erlab
You can breathe.

Captair Bio 321-391 Smart

Mobile ductless filtering PCR workstations

Instructions & User's Manual

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General

By choosing Captair Smart ductless filtration fume hoods, you have chosen an efficient and responsible way to ensure safety.

Erlab's 50 years of expertise in the field of laboratory fume hoods provide unparalleled filtration quality to ensure your users are properly protected when handling chemicals in the laboratory. The new Captair Smart range uses an innovative and straightforward mode of communication called Smart technology. This powerful interface uses light to intuitively and effortlessly communicate with users and leave them free to focus all their attention on the main task: **handling the chemicals.**

Your ductless Captair Smart filtration fume hood guarantees that you are protected when working with chemicals that pose an inhalation risk. The Erlab filtration technology it employs traps hazardous particles and molecules and returns clean air back into the laboratory.

The system's connectivity allows for real-time safety alerts and individual device usage reports to be sent via the eGuard.

Safety notices

The effectiveness of your device is directly dependent upon it being used correctly and monitored by its users. Your laboratory may also benefit from ergonomic, economic and ecological advantages provided by the Captair Smart fume hood throughout its life cycle.

The E.S.P. program (Erlab Safety Program) was set up to guarantee your safety. We would remind you that it is important to have the safety parameters validated before using the device for the first time and whenever it is used for a different application.

The handling of substances that are carcinogenic, mutagenic or toxic for reproduction (CMRs) underneath a fume hood is covered by the French Labour Code. The code notably specifies that an in-depth risk analysis must be carried out prior to any CMRs being handled under a recirculating fume hood.

The equipment provided is not intended to be used in an explosive atmosphere.

The filters delivered with this device must be removed from their packaging and positioned correctly; they must also be suitable for the type of chemicals being handled in order to guarantee user safety.

Erlab recommends that filter breakthrough tests are regularly carried out.

Erlab recommends that the electronic anemometer is calibrated at least once a year.

The quantities of the chemicals handled in the enclosure should not be greater than those listed in the guide to approved chemicals (the Chemical Listing).

AFNOR standard NF X 15-211: 2009 only applies to chemicals subject to an OEL.

Pursuant to the NF X 15-211 standard, only operations that can immediately be stopped are allowed to be carried out in a Class 2 enclosure. Moreover, the fume hood's filter must be replaced if any chemicals are detected downstream of the filter.

New filters must be stored in their packaging, kept in a dry location and laid flat. (see recommendations for storing and using the filters).

Erlab recommends keeping a logbook which is specific to the device and shows the chemical agents handled, how often they are used and the maintenance operations carried out on it.

The Erlab guarantee

Product registration

Take full advantage of the device's connectivity to enhance your safety

Get up to 10 years warranty on your connected Erlab unit

Register your product online: the registration of the product will automatically give you one extra year of warranty (in addition to the warranty mentioned in the Erlab' general terms and conditions of sale).

Connect your unit: Once the device is connected to the Internet and configured to exchange usage data, the warranty is extended for up to 10 years. Warranty will be successively renewed at each filters replacement and for the life time indicated on the Vali-pass® and/or or at the end of filter usage time.

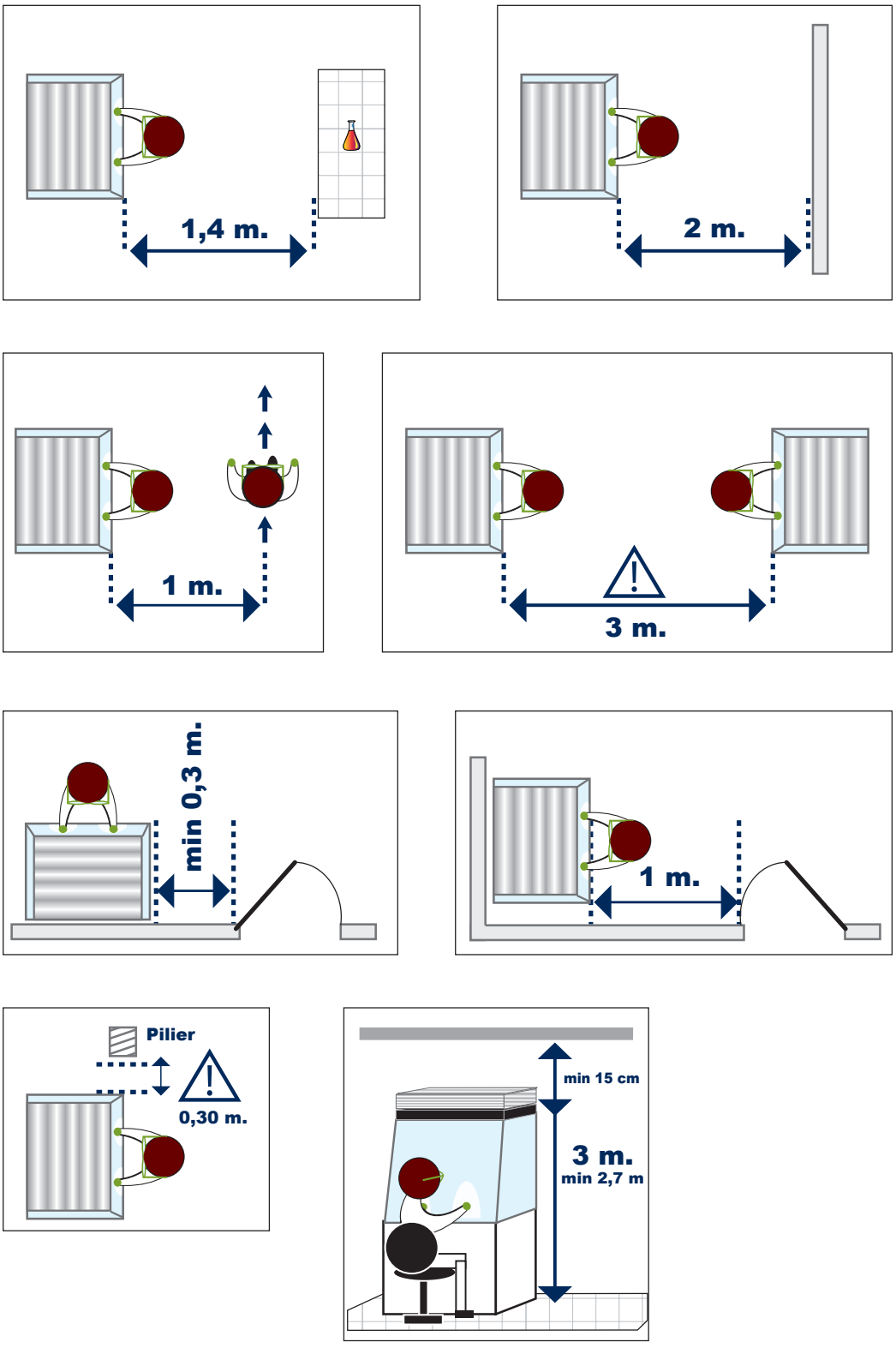
In order to benefit from Erlab extension of warranty offer, the following conditions shall be respected:

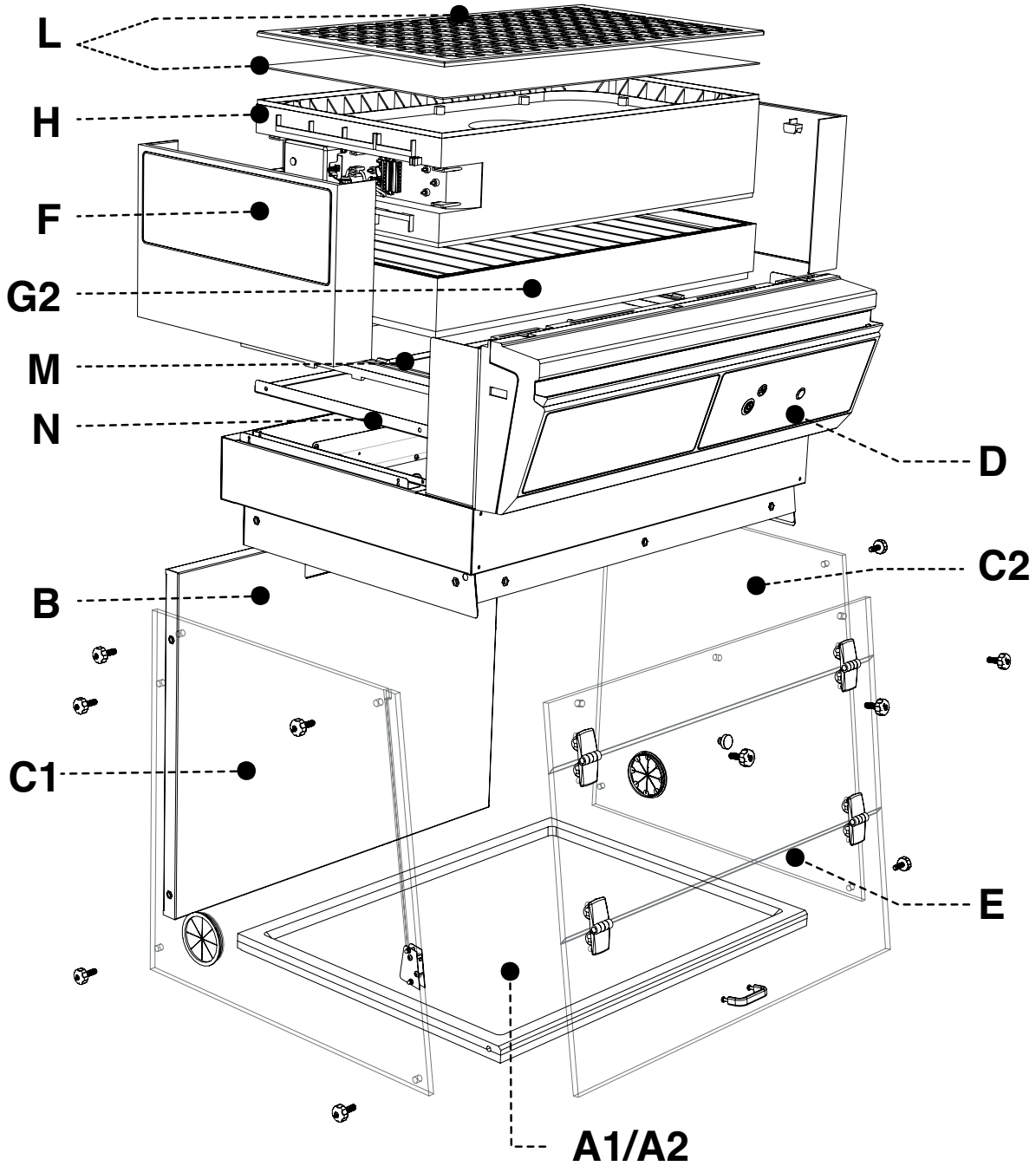
- The registration and/or the connection of the product shall be performed within the twelve months from the purchase date ;
- Filters replacement must be performed following eValiQuest® service recommendations or at the end of filter usage time ; The filter's serial number, used as an identification key, validates this condition, regardless of your device's supplier (and/or the replacement filter's supplier for the following years);
- The device's replacement filters must be manufactured by Erlab, as must all other spare parts.

Consumables such as filters and filter failure sensors are not covered by the warranty.

Recommendation for implementation/positioning

Necessary space and dimensions - according to the EN 14175-5 standard




L
H
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G2
M
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D
C2
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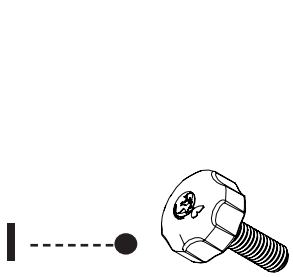
C1
E
A1/A2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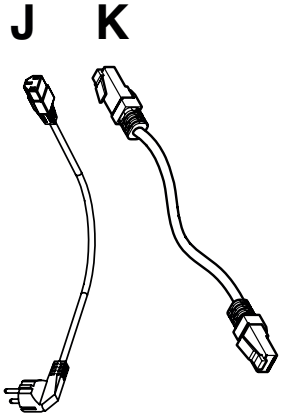
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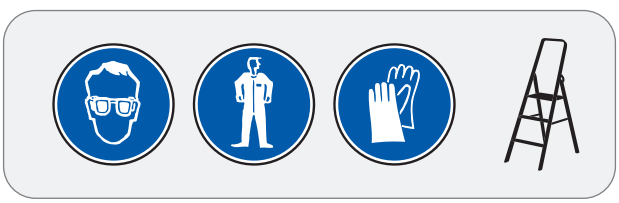
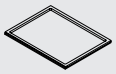
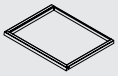
K



⚙	**A1**	Work surface - TRESPA® TopLab PLUS		x1	321= IO115030002 391= IO116030002
⚙	**A2**	Work surface - stainless steel 304L		x1	321= IO115050002 391= IO116050002
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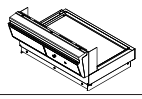
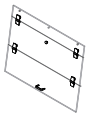
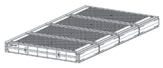
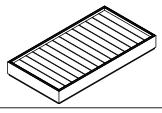
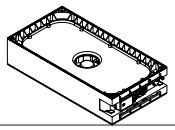
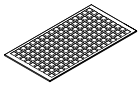
	C1	Left side panel		x1	Z7PIDVIE213033
	C2	Right side panel		x1	Z7PIDVIE213030
	D	Top part (1) and control panel (2)		x1	321(1): Z7PIDCEILSMARTBIO321 321(1+2): K917021 391(1): Z7PIDCEILSMARTBIO391 391(1+2): K927021
	E	Acrylic front panel		x1	321= Z7PIDVISMARTBIO321 391= Z7PIDVISMARTBIO391
	F	Side cover		x2	Z7PIDMS8552-2
	G1	Molecular carbon filter		*	H11074101 (AS) H11074201 (BE+) H11074401 (F) H11074301 (K)
	G2	Particulate filter		*	H11074031 (HEPA H14) H11074061 (ULPA U16)
	H	Fan box		x1	Z7PIDFM008
	I	Nylon screws		x13	PIDB08547
	J	Power cable + 2 clamps		x1	EU = PIDEL076 GB = PIDEL090 CH = PIDEL106
	K	RJ45 cable		x1	WEL8603
	L	Pre-filter+ grid		x1	27PIDRE212036 + I1015000001
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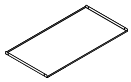
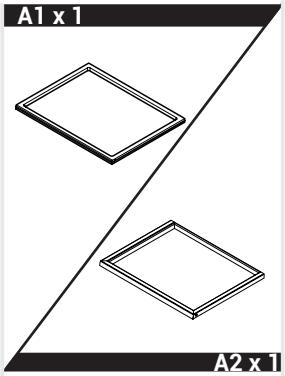
	N	Air diffuser		x1	Z7PIDREE212012
	O	Nylon cable tie		x2	Z7PIDEL8533

