

Operations Manual

SUREAIR™ PCR Workstation with UV AND HEPA Filtration



Benchmark 
Scientific

1. PRECAUTIONS AND SAFETY WARNING

- INSPECT if there is damage to packaging or components before installation.
(In case of freight damage, please contact Benchmark Scientific.)

- DO NOT use hazardous material in the SureAir™.
- DO NOT use fire or flammable substances in the SureAir™.
- DO NOT operate in excessively dirty, warm or humid air.

Optimal Operational Environment

Temperature: 15°C to 35°C / Relative Humidity: < 80%

Pollution Level – 2 (General office and home condition) / Non-direct sunlight environment.

- DO NOT attempt to disassemble the control & filter box without proper training.
- DO NOT place heavy items on top of the SureAir™.
- HOLD or REMOVE the front panels while picking up, moving, and/or carrying the SureAir™.

■ INSTALLATION REQUIREMENT

- Read and follow the assembly guide if disassembly or assembly of the SureAir™ is needed.
- Place the SureAir™ on a flat, level surface, such as a clear table or benchtop.
- Place the SureAir™ away from humidifiers or any gas generators.
- Place the SureAir™ away from heat sources and away from direct sunlight.
- Place the SureAir™ away from noise or vibration sensitive devices.

■ ELECTRICAL SAFETY

- Confirm the power rating on the serial label on the back of the unit.
- Ensure the outlet being used is within 10% of the power rating.
- It is highly recommended to use a dedicated outlet.
- DO NOT use a damaged power cable. Doing so may cause a fire hazard or electrical shock hazard.
- Ensure power is off and the workstation is unplugged prior to performing repair.
- STOP using and immediately unplug the SureAir™ if smoke or fire is observed.
- Ensure the control box remains dry and free of any moisture or spills.

In this manual, important safety cautions and warnings are marked with the symbol below.



2. Introduction

The Benchmark SureAir™ is a portable clean workstation for sample handling in the lab. The compact design allows for easy movement and installation without taking up significant benchtop space. The design provides ample workstation for one individual to conveniently handle biological samples. The included HEPA filter filters outside air and provides an ISO5 level clean condition within the workspace. The included shelving unit allows for convenient storage of small instruments used inside the workspace, such as a small vortex or centrifuge, as well as pipettes on the included pipette holder.

