



# Captair 832 Midcap

Ductless filtering chemical storage cabinet

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## Instructions & User's Manual

Hinged doors



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## General

**By choosing Captair Smart ductless filtration chemical storage cabinets 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: **your work**.

Your Captair Smart is the ideal organising cabinet to accommodate respiratory protection of users and environmental protection with a unique filtered air recycling system in the laboratory. This is made possible by the use of very highly-effective molecular and HEPA H14 filters which trap molecules and toxic particles. This filtering process makes it possible to blow purified air out of the filter, free from chemical pollution. The Erlab exclusive filtration technology can be adapted according to the stored chemicals.

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 chemical storage cabinet throughout its life cycle.

The Erlab Services 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 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.

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.

## Organisation of your storage

Prior to handling or storing a chemical product, it is mandatory to consult your label; this label provides information on the dangerousness of chemical substances as well as on the basic principles of protection during handling and storage.

This information includes pictograms, some special instructions are reproduced below:



### EXPLOSIVE

Contact with an energy source (flame) or an incompatible product may cause an explosion.  
Example: Ammonium Nitrate (responsible for the nitrogen fertilizer explosion in Toulouse in 2001)



### COMBUSTIBLE

Substance which will cause a fire on contact with a combustible product  
Example: Peroxyde d'hydrogène



### CORROSIVE

Product which may attack tissues or certain materials (glass, metal, etc.)  
Example: Acids (Hydrochloric Acid) or Concentrated Bases (Soda)



### SENSITIZING

Substance dangerous for health  
Example: Formaldehyde, Benzène



### DANGEROUS FOR THE ENVIRONMENT

Substance which when it is dispersed into the environment may cause damage to the fauna or flora.  
Exemple: Hydrocarbons



### TOXIC / IRRITANT

Substance wich may cause a health risk.  
Example: Citric Acid



### GAS BOTTLE UNDER PRESSURE

Product which can cause an explosion or burns  
Example: Hydrogen



### TOXIC

Substance presenting serious health risks (Carcinogenic, Mutagenic or Toxic for reproduction)  
Example: HCN Acide cyanhydrique



### FLAMMABLE

Contact with an energy source (flame) or an incompatible product (combustive) may cause a fire.  
Example: Methanol

Before inserting any new product into the cabinet, the user must check its chemical compatibility with the products it already contains. For example, in the category of corrosive products, it is necessary to distinguish between Acids and Bases. In every case, Acids and Bases must be separated: the reaction of a strong acid with a strong base is highly exothermic (releases heat), which may cause serious accidents (projection).

We give a non-exhaustive list below of some examples of known chemical incompatibilities:

- Do not store acids and bases together.
- Do not store oxidants and reductants together.
- Do not store combustible products and flammable products together.
- Do not store corrosive products and flammable products together.

In a cabinet, glass bottles containing liquids should be stored as low as possible so as to limit the height of a spill if they are accidentally turned over

The storage cabinets are intended to contain small quantities of products necessary for daily work.

Inventories must be stored in stock rooms provided for this purpose outside of the laboratory.

## **IMPORTANT :**

Captair Smart cabinets are not capable of resisting consequences of a fire in the laboratory.

Therefore, any storage of flammable products in this type of cabinet is under the sole responsibility of the user.

The Captair Smart cabinet must be used indoors, at a vertical position on its carrying feet.

Use or storage temperature: 15 to 30° C

Maximum rate of humidity: 75 %

Storage: noxious and odorous chemical products.

## 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 eValipass® and/or or at the end of filter usage time.

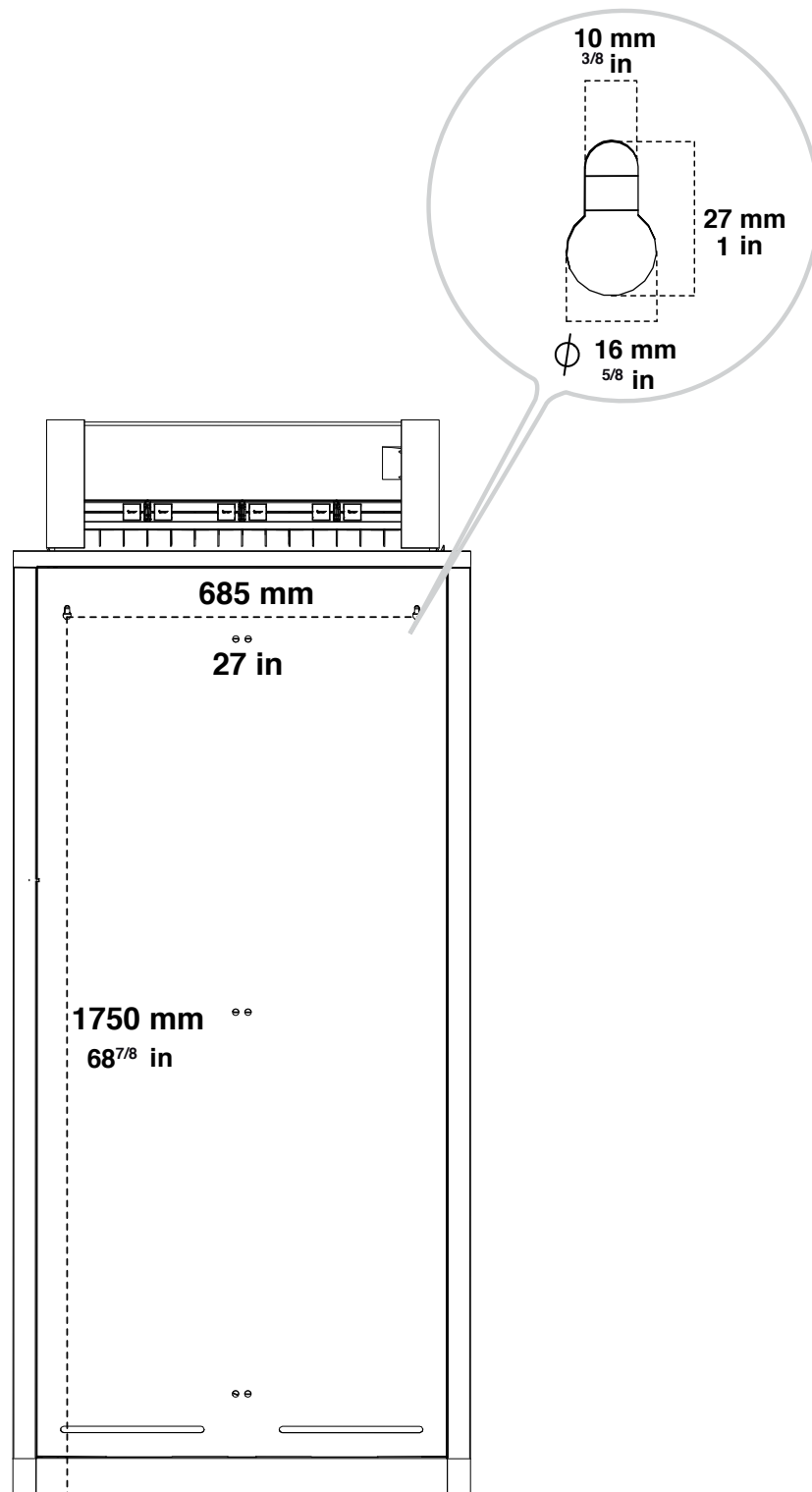
In order to benefit from Erlab extension of warranty offer, the following conditions shall be respected:

- 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.







