



**User manual:**

**BIOSAFETY CABINET BIO II A2 ECO**

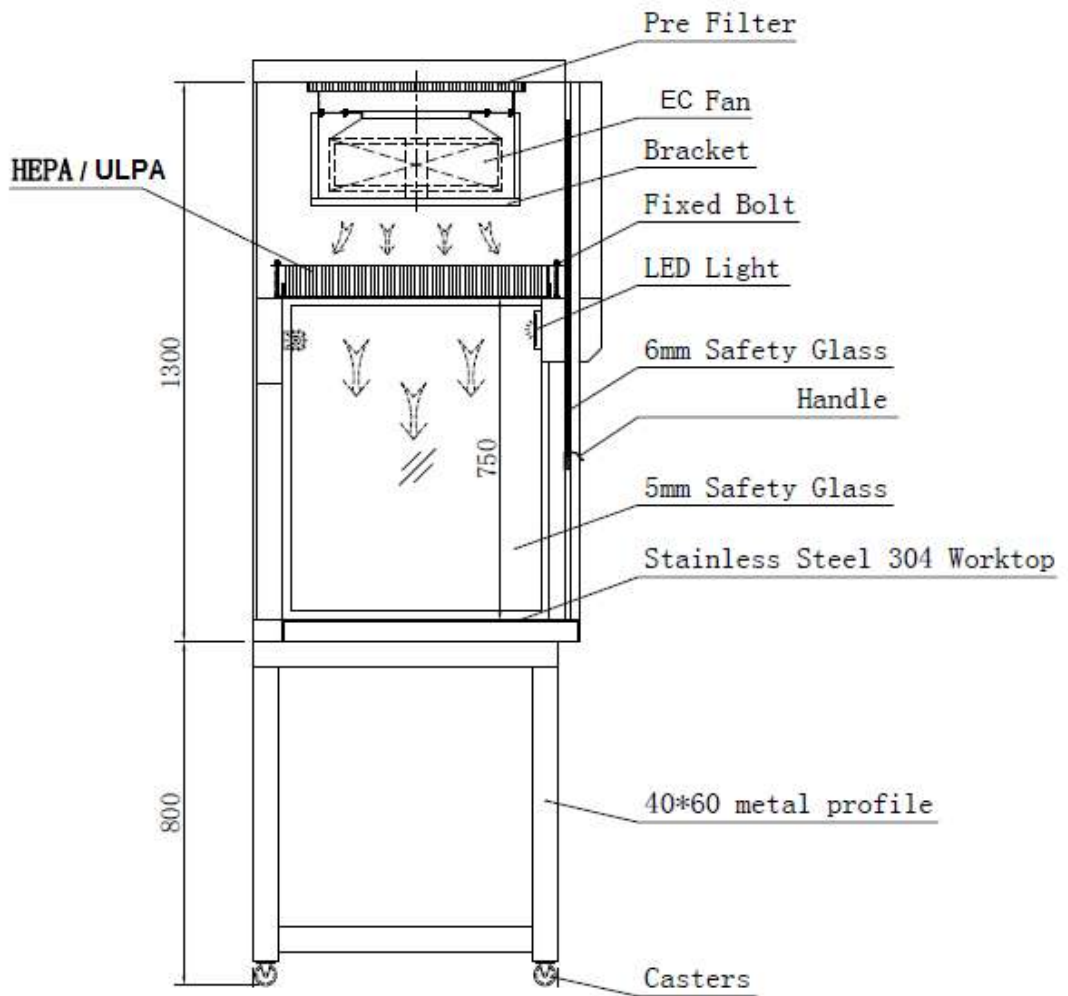




## Appendix

1. Technical Drawing
2. General Information
3. Electricity
4. Filters
5. Sash Changing
6. Maintaining th cabinet
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8. Fan and Filters data

1. Technical drawing





## 2. Getting started

After the installation has been prepared, the Biosafety cabinet can be inspected, installed and tested. The information below will guide you in performing the following actions:

- Unpacking and moving the Biosafety cabinet.
- Installing the hood.
- Connecting the electrical supply source.
- Connecting the service lines.
- Testing and certifying.

Note: The Biosafety cabinet weighs between 180-260 kg. The shipping pallet allows for lifting with a mechanical lift truck or floor jack. If you must lift the cabinet manually, at least 2 people are required, and guidelines for safety must be strictly followed.

### **Unpacking the Biosafety cabinet**

Carefully remove the outer wrapping and inspect the hood for damage that could have occurred during the transportation of the unit. If damage has taken place, please notify the delivery carrier immediately and leave the entire box as is, intact for the carrier's inspection.

Please do not return the product without the prior authorization of Noxair Life Sciences. Unauthorized returns will not be accepted.

If the cabinet was damaged during the transportation, please file a claim directly with the freight carrier. Noxair Life Sciences. is not responsible for shipping damages.

Do not discard the package in which the cabinet is wrapped until all of the components have been checked, installed and tested. The hood is secured to the pallet on both sides. To access the nuts and bolts, remove the side panels by unscrewing the Philips screws on both panels (Keep the screws). Swing the front of each panel away from the cabinet, and lift it straight up to remove the panel from the cabinet.

