ASALAIR BIOHAZARD
MOD. 900 ATLANTIC CABINET

MICROBIOLOGICAL SAFETY CABINET
CLASS II TYPE A2

COD. 29940030

PRODUCT PERIODICALLY CERTIFIED AND TESTED BY TUV SUD

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ASALAIR BIOHAZARD 900 ATLANTIC cabinet has been planned, built and tested in accordance with:

- **2006/95/CE (low tension)**
- **UNI EN 12469 "Performance criteria for microbiological safety cabinets" and CEI EN 61010-1:2001 certificate n°Z1 07 02 36567 025 with omologation by TUV SUD**
- **Directives EMC (European directive 2004/108/CE Electromagnetic compatibility), EN 61326-1:2006**

It complies with the rules:

- BSI 5726-1992
- 2006/42/EC, 2002/96/EC
- CEI 66.5 E CEI 62.25
- U.S. FEDERAL STANDARD 209/E
- ISO 14644.1
- DIN 12950
- NSF 49:2002

It complies with safety advice being stated by OMS.

DESCRIPTION

ASALAIR BIOHAZARD 900 ATLANTIC, is a microbiological safety cabinet in class II type A2 with vertical laminar flow and with frontal entrance through which the operator can work in the work room, and that has been designed and built to protect operator, increase the product protection by external contamination and to diminish environment biological risks, by the absolute hepa filtration of the ejected air flow. Inhaled air frontally pass under the work surface and laterally to the lateral walls of the work room. It doesn't enter in the work zone, thanks to the vertical laminar flow that in the same time comes down in all the work room, and joins itself, under the work surface. This zone, thanks to the fans aspiration, is in negative pressure.
Aspired air by the main fan goes in a plenum where a part of it, approx. 70%, goes to the work zone by absolute hepa filtration (protected zone with laminar flow in class 100 or ISO 5), and the other part, approx. 30%, through a second fan, for ejection, is filtered by a second hepa filter (and by an activated carbon filter, if present) and ejected to the external (air re-circulation system).
The amount of ejected air is re-integrated with a same amount of external air aspired through the work frontal entrance, creating a frontal barrier that protect the operator; it prevents the aerosol escape, and the penetration of particles from the external.
Vertical laminar flow and the ejected laminar flow are filtered by hepa absolute filters, composed of microfibbers of glass fibber knit with epoxy resin in one rigid frame, tested M.P.P.S in accordance with C.E.N. 1822 global efficiency 99.995% class H14, that produce a vertical laminar flow in class 100 at 0.3 micron, in accordance with Fed Std 209E (Laser Test Royco 256) or in class ISO 5 in accordance with ISO 14644.1.

The vertical laminar flow and inlet air flow speed are constant, since all functions are automatically controlled by the microprocessor and displayed on the controls and programming LCD panel, touch screen 5.7" TFT display (320x240 pixels).

Produced air flow is uniform and unidirectional, formed by a number of little parts of parallel and sterile air that move themselves at the same speed in all points so that a homogeneous current of air with no turbulence is produced.
In a sterilised zone, each polluting substance in the working area is pushed away by a source of sterilised air.

The vertical laminar flow cabinet ASALAIR BIOHAZARD 900 ATLANTIC, was designed and built to allow manipulations in sterile environment of infectious agents that belong at the risk group 2 and 3.

The utilisation of highest quality components, the working methods and the safety either for the environment and the operator, enable ASALAIR BIOHAZARD 900 ATLANTIC to be classified according to the BS 5726 – DIN 12950 – NSF 49 - UNI 12469 **class II type A2, with a laminar flow speed of 0.40 m/sec.**

Rooms belonging to class II (according to the NSF 49:2002) are different mainly because of the ratio of volumes of recycled air inside the working area, inside the room and/or outside:

- **type A1** (30% ejected air inside the room – 70% recycled air). Front speed = 0.38 m/sec. May have positive pressure contaminated ducts and plenum.
- **type A2** (30% ejected air outside the room – 70% recycled air). Front speed = 0.45 m/sec. Have ducts and plenum under negative pressure.
- **type B1** (70% ejected air outside the room – 30% recycled air). Front speed = 0.5 m/sec. Contain negative pressure plenum.
- **type B2** (100% ejected air outside the room). Front speed = 0.5 m/sec. Does not re-circulate air within the cabinet.

In the type A2, air cabinet may be re-circulated back into the laboratory room or ducted out of the building by means of a thimble connection.
The compensation is done thanks to the air intake through the frontal grid that creates an air barrier thus preventing the exit of polluted aerosol.

If the ASALAIR BIOHAZARD 900 ATLANTIC cabinet must be connected with an outlet system to eject the air from the room, the connector's length must not be over 4 metres otherwise contact the producing firm to have an additional motor-fan installed since the length of the outlet channel might even cause a loss of charge higher than the one being supplied by the outlet fan.