**The storage cabinet must be fixed to the wall**



**832**

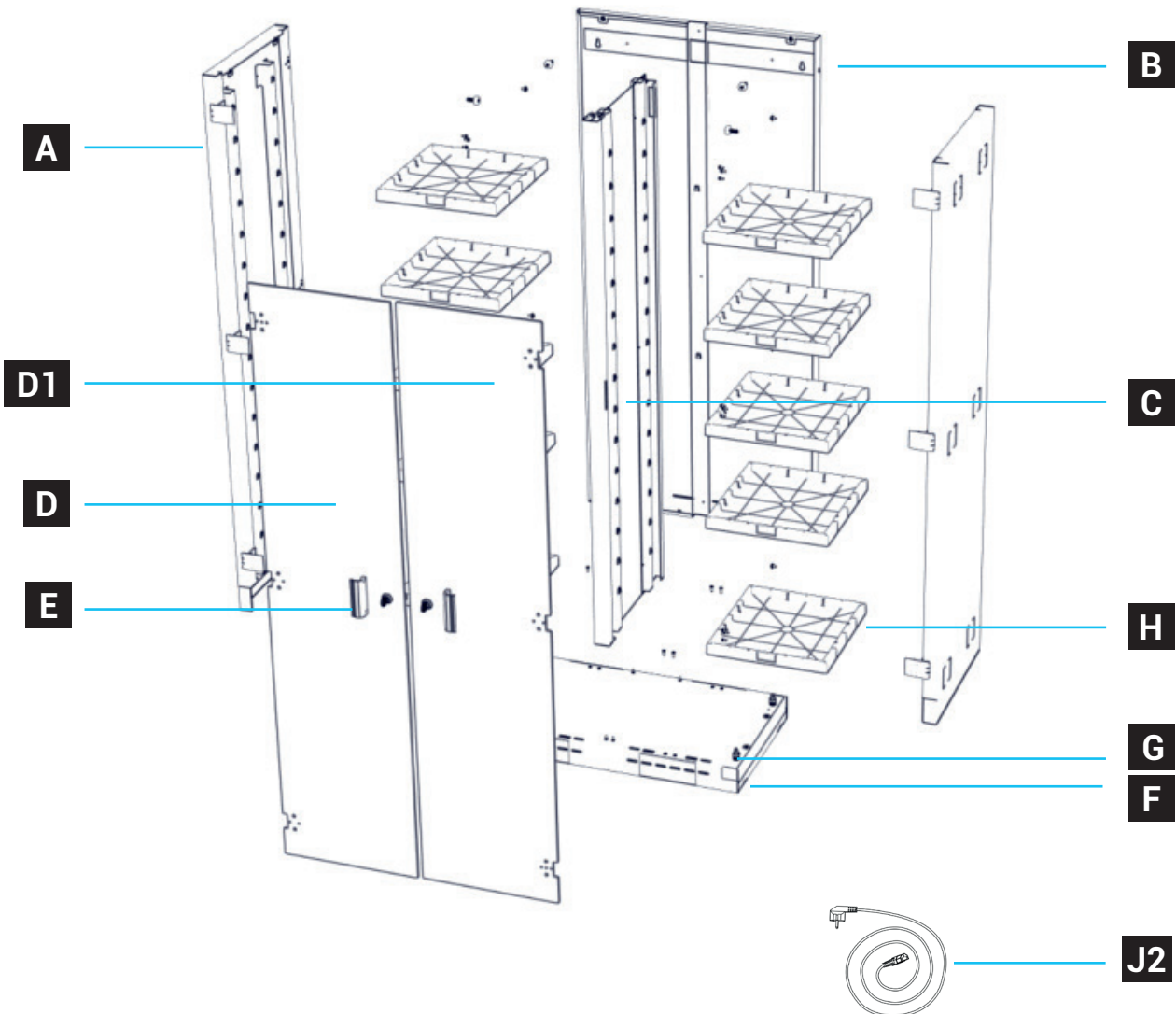
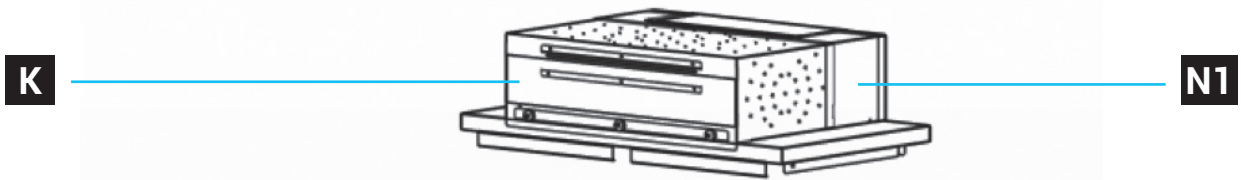



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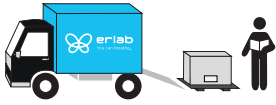





