

USER GUIDE FOR USE

MINISPACE

Protection
Product



Conforme à la norme :
ISO 14644

Vertical Laminar Flow Hood

ADS LAMINAIRE S.A.: 34 Rue Maurice de Broglie – 93600 AULNAY SOUS BOIS – France

Tel: +33 (0) 1 48 17 85 10 - Fax: +33 (0) 1 48 17 85 11 - E-mail: info@adslaminaire.com - Website: <http://www.adslaminaire.com>

Capital €80,000 - SIRET 69204043900030 – APE 2825 Z – VAT FR 65692 040 439

USER MANUAL FOR THE MINISPACE

Dear Sir or Madam,

You have just purchased a **MINISPACE** vertical laminar flow unit, and we congratulate you.

This enclosure guarantees you:

- **a sterile working environment.**
- **protection of the products handled from any risk of contamination.**

The MINISPACE workstation is manufactured in accordance with **European standard ISO 14644**, which is specific to laminar flow hoods and clean rooms. This workstation is reserved for operations where it is necessary to protect the handling process from the external environment. It provides a working volume in ISO class 5.

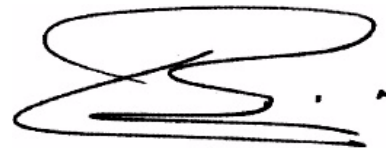
We hope you enjoy using it and remain at your disposal for any information regarding its use or technical details. Yours sincerely,

Eric FITOUSSI



Deputy Director

Bernard BIJAOU



Managing Director

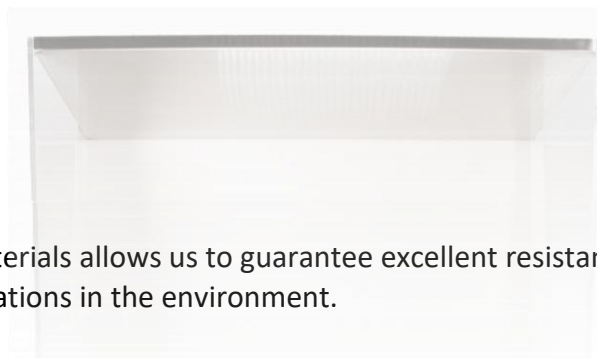
SUMMARY

I.	STRUCTURE	- 4 -
II.	OPERATING PRINCIPLE.....	- 8 -
III.	CONTROL PANEL.....	- 10 -
IV.	USING THE IV GEL SPEAKER	- 11 -
V.	TECHNICAL DATA	- 12 -
VI.	DIAGRAMS	- 13 -
VII.	MAINTENANCE	- 16 -
VIII.	MAINTENANCE	- 17 -
IX.	WARRANTY AGREEMENT	- 21 -
X.	PERIODIC INSPECTION CONTRACT	- 22 -
XI.	TO DEAL WITH UNFORESEEN CIRCUMSTANCES	- 23 -

I. PRESENTATION



In the photo: MINISPACE with base



1. FRAME

The quality of the materials allows us to guarantee excellent resistance to impact, scratches and temperature variations in the environment.

The surfaces are perfectly smooth and extremely easy to maintain and clean with standard laboratory products.

The work area is enclosed on the sides by safety glass panels.

The PVC blower box rests on a safety glass volume that is completely open at the front for easy handling.

2. LIGHTING

The **MINISPACE** is equipped with fluorescent lighting.

3. FILTRATION

Your IV Gel is designed with a filtration box with two filtration stages: a pre-filter and an absolute filter.

- **Pre-filter:**

A synthetic fibre pre-filter filters out the largest particles. 90% efficiency, type G3/G4 (extends the life of the absolute filter).

Pre-filter service life: 3 to 6 months, depending on conditions of use.



- **Absolute filter:**

A panel-type HEPA absolute filter with a minimum efficiency of 99.999% for particles of 0.3 μ , integrity test (e.g. EMERY test) (H14 classification) guarantees a perfectly sterile laminar flow, ISO class 5 [according to ISO 14644]:

- Anodised aluminium filter frame
- Glass fibre filter media
- Epoxy-coated steel protective grille

Absolute filter life: 2 to 5 years depending on conditions of use.

The efficiency certificate can be provided upon request. Each filter is assigned a serial number certifying the type, efficiency and tests performed.

The filter can be easily replaced from underneath the housing in just a few minutes (no tightening required). This makes **maintenance easier**.

