ADS Laminaire
Air Dépoussiéré Stérile Laminaire

USER 'S GUIDE

CYTO-PURE

Product protection

Operator Protection

Environmental Protection

Conforme à la norme : NF EN 12469

Class II Microbiological Safety Cabinet with 3 Filters

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CYTO-PURE USER GUIDE

Dear Madam, Dear Sir,

You have just purchased a microbiological safety cabinet, model **CYTO-PURE**, and we congratulate you on your purchase.

This cabinet ensures : **- work in a sterile environment.**
- **protection for the user.**
- **protection for the environment, against any risk of contamination.**
- **protection for maintenance personnel.**

Your CYTO-PURE cabinet is a Microbiological Safety Cabinet suitable for HANDLING LOW- AND MODERATE-RISK MICROORGANISMS, as well as HANDLING HAZARDOUS PRODUCTS THAT CANNOT BE DECONTAMINATED OR NEUTRALIZED.

This unit is recommended for operations where it is necessary to protect the handling process, the operator, and the surrounding environment ; your Cyto-Pure is suitable for the **weighing of CMR** powders. It provides an ISO Class 5 work area.

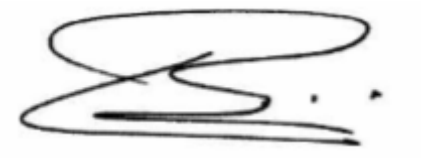
Your **CYTO-PURE** cabinet is manufactured in accordance with the **European standard NF EN 12469 (2000)** for microbiological safety cabinets.

Wishing you every success in using your unit, and remaining at your disposal for any operational or technical information.

Eric FITOUSSI

Deputy Director

Bernard BIJAOUI



General Manager

I. OVERVIEW

Protection for handling, the operator, and the environment

Purpose : Handling pathogenic micro-organisms, non-neutralizable products, C.M.R., powders…

Contained sterile zone
Complies with NF EN 12469

II. CONSTRUCTION

1. FRAME

The CYTO-PURE is made from expanded PVC (Coplast type), a perfectly smooth material that allows it to be decontaminated with H_2O_2 and/or peracetic acid.

It features an electrically tilting sash and transparent side panels for improved user comfort. The interior and its work surface (made up of several sections) are 316L stainless 316L steel, which adds comfort and safety to this workstation. The assembly is rigid and unaffected by any deformation or deterioration.

The BSC includes a negative-pressure plenum that prevents any leakage to the outside; it isolates and protects the work area.

The benefit of a Coplast frame is that it is recyclable.

Appendix: Coplast documentation.

2. WORK SURFACE

The work surface is removable, sectionable and made of **316L stainless steel** (see photo opposite).

Additional accessories : addition of a weighing slab

3. FRONT INTAKE GRILLE

In front of the work surface, the intake grille is built into the work surface and is removable. It is made of 316L perforated stainless steel and shaped to create a clearly defined high-negative-pressure zone relative to the handling area ; known as the “guard vein ”.

Its tilt ensures excellent ergonomics, allowing arms to rest comfortably without fully blocking airflow.

4. DRIP TRAY

A drip tray is located under the work surface. It is fixed in place and made of expanded PVC (Coplast type). It is designed to collect accidental liquid spills, making cleanup easier.

Access to the receptacle is gained by lifting the worktop trays on the work surface.

Optional accessory : 316 L stainless-steel receptacle (in addition to the existing one)

5. LIGHTING

Lighting is provided by LED light strips positioned outside the work area, which keeps all electrical components isolated in accordance with NF EN 12469. Illuminance level above 1000 lux on the work surface.

6. TILTED VISOR

During handling, access to the work area will be partially closed off by a clear, transparent TRIPLEX laminated-glass panel that slides vertically between two TEFLON guides (interlocked with the hood's operation).

This sash, set at a 6% tilt, has a fixed opening height of 240 mm in the operating position, allowing arm access.

The sash raises and lowers electrically (see §3 in Chapter III)

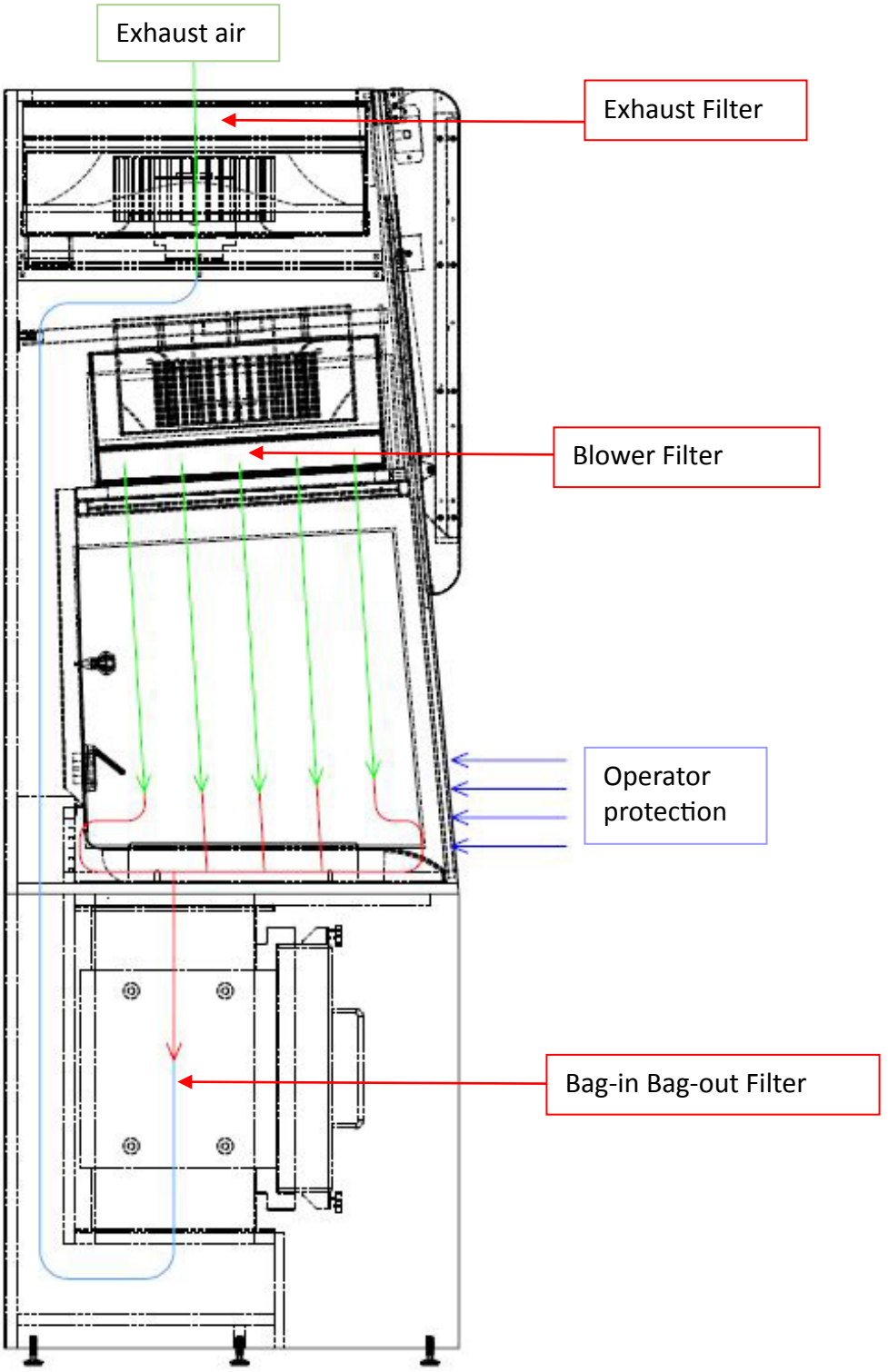
7. BASE

The base frame is made of COPLAST expanded PVC, with integrated BAG-IN BAG-OUT (epoxy-painted steel structure).

The assembly is rigid and resistant to any deformation or deterioration.

III. OPERATING PRINCIPLE - SAFETY

1. BASIC SCHEMATIC



2. OPERATING PRINCIPLE

A sterile laminar airflow (ISO 5 per ISO 14 644-1) is blown vertically over the work surface after passing through a first absolute filter (HEPA H14), ensuring **protection of the handling process**.

The airflow is fully collected around the perimeter of the work surface and then passes through a second absolute filter (HEPA H13 or H14) located directly beneath the work surface. The recycled air is therefore no longer contaminated, and the **fan can be accessed safely**.

Part of the recycled air is discharged through a third absolute filter (HEPA H14), either into the room or into an exhaust duct vented to the outside. The amount of air discharged is offset by drawing in an equivalent volume of air at the front of the work surface. This intake, called the "Guard Airflow," creates a dynamic barrier between the operation and the operator. The guard airflow eliminates any risk of contamination to the outside; the face velocity is greater than or equal to 0.4 m/s and ensures **operator protection**.

3. ELECTRIC TILTING SASH

Fully opening the sash allows bulky equipment to be introduced and makes it easier to clean the enclosure. An audible and visual alarm indicates when the required operating position is not being observed.

Three other visor positions are available:

- Fully open position (alarm active)
- Fully closed position (standby or off)
- Intermediate position (alarm active)

Easy to clean:

- The visor can be raised to the upper position by lifting the hood (gas-spring opening see drawing), allowing the inside of the visor to be cleaned.

When the unit is switched to standby, the visor lowers and the work area is fully closed.

4. SAFETY (AUTOMATIC CONTROL AND ALARMS)

ECM Control :

To ensure maximum safety during handling, this hood is equipped with fully automatic control that keeps airflow **rates constant** through **micro-processor programmable airflow management** (ECM technology) built into the fan. Regardless of the level of filter loading.

The control panel display shows the remaining service life of the HEPA filters (**100% = new filter**). An audible and visual signal indicates when replacement is required.

Frame :

The plenum is under negative pressure, preventing any leakage to the outside.