The following articles are packed in a box located underneath the work surface:

- User manual
- Test report

If any of the components listed for the cabinet are not present, or in the case that any of the components are damaged, contact Noxair immediately for further instructions.

### **Moving the Biosafety cabinet**

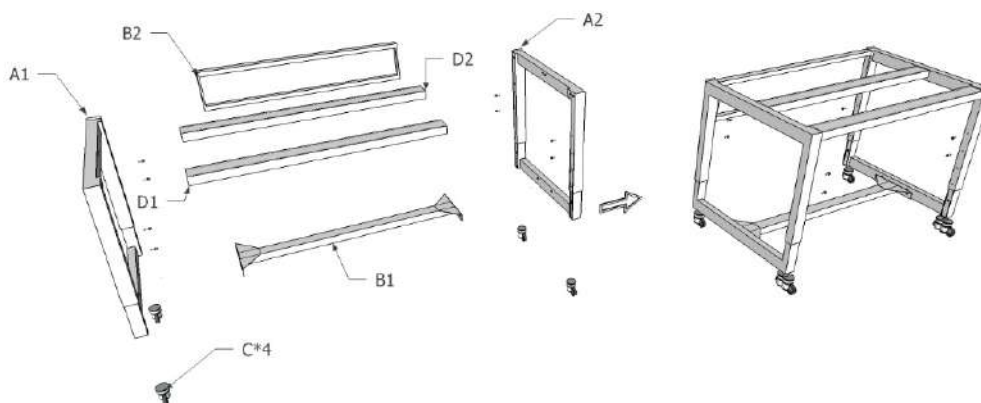
Moving the hood should be performed with care. You can move the hood while it's attached to its pallet, by using a floor jack, or a furniture dolly located underneath the unit. Do not tilt the hood onto a hand truck.

### Installation of the Biosafety cabinet on an Existing Work Surface

Note: The Biosafety cabinet is heavy. Use caution when lifting or moving it. During the installation of the Biosafety cabinet on an existing work surface or benchtop, please make sure that the structure can safely support the weight of the hood along with the weight of any related equipment. The work surface should be at least as wide as the Hood for proper support. A hole or notch may be added in the supporting surface in the front right corner for the optional drain valve.

### Installing the Hood on a Noxair Life Sciences. Base Stand

Noxair Life Sciences offers a Base Stand in a variety of configurations to suit a variety of customer needs.



**WARNING:** Lift and support the weight of the cabinet only from the sides and back. Damage will occur if the cabinet is lifted or supported from the front edge. Move the base stand into its final location. Using a carpenter's level, adjust each leveling foot until the stand is level on both planes. At this point, the hood can be lifted on to the designated stand.

### Initial Certification



Before using the Noxair Life Sciences cabinet a qualified certifier must certify it. Under normal operating conditions, the Biosafety cabinet should be recertified at least once a year. It should also be recertified when it is relocated or serviced. The certifier should perform tests, in accordance with the local market.

#### **Biosafety cabinet Check and Certification**

- Noise level test,
- Lightening intensity test
- down flow velocity test
- particle counting test
- D.O.P test

#### **Location Requirements**

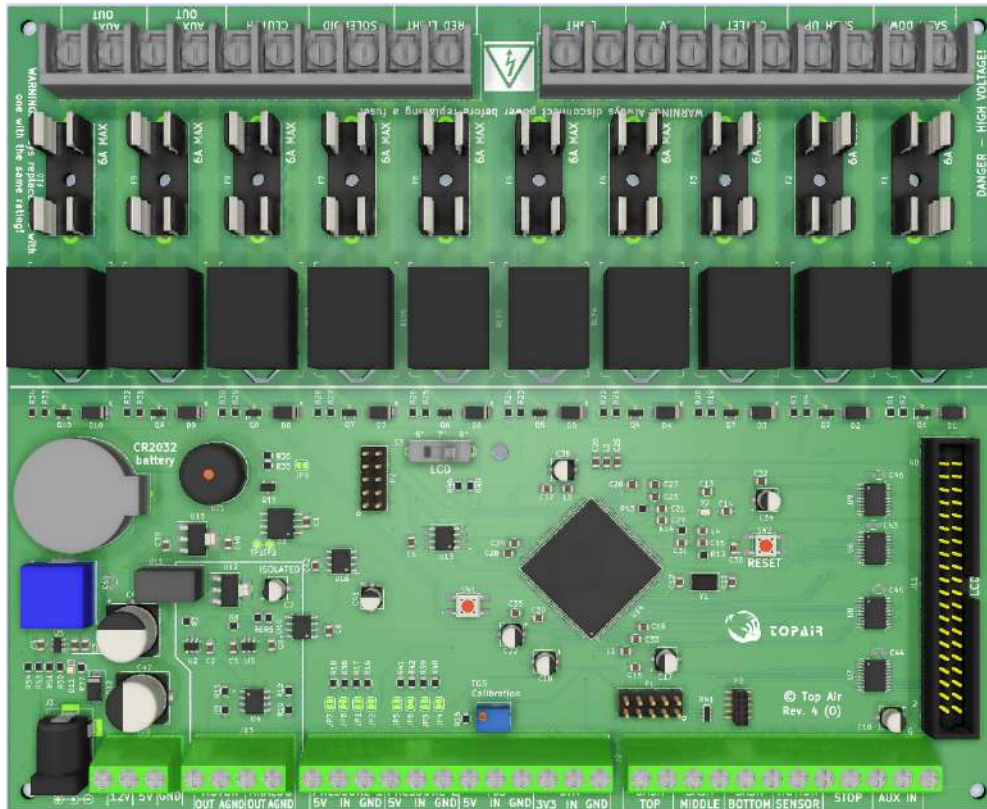
The cabinet must be in a location which is not in the proximity of doors, fans, ventilation registers, fume hoods and air-handling units that could cause damage to its airflow patterns. The windows in the room should be shut. The drawing below provides guidelines for the preferred location assigned to the Biosafety cabinet.