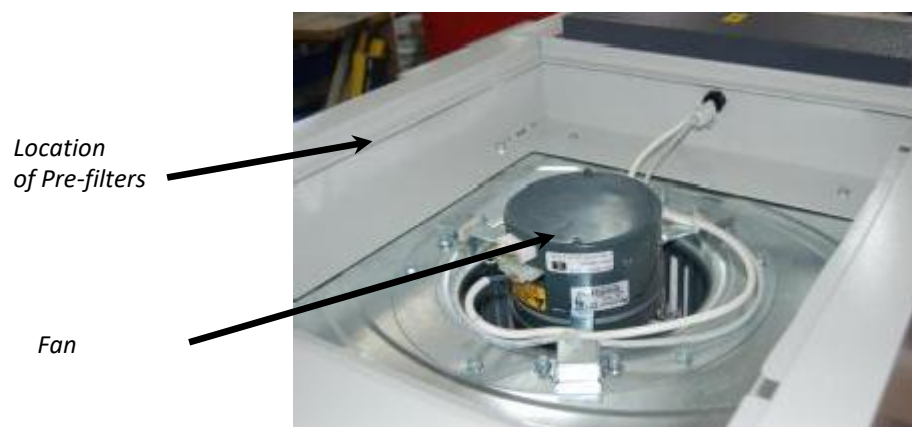
4. VENTILATION

This unit is equipped with high-efficiency variable centrifugal motor fans mounted on shock absorbers (in the upper part of the blower box). Robustly constructed from sheet steel, with a statically and dynamically balanced turbine/motor assembly, this fan requires **no special maintenance**.

The ECM version ensures constant air flow despite increased pressure drop (clogging) in absolute filters and low noise levels (56dB).

The maximum flow rate is 1·200 m³/h at 2,400 rpm.
The average flow rate is 800 m³/h.

All motors are protected in accordance with electrical safety standards. All electrical parts and electrical masses are earthed in accordance with regulations.



5. FLOW SPEED REGULATION

The air velocity remains constant regardless of the clogging state of the filters. To achieve this, an **automatic control** system compensates for clogging by increasing the air flow rate.

The air velocity at the outlet of the absolute filter is thus maintained at 0.40 m/s \pm 20% thanks to flow management by a programmable microprocessor (ECM technology) integrated into the fan.

6. AVAILABLE OPTIONS

- Base (expanded PVC / steel / aluminium)
- Power strip (on the base)
- Fluid passage: Vacuum - Gas - Nitrogen

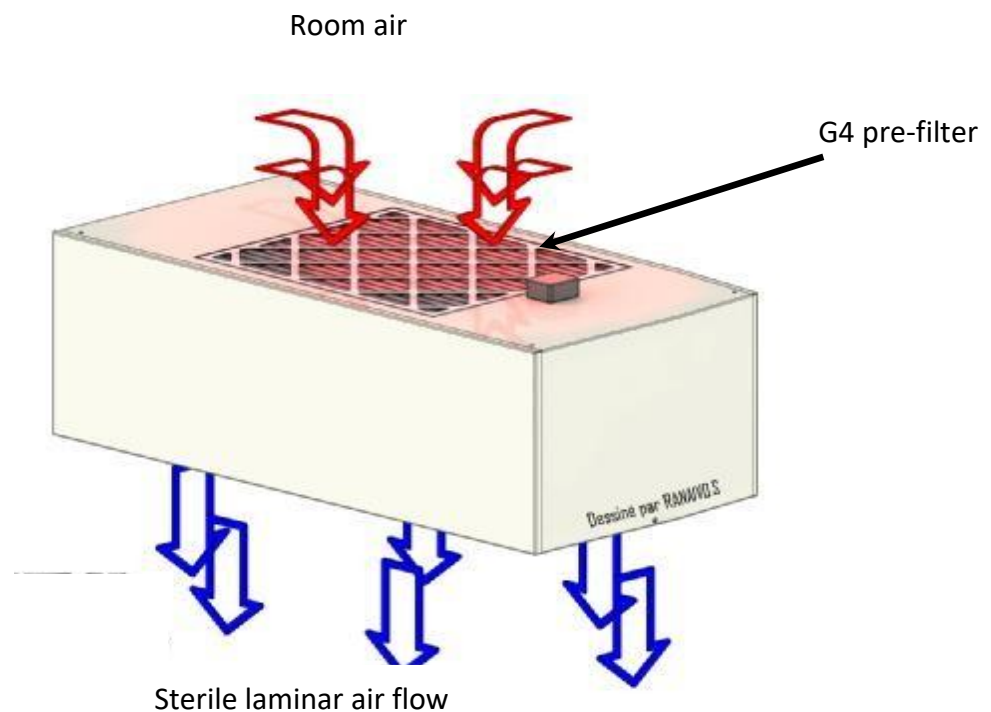
II. OPERATING PRINCIPLE

1. OPERATING PRINCIPLE:

The entire working volume is swept vertically by filtered, sterile ISO 5 class air (ISO 14 644 standard) passing through a double filtration stage (G4 efficiency pre-filters and H14 absolute filter).

