erlab
You can breathe.

User manual
Captair Flow
Mobile ductless filtering clean air enclosure

Contents

General

Choosing Captair Flow ductless filtering clean-air enclosures is choosing an effective and responsible protection for your handlings.

Erlab's 50 years of expertise in the filtration systems for laboratories ensures the highest protection for handlings requiring an ultra clean environment. The new Captair Flow ductless filtering clean air enclosure uses an innovative and straight-forward 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: **their application**.

Captair Flow ductless filtering clean-air enclosures are designed to provide an ultra-clean and dust free workstation. It features a high efficiency system with HEPA H14 (or ULPA U16) filtration technology to achieve an ISO class 5* work environment according to the ISO 14644-1 standard.

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

*Considering a room pollution of up to ISO 9

Safety notices

Proper use, monitoring and maintenance of the device by users will assure its effectiveness. Your laboratory may also benefit from ergonomic, economic and ecological advantages provided by the Captair Flow throughout its life cycle.

- 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.
- Erlab recommends that the electronic anemometer is calibrated at least once a year.
- New filters must be stored in their packaging, kept in a dry location. (see recommendations for storing and using the filters)

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 Valipass® 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:

Warranty applicability is subject to the respect of the Erlab' general terms and conditions of sale and following requirements:

- 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 Valiquest® 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 saturation sensors are not covered under warranty.

Start-up

Calibrating the electronic anemometer

Be sure the sash is completely installed before starting the 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)
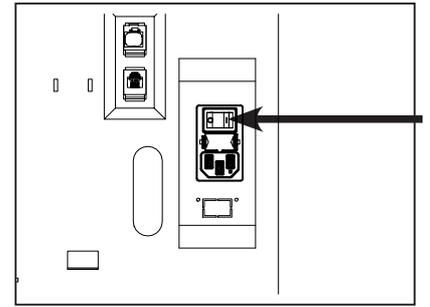
2. Release the mute button. A beep indicates that the unit has started the calibration mode. The white bar above the front of the control panel will pulse for 5 minutes and 30 seconds. Stick with just the instructions for the anemometer.
3. Once the pulsing light stops, the anemometer is calibrated and 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

Having carefully followed the steps described in the installation guide, your Captair Flow ductless filtering clean air enclosure is now ready to use.

Default settings

The power switch is located at the back of the control panel.

Note: we recommend never turning off the main device power switch after the machine as been started for the first time.

The button on the control panel turns on the fan and the lights.

The green indicator light and LED light system should come on.

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

To modify settings, please access the administrator interface.
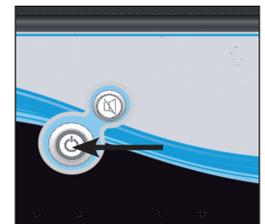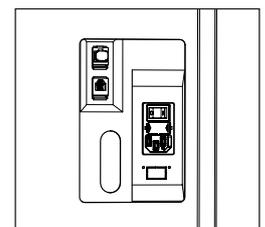
Description of the controller
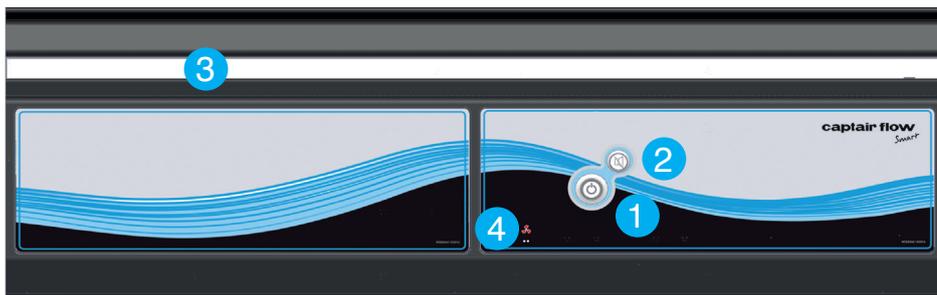
1. Switch on fan and lights in workstation
2. Silence the alarm (Mute key)
3. Smart-Light: pulses when an alarm occurs
4. Alarms pictograms - to indicate which alarm is active
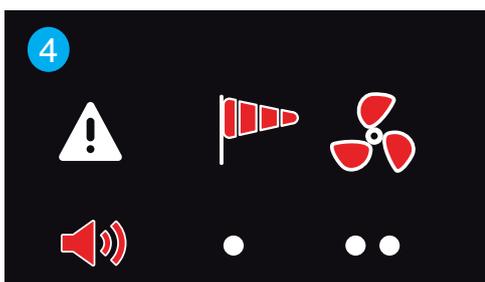
Smart Technology communicates simply about performances and filter efficiency of your product via a LED band of light called Smart-Light. This light signature casts a steady LED glow when unit is operating properly. If normal operation is disrupted, the LED signature simply pulses, drawing the attention of the operator 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	Problem	Details	Silence the alarm	Reset the alarm
Air speed						
	1 beep 5 seconds apart	Pulses	Low air speed	The air speed value is <0.3 m/s	Press Mute key	Please check the front sash is correctly closed Check particulate filter. If the filter is not clogged up, perform a new calibration of the anemometer (with door opened)
Fan						
	2 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						
	3 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)						
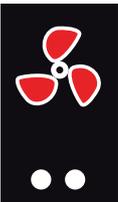
Alarm type	🔊	Light signal	Problem	Details	Silence the alarm	Reset the alarm
	4 beeps 5 seconds apart	Pulses	Filter breakthrough sensor replacement (Molecode S/A/F option)	The sensor has reached the end of its service life.		Please contact Erlab or your usual maintenance contact.

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 behind 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:
     1. Turn the power switch to the "Off" position (located on the left side of the controller).
     2. Turn the power switch to the "On".
- The Primary IP address to use is 192.168.0.200.