⚙ Mandatory, to be chosen

1

A1 x 1



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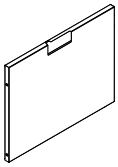
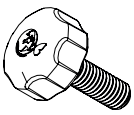


B x 1

C1 x 1

C2 x 1



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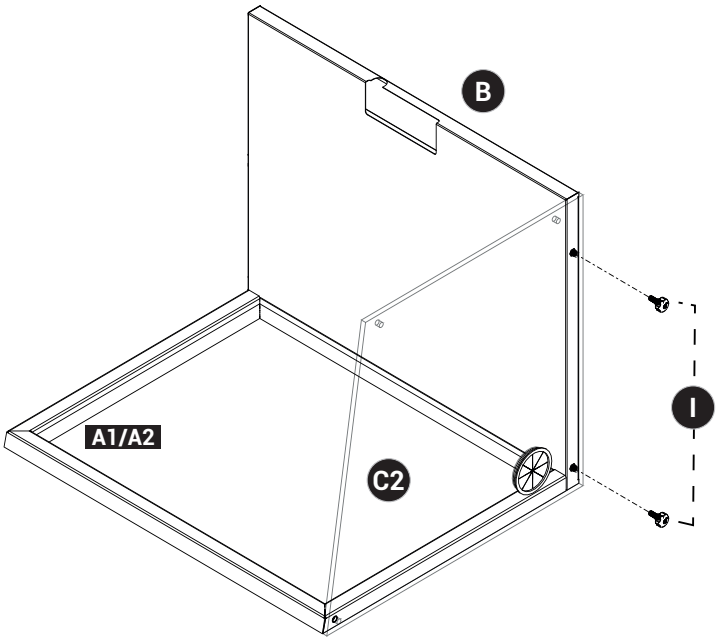

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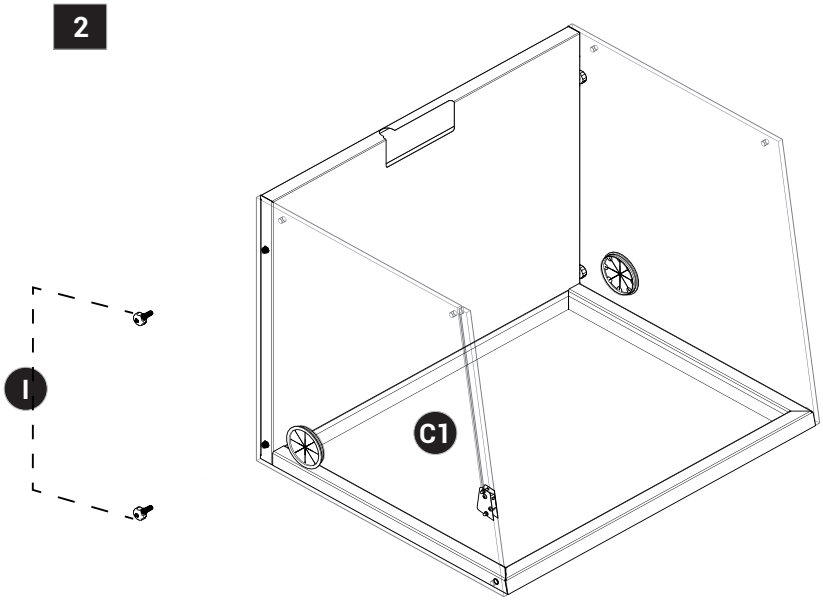

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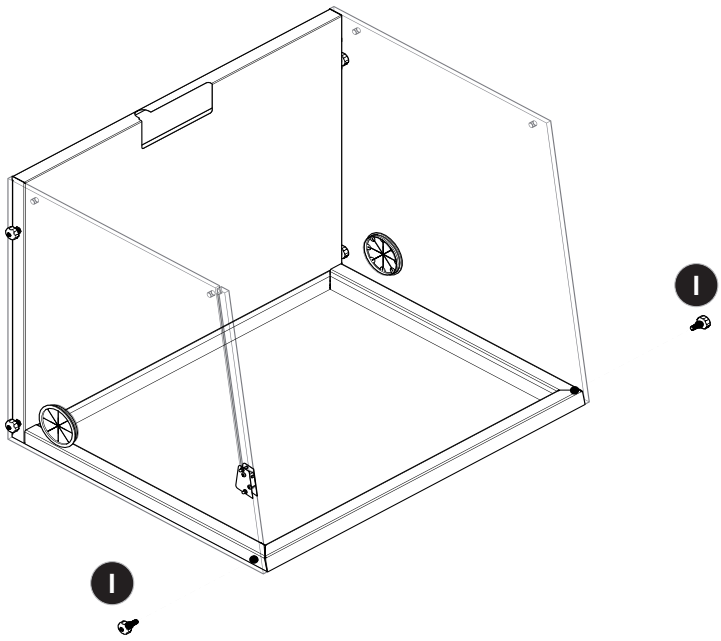

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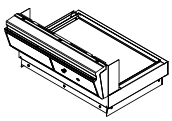

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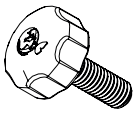

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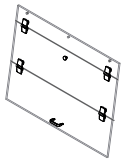
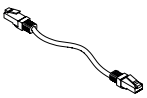


E x 1

J x 1



K x 1

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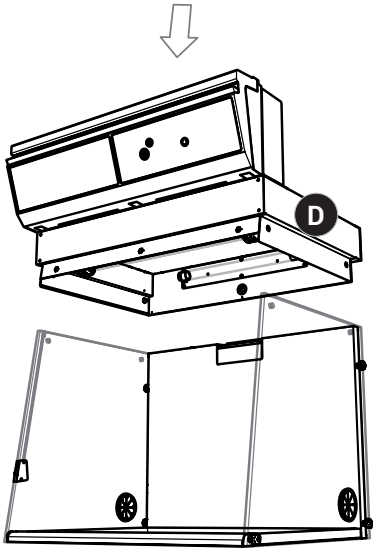

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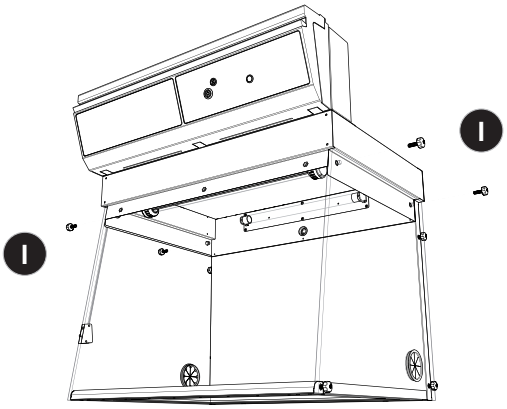

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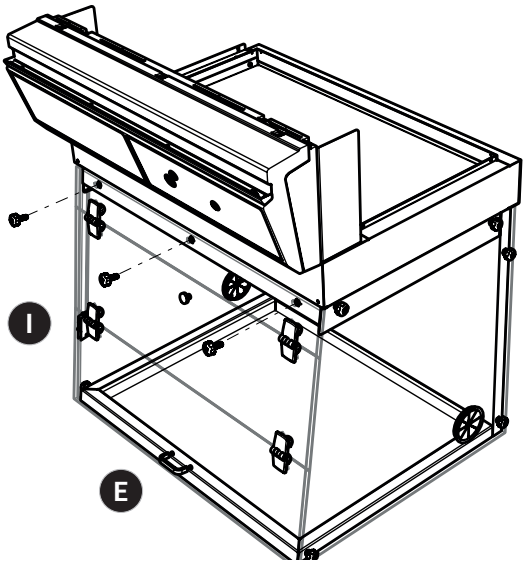

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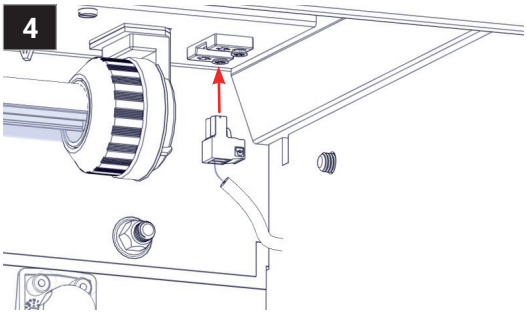

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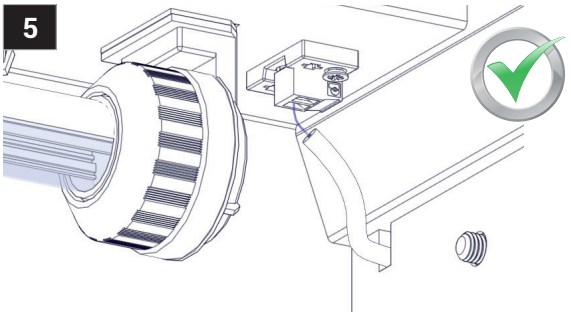

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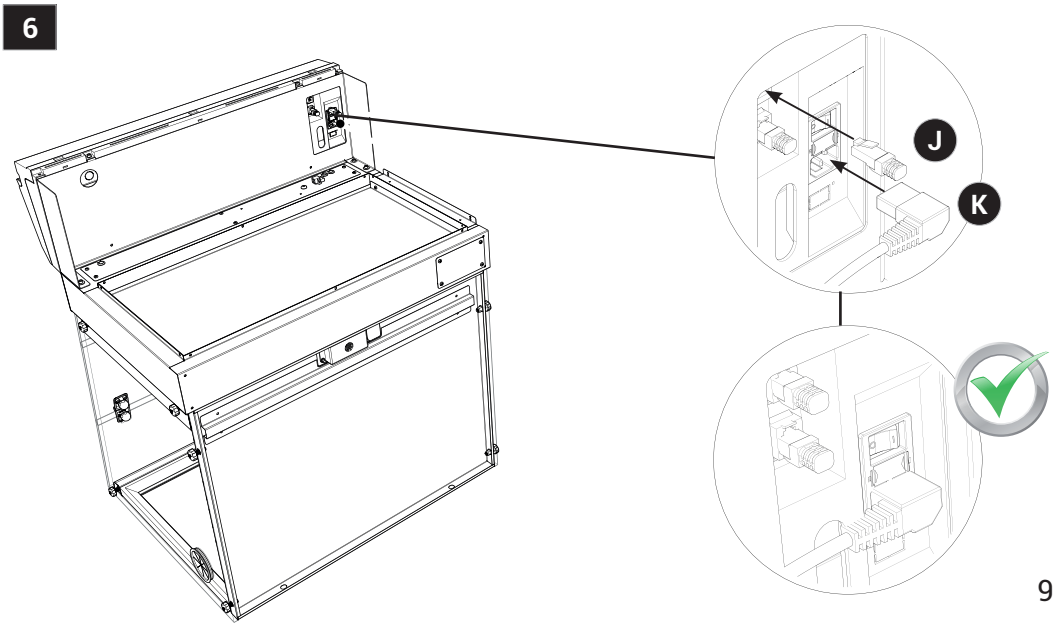

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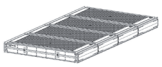
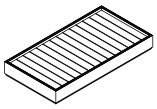
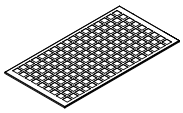
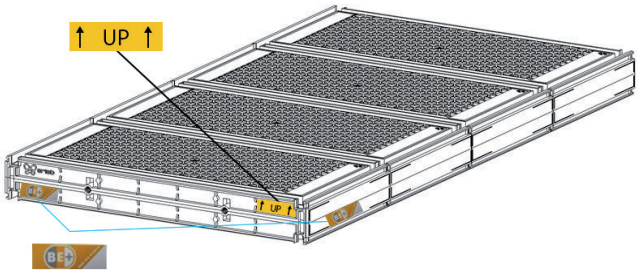
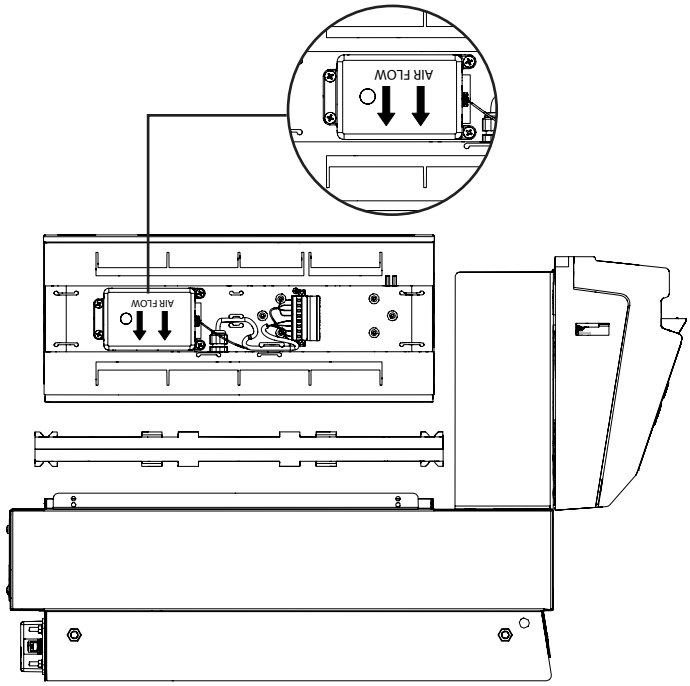
Filter column configuration			
1P	-	x1	x1
1C 1P	x1	x1	-