#### **Environment limits**

- 41°F a 104°F / 5°C a 40°C
- Max RH: 80% for temp up to 88°F / 31°C

### **3. Electricity information**

PCB conections



Electricity Specifications

Various models of the Biosafety cabinet models have these electrical requirements

Referencia	Requerimientos eléctricos
BIO II A2 080 ECO 115V	115 VAC, 60 Hz, 2 Amps
BIO II A2 080 ECO 230V	230 VAC, 50/60 Hz, 1 Amps
BIO II A2 120 ECO 115V	115 VAC, 60 Hz, 2 Amps
BIO II A2 120 ECO 230V	230 VAC, 50/60 Hz, 1 Amps
BIO II A2 150 ECO 115V	115 VAC, 60 Hz, 3 Amps
BIO II A2 150 ECO 230V	230 VAC, 50/60 Hz, 1,5 Amps
BIO II A2 180 ECO 115V	115 VAC, 60 Hz, 3 Amps
BIO II A2 180 ECO 230V	230 VAC, 50/60 Hz, 1,5 Amps

**4. Filters**

**HEPA/ULPA Product Overview:**

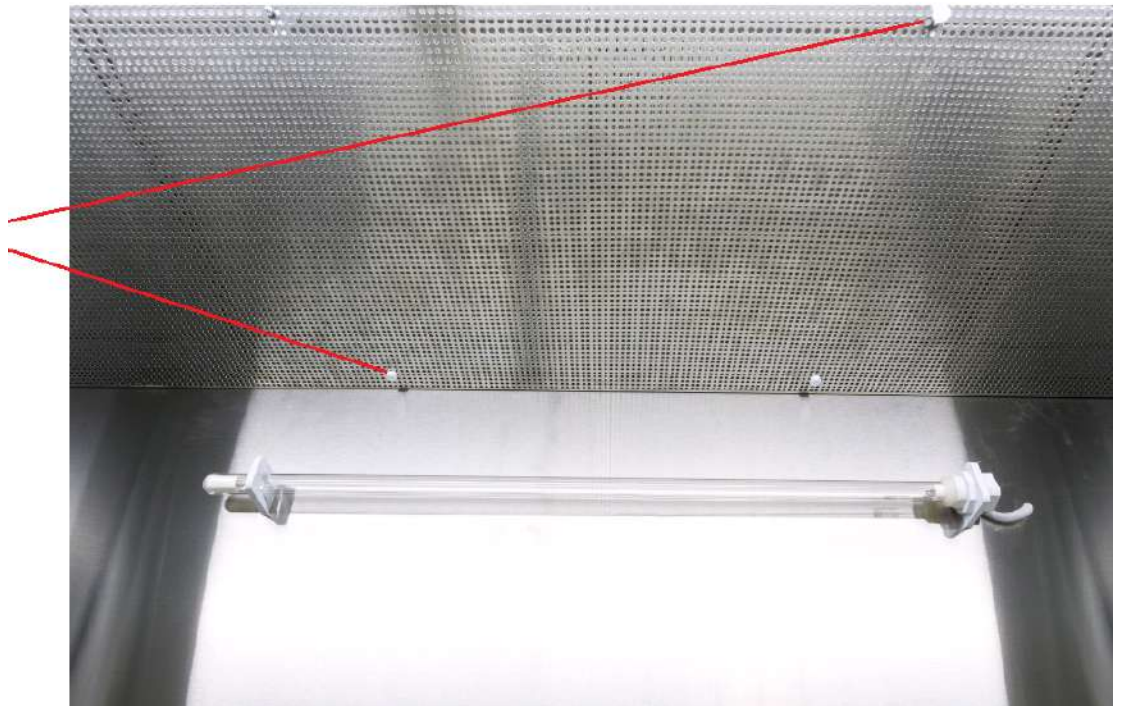
Tested to ensure certified performance  
Reduces operation costs with lowest possible pressure drop from microglass media  
Gasket seal design  
Optional media ribbon or hot melt separators  
Choice of efficiencies  
Lightweight, compact

**Specifications:**

Efficiency: HEPA ULPA  
Media type: Fiberglass  
Frame material – aluminum  
Separator style – hot melt  
Special size available – yes  
Antimicrobial available – n90  
Max operation temp. 66 degrees Celsius  
Filter depth – several options  
Air filter specification: UL900

