Operation Manual

BCBS-204

Biological Safety Cabinet Class II

Thank you for Choosing Biolab products. Please read the “Operating Instructions” and “Warranty” before operating this unit to assure proper operation.

Index

01 Unpacking, Installation, Debugging

Please firstly check if packing box is in good condition. If the packing box is damaged, please take photos.

1.1 Unpacking

Choose the proper unpacking method according to the actual situation.

Box 1

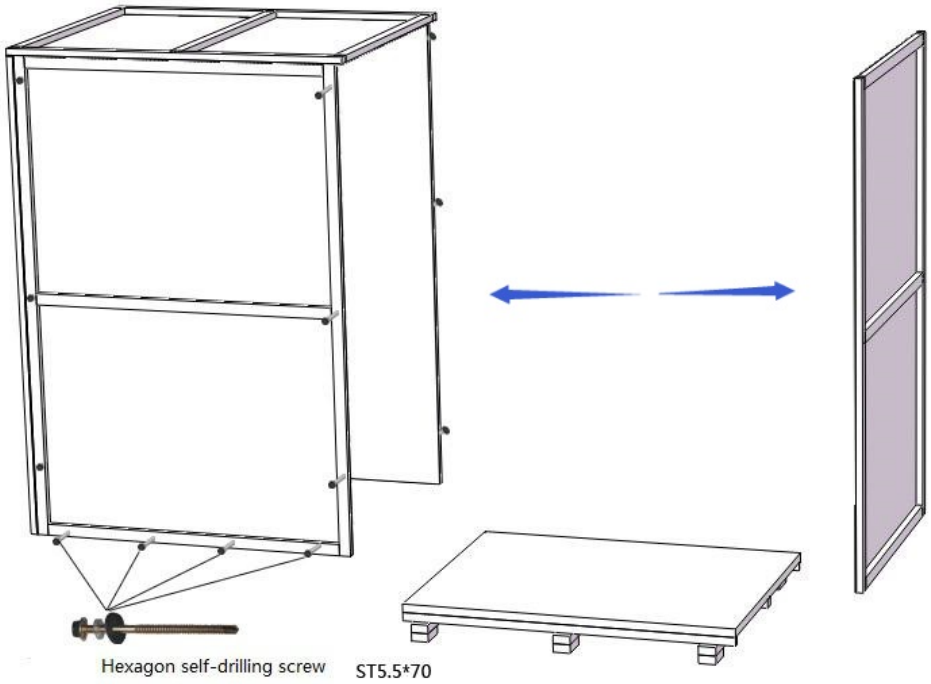
Method 1 Use M8 Wrench to unpack

Picture 1

Method 2 Use Electric drill with hexagon dead M8 to unpack

Picture 2

Rapid unpacking diagram. (Disassemble the screws shown in the below Picture, then move the wooden pieces to right and left)

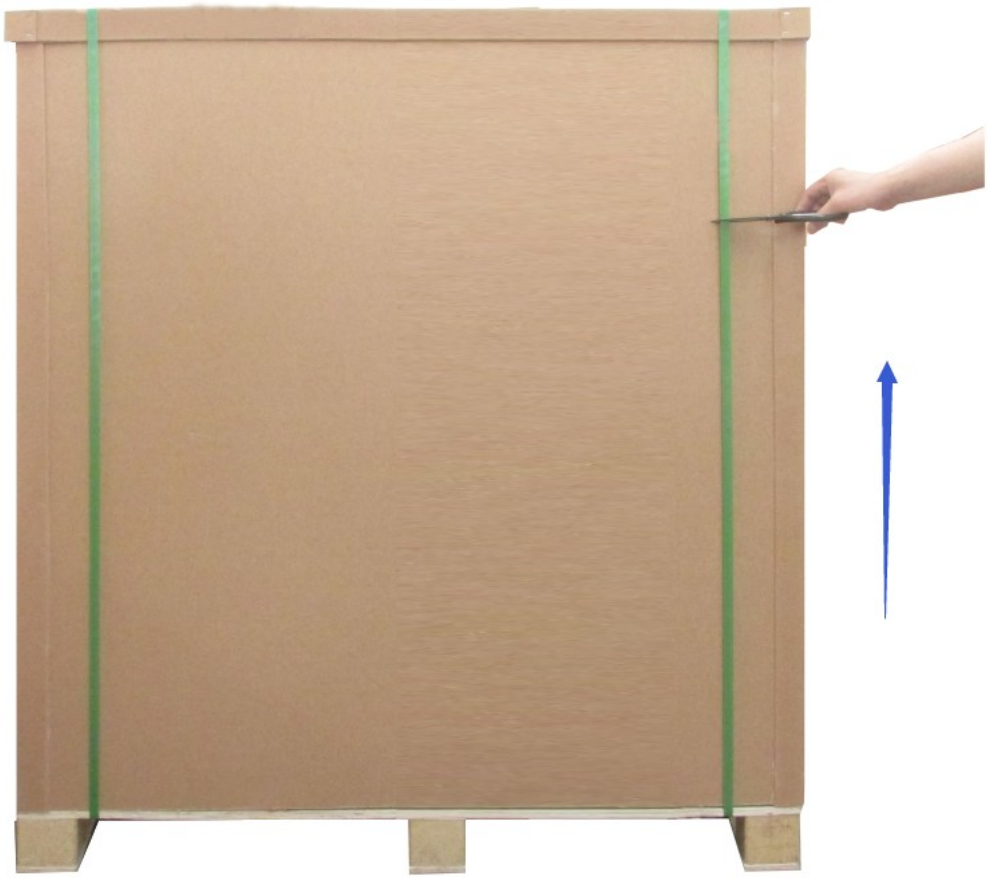


Picture 3

Box 2

Rapid unpacking

Using scissors to cut packing tape, take off the package cover, then move up the paper box body.



Picture 4

1.2 Accessories List

Refer to the packing list and check the accessories.

BCBS-204 Packing list

Items	Quantity
Main Body	1unit
UV Lamp (T6 40W)	1pcs
Base Stand	1set
Fuse (10A)	2pcs
Fuse (5A)	1pc
Remote control (including battery)	1pc
Keys	2 pcs
User manual	1pc
Test report	1pc
Foot switch	1pc
Drain Valve	1set
Stainless steel Flat washer10	5pcs
Stainless steel Spring washer 10	5pcs
Stainless steel hex cylinder head bolt M10×20	5pcs
Inner hexagon wrench	1pc
Big rubber gasket	1pc
Small rubber gasket	1pc
Motor control rod	1pc

1.3 Installation conditions and using environment

To avoid disturbances to the safety cabinet and its operator, follow the following guidelines, while determining a suitable location for the cabinet:

a. The distance from the plane of the aperture to any circulation space should be at least 1000 mm, so as to preserve a zone undisturbed by anyone other than the operator.

b. Biological safety cabinets should be placed in a position where there should be no opposing wall (or other obstruction likely to affect the airflow) within 2000 mm of the front aperture.

c. Safety cabinets should not be installed in positions where they are likely to be affected by other items or equipment. In particular the distance to the aperture of an opposing safety cabinet, fume cupboard, or the edge of a local exhaust ventilation outlet should not be less than 3000 mm.

d. Any room air supply diffuser should not be within 1500 mm of the front aperture.

