

# Operation Manual



BLVR-203/4, BLVR-  
301/2

## Vertical Laminar Airflow

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



Warning: Before operating the unit, be sure to read carefully and fully understand important warnings in the operating instructions.

#### Disclaimer

Biolab shall not be liable for any equipment failure or damage, or for any direct or indirect damage that may occur during the use of the equipment.

1. Malfunction or damage due to violation of the instructions, precautions, and intended use of this manual.

2. Malfunction or damage caused by repair or alteration of the other company.

3. Malfunction or damage caused by use instruments of other company at the same time.

4. Malfunction or damage caused by operating environment not corresponding to the specified operating environment (power conditions, installation environment, etc).

5. Malfunction or damage caused by natural disasters such as earthquakes and floods.

6. Malfunction or damage caused by the company unaware of the movement or transfer (transport) after installation.

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# 01 Unpacking, Installation and Debugging

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

## 1.1 Unpacking

Choose proper tools and unpacking method as shown in the below picture.

For wooden box:

1) Method 1 Necessary tools for unpacking: Electric drill with hexagon dead M8



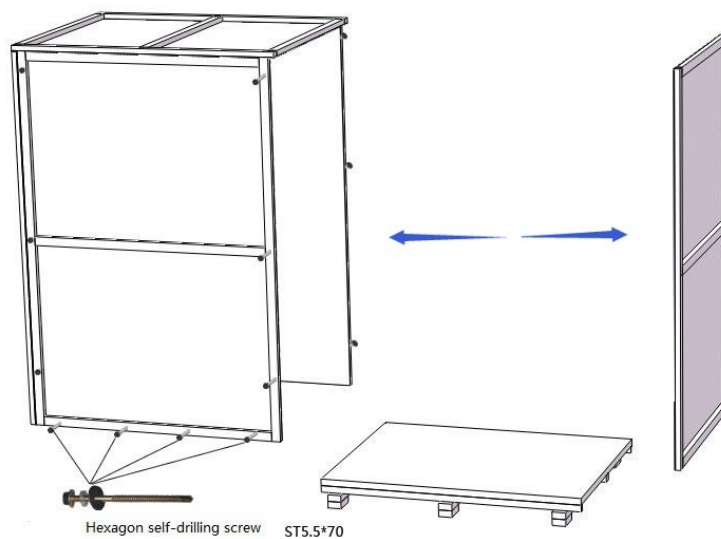
Picture 1

Method 2 Use M8 Wrench to unpack



Picture 2

The following diagram demonstrates quick unpacking procedures (Picture 3). Remove the screws as shown in the below diagram, then remove the wooden sheet to right and left of the wooden box.



Picture for carton box

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



Picture 4

## 1.2 Accessories Checking

Refer to the packing list and check the accessories.  
BLVR-203 Packing list

Items	Position	Quantity
Main body	Inside the packing box	1 unit
Base stand	Paper package(behind the cabinet)	1 pc
Power cord	Packing bag(behind the cabinet)	1 pc
Fuse protector(10A)	Packing bag(behind the cabinet)	1 pc
UV Lamp(T6 18W)	Paper package(behind the cabinet)	1 pc
User Manual	Paper package(behind the cabinet)	1set
Inspection report	Paper package(behind the cabinet)	1 pc

Certificate of quality	Paper package(behind the cabinet)	1 pc
Warranty card	Paper package(behind the cabinet)	1 pc
Product acceptance certificate and installation report	Paper package(behind the cabinet)	1 pc
Training certificate	Paper package(behind the cabinet)	1 pc
Hexagon socket head cap screws M10×55	Paper package(behind the cabinet)	3 sets
flat washer 10 + spring washer 10	Paper package(behind the cabinet)	2 sets
Hexagon wrench	Paper package(behind the cabinet)	1 set

## BLVR-204 Packing list

Items	Position	Quantity
Main body	Inside the packing box	1 unit
Base stand	Paper package(behind the cabinet)	1 pc
Power cord	Packing bag(behind the cabinet)	1 pc
Fuse protector(10A)	Packing bag(behind the cabinet)	1 pc
UV Lamp (T6 30W)	Paper package(behind the cabinet)	1 pc
User Manual	Paper package(behind the cabinet)	1set
Inspection report	Paper package(behind the cabinet)	1 pc
Certificate of quality	Paper package(behind the cabinet)	1 pc
Warranty card	Paper package(behind the cabinet)	1 pc
Product acceptance certificate and installation report	Paper package(behind the cabinet)	1 pc
Training certificate	Paper package(behind the cabinet)	1 pc
Hexagon socket head cap screws M10×55	Paper package(behind the cabinet)	3 sets
flat washer 10 + spring washer 10	Paper package(behind the cabinet)	2 sets

	cabinet)	
Hexagon wrench	Paper package(behind the cabinet	1 set

## BLVR-301 Packing list

Items	Position	Quantity
Main body	Inside the packing box	1 unit
Base stand	Paper package(behind the cabinet)	1 pc
Power cord	Packing bag(behind the cabinet)	1 pc
Fuse protector(10A)	Packing bag(behind the cabinet)	1 pc
UV Lamp (T6 18W)	Paper package(behind the cabinet)	1 pc
User Manual	Paper package(behind the cabinet)	1set
Inspection report	Paper package(behind the cabinet)	1 pc
Certificate of quality	Paper package(behind the cabinet)	1 pc
Warranty card	Paper package(behind the cabinet)	1 pc
Product acceptance certificate and installation report	Paper package(behind the cabinet)	1 pc
Training certificate	Paper package(behind the cabinet)	1 pc
Hexagon socket head cap screws M10×55	Paper package(behind the cabinet)	3 sets
flat washer 10 + spring washer 10	Paper package(behind the cabinet)	2 sets
Hexagon wrench	Paper package(behind the cabinet	1 set