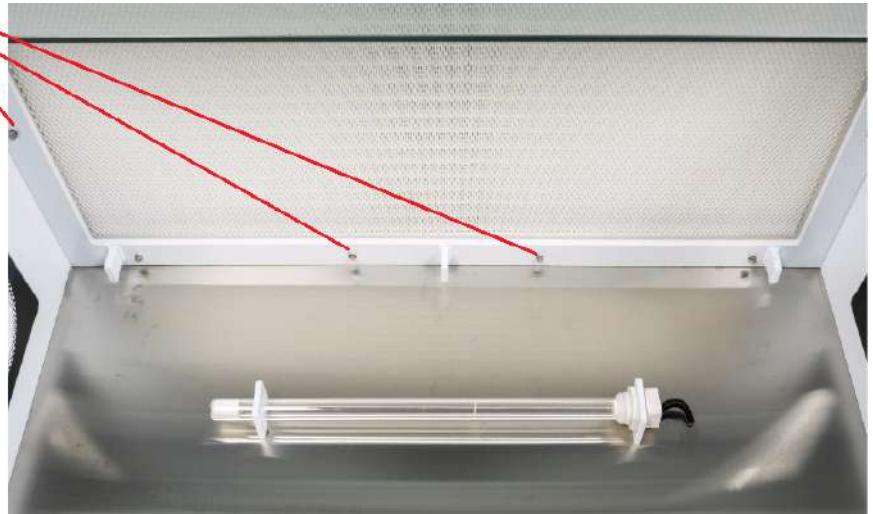
**Filter Replacement**

1. Open the screws and take off the stainless steel perforated board





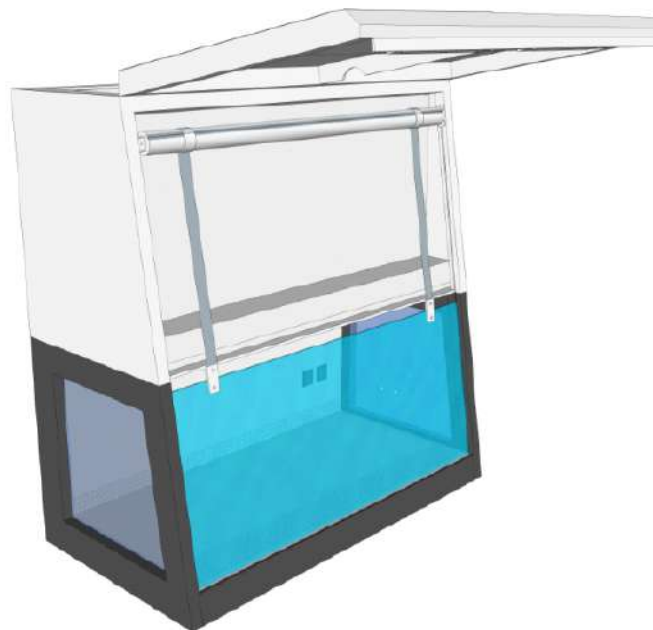
2. Open de pressing screws and take off the support frame and the filter



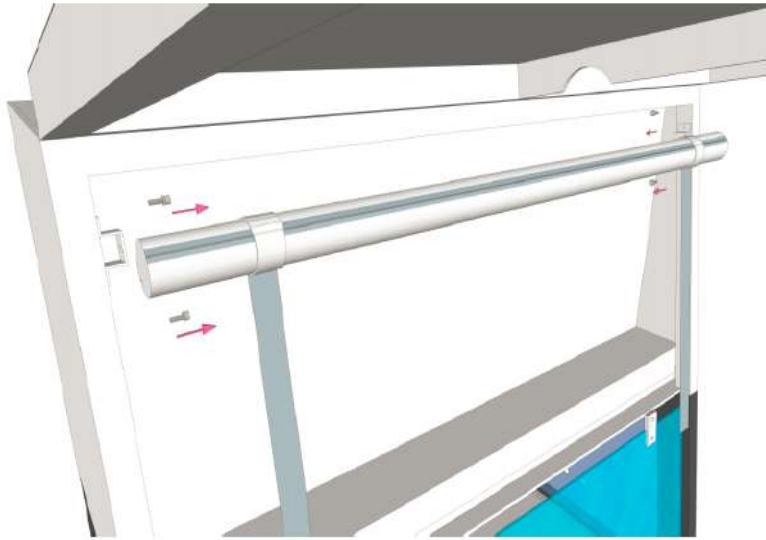
3. Upper filter is the same method, foof location