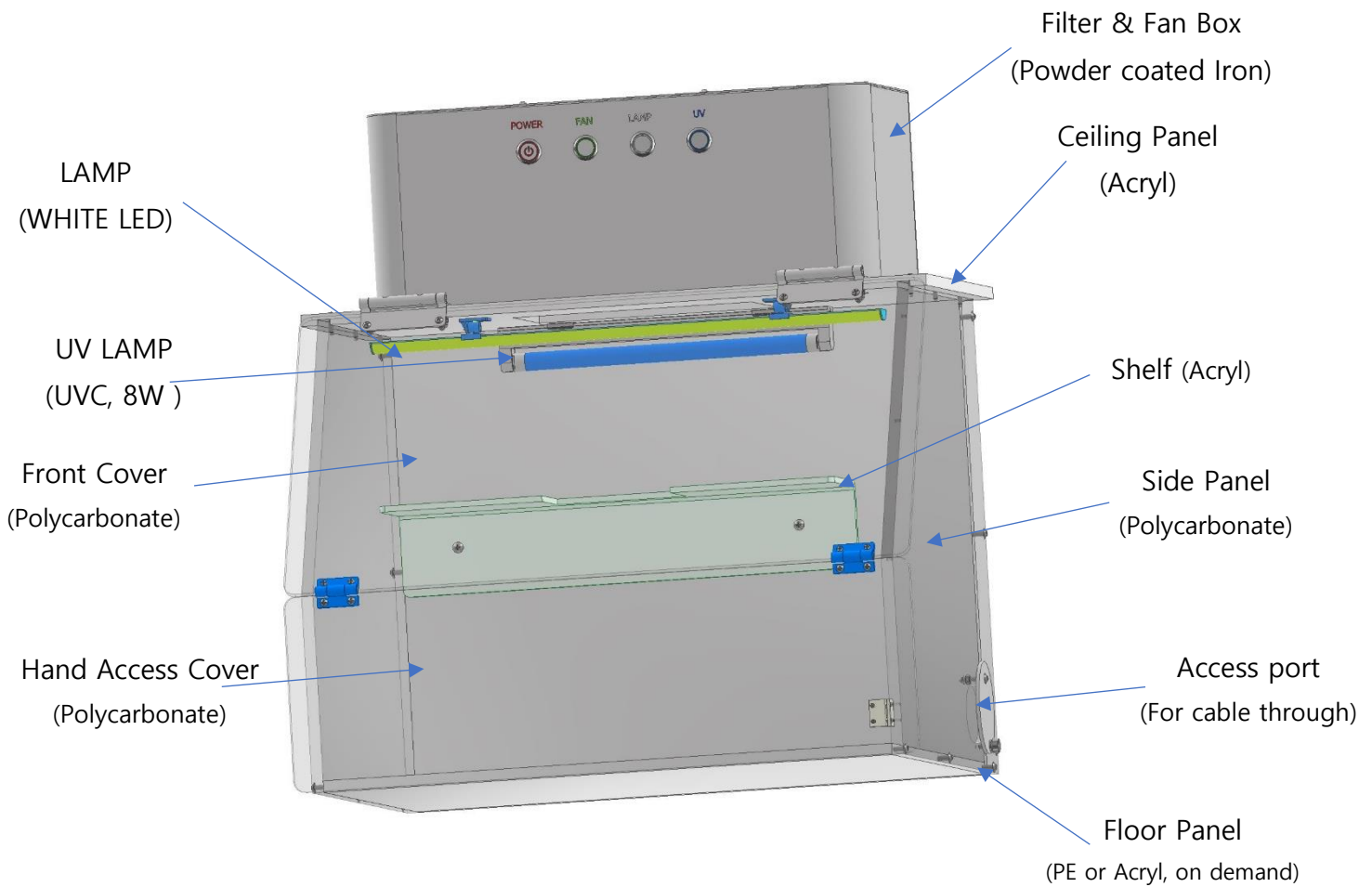
Specification

Physical Specification	
Dimension (W x D x H)	Outer : 550 x 400 x 592 mm Interior : 500 x 390 x 400 mm Hand Access : 500 x 160 mm
Filter and Blower Box Case	Powder Coated Electrolytic galvanized iron (EGI)
Material	Front, Side : Polycarbonate / Base, Top, Back : Acryl
Main Filter	HEPA 0.3um 99.97%
Pre Filter	Non-woven Fabrics
Electricity	
Blower (AC Cross Fan)	Air Volume : 3.0 ~ 4.2 m ³ /min Fan RPM : 1850 ~ 2550 *Above specification is the range at 220V 50 ~ 60hz
Down Velocity through filter	0.2m/sec
Lamp	5V LED Bar 5.6W, 400lm
UV Lamp	UVC, 8W, G8T5
Voltage	100 ~ 120V or 220 ~ 230V
Current	50~60Hz
Power Consumption	70 Watts
Fuse	1A-250V for EU / 1A-250V for USA

