



Operating Instructions and Maintenance

Weighting Booth Type PS/PSX EQL

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General

The purpose of this document is to define and explain the method of operation of the "Weighing Booth" type PS/PSX EQL and to provide the operator and the surroundings, safe working conditions by removing hazardous and noxious vapors, gases, dusts, mists and other aerosols and reduces potentially hazardous situations, such as accumulation of explosive gases.

2. Reference Standards

The PS/PSX EQL actually consists of two (2) cases.

1. Compression Case. 2. Absorption Case.

Those ensure clean working space in ISO 5 level according to the requirements of: European Norm: EN 14644-1:2000

3. Applications

These kinds of systems are common to encounter in:

- Operating rooms
- Optical industry and laboratories
- Micro electronics
- Fine mechanics
- I.V.F (In Vitro Fecundation)
- Food industry
- Pharmaceuticals
- Cosmetics
- Chemistry industries and laboratories
- Space and Weapons industries
- Clean laminar down flow canopies (see description and illustration below).

Designed mainly for hospital use for:

- Immune deficient patients
- In Hematology
- Medulla grafts
- Burn patients

The patient is isolated safely from hospital environment and not from the staff. He/she may be approached easily and safely.

4. Benefits and Advantages

- Centrifugal fans, direct access.
- Temperature and humidity resilience.
- Option: Ceiling suspension.
- Option: 4 poles of anodized aluminum.
- Absolute filters ensuring efficiency of 99.999% according to DOP test for particles of 0.3 μ .
- Grills dissemination.

- Fluorescent tubes
- Vinyl curtains limiting the protected area
- Variable speed automatic regulation
- Pre filter 90% efficiency.

5. Order Definitions

The boot dimensions can be defined by a set of 3 figures (according the following table).

Example: The choice of one: PS 16/18/20: Useful dimensions are in millimeters that equal to: 1650x2000x2100 (please refer to table below) these dimensions are given in scale of 100 mm. Different range of accuracy please find in table standard.

MODEL	DIMENSIONS
12	1350
14	1500
16	1650
18	2000
20	2100
22	2200
24	2600
26	2700
28	2900
30	3100
34	3500
36	3800

6. Operating Principles

The air in the booth undergoes initial filtering through a pre filter with the efficiency of 30%÷90% and it is pressed by a centrifugal fan into the plenum (space for the air to be scattered).

The said air goes through absolute filtering (absolute filter HEPA type) with 99.999% efficiency for particles greater than 0.3 μ in accordance with DOP Test. Therefore it brings the work space to cleanliness level of ISO-5 according to European Norm: EN 14644-1:2000. This enables positive pressure in workspace.