### Front glass replacement

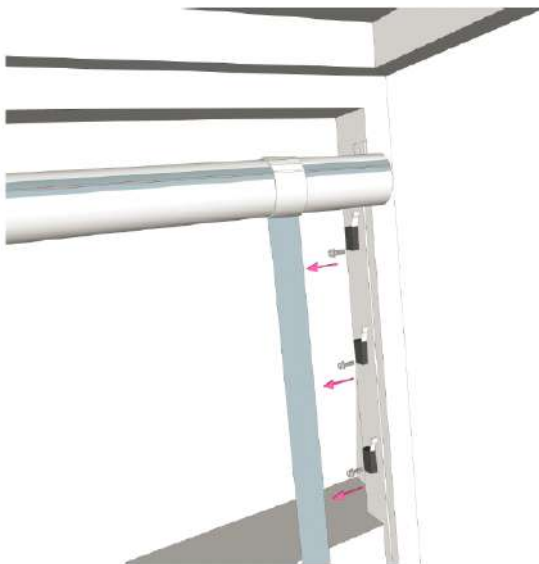
1. Open the front panel, and use a stable post to hold it



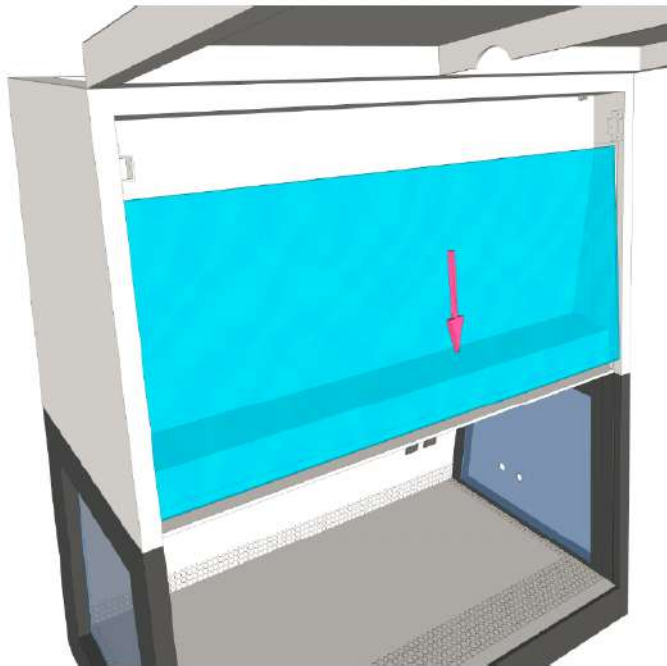
2. Release the 4 screws of sash motor and take it out



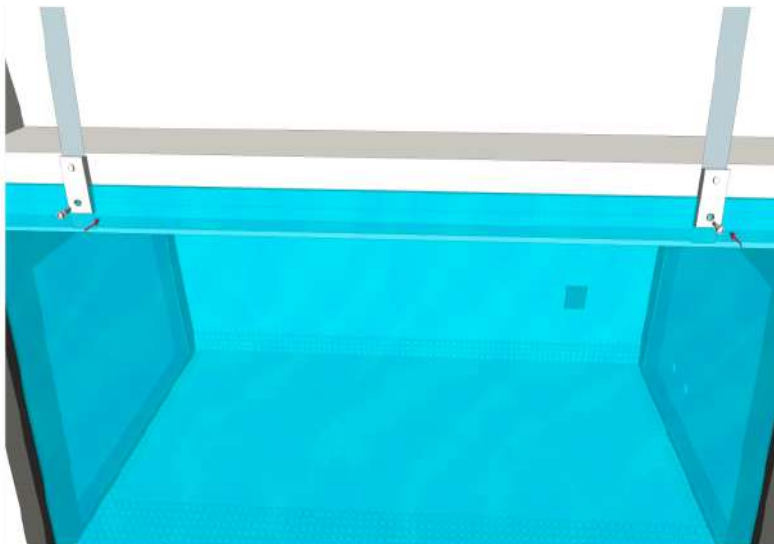
3. Take out the stripe at the right side, which has 3 pcs micro switches on it



4. Put the new glass inside the following position, then down the glass through the sash track carefully



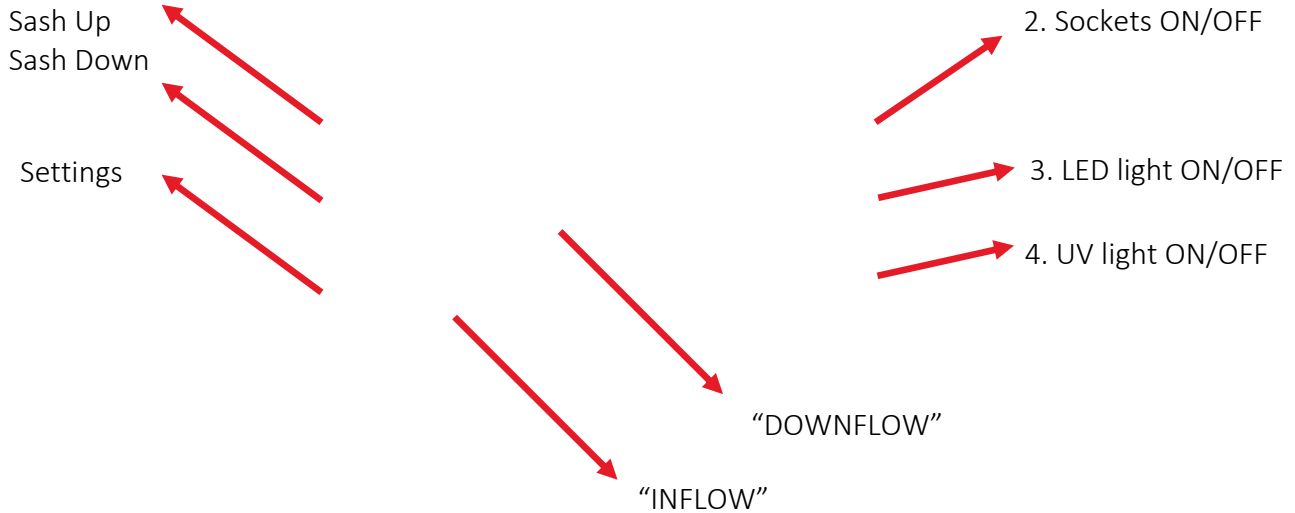
5. Use tapping screw to fasten the glass to the belt.