**I**

ACIDS	SOLVENTS	BASES
ACIDS	SOLVENTS	BASES
ACIDS	SOLVENTS	BASES
ACIDS	SOLVENTS	BASES
ACIDS	SOLVENTS	BASES

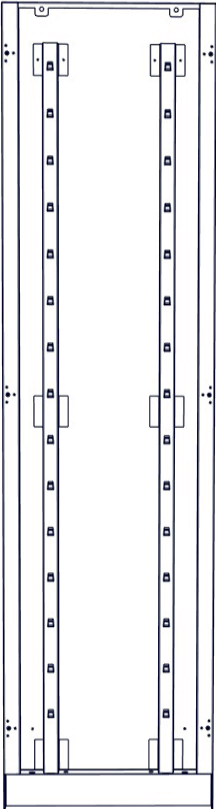







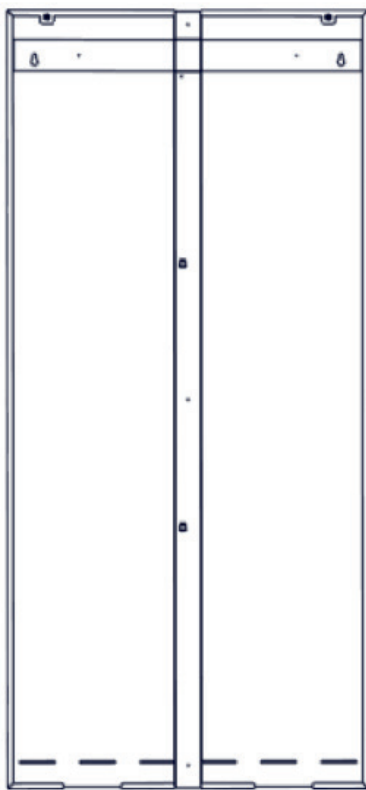
**A** x2

PIDREB03P3054



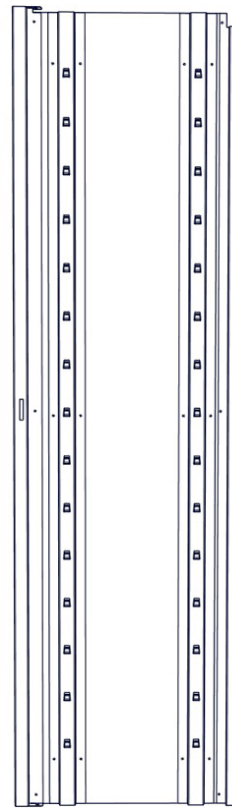
**B** x1

PIDREB03P3050



**C** x1

PIDREB03P3053

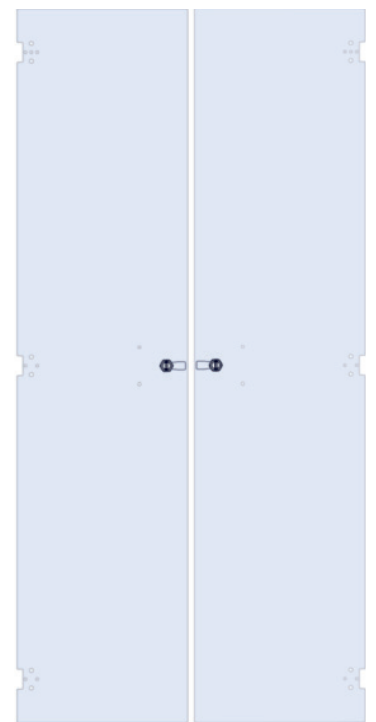


**D** x1

PIDVIB03P3014

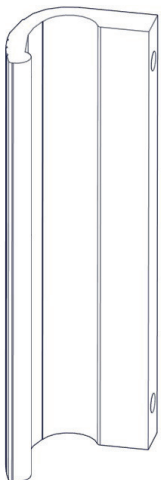
**D1** x1

PIDVIB03P3014-1



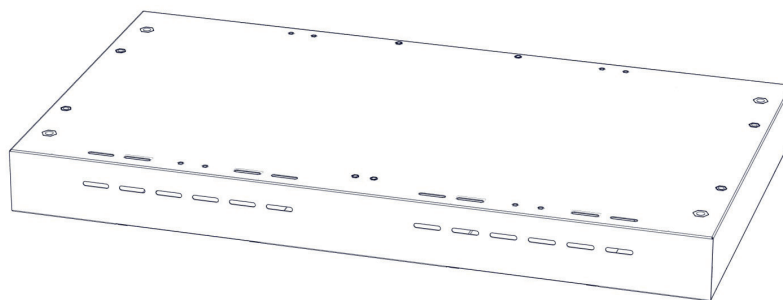
**E** x2

PIDDI8523



**F** x1

PIDREB03P3060



x2



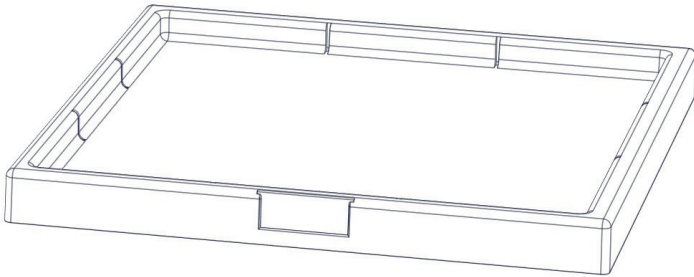
**G** x4

PIDDI3601

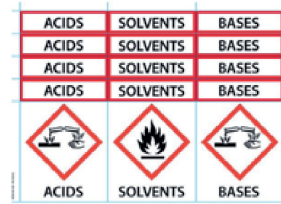


**H** x10

PIDMS106-1



**I** x1



**S1** x10

PIDBOX037



**S2** x4

PIDB0070



**S3** x12

PIDMS032



**S4** x4

PIDB08549



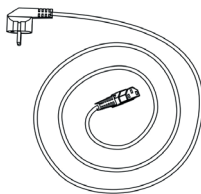
**S5** x4

PIDB08547



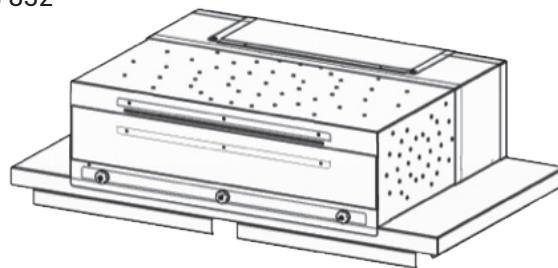
**J2** x1

EU = PIDE076  
 USA = PIDE080  
 GB = PIDE090  
 CH = PIDE106

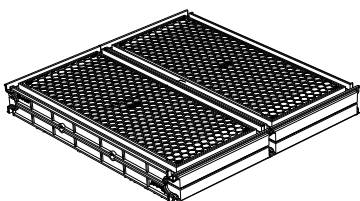


**K** x1

KPS 832

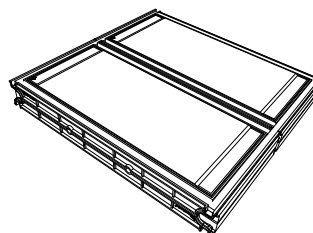


**N1**



H11012101 (AS)  
 H11012201 (BE)  
 H11012401 (F)  
 H11012301 (K)

**N2**

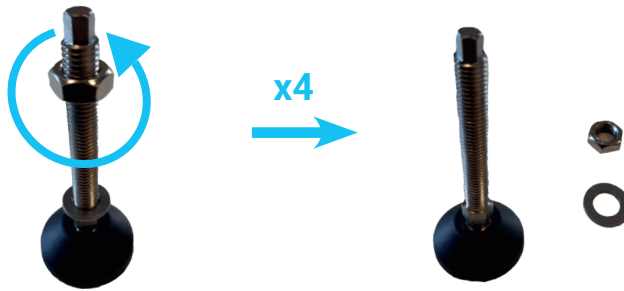


H11012031 (HEPA H14)

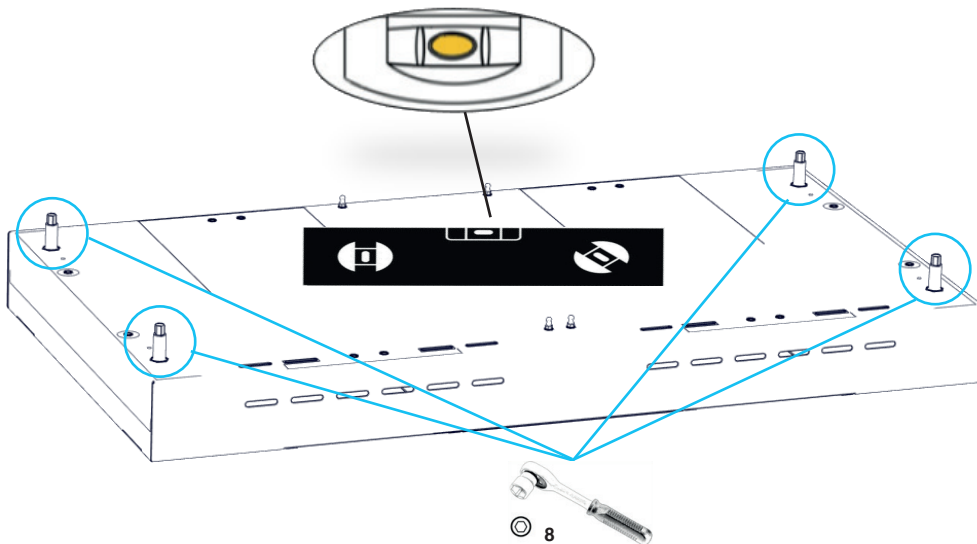
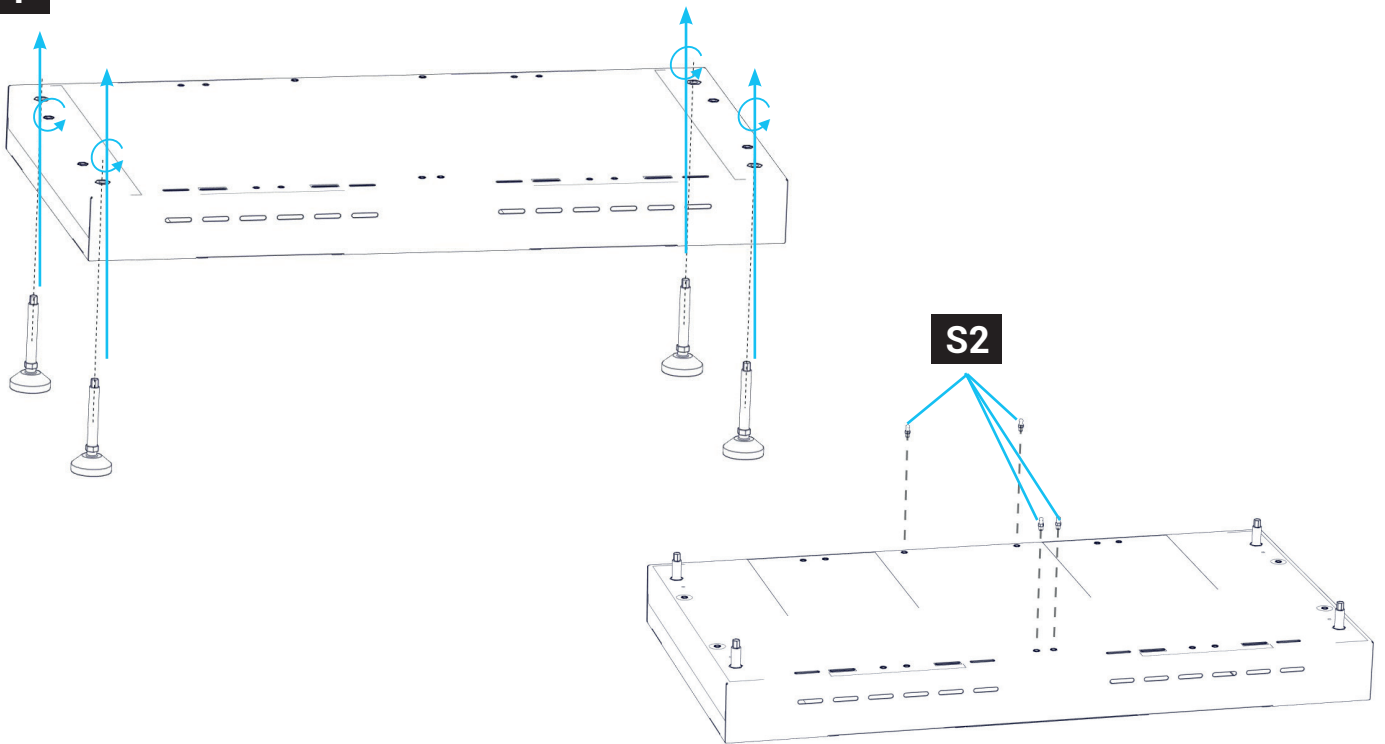
**1**