Sash :

An alarm system is interlocked with the sash. It alerts the user if the sash position is not correct. (SEE §3. in Chapter III)

Alarms :

The various alarms are displayed in plain text (see the alarm sections)

5. SOUND LEVEL / ELECTRICAL POWER SUPPLY

The sound level is < 58 dBA at 1 m from the sound source

The electrical power supply is single-phase 230 V + T - 16A - 50 Hz.

IV. HEPA FILTRATION

The CYTO-PURE is equipped with HEPA filters (supply and exhaust), panel-type, with a minimum efficiency of 99.995% MPPS Effiency (per EN 1822, H14 classification) ensuring ultra-clean ISO Class 5 laminar flow in accordance with ISO 14644-1.

1. SUPPLY AND EXHAUST HEPA FILTRATION

The CYTO-PURE is equipped with ventilation/filtration systems : one supply system and one exhaust system.

Very high-efficiency H14 filters designed for filtering ultra-fine particles. HEPA filters meet the requirements of EN 1822 :

Bonded fiberglass media
Protective grille in epoxy-painted steel.
Class H14, with a minimum efficiency of 99.995% MPPS Efficiency, ensuring an ultra-clean laminar airflow, ISO Class 5, in accordance with ISO 14644-1 at the filter outlet.

2. RETURN FILTER (UNDER THE WORK SURFACE):

Very high-efficiency HEPA filter, type H13 or H14, designed to capture ultra-fine particles.
HEPA filters meet the requirements of EN 1822
Bonded fiberglass media
Galvanized steel or ABS frame with handle
Neoprene gasket around the perimeter

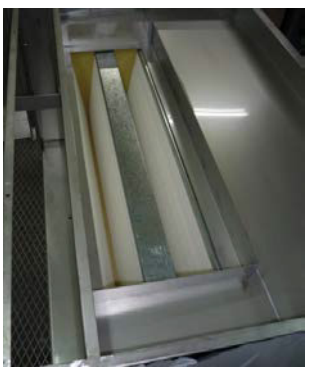
3. FILTER MAINTENANCE :

Filter dimensions conform to international standards. These three filters are clamp-mounted to the enclosure, making replacement quick and easy.

The negative-pressure plenum immediately ensures an airtight seal.

The absolute filters can be accessed from the front of the hood :

- Through the front access cover for the supply and exhaust filters
- Through the hatch at the front of the base for the return filter



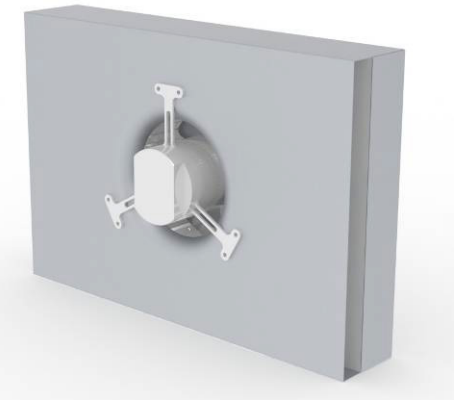
The display on the control panel shows the remaining service life of the absolute filters.
An audible and visual alert indicates when the HEPA filters need to be replaced.

V. VENTILATION

The CYTO-PURE is equipped with an ECM control system that maintains a constant airflow even as the HEPA filters become clogged, while keeping noise low (high efficiency of 80%)

The unit is protected in accordance with electrical safety standards. Grounding of all electrical components and all conductive parts complies with applicable regulations.

Built-in electronics make it easy to manage information related to alarms and potential faults. The **automatic constant-flow control** is handled, through simple programming, by a **microprocessor** that analyzes three parameters (current, torque, motor speed) to find the balance point that matches the requested airflow in relation to pressure drop.



DF 280 ECM Fan

Advantages

- ✓ The airflow velocity will be maintained over time, regardless of the level of filter clogging.
- ✓ Low power consumption : reduced by 30 % compared with conventional fans
- ✓ No probe (speed or pressure) is needed to control airflow : no calibration issues caused by measurement drift or by changes in ambient conditions (temperature, pressure, humidity), which probes are sensitive to.
- ✓ Extremely high precision
- ✓ Low noise level; ventilation systems are equipped with sound traps

Energy savings

- Thanks to its very high 80% efficiency for a DC-powered fan (vs. 40% for a conventional AC induction-motor fan), it uses 3 times less energy than an older-generation PSM (1995-2010)
- Low temperature rise

VI. CONTROL PANEL

1. OVERVIEW

1. Date and time display
2. Laminar airflow speed display
3. Dry contact status display
4. Lighting
5. Remaining filter life (%) display
6. Filter pressure display
7. Message display
8. UV (optional)
9. Standby mode
10. Start/Stop/Cancel
11. Menu access/Confirm

This control panel delivers major technical innovations :

Built-in backlit graphic display
Real-time display of airflow velocity, pressure, and flow rate
Real-time display of consumable status (HEPA filters, UV lamp depending on model)
Icon-based controls
Display of various alarm messages as scrolling text
Computer-based updates for future enhancements
Code-based locking for different modes
Multilingual menu and display
Automated procedures (standby, startup, …)

2. CONTROLS

- *On/Off* : Turns the hood on or off, meaning the ventilation and all functions. Also lets you exit a menu or submenu, or cancel an action.

- *Standby :* Switches from Normal mode to Standby mode and back again (recommended for daily use to maintain clean airflow in the work area).

- ↓ ↑*:* Raise – lower the sash
  Used to navigate through the menu, select an option, or scroll through the alphabet.
  Pressing both buttons at the same time for 2 seconds resets the system.

- ⇦*:* "Enter" button. Lets you open a menu or submenu, or confirm an action or selection.

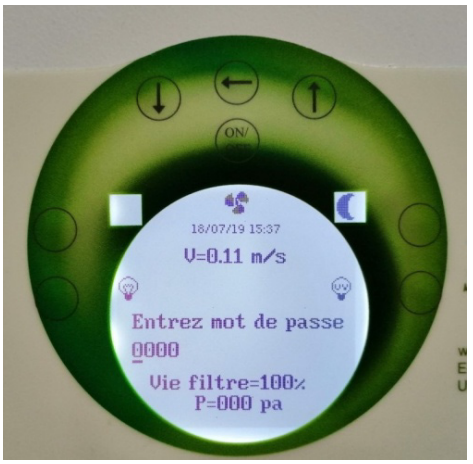
- *Lighting :* Turns the main light on/off.

- *UV* : UV lamp On/Off

- *Dry contact :* Opens and closes a dry contact on the power board designed to connect an accessory (solenoid valve, electrical outlet, exhaust fan…)

3. STARTING UP THE CYTO-PURE

Press the **ON/OFF** key to start the PSM. If no password has been set, the unit will start immediately. If a password has been set (factory setting), enter it first.



The factory preset password is **"0001"**. It can be changed in the Menu. **A password is required on PSMs**.

The display shows "Wait," and the sash remains closed until the airflow reaches its minimum speed. Then, the sash opens automatically to the standard height.

Press the **ON/OFF** button to switch off the hood.
If no password has been set, the unit will stop immediately. If a password has been set (factory setting), **you must enter it first**. The sash then closes automatically (a warning message appears) and the light turns off.

4. <u>SLEEP MODE</u>

Press and hold the butt r 2 seconds to switch to **Sleep mode**. **Sleep mode activates as soon as the moon is full**. If no password has been set (factory setting), the device will start up immediately. If a password has been set, you must enter it first.

The visor closes automatically (an alert message appears) and the light turns off. In Sleep mode, **you can turn the light back on if needed**.

After a few seconds, the flower logo appears in Sleep mode and **the airflow automatically decreases** to the value saved in the programming menu.

To return to Normal mode, press and hold the button again for 2 seconds (as shown on the screen).

When the hood returns to normal mode, **the sash stays closed until the airflow reaches its minimum speed**. Then, the sash automatically opens to the **standard height**.

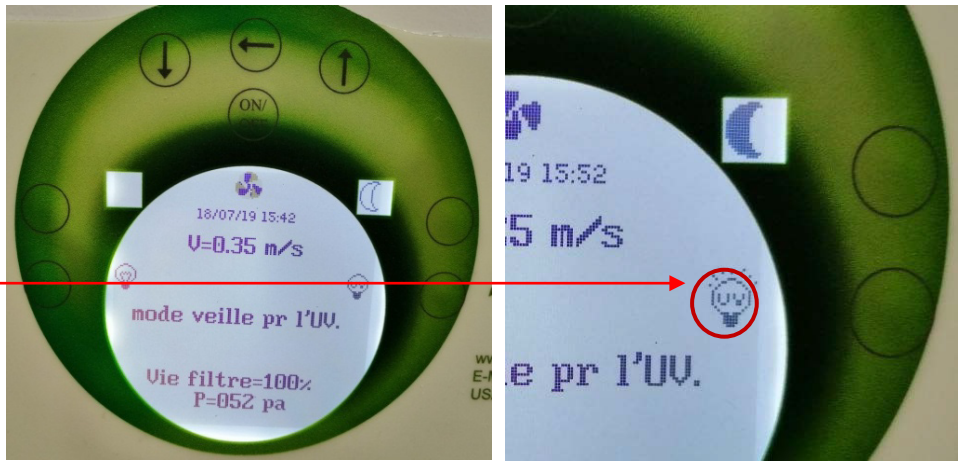
5. MISCELLANEOUS FUNCTIONS

- **Visor** : press ↑ ↓ to open and close the visor. **If you release the button, the visor stops immediately**. While moving up or down, the visor automatically stops in the correct position.

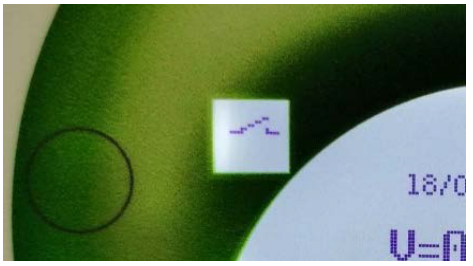
- **Full visor opening** : To fully open the visor, press and hold the button for 2 seconds. Then the glass panel rises until the button is released. If a password has been set, the operator must enter it to allow opening. Page **17** of **46**

- **Lighting** : Press the Lighting button to turn it on or off. When the lighting is on, small rays appear around the on-screen logo.