## BLVR-302 Packing list



Items	Position	Quantity
Main body	Inside the packing box	1 unit
Base stand	Paper package(behind the cabinet)	1 pc
Power cord	Packing bag(behind the cabinet)	1 pc
Fuse protector(10A)	Packing bag(behind the cabinet)	1 pc
UV Lamp (T6 30W)	Paper package(behind the cabinet)	1 pc
User Manual	Paper package(behind the cabinet)	1set
Inspection report	Paper package(behind the cabinet)	1 pc
Certificate of quality	Paper package(behind the cabinet)	1 pc
Warranty card	Paper package(behind the cabinet)	1 pc
Product acceptance certificate and installation report	Paper package(behind the cabinet)	1 pc
Training certificate	Paper package(behind the cabinet)	1 pc
Hexagon socket head cap screws M10×55	Paper package(behind the cabinet)	3 sets
flat washer 10 + spring washer 10	Paper package(behind the cabinet)	2 sets
Hexagon wrench	Paper package(behind the cabinet)	1 set

### 1.3 Installation Conditions and Operating Environment

Laminar flow cabinet should be placed in a position where the airflow can be protected.

Laminar flow cabinet should not be installed opposite to door or window and far away from the air outlet of air conditioner. It should avoid airflow influence from ventilating system, air conditioner, door, window and movement of people.

At least 300mm gap must be kept in the side and back side of the Laminar Air Flow for clean operating and for inspection.

Working environment:

Only applicable to indoor operation;

Ambient temperature: 15°C~35°C;

Relative Humidity: ≤75%;

Atmospheric pressure range: 70 kPa~106 kPa;

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Electrical parameters: Adequate power supply to the Laminar flow cabinet (See 2.1.4 Technical Parameters );

Power supply need to be grounded; (Judging method: test the live wire and the neutral wire of the socket with multimeter. The voltage between live and ground should equal to the voltage of local electrical grid, and the voltage between neutral and ground should equal to 0. Otherwise the power supply is not grounded correctly);

#### 1.4 Installation

Remove all the packing materials;

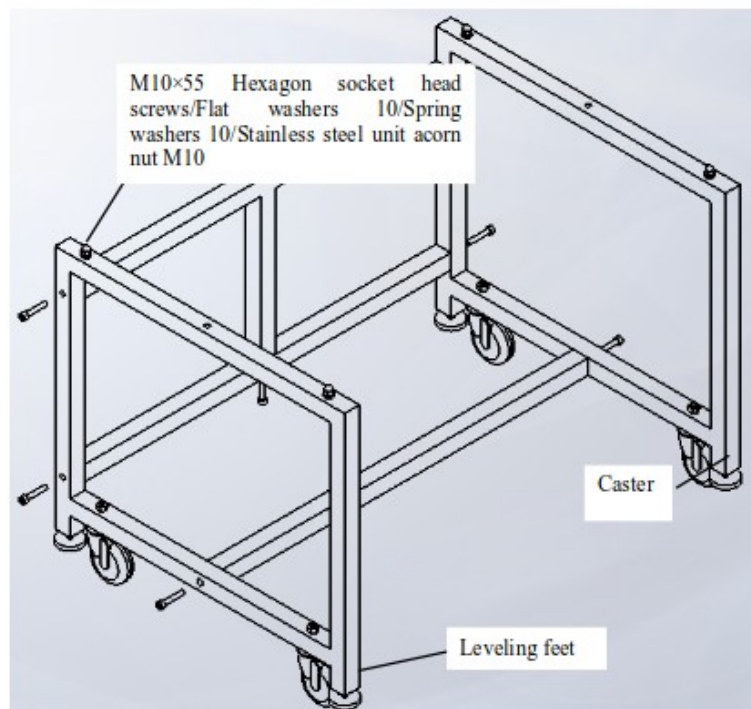
b. Check for Physical damage or scratch the surface of main body during transit. Make sure there is no damage, scratch, deformation or foreign bodies;

c. Carefully check the accessories and material according to packing list in the manual.

d. Before breaking the package, move the entire equipment to the place where it is going to be installed.

**⚠ NOTE:** Direct installation is completed for base stand part at the time of transport or it is put at the back of the laminar flow cabinet. Base stand should be taken out before installing: When carrying the laminar flow cabinet, top-for-bottom, dumping place and dismantling are forbidden.

e. Assemble the base stand (if have) referring to Picture 5.