If the ASALAIR BIOHAZARD 900 ATLANTIC cabinet will be connect to an outlet duct already connect to other cabinets, you'll have to put a non-return valve in the conveyor.
The outlet duct must have a diameter of at least 150 mm., with a capacity of 300 m^3/h. The ejection outside the room is needed if you manipulate volatile substances that are not hold by the Hepa filters.
Anyway, the use of these substances must be limited since this cabinet partially recycles the air.

ATTENTION:

All ATLANTIC cabinets, as an alternative to absolute HEPA filters, can be supplied with absolute ULPA filters (Ultra Low Penetration Air) tested in accordance with regulations C.E.N M.P.P. S 1822 with overall efficiency. 99.9995% class U15, which produce a sterile airflow to 0.3 micron class 10 according to Fed Std 209E, (Laser Test Royco 256) or ISO class 4 according to ISO 14644.1.

FEATURES

- Steel supporting structure with anti-acid epoxidated painting.
- Adsorption area in negative pressure to avoid the polluted air entrance in the work room.
- Stainless steel room AISI 304 2B glazed with rounded edges to avoid contamination.
- Extractable stainless steel work surface AISI 304 2B glazed, for salvage liquids
- Tilted front panel, to facilitate operator's movement.
- Front sash in temperate glass thickness 5 mm with motorized movement and work entrance height 200 mm.
- Power switch, connection outlet 10A, power cable and overload fuses
- N°2 electric internal auxiliary socket inside the w ork room. IP 55 protection
- 3/8" Grey air/vacuum cock.
- 3/8" Yellow gas cock (press. max 2 bar) + safety solenoid valve
- Air/vacuum and gas connections positioned in the upper side of the cabinet to minimize the overall.
- Fluorescent lamp, 30 W, placed outside the work area, easy to be replaced.
- UV lamp housing, when not in use.
- Nr. 1 UV lamp -15 W. (accessory on demand) to position inside the work zone.
- Two, for vertical laminar flow and expulsion flow, hepa absolute filters, composed of microfibers of glass fiber knit with epoxy resin in one rigid frame, tested M.P.P.S in accordance with C.E.N. 1822 global efficiency 99.995% class H14, that produce a vertical laminar flow in class 100 at 0.3 micron, in accordance with Fed Std 209E (Laser Test Royco 256) or in class ISO 5 in accordance with ISO 14644.1. **On request equipped with ULPA filters.**
- Attack with hose union to be grafted, for execution of the hepa filter efficiency DOP test.
- Hepa filters, easy to be removed from the front part with a mechanic lifting system.
- Activated carbon filter, on demand.
- N°2 low background noise electric fans that meet th e requirements of the EN 60335-1, EN 50178, EN 60950 directive, VDE,CE, UL approvals.
- Noise Db (A) < 60
- Timed Uv lamp socket. In case of glass front screen open, is not possible use uv lamp with glass frontal panel open
- Cabinet is supplied with arms-rest, to improve the operator comfort.
- External ejection canalisation pre-arrangement.
- Pressure switch of good seal of plenum.
- Possibility to connect PC with outlet RS 232 or USB (accessory on request, on the LCD board).

ASALAIR BIOHAZARD 900 ATLANTIC cabinet class II type A2 (normative NSF 49:2002):

- **Laminar flow speed m/s 0.40.**
- **Frontal barrier laminar flow speed m/s 0.45**
- **Ejected air volume 300 m³/h.**
- **70% Air re-circulated**
- **30% Ejected air**

♦ Controls and programming LCD panel, touch screen 5.7" TFT display (320x240 pixels) with:

- Personalizable access user code
- Touch controls and operating parameters can be easily understood by graphic symbols
- Animated operating parameters
- Language selection ITALIAN or ENGLISH
- Settable date and clock
- Visual and audible alarms: fan failure, vertical laminar flow lack, front barrier flow lack, air ejection volume insufficiency, open glass, pressure in the plenum lack, hepa filter clogging.
- Touch controls selectable on display:
  - on/off fans
  - on/off lighting
  - on/off Uv lamp (if present), in continuos or timed
  - on/off outlet service
  - on/off solenoid valve for gas cock
  - automatic raising/lowering of the front glass, with the the power of the fans, up to the work position, or manual to allow cleaning of work area
- Views on display:
  - vertical laminar air flow speed in m/s
  - inlet air flow speed – front barrier in m/s
  - air ejection volume in m³/h
  - main and ejection hepa filters use counter, max 9999 hours (possibility to zeroes)
  - lighting lamp use counter max 9999 hours (possibility to zeroes)
  - uv lamp use counter max 9999 hours (possibility to zeroes)
  - timer, hours / minutes, to set the use of uv lamp, max 99 hours and 59 minutes

