

USER MANUAL
Biological Safety Cabinet
TYPE IIB2 – Model PPS 9
ISO 5

Serial N° :

Handbook of Microbiological Safety Cabinet Type PPS IIB

Dear Sirs,

You have just acquired a “**PPS IIB2**” and we congratulate you.

This cabinet guarantees you:

- To work in sterile conditions.
- The protection of the operator.
- The protection of the surrounding environment from all risks of contamination.
- Working with 100 % of new air and 100% of Extraction

Your cabinet **PPS** is recommended for the **manipulations of pathogenic germs (levels 2 and 3)**, manipulations of powders for weighting, cytotoxic preparations.

The model **PPS IIB** is built according to the European Norm **EN 12469**.

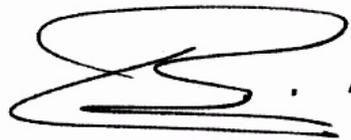
We wish you a good utilisation and we are staying at your complete disposal for further details.

Eric FITOUSSI



O.A. Manager

Bernard BJAOUI



Managing Director

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I - CONSTRUCTION

1 - FRAME:

Whole Frame in **Stainless Steel 304 L**

2 – WORK SURFACE:

Stainless Steel 304 L; a receptacle placed under the work surface (in Stainless steel 304L) permits to contain liquids. It can be cleaned by easily removing.

3 – AIR FLOW BARRIER:

This barrier is created through a Perforated Grid in stainless steel 304L. This avoids cross contamination.

4 - LIGHTING:

A fluorescent lighting is fixed outside the work volume on the front panel.
The level is 600-800 LUX on the work surface

5 – SASH WINDOW:

A front sash window panel (Triplex Glass 8mm) acts as a protective shield. The standard working position is 225 mm high above the work surface.

Three other positions of the window panel are possible:

- Standard Position for normal use
- Total Opening position (blue colour button)
- Total Closing till the bottom of the work surface.

6 - VENTILATION:

This cabinet is equipped with an adjustable and direct centrifugal fan designed to maintain the air flow velocity at low rotation speed (ECM technology: principle hereunder)

In order to avoid any vibration, engine and turbine are balanced together and the blower is mounted on rubber vibration isolators.

7-FILTRATION :

2 HEPA Filters are installed with an efficiency of 99.999% for particles greater than 0.3µ (classification H14 DOP tested).

Those filters are designed for laminar air flow blowing (ISO 5, Class 100, US Norm) and exhausting.

The blowing filter is a panel type:

Media: Glass Fiber
Frame: Aluminium frame and two white epoxy grids (both sides of the filter).
Gasket: Neoprene Gasket.

The filter inside the bench at exhausting is a Deep filter TYPE DH with High flow rate:

Media: Fiber glass H13 efficiency
Frame: Galvanised Steel frame with handle.

8- AUTOMATIC AIR FLOW REGULATION:

Air Flow Velocity is maintained constant automatically at 0,40 m/s +/-10% whatever the clogging of the filters. Use of ECM Fans (mono 220 V) allows an automatic flow rate regulation due to the microprocessor integrated inside the fan.

9- Exhausting deported Fan:

100% of extraction is maintained according to a deported extraction fan according to the balance of the air flow rate in the system. The Extraction fan is deported and should be connected to the main electrical cupboard inside the cabinet (behind the PVC white front panel). The adjustment according to the expected air flow rate should be adapted with the manual damper to regulate the air front barrier of new air (front grid) for 280 to 300 m³/h (total exhausting air flow rate: 900 + 300 m³/h max = 1200 m³/h).

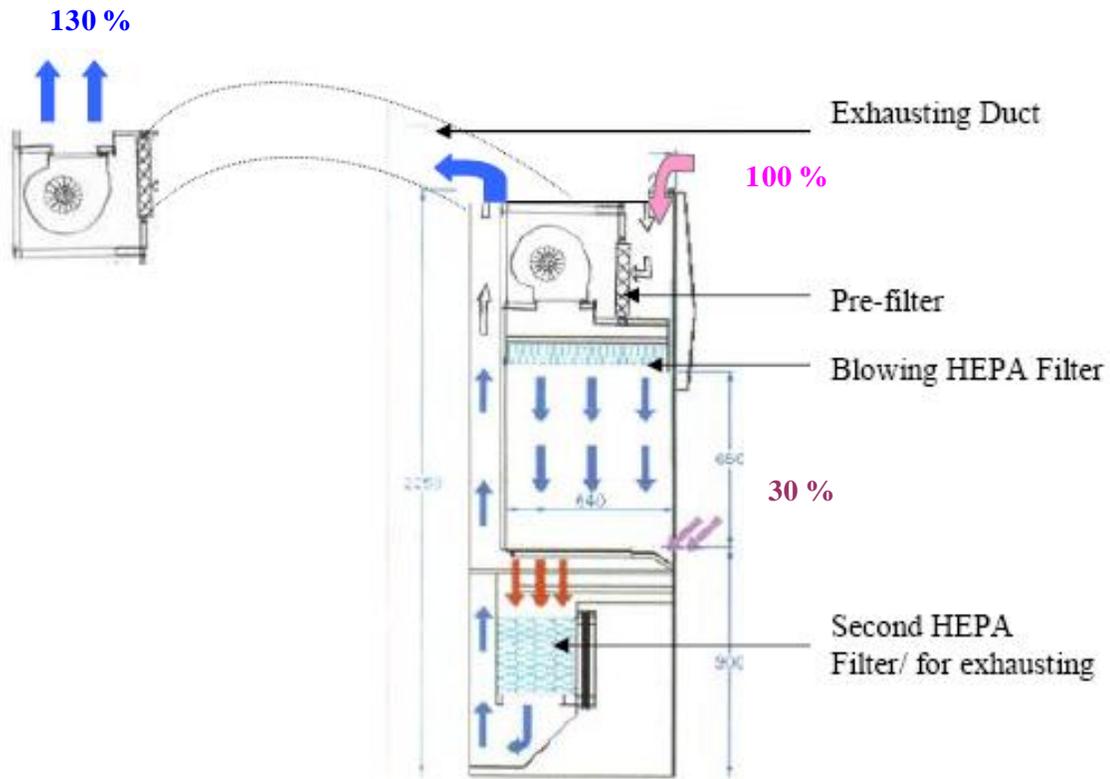
II - OPERATING DESCRIPTION - SECURITY

1-PRINCIPE DE FONCTIONNEMENT :