### 5. Sistema de control



1. Fan ON/OFF



**Electric Socket** - Click this button to activate the electric socket of the unit.

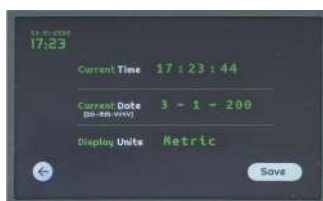
**On/Off** – Click this button to shut the unit on and off. It is recommended to switch on the unit five or ten minutes prior to any activity.

**LED light** – Click this button to operate the fluorescent lights. When the sash is fully closed, the fluorescent lights automatically shut off.

**UV light** – Click this button to operate the UV (germicidal) light. When the sash is fully closed, the UV light can be programmed to automatically turn on. When the sash is raised, the light automatically turns off, to prevent exposure to UV radiation.

**Fan Button** – Click this button to turns the fan on and off.

**Settings:**



Ajuste de fecha, hora y unidades de medida



Ajustes de temporizador de UV, de recambio de filtro y lámpara UV



Ajuste del tiempo de la siguiente calibración/mantenimiento

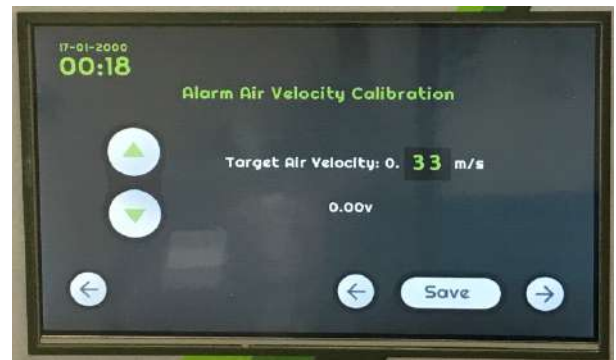
**Calibration:** Go to calibration screen, and press the password. For your security it is not printed in this manual, please ask it to Noxair Life Sciences after sales service.



Locate a calibrated air velocity vane, on the perforated roof of the cabinet.  
Use the up/down arrows until you will get air velocity of 0.5 m/s on the vane - press "save"

and go with the right arrow to the next page.

Use the up/down arrows until you will get air velocity of 0.5 m/s on the vane - press "save"





## Maintaining the cabinet

The service operations required for maintenance of the Biosafety cabinet to ensure top level performance are listed below.

### Routine Maintenance Schedule

#### Weekly

- Using 70% ethanol, or another disinfectant, disinfect the surface of the hood interior and the work surface.
- Operate the hood blower, and record the remaining filter life % in an operational log.

#### Monthly

- Using a damp cloth, clean the exterior surfaces of the hood, especially the front and top of the cabinet, to remove dust.
- Disinfect and lift the work surface. Disinfect the surface of the lower plenum with a solution of 70% ethanol or another disinfectant.
- Check all service valves for proper operation.

#### Semiannually or Annually

- Have the cabinet re-certified by a qualified certification technician.

#### Storage

If the cabinet is not used for over a month, it should be placed in storage conditions..

Note:

- The hood should not be stored in areas of excess humidity or extreme temperatures.
- If the hood is moved during storage, it must be recertified before use.

1. Close the sash to the end and seal the bottom edge and the exhaust outlet with plastic sheets.
2. Unplug the cabinet.
3. Make sure that the hood is not moved or disturbed during storage. antes de su nuevo uso.

## Alarms

<b>Type of alarm</b>	<b>Action need to be taken</b>
<b>Sash position is too high</b>	<b>Use the down arrow and make sure the sash is on the height label line</b>
<b>Periodic test</b>	<b>Make sure that a professional technician test the product and provide certifications. set the new date for periodic test on the timers screen.</b>
<b>Replace UV light</b>	<b>Replace UV bulb</b>
<b>Replace filters</b>	<b>Make sure the unit can pass all the tests, else - replace filters</b>
<b>Low air velocity</b>	<b>Stop all actions in the cabinet until the problem solved</b>