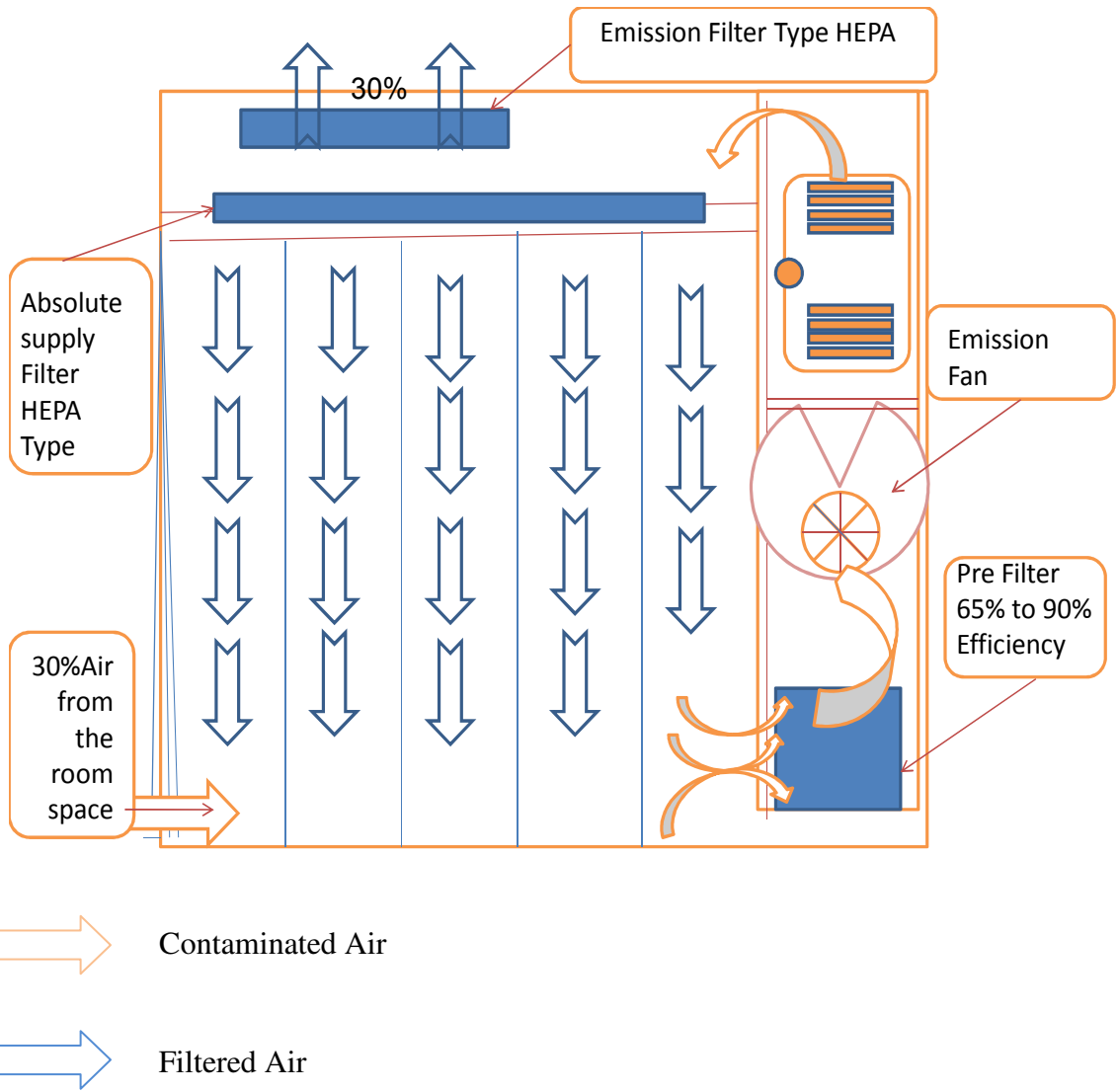


Fig. 1: Operating principles

7. Structure Principle

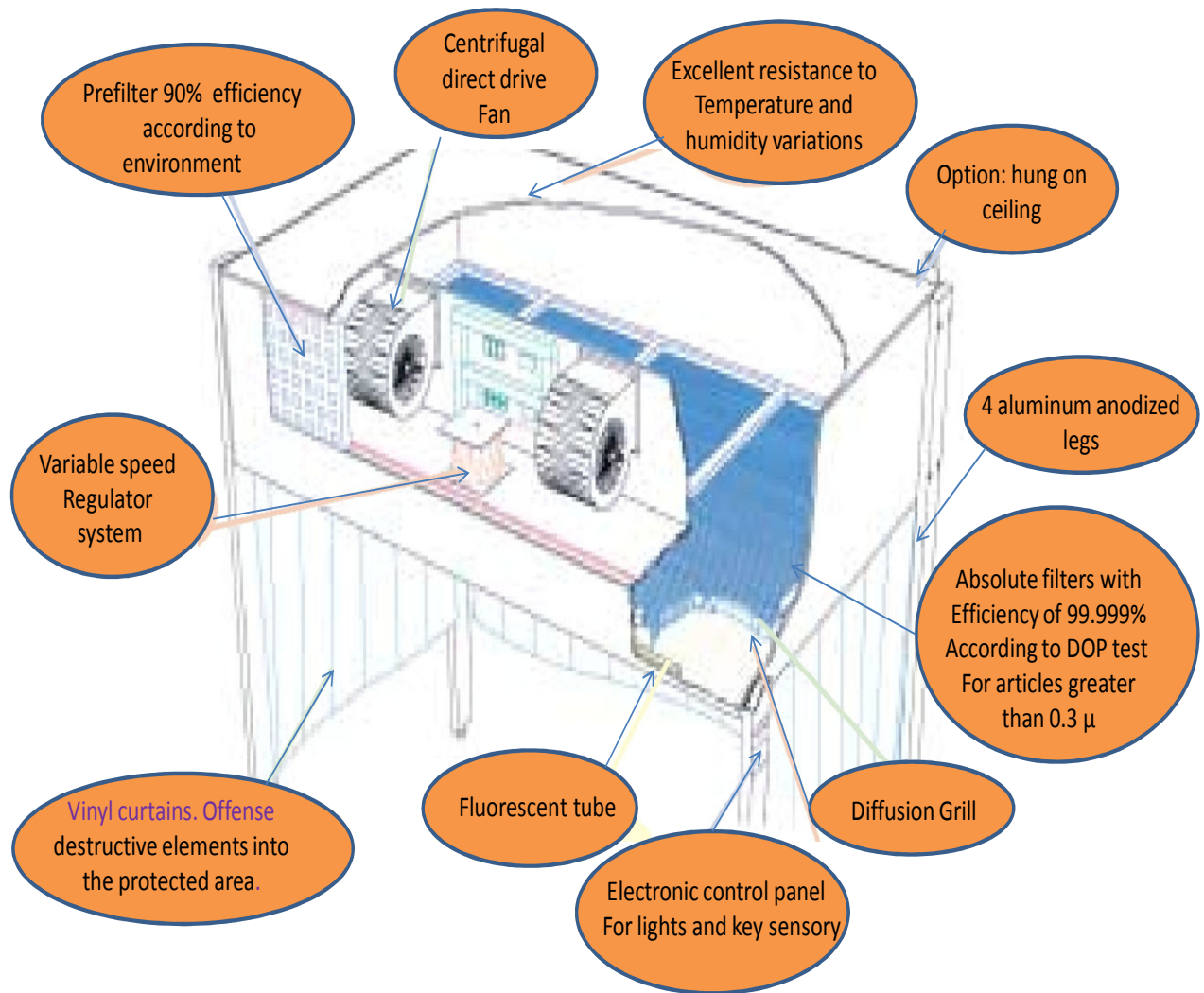


Fig. 2: Structure principle

7.1 Type of Booths

7.1.1 General type of booth (fig. 3)

PS EQL: It protects the operator and the operation.

Applications are for:

- Sampling,
- Powder manipulation.
- Packaging and forming.
- Class ISO 5 protected plenum.

It can be dimensionally customized.

7.1.2 PSXEQL with internal fan (figs. 4 and 5)

7.1.3 PSXEQL with a row of fans (fig. 6)

This position is equipped with a number of motor driven fans. The fan motors are centrifugal with variable speed and are mounted on silencer blocks.

The fans are powered by Single phase, 230 V with ECM technology. The motor is independently capable, without external sensors or control systems, of maintaining the required air flow rate, regardless of the loss.

7.1.4 Booth, principal of operation (figs. 7 and 8)

7.1.5 PSXEQL with multiple booths (fig. 9)

The multiple rows of PSXEQL booths are designed for weighing and sampling of pharmaceutical substances in the relevant industries.

Since several substances are being manipulated at the same time, the need of booths is essential. The ambient space is kept clean in order to safeguard operators' health.

The cleanliness is kept via booth operation method:

Clean air is compressed from ceiling through absolute filters and the contaminated air is drawn through filters in the lower rear wall away from the operator.

7.1.6 Custom made PSXEQL booths (fig. 10)

Weighing booth with integration facility.

7.1.7 PSXEQL with perforated table (fig. 11)

Work bench with perforated table with rounded holes.

7.1.8 PSXEQL with computer niche (fig. 12)

Weighing booth with computer niche.