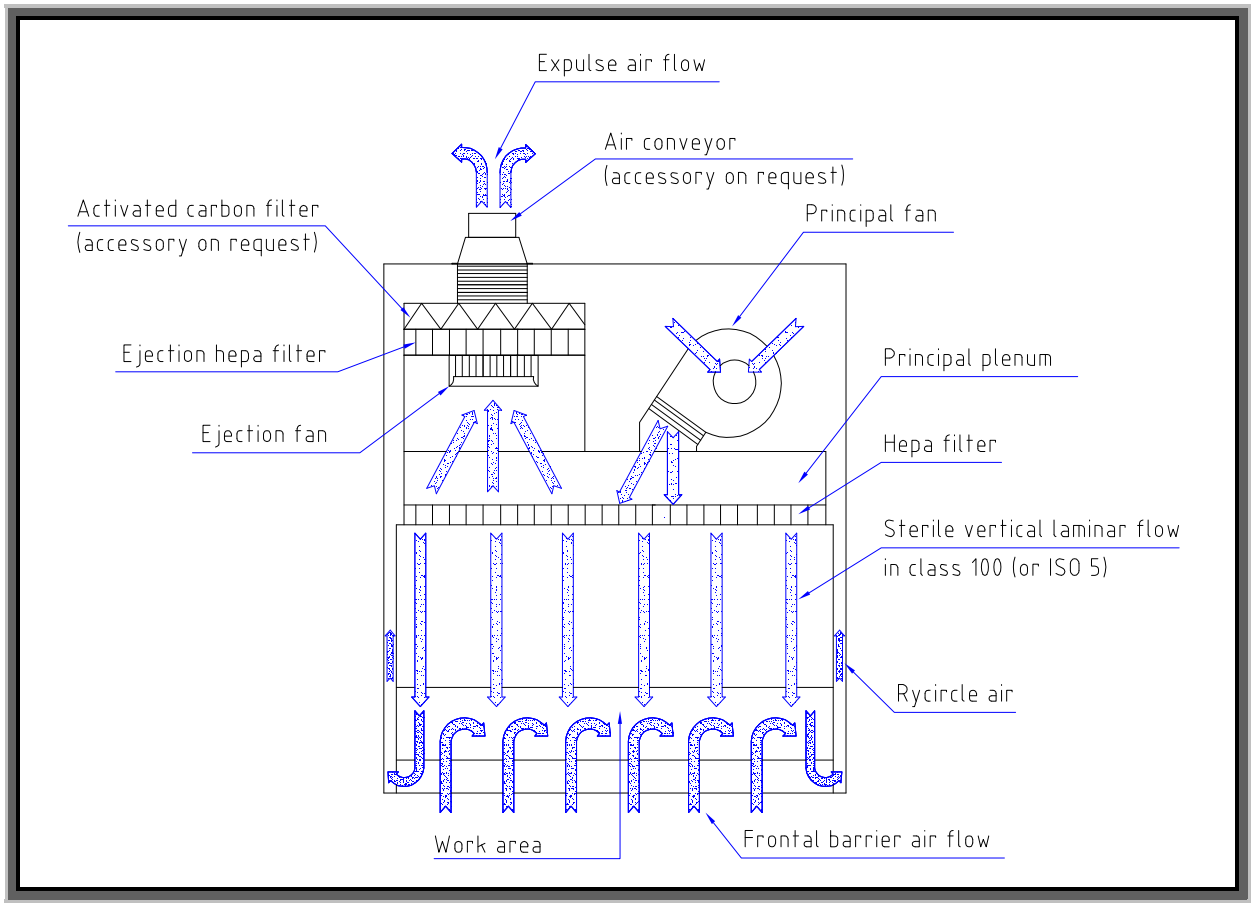
TECHNICAL DATA

- Work area in stainless steel AISI 304 2B glazed, dimensions, WxDxH: 873x600x500 mm.
- External dimensions WxDxH: 1050x780x1500 mm.
- Weight: 190 kg.

ELECTRIC SPECIFICATION

- Feeding power: 230 V- 50 Hz
- Absorption: 700 W + 440 W
- Lighting lamp : 1x30 W – 700 Lux
- UV lamp : 15W
- Protection fuses: 2 fuses x 5 AF (5x20) mm.
- Network connection intake: 10A

PARTS LIST AND FLOW SCHEME



FITTINGS ON DEMAND

- Activated carbon cell to be introduced after the second hepa filter, in ejection, in case of work with toxic steam.
- Conveyor's connection of external outlet of air, Ø150 mm, with anti-wind grid.

- Supporting table WxDxH: 1000x700x800 (830 with wheels) mm.

- Four wheels kit for support.
- UV lamp 15 W to place in the work's room

- Chest of drawers with 3 drawers with wheels and key (WxDxH 420x550x560 mm.)