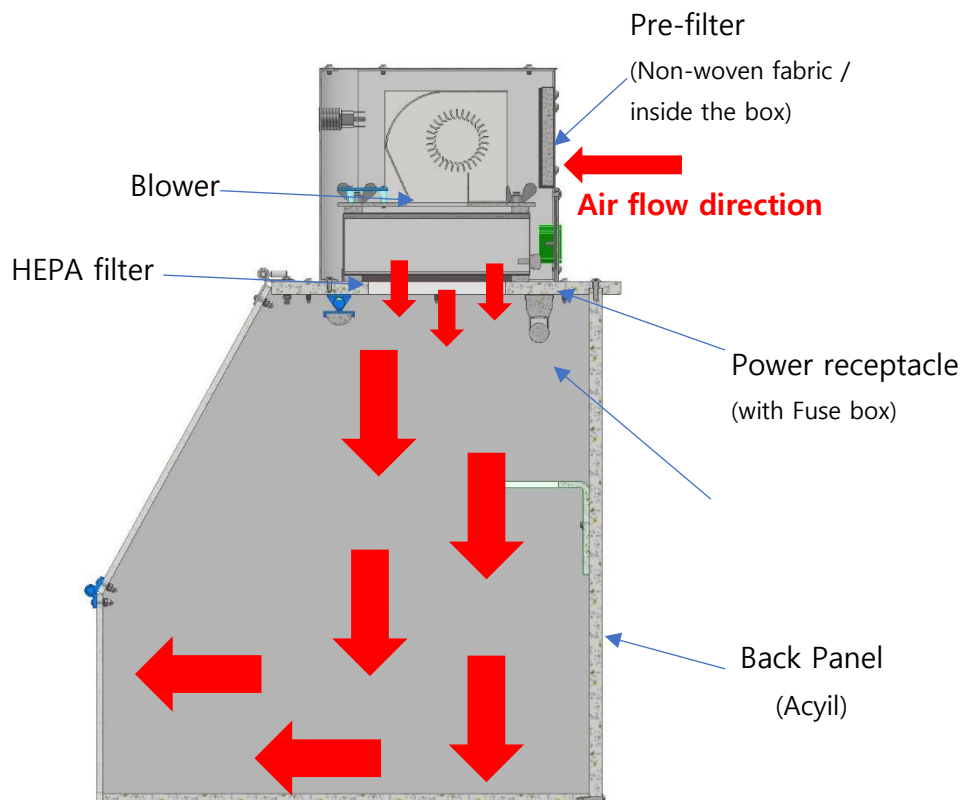
Features

- **Compact design**
- **ISO5 Air clean condition generated by HEPA filter**
- **Simple, easy operation**
- **LED and UV lighting included for visibility and sterility**
- **High-performance blower provides stable vertical laminar airflow for constant air cleaning**

Appearance



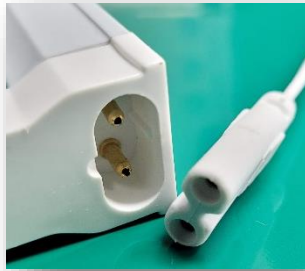
Airflow



3. Installation



Plug jack for lighting



Plug jack for UV



Installation of UV lamp

Note: LED light angle is adjustable by hand. UV light angle is fixed.

Detachable front cover.

To detach the front cover from the SureAir™, push the two levers of the hinge inward as shown below.



Caution: Hold the front cover when handling the hinge



Prior to use, clean inside surface and upper front cover with a soft cloth and 70% alcohol.

Fully dry the workspace. Detach or fold up the front cover prior to cleaning for ease of use.

4. Operation

4.1 Power On

Push POWER switch to turn on. The switch will illuminate red to indicate that power is on. If power is turned off while the fan, light, or UV functions are on, these functions will not resume when power is turned back on.

4.2 Turning on the Fan

Push FAN switch to enable fan. The switch will illuminate green to indicate that the fan is on and functional. **When starting the fan prior to beginning work inside the SureAir™, allow the fan to run for 10 minutes to ensure a clean environment.**

4.3 Turning on the light

Push LAMP switch to turn on the LED light. The switch will illuminate white to indicate that the LED light is on.

Note: If UV is turned on while the LED light is on, the LED light will shut off. The LED light will need to be manually turned back on if needed. LED light cannot turn on while UV is turned on.



Caution : UV must be turned off to turn on the LED light.

4.4 Turning on UV Lamp



Warning : Before turning on UV Lamp, ensure any items sensitive to UV are not present inside the workspace.

-Push UV LAMP switch to turn on the UV light. The switch will illuminate blue to indicate that the UV light is on.

Note: UV lighting will auto-shutoff after 15 minutes of use. If the fan is turned on, it will also shut off when UV is turned off by auto-shutoff.



Caution : UV will turn off and cannot turn on while hand cover is open.

Note: UV will not automatically resume under any circumstances. Once shut off, manual activation is required.