Fig. 3: General type of booth

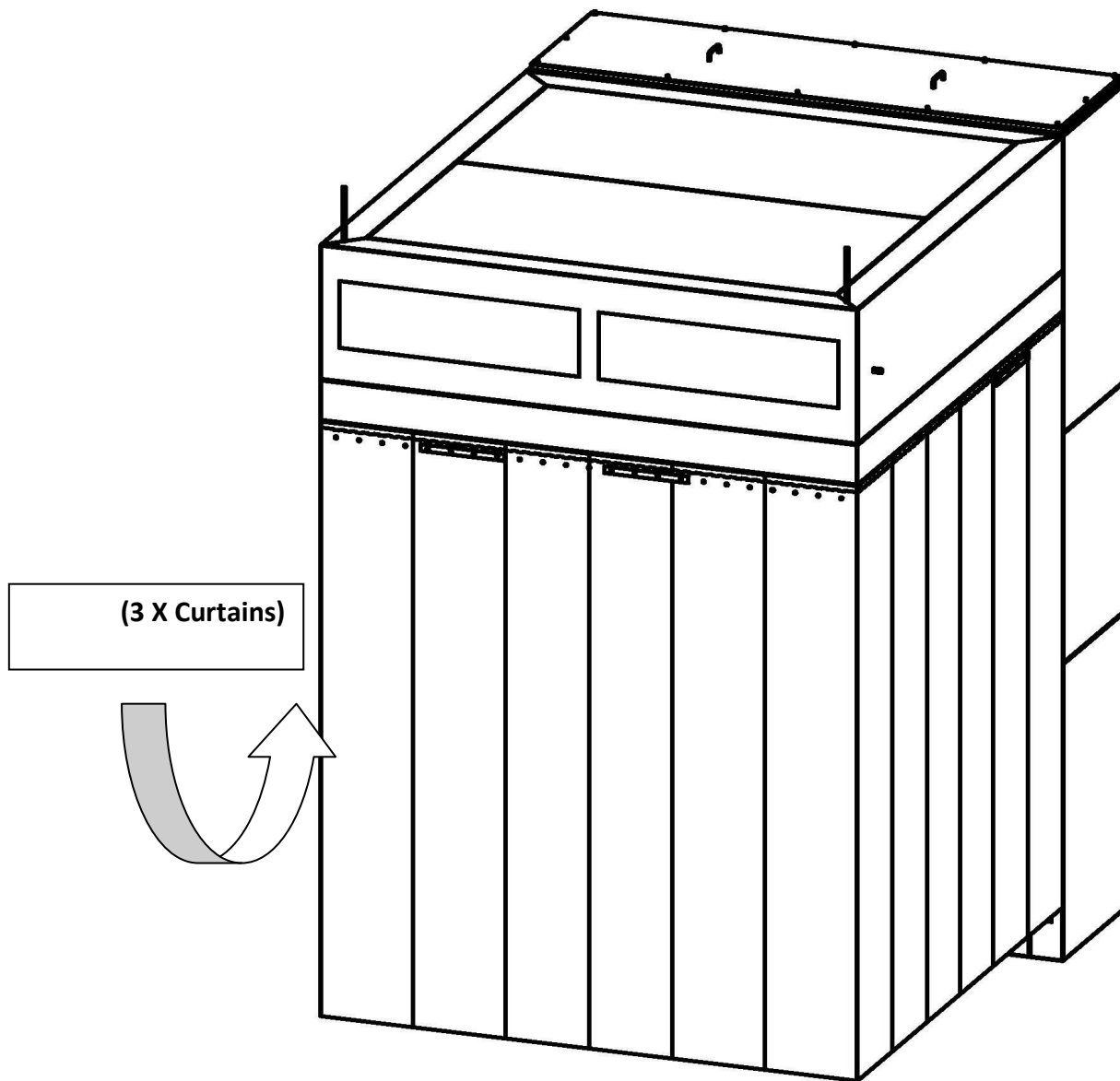


Fig. 4: Booth with internal fans

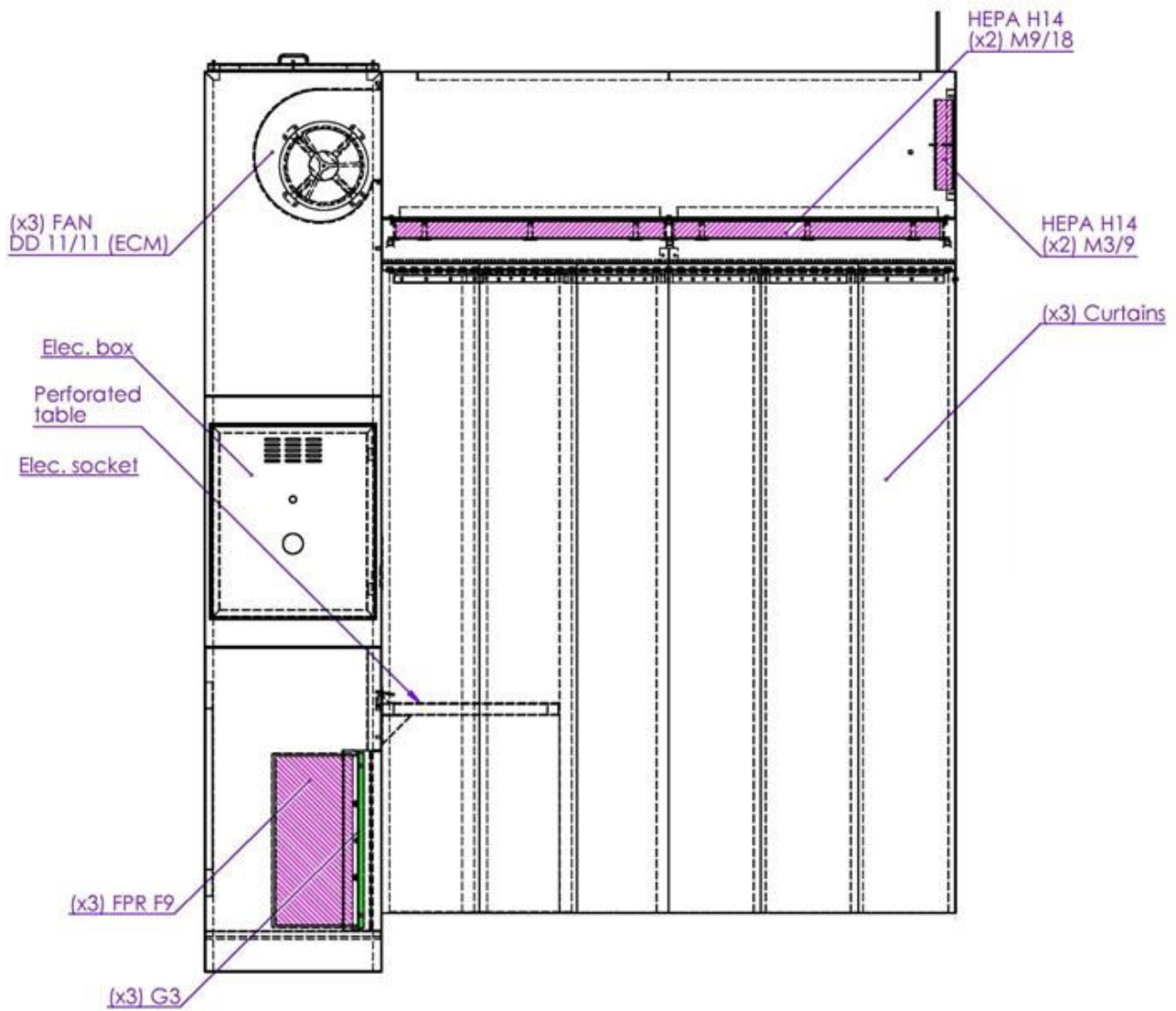


Fig. 5: Booth with internal fans - block diagram



Fig. 6: Row of fans

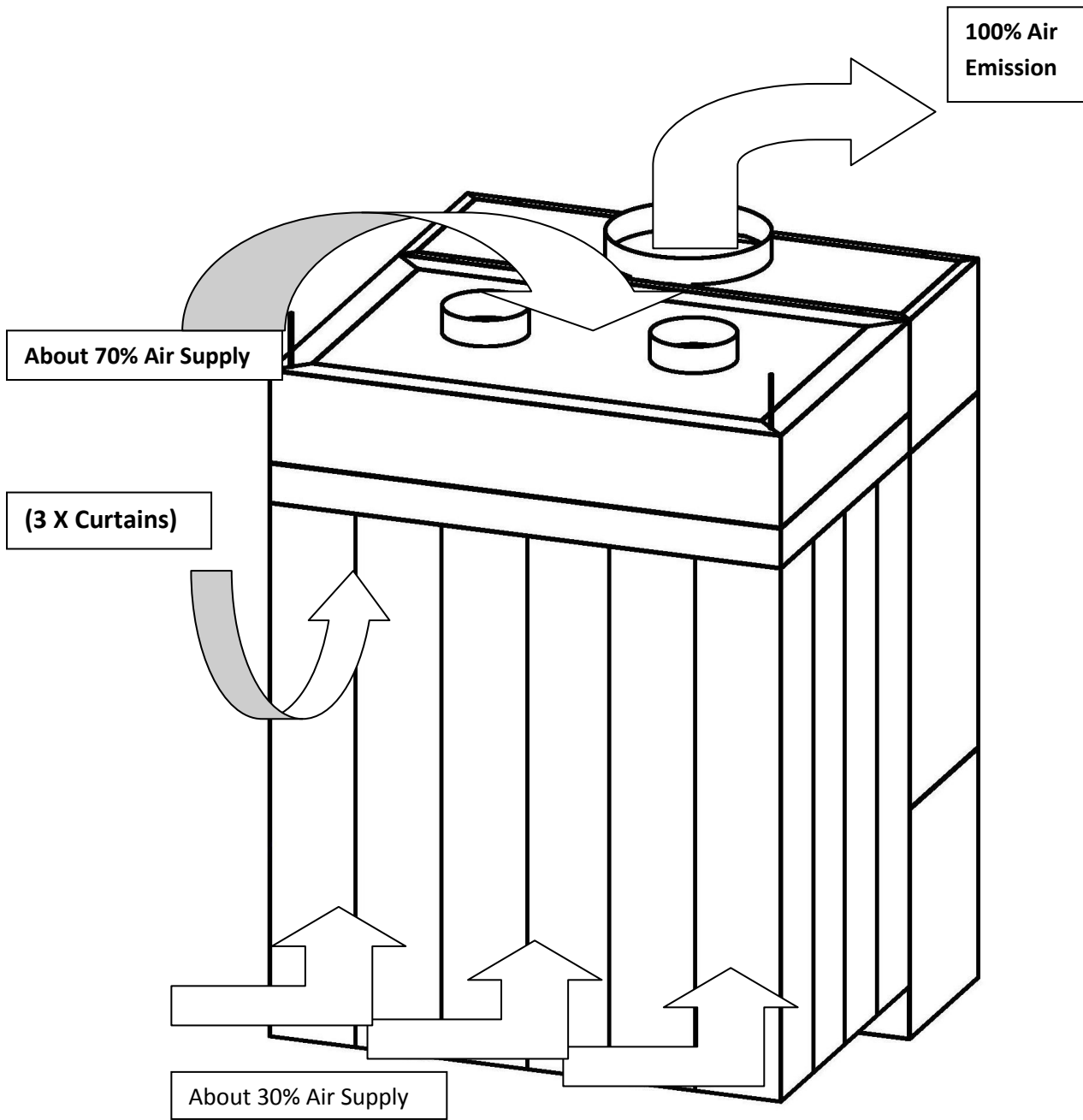


Fig. 7: Booth, principal of operation



Fig. 8: Booth with external fans



Fig. no: 9: Multiple booths



Fig. 10: Custom made integration facility



Fig. 11: Booth with perforated table



Fig. 12: Booth with computer niche

8. Safety

To ensure the safety of the operator and surrounding personnel, a complex system is installed and controls the unit automatically. It guarantees a fixed airflow. It also has a warning system that detects abnormal situations.

9. Unit arrangement

The PS / PSX, booth type consists of the following assemblies:

9.1 Pre-Filtration

Choosing a pre filter made of synthetic fibers which is replaced at a frequency of 1-6 months depending on environmental conditions, provides efficiency of 90% for 5 μ particles. It ensures proper protection of HEPA filter with 99.999% efficiency according to D.O.P test for particles of 0.3 μ . It also maintains HEPA filter longevity.

9.2 Absolute Filtration

Absolute H.E.P.A filters with 99.999% efficiency according to D.O.P test for particles equal or greater than 0.3 μ .

The filter consists of Aluminum frame and fiberglass paper media which are attached with neoprene compound.

The filter is assembled on the booth ceiling using mechanical clamping fasteners and it is also sealed to the ceiling with neoprene gasket.

The assembly ensures good laminar working area in accordance with " Class 100" or "ISO 5" in European Norm EN 146441-1:2000.

Absolute filter replacement frequency is 3-5 years.

9.3 Ventilation

The ventilation system is operated in either ways. The booth contains: Internal fans or external ones (out of the booth).

9.3.1 Fan included

The said system is equipped with a centrifugal fan, or group of fans, DP99 – ECM.

The fans compress air into an only plenum, containing emission and aspiration filters.

The air scattered is proportional to the filters' ambient space. This method enables constant emission flow rate.