⚠ **UV** : Press the UV button to turn the UV lamp on or off. **The UV lamp can only be turned on in Standby mode**. If the device is in Normal mode, the message "**Standby mode for UV**" appears. When the UV lamp is on, small rays appear around the on-screen logo.



⚠ **Dry Contact** : Press the "Dry Contact" button to close or open the dry contact (solenoid valve, power outlet, etc…).



6. ALARMS

The **alarm messages,** together with an **audible alarm,** alert the user to a fault during operation and therefore prevent extended use when airflow is incorrect.

The various **alarm messages** that can be displayed on the “flower ” control panel are :

- ***Start-Up Alarm :*** The alarm stops once normal operating parameters are reached (airflow speed)

- ***Clogging Alarm*** : When the HEPA filter is clogged, the alarm sounds and the message “Filter Clogged” appears.

- ***Incorrect Flow Speed*** : If the airflow speed is outside the normal range, the alarm sounds and one of the following messages appears : “Speed too low” or “Speed too high”.

- ***Visor Alarm*** : As soon as the visor is no longer in the normal operating position, the alarm sounds.

- ***Ventilation Alarm*** : If the fan is out of service, the alarm sounds and the message "Ventilation Fault" appears.

- ***Validation Alarm*** : If the hood's validation date has passed (based on a one-year interval), the message "schedule inspection" appears. (There is no audible alarm.)

NOTE : a pre-set 4-digit code may prevent the hood from entering standby mode and/or being shut off.

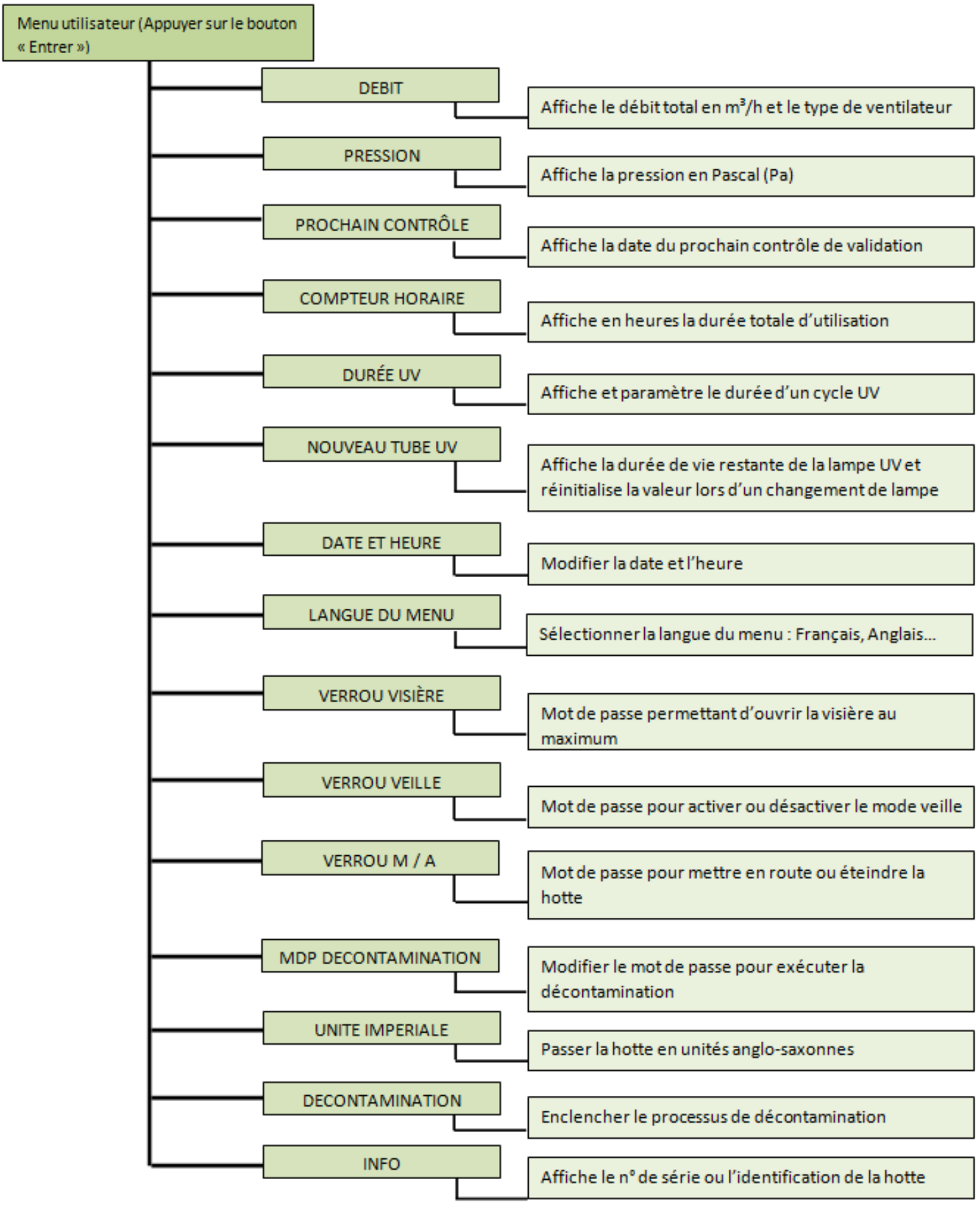
7. MALFUNCTIONS

If the unit malfunctions, the system can be **reset**.

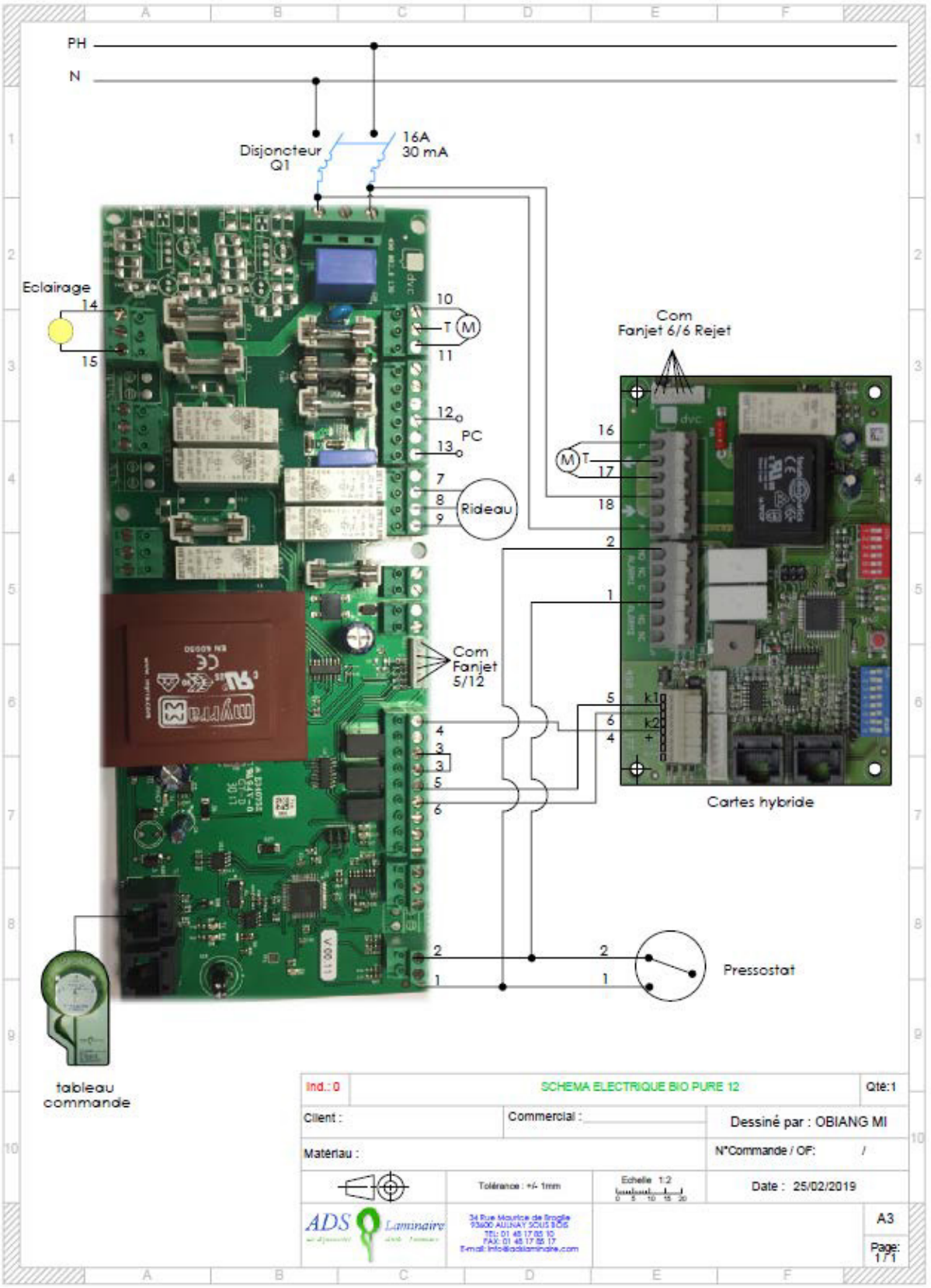
The procedure is as follows:

- Press **at the same time** the " Up " and "Down " for 3s.
- **The settings are reset to factory defaults** and the sash position **is recalibrated.**