The vertical laminar air flow ISO 5 (class 100 FS 209 D or 4000 NFX 44201) is issued from the first absolute filter above the work surface, sweeping all the work volume in order to keep the handling out of any contamination. The 100% of new air is previously pre-filtered before passing through the HEPA Filter.

The capacity of exhaust is 30% more than the blowing air flow which permits to create a front barrier by new air sucked through a grid in the forepart of the work surface. This is creating a real air flow protection for the user.

All the air which is sweeping the work surface is filtrated by the filter placed inside the bench. This guarantees the protection of all the duct parts of the cabinet and sterile air flow before exhausting.



Cabinet Type IIB2
100% of exhausting.

2- SECURITY:

The use of the PPS is possible only when the key position is ON: in position “arrêt” with window closed, the cabinet is OFF.

When the PPS is in function (key in position ON), you benefit from the following safe principle:

In order to protect the operator, the regulation system is designed to maintain the air flow constant whatever the clogging of the blowing filter.

A spot light and a buzzer alarm inform that you have to remove the HEPA Filters in a delay of 3 to 4 weeks, when it is clogged.

Other alarm prevents when sash window position is higher or lower than the recommendation for normal use.

Alarms:

Alarm clogging optical and acoustic (HEPA filter)

Alarm blowing fan dysfunction optical and acoustic

Alarm on sash window to ensure the right height

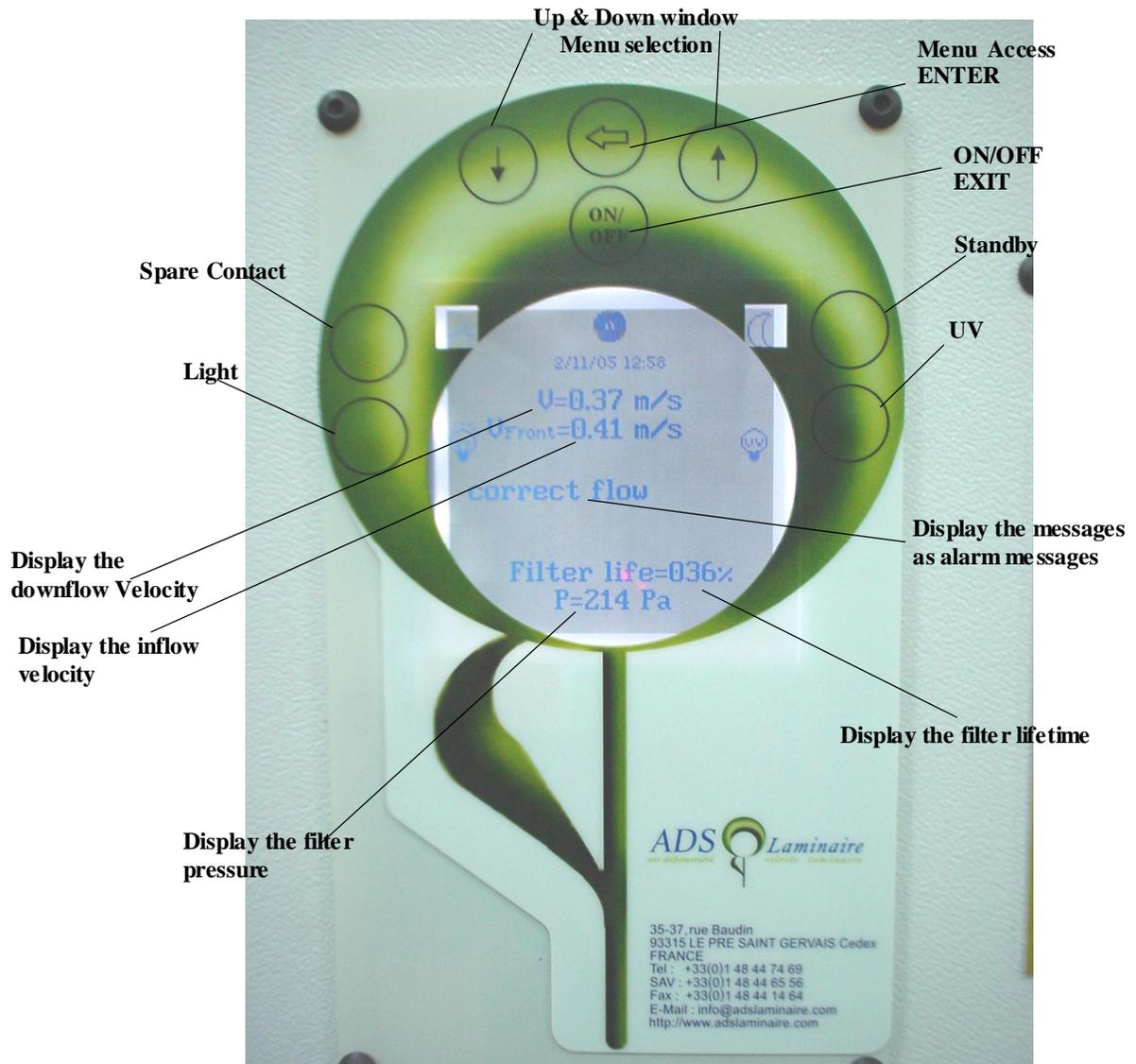
Alarm Exhausting fan dysfunction optical and acoustic.