9.3.2 Fan is not included

Air intake and emission is external and is provided by the customer's facilities, including air flow control capacity.

9.4 Envelop Structure

The envelop structure is made of high quality stainless steel. The folding technique and assembly is designed to prevent leakage on the filter frame and it allows convenient filter removal.

9.5 Legs/corners (option)

In some of the configurations there are anodized aluminum legs (2÷4), mounted on adjustable casters. The height of the legs is in accordance with a customer's requirements.

The boot can be suspended from the ceiling with local tensionless adjustable plates above the protected area.

9.6 Suspension Tows (option)

In some cases there is to enter the boot from 4 directions.

In such cases the boot is suspended from the ceiling and attached to the 4 upper corners of the boot, with 4 suspension tows.

9.7 Diffusion Gills

It is made of plastic squares of about 15 mm in each direction. It is placed in the surface of the envelop structure that goes downwards. The purpose of the said net is to straighten the downwards airflow into the booth.

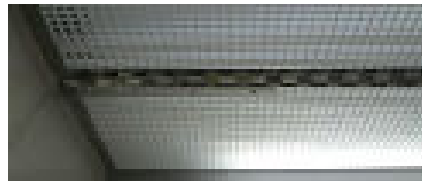


Fig. 13: Diffusion grill

9.8 Automatic Regulation

In the booth, as mentioned before, ECM fans are installed. These have air velocity adjustment capacity and are installed on "Silent Blocks".

It ensures constant air flow rate of 0.45 M/s without external sensors and/or adjusting air flow rate apparatus.

9.9 Lighting

The fluorescent tubes are installed such that they avoid disruption of the laminar flow.

It guarantees maximum comfort as the external light is not sufficient.

The light level is 600÷800 Lux 1 meter from the ground.

9.9.1 Option: safe light

In case of explosive environment present in the booth, explosion proof fluorescent lights can be installed.

In this case, the unit will include On / Off explosion proof light plug on one of the walls.

9.10 Vinyl Curtains

A set of transparent flexible, anti static, vinyl curtains are installed on aluminum profiles rails. The air in the ceiling plenum is guided downwards and enables the air on the ground to flow towards the exhaust filters (over again action).

