key to view if the UV lamp is correct, then turn off the power to restore to its original state.</p>	
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Failure 8. Fan does not work

Fan does not work means: turn on the power switch, when the device is powered, open the power key on the control panel, start "  " button, the fan does not work.

Processing method and step dealing with this kind of failure are as follows:

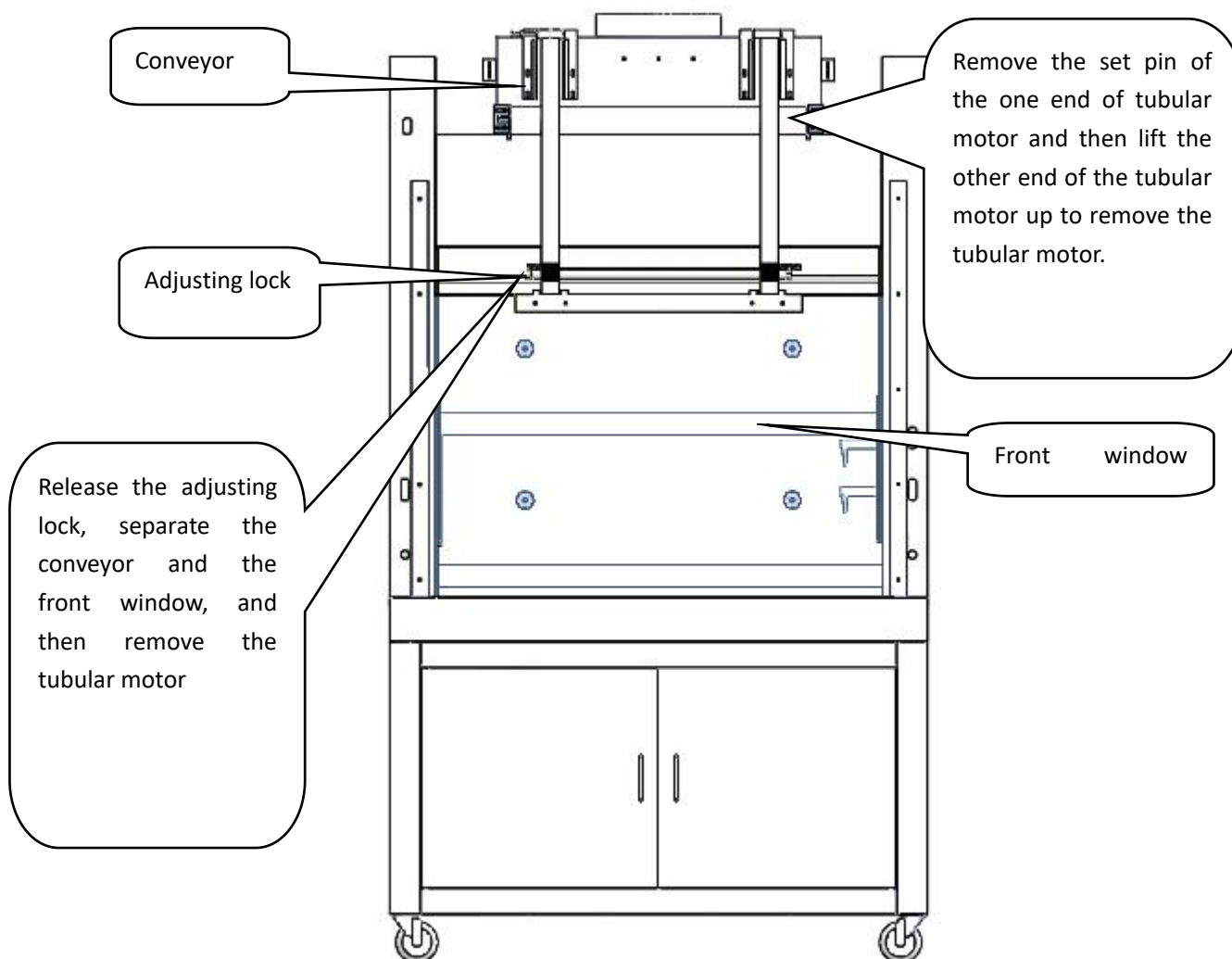
Check the position processing method Replace the method icon