Picture 5

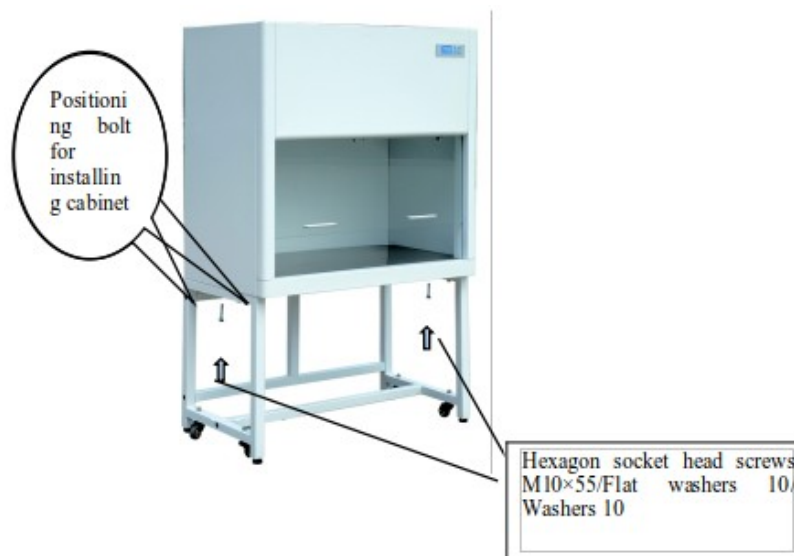
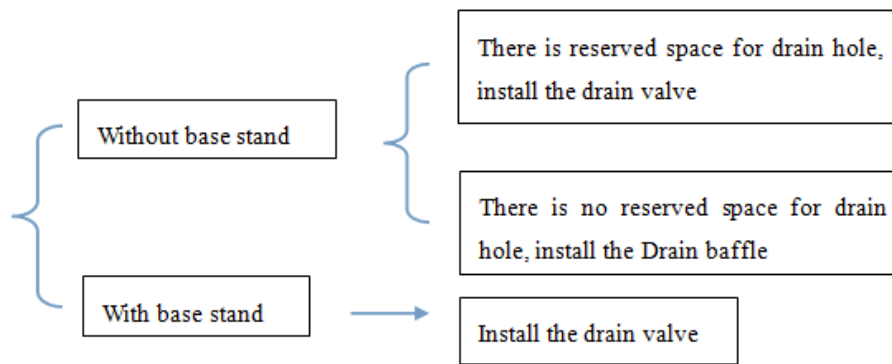
Removing Hexagon cylinder head bolt on both side lateral brace and T frame, the bottom of T frame, assemble referring to the picture, fasten the screw and Cap nut on the both side of base stand.

Foot height can be adjusted. Clockwise rotation of feet, when feet height is less than casters, the cabinet (or base stand) moved; anticlockwise rotation of feet, when feet height is greater than casters, then play a fixed role in preventing the cabinet (or base stand) from moving.

**⚠ NOTE:** If there are any questions, please contact the Engineer for process debugging

f. Connect base stand with main body

Please connect the base stand with the main body referring to Picture 6.



Picture 6 [www.biolabsscientific.com](http://www.biolabsscientific.com)


Place the cabinet in the base stand, as shown in Picture 6, The base of the cabinet to install the positioning bolt alignment on the cabinet on the left and right side of the bottom of the installation hole, using M10 × 55 Inner six angle cylinder head bolt, flat washers 10 and spring washers 10 bottom up through the base stand and side plate and fastened firmly.

g. After the above steps, slightly moving the cabinet to the proper position, remove the power line, power line inspection is intact.

### 1.5 Inspection after Installation

First, check the electrical power supply, make sure the voltage and frequency match with the Instrument power supply rating, then check the follows items with power on:

Checking Items	Normal working status
Fan	Runs normally
Fluorescent Lamp	Lamp lights up after pressing button
UV Lamp	Lamp lights up after pressing button
Screen Buttons	All buttons work effectively

 NOTE: If there is any problem, please contact the engineer for process debugging. Debugging methods is in the after-sales service manual.

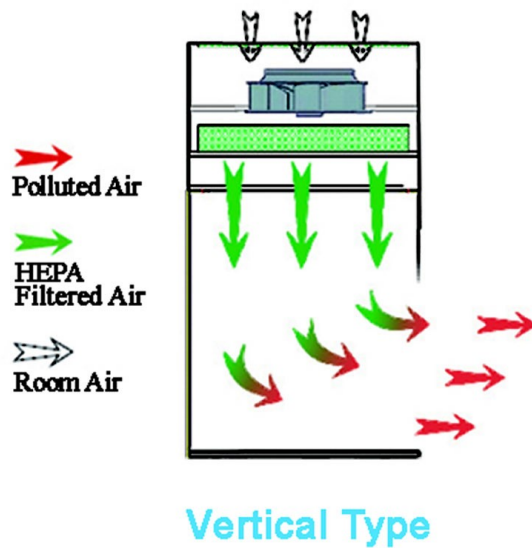
## 02 User Instructions

### 2.1 Functions

#### 2.1.1 Product Concept

Laminar Flow Cabinet –LAF Cabinet is only for sample protection. Laminar Flow Cabinet is a work bench or similar enclosure, which creates a particle-free working environment by taking air through a filtration system and exhausting it across a work surface in a laminar or unidirectional air stream. The laminar flow cabinet is enclosed on the sides and kept under constant positive pressure in order to prevent the infiltration of contaminated room air. This model is vertical laminar flow cabinet.