It also limits the zone to be protected. The length of the curtains may be cut according to the shape of the isolated hardware in the booth and customer's requirements.

10. Control Systems

10.1 Option 1: CPT control panel

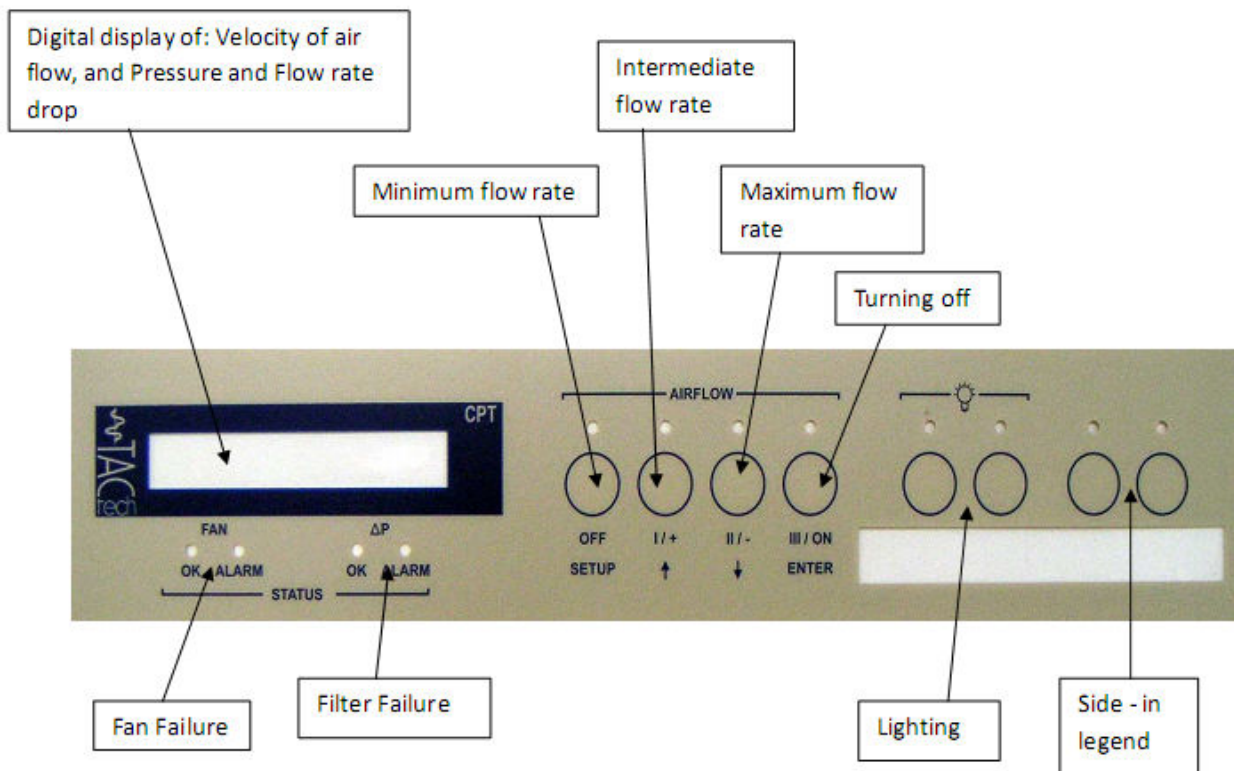


Fig. 14: CPT control panel

The selected information is constantly displayed in a loop. You can freeze the display on single information by pressing ENTER until a 'key' symbol appears on the left of the display, once the chosen information appears. To unfreeze press ENTER until the 'key' symbol disappears.

- LEDs above knobs OFF, I, II, III are lit according to selection made
- LEDs above each external relay are lit when relay is activated
- Alarm display is activated by using corresponding LEDs (green=OK, red=alarm)

OFF, I, II, III Selection

D - Configuration

This configuration corresponds to K1/K2 setup as digital (contacts) outputs. It allows selection of 3 multipliers + soft stop applied to nominal airflow configured in the CB TACd2/n2/R²3/CBM. Knobs

OFF - I - II - III control inputs K1-K2 in the CB TACd2/n2/R²3/CBM. The selected knob is indicated by a lit led. The 4 positions are equivalent to the EDSB4's: OFF position is soft stop, position I closes K2, position II closes K1 and K2, position III closes K1. You can de-activate these.

There are contacts with jumpers on the back of the circuit. This can allow for instance, deactivating of K2 to connect a 0-10V signal on the CB TACn2 communication card and use the CPT only as a display and a soft start/soft stop device.

A - Configuration

This configuration corresponds to K1 setup as a digital (contact) output and K2 as an analogical output (0-10V).

You can memorize 3 (0-10V) values corresponding to each position I, II et III (see §6). Knobs OFF - I - II - III allow then to select the pre-determined airflow.

The selected knob is indicated by a lit led. You can de-activate these contacts with the jumpers on the back of the circuit. The use of a CB TACn2 configured in LS mode is required.

OFF +/- III Selection

A ± Configuration

This configuration sets K1 as a digital (contact) output and K2 as an analogical (0-10V) output

The airflow selection is directly done using knobs - / + (I and II), and can be change while running. The percentage of the 0-10V signal is displayed on the screen. The fan is stopped/started using knob 'OFF' and III. The selected knob is indicated by a lit led. You can de-activate these contacts with the jumpers on the back of the circuit. The use of a CB TACn2 configuration LS mode is required

External relays

The 4 knobs on the right control the external relays. This allows controlling lighting, UV, decontamination, window position, etc ... directly from the CPT.

Maximum total current for the relays: CPT+TACd2: 135 mA,
CPT+TACn2 without Communication: 95 mA, and with communication: 75 mA

External on/off feature

The external on/off feature allows to remotely shutting off the fan and the CPT must be used if one contactor is used to control several CPTs.

Sound Alarm (buzzer)

The CPT is equipped with a buzzer. It is activated when alarm 1 and/or 2 are generated. It can be deactivated. The symbol then disappears from the screen.

Technical data

Ambient temperature: 10°C / 40°C, Ambient RH%: max = 93%, Conformity: CE approved.

10.2 Option 2: TAC Viewer

The TAC Viewer Control System is developed and produced by "P. LEMMENS Company". It is one of the options that can accompany the PSXEQI booth system.

1) Summary

TAC2 Viewer:

Function: LCD display of actual airflow (m³/h) and/or pressure (Pa), and/or airspeed (m/s). Softstart/stopping the fan, and control of K1 input (digital) and K2 (digital for TACd2 and analogical for TACn2/TACIs2).

Definition:

- with a CB TACd2 or CBM or R²3 :

Display of actual airflow, pressure, and airspeed, LEDs for pressure and motor failure alarm. 100/66/33/0 % airflow selection with OFF/III/II/III knobs.