III - CONTROL PANEL

The Front panel of your PPS IIB contains:

DESCRIPTION

PRESENTATION



BUTTONS

- *On/Off* : Switch on and switch off the cabinet, which means the fan and all functions.

Allows to exit from a menu or a sub menu or to cancel a function.

- *Sleep* : Switch on and switch off the Sleep mode.
- ↓ ↑ : Up & down the sash windows.
Use it to navigate into the menu or to select a choice.
- *Light* : Switch on and switch off the main light
- *UV* : Switch on and switch off the UV Lamp. Only available during the Sleep Mode.
- *Spare contact* : Switch on and switch off a contact in the main board ready to connect any accessory (solenoid, electrical socket, ...)

USING

STARTING



Push ON/OFF Button to turn ON.

If no password has been recorded, the cabinet starts directly.

If a password has been recorded (Factory settings) you need to enter it.



The Factory settings password is "0001". You can change it in the User Menu.



The panel displays “Wait” and the sash window stays closed until the velocity is OK. Then, the window raises itself to the correct height.

Push ON/OFF Button to turn OFF the cabinet.

If no password has been recorded, the cabinet will stop directly.

If a password has been recorded (Factory settings) you need to enter it.

The Factory settings password is “0001”. You can change it in the User Menu.

Then, the window closes automatically (an alert message displays) and the light switches off.



SLEEP MODE

Push Sleep Button  during 2 seconds to switch the cabinet in Sleep mode. When the moon is highlighted, it's OK.

If no password has been recorded (Factory settings), the cabinet switch in Sleep mode directly.

If a password has been recorded you need to enter it before.



Then, the window closes automatically (an alert message displays) and the light switches off. It is possible to switch ON the light if necessary.

The screen display that you need to push Sleep button 2s more to come back to the normal mode. If a password has been recorded you need to enter it.

After few seconds, the flower icon appears in standard mode and the airflow reduces itself at the value recorded in the Program menu.



When the cabinet comes back to the normal use, the sash window stays closed until the velocity is OK. Then, the window raises itself to the correct height.



ACCESSORIES

- *Window* : Push ↓ ↑ to open and close the sash window. If the button is released the window stop moving. When opening, the windows stops

automatically at the standard height.

Maintenance : To open the window at the maximum height, still pressing the \uparrow during 2 s. Then it starts opening until the button is released. If a password as been recorded in the "Window Lock" menu, a password will be asked to permit the opening,

- **Light** : press the "light" button, to switch on or switch off the light. The icon display little rays when the light is ON.



- **UV** : Press the "Light" button, to switch on or switch off the UV Lamp. UV can be activated only in the "Sleep Mode". If the cabinet is in "Normal Mode", this message appears : "Sleep mode for UV"



The icon display little rays when the light is ON.

- *Spare Contact*: Press the "Contact" button, to switch on or switch off the spare contact.

ALARMS

- *Clogging Alarm* : When the filter is clogged, the alarm beeps and this message appears " Filter Clogged"
- *Incorrect Flow Alarm* : When the velocity is out of the usual range, the alarm beeps and this message appears " speed too low " or "speed to high"



- *Window's Alarm* : When the window is not in the right position, the alarm beeps and this message appears " window too low " or "window to high"



- *Fan Alarm* : When the fan is out of service, the alarm beeps and this message appears " Fan Default "
- *Maintenance Alarm* : After calibration due date, this message is displayed: "Call After Sales Service"