2.1.2 Operating Principle/Air flow Pattern (Picture 7)



Picture 7 Air flow pattern

2.1.3 Protected Object

Sample protection only

2.1.4 Technical Parameters

Model	BLVR-203 □	BLVR-204 □
Parameters		
External Size (W*D*H)	1040×615×1770 mm	1440×615×1770 mm
Working Zone Size (W*D*H)	940×540×545 mm	1340×540×545 mm
Work Surface Height	750mm	
Display	LED Display	
Airflow Velocity	Average of 0.3~0.5m/s <a href="http://www.biolabsscientific.com">www.biolabsscientific.com</a>	

Material	Main Body: Cold-rolled steel with anti-bacteria powder coating	
	Work Table:304 stainless steel	
	Side Windows:5mm toughened glass, anti-UV	
Pre-filter	Polyester fiber, washable	
HEPA Filter	99.999% efficiency at 0.3um	
Noise	<65dB	
Fluorescent Lamp	12W*1(LED)	16W*1(LED)
	18W*1	30W*1
UV Lamp	Emission of 253.7 nanometers	
	Consumption	≤350W
Waterproof socket	Two, total load≤500W	
Caster	Universal caster with leveling feet	
Power Supply AC	220V±10% □ 110V±10% □	
Frequency	50 Hz □ 60Hz □	
Standard Accessory	Fluorescent lamp,UV lamp*2,Base stand,Waterproof socket*2	
Gross Weight	150kg	174kg
	Package Size (W*D*H)	1190*890*1340mm

Model	BLVR-301 □	BLVR-302 □
Parameters		
External Size (W*D*H)	1040×660×1770 mm	1440×660×1770 mm
Working Zone Size (W*D*H)	940×560×545 mm	1340×560×545 mm
Work Surface Height	750mm	
Display	LED Display	
Airflow Velocity	Average of 0.3~0.5m/s	
Material	Main Body: Cold-rolled steel with anti-bacteria powder coating	
	Work Table:304 stainless steel	
Pre-filter	Polyester fiber, washable	
HEPA Filter	99.999% efficiency at 0.3um	

Noise	<65DB	
Front Window	Manual,5mm toughened glass, anti-UV	
Max Opening	350mm	
Fluorescent Lamp	12W*1(LED)	16W*1(LED)
UV Lamp	18W*1	30W*1
	Emission of 253.7 nanometers	
Consumption	350W	600W
Waterproof socket	Two, total load≤500W	
Caster	Universal caster with leveling feet	
Power Supply AC	220V±10% <input type="checkbox"/> 110V±10% <input type="checkbox"/>	
Frequency	50 Hz <input type="checkbox"/> 60Hz <input type="checkbox"/>	
Standard Accessory	Fluorescent lamp, UV lamp*2,Base stand	
Gross Weight	150kg	174kg
Package Size (W*D*H)	1190*890*1340mm	1590*890*1340mm

NOTE: the company reserves all the rights to changes in product design, if there are any design change, we will not inform in advance.

#### 1) Vibration Amplitude

The net vibration amplitude between 10Hz and 10KHz is less than 5 $\mu$ m (rms).

#### 2) Illumination

Average illumination is not less than 350 lx.

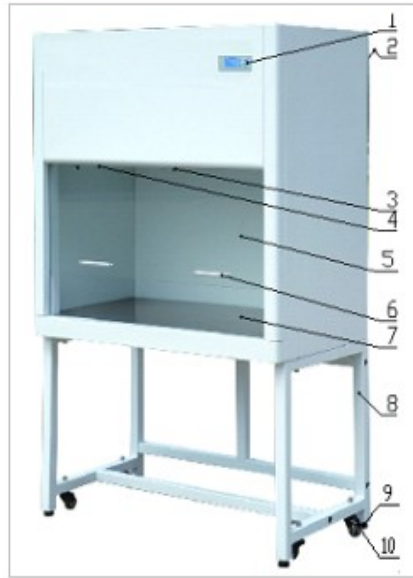
#### 3) Electrical Characteristic

- The voltage increases to 1390V (AC) in 5s and keep for another 5s without breakdown.

- Ground resistance≤0.1 $\Omega$

## 2.2 Product Structure

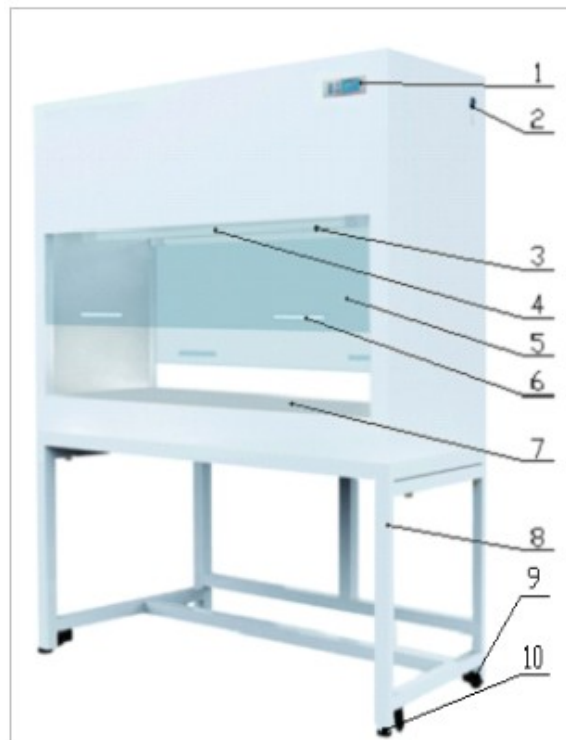
### 2.2.1 Structural Composition of BLVR-203/BLVR-204