   Note: In some cases, you may need to use the secondary IP address 192.169.0.200.

eGuard App

Welcome to a safer connected world

The connectivity of Erlab Smart devices allows you to monitor all your safety settings remotely.
After registering your product on line, download eGuard App and:

- Stay in touch wherever you are
- Receive safety alerts
- Access your statistics usage
- Make the most of an exclusive warranty program

Connectivity principle

Ecosystem designed for simpler use and safer protection
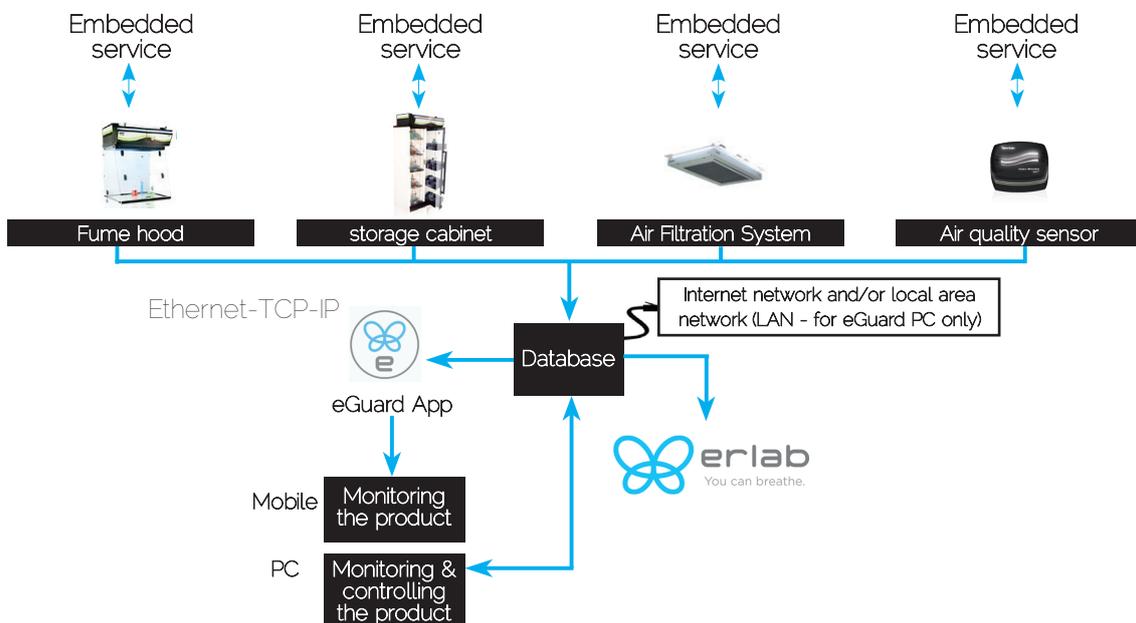
3 methods of connection to the Smart Portal	Embedded service	Mobile app	PC app
Conditions of use	**Direct connection on PC with data cable (RJ45)**	**Web connection (via 3G/4G)**	**Web and/or local connection**
Hardware requirements	1 PC + 1 cable	1 Apple or Android Smartphone	1 PC connected to Internet or local network
Parameters	Monitoring + Controlling	Monitoring	Monitoring + Controlling
Data access	One unit	Multiple units	Multiple units
Historical data access	✅	✅	✅
Historical data download	✅		
Alerts		✅	✅
Monitor multiple devices		✅	✅
Allow multiple user accounts			✅
Automated status report			✅
Download		Available on the App Store / ANDROID APP ON Google play	Download for Windows / available on www.erlab.com

Options to connect

Embedded service
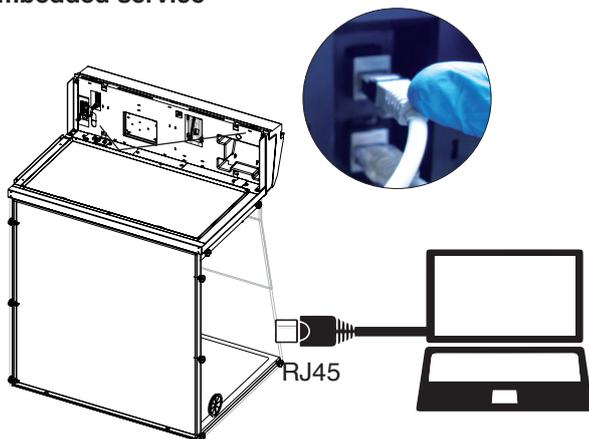
RJ45

Mobile or computer app

RJ45   Internet network   RJ45   Wi-Fi   **and/or**   RJ45
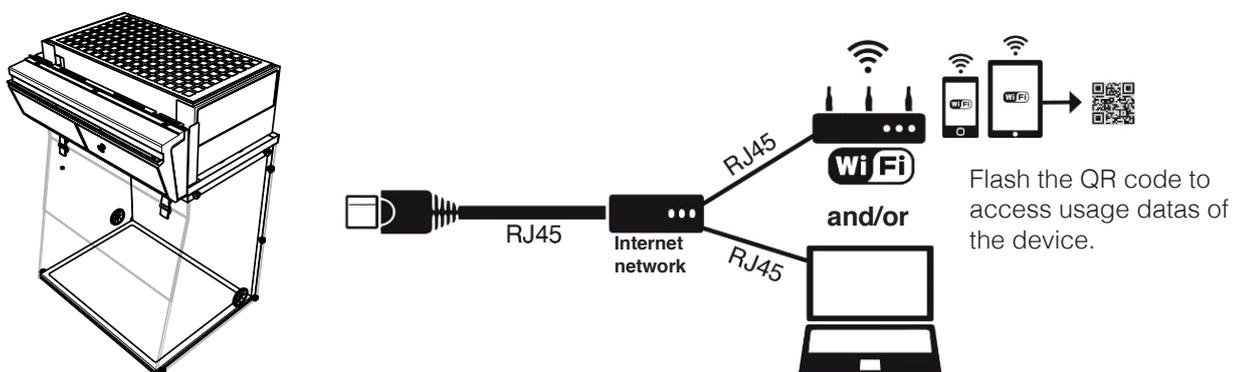
Flash the QR code to access usage datas of the device.