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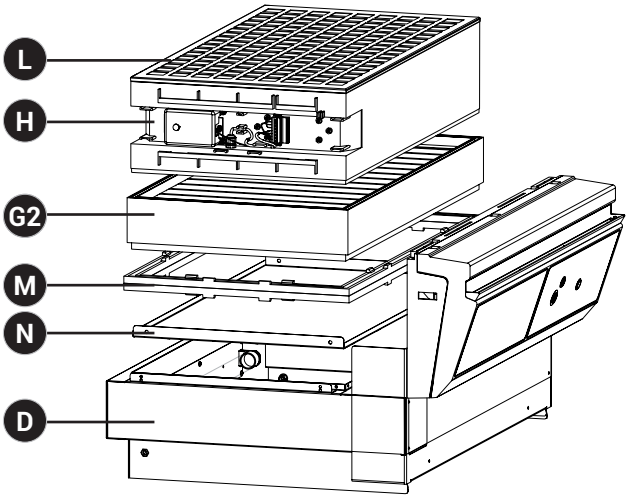

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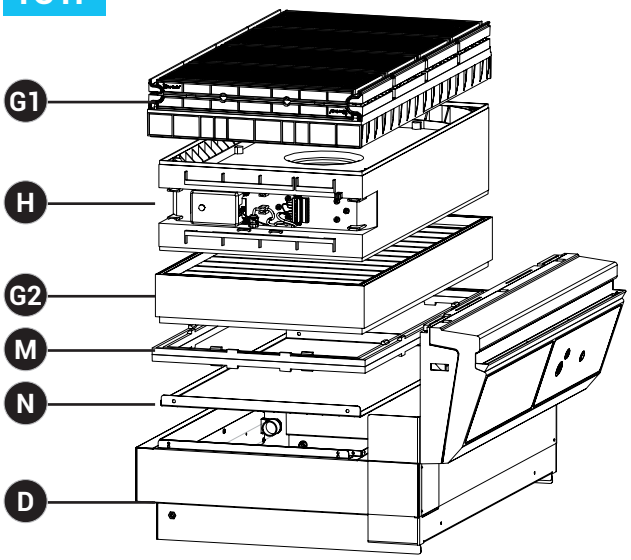

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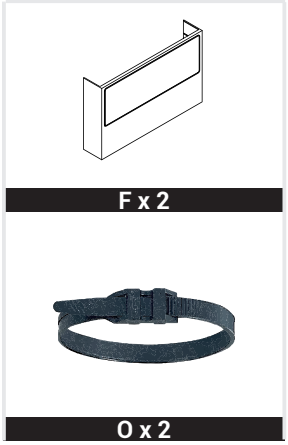

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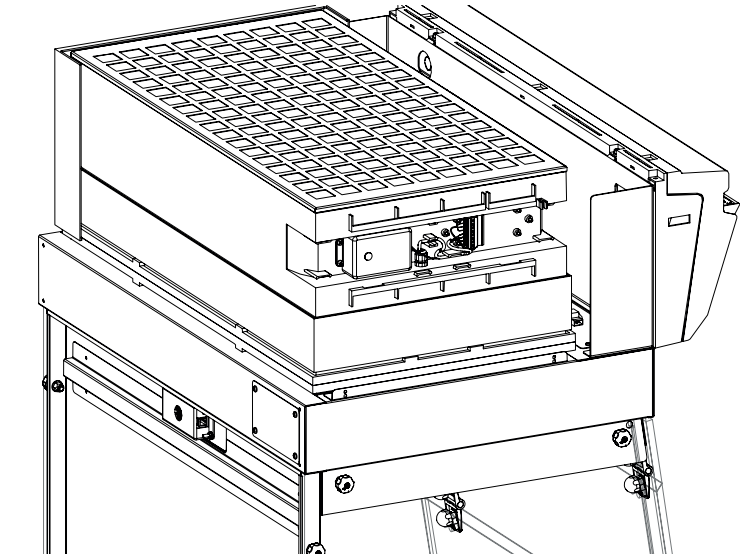

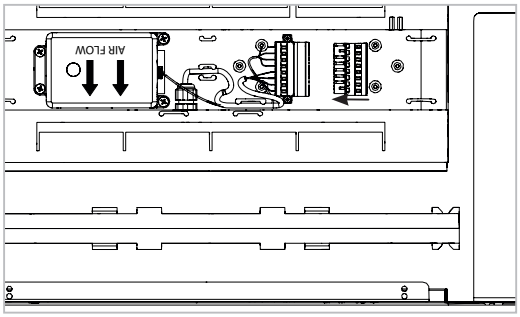

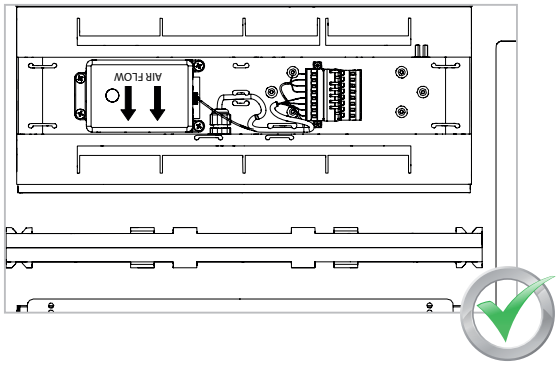

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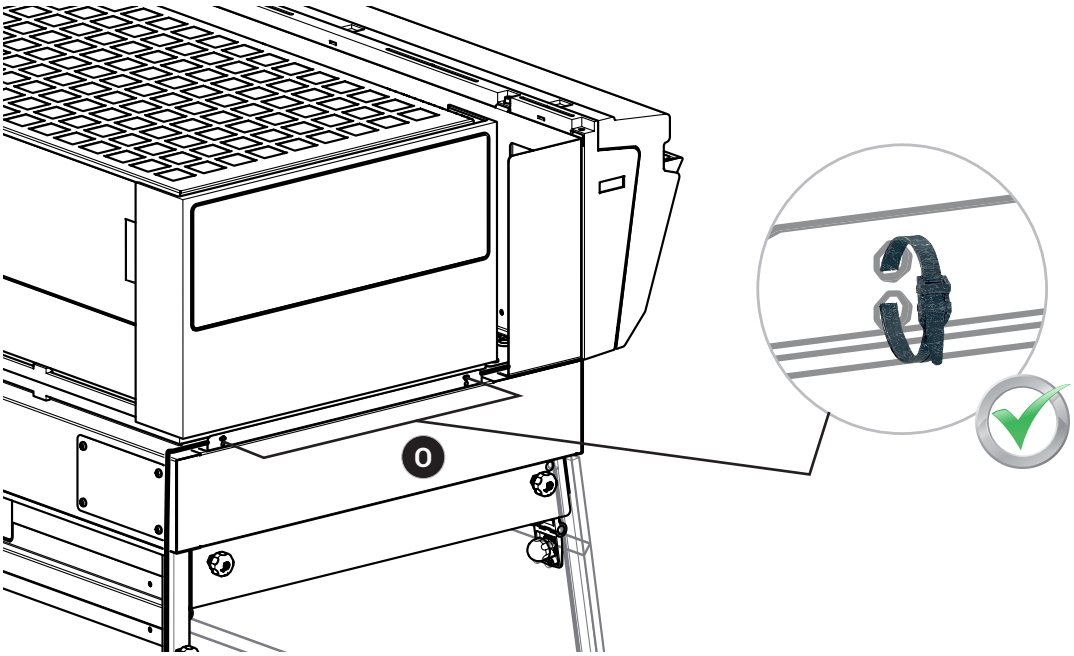

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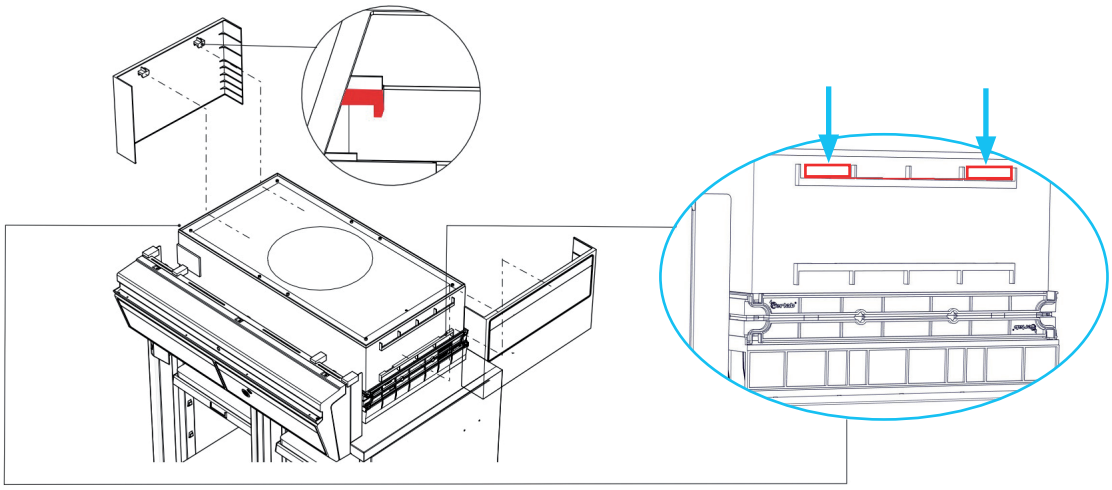

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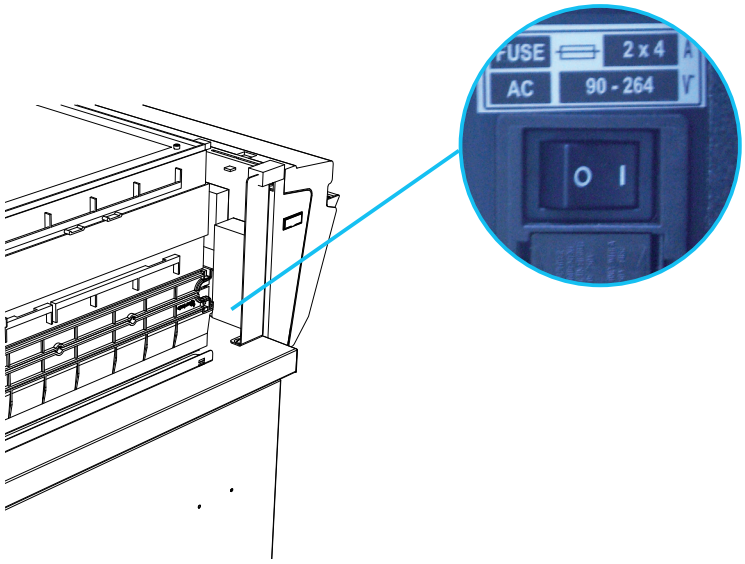
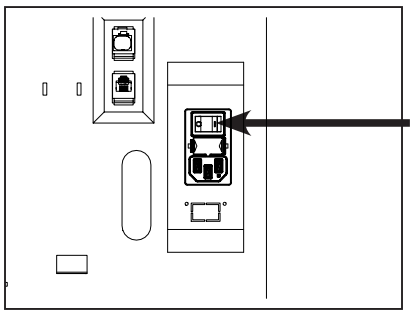


Start up

Calibrating the electronic anemometer

Open the sash of the workstation to perform calibration.

1- Press and hold the mute button located on the front of the control panel while simultaneously switching on the main power button located behind the control panel (Off = O, On=I)



2- Release the mute button. A beep indicates that the unit has started the calibration mode. The white bar above the front of the control panel will pulse for 5 minutes and 30 seconds. Stick with just the instructions for the anemometer.

3- Once the pulsing light stops, the anemometer is calibrated and the unit is ready to be turned on.

4- To operate, push the power button located on the front control panel.

Good practices :

- Avoid any air turbulence in the area during calibration.
- Anemometer should be calibrated every year and every time a modification is done on the filtration column.

We also recommend verifying the operating parameters before each new use.

To modify settings, please access the administrator interface.

Having carefully followed the steps described in the installation guide, your Captair Bio Smart ductless filtering PCR workstation is now ready to use.

Standard usage and decontamination of your Captair Bio Smart ductless filtering PCR workstation

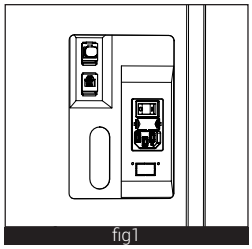


fig1

1- Make sure that the unit is on (general switch at the back of the control panel on 1 position (cf. fig 1) and that the fan is off (button on the front panel (cf. fig 2)

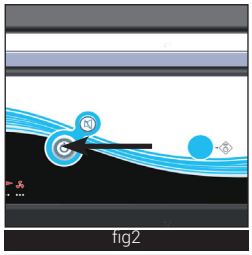


fig2

2- Make sure that the front door is closed and turn on UV lamp(s) (UV button on the front panel (cf. fig3). UV lamp turns on during time set from the eGuard interface (20 min default time, can be modified connecting on the unit).

A signal will be heard 1 minute before the end of the decontamination.

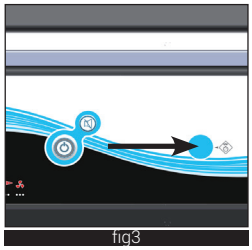


fig3

3- After decontamination cycle, turn on the button located on the front panel (cf. fig4) in order to turn on the fan and lighting, then open the door. You can now perform a new handling.