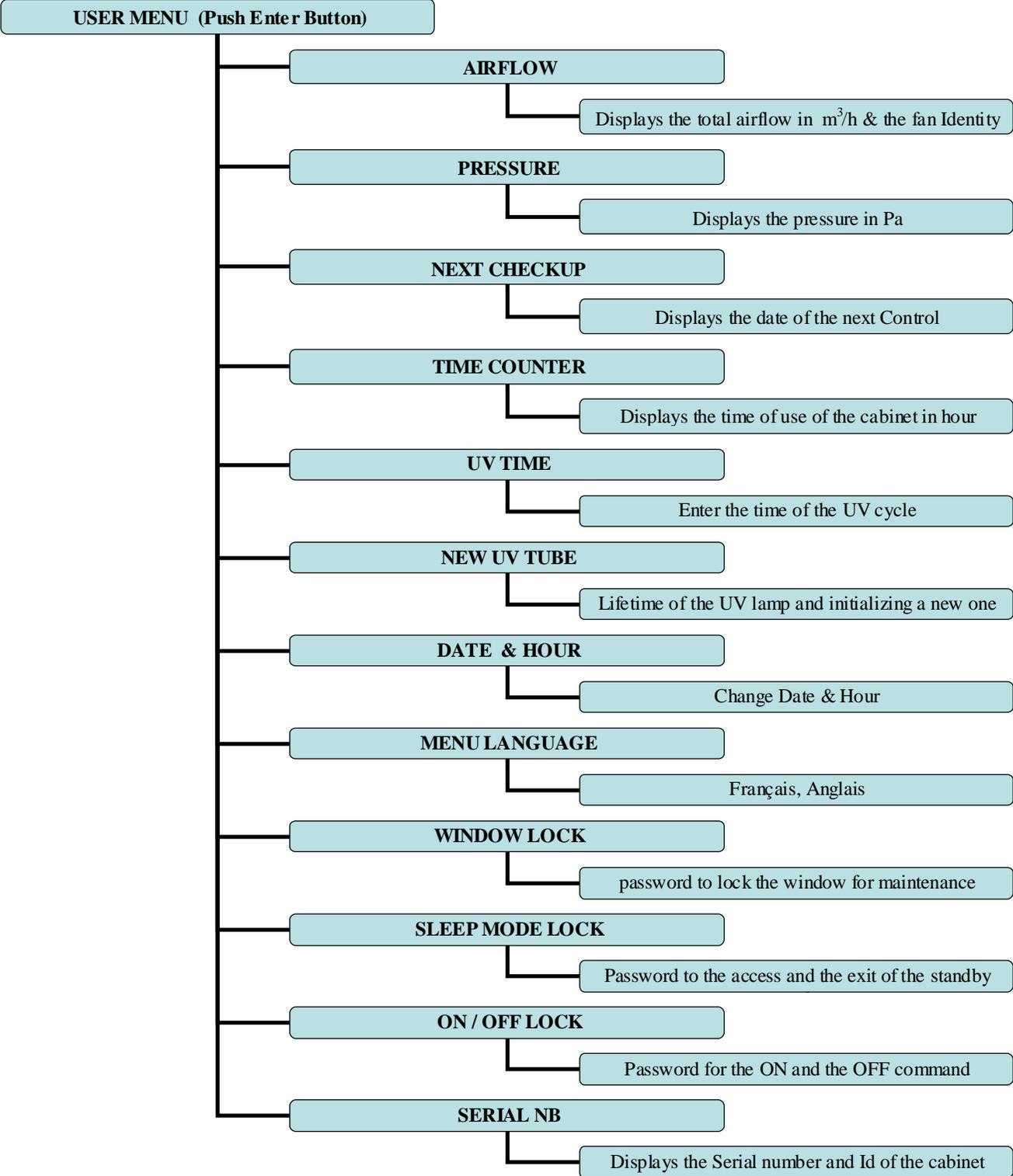
Bugs

If the cabinet presents any bug, you can try to reinitialize it to fix the problem.

To reinitialize the cabinet unplug then plug it again to the power jack. Then push Up & Down buttons together during 3 second while the flower appears.

USER MENU

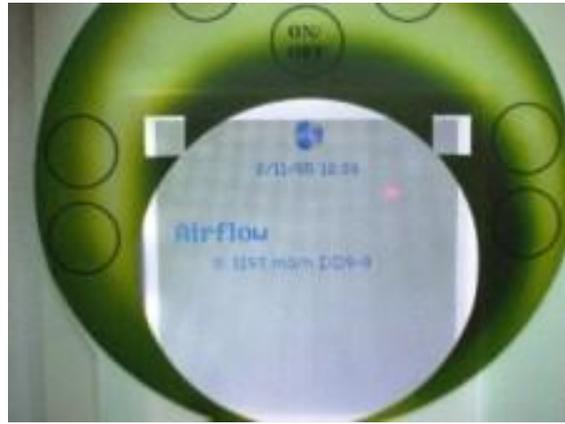
ORGANIGRAM



PARAMETERS

Airflow :

Displays the airflow in cubic meter



Pressure :

Displays the pressure in Pascal



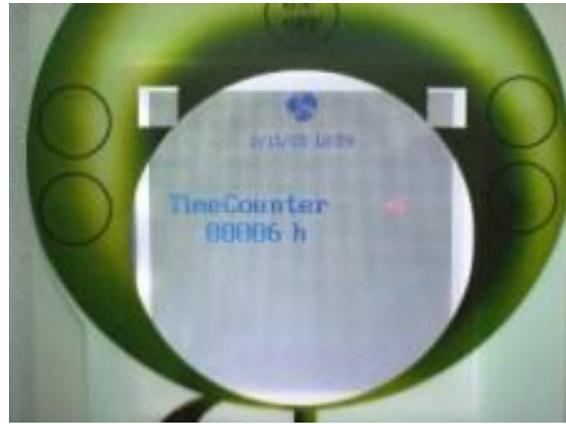
Next Checkup :

Displays the date of the next check-up (calibration due date)



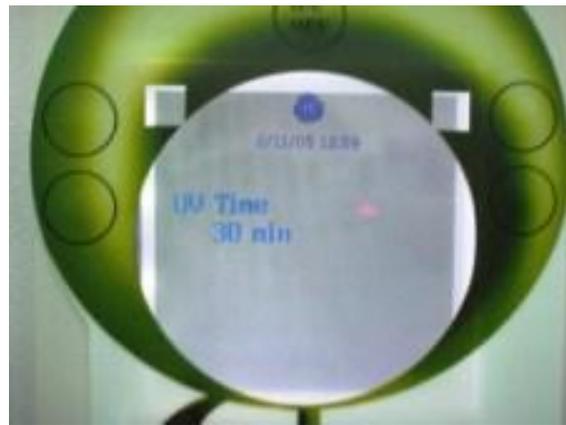
TimeCounter :

Displays the total time of using of the cabinet



UV Time:

Displays the value of the UV Delay time
Allows changing it



New UV tube :

Displays the life time remaining for the UV
Update after a UV change
(Need a factory Password)



Date & Hour :

Allows setting Date & Hour



Menu Language:

Changes the language of the menu:

French or English



Window Lock :

Allows entering a password to lock the sash window at the usual height

To open it higher, you will need to enter this password.

If the password is 0000, that means no password will be asked

To change the password, you need to enter the Old Password before and the New Password After

The factory setting is 0000 (No Password)



Sleep Mode Lock :

Allows entering a password which will be asked to activate and deactivate the Sleep Mode

If the password is 0000, that means no password will be asked

To change the password, you need to enter the Old Password before and the New Password After

The factory setting is 0000 (No Password)



On / Off Lock :

Allows entering a password which will be asked to switch ON or Switch OFF the Cabinet.