Picture 8

- 1. Control Panel
- 3. UV Lamp
- 5. Front Window
- 7. Work Table
- 9. Leveling Feet

- 2. Power Socket
- 4. LED Lamp
- 6. Handle
- 8. Base Stand
- 10. Caster



Picture 9



- |                  |                   |
|------------------|-------------------|
| 1. Control Panel | 2. Power Socket   |
| 3. UV Lamp       | 4. LED Lamp       |
| 5. Front Window  | 6. Door knob      |
| 7. Work Table    | 8. Base Stand     |
| 9. Caster        | 10. Leveling Feet |

2.2.3 Structure Introduction

Driving system of front window

Driving system consists of constant force spring and front window.

2) Air filtration system

Air filtration is the core system of laminar flow cabinet. It consists of blower and filter. The main function of air filtration system is to transfer filtered air to work area, ensure the flow velocity, and keep cleanness of work area.

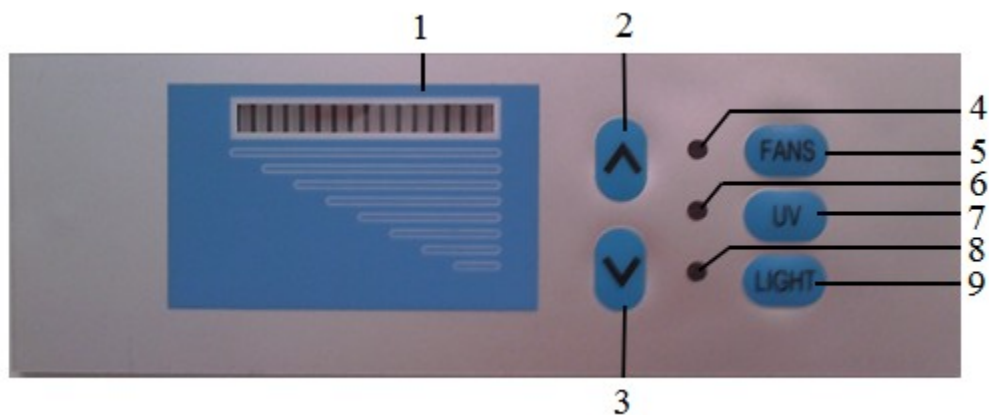
3) UV lamp

The entire work zone could be sterilized effectively by the UV lamp located at the top of work zone. Emission of 253.7 nanometers could ensure the most efficient decontamination.

4) Fluorescent lamp

Laminar flow cabinet is equipped with energy-saving LED fluorescent lamp, which ensures the standard requirement of average illumination is met

5) Control panel (Picture 10)



Picture 10

- |                          |                                                                          |
|--------------------------|--------------------------------------------------------------------------|
| 1. Gear Indicator        | 2. Increase Air Velocity                                                 |
| 3. Decrease Air Velocity | 4. Fan indicator                                                         |
| 5. Fans                  | 6. UV Indicator                                                          |
| 7. UV                    | 8. Light Indicator                                                       |
| 9. Light                 | <a href="http://www.biolabsscientific.com">www.biolabsscientific.com</a> |

## a) Gear indicator



To see air speed gears of the equipment through gears indicator.





## b) Soft touch buttons

Main functions all could be executed either by touch pressing.

**LIGHT** : To control lamp

**UV** : To control UV lamp. UV lamp, fans and fluorescent lamp are interlocked. UV lamp will automatically turn off when open the fans or fluorescent lamp.

**FANS** : To control blower during working

Air velocity control (   ): During working, button  to increase air velocity; button  to decrease air velocity.

## 6) Fuse protector

The cabinet is equipped with main power fuse. For double-pane window, it is located beside the power cord's outlet. For single glass, they are both located at the back of the power cord's outlet. Fuse label is corresponding to the relevant specifications. Please refer to 3.5.1 and picture 3.2 when changing fuse protector.

## 7) Control of front window

Front window is controlled by constant force spring. It can be stably stopped at any height during allowed height. It still can be controlled and take out samples inside when power off.

## 8) Structure

a) Cabinet body is made up of 1.2mm cold-rolled steel with anti-bacteria powder coating. The structural strength and stability are enhanced.

b) Work area is made up of 304 stainless steel, which provides corrosion resistance and attractive appearance.

c) Base stand is made up of metal with anti-bacteria powder coating.

d) Control panel adopts soft touch buttons, which provides attractive appearance and easy operation..