4- Once the handling is finished, stop the unit by pressing the button located on the front panel and close the front door.

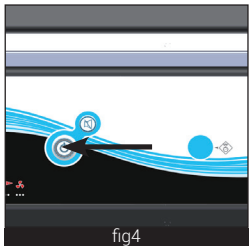


fig4

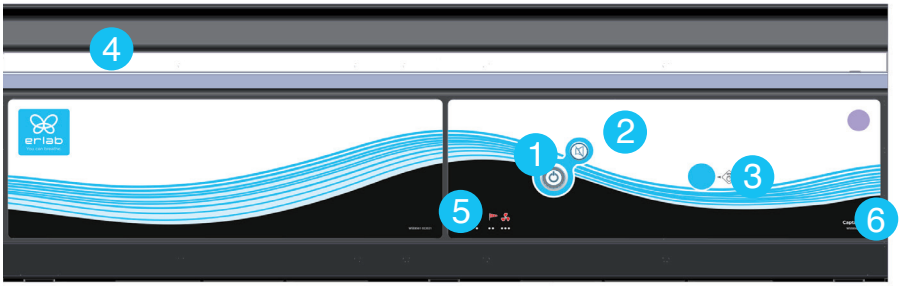
5- A new cycle of decontamination can be done when making sure that the front door is closed and pressing the UV button.

Warning :
UV lamp only turns on when front door is closed AND the fan ventilation is off.

At the end of a decontamination cycle it is recommended to turn on the fan before opening the front door.

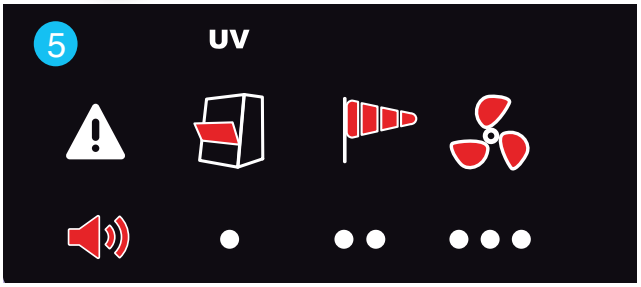
UV lamp automatically switches off if the front door is opened during decontamination, is then suspended and will continue when door is closed.

Description of the controller



1 - Switch on fan and lights in workstation
2 - Silence the alarm (Mute key)
3 - UV key
4 - Smart-Light that pulses when in alarm
5 - Keycode to indicate which alarm is active
6 - Ceiling lighting

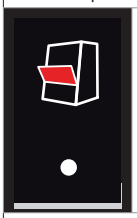
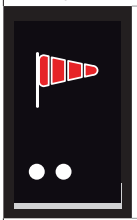
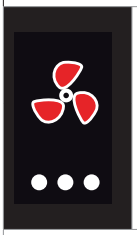
Optional ceiling light button



Smart Technology communicates simply about performances and filter effi-ciency of your product via a LED band of light called Smart- Light. This light signature casts a steady LED glow when unit is operating properly. If normal operation is disrupted, the LED signature simply pulses, drawing the atten-tion of the opera-tor only when necessary.

Description of the alarms

Note:
When using the Mute key to silence the alarm, please note the alarm can be triggered again if the problem has not been fixed. Resetting alarms via the Mute key will consequently modify usage settings.
Please access the administrator interface to verify user settings.

Alarm type		Light signal	Problems	Details	Silence the alarm	Reset the alarm
Sash opened during UV decontamination						
	1 beep 5 seconds apart	Pulses	Sash opened + UV turned on	The UV lamp is turned on while the sash is open	Press Mute key	Front door must be closed to turn on UV lamp(s).
Air speed						
	2 beeps 5 seconds apart	Pulses	Low air speed	The air speed value is <0.3 m/s	Press Mute key	Check particulate filter. If the filter is not clogged up, perform a new calibration of the anemometer (with door opened)
Fan						
	3 beeps 5 seconds apart	Pulses	Fan fault	The rotation speed (RPM) is +/- 10% of the fan setpoint.	Press Mute key	Please contact Erlab or your usual maintenance contact.
			Fan Unserviceable	The rotation speed (RPM) is < 700 RPM		
Filtration						
	4 beeps 5 seconds apart	Pulses	Filter breakthrough (Molecode S/A/F option)	The Molecode detection value is > the sensitivity setting for a period of 40s.	Press Mute key	Please contact Erlab or your usual maintenance contact.
			Replace filter	The filter(s) has/ have reached the end of their service life/lives		
Filter breakthrough sensor replacement (Molecode)						
	5 beeps 5 seconds apart	Pulses	Filter breakthrough sensor replacement (Molecode S/A/F option)	The sensor has reached the end of its service life.		Please contact Erlab or your usual maintenance contact.

Reset network settings
Forgot network settings? Follow these steps to reset the IP address :

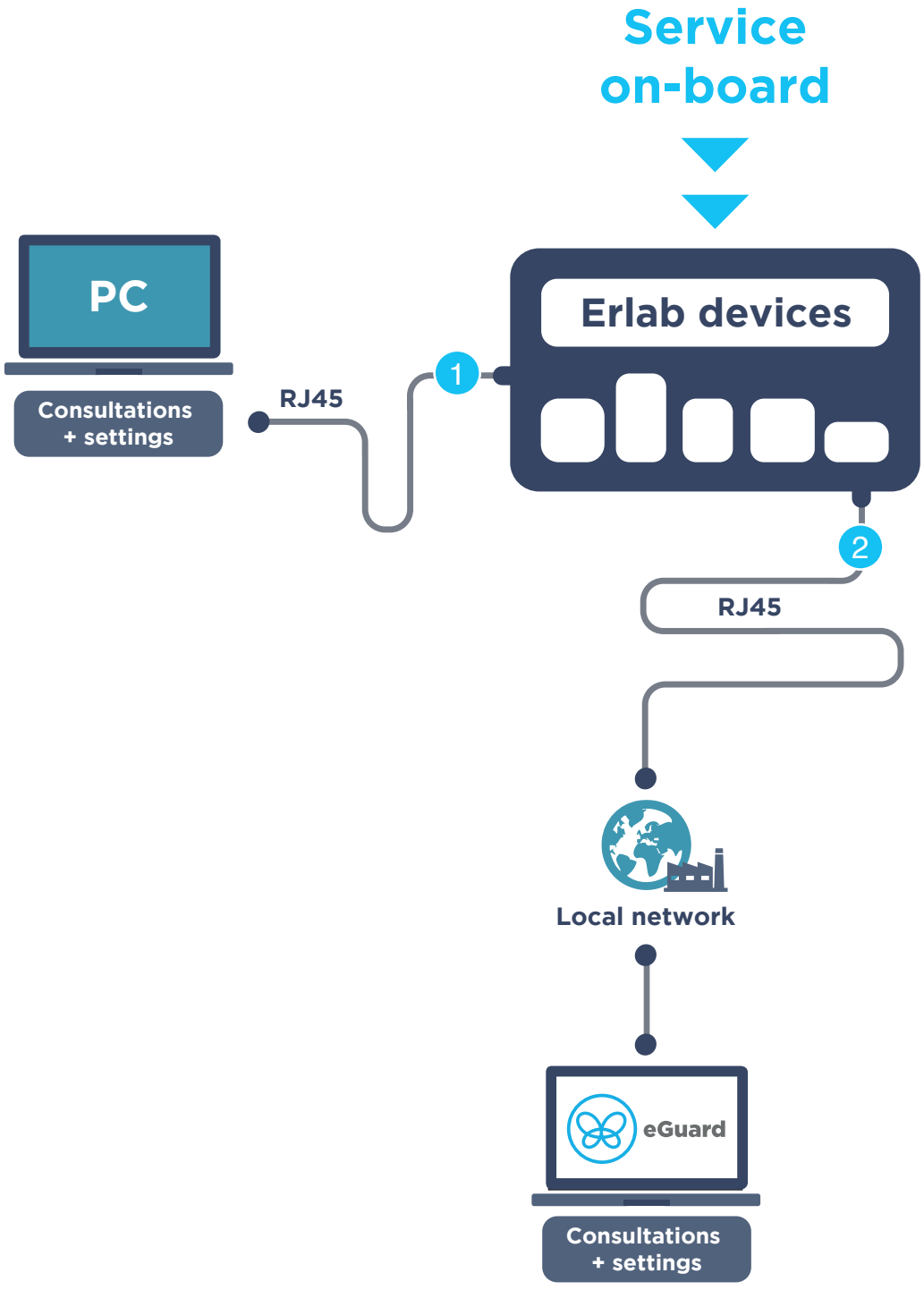
- The main power switch is in the ON position (located on the left of the controller behend the panel)
- The workstation should not be running (no lights or fans are on),
- Hold in the mute button for «10» seconds
- Wait until you hear «click», «click»,
- Release the mute button

Reboot unit:
a. Turn the power switch to the "Off" position (located on the left side of the controller)
b. Turn the power switch to the "On" position (located on the left side of the controller)

- The Primary IP adress to use is 192.168.0.200
  Note: In some cases, you may need to use the secondary IP address 192.169.0.200

The connectivity principle

An ecosystem designed for simpler use and safer protection



2 ways to connect your device	1 Embedded service	2 eGuard PC
Conditions of use	**Direct connection on PC with data cable (RJ45)**	**Connected to the local network**
Hardware requirements	1 PC + 1 cable	1 PC connected to the local network
Parameters	Monitoring + Controlling	Monitoring + Controlling
Data access	One unit	Multiple units
Historical data access	✓	✓
Historical data download	✓	
Alerts, Notifications		✓
Multiple units monitoring		✓
Multiple user accounts		✓
Automatized status report		✓
Download		Download for Windows (except if local connection)

eGuard

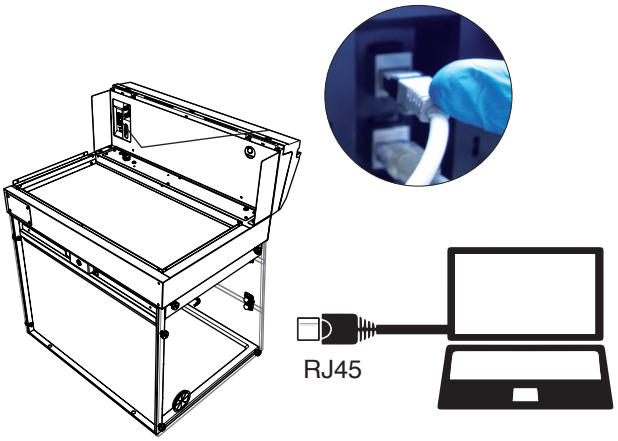
The connectivity of Erlab devices allows for the remote setting and monitoring of one or more devices.

After registering your product online, use eGuard :

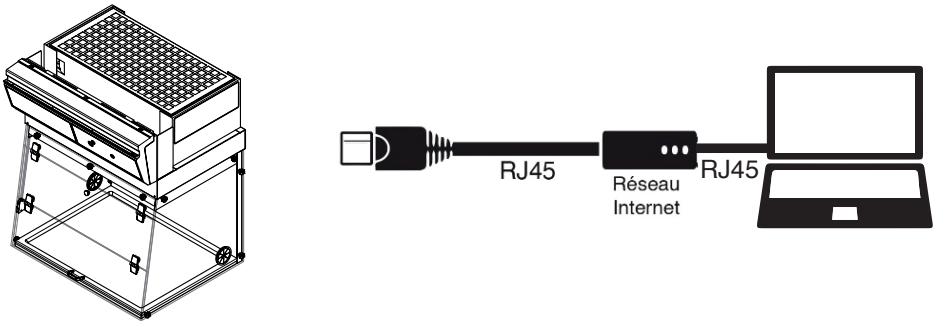
- Receive security alerts,
- View your usage statistics,
- Enhance your user experience
- Benefit from exclusive guarantees and services

3. How to connect

Embedded service



eGuard PC



Embedded service

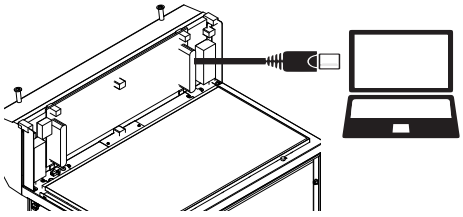
To monitor the parameters and modify the settings of the unit

In order to connect:

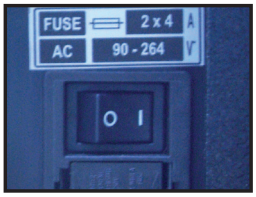
- Use a computer equipped with a Ethernet port (to plug the RJ45 cable)
- WIFI of the computer must be **switched off**
- Web browser (Internet Explorer, Edge, Chrome, Mozilla Firefox, Safari, …) must be installed on the computer

N.B: RJ45 cable used to plug the unit to the computer is provided.

1 Direct connection on computer

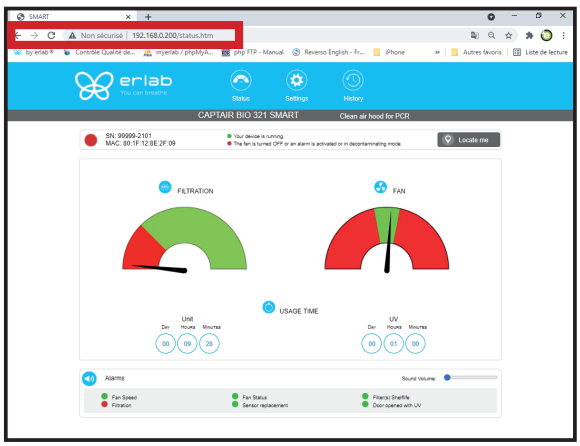


- Take RJ45 cable (black) already connected on the unit and rolled at the back of the control panel.