- with a CB TACcp2

Display of actual airflow, pressure, and airspeed, LEDs for pressure and motor failure alarm. 100%/softstop pressure selection with OFF/III knobs.

- with a CB TACn2 / TACIs2

- In CA mode: discrete selection of 100/x/y/0 % airflow with OFF / I / II / III knobs, where x,y are user defined (TACn2).

- In LS mode: continuous airflow selection 0-100% with OFF / ↑ / ↓ / ON knobs (TACn2 + TACIs2).

Display of actual airflow, pressure, and airspeed, LEDs for pressure and motor failure alarm.

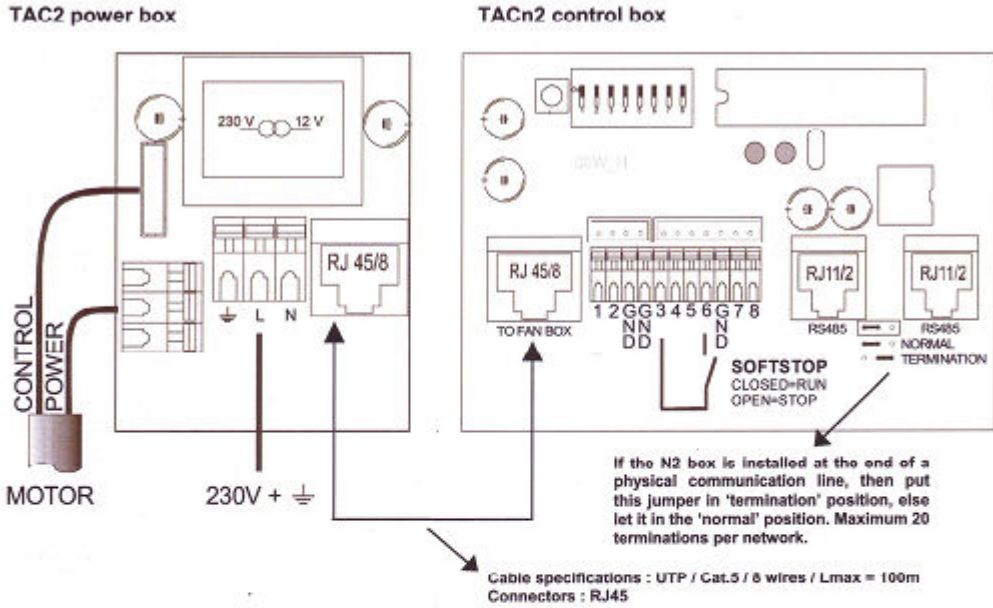
Dimensions: 120x80x60 mm.



2) Detailed installation manual

P. LEMMENS Company AIR MOVEMENT **TACn2** Installation manual (v.01/08)

1) Diagram of boxes



2) Installation: SAC or NC?

The **"Stand alone"** configuration (SAC) enables to (re-)configure or to supervise one fan at a time. The PC ↔ Interface ↔ TACn2 control box link is temporary. Use the EOLe2_SA software.
 The **"Network"** configuration (NC) enables to (re-)configure or to supervise « on-line » a set of fans. The PC ↔ Interface ↔ TACn2 control box link is permanent, but can be temporary (for instance when working with a modem). Use the EOLe2 software.

Each fan in the network has to have its own identification – address – this is carried out using dip-switches 2 to 8 and a binary coding of the desired number.
 Example: if address '100' = 'X-1100100' (*).
 Highest allowed number is 127 = 'x-11111111'
 Warning: Be careful not to give the same address to 2 different control boxes. This will create communication problems.

(*) $100 = (1 \times 2^6 + 1 \times 2^5 + 0 \times 2^4 + 0 \times 2^3 + 1 \times 2^2 + 0 \times 2^1 + 0 \times 2^0) = 01100100$
 $= (64 + 32 + 0 + 0 + 4 + 0 + 0) = 100$
 DS2 DS3 DS4 DS5 DS6 DS7 DS8

3) Working modes

- Mode CA:** Constant airflow. Detail: see Technical information "TACn2 Mode CA". Wiring diagrams: see appendix 1- ②.
- Mode LS:** Constant airflow modulated by a 0-10V signal. Detail: see Technical information "TACn2 Mode LS". Wiring diagrams: see appendix 1- ③.
- Mode CS:** Constant airflow modulated with assignement to keep constant a 0-10V sensor value. Detail: see Technical information "TACn2 Mode CS". Wiring diagrams: see appendix 1- ④.
- Mode CFP:** Constant airflow modulated with assignement to keep constant a value of the fan's static pressure. Detail: see Technical information "TACn2 Mode CFP". Wiring diagrams: see appendix 1- ⑤.
- Mode VCS:** Constant airflow modulated with assignement to keep constant a 0-10V sensor value, this value being itself under the control of another 0-10V signal according to a programmable link. Detail: see Technical information "TACn2 Mode VCS". Wiring diagrams: see appendix 1- ⑥.
- Mode VCFP:** Constant airflow modulated with assignement to keep constant a value of the fan's static pressure, itself being determined by an external 0-10V sensor signal according to a programmable link. Detail: zie Technische informatie "TACn2 Mode VCFP". Wiring diagrams: see appendix 1- ⑦.

The CB TACn2 are pre-programmed in LS mode (0V = Min. airflow, 10V = Max. airflow).

4) Alarm

The TACn2 allows 3 types of alarms: (Examples of wiring diagram: see appendix 1- ⑧).

- Pressure variation alarm
- Motor failure alarm
- Initialization alarms

4.1 Pressure rise alarm:

a) Principle:

Warn when the actual static pressure on the fan (P_a) overrides a pre-determined reference value ($P_{a_{ref}}$) + a pre-determined pressure variation ($dPa = \text{'offset'}$). When triggered, LED2 is lit, the transistor connected between terminals G and 2 (see wiring) is conductive, and the 'status' of 'alarm2' is 'ON' in the EOLe2 / 2_SA software.

b) Memorizing 'reference pressure' and 'offset':

see Technical information "TACn2 alarms".

4.2 Motor failure alarm:

This warning signals automatically a motor failure. When activated, LED1 is lit and the transistor between G and 1 on the control board is conductive.

4.3 Initialization alarm:

When you set the power ON, 5 kinds of problem can occur :

Type	Description	LED 1	LED 2
INIT1	Generation2 fan not recognized by TAC2 control box	6 x	1 x
INIT2	First generation motor program	4 x	1 x
INIT3	No RPM feedback from the motor	5 x	1 x
INIT4	Data damage in N2 control box	1,2,3,9 x	1 x
INIT5	Problem in detection of the fan type	10 x	1 x

First, always unplug/replug the RJ45 connector. And if the problem persists :

- In case of INIT 1 or 2, the control box is not adapted to the motor program. Either replace the control box or the fan whatever is the most suitable solution.
- INIT3 alarm means no rpm feedback from the motor. Replace the power box. If the problem persists, replace the RJ45 cable. If the problem persists, replace the control box. If the problem still persists, replace the fan.
- INIT4 alarm means data in the memory is damaged. The control box must be replaced.
- INIT5 alarm means there is a problem to detect the fan type. Replace the control box. If the problem persists, replace the fan.