Detection method	Processing method	Changing method	Diagram
Fan connection	Check whether there is wiring off, off line or short circuit phenomenon. If it is a similar situation, exclude in turn.		
Control Panel	Turn on the equipment, press "  " and "  "		

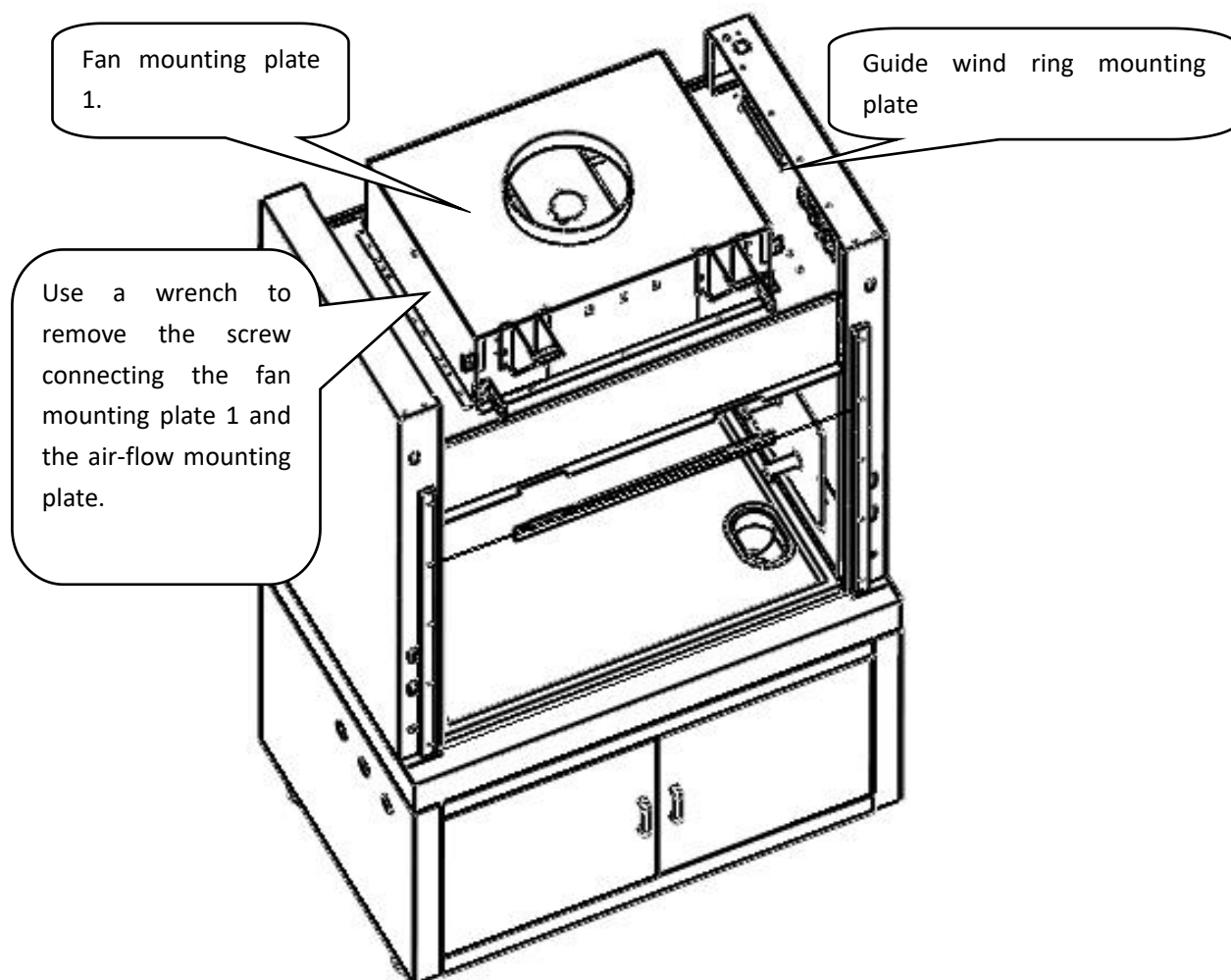
	 " button to check whether the fan work. If does not work, press the fan button, if the indicate light is on, use the multimeter to test the voltage of CN1 terminal block and zero line on control board.(the position of control board as shown in picture 1). The voltage should be more than 60% of the supply voltage. If the voltage is abnormal, replace the control panel. If the fan indicate light is not on, replace the control panel.	<p>Method for replacing the control panel is as shown in failure 1.</p>	<p>As shown in picture1, picture2.</p>
Fan	<p>If the above is no problem, please connect the fan with power supply directly and observe whether the fan work, if do not work, maybe the fan is damaged, please replace the same type fan.</p>	<ol style="list-style-type: none"> 1. Take down the water, gas pipes and sink pipes, place the glass door to the bottom and cut off the power supply of it, then put the fume hood in proper position. 2. According to the replacement method of display board in failure 2 to separate front plate, and then mark and take a picture of the wiring harness of the display board, disassemble the cable of the display board, and disconnect the socket. 3. Use a wrench to remove the connection pipe for water and gas tap control valves, and then remove the front panel section. 4. Mark and shoot pictures tubular motor harness 	<p>As shown in picture 9, 10, 11 and 12.</p>