- Check that main switch (at the back of the control panel on fume hoods and storage cabinets) of the device is **ON (I)**

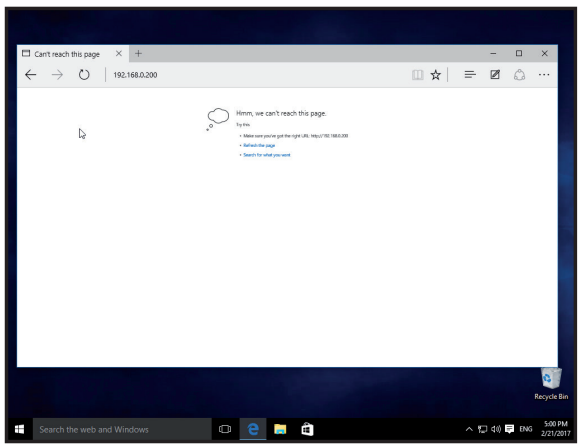
2 Open your web browser, type the following IP address 192.168.0.200 into the address bar and validate



OK

You are connected to the embedded software
You enter the « Status » page and you can have access to the « Settings » using the following credentials:
Login : **erlab** / Password : **smart**

Please go to page 24



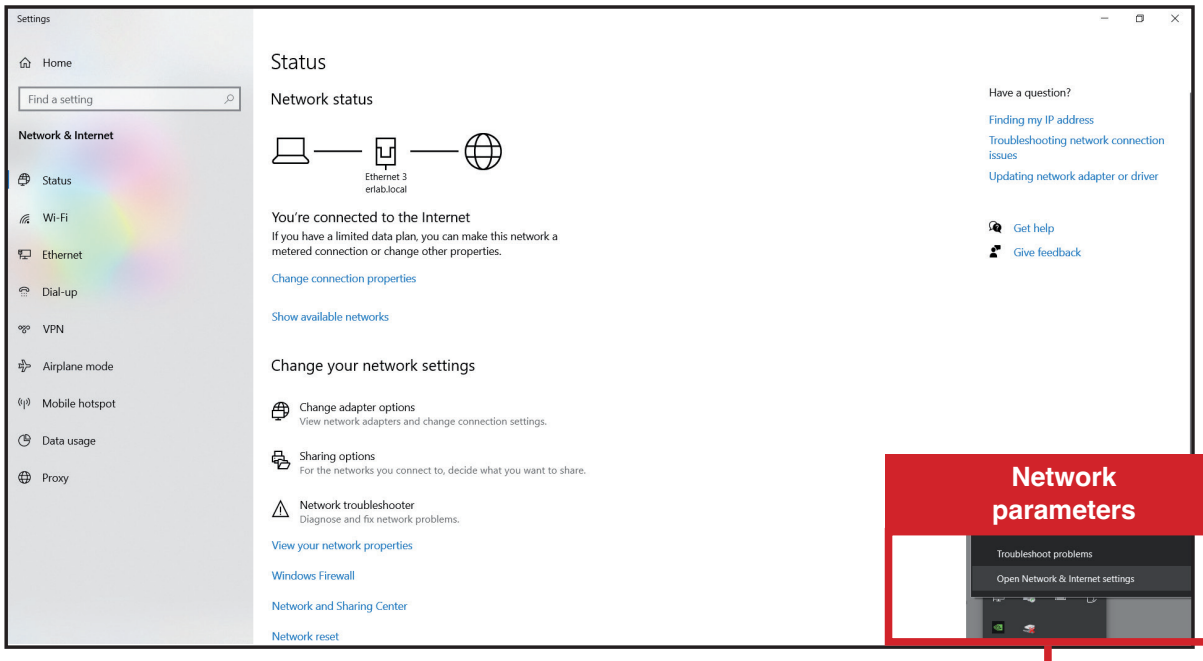
Page is not accessible

Computer network parameters are not allowing the access to the embedded software.

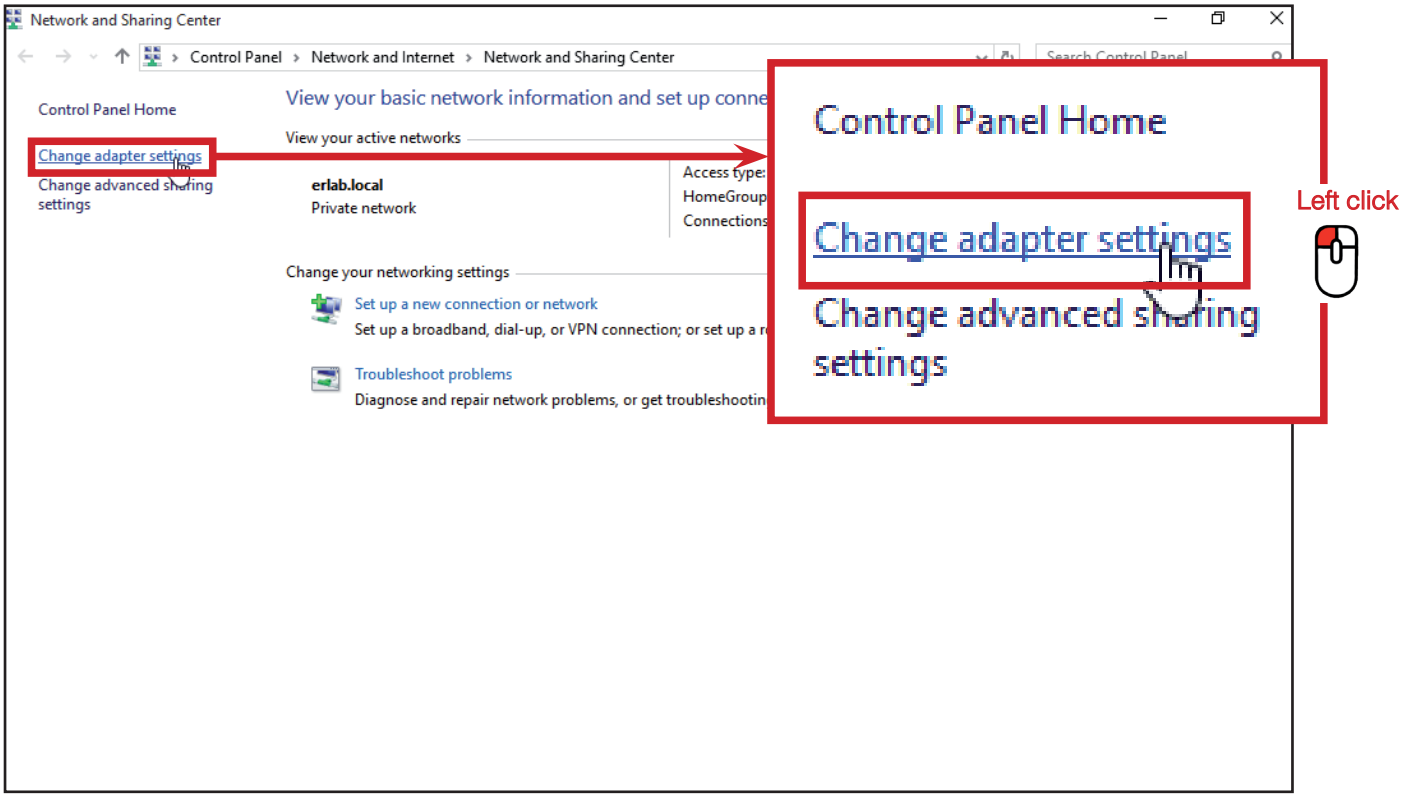
Apply the following procedure

Page is not accessible:

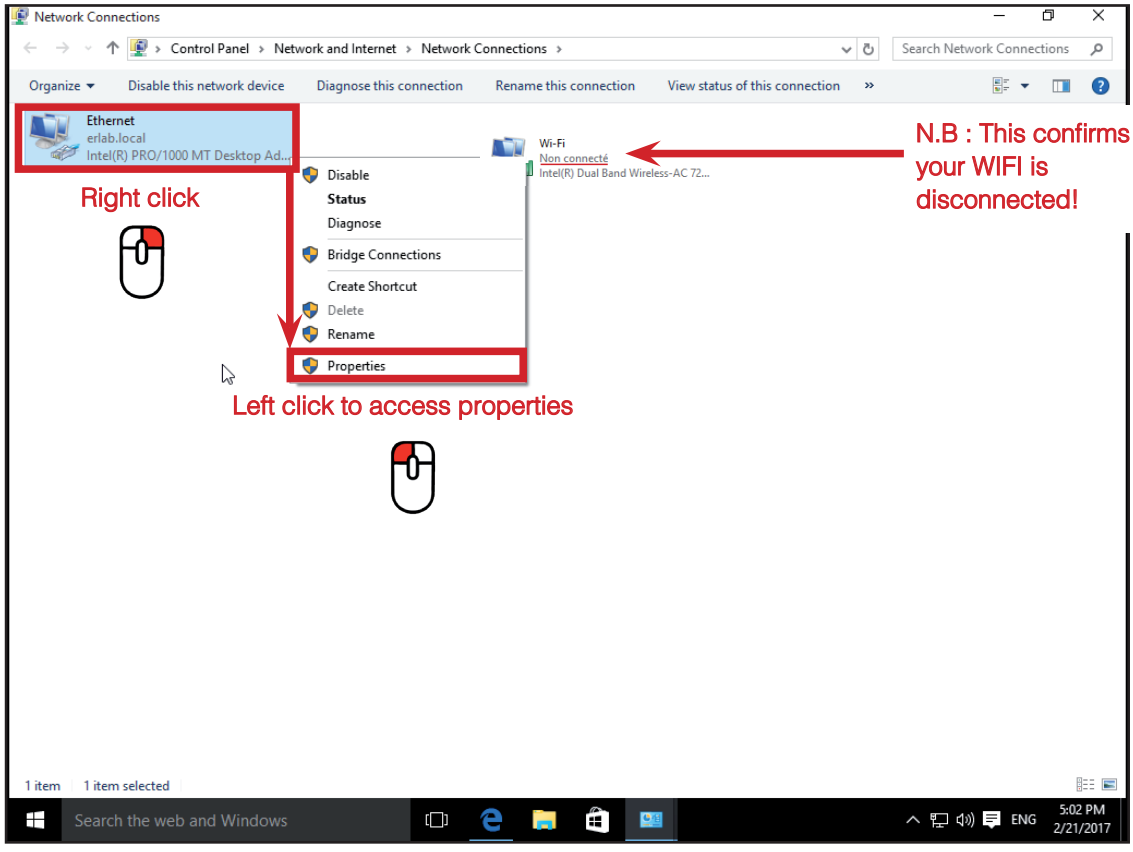
1 Modify computer network parameters (windows 10)



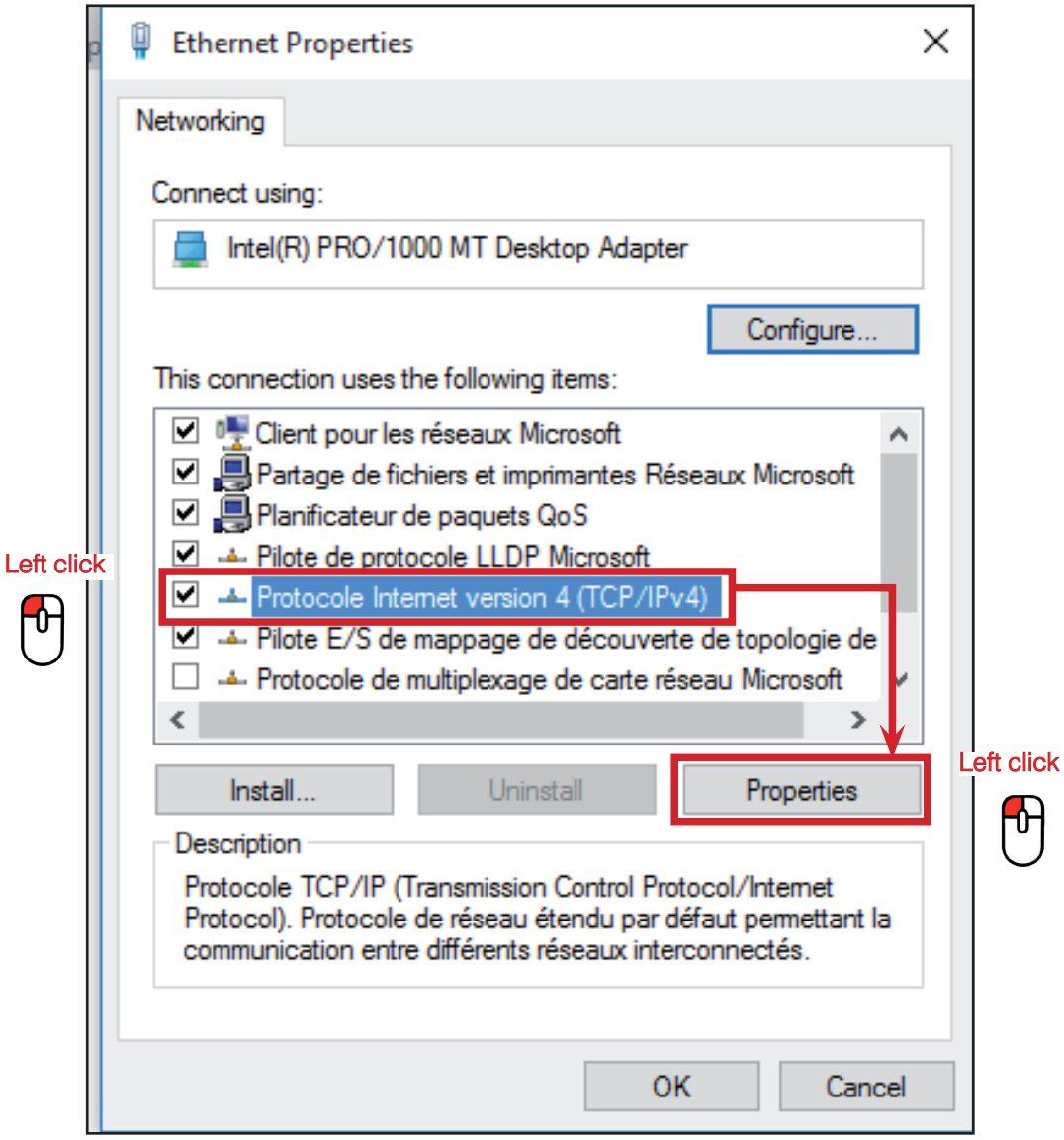
2 Access to the Network and sharing center (windows 10)



