



**AIRPLAN**  
Cleanroom & Process Solutions

# THE DOWNFLOW BOOTH MADE BY **SPECIALISTS**



**THEAIRBOOTH**

DOWNFLOW BOOTH FOR SAMPLING AND DISPENSING





# SOLUTIONS CRAFTED BY **EXPERTS**



We have been specialists in industrial air treatment solutions for 50 years. Today we integrate design, engineering, consultancy and process projects to conceive unique cleanroom solutions and specialized equipment, operating in more than 40 countries around the world. We have carried out turn-key projects for diverse sectors, including pharmaceutical, biotechnology, cosmetics, healthcare, chemical and food industries.

## THE**AIR**BOOTH

A booth that suits your needs

Our AIR BOOTH is the ideal containment solution for sampling and dispensing operations of raw materials, protecting operators from toxic particles while they work and preventing cross-contamination.

The AIR BOOTH is a result of our well proven expertise in the field of air treatment in controlled environments. Since the first prototype, created in 1999, the downflow booth has been continuously improved by our Engineering Department and has since become one of our most successful products worldwide.



THE AIR BOOTH 2400,  
front and side views





# WORKING WITH AIRPLAN MEANS:

## Integrated solutions

From offering objective advice to helping you find the perfect design and choose from the options of our extensive after-sales program, AIRPLAN will take care of your project down to the very last detail.

## Unique products

Our extensive knowledge in engineering and design, combined with a customized manufacturing process at our own production facility allows us to create tailor-made AIR BOOTHS that meet our clients' needs while keeping costs down.

## Immediate response

Having our production facility located at our head office gives us the capacity to provide an immediate reaction and response, and thus satisfying the needs of our clients without any third party involvement.

## Special designs

In addition to the numerous customizations available for each downflow booth, we offer special construction solutions for handling raw materials which are explosive or pose a health risk. These include ATEX environments, bag-in/bag-out and specific extraction systems.



THE AIR BOOTH 3600

Performance guaranteed:  
**on-time and on-budget**



# THE AIRBOOTH

## DISCOVER THE BENEFITS

### Flow stability and energy efficiency

THE AIR BOOTH centrifugal fans with EC technology comply with the ErP regulation for controlling energy consumption and decibel levels to reduce noise emissions.

The integrated electronical-controlled motor regulates constant air flow with maximum energy efficiency.

### Easy cleaning and maintenance

With stainless steel surfaces, rounded edges and sealed joints, THE AIR BOOTH is easy to clean. Filters can be replaced from within the work area and the downflow booth's internal components are installed in such a way that they can be comfortably accessed by maintenance personnel.

### Modular design

Our AIR BOOTHS combine state-of-the-art finishes with a practical design and can be delivered fully assembled or in easy-to-assemble modules. Our constructive filter installation concept prevents leaks through the elastic seating seal around filters, ensuring that our HEPA filters casing remains perfectly-sealed.

### Operator safety and comfort

Our downflow booths offer user protection for operator exposure levels (OEL) between 50 and 100  $\mu\text{g}/\text{m}^3$  in the work area, which is ISO class 5 (sterile). The height of AIR BOOTHS can also be adjusted upon client's request for operator comfort. Optional temperature control in the booth work area is also available upon request.

### Delivery with qualification included

All AIR BOOTHS are shipped after undergoing strict quality controls detailed in our FAT-protocols (Factory Acceptance Test), in compliance with the specifications defined by the international standard ISO 14644.

Each booth is delivered with a test report and a *Documentation Dossier* containing specific user's and maintenance manuals with a list of spare parts, the CE certificate, individual filter certificates and electric diagrams.

Additionally, IQ / OQ protocol forms are included; their execution needs to be purchased separately. Optionally, you can include calibration certificates of air velocity, temperature and relative humidity probes.



We have created three versions of AIR BOOTHS ranging from standard-and-simple to complex-and-personalized.

## OUR OPTIONS **YOUR CHOICE**

### THE**AIR**BOOTH COMPACT

Our standard models meet the most frequently ordered requirements by our clients. They cover a range of flows from 2400 m<sup>3</sup>/h (1410 cfm) for the smallest booth to 8100 m<sup>3</sup>/h (4770 cfm) for the largest model. Standard booths are available in 7 different sizes.

### THE**AIR**BOOTH EXTENDED

A step up from COMPACT, our extended model allows you to customize your booth with temperature control options, different filter replacement solutions, special lighting conditions for photosensitive products, and multiple custom accessories.

### THE**AIR**BOOTH PROJECT

Tell us what you need. A special-sized booth, a full integration in an existing facility or an installation with special engineering requirements? Our engineering department will find you the right solution.