Accessing the administrator interface

To monitor the parameters and modify the settings of the unit.

In order to connect:

- Use a computer equipped with an 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

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

1   **Direct connection on computer**
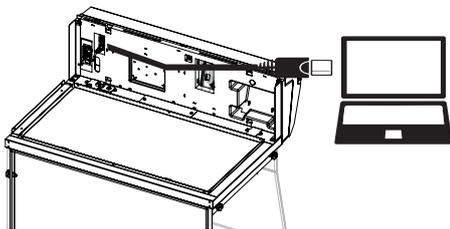
- Take RJ45 cable (black) is already connected to the unit and placed behind the back of the control panel.

- Check that main switch of the device is **ON.**

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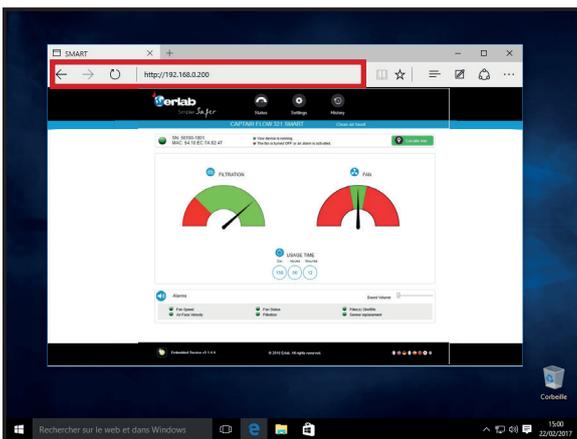
OK

Page is not accessible

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**

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

Apply the following procedure

Page is not accessible

3   **Modify computer network parameters**

Network parameters

Troubleshoot problems
Open Network and Sharing Center

Left click

Troubleshoot problems
Open Network and Sharing Center

Right click
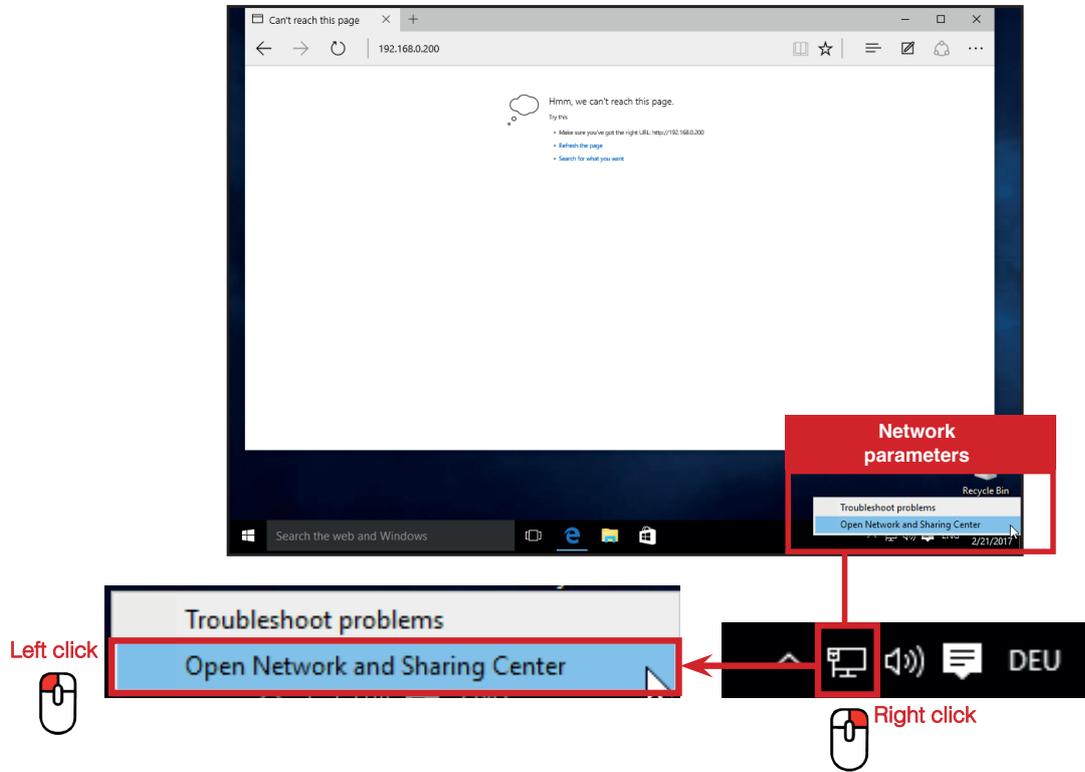
4   **Access to the Network and sharing center**

Network and Sharing Center

Control Panel › Network and Internet › Network and Sharing Center

Control Panel Home

View your basic network information and set up connec

View your active networks

Change adapter settings

Change advanced sharing settings

erlab.local
Private network

Access type:
HomeGroup:
Connections:

Change your networking settings

Set up a new connection or network
Set up a broadband, dial-up, or VPN connection; or set up a rou

Troubleshoot problems
Diagnose and repair network problems, or get troubleshooting