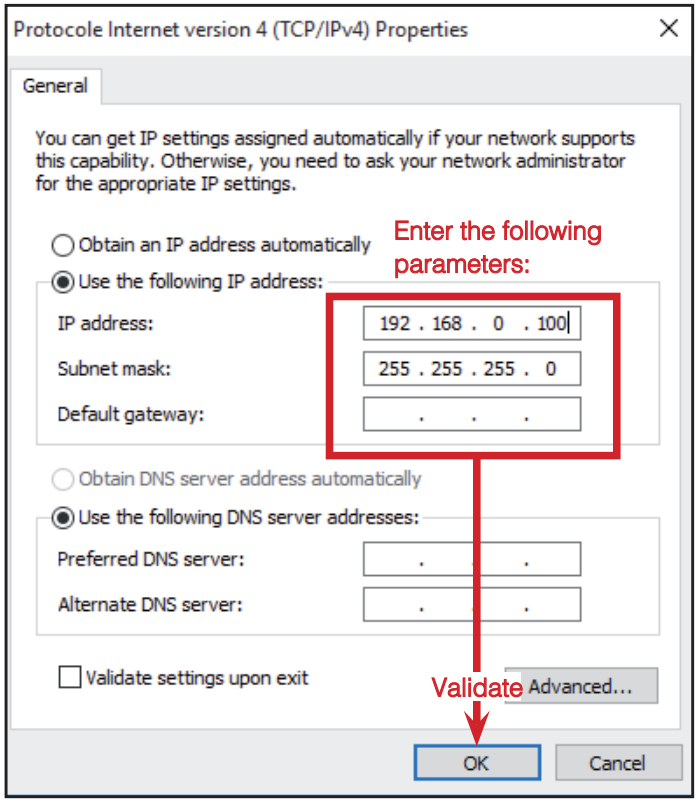
3 Access to the network connection (windows 10)



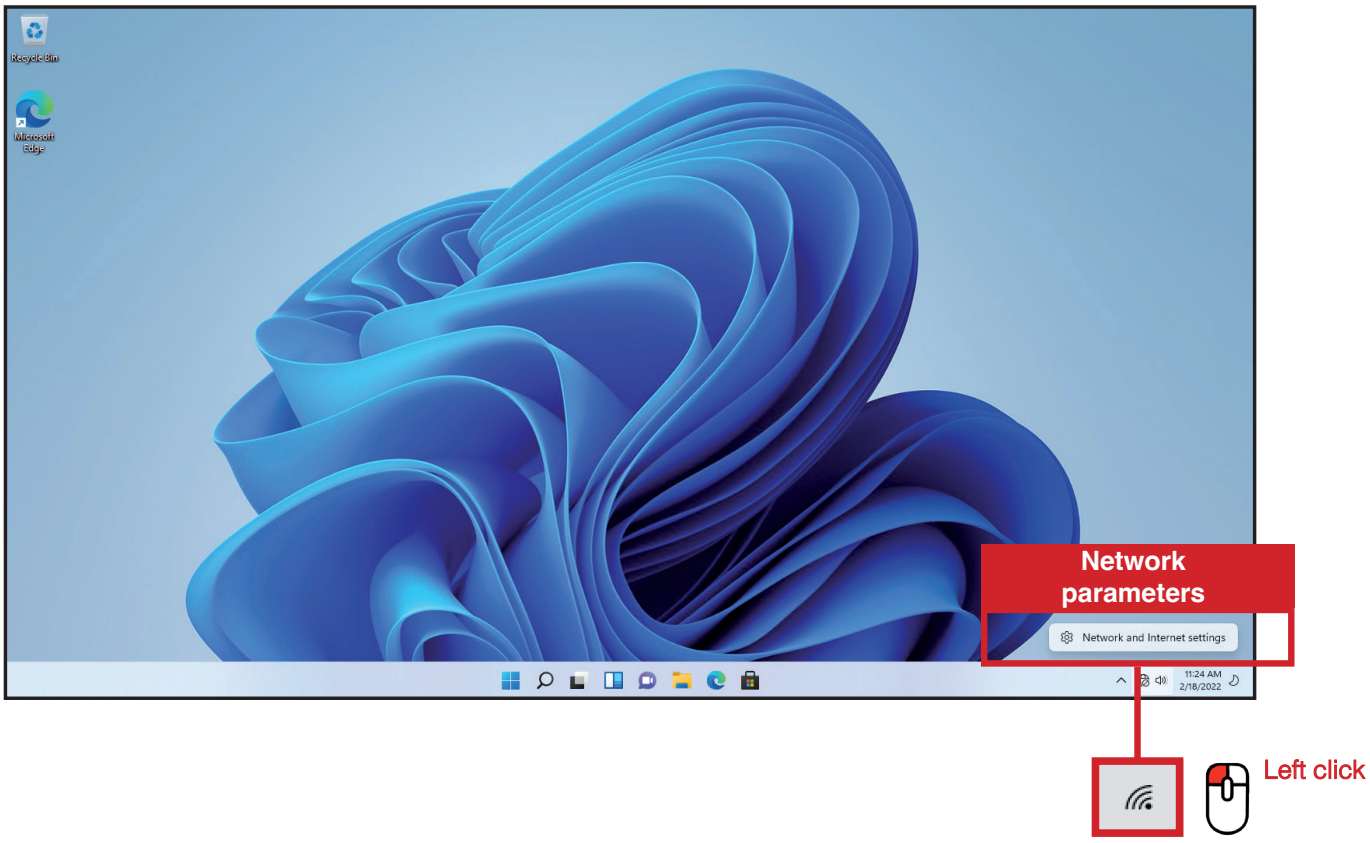
4 **Enter compatible network parameters as indicated below (windows 10)**



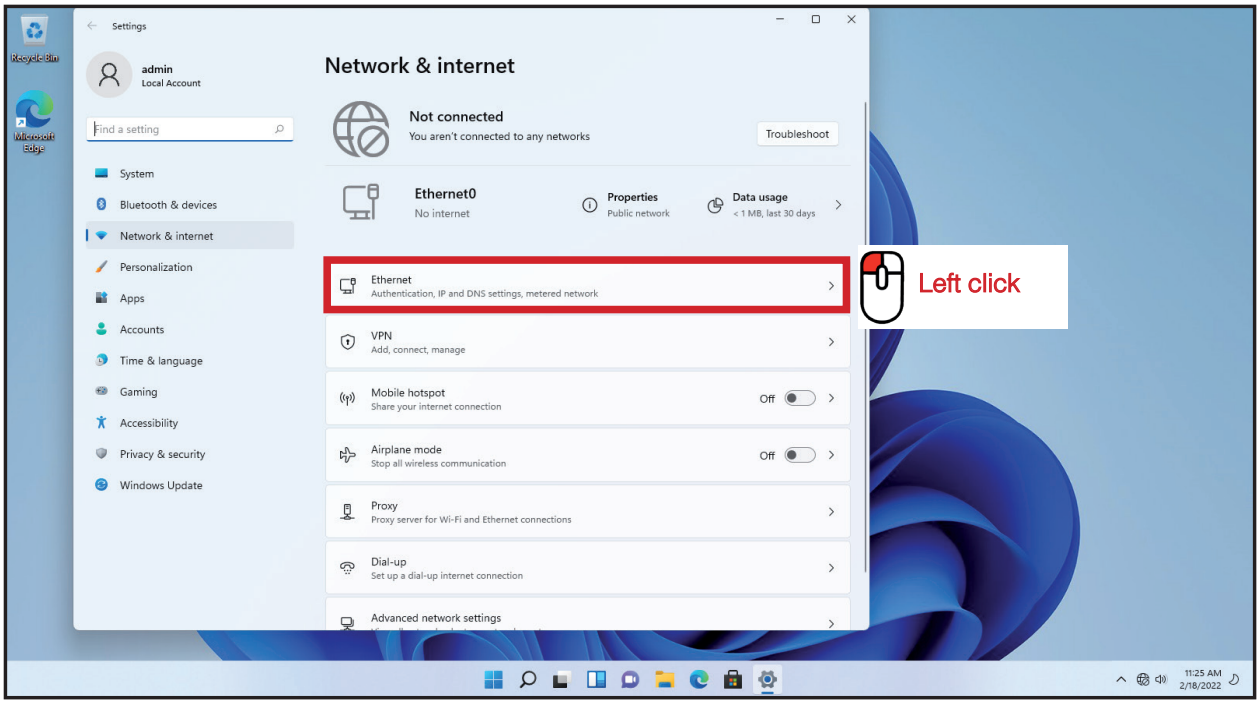
Write down your existing parameters **before** changing them in order to be able to set your initial parameters after the operation!



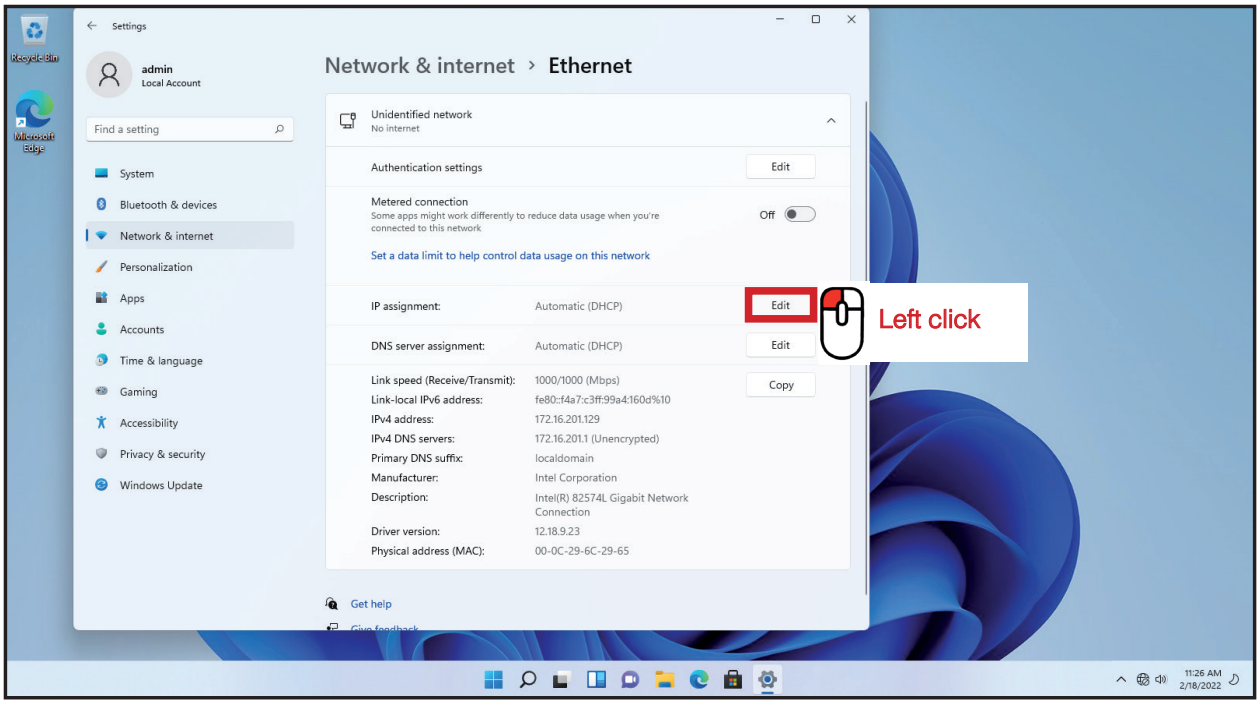
1 Modify computer network parameters (windows 11)



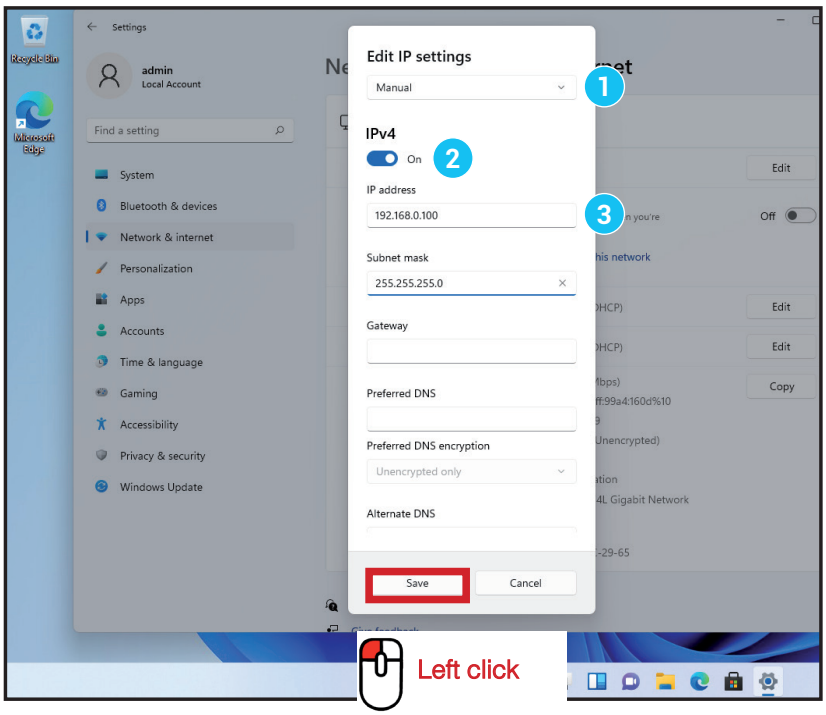
2 Access to the Network and sharing center (windows 11)