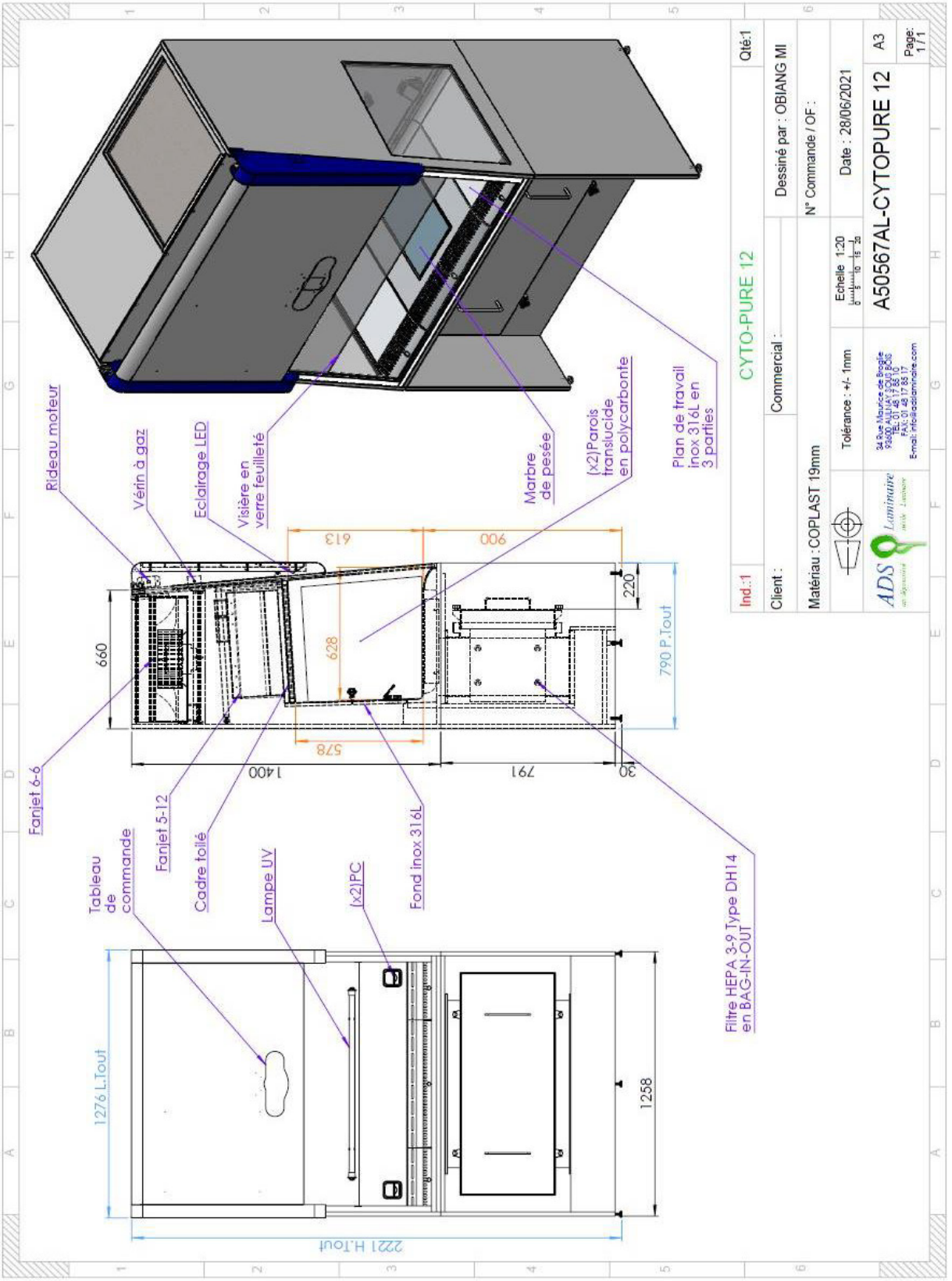
8. USER MENU : FLOWCHART



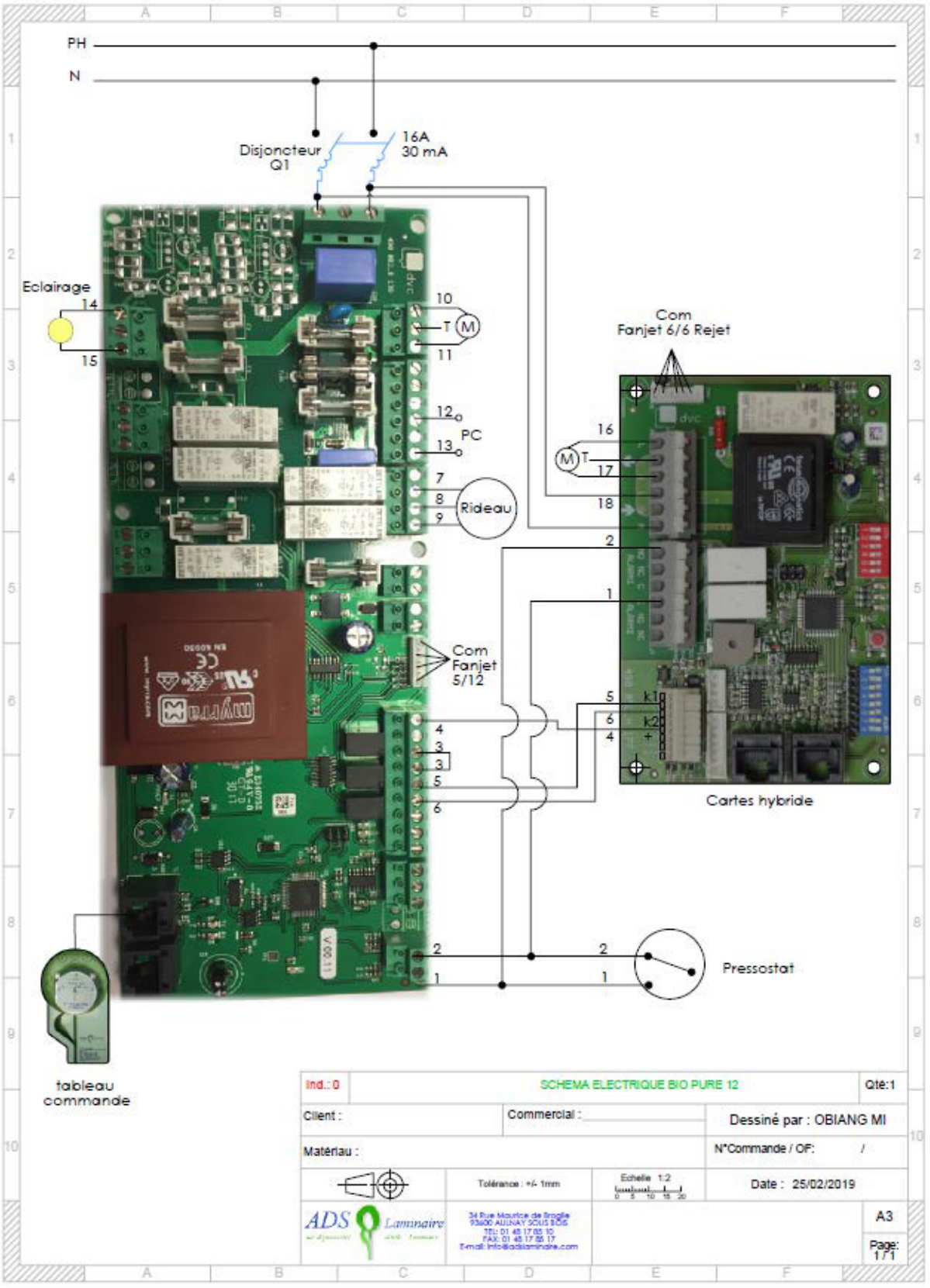
VII. ELECTRICAL DIAGRAM – CYTO-PURE 9



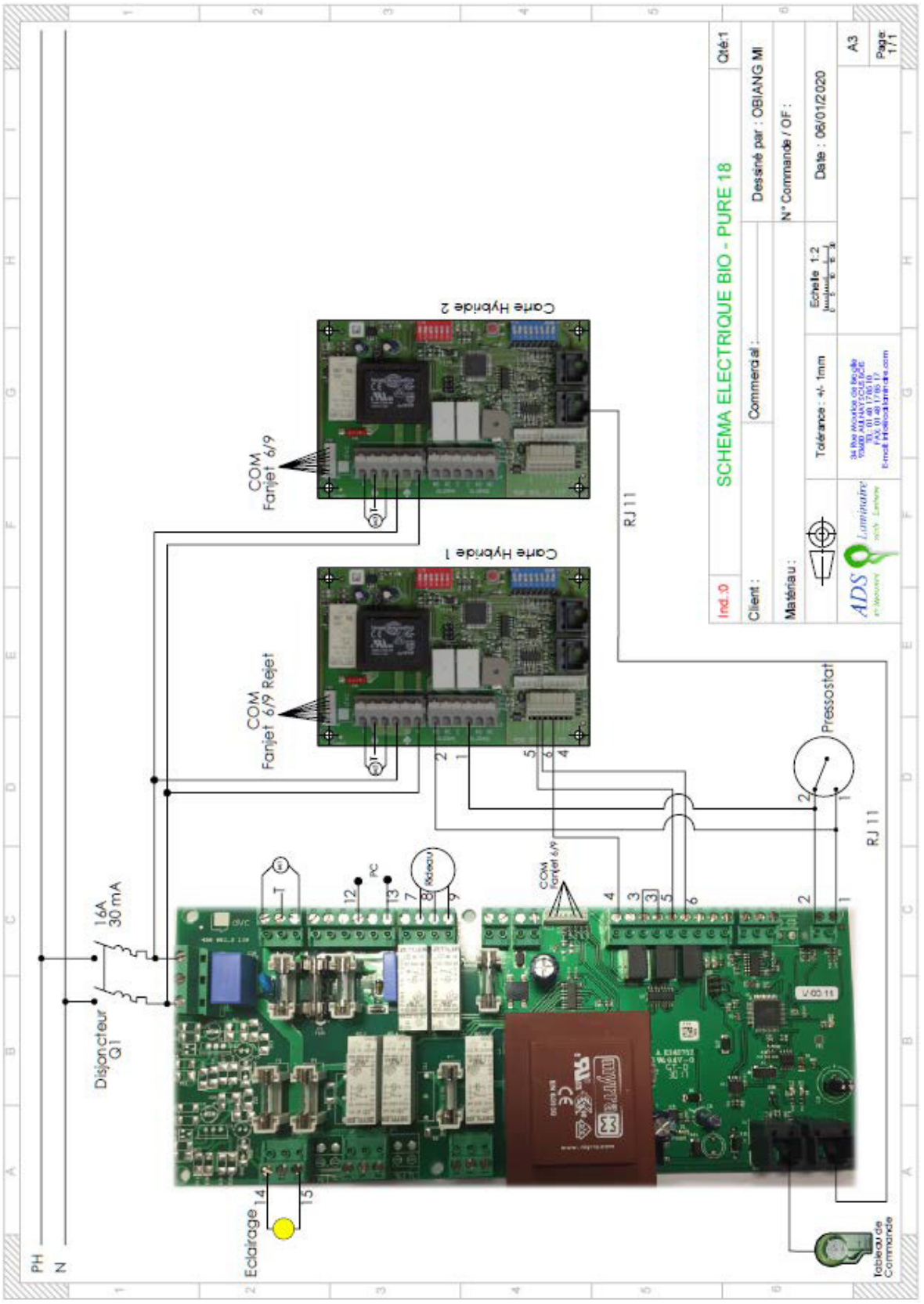
VIII. STANDARD PLAN – CYTO-PURE 12 WITH MARBLE