F	x1
G	x4
S2	x4

**G**




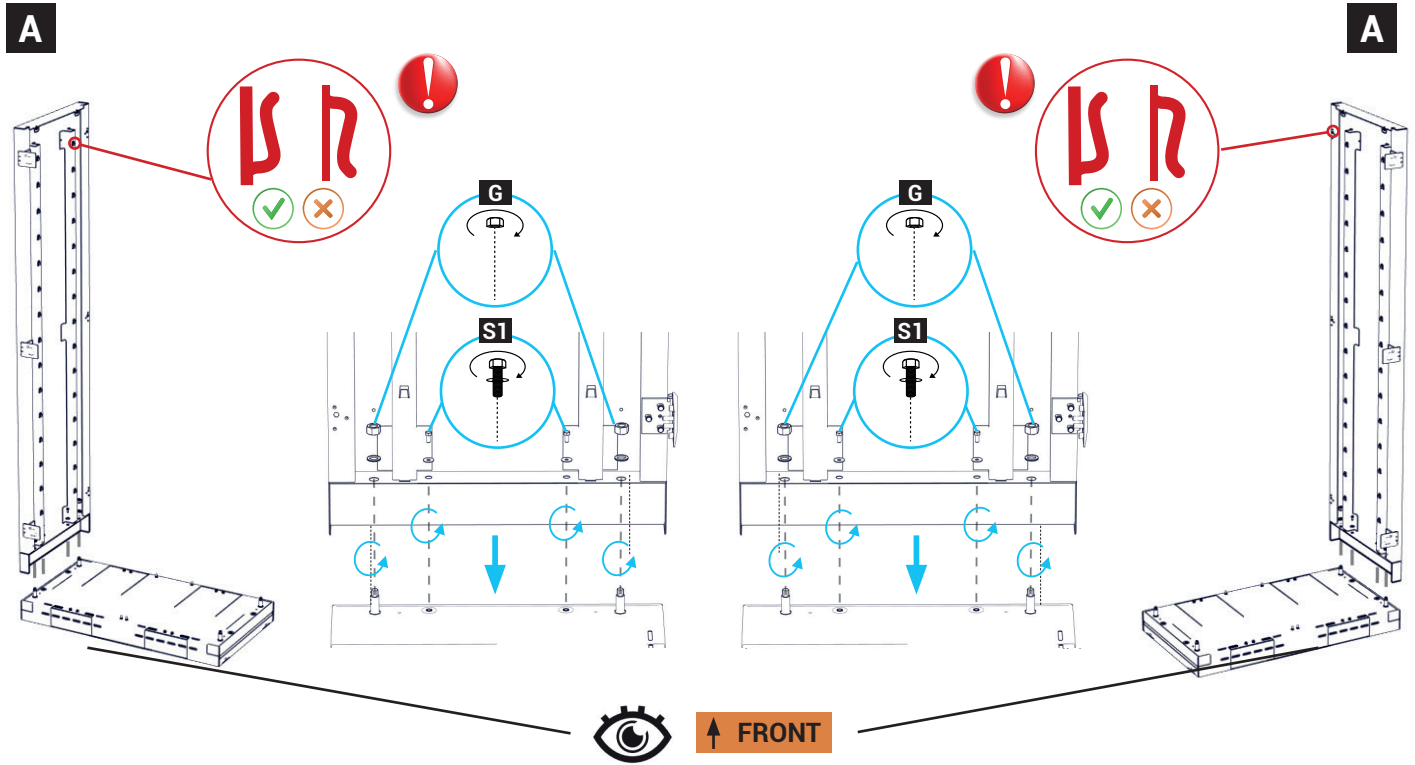
**F**



2

A	x2
G	x4
B	x1

S1	x10
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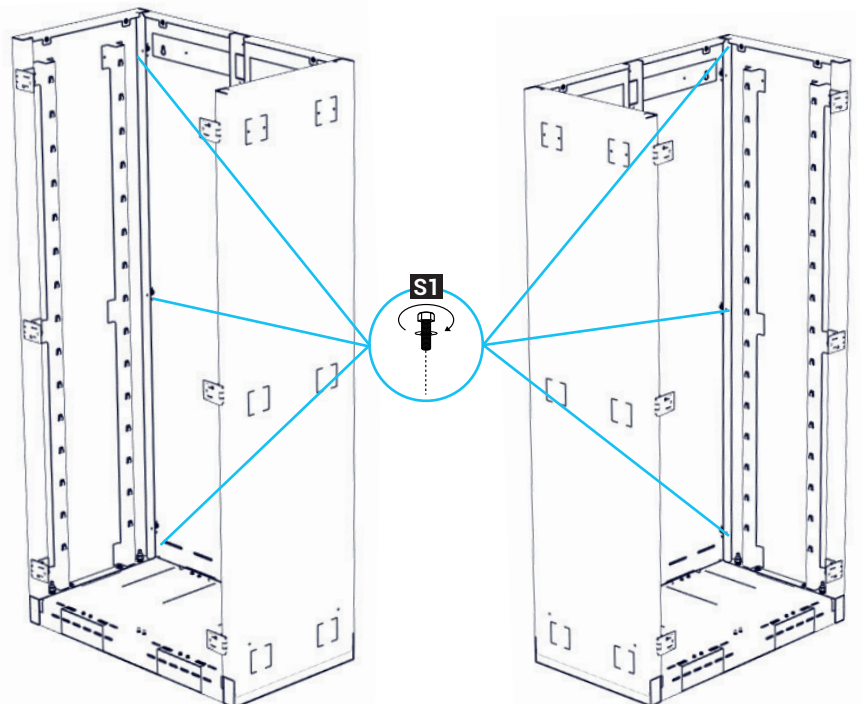
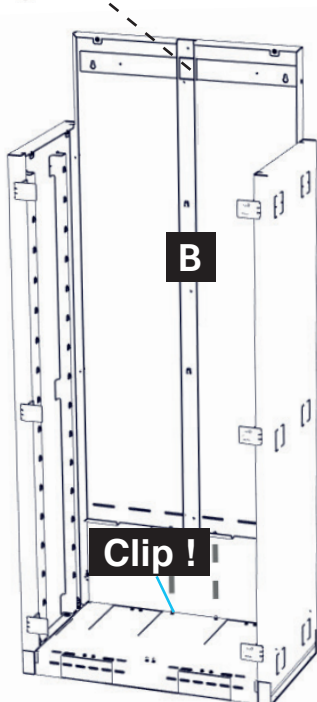
B	x1
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