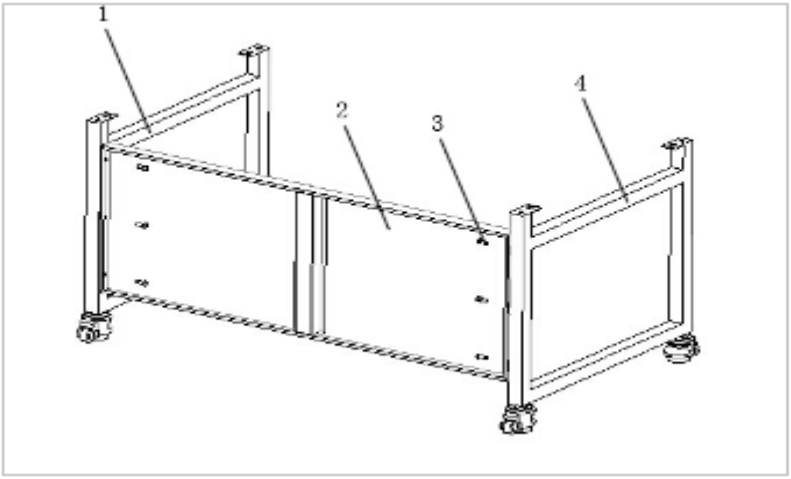
e. Doorways should not be within 1500 mm of the aperture or within 1000 mm of the side of the safety cabinet.

f. The position of a safety cabinet should satisfy the spatial requirements (e.g. vision, lighting and convenience of access) of the operator and personnel working nearby. When a cabinet is

installed on a bench top, the leading edge should be flush with or slightly overhanging the edge of the bench top.

Working environment:
(1) Only is suitable for indoor;
(2) Ambient temperature: 15℃~35℃;
(3) Relative Humidity:≤75%;
(4) Atmospheric pressure range: 70 kPa~106 kPa;
(5) Electrical parameters: Consistent with the rated voltage of the biosafety cabinet (See 2.1.5 technical parameter performance index);
(6) Power supply need to be grounded; (Judging method: testing the fire wire and the zero line of the power supply with multimeter, the fire wire to ground voltage should be grid voltage and the zero line to ground voltage should be 0, otherwise the power supply ground is bad).

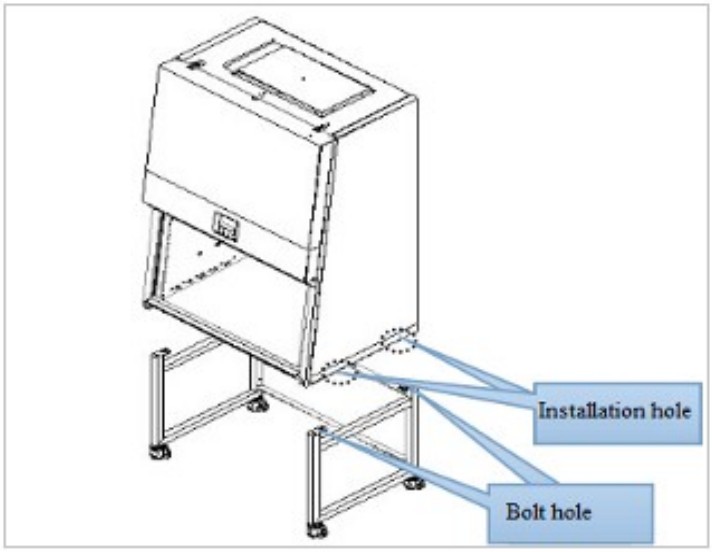
1.4 Installation
a. Remove all the package materials;
b. Inspect the surface of main body to make sure whether there is scratch, deformation or uncorrelated things;
c. Move the whole device to the final installation location;
The base stand will be packed at back of main body, please take it out before installation. DO NOT INVERT, DISASSEMBLE OR TILT THE CABINET during transportation.
d. The base stand assembly
Referring to Picture 5 assemble the base stand.



Picture 5

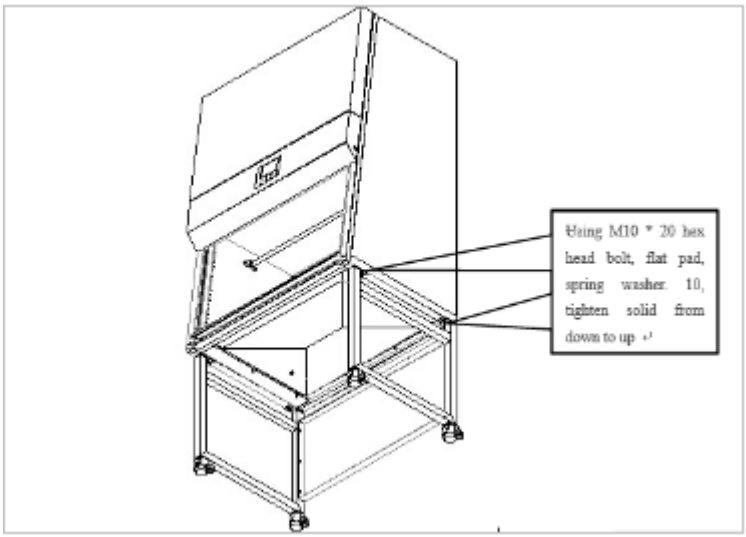
1.Right base stand 2.Back junction board, six M10X20 hexagon socket screw fixed with left and right base stand.
3. Six M10X20 hexagon socket screw.
4.Left base stand

e. Connect base stand and main body
Referring to Picture 4,5 connect base stand and main body



Picture 6

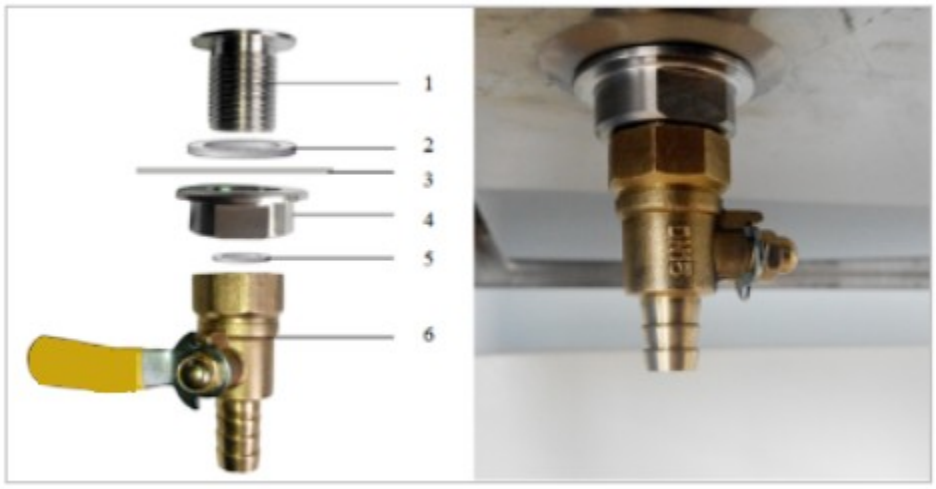
Put the bottom installation hole of base stand aim at bolt hole, and then put cabinet oneself in the position of the base stand slowly.