5) Feedback signals

Signal between G-7: 0 - 4,5 Vdc = 0-max. airflow. Between G-8: 0 - 4,5 Vdc = 0-Pa max. Min. impedance = 100 MΩ.

	DD 9-7TH 1/2	DD 9-9 1/2	DD 10-10 3/4	DD 11-11 1/1	DP 6-6 1/2	DP 9-7TH 1/1	DP 9-7TH 1/2	DP 9-9 1/1	DS 10-4 TH 1/3	DS 10-4 1/2
	720054	720055	720056	720057	720058	720059	720011	720060	720071	720061
Max. airflow	2000	2900	3800	4400	2200	3600	3000	5700	1000	1500
Max. pres.	630	780	1050	1070	450	630	575	900	585	750

	DS 11-4 1/2	DS 12-5 3/4	KJDF 280-114 1/3	KJDF 280-114 1/2
	720062	720063	720077	720078
Max. airflow	1900	2600	1300	1700
Max. pres.	950	1310	525	575

6) Wiring diagrams

See appendix 1.

7) Technical data

Supply : 230VAC (between 208V and 240V) - Frequency : 50/60Hz

Grounding : ! COMPULSORY !

Electrical protection :

The motor is self-protected against overloading. It is thus **NOT** necessary to install an electrical overload protection device. We advise using a short circuit protection device with the following specifications :

- Starting peak of 150 A (20A using a PB S) for 2 to 4 milliseconds. The **"softstop"** function has to be used to avoid this peak.
- We recommend a **class AM** protection device.

Recommended protection calibre/motor type

Type	Calibre
1/3 HP	4A
1/2 HP	4A
3/4 HP	8A
1/1 HP	10A

Indicative non exhaustive list of : a) AM (10x38mm) fuses with manufacturers references, b) references of thermo magnetic circuit breakers (disjoncteur): select it with D type "slow" reaction curve – cutting power of 10.000A - AC3.

a)				b)		
Calibre	Legrand	Télemécanique	Huppertz	Calibre	Vynckier	Merlin Gérin
2A	réf. :130.02	réf. : DF2-CA02	réf. : D440102	2A	réf : 099/37202-000	réf : 25111
4A	réf. :130.04	réf. : DF2-CA04	réf. : D440104	4A	réf : 099/37204-000	réf : 25113
8A	réf. :130.08	réf. : DF2-CA08	réf. : D440108	8A	does not exist	does not exist
10A	réf. :130.10	réf. : DF2-CA10	réf. : D440110	10A	réf : 099/37210-000	réf : 25115

Insulation class

Thermal : B / Mechanical : IP44 - the connectors must be oriented downwards.

Ambiant temperatures : -10°C / +55°C

Conformities : CE – UL approved

10.3 Option 3: Manual Control (Switches)

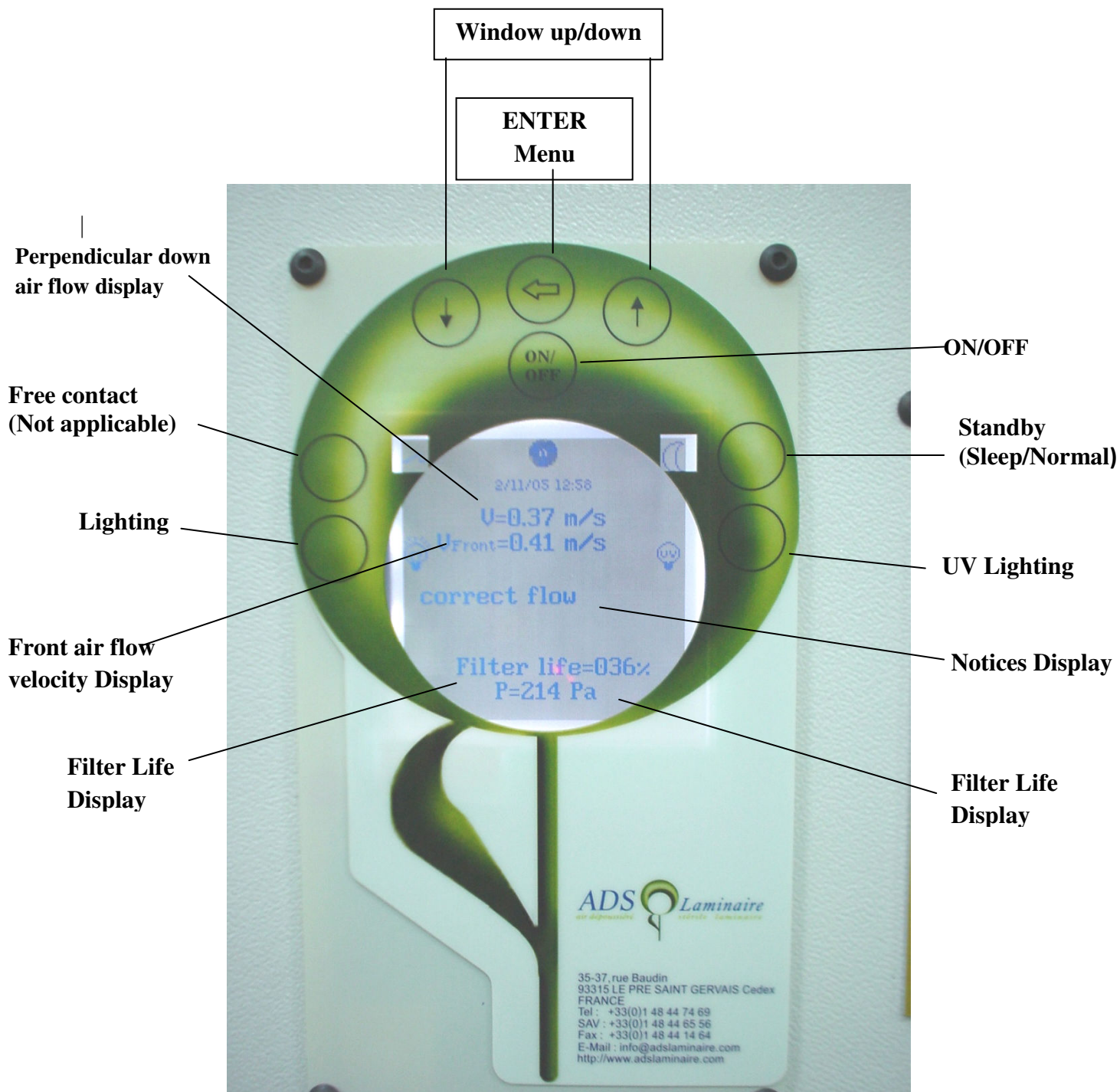
As the PSXEQI booth system is designed to deal with explosive environment (i.e. weighing explosive powders) it is recommended to use electricity as little as possible, in order to avoid electrical sparks, which can cause explosions.