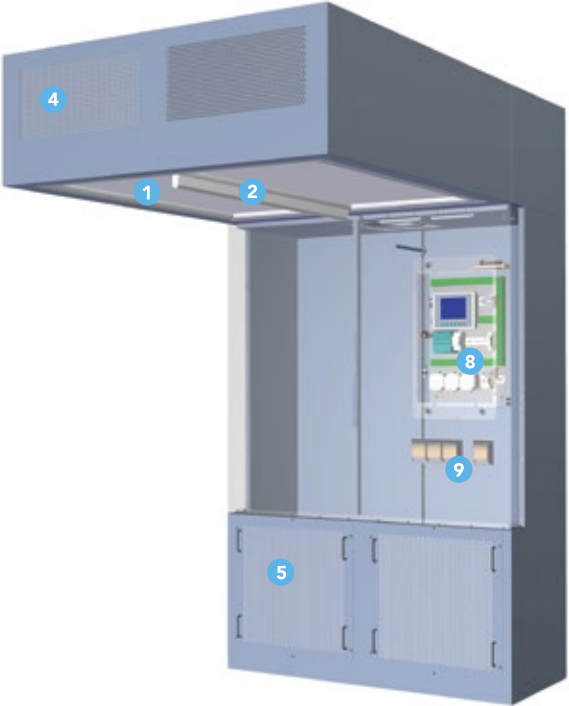




# GENERAL TECHNICAL SPECIFICATIONS

Material	AISI 304 stainless steel, satin polished.
Control	HMI touch-screen control interface located on front panel of the booth. Automatic air flow control irrespective of clogging level of prefilters and HEPA filter stages, by means of high-precision stainless steel cased sensor (Schmidt brand) for air speed /airflow, located below HEPA filters. Independent monitoring and activation of clog alarms for each of the three stages of filtration.
Filtration stages	1) <b>Prefiltration for coarse particles retention:</b> M6 classification according to standard EN 779 2) <b>Filtration for fine particles retention:</b> F9 classification according to standard EN 779 3) <b>Final filtration for air sterilisation:</b> H14 classification according to standard EN 1882:2009 (HEPA). Efficacy according to MPPS (most penetrating particle size) H14>99.995% In all stages of filtration, automatic filter clog detection and alert is controlled by an independent thermostat. Filter replacement from within work area.
High efficiency fan	High performance centrifugal fan with optimized impeller and EC motor. Integrated control electronics for very low power consumption, noise reduction, optimized airflow and programmable control. High-efficiency fan and compact assembly meeting ErP Regulation (Ecodesign 2009/125/EC). <b>Motor:</b> Voltage 200 / 277 V, Frequency de 50-60 Hz + N + T. <b>Operating temperature:</b> between -20° C and +50° C (-4° F to +122° F)
Power	<b>This booth is adaptable for use with any power supply voltage:</b> 200 / 277 V single phase or 380 / 480 V three-phase, 50 - 60 Hz. Three outlets in front panel below control screen.
Air flow	Air changes in work area: approx. 800 Vol/h (ACH) Average airflow speed in HEPA filters: 0.45 m/s (nominal) / 1.48 ft/s
Air (functional criterion / flow balance)	The air is recirculated from HEPA filters to the lower based air return grills, and pushed through the stages of prefiltration (M6 y F9). Using HEPA filters for expulsion, a slight depression of air is thus generated in the work area, which in turn prevents the intake of contaminating external particles.
Front and side	Basic containment of work area using transparent antistatic PVC screen.
Lighting	“Teardrop” profile lights in work area.
Regulations	The Downflow Booths are specifically developed for installation in classified environments according to FDA regulations (Title 21 Part 211) and GMP (Vol 4).

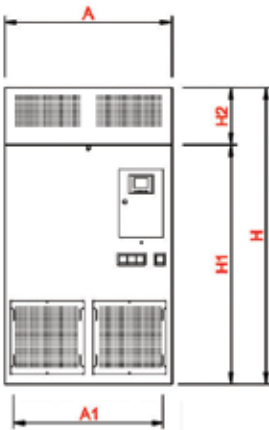
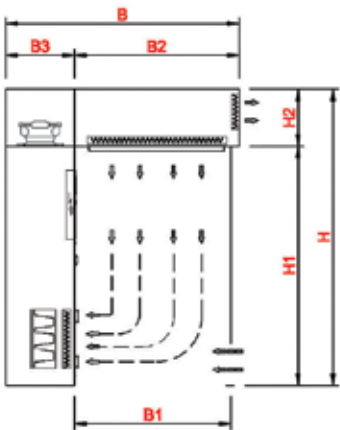
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|---------------------------------|--|----------------------------|
| (1) HEPA filters                | (4) Air expulsion outlet with HEPA filters | (7) Fan                    |
| (2) Lighting (“teardrop” shape) | (5) Air return grills                      | (8) Control panel          |
| (3) HEPA expulsion filters      | (6) Prefilter and filter                   | (9) Outlets / connections  |
|                                 |  | (10) PVC perimeter screens |