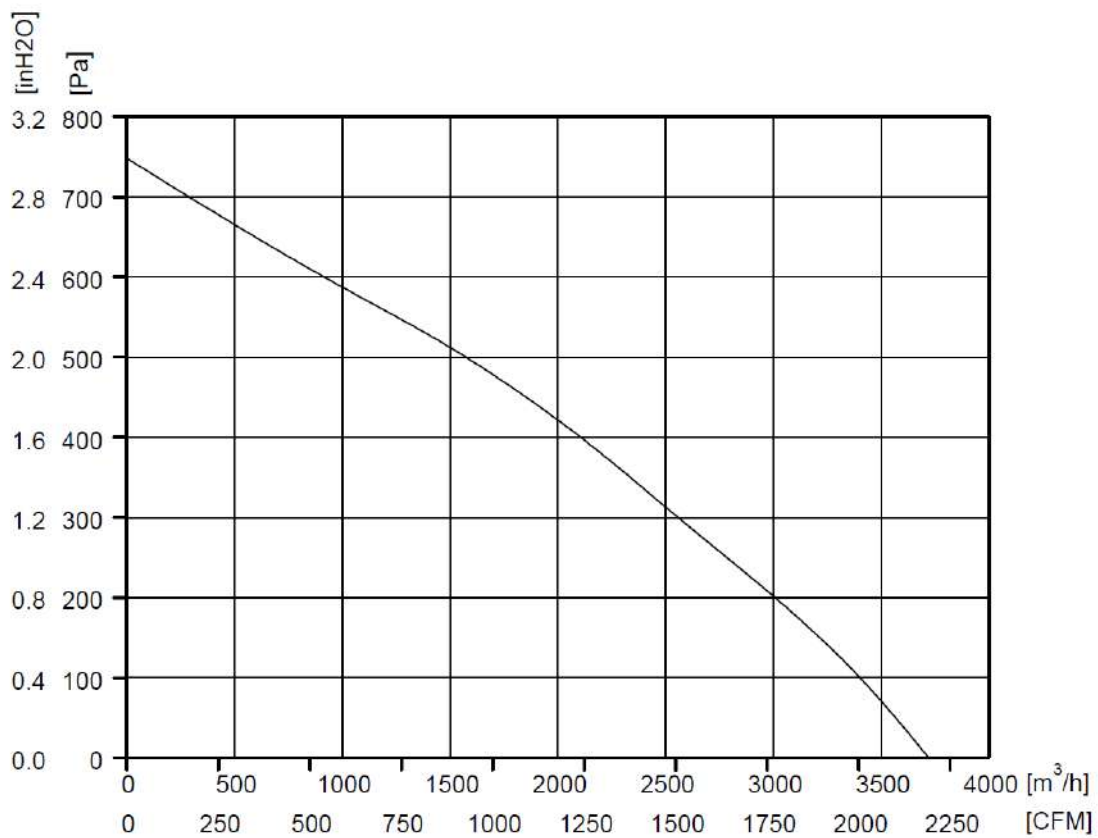


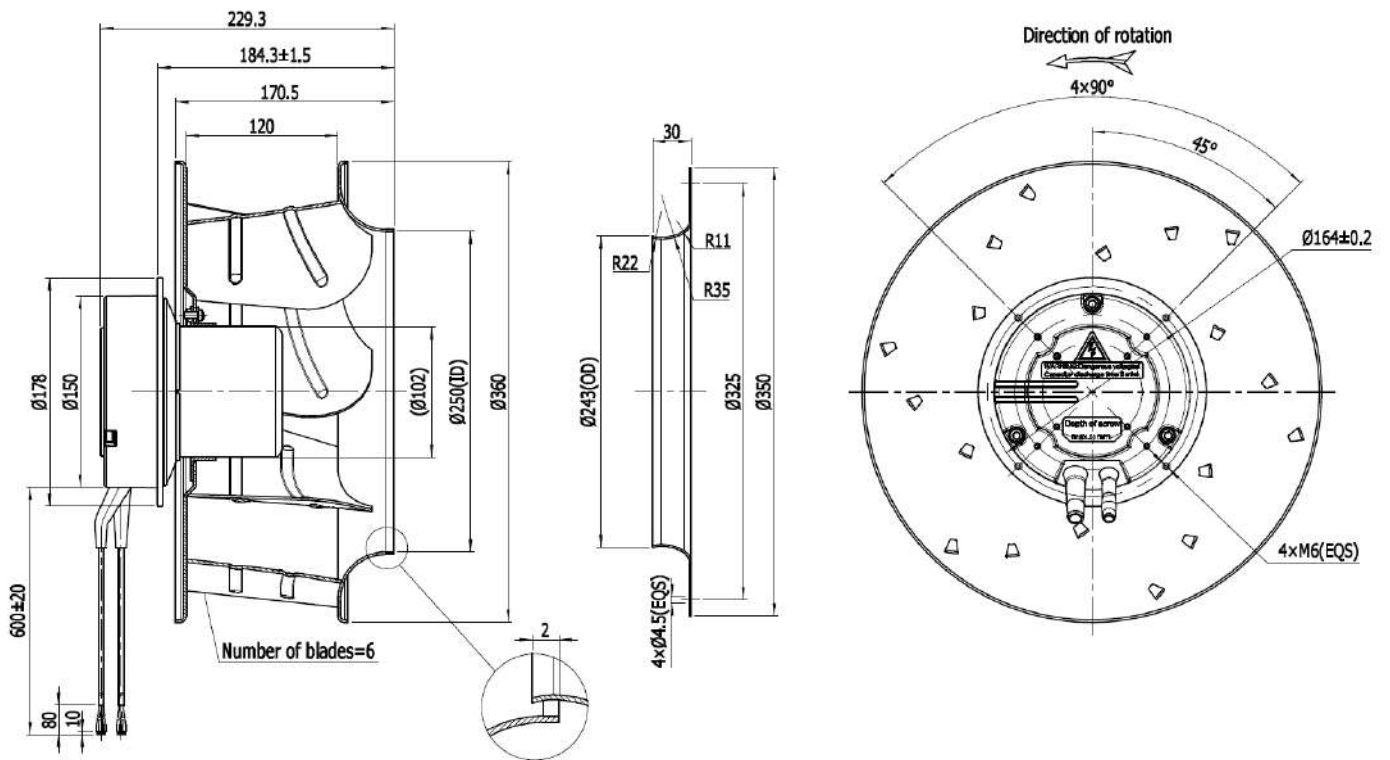
PROBLEM	CAUSE	CORRECTIVE ACTION
Cabinet blower and lights won't turn on	Unit not plugged into outlet	Plug the hood into the appropriate electrical outlet.  Check connection to control box on the top of the hood.
	Circuit breaker(s) tripped/fuses burnt out	Reset circuit breakers/replace fuse
	Keypad disconnected or defective	Check connections
Blower won't turn on but lights work	Blower wiring is disconnected	Inspect blower wiring
	Blower motor is defective	Replace blower-motor
	Keypad disconnected or defective	Check connection or replace keypad
LED light not working		Check the lamp fuse on the PCB
	Defective lamp or driver	Replace lamp or driver
	Lamp wiring is disconnected	Inspect lamp wiring
Airflow problem	Filter(s) are blocked	Replace filter(s)
	Fan speed is low	Recalibrate the unit
	Fan is damaged	Replace fan
Sash problem	Sash doesn't move	Check the limit micro switches on the inner tight side post/ check the sash motor/ check the fuse on PCB
Uv problem	UV doesn't work	Check the time setting in timers screen Check the micro switch on the right sash track Replace uv bulb