Picture 7

From the accessory kit M10 * 20 hex head bolt, flat pad, spring washer. 10, tighten solid from down to up as shown in figure 6

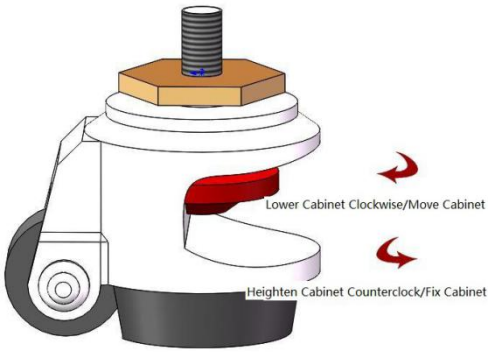
f. Installation of Drain valve



Picture 8

1. Drain valve connector
2. Shim (Inner diameter*outer diameter*thicknessΦ20*Φ28*2mm)
3. Safety cabinet bottom installation holes
4. Ball coupling fastening nut
5. Rubber gasket (Inner diameter*outer diameter*thicknessΦ13*Φ19*2mm)
6. Drain valve

Take out drain valve coupling, shim, Ball nut, Rubber gasket, Drain valve, assembling from up to down as Picture 8 illustrated



g. Adjustment of Footmaster Caster

Picture 9

Clockwise rotate caster' red part to low down the base feet and the height of the cabinet. Low down all four casters can move the cabinet position. Counterclockwise rotate casters' red part can rise the base leg and height of cabinet. Raise all four casters can at same time can fix the cabinet. Adjust the four Foot –masters to make the cabinet stable.

h. Foot Switch

Picture10
Install Foot Switch as Picture 10. It's socket is at the lefttop, connect the plug.
i. Installation of Water and Gas Tap （Optional）

Picture 11

1. Fastening Nut
2. Stainless Steel Water and Gas Taps
Take out fastening nuts, water and gas taps, installing as Picture 11.

1.5 Checking after installation
First, make sure the Voltage and frequency to be same as logo showing, and then check the follows items with power on:

Checking Items	Normal situation
Wind speed display	Inflow0.53±0.025m/s, downflow0.33±0.025m/s
Pressure display	exhaust filter80-120Pa, downflow filter 80-120Pa
Fan running	Normally
Fluorescent lamp	Lamp lights after pressing button
UV Lamp	Lamp lights after pressing button
Display screen buttons	All buttons can be used
Socket	Press the socket key, multimeter testing output supply voltage
Foot Switch	Red pedal for glass up, black pedal for glass down

02 User Instructions

2.1 Functions

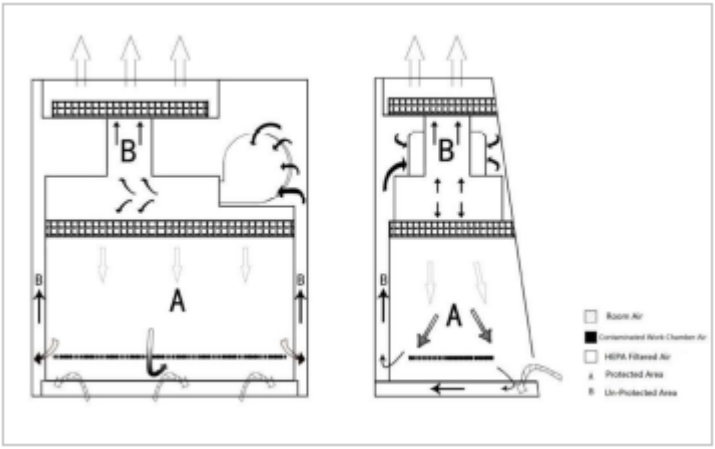
2.1.1 Product Concept

Biological safety cabinet is a kind of negative pressure filtration system for protecting operator, the laboratory environment and work materials, the front opening which air flow inward have protection function for operator, the filtered laminar flow generated by vertical HEPA can protect work materials, what's more, the polluted air flow become pure after processed by HEPA (ULPA) filter. When it's used in microbiology experiment environment filled with volatile or toxic chemical and radionucliotide, suitable exhaust hood in function have to be linked.

2.1.2 Application Range

Biological Safety Cabinet is necessary equipment in the laboratory in the search of microbiology, biomedical, DNA recombinant, animal experiment, and biological products, especially in the occasion that operator need to adopt protective measure, such as medical and health, pharmacy, medical research. Our equipment provides a safety working environment which don't have bacterial and dust in the process of bacterial culture.

2.1.3 Working theory/Air flow pattern and protected area



Picture 12

2.1.4 Protected objects

Biological safety cabinets (BSCs) are designed to protect the operator, the laboratory environment and work materials from exposure to infectious aerosols and splashes that may be generated when manipulating materials containing infectious agents, such as primary cultures, stocks and diagnostic specimens.

2.1.5 TECHNICAL PARAMETERS

Model Parameters	BCBS-204
External Size(WxDxH)	1873×775×2290 mm
Working Zone Size(WxDxH)	1700×600×660 mm
Power Supply	220V±10% ☐ 110V±10% ☐
Frequency	50 Hz☐ 60Hz ☐
Consumption	900W
Total Airflow Volume	650m^3/h
Downflow Velocity	0.33±0.025m/s
Inflow Velocity	0.53±0.025m/s

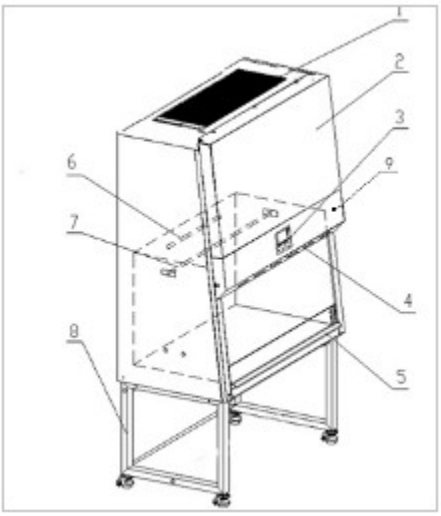
UV Lamp Consumption	40W
Fluorescent lamp Consumption	16W*2
HEAP Filter	99.999%(Diameter: 0.3μm)
Noise	≤61dB (A)

Notes: (1) Electric consumption power including power which operation area needs to load (Loading no more than 500W)
(2) Our company has right for changing the products, if we need to change and re-design, please forgive us for not notifying you.