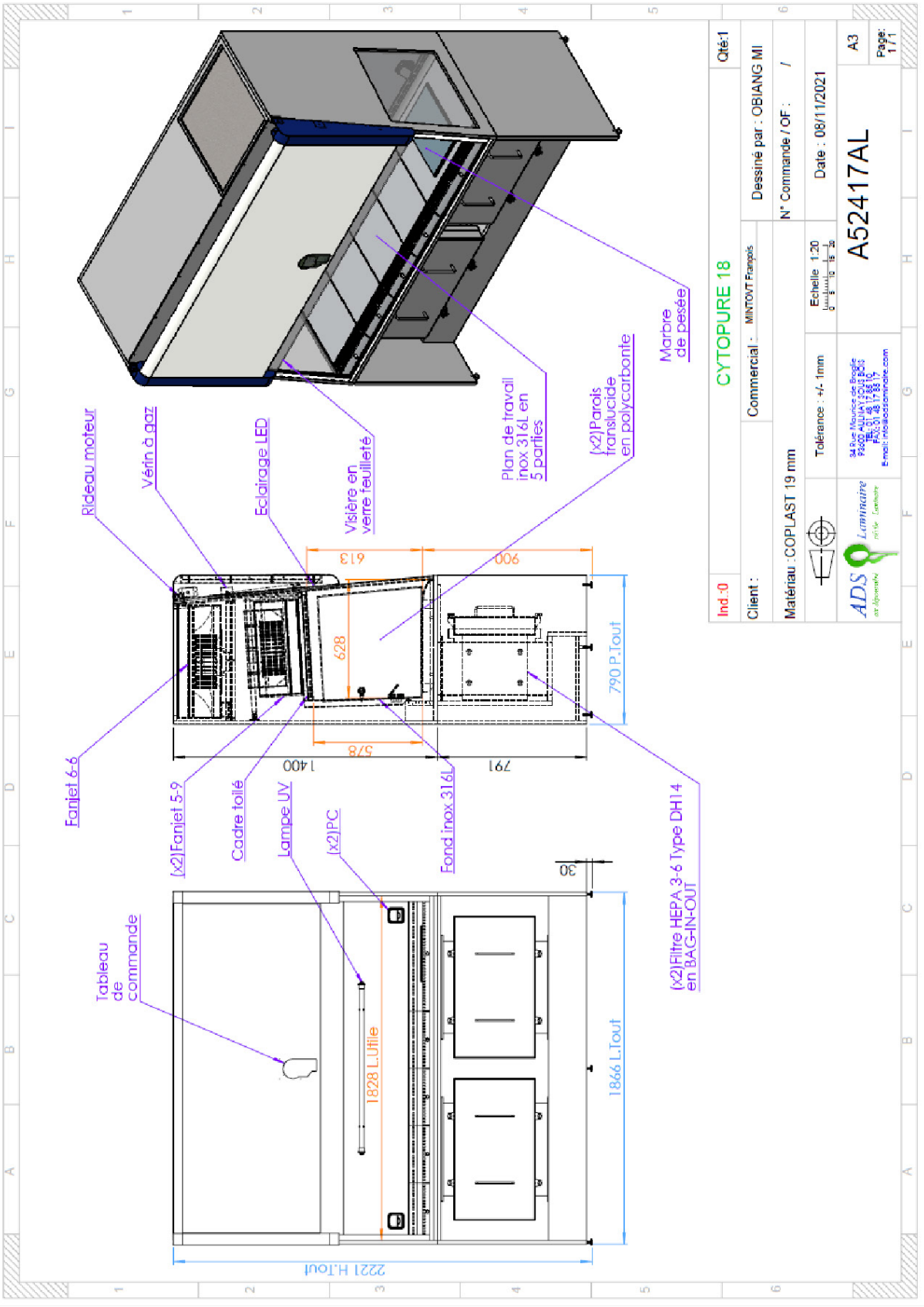
IX. ELECTRICAL WIRING DIAGRAM – CYTO-PURE 12



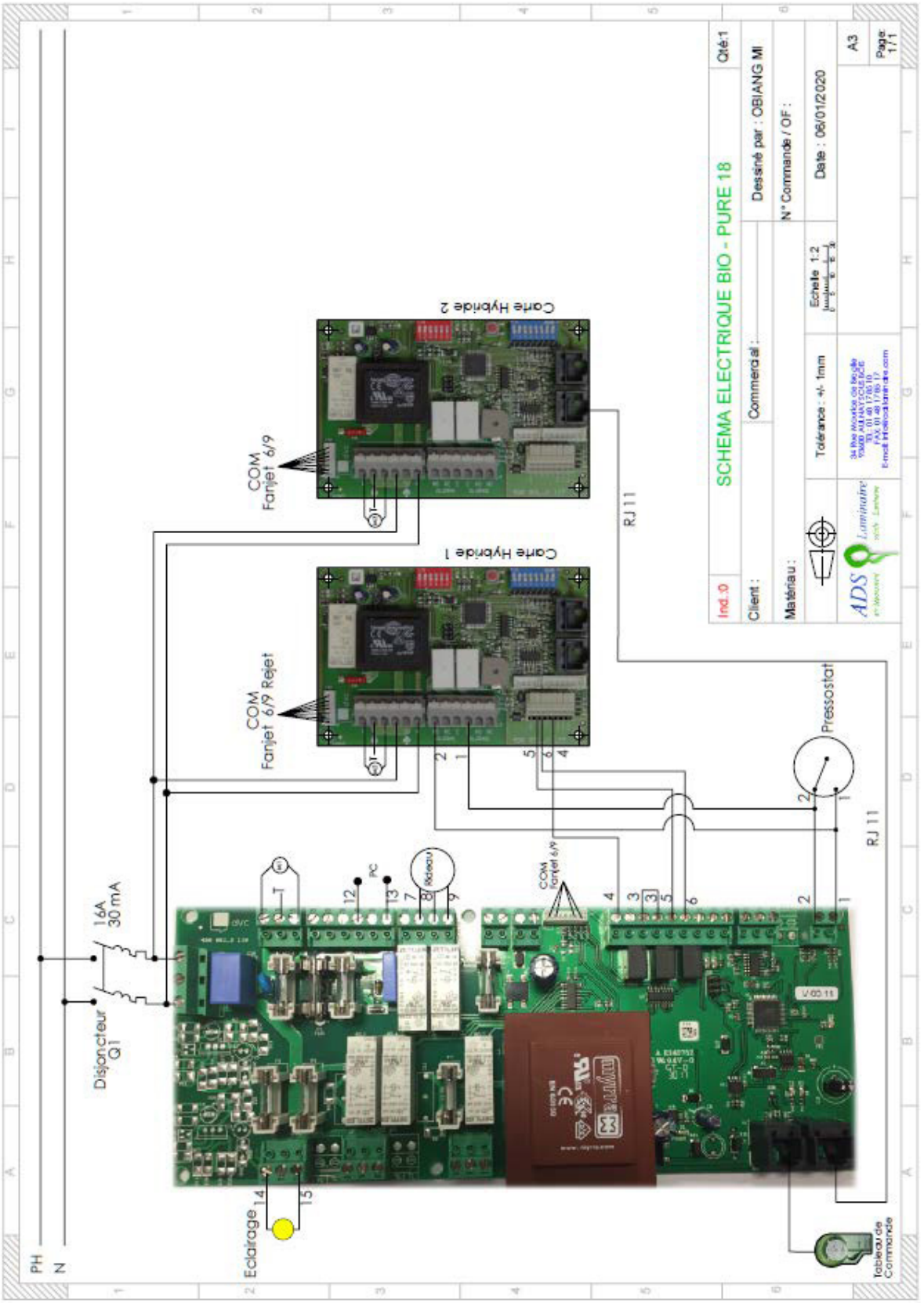
X. ELECTRICAL SCHEMATIC – CYTO-PURE 16



XI. STANDARD LAYOUT – CYTO-PURE 18 WITH MARBLE



XII. ELECTRICAL SCHEMATIC – CYTO-PURE 18



XIII. TECHNICAL DATA

	CYTO-PURE 9	CYTO-PURE 12	CYTO-PURE 16	CYTO-PURE 18
Usable width (mm)	915	1220	1524	1828
Overall width (mm)	964	1276	1573	1884
Usable height (mm)	580 to 604			
Overall height (mm)	2221			
Usable depth Work surface (mm)	500			
Overall depth (mm)	790			
Supply airflow m3/h	700	920	1080	
Exhaust airflow m3/h	380	420	490	530
Fan type	DF 280 ECM x 2		DF 280 ECM x3	
Sound level	Approx. 56 dBA		Approx. 58 dBA	
Power supply	Single-phase 230 V + Ground 16 A 50 Hz			
Rated power	160 W	220 W	280 W	390 W
Illuminance level	1000 lux			
Weight	Approx. 260 kg	Approx. 300 kg	Approx. 370kg	Approx. 410 kg

ADS laminaire reserves the right to change the part references for certain components of the CYTOPURE.