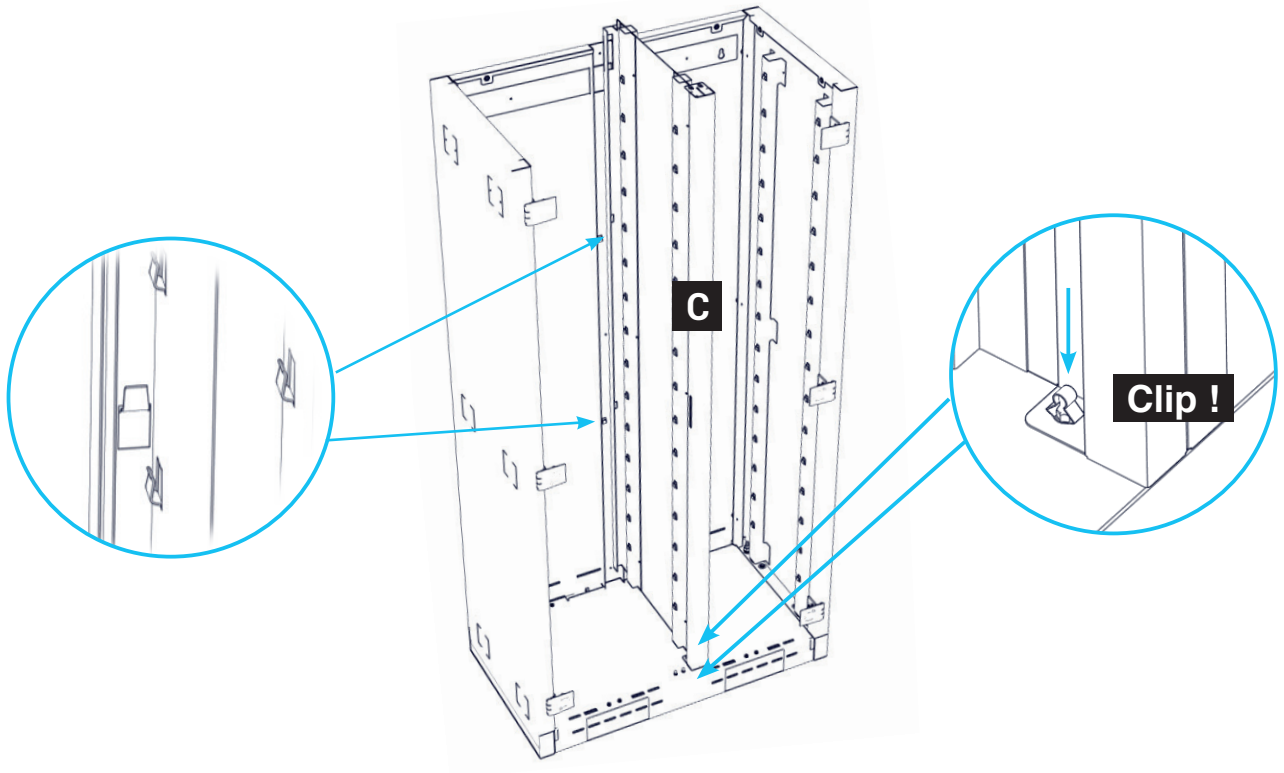
**UP**

**LEFT**

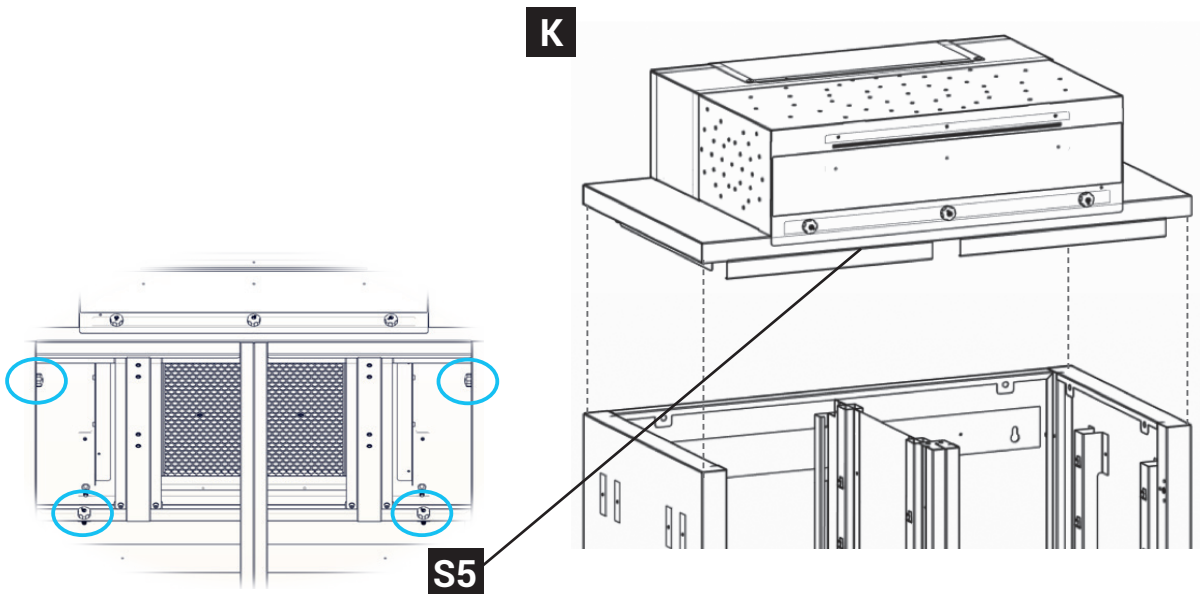
**RIGHT**



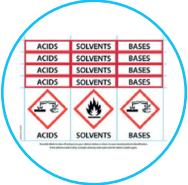
**3** **C** x1



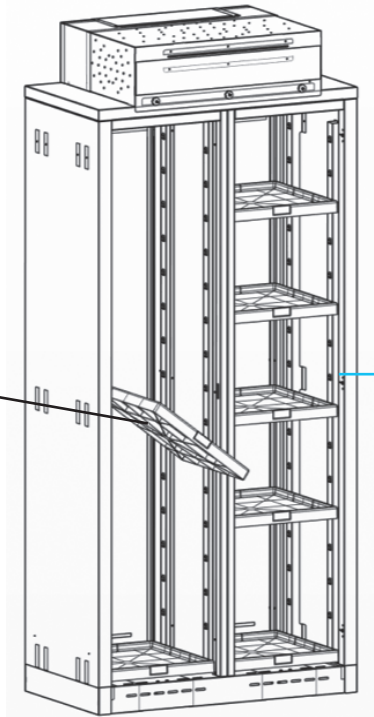
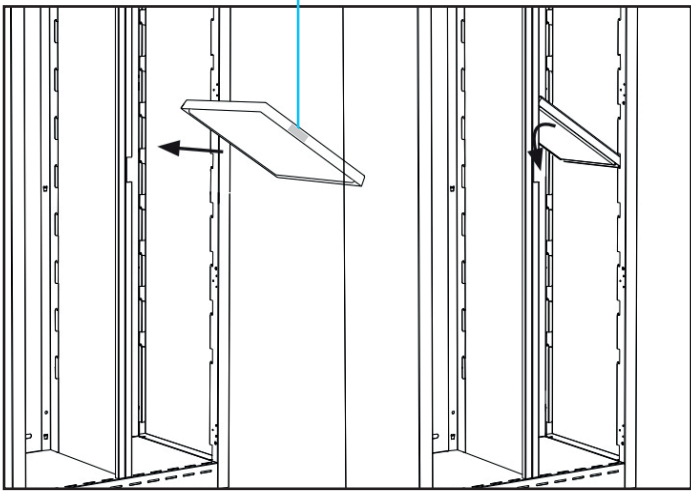
**4** **K** x1 **S5** x4