## 6. Fan and Filter information

Rated Voltage	230VAC	
Frequency	50/60Hz	
Operating Voltage	200~277 VAC	
Low-Start Voltage	≤199VAC	
Rated Speed	1930 RPM	
Input Current	2,02A	
Input Power	467W	
Air Flow	2190 CFM /3720 m <sup>3</sup> /h	
Static Pressure	2.96inH <sub>2</sub> O / 740Pa	
Acoustical Noise	73 dB(A)	
Life Expectance	50,000 Hours (L10) At 40°C room, humidity 15%~65%RH.	
Direction of Rotation	Anti-clockwise seen on motor	





High Quality HEPA and ULPA Filters for Dry Seal Applications

- Dedicated cleanroom and cleanbench filters
- Filter classes H14, U15, U16 and U17 to EN1822
- Lightweight and easy to install
- One-piece gasket provides perfect seal
- Filters for ultra clean environments

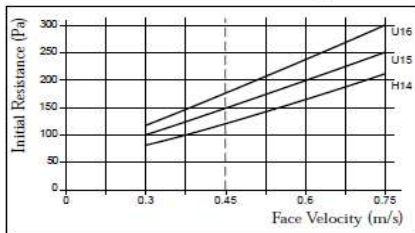


AstroCel II one-piece gasket dry seal filters are designed for use in cleanrooms, cleanbenches, biohazard benches and other clean work stations. Classified H14, U15, U16 and U17 accordance with EN1822, these filters ensure the necessary levels of contamination control in cleanroom

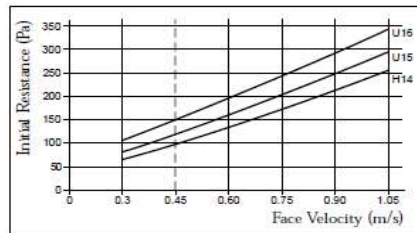
environments. The filters are compact, lightweight and easy to install in open plenum, terminal and in-line housing systems and cleanbenches and offer many additional benefits:

- Factory tested to meet the most stringent legal and industry requirements.
- High efficiency safeguards processes, products and workers.
- Functional reliability: leak or scan tested.

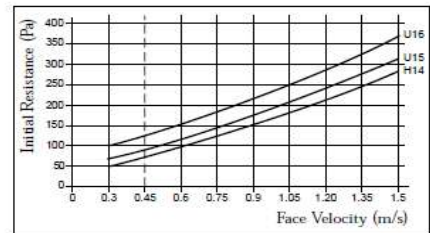
Resistance vs Face Velocity



Filter depth 69 mm: 48 mm media pack



Filter depth 93 mm: 72 mm media pack



Filter depth 117 mm: 96 mm media pack



B E T T E R   A I R   I S   O U R   B U S I N E S S ®

User



**AstroCel® II Dry Seal**

An AstroCel II Dry Seal can be ordered using the following Component Code Definition System. Use the table to specify a product suitable to your application requirements.





NOXAIR

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