## 2.3 Instructions for Operation

## 2.3.1 Normal Operation Notice

a) Making 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. If

socket can not plug in, please install a grounding type power socket by a electrician.

b) Moving principles of different samples inside cabinet: When two or more samples need to be moved in, be sure that low-polluting samples should be moved first then high-polluting samples. Movement of items should also follow the principles of moving slowly and steadily.

c) The weight of items placed in the cabinet should not be more than 23Kg/25×25cm<sup>2</sup>;

d) Avoiding vibration: avoid using vibration equipment (eg centrifuges, vortex oscillator, etc.) inside the cabinet. The contamination might drop from the HEPA filter and affect the samples and the operator

e) NO FLAME: An open flame would create turbulence which disrupts the pattern of HEPA-filtered air supplied to the work surface. If sterilization is required during the experiment, infrared sterilizer is highly recommended.

f) 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, the speed requirements can't be met. Then need contact Biolab service department to get a new one. The used filter should be processed as medical waste.

g) Air duct has been sealed strictly. Please do NOT remove or loose the screws of those parts. To contact service personnel for special technical requirements

h) The maximum storage period is one year. A performance inspection should be done if the storage period exceeds one year.



Serious declaration:

NOTE: Biolab WILL NOT BE RESPONSIBLE FOR ANY RISK OR DAMAGE ARISING FAILURE DURING USAGE BY UNTRAINED OPERATOR AND MISHANDLING THE LAF. THE OPERATOR OF THE LAMINAR FLOW CABINET SHOULD BE TRAINED ENOUGH BEFORE USING THE LAF.

### 2.3.2 Operation Process

a) Connect the power

b) Press relevant button (please reference to 2.2.3 about button function and operation). Check if the buttons in accordance to operation results. If the equipment is function normally, air velocity, UV lamp and fluorescent lamp according to technical parameters.

c) The cabinet should be sterilized by UV lamp for at least 30 minutes with the window fully closed before any experiment.



NOTE:

- (1) For safety of eyes and skin, people should leave the room during UV sterilization.
- (2) UV lamp should be checked regularly. It should be replaced when either the total working time reaches 600 hours or the intensity is lower than the requirement.

d) Please move up the front window to reasonable height above the work table and turn on the blower. Make sure the experiment should be started after fan working for at least 30 minutes.



NOTE: For operating safety, please put testing materials inside the cabinet in advance

After finishing the experiment, please fully close the front window, and make sure to sterilize the cabinet by UV lamp for 30 minutes before turning off the cabinet.

## 2.4 Daily Maintenance

Before maintenance: Please remove all the items which are inside the cabinet.

Material needed: A piece of cotton cloth or towel, concentrated soap solution, hot water, clean water, medical alcohol or disinfectant etc.

### 2.4.1 Clean the operating area surface

Wipe the entire surface with a soft cotton cloth which has been soaked with concentrated liquid soap. Afterwards, wipe off the foam with another cotton cloth or towel which has been soaked with clean hot or warm water. At the end wipe the entire surface with a dry cotton cloth or towel rapidly.

For the contaminated or dirty work surface and sump, use medical alcohol or other disinfectant to wipe.

### 3) Annual maintenance

- a. Check the two lifting belt of the front window tubular motor, make sure both of them are well connected to the motor with same tightness.
- b. Check the UV lamp and LED lamps.
- c. Apply for overall performance test of the cabinet annually to ensure that the safety meets requirements. User is responsible for testing costs.
- d. Record down the maintenance result.



NOTE: Cut off the power during maintenance

### 2.4.5 Storage conditions

Laminar flow cabinet should be stored in a warehouse with relative humidity no more than 75%, and temperature lower than 40°C. The warehouse with should have good ventilation performance, without acid, alkali and or other corrosive gases. Storage period shall not exceed one year. Laminar flow cabinet stored for more than one year needs to be unpacked and checked before selling and using. Only the tested and qualified Laminar Flow Cabinet could be sold.

### 2.5 Replacement parts list(For parts purchase)

BLVR-203 replacement parts list

Number	Name	Specification
BE-01	Fuse	10A
BE-02	Lamp holder T8	LG13-01A
BE-03	UV Lamp	T6 18W
BE-04	LED T5 Supporting frame	T5 12W
BE-05	UV lamp ballast	1*TL8-18W
BE-06	High efficient filter	900*450*50mm
BE-07	Fan	FS133Q
BE-08	Control panel	Laminar flow cabinet control panel(Ten light pillar)
BE-09	Glass	960*580*5mm
BE-10	Constant force spring	Constant force spring(eight pound), nylon sleeve, nylon sleeve baffle

BLVR-204 replacement parts list

Number	Name	Specification
BI-01	Fuse	10A
BI-02	Lamp holder T8	LG13-01A
BI-03	UV Lamp	T6 30W
BI-04	LED T5 Supporting Frame	T5 16W
BI-05	UV lamp ballast	1*TL8-30W
BI-06	High efficient filter	1300*450*50mm
BI-07	Fan	FS133Q

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BI-08	Control panel	Laminar flow cabinet control panel(Ten light pillar)
BI-09	Glass	1360*580*5mm
BI-10	Constant force spring	Constant force spring(405L), nylon sleeve, nylon sleeve baffle
BI-11	Constant force spring	Constant force spring(405S), nylon sleeve, nylon sleeve baffle