XIV. CYTO-PURE 9 BILL OF MATERIALS

Qty.	Description	Brand	Part No.	Lead Time Procurement	Function
1	HEPA Filtration	FlowAir FILTERS	M14-500-895-250-78-AP	6 to 8 weeks	Filter on Supply Air
1	HEPA Filtration	FlowAir FILTERS	M14-600-600-250-78-AP	6 to 8 weeks	Exhaust filter
1	HEPA Filtration	FlowAir FILTERS	DH-M-13-36-G-1 or DH-M-14-36-G-1	6 to 8 weeks	Return-air filter with Bag In Bag Out system
2	1 m LED light bar	STARLED	REG-LED-BIOPURE-1000MM	6 weeks	Lighting
2	60 cm LED light bar	STARLED	ECODELIE-12W-600-B	6 weeks	Lighting
1	UV tube	Philips	T8G30	In stock	Germicidal
2	Fans	Lemmens	DF280 TAC 1/3	4 weeks	Ventilation
1	Screen frame	ADS Laminar	Screen frame CYTO-pure 12	5 weeks	Laminar flow
1	Pressure switch	HUBA	604.901002020-300Pa	In stock	Pressure
1	Memory card	DVC	CON-PAN-FL-EC	In stock	Control
1	LCD screen	DVC	CON-PAN-FL-LCD	In stock	Message display
1	Front Panel	DVC	CON-PAN-14	In stock	Control Panel Front
1	Main /Power Board	DVC	CON-PAN-16 0B20B	In stock	Power Supply / control
1	Hybrid Board, Version 2	DVC	DV-05L2FIN	In stock	Power Supply / control
3	Optional Stainless Steel or Marble Work Surface	ATSM	PT-BIOPURE	In stock	Work Surface
2	Power Outlet	LEGRAND	LEG 69831	In stock	Power Supply Within the Work Area
2	Gas Springs	BERTHOLD MARX	ASC-VERIN-BIOPURE 9/12	In stock	Mounting / lift the hood
1	Viewing Shield	DETTON	MIR-GLACE-BIOPURE 12	In stock	Protective Shield
1	Shield Motor	CHERUBINI	ACS-1025	In stock	Shield Motorization

XV. CYTO-PURE 12 PARTS LIST

Qty.	Description	Brand	Part No.	Lead Time Procurement	Function
1	HEPA Filtration	FlowAir FILTERS	M14-500-1200 -250-78-AP	6 to 8 weeks	Filter at Supply Air
1	HEPA Filtration	FlowAir FILTERS	M14-600-600 -250-78-AP	6 to 8 weeks	Exhaust Filter
1	HEPA Filtration	FlowAir FILTERS	DH-M-13-39-G-1 or DH-M-14-39-G-1	6 to 8 weeks	Return Filter with Bag In Bag Out
2	1 m LED Light Bar	ECODELIE	REG-LED-BIOPURE-1000MM	6 weeks	Lighting
2	60 cm LED light bar	ECODELIE	ECODELIE-12W-600-B	6 weeks	Lighting
2	Fans	Lemmens	DF280 TAC 1/3	4 weeks	Ventilation
1	Laminar-flow fabric	SEFAR	40/103-80 PW	5 weeks	Laminar flow
1	Pressure switch	HUBA	604.9010020 20-300Pa	In stock	Pressure
1	Memory card	DVC	CON-PAN-FL-EC	In stock	Control
1	LCD screen	DVC	CON-PAN-FL-LCD	In stock	Message display
1	Front panel	DVC	CON-PAN-14	In stock	Panel front
1	Main board / power board	DVC	CON-PAN-16 0B20B	In stock	Power supply / control
1	Hybrid board, version 2	DVC	DV-05L2FIN	In stock	Power supply / control
4	Stainless steel or marble worktop (optional)	ATSM	PT-BIOPURE	In stock	Worktop
2	Power outlet	LEGRAND	LEG 69831	In stock	Electrical power supply within the work area
2	Leveling feet	BERTHOLD MARX	ASC-VERIN-BIOPURE 18	In stock	Mounting / lift the hood
1	Visor	DETTON	MIR-GRALCE-BIOPURE 18	In stock	Protective visor
1	Visor motor	CHERUBINI	ACS-1025	In stock	Visor motorization

XVI. CYTO-PURE PARTS LIST 16

Qty.	Description	Brand	Part No.	Lead Time Pro curement	Function
2	HEPA Filtration	FlowAir FILTERS	M14-500-750 -250-78-AP	6 to 8 weeks	Supply Airflow
1	HEPA Filtration	FlowAir FILTERS	M14-600-600 -250-78-AP	6 to 8 weeks	Exhaust Filter
2	HEPA Filtration	FlowAir FILTERS	DH-M-13-36-G-1 or DH-M-14-36-G-1	6 to 8 weeks	Return filter with Bag In Bag Out system
3	1 m LED Light Bar	ECODELIE	REG-LED-BIOPURE-1000MM	6 weeks	Lighting
2	60 cm LED light bar	ECODELIE	ECODELIE-12W-600-B	6 weeks	Lighting
3	Fans	Lemmens	DF280 TAC 1/3	4 weeks	Ventilation
1	Laminar flow fabric	SEFAR	40/103-80 PW	5 weeks	Laminar flow
1	Pressure switch	HUBA	604.9010020 20-300Pa	In stock	Pressure
1	Memory card	DVC	CON-PAN-FL-EC	In stock	Control
1	LCD screen	DVC	CON-PAN-FL-LCD	In stock	Message display
1	Front panel	DVC	CON-PAN-14	In stock	Panel front
1	Main / power board	DVC	CON-PAN-16 0B20B	In stock	Power supply. / control
1	Hybrid board, version 2	DVC	DV-05L2FIN	In stock	Power supply. / control
5	Optional stainless steel or marble work surface	ATSM	PT-BIOPURE	In stock	Work surface
2	Power outlet	LEGRAND	LEG 69831	In stock	Power supply within the work area
2	Gas struts	BERTHOLD MARX	ASC-VERIN-BIOPURE 18	In stock	Mounting / lifting the hood
1	Visor	DETTON	MIR-GRALCE-BIOPURE 18	In stock	Protective visor
1	Visor motor	CHERUBINI	ACS-1025	In stock	Visor motorization

XVII. CYTO-PURE 18 PARTS LIST

Qty.	Description	Brand	Part No.	Lead Time Procurement	Function
2	HEPA Filtration	FlowAir FILTERS	M14-500-895-250-78-AP	6 to 8 weeks	Supply Airflow Filter
1	HEPA Filtration	FlowAir FILTERS	M14-600-600-250-78-AP	6 to 8 weeks	Exhaust Filter
2	HEPA Filtration	FlowAir FILTERS	DH-M-13-36-G-1 or DH-M-14-36-G-1	6 to 8 weeks	Return-Air Filter with Bag-In/Bag-Out System
3	1 m LED Light Bar	ECODELIE	REG-LED-BIOPURE-1000MM	6 weeks	Lighting
2	60 cm LED light bar	ECODELIE	ECODELIE-12W-600-B	6 weeks	Lighting
3	Fans	Lemmens	DF280 TAC 1/3	4 weeks	Ventilation
1	Laminar flow fabric	SEFAR	40/103-80 PW	5 weeks	Laminar flow
1	Pressure switch	HUBA	604.901002020-300Pa	In stock	Pressure
1	Memory card	DVC	CON-PAN-FL-EC	In stock	Control
1	LCD screen	DVC	CON-PAN-FL-LCD	In stock	Message display
1	Front panel	DVC	CON-PAN-14	In stock	Control panel front
1	Main / power board	DVC	CON-PAN-160B20B	In stock	Power supply / control
2	Hybrid board, version 2	DVC	DV-05L2FIN	In stock	Power supply / control
6	Bio-Pure stainless-steel work surface	ATSM	PT-BIOPURE	In stock	Work surface
2	Power outlet	LEGRAND	LEG 69831	In stock	Electrical power within the work area
2	Gas struts	BERTHOLD MARX	ASC-VERIN-BIOPURE 18	In stock	Mounting / lift the hood
1	Visor	DETTON	MIR-GRALCE-BIOPURE 18	In stock	Protective visor
1	Visor motor	CHERUBINI	ACS-1025	In stock	Visor motor drive

XVIII. EQUIPMENT

1. STANDARD INCLUDED EQUIPMENT

The microbiological safety cabinet comes standard with the following equipment:

2 230 V + T, 16 A, 50 Hz power outlets
LED lighting, located outside the work area and easy to access.
UV lamp built in to the rear of the MSC.
Motorized, lift-up sash
Inlet port for the generator and sampling port 100%
Laminar airflow curtain
Base with Bag In Bag Out

2. AVAILABLE OPTIONAL ADDITIONAL ACCESSORIES (OPTION)

Additional equipment is available as optional add-on accessories:

Fluid pass-through (air, gas) with shutoff valve
One-piece work surface
Additional power outlet on the right or left
External connection (ductwork network not supplied).
Activated carbon filter installed at the exhaust
Activated carbon in the base (in place of the HEPA filter)
Integrated transfer hatch (pass-through) built into a panel.
Weighing slab, size 250 x 400 x 70 mm, with anti-vibration mounts
Other optional add-on accessories available upon request (integrations, panel cutouts…)

XIX. MAINTENANCE

1. WORK AREA CLEANING PROCEDURE

Microbiological Safety Cabinets must be cleaned and disinfected **after each use and before being placed in standby**.

While cleaning the work area (excluding the mesh frame), keep the MSC operating in normal mode.

For convenience, the sash can be raised (**Warning : depending on the sash position, an audible and visual alarm may be triggered**).

Whenever possible, use large, **NON-woven** disposable wipes compatible with ISO Class 5 and ISO Class 4. This type of material is large enough that it won't be drawn into the MSC during cleaning, and it is lint-free and non-shedding to help maintain ISO Class 5 and ISO Class 4 conditions. (**Our Utilities department is available to advise you and point you to the best product reference**).