**5** H x10

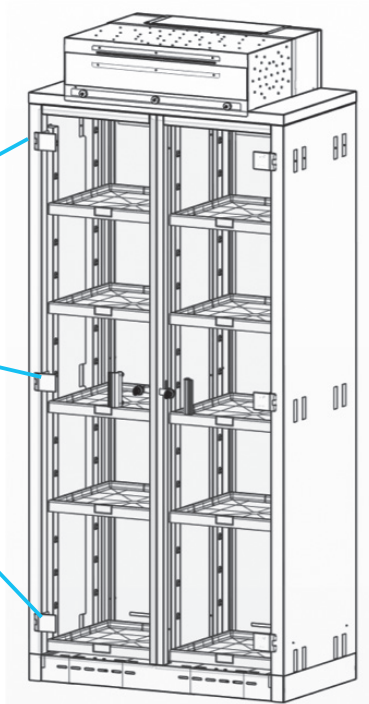
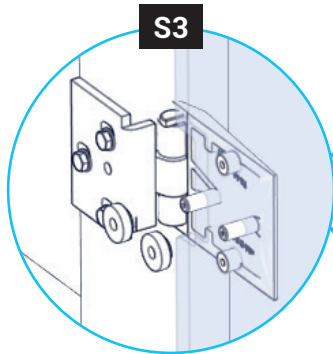


**H**



**6** D x1 S3 x12  
 D1 x1

**D D1**



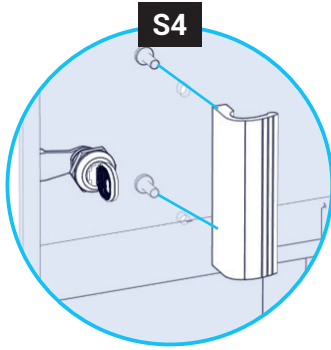
7

E x2

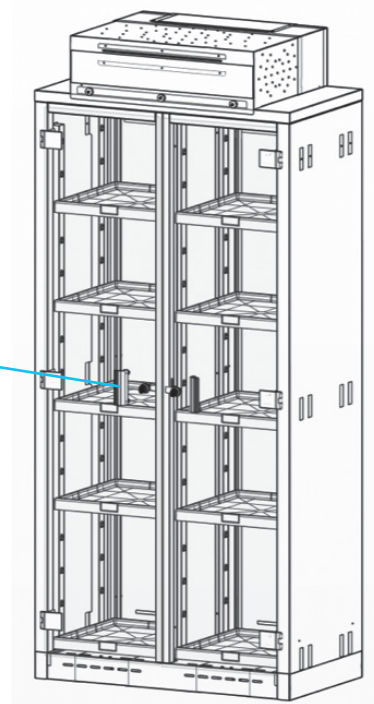
S4 x4



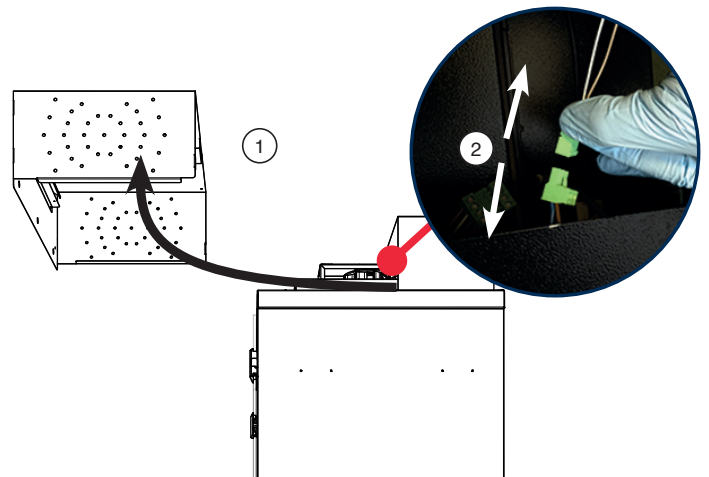
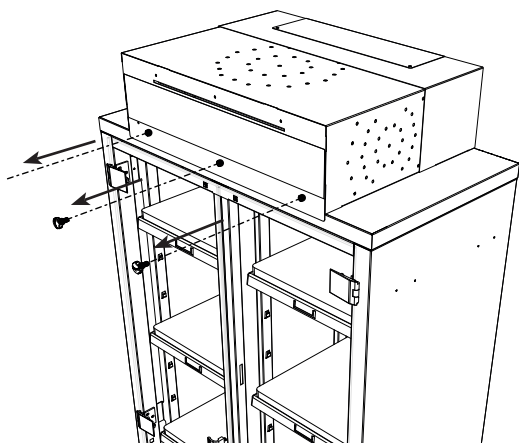
E