If the password is 0000, that means no password will be asked

To change the password, you need to enter the Old Password before and the New Password After

The factory setting is 0001



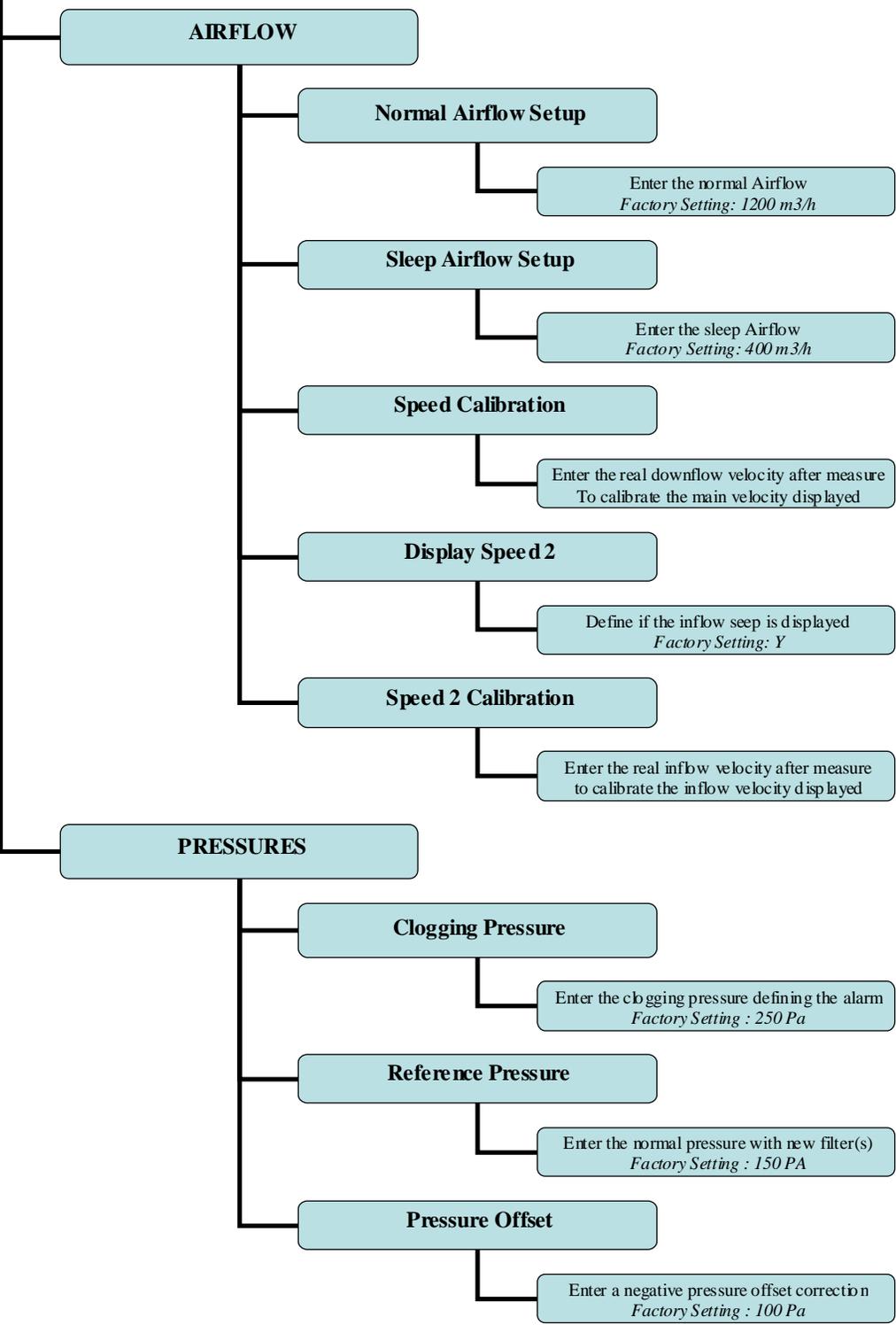
SerialNb :

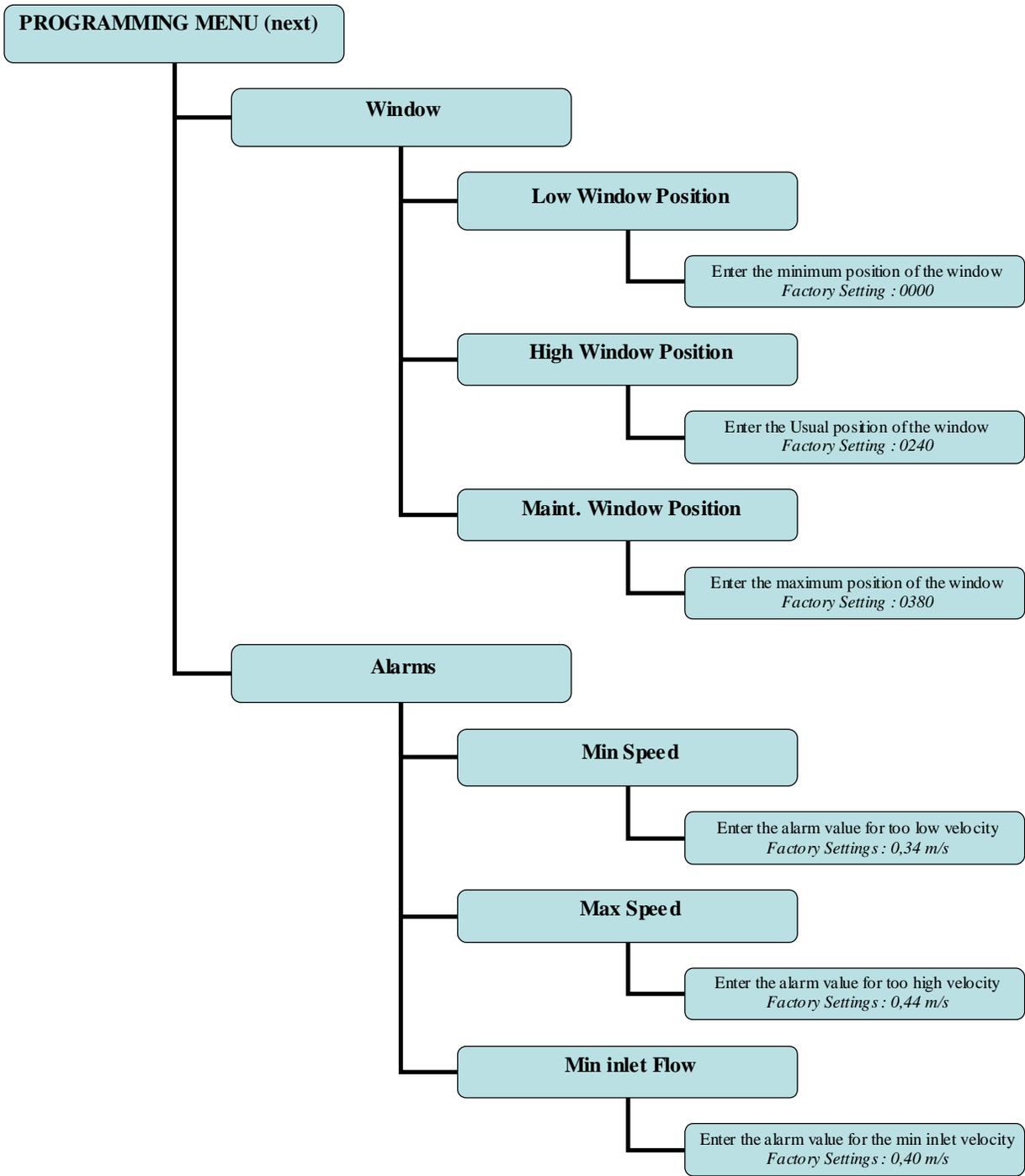
Displays the Serial Number and/or identity of the Cabinet