2.1.6 Performance Index
1) Biological safety functions
Personnel protection, microbial colony count ≤5CFU;
Sample protection, microbial colony count ≤5CFU;
Cross contamination protection, microbial colony count ≤2CFU.
2) Leak-proof Cabinet
If cabinet pressurized to 500Pa, the pressure should be no less than 450 Pa after 30 min.
3) Integrity of HEPA Filter
Scan and detect the HEPA filter, the leakage rate at any point should not be > 0.01%.
4) Vibration amplitude
The net vibration amplitude between frequency 10Hz and 10KHz is no more than 5μm(rms).
5) Illumination
The average illumination is no less than 650 lux, max illumination is no less than 1000lux.
6) Mechanical performance
Structure design is reasonable, high quality materials are adopted for the cabinet.
It can resist shape global deformation caused by external force.
The working surface will not occur permanent deformation when weight put reaching 23kg.
7) Electrical properties
The voltage increases to 1390V(AC) in 5s and keep for another 5s without breakdown.
Grounding resistance ≤0.1Ω

2.2 Product Structure

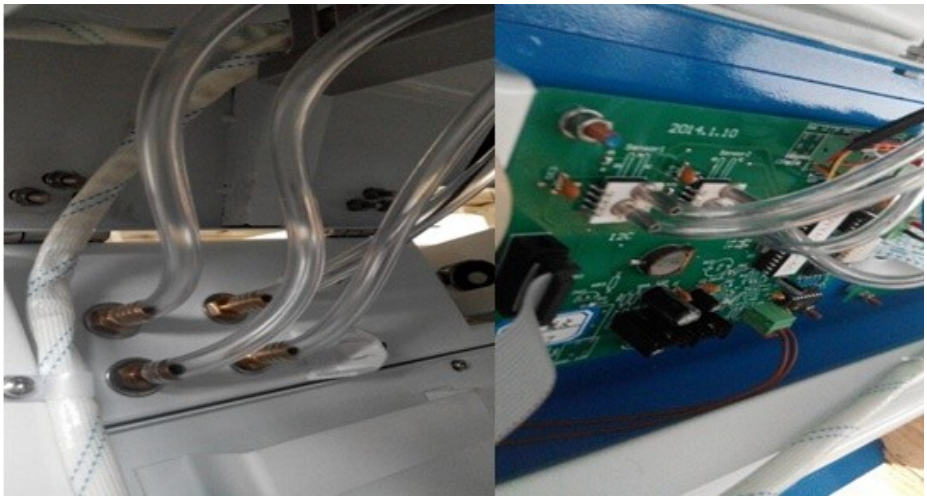
2.2.1 Structural composition of BCBS-204



Picture 13

1. Exhaust air filter cover
2.Control panel
3.LCD display
4.Fluorescent Lamp
5.Arm rest
6.UV lamp
7.IV bar
8.Base stand
9.Power supply lock

2.2.2 Structure introduction
1) Driving System of Front Window
Driving system consists of tube motor, front window, hauling sash and position switch.
2) Air Filtration System
Air Filtration System is the most important system of BSC. It consists of blower, supply filter and exhaust filter. The function of Air Filtration System is transferring filtered air to work area, ensure the down flow velocity, and keep Class 100 cleanness of work area.
3) UV Light
UV lamp is inside work area. So UV lamp can well sterilize all space of work area.
4) Fluorescent Light
The BSC is equipped with straight tube type energy-saving fluorescent lamp. It can make sure average illumination inside work area which meets standard requirements.
5) Air pipe
Air pipe is the ventage of differential pressure sensor.



⚠ The air pipe should not be blocked and please do not hang anything on the pipes.

6) Power lock

When the power cord is connected to main power, switch the key for power lock, then the equipment is powered on.

7)Water proof Socket

Waterproof Sockets are located on the right side of the work area, which can be controlled by SOCKET button.

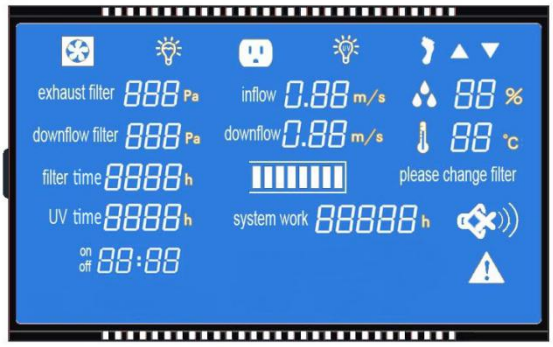
⚠ (1) Please make sure the total load of sockets should be ≤ 500W;

(2)The waterproof sockets can resist water only when the Lid is covered, otherwise is not.

8) Fuse protector

The equipment is equipped with main power fuse, waterproof socket fuse and fan fuse. They are located near the power cord's outlet. Fuse label is corresponding to the relevant specifications. Please refer to 3.2.

9) LCD Display （Liquid Crystal Display）



Picture 14

Large LCD display indicates detailed key parameters, it is real-time display to reflect the equipment working condition, such as effective working state of the filter, which is more intuitive.

10) Control of Motorized Front Window

Front window is motorized, can be free controlled by touch screen instead of direct contact. Front Window control motor adopts dedicated reversible speed motor, with large starting torque and smooth rotation.

11) Structure

a) Biological Safety Cabinet's both sides and back area are negative pressure air channel, keeps work area away from contamination.