Control Panel Home

Change adapter settings

Change advanced sharing settings

Left click

5   **Access to the network connection**
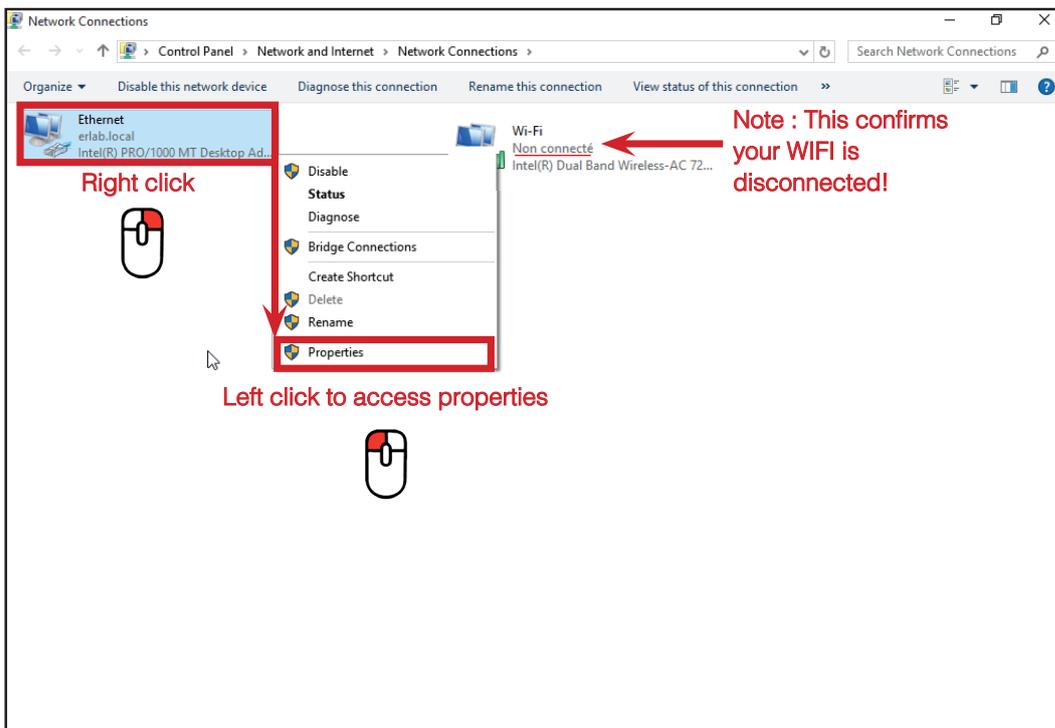
6   **Enter compatible network parameters as indicated below**
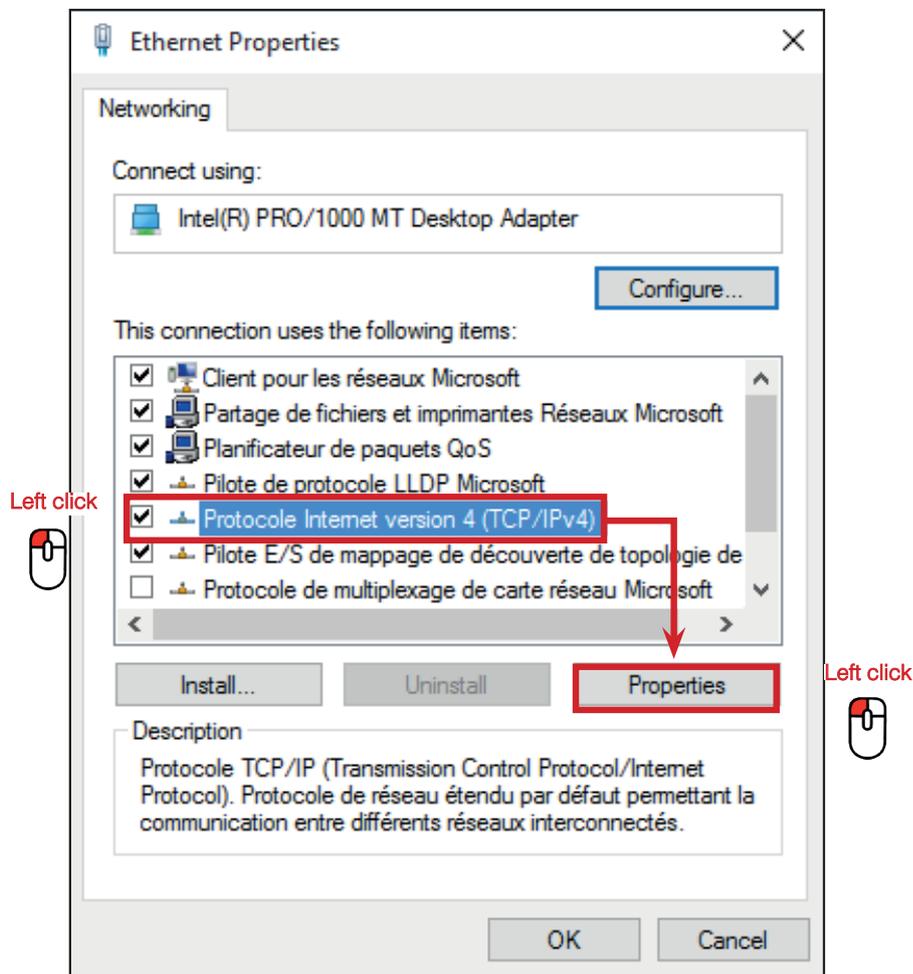
Write down your existing parameters **before** changing them in order to be able to set your initial parameters after the operation!
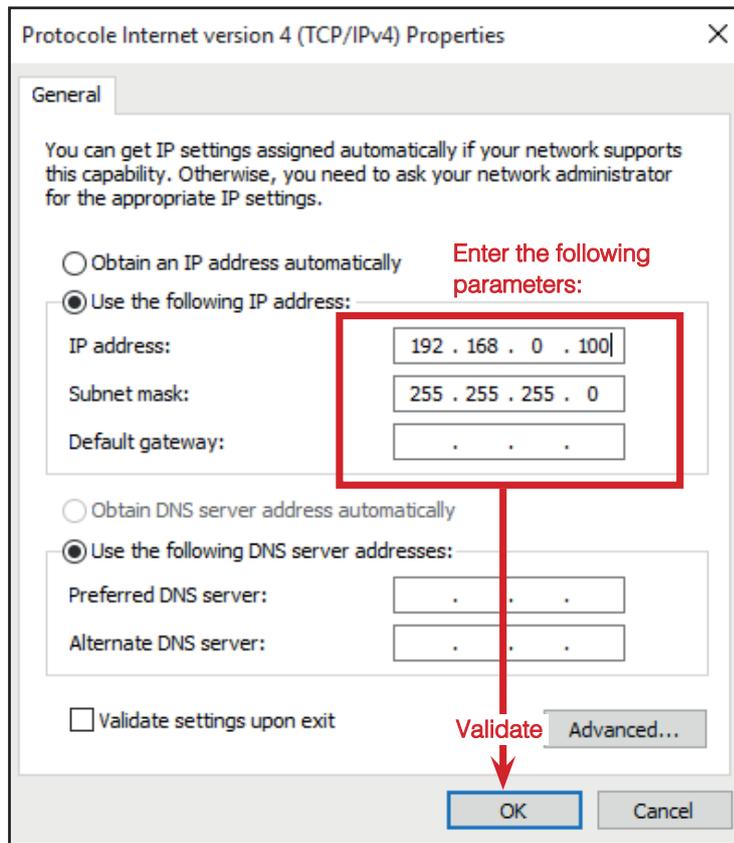
7 **Open your web browser again, type again the following IP address 192.168.0.200 and validate**
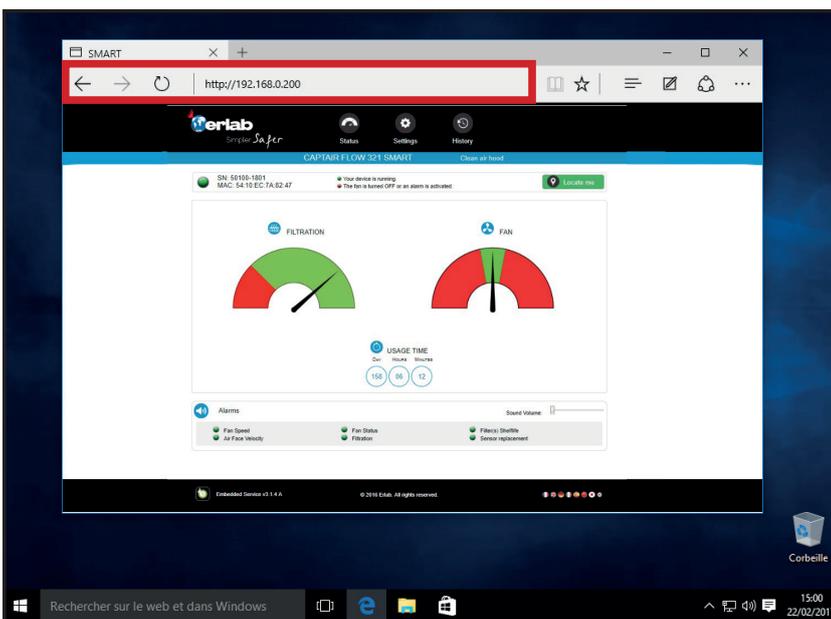
OK : You are connected to the embedded software