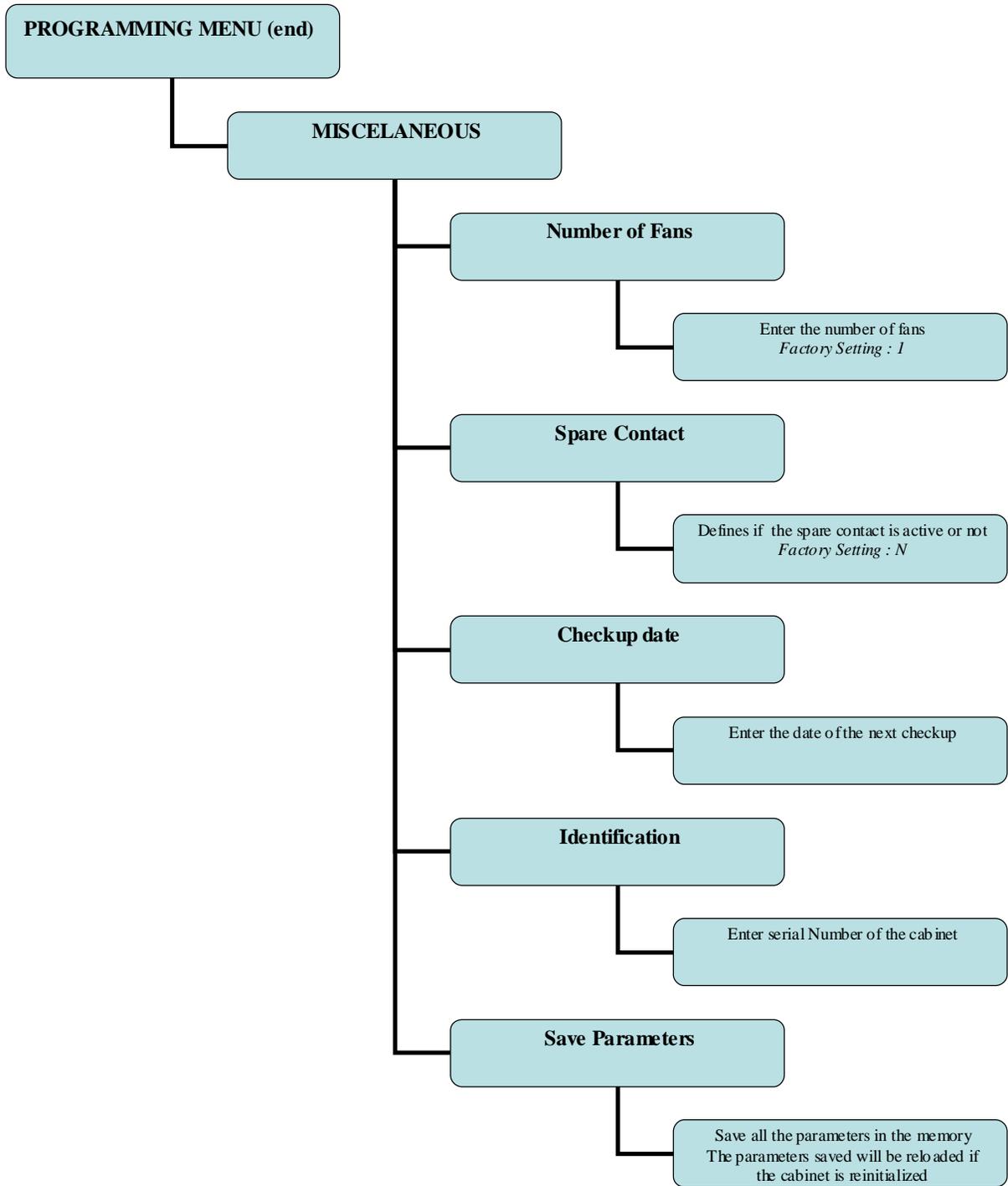


PROGRAMMING MENU

PROGRAMMING MENU (Press Enter Button During 4 s then enter the password)







To reinitialize the cabinet unplug then plug it again to the power. Then push Up & Down buttons together during 3 second while the flower appears.