		<p>connecting portion, and remove the electric wires of tubular motor, release the grip of the adjusting lock, separate the belt and the front part of the separation window glass (As shown in Figure. 9), to protect the front window.</p> <p>5. In order take down the tubular motor, remove set pin of the one end of tubular motor and then lift the other side of the tubular motor up.</p> <p>6. As shown in picture 10, using wrench to remove the screw between the fan mounting plate part 1 and air guide ring, then removed part 1 of the fan mounting plate.</p> <p>7. As shown in picture11, use a wrench to remove the screw between fan mounting plate part 2 and fan mounting plate part 1, then remove part 2 of the fan mounting plate.</p> <p>8. As shown in picture 12, use a wrench to remove the screw between the fan and fan mounting plate part 2 then you can remove the fan.</p> <p>9. Take the new fan, shown in picture 12, and then installing the fan on fan mounting plate part 2 with a wrench, and the fan can be installed in the reverse order, in accordance with the fan mark and photos before to ensure electricity wiring is correct, then running the fan, if there is no problem please turn electricity off and installing in</p>	
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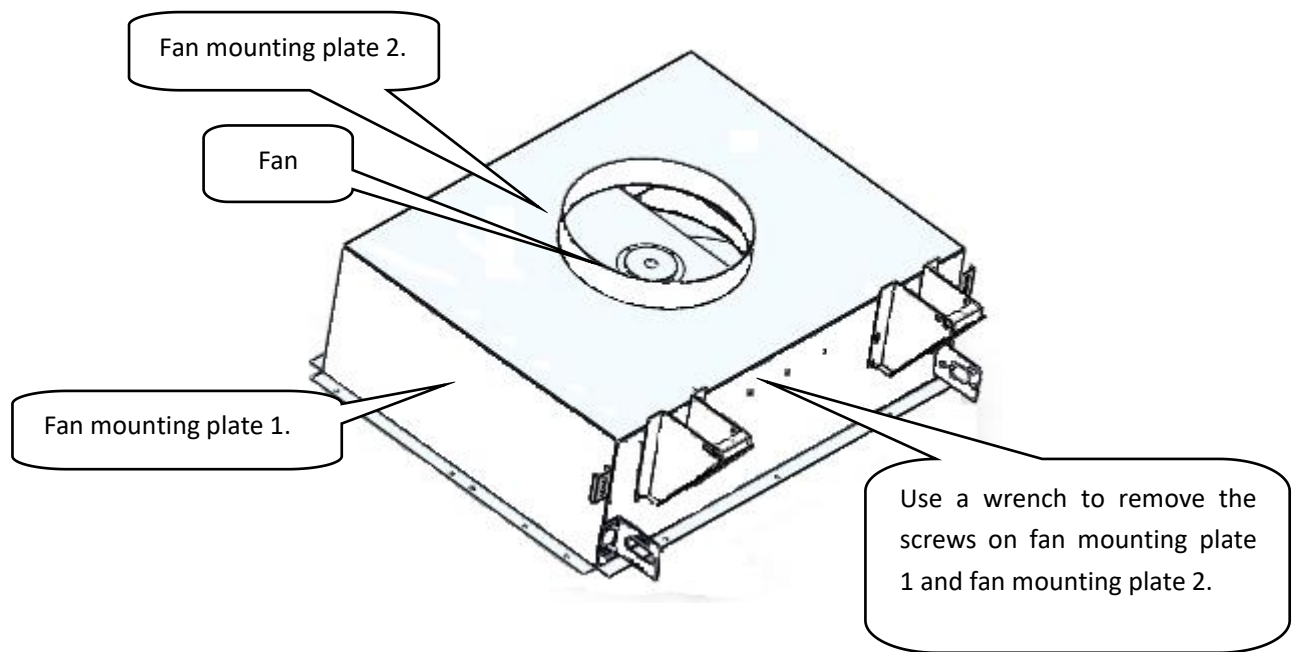
		the reverse order.	
Fan and circuit board connecting wire	If the above is no problem, please test whether the connection is loose or broken of fan and circuit board connecting wire, if connection is loose or broken, please reconnect wire (as shown in right picture) then restore the fume hood.		