In cases like these, the only controls of the booth are by: Two (2) electrical sparks protected devices (switches):

- 1) Activating / deactivating the system (fans).
- 2) Activating / deactivating the lighting.

10.4 Option 4: Digital Control Panel

10.4.1 Description of Control Panel



10.4.2 Pushbuttons Description

On/Off:

Activates and mitigates the chamber. Enables exit from main and secondary menus. Enables functions cancellation.

Menus Access (ENTER):

Enter main and secondary menus.

Standby (Sleep) Mode

Activates and Deactivates the Sleep Mode.

Window

Press and hold Pushbutton Up / Down. (Elevate or lower the window).

Light

Activates and deactivates the main Lighting.

UV

Activates and deactivates the UV Lighting. The said Lighting can be activated only in the "sleep" mode. If the UV pushbutton has been pressed in the normal work mode of the chamber, a message will appear on the screen: "Sleep mode for UV".

Free Contact (N/A):

Not Applicable.

10.4.3 Operation

For operating the system: Press "On/Off" pushbutton

- If password had not been registered, the chamber would operate automatically.
- If a password had had been registered, it should be entered (manufacturer default is "0001").
- Entering the password: Press the ENTER key three (3) times and then press the "Up key". No. 1 will appear. Approve the password by pressing "ENTER".
- The system will start in the normal mode (day mode). The front window will rise to the mid-height of the opening.

**** Wait about 15 minutes ****

The system is ready!

10.4.4 Night Operation

Use this mode when the system is not required for a long duration of time. In example: during the night, for entering the said mode into operation, press and hold "Standby" key for (2) two seconds.

- If a password had had not been registered, the chamber would turn straightforwardly into "night operation".
- If password had had been registered, enter the password.
- The manufacturer default password is "0001".
- For entering the password, press "ENTER" three times and then press the "Up" key. No. "1" would appear on screen. Approve the password by additional press of "ENTER"
- The system turns into "night mode".
- The front window would automatically close down. (A notice will appear on screen).
- After a few seconds, the "flower icon" will appear and notify "night operation". The airflow supply will reduce to the minimum amount required by the menu.
- Main lighting extinguishes.
- UV lighting is possible to light.
To reactivate the system redo Para 5.3, above.
- Frontal window remains closed until airflow increases to the normal velocity level, only then it will open to its proper height.

10.4.5 Data and Menus

- For entering the main menu: press ENTER key.
- For browsing the main menu: use "Up" and "Down" keys accordingly.
For opening a secondary menu: press ENTER.
Hereinafter please find list of the secondary menus.
- Airflow: Displays the airflow rate in Meter/Second Units.
- Pressure: Displays the pressure in Pascal Units.
- Next Check Up: Displays the date of next periodic test.
- UV Time: Displays the elapsed time of the UV lighting tube.
- New UV Time: Displays the remaining lifespan of the UV lighting tube.
After replacing the tube, the counter should be initialized. This action requires the manufacturer's password.
- Time counter: Displays the general elapsed time (hours) of the hood's activity.
- Date & Hours: Enables changing of dates and hours.
- Serial No.: Shows the hood's serial no. or any other form of identification.

- Menu Language: Enables changing the menu language into: Hebrew, English and French.
- Window Lock: Enables entering the password to lock the front window in its normal position.
- Sleep Mode Lock: Enables entering the password, which is required for turning the "sleep" mode on and off.
- On/Off Lock: Enables entering the password required to activate and deactivate the system.

11. Maintenance

11.1 Periodic Maintenance

Periodic Maintenance should be performed every (6) six months, carried out by ADS's technician. Hereunder please find the activities to execute.

- 11.1.1** Filters are replaced in case a problem arises over the course of the periodic maintenance test and it's attributed to the filters' performance .
- 11.1.2** Filters should be replaced if an alarm light illuminates, indicating clogged filter, during the test performance.
- 11.1.3** It is recommended to perform an overall inspection of the system, after replacing the filters by ADS's technician.

11.2 Corrective Maintenance

- 11.2.1** Replace the filters whenever they become clogged and the alarm light illuminates.
- 11.2.2** After any maintenance activity the working surfaces should be cleaned with alcohol.
- 11.2.3** After long stopping, shipping or handling of the system, an overall test should be performed before starting any activity.
- 11.2.4** Before opening service panels or beginning any maintenance activity, always disconnect the system from its electrical source.

11.3 Filters Replacement

- 11.3.1** Open the surrounding screws of the filters.
- 11.3.2** The access to disassemble and replace the filters:
 - * Pre filter: from the lower inner side of the booth, towards the inner space of the booth.
 - * Supply absolute filters: from the ceiling towards the working space.

* Absolute emission filters: from the upper side of the booth outward.

11.3.3 In order to improve the sealing, a layer of Silicon Grease should be spread over the filter's gasket.

11.4 Fan: No maintenance needed.

11.5 Fluorescent Light: For replacement, direct access to the bulbs on the surrounding walls without interference to the air flow from the absolute supply filters.

11.6 UV Light: For replacement, direct access in the upper doorposts of the booth.

12. Possible problems and solutions

12.1 No electrical power supply.

12.1.1 Check if the system is connected to a proper power source.

12.1.2 Check whether the Transformer fuse is intact.

12.2 Fan does not operate.

Check whether fan's fuse is intact.

12.3 Main lights do not illuminate.

Check whether fuse is intact.

12.4 UV lights do not illuminate.

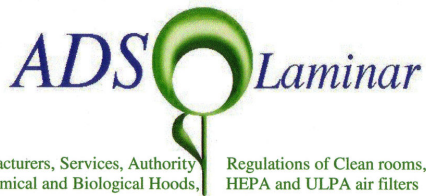
Check whether fuse is intact.

12.5 Filters clogged

Replace filters.

13. Quality Control

All hardware is tested in the company's workshops before delivery, such as: electrical tests (according to CE / EMC), functional tests, particle counting, air velocity and filter integrity test.



Manufacturers, Services, Authority Regulations of Clean rooms, Workstations,
Chemical and Biological Hoods, HEPA and ULPA air filters

S E R V I C E O R D E R F O R M

To: A.D.S. Laminar Ltd.
 15 Gesher Ahetz St.
 POB 12035
 Industrial Zone Emek Hefer 38800
 Tel: 04-6247330
 Fax: 04-6247331

Customer's Details

Company: _____
Ordered by: _____
Function: _____
Mailing address: _____
Zip Code: _____
Telephone no. and/or mobile phone: _____
Fax: _____

I would like to order the following (mark \checkmark)

Mark \checkmark	Item	Quantity	Notes
	Periodic testing		
	Disinfection of unit		
	Replacement of absolute filters		
	General Service		