# STANDARD MODELS - READY TO USE

sides

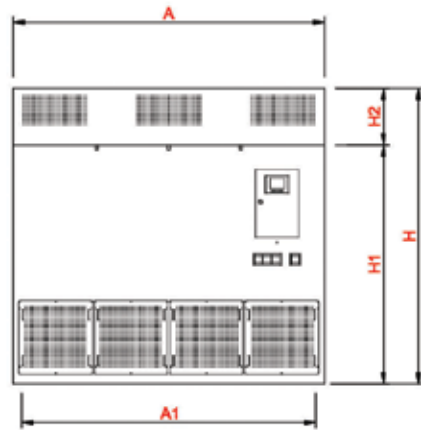
fronts



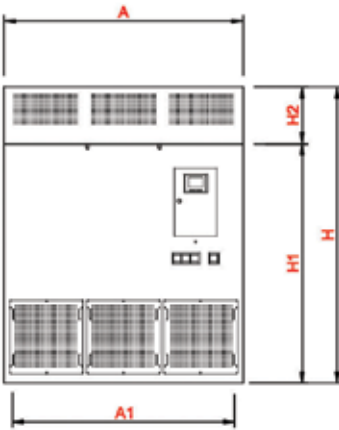
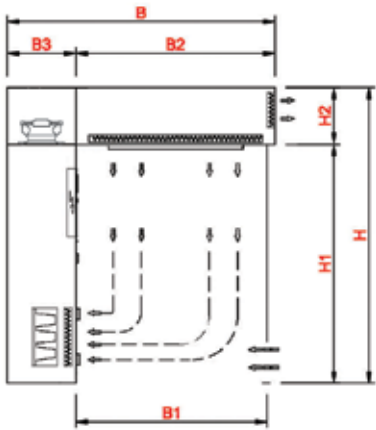
**THE AIR BOOTH**  
COMPACT  
**2400**



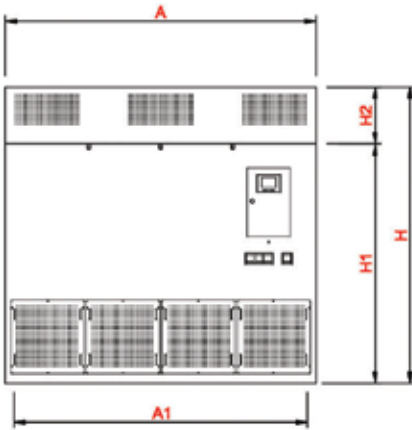
**THE AIR BOOTH**  
COMPACT  
**3600**



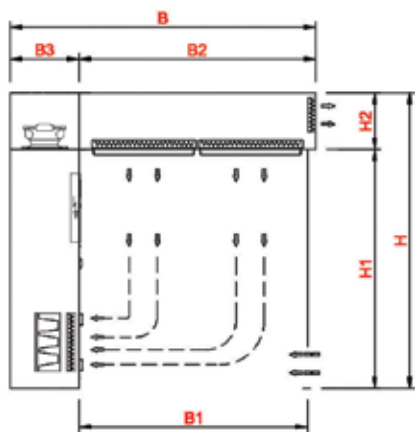
**THE AIR BOOTH**  
COMPACT  
**4800**



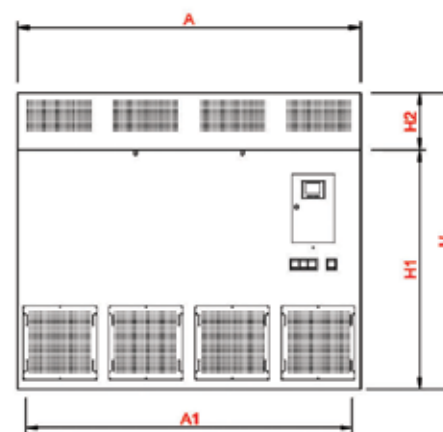
**THE AIR BOOTH**  
COMPACT  
**4500**



**THE AIR BOOTH**  
COMPACT  
**6000**



**THE AIR BOOTH**  
COMPACT  
**5400**



**THE AIR BOOTH**  
COMPACT  
**8100**

**THE AIR BOOTH**  
**2400 / 3600 / 4500**

are delivered assembled by default. You can request the delivery of the disassembled booth.