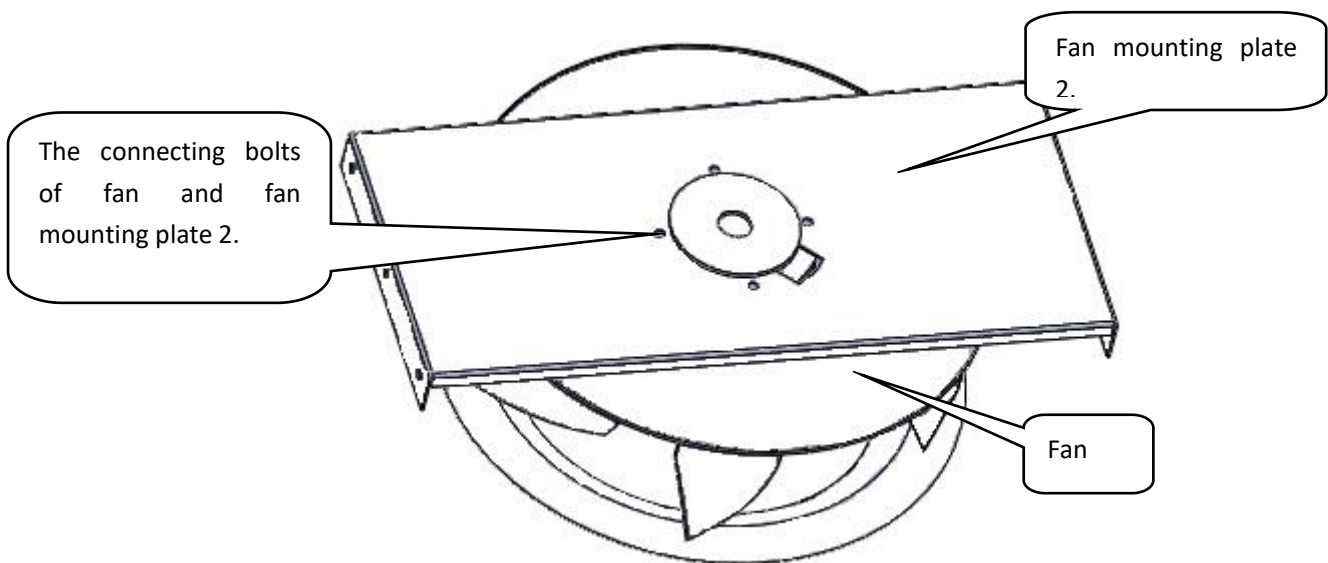
Picture 9



Picture 10



Picture 11



Picture 12.