ELECTRICAL CONNECTIONS



IV. USING THE PPS IIB2 9.

CONDITIONS :

The conditions of the environment hereunder have to be respected for a good operation of your PPSIIB2:

| | |
|-----------------------------|---|
| <u>Ambient temperature:</u> | + 5°C to + 40°C. |
| <u>Humidity:</u> | 30% to 95%. |
| <u>Agents of pollution:</u> | Do not install the PPS in a place where the quantity of pollutants is abnormal. |
| <u>Radiation:</u> | The PPS can not be exposed to important radiations. |

OPERATING PROCEDURE OF THE CABINET:

Placed on its support legs or on an existing work bench (pallet or stable horizontal table).

- Connect the Booth on current **mono 220 V+T -15**
- *Press the touch M.A (1), fan starts to blow. You shall wait 2 hours (time of purge) before the first utilisation.*

V - TECHNICAL DATA

PPS 12 II B serial number: 10344

DONNEES TECHNIQUES

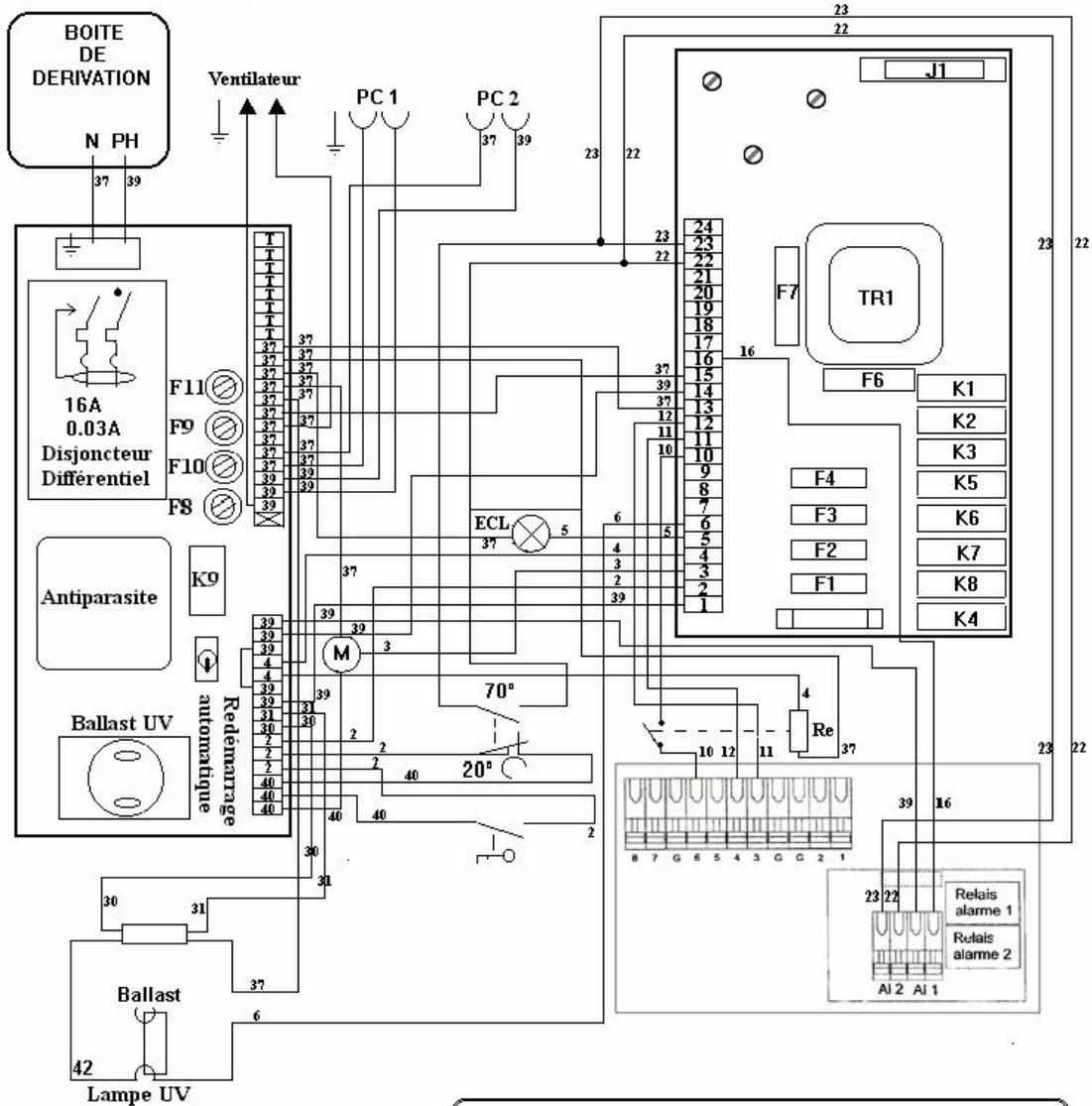
- Blowing Air Flow Rate: 900 m³/h
- Front Barrier Air Flow Rate: 280 to 300 m³/h
- Electrical Power : 500 W/ 4A
- Weight : 300 kg

| <u>DIMENSIONS:</u> | <u>Overall (mm)</u> | <u>Effective (mm)</u> |
|---------------------------|----------------------------|------------------------------|
| <i>Length :</i> | 978 | 921 |
| <i>Depth :</i> | 950 | 616 |
| <i>Height :</i> | 2550 | 650 |

- Electrical connections: mono 220 V + earthern 16 A
- Blowing air filter type : M 6/9 qty : 1
- Exhausting air filter type: DH 3/6 qty : 1
- Pre filter : W17/17/2 qty : 1
- Fan Type : ECM DD 9/7 qty : 1
- Extraction Fan Type : ADS 312 qty : 1
- Lighting Type : Fluo 900 qty : 1
- UV TYPE ; (optional) : G30 T8-900 qty : 1