BLVR-301 replacement parts list

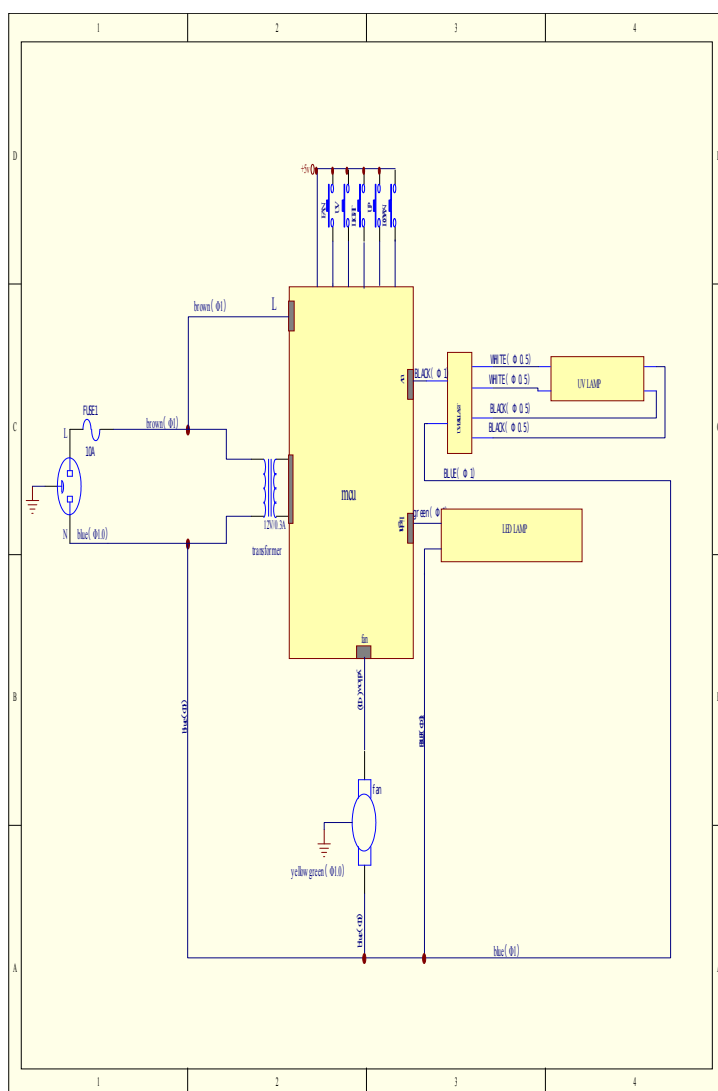
Number	Name	Specification
BF-01	Fuse	10A
BF-02	Lamp holder T8	LG13-01A
BF-03	UV Lamp	T6 18W
BF-04	LED T5 Supporting Frame	T5 12W
BF-05	UV lamp ballast	1*TL8-18W
BF-06	High efficient filter	900*450*50mm
BF-07	Fan	FS133Q
BF-08	Control panel	Laminar flow cabinet control panel(Ten light pillar)
BF-09	Glass	960*580*5mm
BF-10	Constant force spring	Constant force spring(eight pound), nylon sleeve, nylon sleeve baffle

BLVR-302 replacement parts list

Number	Name	Specification
BK-01	Fuse	10A
BK-02	Lamp holder T8	LG13-01A
BK-03	UV Lamp	T6 30W
BK-04	Fluorescent Lamp	T5 28W
BK-05	UV lamp ballast	1*TL8-30W
BK-06	High efficient filter	1300*450*50mm
BK-07	Fan	FS133Q

BK-08	Control panel	Laminar flow cabinet control panel(Ten light pillar)
BK-09	Glass	1360*580*5mm
BK-10	Constant force spring	Constant force spring(405L), nylon sleeve, nylon sleeve baffle
BK-11	Constant force spring	Constant force spring(405S), nylon sleeve, nylon sleeve baffle

### 2.6 Wiring Diagram



Picture 12

# 03 Trouble Shooting and Labels

## 3.1 Common faults and solution

Please confirm that the power is well connected, the cord is in good condition (without any damage) and the power lock is unlocked before trouble shooting the following problems.

Faults	Check parts	Measures
Fluorescent lamp fail to work	LED Stand plug	Check if the stand plug and stand are connected tightly
	LED Stand	Change the stand
	Circuit	Check the circuit
	Control panel	Replace the control panel
UV lamp fail to work	Interlock	Check the blower and fluorescent is turn off or not
	Lamp holder	Connect the tube and lamp holder tightly
	Circuit	Check the circuit
	UV lamp	Replace the UV lamp
	Ballast	Replace the ballast
	Control panel	Replace the control panel
Button fail to work	Control panel	Make sure the power is well connected and the fuse is in good condition
		Check if the button is broken
		Make sure the connecting wire is well connected
		Replace the control panel
Blower fail to work	Blower	Replace the blower if it is defective
	Circuit	Check the circuit
	Control panel	Replace the control panel
No electricity in socket	power supply	Check if power supply is broken



	power cable	Check if power cable is broken
	Fuse	Check the fuse
	Transformer	Check it
	Control panel	Change the control panel
Display fail to work	Connection wires	Check if connected
	Display screen	Check whether the screen is in good condition
	Control panel	Replace the control panel