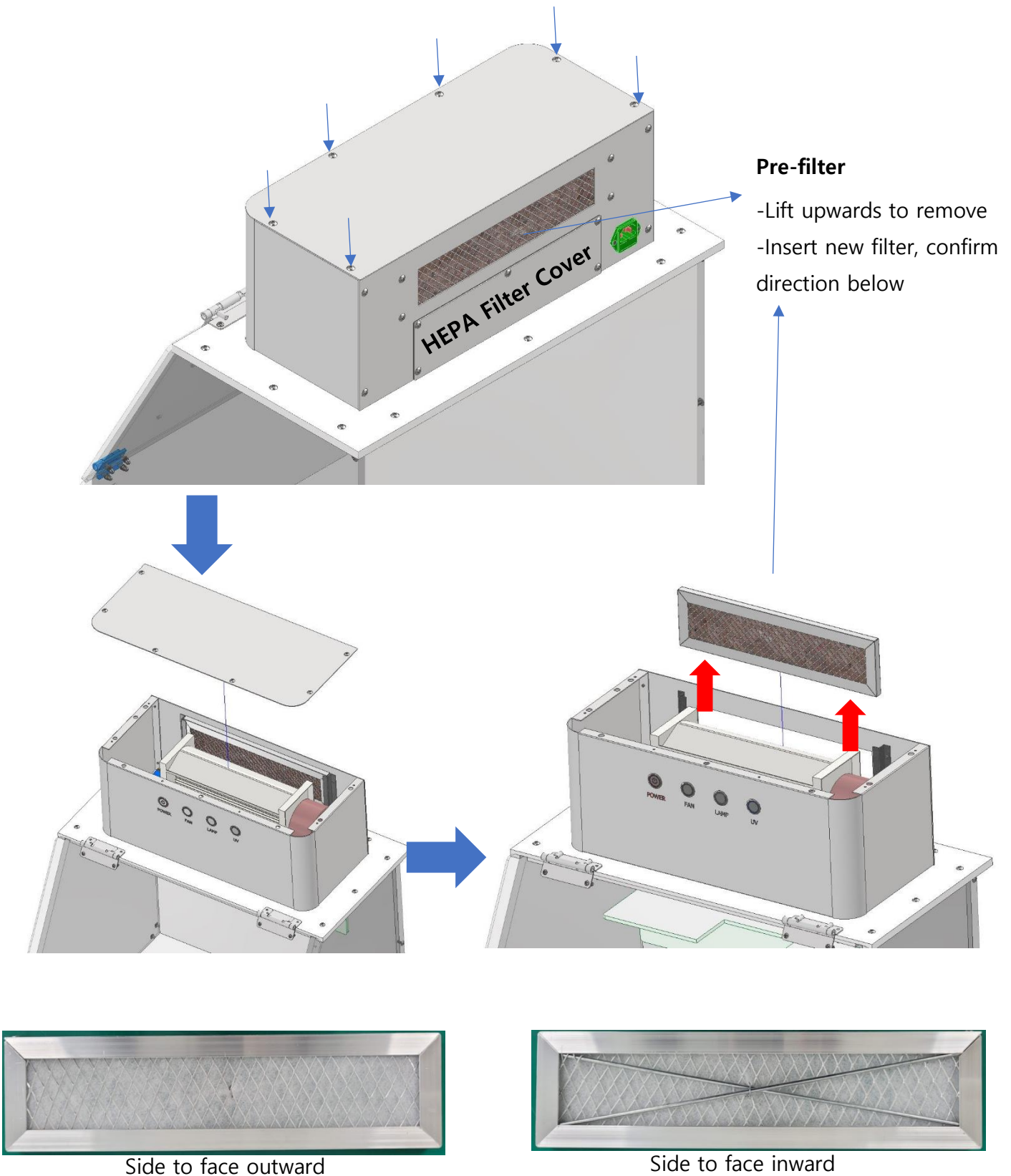
Warning : Do not look at UV light directly. Do not expose skin or samples that are sensitive to UV to the UV light.

5. Maintenance

Prior to maintenance, the main power must be unplugged.

5.1 Replacement of pre-filter

Unscrew the 6 screws in the cover of filter box and open the plate completely.