Failure9. Wind speed regulation failure

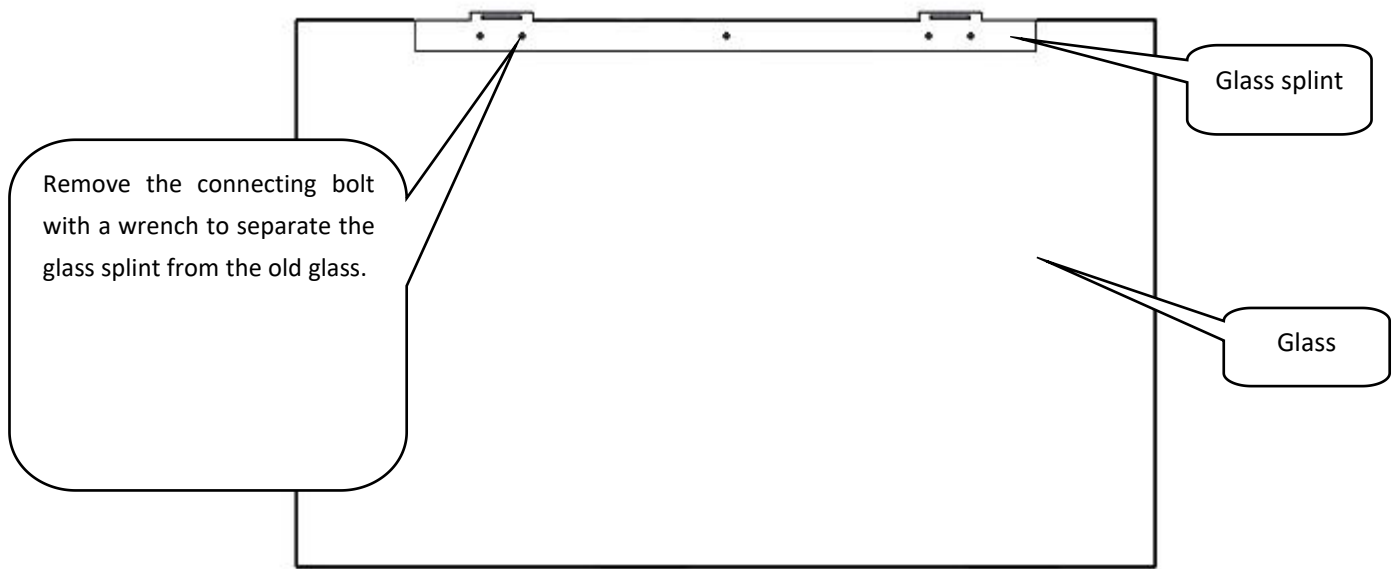
Wind speed regulation failure is when press the loop speed control button, fan speed did not change.

Please directly handle replace the new panel directly handle such malfunction , Replace the control panel as shown in Failure 1.