The flow velocity of this airflow produces **positive pressure** relative to the ambient environment, thus creating a barrier that prevents external particles from entering the working volume. This ensures **protection during handling**.

Filtration and overpressure therefore enable a working volume to be achieved that complies with ISO5 [ISO 14644].



2. SAFETY:

To ensure maximum safety during use, this hood is equipped with a fully automatic control system that maintains constant flow rates regardless of filter clogging.

ΔP alarm: an audible and visual signal indicates that the filter is clogged. The pre-filters must then be changed first, followed by the absolute filters if necessary.

FAN alarm: in the event of a fan fault, the "FAN" alarm will light up.

3. STORAGE AND TRANSPORT:

When storing the enclosure, it is essential to wrap the hood in plastic film and store it in a location that is protected from climatic variations and complies with the conditions stipulated in Part V of this booklet.

If the hood needs to be transported, it must not be subjected to any impact.

III. CONTROL PANEL



- 1 - Ventilation On/Off control (left)
- 2 - Lighting on/off control (on the right)

IV. USE OF THE IV GEL ENCLOSURE

- **CONDITIONS OF USE:**

The following environmental conditions must be met for your laminar flow hood to function properly:

Ambient temperature: +5°C to +40°C.

Humidity: 30% to 95%.

Altitude: up to 1,000 m.

Pollutants: do not install the enclosure in a location where there are abnormal levels of pollutants.

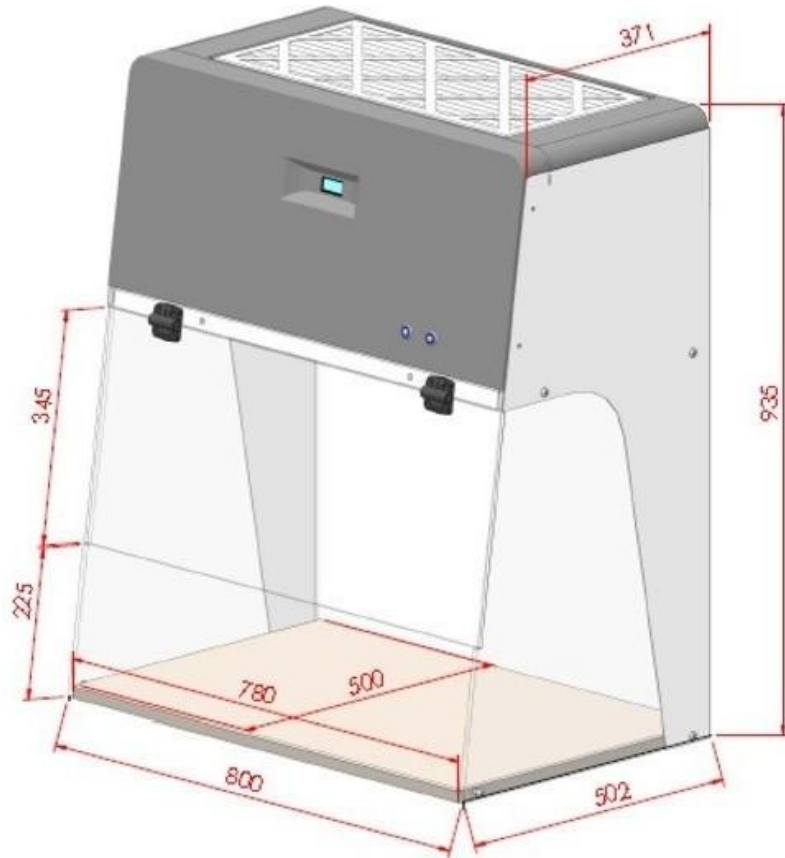
Radiation: The hood must not be exposed to excessive radiation.

- **OPERATION OF THE ENCLOSURE:**

- Connect the enclosure to a **220V + T -16 A 50 Hz single-phase** power source.
- Press the ON button (1) to start the fan. Wait a few minutes (purge time) before use (allow a purge time of 2 hours when starting up for the first time).

You can then begin your work.

V. TECHNICAL DATA



	MINISPACE	
	Utiles	Hors tout
Largeur (mm)	780	800
Hauteur (mm)	Utile : 650 – Hors Tout : 935 sur piedement 1766	
Profondeur (mm)	Utile : 500 – Hors tout : 510	
Poids (Kg)	50	

ADS Laminar reserves the right to change the specifications of certain MINISPACE components.