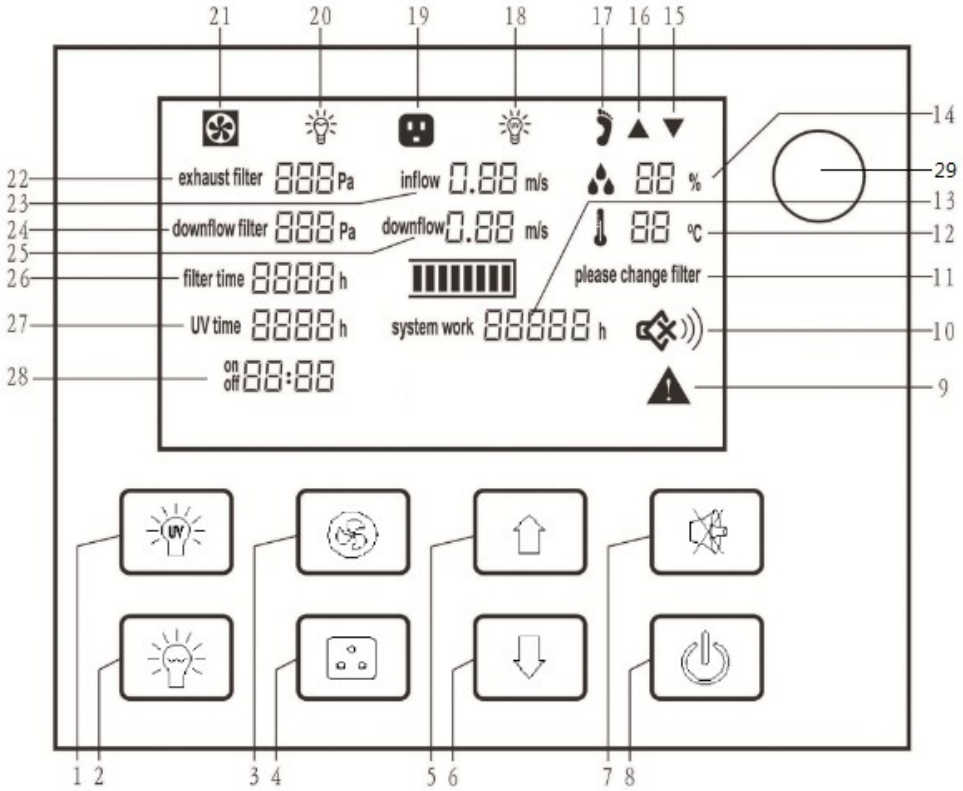
b) Cabinet body is built of 1.2mm cold-rolled steel with anti-powder coating. Strong and steady.

c) Work area is fully made of 304 stainless steel and with corrosion resistance performance.

d) Base stand is made of cold-rolled steel with anti-powder coating.

e) Soft touch type control panel, easy to handle and beautiful appearance.

2.3 Control panel



Picture 15

1. UV Lamp
2. Fluorescent Lamp
3. Blower
4. Socket
5. Glass Window Up
6. Glass Window Down
7. Mute
8. Power
9. Alarm Status
10. Mute Status
11. Filter Changing Status
12. Temperature
13. System Working Time
14. Humidity
15. Glass Window Down Status
16. Glass Window Up Status
17. Foot Switch Status
18. UV Status
19. Socket Status
20. Fluorescent Lamp Status
21. Blower Status
22. Exhaust Filter Differential pressure
23. Inflow Velocity
24. Supply Filter Differential pressure
25. Downflow Velocity
26. Filter working time
27. UV Lamp working time
28. Reservation timing

a) LCD Screen

The working status of the equipment and operation can be seen on the LCD screen.

b) Soft touch button.

BSC's main functions could be executed by touch-buttons.


The power button


To control fluorescent lamp


To control UV lamp.(It works only after front window fully closed.)


To control blower working status. (It will not work when front window is fully closed.)


To control socket power status.


Press MUTE button to stop voice prompt


Press UP button, glass window will raise.

Press Down button, glass window will fall down.

There are totally 8 common button on control panel.

Clock Adjustment:
Turn the power key, so machine is in standby state.
Press the light button, and then press the power button for 5 seconds. Then you see the state of clock adjustment after a buzzer alarm.
Firstly, minute position is flashing, press UP and DOWN to adjust to present time. Then press the MUTE button switching to hour position and adjust to present time. After that, press the light button first, and press the power button for about 5 seconds. Data will be saved after a buzzer alarm.

2.4 Remote Control & Foot switch

2.4.1 Remote control
It is inconvenient for the users to operate from a distance. Small & light remote control is flexibly to be used to control all the functions of the cabinet in a distance ≤6m, 30° range. The operator can even carry it with themselves during experiment for convenience.
This remote control adopts specific chip which is featured with good anti-jamming performance, longer control distance and high control precision.

Picture 1

a. Connect power, open power lock, press button (POWER), the corresponding display lamp lights by selecting the function buttons (such as UV);
b. Press button (INSTALL TIMER), adjust the time (minutes) by "+" or "-" button. Press button (CONFIRM) to confirm; and then adjust other minutes and hours position data in the same way;
c. After the time is confirmed, the Timer function starts. When the time counts down to zero, all the functions will be off, the cabinet will be in standby mode.

A. Application of Reservation Time

Biological safety cabinet is equipped with special UV lamp. When turning on or turning off the cabinet, sterilization time of UV lamp should be at least 30 minutes. In order to save the waiting time of turning on or turning off the cabinet, we develop reservation time function. It realizes function of automatic turning on or turning off the cabinet after the sterilization finished. Reservation time setting range is from 0 to 99 hours and 59 minutes. This function helps operators to save time and improve efficiency.

2.4.2 The use of foot switch

Picture 2

Press the left red switch by foot, front window goes up, press the right black switch, front window goes down.

2.5 Instructions for Operation

2.5.1 Normal Operation Notice

(1) Make sure input voltage is correct and stable. The rated load of main power socket should be higher than cabinet consumption. Plug must be well grounded.
Note: The Biological safety cabinet use grounding plug, with three pins, please must connect to Grounding type power socket.

(2) In order to avoid air turbulence, the operator should slightly move his arms during experiment. Hands should stay inside the working area at least 1 minute before operating. In order to decrease the times of arms moving into and out of the working area, prepare all the necessary items inside the cabinet before starting experiment;

(3) Moving principles of different samples inside cabinet: When two or more samples need to be moved, be sure that low-polluting samples move to high-polluting samples, avoiding makes wide pollution in cabinet by high-polluting samples. Movement of items should also follow the principles of slow-moving.

(4) Samples placed in parallel: Samples should be placed in the cabinet parallel to avoid cross-contamination between samples and blocking back air grille.

(5) In order to avoid samples being sucked into the negative passage or the blower, do not place soft and slight samples (for example: soft tissue) on the surface during experiment;

(6) The weight of items placed in the cabinet should be no more than 23Kg/25×25cm2;

(7) Avoid vibration: avoid using vibration equipment (eg centrifuges, vortex oscillator, etc.) inside the cabinet. Vibration would cause lower cleanliness of operating area and affect operator protection.

(8) No flame: No flame is allowed inside the cabinet. Using of fire will lead to airflow disorder, and filter damage. If sterilization is required during the experiment, infrared sterilizer is highly recommended.

(9) HEPA filter life: With the usage time increasing, dust and bacteria accumulate inside HEPA filter. Filter Resistance is getting bigger, when it reaches the maximum point, there will be audible and visual alarm. Please replace new HEPA filter, otherwise it will affect the safety performance of the equipment. The used filter should be processed as medical waste.

(10) There is a negative passage surrounding the work area, which is sealed strictly in the factory. The operator is not allowed to remove or loose screws of those parts. If necessary, please contact service personal.

(11) Front Grille is used for air intake and drain. Do not block it, otherwise it will affect airflow. Armrest is recommended to solve this problem and reducing the operator's wrist fatigue.