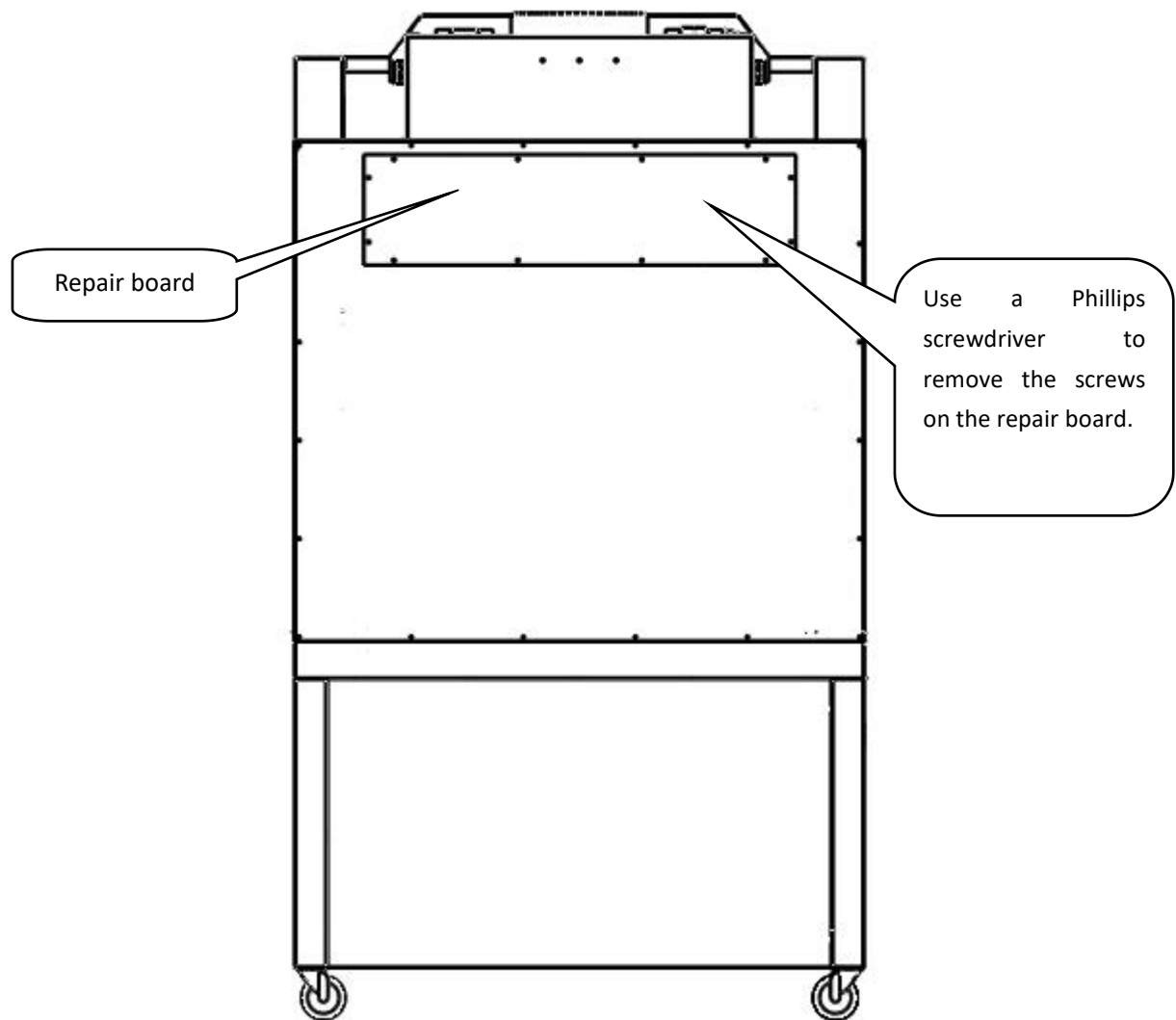
Part 2. The replacement of spare parts

Replacement parts	The method of replacement
Front window	<ol style="list-style-type: none">1. Place the glass doors to the bottom, and cut off the power supply of the fume hood, fume hood at the right place2. In accordance with the replacement of the display panel in failure 2,remove the front part of panel,and then mark and take a picture of the harness of display panel,remove the wire of the display panel,and dismantle the socket connection.3. Use a wrench to remove the connection pipe for water and faucet control valve and remove the front panel section.4. Release the adjustment latch and separate the belt from the front glass section, then remove the front glass with a screwdriver (Figure 9).5. As shown in Figure 13, remove the inner and outer clips of the front glass with a wrench, then take the new front glass and install the front glass part with a wrench. Take care not to tighten the wrench when tightening the glass clip in case of damaging the glass.6. Put the new glass part on the cabinet, install the guide rail, connect the conveyor belt and the adjusting lock clasp with the new glass part, and then energize and debug. For the debugging method, refer to the method 4 and step 5 of