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.
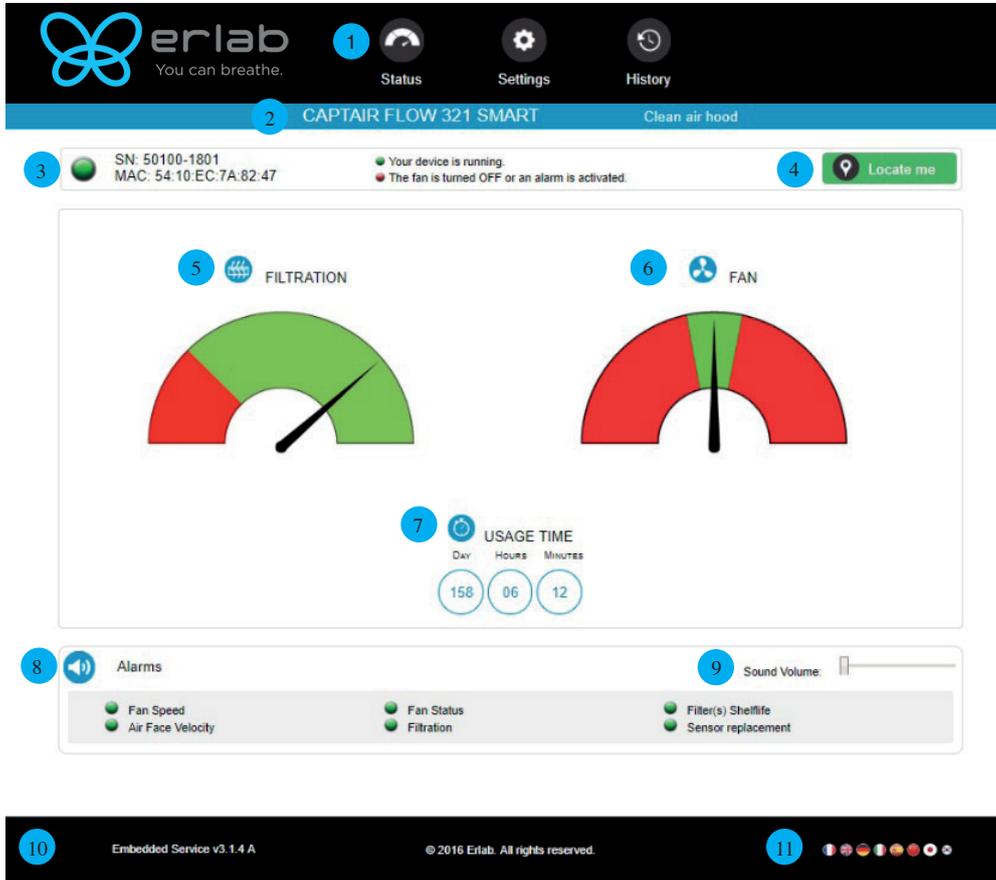
Status page details	
1	Choose active interface page
2	Device ID: Model
3	Device ID: serial number, MAC address, device status
4	Unit location
5	Molecode Option Gauge: indicates the saturation level of the main carbon filter(s)
6	Fan Gauge: Indicates the fan status
7	Device use time since fan was last started
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:

User name: erlab
Password: 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	Alarm saturation filter (Molecode option) Sensor type indication: Solvents Sensor sensitivity settings: : 5 settings (capteur 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 Last replacement: Counter showing the number of days the filter(s) can be used relative to its/their service life expiry date
7	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	2800 RPM	2100 RPM
391		
483	2200 RPM	2200 RPM
	2100 RPM	2100 RPM

Replacing the filters

Your device is equipped with FLEX™ filter technology that was configured to the sample'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 Flow 321 - 391 -Smart models			
	Molecular filter	**Particulate filter**	**Pre-filtre**
Column Configuration			
1P	-	x1	x1
1C1P	x1	x1	-

Captair Flow 483 - 714 -Smart models						
	Molecular filter		**Particulate filter**		**Pre-filtre**	
Column Configuration	483	714	483	714	483	714
1P	-	-	x3	x4	x3	x4
1C1P	x3	x4	x3	x4	-	-
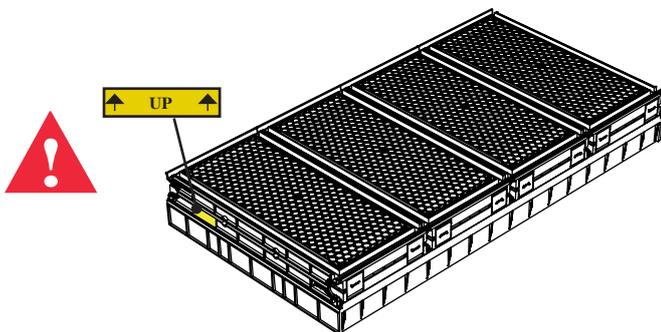
The table below summarises the different types of filters that Erlab® offers along with their fields of application.

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

3.

Filter Replacement Procedure

For these operations, we strongly recommended that the user or service engineer wears the necessary safety equipment, including: safety glasses, lab coat and gloves

Remove the covers from both sides or front of the workstation
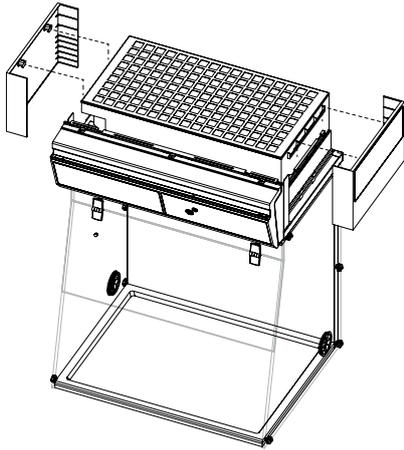
Switch off the workstation
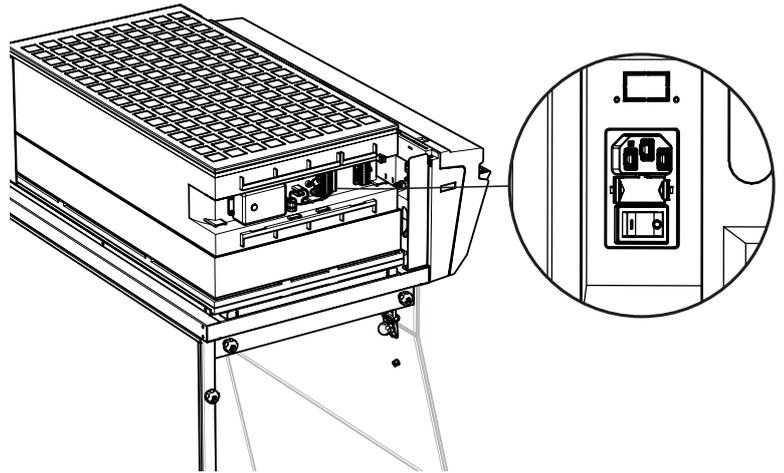
Disconnect the power supply to the fan
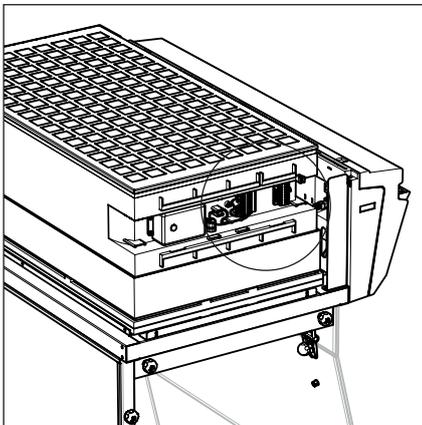
EXAMPLE: CAPTAIR FLOW 321 SMART
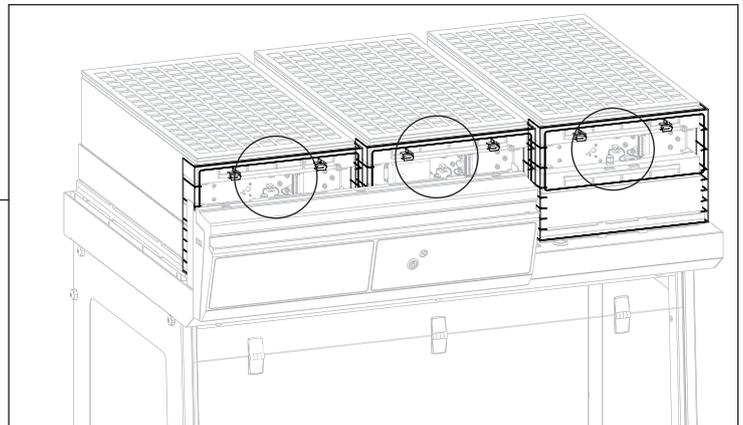
EXAMPLE: CAPTAIR FLOW 483 SMART
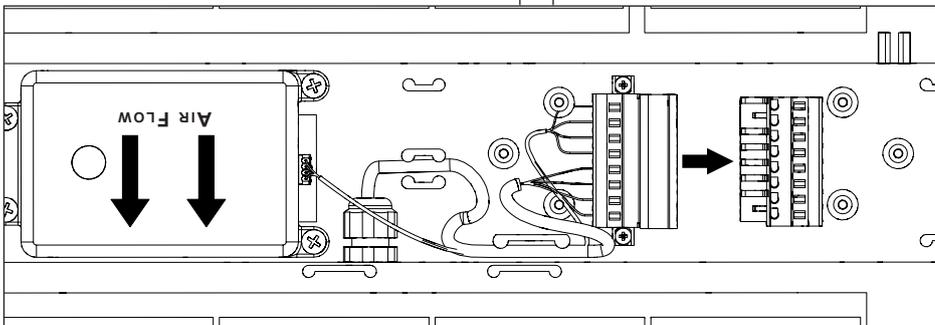
AIR FLOW