(12) Long-term use of biological safety cabinets will inevitably cause pollution (e.g. HEPA filters, corner cabinets, etc.). In order to sterilize thoroughly every 500 hours, formalin (formaldehyde) fumigation sterilizer is recommended. After sterilization, neutralize formaldehyde gas with ammonium hydrogen carbonate. Make sure no sterilization gas escapes during the whole process.

(13) The maximum storage period is one year. If the period is more than one year, performance test should be done.

⚠ **Serious declaration: we will take no responsibility for risks caused by improper operation and man-made damages!**

2.5.2 Operation Process

a. Connect the same power reply, as required of equipment
b. Open the power lock, LCD display lights up and alarm rings at the same time, then the machine enters to standby status. Waiting for the operator to input button to use it.
c. Press POWER button, then the following functions are available: Fluorescent lamp. UV lamp, Fan, Mute, Sockets, Front window up and down, Reservation timing

⚠ When front window is closed and fluorescent light is off, then press the UV button to select the sterilization function.
d. Before doing experiment, please sterilize the cabinet for more than 30 minutes by UV lamp.

⚠ For safety of eyes and skin, people should leave room during the UV sterilization.
(2)UV lamp intensity should be tested regularly. If there is no test conditions, it should be replace when the UV timer on the display indicate the working time reaches to 1000 hours.

Please move the front window at 200mm height from the work table, turn on the fan, make sure the experiment should be started after fan working for at least half an hour.

⚠ For operating safety, please put testing materials inside the cabinet in advance, and keep the front window at 200mm height from the work table during operation.
After finishing the experiment, please move the front window down to the bottom, and make sure to sterilize the cabinet by UV lamp for 30 minutes before turning off the cabinet.

2.6. Daily maintenance

Because the operating time will directly affect the judgment of maintenance needs, we recommend the user keep a detailed record of operating time for reference.

⚠ When doing maintenance, please pay attention to cut off the power, so as to avoid electric shock!

2.6.1 Preparations before maintenance

Soap, hot water or warm water, a soft cotton cloth, dry cloth or towel, medical alcohol or other disinfectants, 100 dilution of household bleach, abrasive household cleaners, sterile water

2.6.2 Clean the cabinet surface

1) Clean the operating area surface
Wipe the entire surface with a soft cotton cloth or towel soaked with concentrated liquid soap, then wipe up the soap with another cotton cloth or towel soaked with clean hot or warm water, and then wipe the surface with a dry cotton cloth or towel rapidly.
For the contaminated or dirty work surface or sump., use 70% medical alcohol or other disinfectant to wipe.

⚠ **Disinfectants used for wiping should not damage 304 stainless steel.**

2) Clean the external surface and front window.
Use soft cotton cloth or towel to wipe the surface with non-abrasive household cleanser.

2.6.3 Overall maintenance period
We suggest comprehensive maintenance period is one year or 1000 working hours.

2.6.4 Maintenance methods
1) Daily and weekly maintenance
a. Disinfect and clean operating area;
b. Clean the external surface and front window around the operating area;
c. Check the various functions of equipment;
d. Record this maintenance result
2) Monthly maintenance
a. Clean the external surface and front window.
b. Wipe the working table, inner wall surface of operating area (excluding the wind distributing grid of operating area) and the inner surface of glass door with 70 % medical alcohol or household bleach diluted 1:100 (i.e, 0.05% sodium hypochlorite). Then wipe again with sterile water in order to eliminate the rest chlorine.
c. Check the various functions of equipment;
d. Record this maintenance result;

3) Annual maintenance
a. Check the two conveyor belts of front window drive unit, and ensure that their tightness is coincident.
b. Check the UV lamp and fluorescent lamps.
c. Apply for testing the overall performance of cabinet on an annual basis to ensure the performance safety. User is responsible for testing costs.
d. Record this maintenance result.

2.6.5 Storage conditions
Safety cabinet should be stored in a relative humidity no more than 75%, the temperature is below 40℃, in the warehouse with good ventilation performance, no acid, no alkali and no other corrosive gases, storage period shall not exceed one year, safety cabinet for more than a

year needs to unpacked and checked. Only the tested and qualified safety cabinet can be sold.

2.7 Methods and procedures for disinfection

Details in the After-sale service manual

Disinfection is necessary when any contaminated part of the biosafety cabinet needed for routine maintenance, replacement filters, and performance testing, etc.