3 Access to the network connection (windows 11)

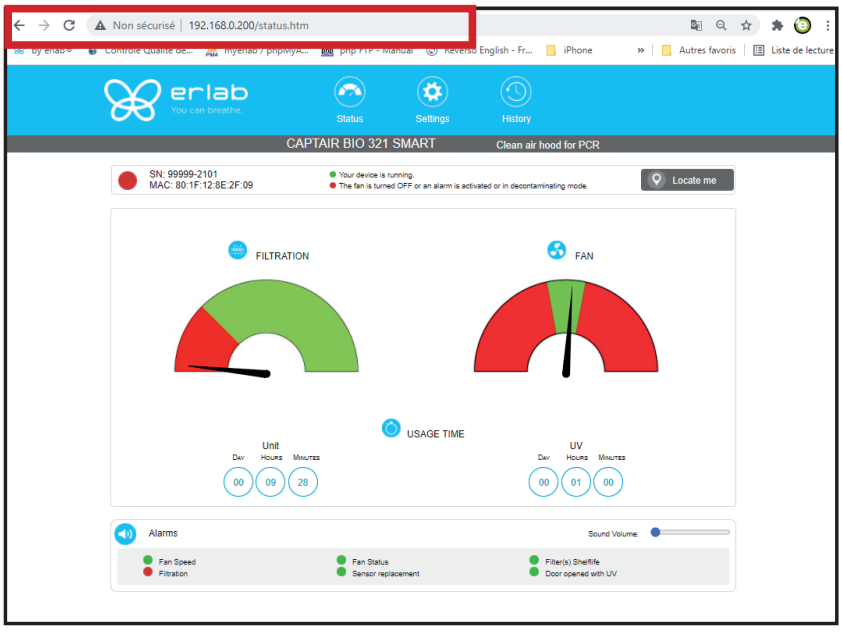


4 Enter compatible network parameters as indicated below (windows 11)



1. Select «manual»
2. Set «IPv4 to On»
3. Enter the IP address «192.168.0.100»

5 Open your web browser again, type again the following IP address 192.168.0.200 and validate



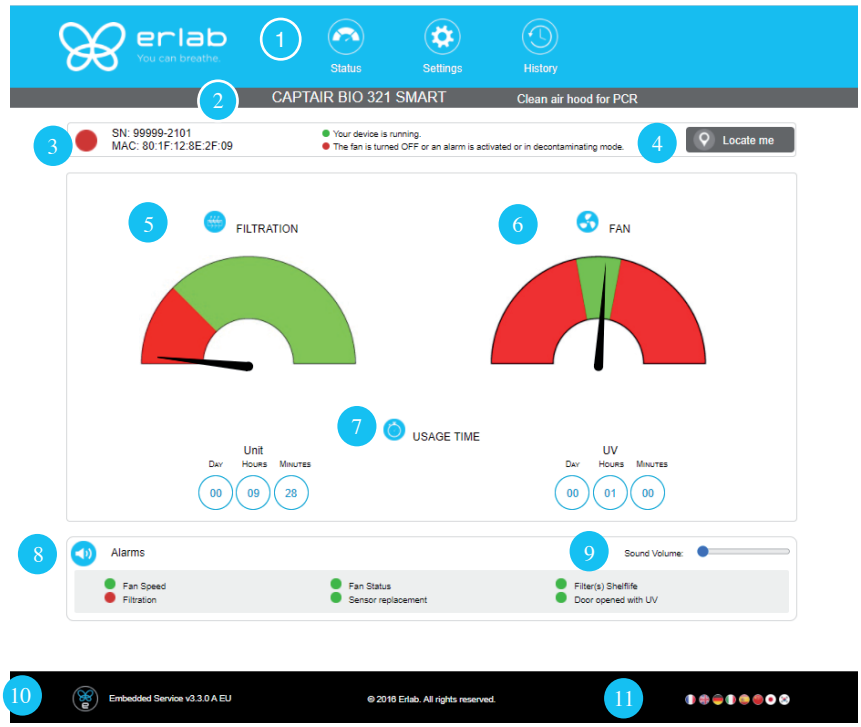
OK: You are connected to the embedded software

You enter the « Status » page and you can have access to the « Settings » using the following credentials:

Login : erlab / Password : smart

Administrator interface description

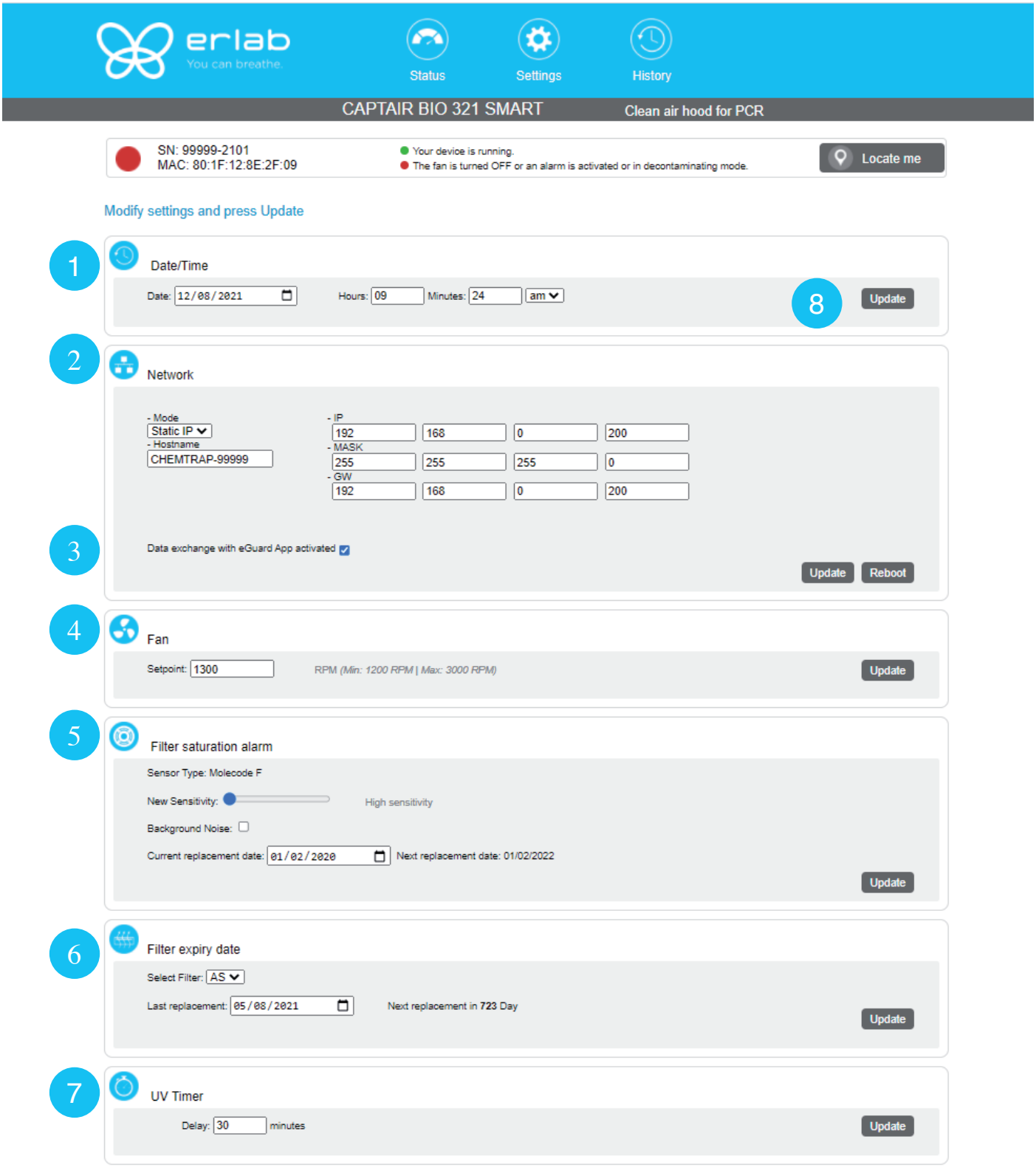
Enter the unit IP address into the address bar of your browser in order to access the embedded sotware.



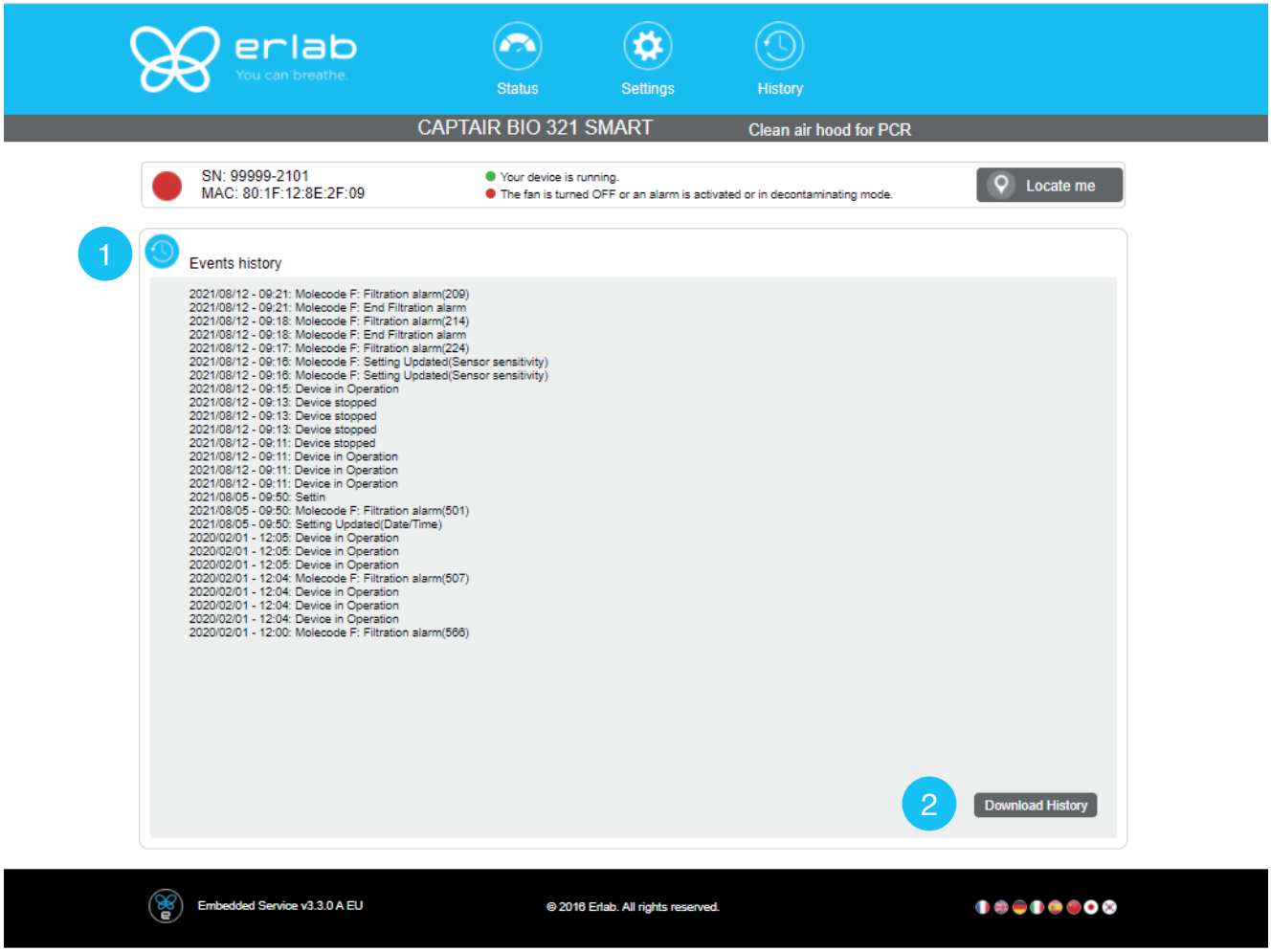
Status page details	
1	Choose active interface page
2	Device ID: Model
3	Device ID: serial number, MAC address, device status
4	Unit location
5	Filter gauge: indicates the fault level of the optional carbon filter
6	Fan Gauge: indicates the fan status
7	Device use time since fan was last started and UV timer
8	Device alarm statuses (see alarm triggering conditions)
9	Volume setting
10	Embedded service version
11	Choose language

Access to the settings is protected by the following credentials:

Login : erlab
Mot de passe : smart



Settings page details	
1	Device time and date settings
2	Device network settings Mode: Selected IP protocol Hostname: Device name on network IP: IP address of the device MASK: network mask GW: Network gateway Modify network settings: Default mode : DHCP Each unit is identified with its hostname : ER-UNIT-S/N Hostname example for a Captair 321 Smart, S/N: 25698 Hosname will be: ER-321-25698 This hostname is displayed on the IP Adress label located on the back of the control panel If the unit is not connected to a DHCP servor, the unit will automatically switch to its defaut IP address: 192.168.0.200
3	Activate/Deactivate the exchange of information This allows the transmission of information from the device to the eGuard server for: - remote monitoring via eGuard App (mobile &PC) - receiving usage reports
4	Device fan setpoint settings
5	Filter fault alarm (Molecode option) Sensor type indication S: Solvants Sensor sensitivity settings: 5 settings (sensor S): High sensitivity, Medium/High Sensitivity, Medium Sensitivity, Medium/Low Sensitivity, Low Sensitivity Sensor replacement Enter replacement sensor date, display the next sensor replacement date
6	Filter replacement date: Indicates the filter type (AS: organics vapors / HP: powders) For units equipped with carbon and HEPA filters, please use the carbon filter indication Counter showing the number of days the filter(s) can be used relative to its/their service life expiry date
7	UV timer Decontamination cycle can be set from 5 to 30 minutes. A signal is heard 1 minute before the end of the decontamination.
8	Confirm settings key (please validate each setting)



Log page details	
1	Displays the device's event log
2	Used for downloading the log in .csv format

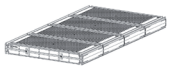
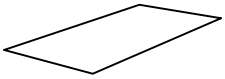
Fan setpoints per filtration column type

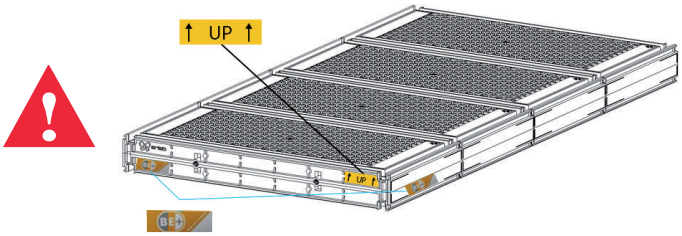
Unit / Type of filtration column	1P	1C1P
321	2000 RPM	2400 RPM
391	2200 RPM	2800 RPM

Replacing the filters

Your device is equipped with FLEX™ filter technology that was configured to the user's protection needs when the device was purchased. The configuration of the filter column is dependent on the applications carried out in the enclosure. These applications may change over time. Your FLEX™ filter technology can therefore be reconfigured if your workstation is used for applications other than those anticipated when the device is first set up. If so, please contact us so that we can verify that the current configuration is safe or it needs to be reconfigured.