Models Captair Flow 321 - 391 Smart

Identify which column configuration below applies to your workstation.

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)

1P

1C1P
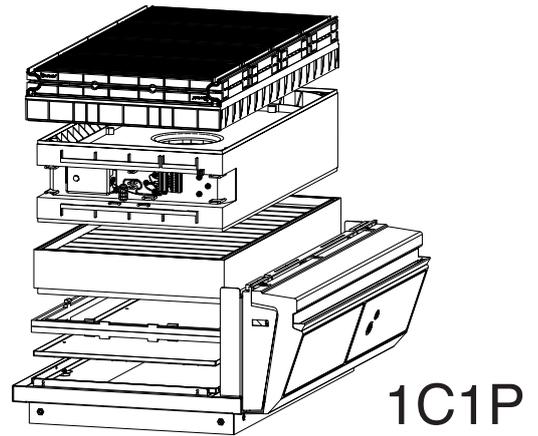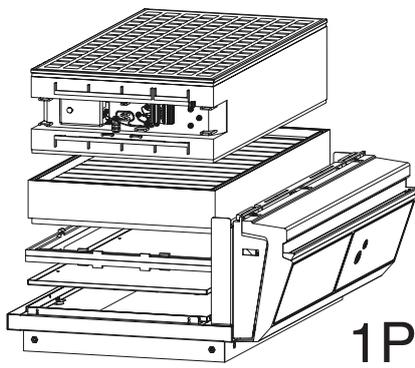
Models Captair Flow 483 - 714 Smart

1P

1C1P
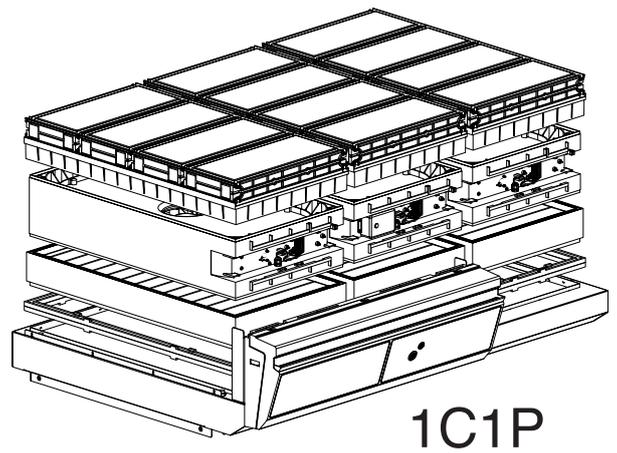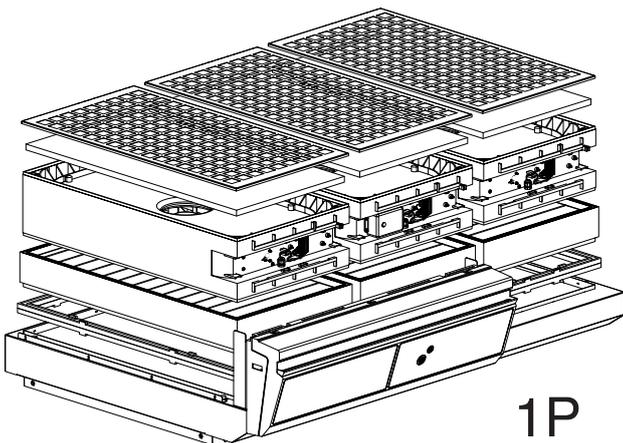
When reassembling the filtration column, be sure that the fan module is positioned correctly to access your connection points.
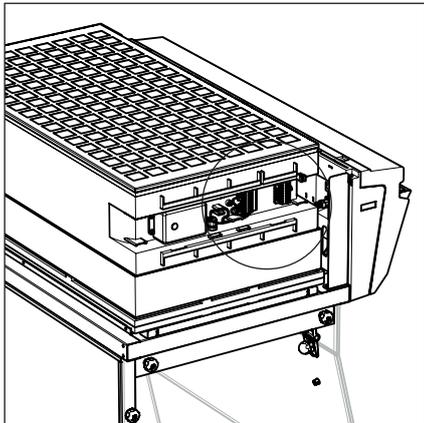
EXAMPLE: CAPTAIR FLOW 321 SMART
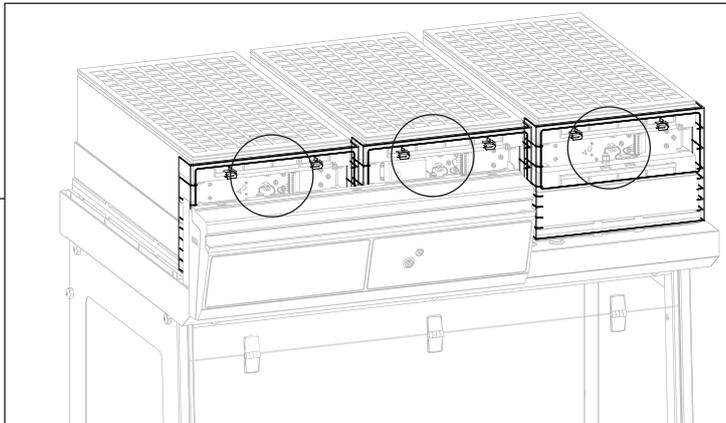
EXAMPLE: CAPTAIR FLOW 483 SMART