S4



8

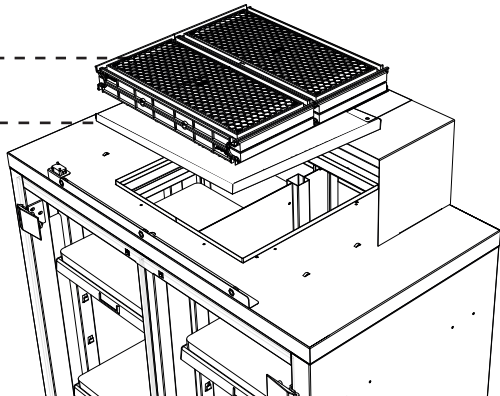


9

1C

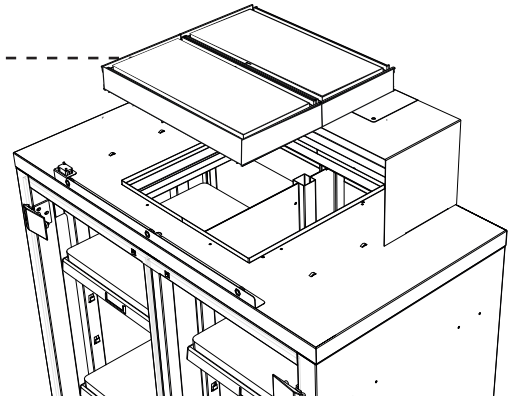
N1

P

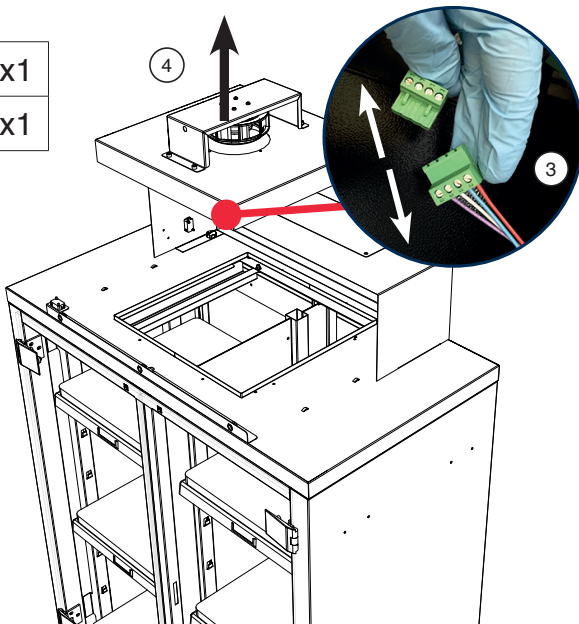


1P

N2

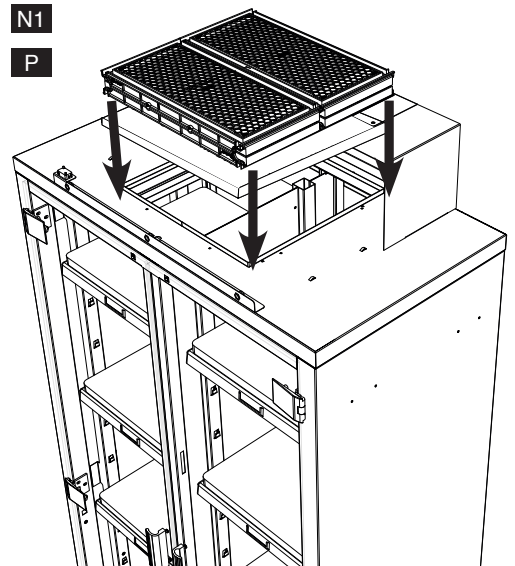


N1	x1
P	x1



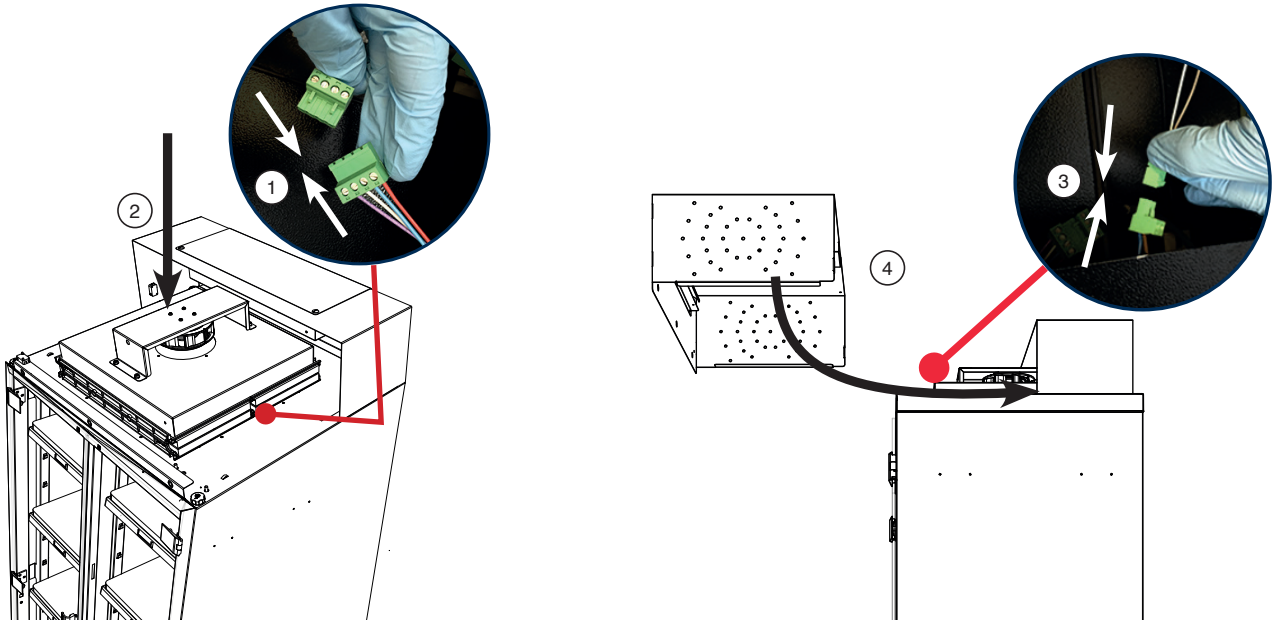
N1

P



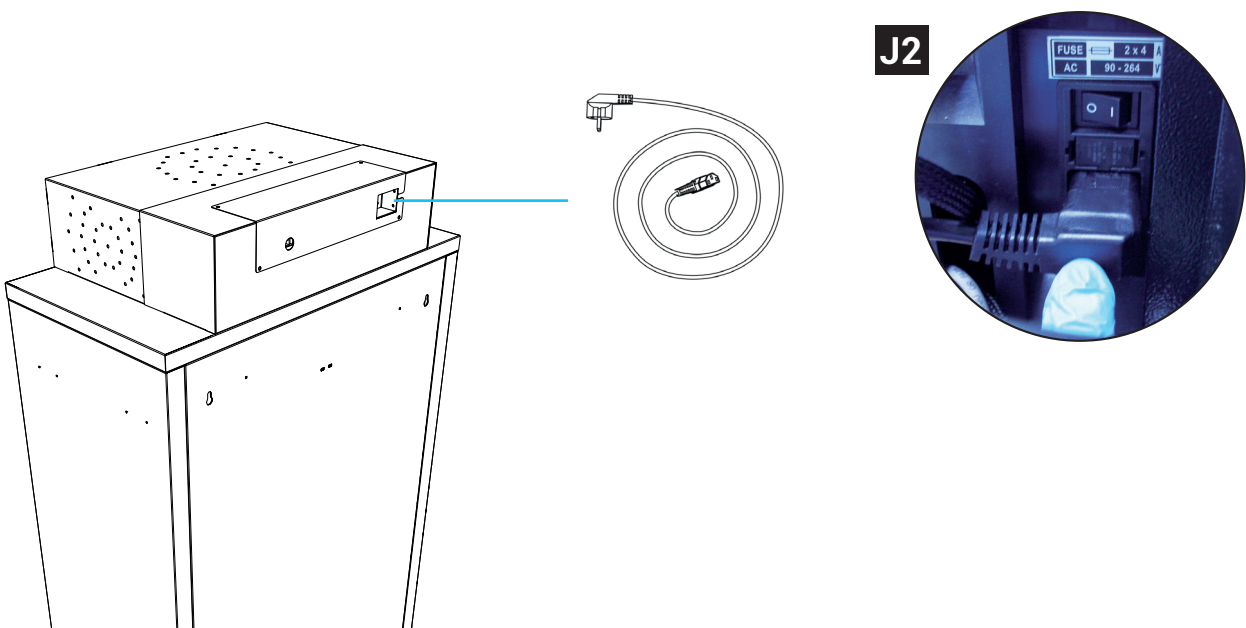


10



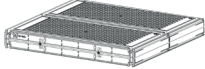

11

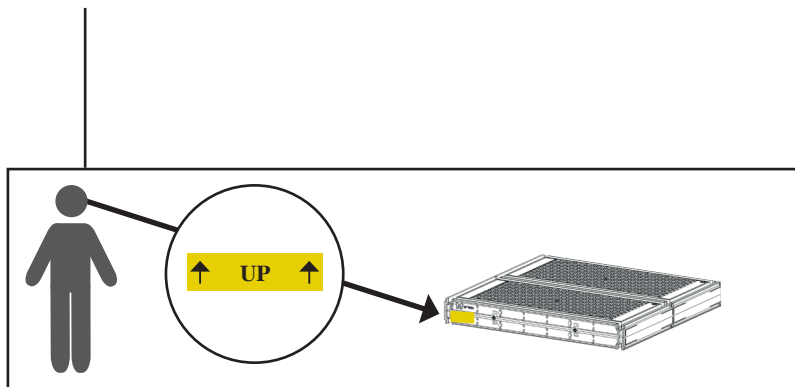
J2 x1



## Replacing the filters

The table below summarises all possible filter technology configurations for Captair Smart chemical storage cabinets.