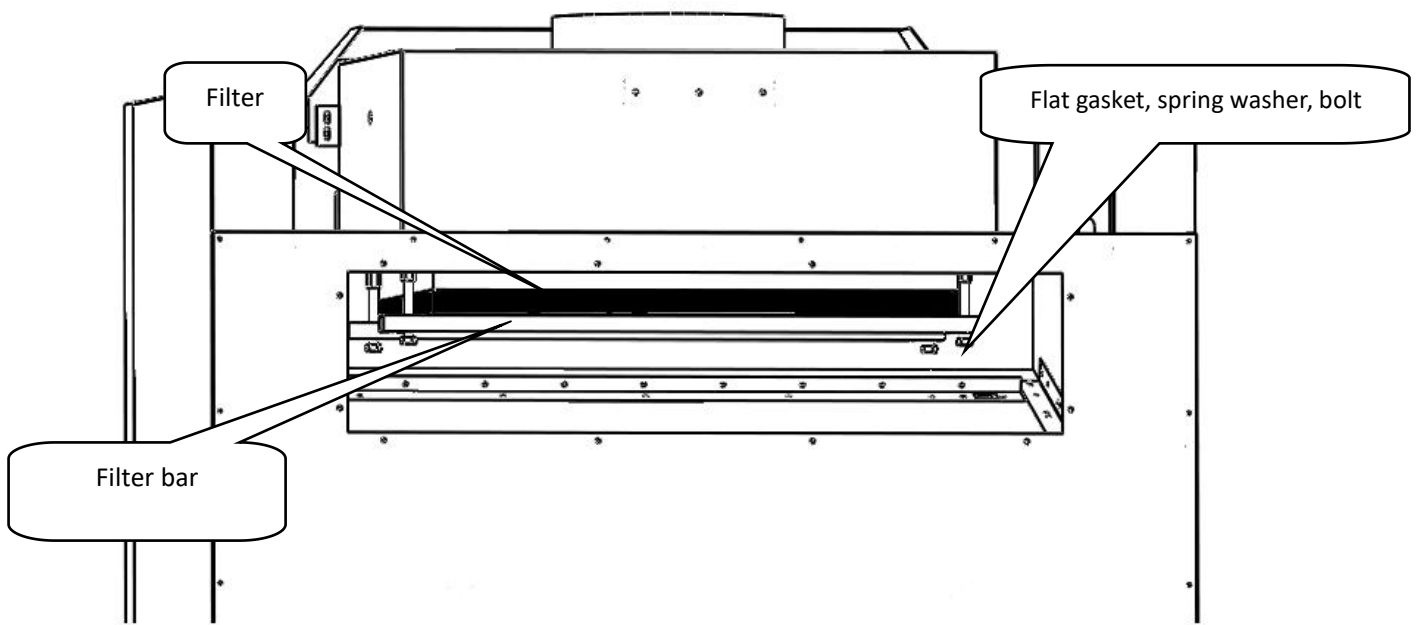
	<p>replacing the tubular motor in the failure 4, When the glass door descends to the end, the belt is straightened but not tight. When it rises to the maximum, the glass can be $520 \pm 5\text{mm}$ from the table support. After the front glass is lifted smoothly and smoothly, it is restored according to the reverse direction of disassembling the front plate.</p>
<p>The filter</p> <p>Filter (optional)</p> <p>According to using frequency and using the environment to determine whether need to replace filters, generally when using the 3500 hours after the need to change the filter. In standby mode, long press fan 5 ~ 6 s, fume hood fan running time of filter (time) can be reset.</p>	<p>Remove the fume hood faucet pipe, sink pipe, and place it in place. Use a Phillips screwdriver to remove the screws on the service board (Figure 14). Use a wrench to remove the bolts on the filter bead, remove the old filter, and then take a new filter, so that the arrow on the filter up, fixed the filter, with a wrench to straighten the filter bar (As shown in picture15), and then take the repair plate and the screw which had be firstly removed, install the maintenance board on the cabinet.</p>



Picture 13.



Picture 14



Picture 15.

Part 3. Wiring diagram