**THE AIR BOOTH**  
**4800 / 6000 / 5400 / 8100**

are delivered disassembled by default and require on site assembly.

THE AIR BOOTH COMPACT	2400		3600		4500		4800		5400		6000		8100	
Air flow	m³/h	cfm	m³/h	cfm	m³/h	cfm	m³/h	cfm	m³/h	cfm	m³/h	cfm	m³/h	cfm
Work area	2400	1410	3600	2120	4500	2650	4800	2825	5400	3180	6000	3530	8100	4770
Total	3000	1770	4200	2470	5400	3180	5700	3355	6300	3710	6900	4060	9300	5470
Energy use	W / A		W / A		W / A		W / A		W / A		W / A		W / A	
Power (W)	760		1060		1520		1550		1560		2280		3030	
Power consumption (A)	3,4		4,7		6,7		6,9		6,9		10,1		13,4	
Work area	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft
Width (A1)	1,3	4' 4"	1,95	6' 5"	1,95	6' 5"	2,6	8' 6"	1,95	6' 5"	2,6	8' 6"	2,9	9' 5"
Depth (B1)	1,4	4' 6"	1,4	4' 6"	1,7	5' 6"	1,4	4' 6"	2	6' 7"	1,7	5' 6"	2	6' 7"
Detailed measurements	mm	ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm	ft-in
A	1470	5' 0"	2100	6' 11"	2100	6' 11"	2733	8' 12"	2077	6' 10"	2733	8' 12"	2995	9' 9"
A1	1320	4' 4"	1950	6' 5"	1950	6' 5"	2583	8' 6"	1950	6' 5"	2583	8' 6"	2845	9' 4"
B	2045	6' 9"	2045	6' 9"	2349	7' 8"	2045	6' 9"	2678	8' 9"	2349	7' 8"	2678	8' 9"
B1	1372	4' 6"	1372	4' 6"	1675	5' 6"	1372	4' 6"	2004	6' 7"	1675	5' 6"	2004	6' 7"
B2	1445	4' 9"	1445	4' 9"	1749	5' 9"	1445	4' 9"	2077	6' 10"	1749	5' 9"	2077	6' 10"
B3	600	1' 12"	600	1' 12"	600	1' 12"	600	1' 12"	600	1' 12"	600	1' 12"	600	1' 12"
H	2600	8' 6"	2600	8' 6"	2600	8' 6"	2600	8' 6"	2600	8' 6"	2600	8' 6"	2600	8' 6"
H1	2100	6' 11"	2100	6' 11"	2100	6' 11"	2100	6' 11"	2100	6' 11"	2100	6' 11"	2100	6' 11"
H2	500	1' 8"	500	1' 8"	500	1' 8"	500	1' 8"	500	1' 8"	500	1' 8"	500	1' 8"

# EXPAND YOUR POSSIBILITIES

THE **AIRBOOTH**  
EXTENDED

Choose a standard-sized AIR BOOTH and personalize it with accessories and custom build options.

## 1.0 AIR-CONDITIONING

1.1 Temperature control	Heat exchanger built into the booth for controlling work area temperature.
1.2 Cooling / heating	Supply of cooling / heating units with temperature control.
1.3 Connection to HVAC system	Connection to an existing air treatment system to provide treated air for the control of the temperature in the work area of the booth.

## 2.0 CONTAINMENT DURING FILTER CHANGE\*

High containment solutions that allow safe filter replacement in case of handling harmful products or active ingredients.

2.1 “Bag-in / Bag-out”	“Bag-in / Bag-out” system in the air return filtration stage with F7 and H14 filters. The overall depth of the booth’ foot increases to allow for the integration of the system. Besides a superior performance fan is required. The filter can be replaced both from outside the booth, accessing from the technical area behind the unit, as well as from inside the cleanroom. Protective clothing, in both cases, isn’t needed.
2.2 Improved containment within prefiltration	Solution that improves the containment of our standard model by replacing the prefilters M6 / F9 with M7/H13 in air return filtration stages. It allows the change of prefilters from inside the booth avoiding internal contamination of the booth. The working area requires prior decontamination cleaning, carried out by workers with protective clothing and mask that should be left on also during filter replacement.

## 3.0 APPLICATIONS

3.1 Downflow booth for unclassified areas (sampling)	Booth without expulsion outlet on the front, but including prefilters on one side to maintain negative pressure within the work area and therefore prevent the intake of particles from unclassified areas. A solution conceived for sampling in areas without ISO classification that ensures the protection of raw material samples.
3.2 ATEX compatibility	Specially built for explosion-proof/spark-proof environments and complying with ATEX / NFPA69 regulations for powder. Customizable to required risk levels and spaces defined by each case, especially in case of risks associated to powder.