Saturate the wipe with a bactericidal and fungicidal cleaning agent. All alcohol-based products are compatible with the hood's structure.

Clean all accessible surfaces using the saturated wipe. You can reach the spill tray by lifting the INOX work surface panels.

You can also clean the lower half of the sash by reaching it directly from inside the work area. To access the upper part of the sash, lift up the front panel cover (Note: a gas strut mechanism is installed to hold the cover open).

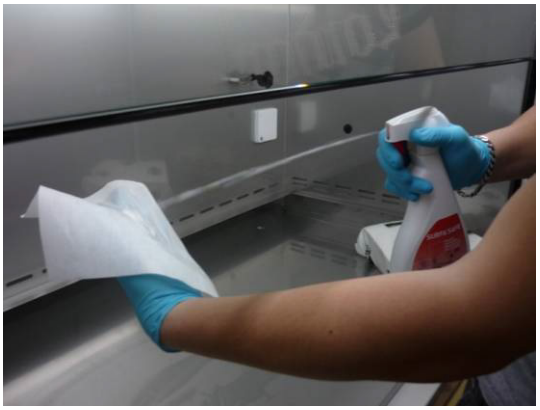
Avoid :
Using chlorine-based products such as bleach on any stainless-steel (INOX) parts, unless they are highly diluted.
The use of alcohol-based products or solvents is not recommended on the side windows.

2. OPERATING PROCEDURE

While cleaning the work area, keep the BSC running under normal operation.

For convenience, the sash can be raised fully; an audible and visual alarm will activate.

Clean the spill tray by lifting the work surface.



Spray a disinfectant onto a clean cloth, recommended for cleaning the biosafety cabinet. It is not recommended to spray the product directly onto the work surface or the side walls.

Clean the entire hood surface. It dries quickly and leaves no streaks. Do not rinse.

Using bleach is strongly discouraged on stainless-steel parts.

3. BSC DECONTAMINATION PROCEDURE

Microbiological Safety Cabinets must be decontaminated:

- Before any maintenance operation (e.g., replacing HEPA filters)
- Before checking the integrity of HEPA filters (EMERY test)
- Before changing the type of handling/procedure
- Before relocating the cabinet

Hydrogen peroxide decontamination

Decontamination is a mandatory step before any maintenance work on a microbiological safety cabinet (access to contaminated areas, plenum, filter replacement).

A disinfectant based on **hydrogen peroxide** and **peracetic acid** is nebulized—that is, broken into **microdroplets**—and dispersed throughout the area to be decontaminated (cabinet or room) to treat surfaces. No neutralization is required, since the residue from the process is water. (The Fleur-type control panel can be programmed for hydrogen peroxide decontamination).

This technology provides **automated disinfection of all surfaces, including the hardest-to-reach areas.**

Precautions for use : Clean the equipment with water. Do not pour leftover product into the sewer system. Store away from light at a temperature between 10 and 30°C.

Precautions for the user : Whenever handling a disinfectant based on hydrogen peroxide and peracetic acid, **the user must wear protective gloves** so there is no direct contact with the skin. Do not use if you are allergic to any of the components. **Do not apply to mucous membranes or to open wounds**. If swallowed, consult a physician and show them the label. Store protected from freezing and out of reach of children. Avoid contact with eyes; rinse with water.

XX. MAINTENANCE

As soon as the filter life indicator drops below the 15% threshold, plan to replace the filters.

Before replacing any filters, schedule a decontamination of the air-handling circuit (contact us for decontamination).

The filters are easy to replace: direct access from the front.

1. SUPPLY AND EXHAUST FILTERS

1- Access via the hatch above-the work area after lifting the cover.

2- Loosen the mechanical clamping bars.
3- Remove each filtration module.

4- Unscrew the HEPA filter.
5- Reinstall the fan onto a new filter.

6- Put each filtration module back in place.
7- Screw the access panel back on

Service life : about 3 to 7 years, depending on operating conditions.

2. BASE FILTER: HOOD OPERATING
This filter's maintenance requires two people.

1- Unscrew the hand knobs securing the airtight access panel.

2- Remove the access panel.

3- Unroll the plastic bag—do not force it.

4- Insert your hand through the sleeve provided for this purpose and lower the handle.

5- Remove the filter to be replaced from its slot, pulling it back into the plastic bag.

6- Once the filter is fully inside the plastic bag, seal the bag containing the used filter by heat-sealing at two points, or using two zip ties or hose clamps.

7- Cut the plastic bag between the two sealing points (to protect the used filter and avoid exposure to the inside of the hood)

8- Shift the bag insertion onto the outer rim/bead

9- Insert the new bag containing the new filter onto the inner rim/bead, over the remaining pieces of the 1st bag

10- Through the sleeve, grasp the cut-off bag remnants through the bag and push them down to the bottom of the new bag (**front face** of the new filter)

11- Insert the new filter into its slot, then use the sleeve to pull the closure handle back up

12- Roll up the new bag containing the remains of the old one (which will be disposed of at the same time as the new filter)

13- Re-install the sealed cover and retighten the handwheels

Maintenance is performed **without staff coming into contact** with the filter, thanks to the plastic bag

1) Caisson filtre

2) Retrait et mise en place du filtre

3) Mise en place du sac neuf

IMPORTANT

- **HEPA filter replacement operations must be carried out by a qualified technician and must be followed by a validation test of the cabinet in accordance with NF EN 12469.**
- **If a cabinet is replaced, moved, or left out of service for an extended period, a validation test must be performed by a qualified technician before it is put back into operation.**
- **Any work on a BSC must be done only after it has been decontaminated. The standard procedure is hydrogen peroxide decontamination (see the previous chapter).**

3. FAN -MOTORS

No special maintenance is required, and it remains accessible from the front of the unit.

4. LED LIGHTING

Direct access to the light strip located under the cover.

5. U.V. LIGHTING (ADDITIONAL ACCESSORY, OPTIONAL)

Direct access on the rear panel of the work surface.

XXI. SPECIAL PRECAUTIONS

To ensure the highest level of safe operation, this hood is equipped with fully automatic regulation that keeps airflow rates constant, regardless of the filters' level of clogging. The display on the control panel shows the remaining service life of the absolute filters. An audible and visual alert indicates when the H.E.P.A. filter must be replaced.

1. OPERATING CONDITIONS

The following environmental conditions must be met to ensure proper operation of your CYTO-PURE :
Ambient temperature: from + 5°C to + 40°C.
Humidity: from 30% to 95 %.

2. STORAGE AND TRANSPORT:

If the hood is placed in storage, it must be wrapped and stored in a location protected from climate variations and meeting the conditions specified below.

If the hood needs to be transported, it must not be subjected to any impact. After each move, it is strongly recommended that the installation be inspected again.

3. SPECIAL RECOMMENDATIONS FOR HOOD INSTALLATION / USE

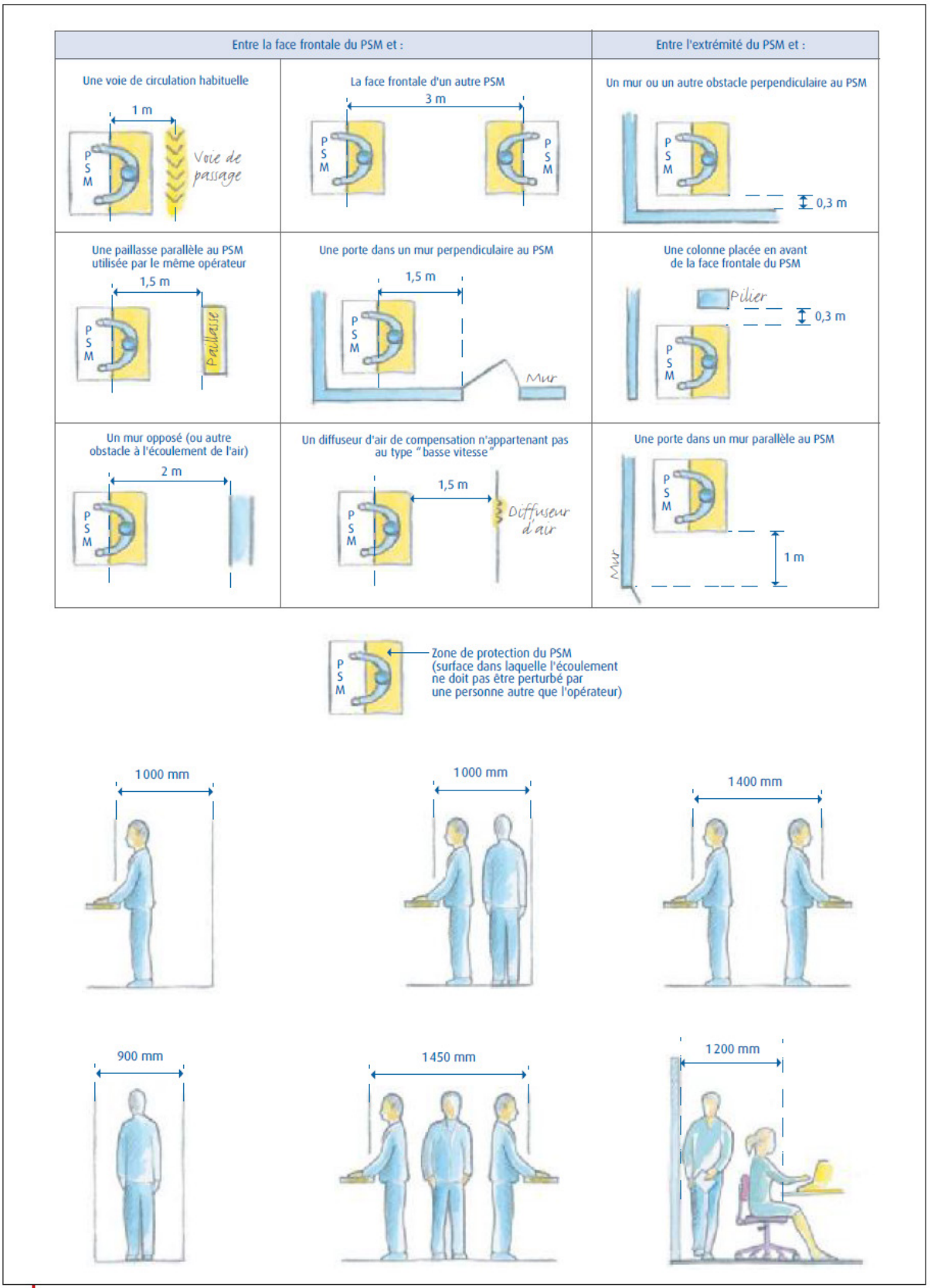
The location of a hood in a room must be selected so that the surrounding environment does not interfere with its operation (avoid placing it near windows, air vents, etc.).