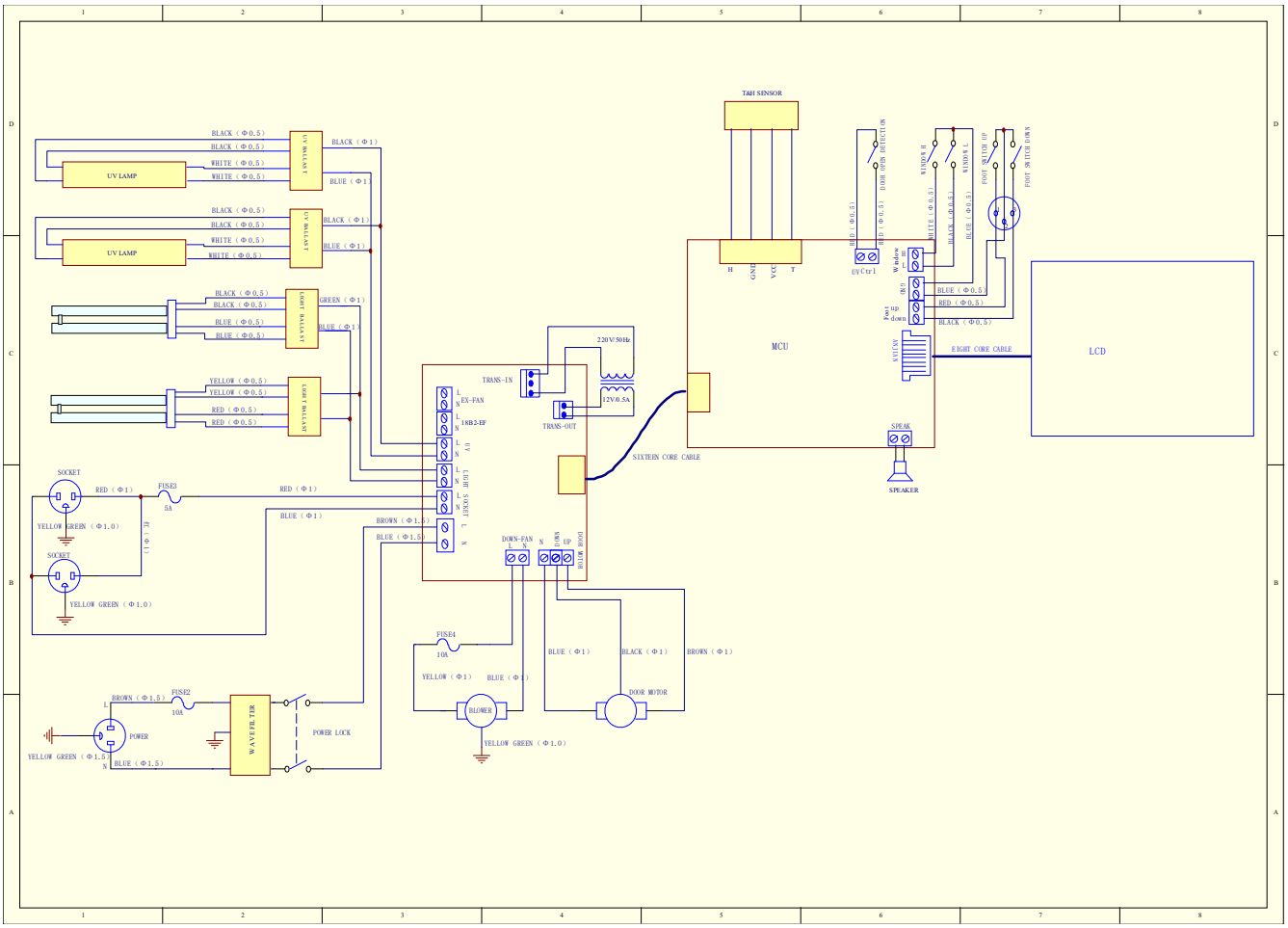
2.8 Replacement parts list

BCBS-204 replacement parts list

Number	Name	Specification
AK01	Fuse	10A
AK02	Fuse	5A
AK03	Lamp holder T8	LG13-01A
AK04	UV Lamp	T6 40W
AK05	LED fluorescent Lamp	16W
AK06	UV lamp ballast	1*TL8-40W
AK07	Lower filter (Supply filter)	1700*470*69mm
AK08	Upper filter (Exhust filter)	1090*420*69mm
AK09	Fan	DZAE9/9-4
AK10	Control panel	LCD control board (strong circuit board, weak circuit board, display screen)
AK13	Remote control (with battery)	
AK14	Key selection button	LA42Y2P-20B
AK15	Glass	1806*700*6.76mm
AK16	Foot switch	

2.9 Wiringdiagram

Picture 18



03 Trouble Shooting and Labels

3.1 Common faults & solution

3.1.1 Warning and reminder

Digital display of pressure difference, digital velocity display, audible and visual alarm system.

1) Over safety height alarm for front window

There will be audio and visual alarm when front window is lifting over safety height. Same time LCD display will twinkle exclamation mark. Then just adjust the height of the front window.(Front window height setting value is 200mm).

2) HEPA filter pressure difference alarm

There will be audio and visual alarm if pressure of air supply filter or exhaust filter can't meet present value, at the same time LCD display will display exclamation mark. Remind the operator to replace the filter immediately to protect the operator's safety.

3) Velocity fluctuation alarm

There will be audio and visual alarm if the inflow velocity and downflow velocity below 20% of the standard value, namely, inflow velocity below 0.42m/s, downflow velocity below 0.26m/s, at the same time LCD display will display exclamation mark to remind the operator to pay attention.

3.1.2 Trouble shooting

Please confirm whether the power is connected or not, whether the power cord is obvious damaged or not, whether the fuse is good or not, and whether the power locks are in the open state or not before the fault diagnosis.

Faults	Check parts	Measures
Fluorescent lamp doesn't work	Lamp holder	Tube and lamp holder is connected securely
	Circuit	Check circuit
	fluorescent tube	Change it
	Ballast	Change it
	Control panel	Change it
UV lamp doesn't work	Front window, fluorescent lamp and blower	Check the front window, fluorescent lamp and the blower is open or not.
	Lamp holder	Tube and lamp holder is connected securely.
	Circuit	Check circuit
	UV lamp	Change it
	Micro Switch	Check if Micro Switch is broken
	Control panel	Change it
Button doesn't work	Control panel	Make sure the power connects well and the fuse is well
		Check if the button is broken
		Make sure the connecting wire is connected well
		Change control panel
Blower doesn't work	Front window	Front window is open or not, blower works only when the front window is open
	Micro Switch	Check if Micro Switch is broken or works fine
	Blower	If blower is broken, change it
	Circuit	Check circuit
	Control panel	Change it
No electricity in socket	Socket fuse	Check if socket fuse is broken
	Socket	Check if socket is broken
	Circuit	Check circuit

	Control panel	Change it
Pressure or air speed displayed incorrectly	Gas circuit	Check whether gas circuit has dropped, is broken, or jammed
	Control panel	Change it
Front window doesn't work	Circuit	Check circuit
	Motor of front window	Check front window motor
	Transmission part	Check transmission connection and lead rail
	Control panel	change it
Foot switch doesn't work	Circuit	Check circuit
	Control panel	Change it
Remote control doesn't work	Remote control	Check if the Remote control is broken or not, and if there's electric in the battery
	Connection cable	Check whether main control panel and display board is connected well.
	Control panel	Change it
No electricity in equipment	Power supply	Check power supply connects well
	Power wire	Check whether power wire has obvious damage
	Fuse	Check if the fuse is good
	Power key	Check if power key is open, is broken or not
	Transformer	Check whether the transformer works normally
	Control panel	Change it
Display doesn't work	Connection winding displacement	Connection winding displacement
	Display screen	Display screen
	Control panel	Control panel
No alarm	Micro switch	Check whether the micro switch is good, and it works normally or not
	Circuit	Check whether connection circuit of micro switch is good.
	Control panel	Change it

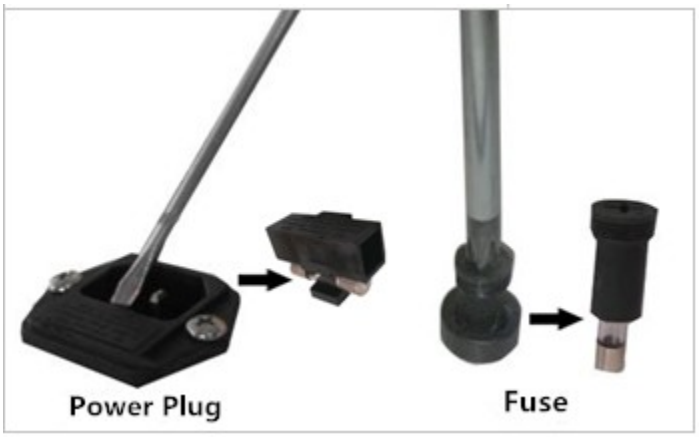
NOTES

(1) The above electrical parts must be operated by a qualified electrician in safety conditions (cutting off power supply). The other parts are not allowed to remove; otherwise the user should take
responsibility by them;
(2) When failures are not in the above occur, and the operator can't solve, please notify our maintenance department immediately. For your safety, please do not maintenance equipment by
yourself;
(3) The maintenance of this equipment is undertaken by trained and recognized technicians;
(4) If you need to order parts, contact the agent or our technical service department, and please
indicate the model and serial number of the cabinet purchased.