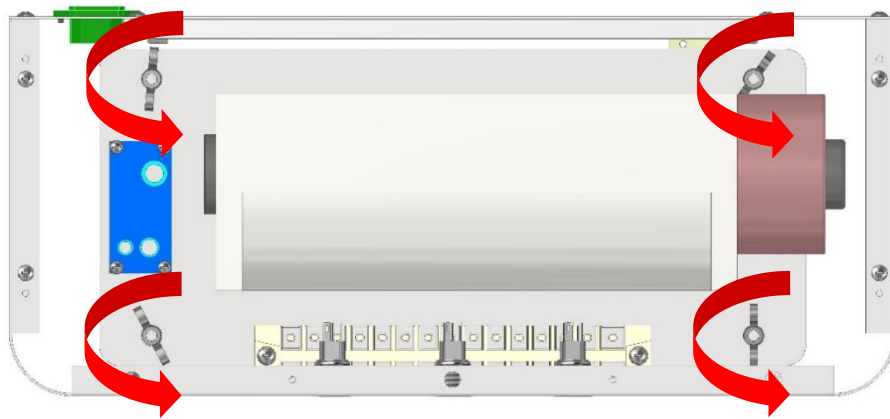


5.2 Replacement of HEPA filter

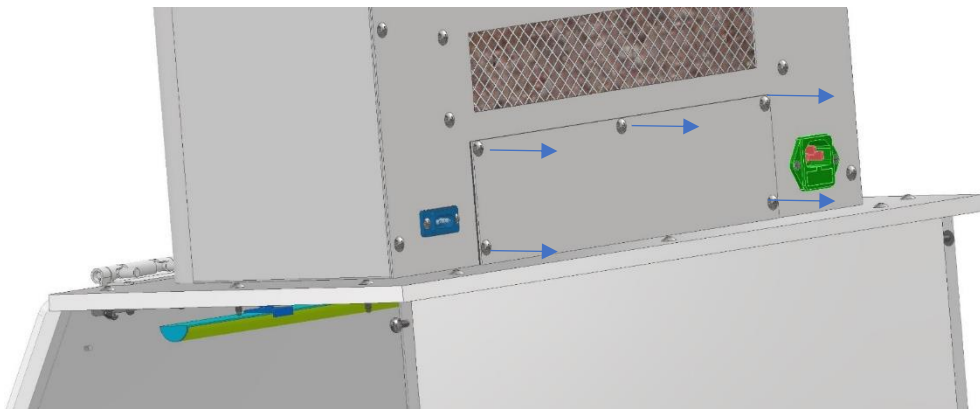


Caution : Do not apply excessive downwards pressure on the filter box. Use Only tighten wing nuts hand tight during filter installation. Do not use tools.

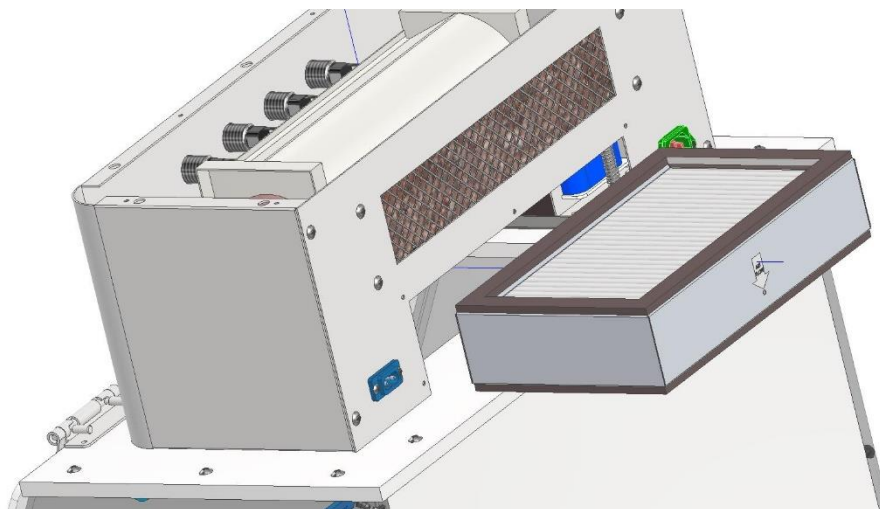
-Open the top cover of filter box as described on the previous page and locate the four wing nuts. See picture below. Turn wing nuts counterclockwise to loosen filter. Set wing nuts aside for reassembly.