**NOTE:**

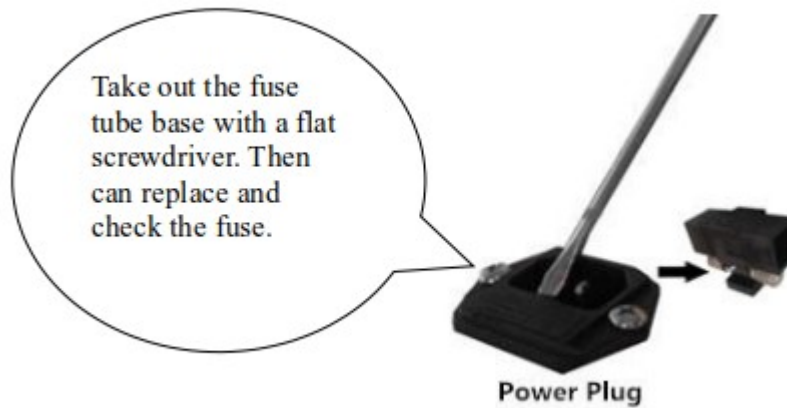
The above trouble shooting methods should be done by qualified electricians under safe conditions (cut off power supply). Other components should not be removed. Risk caused by failing to follow those instructions would be responsible by user.;

Please contact Biolab or our agent technical department if a failure could not be traced or solved. Do NOT repair the equipment without a qualified electrician; The trouble shooting and repair of this equipment only could be undertaken by trained and recognized technicians;

(4) Please contact Biolab or our agent technical department or agent to order required component or part. The model number and the serial number of purchased cabinet need to be indicated.

### 3.2 Replacement of Fuse

For single side operation laminar flow cabinet, power input socket is located at the back, for double side operation ones, power input socket is located in the side. For replacing the fuse, turn off the power and disconnect the plug. Use a Phillips screwdriver and rotate it anticlockwise to unscrew the fuse holder. Replace the fuse inside the fuse holder and then, use a Phillips screwdriver and rotate it clockwise to screw back the fuse holder. (Picture 12)



Picture 13

### 3.3 Replacement of Fluorescent Lamp

When the fluorescent light needs to be changed, turn off the power. Then remove the LED stand, unplug the right side, After replacing a new LED stand, inserted into the inclined slot. (Picture 14)



LED stand

Picture 13

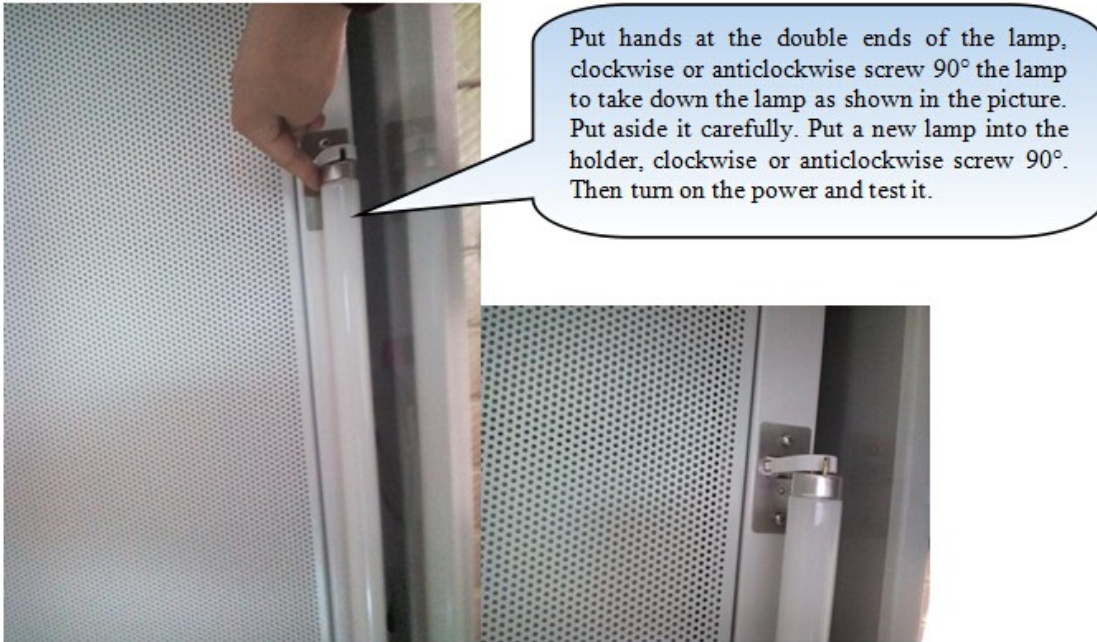


LED stand plug

Picture 14

### 3.4 Replacement of 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. UV intensity test card can be used to confirm if need to change UV lamp. Please turn off the power. Screw the lamp to take down from holder, then replace with a new one. Please reference to picture 15.



Picture 15

### 3.5 Label Description



(picture 16)

NOTE: 10A fuse label

(Picture 17)



Picture 17

## 04 Warranty

4.1.1 Warranty is 12 months from EX-factory date (excluding consumable accessories, UV and Fluorescent lamp, fuse).

4.1.2 Biolab would not be liable for any repair of damage caused by improper operation..

4.1.3 If the warranty has been expired, Biolab would still responsible for repair with relative charges.

4.1.4 Life time of laminar flow cabinet is 8 years from production date on the label.

4.1.5 Biolab would provide equipment drawings and necessary technical data for maintenance companies or personnel trained by Biolab engineers.



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