3.1.3 Simple accessories replacement

1) Replace the fuse

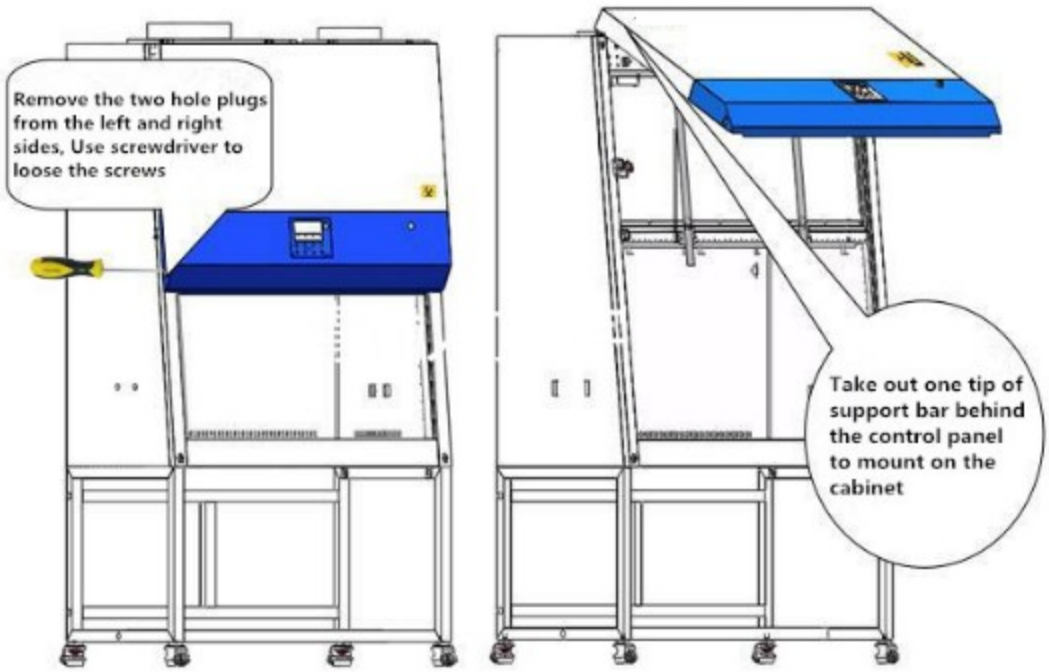
Socket, fan fuse are located in the top operation panel. When replace them, turn off the power and disconnect plug, use a Phillips screwdriver counterclockwise pressing screwed fuse holder, remove the fuse out and replace a new fuse, and then clockwise pressing screwed fuse holder; FireWire fuse is located in the side of the cabinet operation panel, take out of the fuse holder using a slotted screwdriver and replace with a new fuse, and then press it back



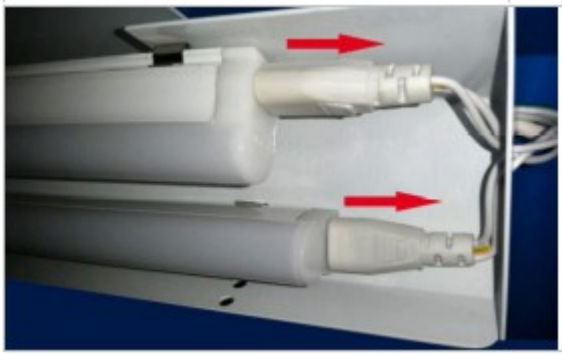
Picture 19

2) Replace fluorescent light

When replacing lights, make sure that the power is off, open the operation panel like shown in Picture 20, use the control panel support frame (fixed in the inside position of the control panel as shown), then like Picture 21 shown take out the tubes to the arrow direction and take the corresponding models of H lighting tubes, on lamp holder in the opposite position.



Picture 20



Picture 21

3) Replace the UV lamp

UV lamp should be replaced regularly according to the frequency of use, when using UV lamps reach to the time of 600 hours, we recommend to replace the lamp. When replacing, first make sure the power is off, and then screw the bulb 90° and take it off , then take the correspondence type of lamp, and put it to the lamp holder and screw 90° in reverse direction. After replacing the UV lamp, it needs to keep pressing the button of UV for about five seconds when the machine stays standby.

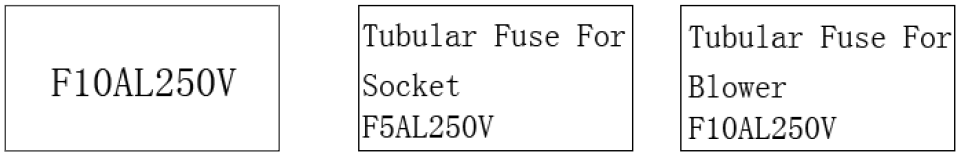
Picture 22

3.2 Label Description

1) Biological hazard label

Picture 23

2) Fuse label



a b c

Picture 24

Note:

a.10A power fuse label

b. Operating area 5A socket fuse labels

c.10A blower fuse label

3) Ground label

Picture 25

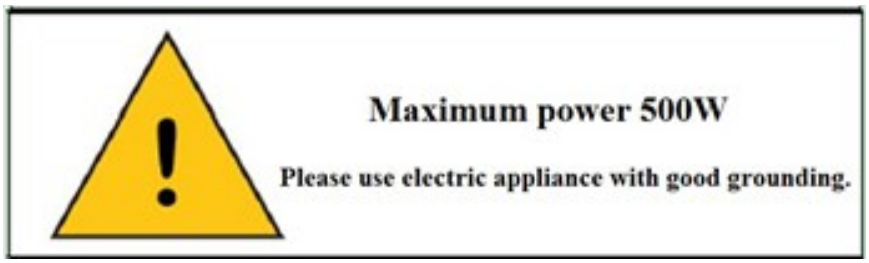
4) Glass door super elevation warning label

Picture 26

5) UV lamp alarm label

Picture 27

6) Load requirements label



Picture 28

7) Exhaust filter upstream label

Picture 29

8) Downflow filter upstream label

Picture 30

04 Warranty

1) Warranty is one years from EX-factory date (excluding consumable accessories, UV and Fluorescent lamp, fuse).
2) We will take no responsibility for risks caused by improper operation and man-made damages.
3) After the expiration of warranty, our company is also responsible for repairs, but the corresponding maintenance cost should be charged.
4) Life time of biosafety cabinet is 8 years from production date on the label.
5) We can provide equipment drawings and necessary technical data for maintenance companies or personnel trained by our company.
Warranty declaration: one Warranty, Life-long Maintenance

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