Air Flow
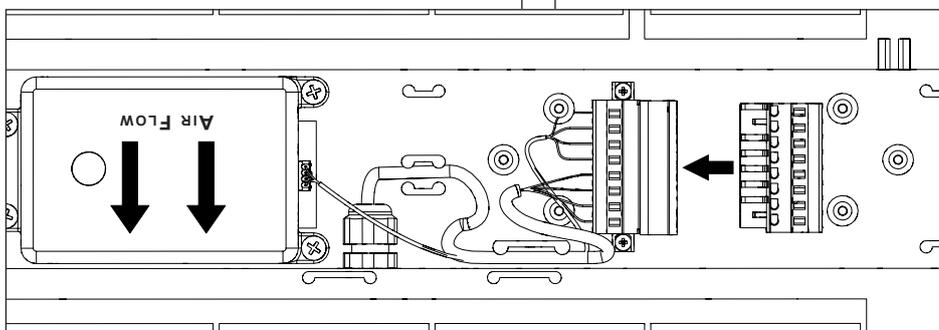
Reconnect the power supply to the fan

Recommendations for storing and using the filters

New filter shelf life and storage conditions:

New activated carbon molecular filters must be stored flat in their original packaging at a temperature of between +10°C / 50° F and +40°C / 120° F and a humidity level < 85% RH.

HEPA H14 and/or ULPA filters must be stored upright and kept dry.

If these conditions are respected, the maximum time a filter can be stored before use depends on the type of filter:

AS type carbon molecular filter	1 year from the date of delivery
HEPA/ULPA filter	2 years from the date of delivery

If the maximum shelf life is reached, we recommend not to install filters.

Filters replacement frequency

- Prefilters(s) should be replaced every year.
- HEPA/ULPA filters should be replaced every 3 years on average.
- Molecular filter should be replaced every 2 years on average.

Replacement frequency of carbon filter saturation detection (Molecode option)

Molecular filters saturation detector – Molecode S (solvents) is installed as an option in your unit and use a semi-conductor that must be changed every **5 years.**

After this period, Erlab cannot guarantee performances stability nor detection sensitivity.

Equipment replacement requires the intervention of a qualified engineer, able to replace internal components and perform system new configuration. The change requires less than one hour.

Erlab Maintenance department and accredited partners can provide this service. (service not available in all countries).

For further information, please get in touch with your contact person or Erlab dealer/distributor or visit our website.

Admissible weights on worksurfaces

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

	Trespa® Top LabPLUS	Stainless steel work top
Captair Flow 321 Smart	35 kg	35 kg
Captair Flow 391 Smart	50 kg	45 kg
Captair Flow 483 Smart	80 kg	80 kg
Captair Flow 714 Smart	115 kg	115 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 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.

About Erlab

Erlab's state of the art Research & Development Laboratory relies exclusively on filtration.

We provide safety, we protect your health

Erlab invented the ductless fume hood in 1968. With more than 50 years of experience in the field of chemical filtration and protection of laboratory personnel; we know the formula for safety. With Erlab, you will never have to wonder or worry if our products are safe. We build each one of the following 7 ingredients into our products, and without all of them, your health and safety will be compromised.

1 Erlab R&D Laboratory

The engineers and chemists in our state-of-the-art R&D laboratory understand molecular filtration. We are committed to designing products that are safe and of the highest quality, strive to improve our products, and continuously develop new products that provide greater protection in the laboratory.

2 Strict Safety Standards

We hold ourselves to the highest standard and adhere to the strict AFNOR NF X 15-211: 2009 filtration safety standard as endorsed by ANSI Z9.5-2012.

3 A Published Chemical Listing

It all begins here. Without this listing, we are not compliant with AFNOR NFX 15-211. Our in-house laboratory tests, as well as independent testing, to verify the retention capacity of over 700 chemicals for our filters.

4 Independent Testing

Erlab filters have been independently tested multiple times at various concentrations guaranteeing that our safety solutions all adhere to the strict performance criteria of theAFNOR NF X 15-211:2009 standard assuring that the emission concentration at the filter exhaust will always be lower than 1% of the TLV.

5 Application Questionnaire (Valiquest)

Our laboratory specialists will recommend the appropriate filtration fume hood, type of filter, and personalized advice.

6 Certificate of Validation for the chemicals used in the hood

A certified PhD chemist issues a Certificate of Validation with a list of the chemicals approved for use in the hood.

7 Our Safety Program

We back up our products 100%. This program includes your specialized chemical evaluation, validation of your hood upon installation, and a filtration safety specialist at your service to ensure that your hood is operating to its full potential.