	Molecular filter	HEPA filter H14
Versions		
Modèles	<b>Captair 832 Smart</b>	<b>Captair 832 Smart</b>
1C	x1	
2C		
1 P		x1
2 P		
1P 1C		
1P 2C		
1C 1P		
2C 1P		
1P 1C 1P		



Each molecular filter is labelled as follows

**Please observe these markings.**

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

<b>Type AS</b>	For organic vapors
<b>Type BE</b>	For acid vapors
<b>Type K</b>	For ammonia vapors
<b>Type F</b>	For formaldehyde vapors

## Replacing the HEPA H14 / ULPA filters

### Pre-requisites

- The operator in charge of the filter replacement must be informed by users about the complete list of stored chemicals to allow to select its PPE
- The laboratory is empty when the operation is carried out
- The laboratory is ventilated by mechanical or natural means while the operation is carried out

### Minimum protective equipment

- One-piece overall + overshoes + bouffant cap
- Laboratory gloves (latex or nitrile)
- Protective glasses
- Breathing mask with particle filter (P3)



**This procedure is applicable to HEPA/ULPA filters located at the bottom of the filtration columns and designed to trap powders handled.**

### Strict chronological order to follow:

- 1- Switch on the device fan
- 2- Carefully spray the bottom surface of the HEPA/ULPA filter (paint with NON FLAMMABLE propellant), to be done inside the enclosure
- 3- Allow at least 5 minutes with the fan running for the spray to dry
- 4- Shut down and unplug the device and disconnect the fan module power supply cable and the sampling tubes from the sampling area (if installed)
- 5- Carefully remove the molecular filter(s) (if present) and the fan module
- 6- Carefully unwrap the new HEPA/ULPA filter  
Keep the plastic film and cardboard box so that you can use it later to pack up the used filter  
Lay out the film on a flat surface in the immediate vicinity of the operation so that it is at the ready
- 7- Carefully remove the used HEPA/ULPA filter and immediately place it contaminated-side down onto the plastic film
- 8- Clean the filter housing
- 9- Package up the used filter + contaminated equipment  
Seal the plastic film tightly
- 10- Place the sealed package in the box the new carbon filter came in, then seal it using adhesive tape

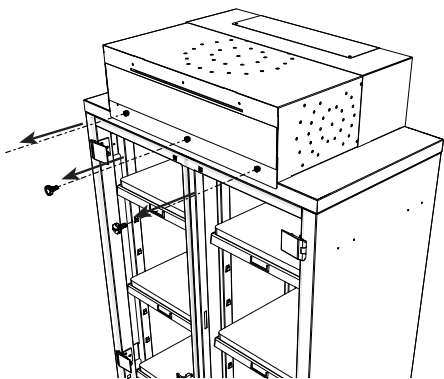
**Have the filter disposed of via a suitable disposal process in accordance with the applicable regulations.**

**To find out more, please contact your usual advisor.**

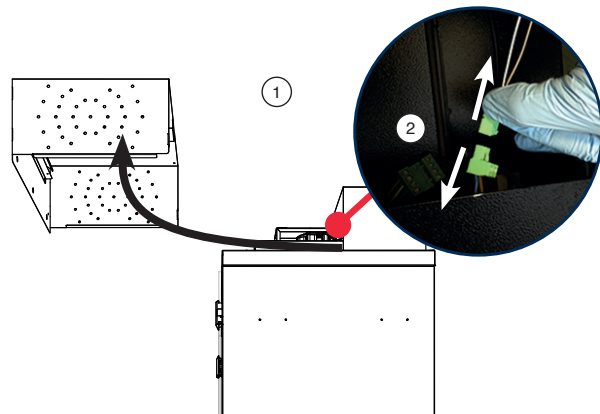
- 11- Fit the new HEPA/ULPA filter, main molecular filter (if present) and the fan module, followed by the backup molecular filter (if present). Make sure that all the column components.
- 12- Reconnect the device's various cables and hoses, switch the device back on.

## Filter Replacement Procedure

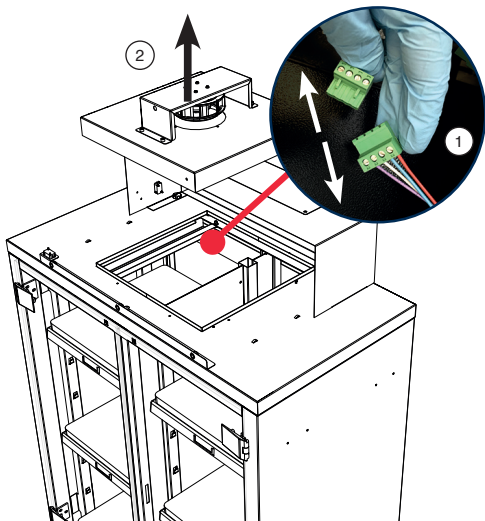
For these operations, we strongly recommended that the user or maintenance technician wear the necessary safety equipment, including: safety glasses, lab coat and gloves



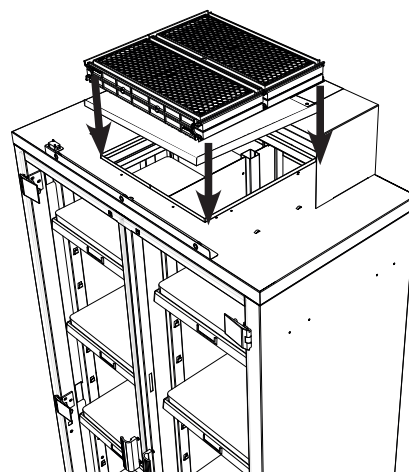
Remove screws from the control panel



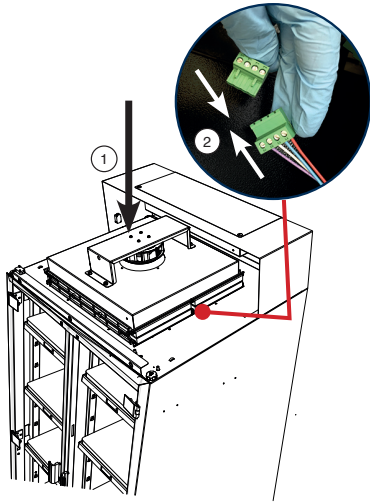
Remove ceiling and disconnect connectors



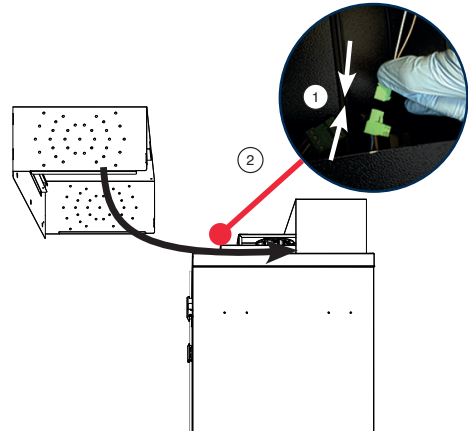
Disconnect the power supply to the fan hood  
 Remove the fan



Install the new filter



**Install the fan**  
**Reconnect the power supply to the fan hood**



**Plug connectors**  
**Install the ceiling**

## Recommendations for the use of filters

**We recommend replacing the filter annually (if used 24/7).**

**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

This certificate is affixed at the factory to new equipment, and is sent back to our customers by e-mail when an equipment is revalidated.

It contains: the list of products handled from the **eValiQuest**, traceability information allowing the use of the device to be monitored and the methods for detecting defects in the filtration of molecular filters.

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 the molecular and particulate filters at least every 12 months, together with the implementation of a regular molecular filter defect control protocol (contact us for personal advice on this).**

## Shelves: maximum permissible mass

Plastic Shelves		Basket for pull out doors	
15 kg	33 lbs	15 kg	33 lbs

## Cleaning and maintenance

### Mechanical item checks

#### Hinges:

Hinges must be correctly attached and not too tight; they must allow cabinet doors to be opened instantaneously with no effort.

#### Acrylic Parts:

These parts must be clean; white streaks or spatters indicate rather heavy use of acid (hydrochloric acid) or products handled at a high temperature. Ensuring the transparency of the walls is a part of regular maintenance for the enclosure.

### CLEANING THE ENCLOSURE

Cleaning the dividers is mandatory and must be done regularly. It may be done in several ways:

- With soapy water followed by rinsing with clear water and drying with a soft; nonabrasive; B32 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 commercial glass cleaning product

#### Coated Metallic Parts:

- They must be inspected and free from any traces of corrosion.
- Check that no liquid stagnates in the shelves with a retention tank.
- Clean retention tanks if necessary



# About Erlab

The Erlab Research and Development laboratory

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.

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