1. MINISPACE LAYOUT

VII. MAINTENANCE

1. CLEANING THE WORKING VOLUME

Laminar flow hoods must be cleaned after each use.

During cleaning of the working volume, leave the hood in normal operation.

Preferably use large, **non-woven**, disposable cloths that are ISO 5 (Class 100) compatible. These cloths are large enough to prevent them from being sucked into the extractor hood during cleaning and are lint-free and do not shed fibres, ensuring ISO 5 compliance. (**Our Utility department is available to advise you and direct you to the best product for your needs**).

Soak the cloth in a bactericidal and fungicidal cleaning product. All alcohol-based products are compatible with the structure of the hood. You can also spray the walls of the enclosure.

Avoid:

- Using chlorine-based products such as bleach on any stainless steel parts unless they are highly diluted.
- The use of alcohol-based products or solvents is not recommended on Plexiglas parts.

2. FILTRATION

Refer to Chapter VIII: Maintenance in this booklet.

VIII. MAINTENANCE

ADS Laminaire has designed the **MINISPACE** unit to be easy to maintain.

1. PREFILTER

The pre-filter is located above the enclosure.

Remove the used pre-filter and replace it with a new one. Average service life: 3 to 6 months.

Visually check for clogging.

2. ABSOLUTE FILTER

The absolute filter is accessible under the cabinet.

Release the filter by pressing on the retaining tabs and remove the HEPA filter. Install the new filter by reversing the process.

Thanks to its easy access, the HEPA filter is very easy to replace.

IMPORTANT

- **Absolute filter replacement operations must be carried out by a qualified technician and must be followed by a validation check of the enclosure.**
- **In the event of replacement, relocation or prolonged shutdown of a speaker, a validation check must be carried out by a qualified technician before it is restarted.**

3. MOTORISED FAN

Maintenance-free.

IX. WARRANTY

The **MINISPACE** unit is covered by a **1-year warranty on parts and labour** (1-year warranty on parts and labour (in mainland France, BENELUX and Switzerland) for any manufacturing defect (excluding consumables).

WARRANTY TERMS AND CONDITIONS:

- During the warranty period, the customer will benefit from free parts and labour in the event of a breakdown (in mainland France).

- The warranty does not apply to consumables that need to be replaced.

- The warranty does not cover:

- In the event of damage resulting from misuse or lack of maintenance (failure to follow instructions) or damage resulting from external causes (theft, water damage, fire, falls, etc., see your establishment's insurance policy).

- In the event of external intervention, other than by **ADS LAMINAIRE** during the warranty period.

MINISPACE is certified compliant with **ISO 14 644**. Under no circumstances can ADS Laminaire be held liable for changes in standards taken into account at the time of construction of the hood.

X. PERIODIC INSPECTION CONTRACT

To ensure that your **MINISPACE** enclosure is used in the best possible conditions, we have drawn up a periodic inspection contract for you, which can be carried out by our after-sales service.

This contract commits our company, **ADS LAMINAIRE**, to carry out inspection and monitoring visits to your hood at intervals defined with your establishment and agreed upon by mutual consent.

This contract includes:

- The visit by our technical service (as part of a routine inspection).
- Verification of connections and contactors.
- Particle counting in the working volume to verify compliance with ISO class 5 standard ISO 14644-1.
- A scan of the filter and its joint surface using a particle counter to verify the integrity of the filter surface.
- A velocity map,
- Restarting of the hood.
- Issuing of the inspection report

To ensure compliance with ISO 14644 standards, we can offer you a contract that includes two annual visits.

ADS LAMINAIRE will repair and/or replace defective parts and filter elements if it deems necessary, and after agreement, to ensure the proper functioning of the equipment until the next scheduled visit under the contract.

- **Three-month warranty on spare parts replaced by us during the service call.**

Your maintenance contract is available upon request. Please do not hesitate to contact your ADS LAMINAIRE representative.

XI. TO DEAL WITH UNFORESEEN EVENTS

1. NO POWER SUPPLY

Check that the speaker is plugged into a 220 V + T single-phase power outlet.

2. NO VENTILATION

Check the fuse

3. NO VENTILATION AND ALARM TRIGGERED

There has been a power surge. The fan's thermal protection has been activated. Unplug the hood for 2 to 3 hours.

When you plug it back in, it starts up normally.

4. NO LIGHTING

Check the fuse

Please do not hesitate to contact your ADS LAMINAIRE representative for any other issues on: 01.48.44.74.69.