-Open filter access cover.



-Pull out existing filter backward slowly holding right and left side of filter.

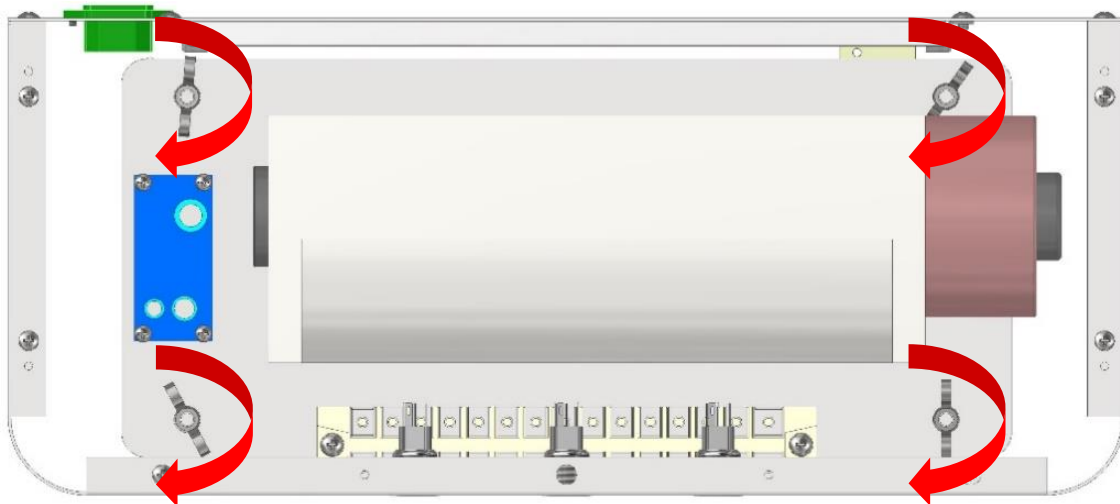


Installation New Filter

- Confirm filter orientation by the markings on the filter. The side facing downward should correspond to the photo below, with a white mesh covering.
- Insert new filter until resistance from the inside bracket is felt. Ensure the filter is positioned correctly by referencing the photo below. The photo is of the filter from inside the workstation, pointed upwards.



- Close the HEPA filter access cover.
- Tighten the 4 wing nuts clockwise by hand, until hand-tight. Do not overtighten. Use of excessive force when tightening the wing nuts may cause damage to the filter box.



- Close the top cover and insert all screws.

After filter replacement, reconnect power and turn on the fan. Allow the fan to run for 10 minutes, and check for any sounds of air leakage or unexpected vibrations.

6. Trouble Shooting

Symptom	Possible Cause	Action
Power does not turn on	No power cord is connected or no electricity is supplied to the unit	Check power cord connection and power supply from outlet.
	Fuse is blown	Check supply voltage and current, replace the fuse.
	Incorrect wiring	Contact Benchmark Scientific for service
Interior environment does not reach ISO5 level clean specifications	Worn out filter	Check the date of installation and replace the filter referring to guide in manual
	Fan malfunction	If down velocity is weaker than 0.2m/sec or the fan does not work, contact Benchmark Scientific
	External impacts to air circulation and filtration	Ensure the unit is not near a humidifier, air conditioner, fan, and not in direct sunlight.
LED lamp does not light	LED bulb is in luminous decay	Replace bulb
	Loose connection	Check LED light connection

7. Maintenance and cleaning

Clean the SureAir™ regularly with 70% isopropyl alcohol after use. The included HEPA filter should be replaced after approximately 1000 hours of use, or every year of regular use. The included prefilter should be replaced when deemed necessary by visual inspection. Filter and prefilter replacement times may vary depending on varying air conditions.

8. Warranty and Service Contact

Service on the SureAir™ should only be performed by qualified service personnel. To request service or technical support, please contact Benchmark Scientific or your local benchmark Scientific representative.

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