The table below summarises all possible Flex™ filter technology configurations for your device

	Captair 321 - 391 Smart models		
	Molecular filter	**HEPA filter H14 / ULPA**	**Pre-filter**
Column Configuration			
1C	x1		x1
1C1P	x1	x1	x1



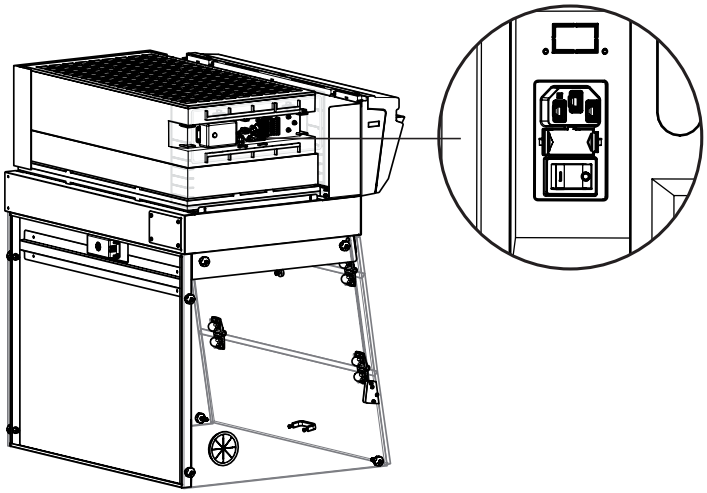
The table below summarises the different types of carbon filters that Erlab® offers along with their fields of application.

Type AS	For organic vapors
HEPA H14	For particles
ULPA U16	For particles

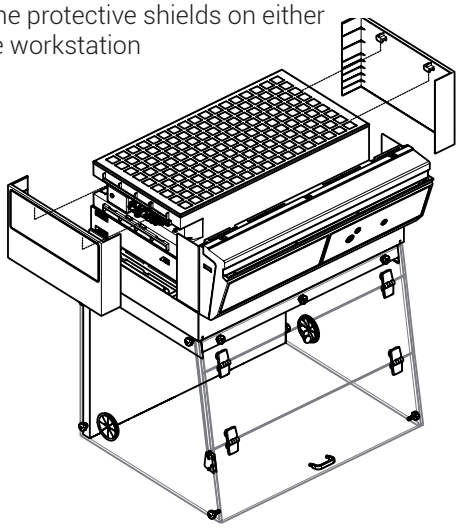
Filter Replacement Procedure

For these operations, we strongly recommended that the user or maintenance technician wear the necessary safety equipment,
including: safety glasses, lab coat and gloves

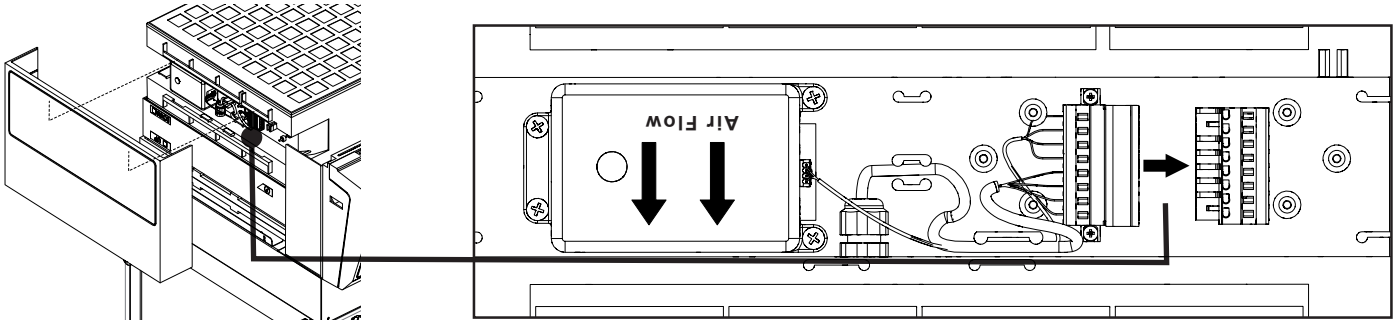
Switch off the workstation

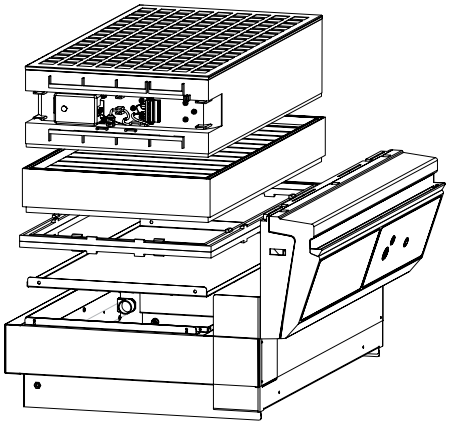


Remove the protective shields on either side of the workstation

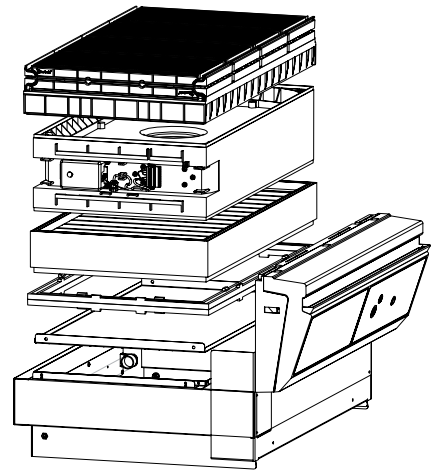


Diconnect the power supply to the fan





1P



1C1P

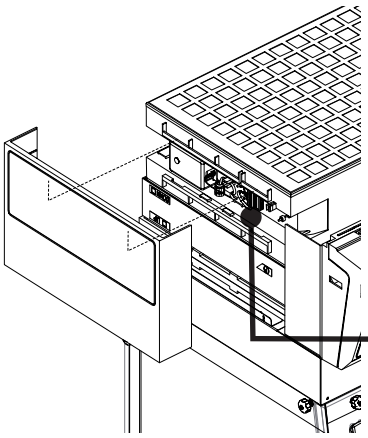
Models Captair Bio 321 - 391 Smart

Unstack the filtration column(s) above the workstation.

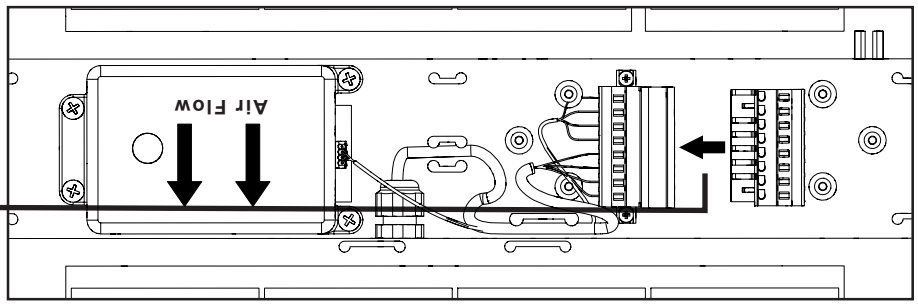
After carrefuly removing the filters from their packaging, assemble the column per the configuration below.

If your column configuration changed, Apply the correct fan setpoint for the filtration column configuration
(see fan setpoints)

When reassembling the filtration column, be sure that the fan module is positioned correctly to access your connections points.



Reconnect the power supply to the fan



Recommendations for the use of filters

ERLAB offers 3-point validation of your handling operations based on a scientific analysis carried out by its laboratory specialists via the global **Erlab Safety Program (E.S.P)** which includes the **eValiQuest** questionnaire:

- Feasibility of handling operations under a recirculating
- Type(s) of filter(s) to use and filtration column configuration
- Predicted service life of the activated carbon molecular filters

How does the E.S.P service work?

- The customer completes the eValiQuest questionnaire and sends it by email to Erlab
- The Erlab laboratory specialists analyze the questionnaire and issue a Valipass certificate

The Valipass certificate is affixed to the new devices at the factory. If the chemical processes in the hood change, a new eValiQuest is completed and is sent by email after revalidation.
The certificate contains the following: a list of the products handled in the fume hood, the type of filter required for these chemicals, the serial number, the life of the filter, the traceability information used to track the use of the device and the methods of detecting filter failure of the molecular filter.

To ensure their safety, we invite users who have not had their application validated via the **eValiQuest** questionnaire or whose device is not covered by a Valipass usage certificate, to contact **ERLAB** or their usual distributor to arrange a new usage validation for the device in question.

Failing that and/or in the absence of information regarding device usage:
ERLAB is unable to provide any guidance as to the predicted service life of the filter(s).

In such cases, we strongly recommend:
- **Replacement of molecular filters at least every 12 months and implementation of a regular filter fault monitoring protocol. (Please contact us for personal advice on this matter)**
- **That the HEPA or ULPA particulate filters are replaced at least every 36 months**

Admissible weights on worksurfaces

The chart below reflects loads that are evenly distributed across the work surface

	Trespa® Top Lab^{PLUS}	Stainless steel work top
Captair Bio 321 Smart	35 kg	35 kg
Captair Bio 391 Smart	50 kg	45 kg

Cleaning and maintenance

Mechanical item checks

Hinges:
Hinges must be properly attached and must allow any items on the front side of the workstation to be instantly and easily lifted upward.

Acrylic Parts:
Ensure the transparency of the panels is a part of regular maintenance for the enclosure.

- Cleaning the enclosure

The enclosure must be cleaned on a regular basis.

This may be accomplished in several ways:

- With soapy water followed by rinsing with clear water and drying with a soft, non-abrasive absorbent paper towel.
- Or with a commercial pH neutral neutralizing product followed by drying with a soft, non-abrasive, absorbent paper towel..
- or with a non-alcoholic disinfectant detergent.

Coated Metal Parts:

- These must be inspected and free from any traces of corrosion.
- Check that there is no stagnant water in the spill tray.
- Clean the spill tray if necessary.

The Erlab Research and Development laboratory

About Erlab

Since 1968, **Erlab** has been a specialist, inventor and world leader in **ductless, zero-emission filtering fume hoods for laboratories** to provide total safety in chemical handling.

1 Erlab filtration

We provide technologies to protect laboratory staff from inhaling chemicals. This is made possible thanks to our **Research and Development (R&D) department,** which has continuously improved our filtration technology for more than 50 years. That's why, in 2009, we invented the **ERLAB ABOVE** label for tried and tested filtration technology.

2 The AFNOR NF X 15-211: 2009 standard

Erlab's filtration technology conforms to the **NF X 15-211: 2009 standard,** the industry's most demanding standard for molecular filtration, developed by a committee of independent scientists and specialized manufacturers.

This text imposes performance criteria linked to:

- Filtration efficiency
- Containment efficiency
- Air face velocity
- Documentation: **chemical listing**

3 The ESP programme

A set of three services included with the purchase of each device designed to ensure your safety.

eValiQuest Risk analysis – Determination of protection needs – Determination of ergonomic needs.

ValiPass Certified installation – Total safety for handling.

ValiGuard Ongoing monitoring – Preventative and maintenance inspections – Device reconfiguration based on protection needs – Development of handling.

4 Flex technology

The combination of molecular and particulate filtration technologies allows a single device to meet laboratories' protection needs. This innovation from Erlab's R&D department offers unprecedented **flexibility, versatility and value.** A single device can be reconfigured over time and easily reassigned to other applications.

5 Smart technology

Smart technology is a **simple and innovative** means of communication that improves safety. This technology uses a light and sound signal to indicate the user's level of protection. The advantages of the technology are:

1/ Light pulsation: Real-time communication via LED light pulses intuitively alerts the user to the device's operating status.

2/ Simplicity: One-touch activation.

3/ Detection system: The exclusive detection system continuously monitors filtration performance.

4/ Built-in monitoring: This service provides direct access to the status, settings and history of your device.

Captair Bio 321-391_ Smart_V02_2023_EN- Erlab France - Technical data are not contractual. Erlab® DFS SAS reserves the right to modify the present document without prior notice.

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