The cleanliness level in a laminar-flow hood is ensured only when the operating precautions are followed. Laminar airflow provides a clean environment, but it does not decontaminate the items inside. The operator must work with gloves and with clean and/or decontaminated equipment.

To ensure proper airflow circulation, leave space between the equipment and the interior walls, and avoid unnecessarily cluttering the work area. Also avoid using an open flame (heat can disrupt laminar airflow). If there is no alternative, use a burner with a presence detector.

To ensure containment and keep the work area clean, the unit must remain in standby between two uses (this helps maintain a slight airflow within the unit).

INRS Recommendation :



Figures 17. Les espaces de circulation en fonction des différentes situations de travail.

XXII. PERIODIC VERIFICATION AGREEMENT

To help ensure your CYTO-PURE enclosure is used under optimal conditions, we can prepare a periodic verification agreement for you, carried out by our after-sales service department.

This agreement commits our company, ADS LAMINAIRE, to perform inspection and monitoring visits for your hood at intervals defined with your facility, as mutually agreed.

This maintenance agreement includes :

- Travel by our technical service team
- Particle count within the work area to confirm compliance with ISO Class 5 per ISO 14644-1
- Filter scan and gasket plane scan using a particle counter to verify the integrity of the filter assembly (EMERY 3004 test available as an optional add-on)
- Airflow velocity mapping and calibration of its display (flower chart)
- Sending the inspection report

ADS LAMINAIRE will carry out the repair and/or replacement of any faulty parts, as well as filtration components if deemed necessary, and subject to approval, to ensure the equipment continues to operate properly until the next visit scheduled under the contract.

Your maintenance contract is available upon request—please feel free to contact your ADS LAMINAIRE representative.

XXIII. WARRANTY AGREEMENT

The CYTO-PURE enclosure is covered by a 1-year warranty for parts, labor and travel (in mainland France, BENELUX and Switzerland) for any manufacturing defect (excluding consumables).

WARRANTY TERMS AND CONDITIONS:

During the warranty period, in the event of a breakdown, the customer will receive parts and labor at no charge (in mainland France).

The warranty does not apply to consumables that must be replaced.

The warranty is void :

In the event of damage caused by improper use or insufficient maintenance (failure to follow instructions), or damage resulting from an external cause (theft, water damage, fire, dropping, etc. See your facility's insurance).

In the event of service performed by a third party, other than ADS LAMINAIRE, during the warranty period.

The PSM is certified as compliant with NF EN 12469 (2000). Under no circumstances may ADS Laminaire be held liable for any changes to standards that were in effect at the time the hood was manufactured.

3-month warranty on replacement parts installed by us during a service visit performed by our technicians.

XXIV. APPENDIX

Fiche techniques SIMONA® COPLAST-AS-X

SIMONA

Nom commercial: **SIMONA® COPLAST-AS-X**
Date d'impression: 03.10.2022

Révision: 14.07.2016

	SIMONA® COPLAST-AS-X
Mise à jour de la fiche de données	14.07.2016
Densité, g/cm³, DIN EN ISO 1183	0,670
Module E à la traction, MPa, DIN EN ISO 527	1 100
Résistance au seuil de fluage, MPa, DIN EN ISO 527	18
Allongement au seuil de fluage, % , DIN EN ISO 527	3
Module E à la flexion, MPa, DIN EN ISO 178	1400
Résistance au choc sur éprouvette lisse, kJ/m², DIN EN ISO 179	19
Dureté Shore D (15 s), DIN EN ISO 868	68
Coeff. moyen de dilatation thermique, K⁻¹ , ISO 11359-2	0,63 x 10^{-4}
Résistivité superficielle, Ohm , DIN IEC 60093	≤ 10^{12}
Température d'utilisation, °C	0 à +60
Comportement à la flamme DIN 4102	DIN 4102 B2 normalement inflammable (Evaluation propre sans certifcat d'essai)
Innocuité physiologique, BfR	non

Les indications fournies sont des valeurs indicatives applicables au mat\u00e9riau sp\u00e9cifique, qu peuvent varier en fonction du proc\u00e9d\u00e9 de transformation et de la fabrication des \u00e9chantillons. En r\u00e8gle g\u00e9n\u00e9rale, il s\u2019agit de valeurs moyennes tir\u00e9es de mesures sur des plaques extrud\u00e9es de 4 mm d\u2019\u00e9paisseur. Pour les plaques produites uniquement par moulage par compression, il s\u2018agit en g\u00e9n\u00e9ral de mesures effectu\u00e9es sur des plaques de 20 mm d\u2018\u00e9paisseur. Des \u00e9carts sont possibles lorsque l\u2019on ne dispose pas de plaques de cette \u00e9paisseur. Pour les plaques entoil\u00e9es, les caract\u00e9ristiques techniques se r\u00e9f\u00e8rent aux plaques de base non entoil\u00e9es. Les indications ne peuvent pas \u00eatre simplement appliqu\u00e9es \u00e0 d\u2019autres types de produits (p. ex. tubes, joncs pleins) fabriqu\u00e9s dans le m\u00eame mat\u00e9riau, ni aux pi\u00e8ces transform\u00e9es. L\u2019aptitude des mat\u00e9riaux pour une utilisation concr\u00e8te doit \u00eatre examin\u00e9e par le transformateur resp. l\u2019utilisateur. Les param\u00e8tres techniques sont uniquement une aide \u00e0 la planification. Ils ne constituent notamment pas des propri\u00e9t\u00e9s garanties. Pour plus d\u2019informations, consultez notre Technical Service Center \u00e0 l\u2019adresse tsc@simona.de.

Fiche technique de sécurité selon 1907/2006/EG article 31

SIMONA

Nom commercial: COPLAST-AS-X
Date d'impression: 22.05.2014

Révision: 22.11.2012

1. Désignation de la matière / de la préparation et de l'entreprise	Informations sur le fabricant: SIMONA AG Teichweg 16 D-55606 Kirn Tél: +49 (0) 67 52 14-0 Fax: +49 (0) 67 52 14-211
2. Dangers possibles	inconnus
3. Composition / Indications sur les composants	Caractéristiques chimiques: polymère de chlorure vinylique, moussé Numéro CAS: pas nécessaire
4. Premiers secours	Indications générales: surveillance médicale n'est pas nécessaire Ressources d'intervention préparatoires: néant Voies d'exposition: néant Symptômes / effets: néant
5. Mesures à prendre en cas d'incendie	En cas d'incendie veuillez utiliser un masque à gaz qui ne dépend pas d'air de circulation. Les résidus de feu doivent être éliminés d'après les prescriptions locales. Produits d'extinction: brouillard d'eau, mousse, poudre d'extinction, CO2 Mention de danger: non pertinent
6. Mesures à prendre	Mesures liées aux personnes: néant Mesures de protection de l'environnement: non pertinent Appareils de nettoyage: non pertinent Produits de nettoyage ne devant pas être utilisés: non pertinent
7. Manutention et stockage	Manutention: Pas de prescriptions particulières à observer Stockage: illimité
8. Contrôle de l'exposition / protection personnelle	Aménagement spécifique d'installations de traitement techn.: non requis Valeurs limites: néant Procédure de mesure d'exposition: néant Protection des voies respiratoires: non requis Protection des yeux: non requis Protection corporelle: non requis
9. Caractéristiques physiques et chimiques	Identité Identité / forme: semi-produit, état solide Couleur: blanc Odeur: non pertinent Changement d'état Point d'éclair: non pertinent Autres indications Densité: 0,670 g/cm³

Page: 1 de 2

Fiche technique de sécurité selon 1907/2006/EG article 31

SIMONA

Nom commercial: COPLAST-AS-X
Date d'impression: 22.05.2014

Révision: 22.11.2012

10. Stabilité et réactivité	Décomposition thermique: supérieure à 200°C Produits de décomposition: Lors de la combustion il se dégage de l'acide chlorhydrique, du dioxide de carbone et de l'eau. En cas de combustion incomplète il se forme également du monoxyde de carbone et des traces de phosgène. Emploi de stabilisateurs: néant Réactions exothermes: néant Indications pour les états solide/liquide/gazeux: néant Conditions à éviter: néant Substances à éviter: néant
11. Indications sur la toxicité	Après plusieurs années d'utilisation de ce produit aucun effet nuisible sur la santé n'a été observé.
12. Indications sur l'écologie	Aucune dégradation biologique, insoluble dans l'eau, aucun effet négatif sur l'environnement n'a été observé. Mobilité: non pertinent Accumulation: non pertinent Ecotoxicité: non pertinent
13. Indications sur le traitement des déchets	Peut être recyclé ou éliminé avec les ordures ménagères (observer les prescriptions locales). Code déchet du produit inutilisé: EAK-Code 120 105 Nom du déchet: déchet de chlorure de polyvinyle
14. Indications pour le transport	Produit sans danger selon la régulation du transport Indication sur les récipients de transport: néant Caractérisation particulière des récipients: néant
15. Indications à respecter	Marquage selon GefStoffV/EG: aucune obligation de marquage Classe de danger pour d'eau: classe 0 (autoclassement) Exigences nationales particulières: néant
16. Indications diverses	Ces indications décrivent uniquement les exigences en matière de sécurité que le(s) produit(s) doit(doivent) satisfaire ; elles sont basées sur nos connaissances actuelles. Elles ne constituent pas une garantie pour le(s) produit(s) décrit(s) au sens des prescriptions de garantie légale.