WORK SURFACE : Stainless steel

VI - Electrical Sketch



(M) = Moteur Rideau

| LEGENDE | |
|-------------------------------------|----------------|
| F1 VEILLE 1.6A | K1 RIDEAU |
| F2 VENTILATION 10A | K2 |
| F3 ECLAIRAGE 1.6A | K3 VENTILATEUR |
| F4 LAMPE UV 1.6 A | K5 VEILLE |
| F6 TRANSFORMATEUR 2A | K6 UV |
| F7 ALIMENTATION GEREE 0.2A | K7 |
| F8 PRISE DE COURANT 1 10A (PHASE) | K8 |
| F9 PRISE DE COURANT 1 10A (NEUTRE) | K9 |
| F10 PRISE DE COURANT 2 10A (PHASE) | |
| F11 PRISE DE COURANT 2 10A (NEUTRE) | |

VII - MAINTENANCE

WARNING: Before accessing to the cabinet components, you have to cut the power of the PPS.

As soon as the diode COL is switch ON, you have to change the two HEPA filters. Before their replacement, anticipate the sterilization of the cabinet. Thanks to a very easy access and a simple fixation system, HEPA filters are easily removable.

Blowing Filter: Unscrew from inside the booth, under the filter. Filter is free.
Do the reverse in maintaining the new filter on the top for screwing.

Exhaust Filter: The access of the filter is direct behind the front panel.
Unscrew and take out HEPA filter to replace the new one.

Fan Motor: Without maintenance.

Fluorescent lighting: Direct access behind front panel.

IMPORTANT

- **HEPA Filters replacement must be made by a Specialist with validation and control.**
- **After long time of no use, proceed to a control and validation before your manipulations**
- **For usual Control and Test, you benefit from 2 inlets for DOP testing**
- **You can use Formaldehyde Fumes to decontaminate the cabinet (if you use biological agent)**

Filters inside the bench : the cabinet still in function

The maintenance needs usually two persons.

1. unscrew the fixation of the panel
2. take out the panel for bag and filters access
3. pull the bag slowly
4. through the bag , catch the handle and turn.
5. use the handle on the filter's frame to pull the filter inside the bag.
6. when filter is completely inside the bag.
7. stop the cabinet functioning
8. package the filter with the bac.
9. Close the bag slowly or thermo seal with with suitable tools you can buy in the market.
10. Place a new filter and turn the steel handle to fix the filter.
11. Put a new plastic bag without extending it.

12. Put the front panel

If the steel handle is not turn correctly, you cannot fix and screw the front panel properly

13. Screw it

14. Start the cabinet / ON

It is recommended after each replacement to proceed to a particles counting and velocity control.

IX - GUARANTY AGREEMENT

The **PPSIIB2 9** is guaranteed One Year for spare parts out of labours, except for wrong use and disposables.

CONDITIONS OF THE GUARANTY:

- During the period of guaranty, the customers will benefit in case of failure, from free spare parts replacement.

- **The guarantee is not available for:**

- In case of consecutive damages referring to a wrong utilisation or a default of maintenance.
(non respect of orders) or an external cause (damages of water, fire, and so on C.f. the insurance of your establishment.)
- In case of external intervention, other than **ADS LAMINAIRE** company during the period of the guaranty.

X - HELPS FOR MINOR PROBLEMS

NO ELECTRICAL POWER :

- Check that **PPS 12 II B** still be plugged to mono 220 v + T.
- Check the fuse of the card of the control board (F1).

NO BLOWING :

- Check the fuse of the Fan (F3).

NO BLOWING AND THE ALARM IS ON :

- Weather Storm : the thermic protection of the fan is on
- Unplugged the cabinet while 2 - 3 hours.
- Connect it again ; it should start normally.

NO LIGHTING :

- Check th Fuse of the light (F2).

NO UV LIGHTING :

- Check the fuse of the light (F2).

VISUAL ALARM IS ON :

- Plan to change the HEPA filters (blowing and exhausting) before 3 to 4 weeks.

VISUAL ALARM IS BLINKING:

- Change immediately the HEPA filters: they are clogged
- Short Electrical cut off :
Push on start button (ON/OFF) to
switch off

Do not hesitate to contact ADS LAMINAIRE for any others defaults: + 33(1) 48.44.74.69.

XI. CERTIFICATE CE / CEM

« CE » CONFORMITY CERTIFICATE

The Manufacturer, undersigned:

ADS LAMINAIRE
35-37 rue Baudin
93315 le Pré-Saint-Gervais cedex

Insure that: all equipment defined as follow:

TYPE: PPS 12 Type IIB

File: 96 602 1070 59 6600 GA 380/01865801.7R-RN/ma

Is conformed with:

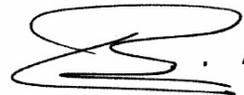
- Recommendation from annexe I of European Directives 89/392 modified, at this day, by directives 91/368, 93/44 et 93/68.
- Pacts n° 92-767 of 29-07-92 bringing transposition of European Directives 89/392 of 14-09-89 and 91/368 of 20-06-91 concerning Technical Rules and Conformity Certification which is suitable.
- The following Directives: *73/23 CEE - 89/336*
- According to legislation and Law European Member State bringing transposition of pre indicated European Directives as below (1)
- National Norms: *NFC 20.010 / NFC 20.030*

Date: **Le Pré-Saint-Gervais (93),**

Year 2006

Name and Function : **B. BIJAOUI – Managing Director -**

Sign:



(1) valable uniquement dans le cas d'une exportation et À la demande de l'Etat membre. préciser alors le nom de l'état ainsi que la nature, le titre et la date du ou des actes législatifs ou réglementaires applicables.