\* More information available.  
Please ask our Sales Department.



## 4.0 LIGHTING, POWER AND CONTROL

4.1 Lighting (photosensitivity)	Integration of white light and/or non-actinic light for photosensitive products with a double activation system designed for working with different types of products without having to change bulbs. Actinic light also available.
4.2 Lighting (flameproof / explosion-proof)	Special lights for ATEX / NFPA69 environments.
4.3 Power connections	<b>Adaptable to all voltage/frequency requirements, primarily:</b> <ul style="list-style-type: none"><li>▶ 230V single-phase + T (50 Hz)</li><li>▶ 400V 3-phase + T + N (50 Hz)</li><li>▶ 420V single-phase + T (60 Hz)</li><li>▶ 208V 3-phase + T (60 Hz)</li></ul> Optional inclusion of sockets next to control panel. 230V Monof. + T (50 Hz).
4.4 Control options	Automatic control and speed/airflow monitoring, included. Models with cooling coil include temperature and relative humidity monitoring with automatic temperature control. Additional options upon request, for example: <ul style="list-style-type: none"><li>▶ Monitoring of temperature and relative humidity for models without cooling coil.</li><li>▶ Expanded control with optional communication to PLC / Scada BMS system.</li></ul>

## 5.0 ACCESSORIES

5.1 Utility connections	Connections for gas, compressed air, etc. accessible from within the work area.
5.2 Quick release connections for HEPA filter testing	Quick release connections for 100% base (upstream) reading and / or aerosol injection, used in HEPA filters integrity tests.
5.3 Curtains	<b>Optional curtains:</b> <ul style="list-style-type: none"><li>▶ Special screen or additional sections (variable lengths and attachments) for adjusting the closure of the laminar flow area to the walls of the room</li><li>▶ Combination of railed / retracting curtains</li></ul>
5.4 Enclosure options	<b>Installation of perimeter wall with fixed and/or moving, sandwich-type opaque or transparent panels, including:</b> <ul style="list-style-type: none"><li>▶ Windows, pass-throughs, etc.</li><li>▶ Different types of doors: swinging, sliding or fast-rolling</li></ul>
5.5 Furniture and accessories	<b>Perforated tables:</b> Built-in (fixed or retractable) or removable. Perforated tables are optionally available with an antivibratory basis. <b>Accessories for work area protection:</b> <ul style="list-style-type: none"><li>▶ Lower side coving (for side panels)</li><li>▶ Side protection for pallets</li></ul>



# ATEX MODELS



THE AIR BOOTH 3600 ATEX  
Front view

# ATEX MODELS



Interior - ATEX fan



Working area (perimeter) - ATEX led luminaires



Front - ATEX switch and plugs



Frontal - ATEX leds



Interior - ATEX instrumentation



ATEX MODELS





## SUPPORT WITH PERSONALIZED SERVICES

We offer a range of complimentary and after-sales services to help you get the best out of your AIR BOOTH and care for your long-term investment.

### Free service

#### AIRPLAN HELPDESK

Questions? Comments? Contact us with any problems at our AIRPLAN CARE number and our team will offer a solution whether remotely or in person.



**+34 938 788 384**



**wecare@airplan-sa.com**

### Complimentary service

#### Start-up & SAT

We offer a personalized start-up service to each client. Whether for booths that are disassembled and delivered in separate modules or specially built downflow booths, AIRPLAN will install your AIR BOOTH guaranteeing correct operation and optimum performance with the appropriate settings.

Each start-up concludes with the delivery of the relevant report. We can also complete SAT (Site Acceptance Test) protocols upon request.

Booths are delivered with the Factory Acceptance Test (FAT) protocols and certificates carried out by AIRPLAN.



### Re-qualification

#### VALUE CARE

We can diagnose the state of your booth and prepare it for re-qualification by making the necessary adjustments, such as replacing filters. Corrective measures which require specialized technicians or spare parts are available at special rates. We prepare the re-qualification SAT protocols to be completed by an external entity.

### Spare parts

#### RENEW CARE

We recommend you getting a spare parts pack when THE AIR BOOTH's warranty period begins. Our AIR BOOTH spare parts packs include booth filters and may be supplemented by replacement lights or any other additional components of your choice.

You will find a detailed list of recommended spare parts and the necessary replacement instructions within the *Documentation Dossier*.



# More?

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THE**AIR**BOOTH

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