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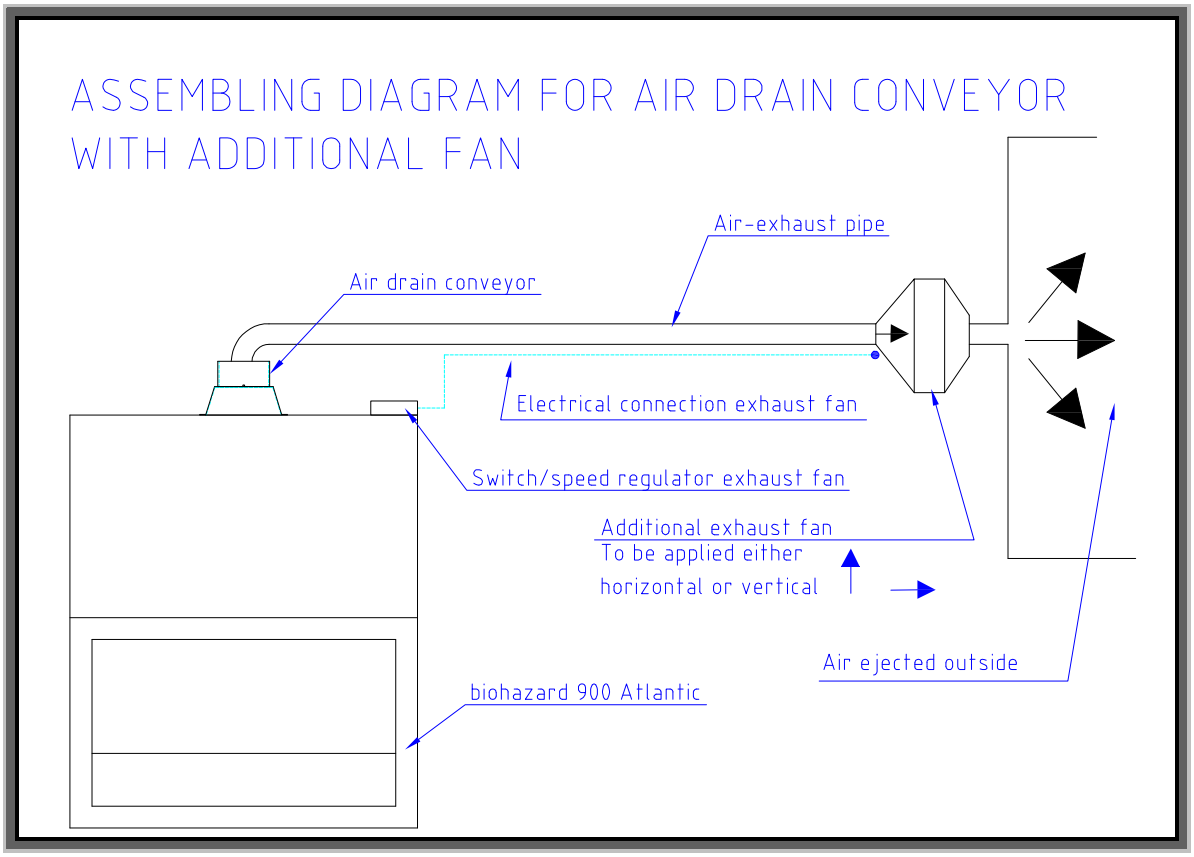
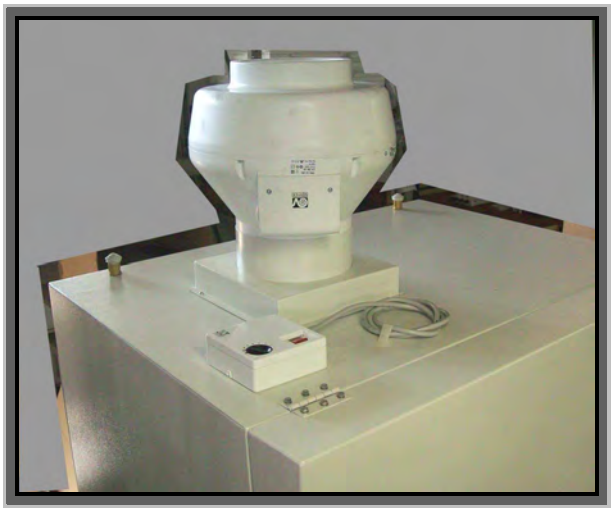
- EXACARB Module - activated carbon filtering system. Activated carbon filtering module, with its motor-fan and external conveyor Ø200 mm, enables to filter toxic substances (such as steam or chemical gas) that are inside the room before they are eliminated in the environment. Activated carbon keeps toxic steam inside its molecules thus enabling to control the chemical contamination of air. So, you'll have a total environmental safety. Activated carbon filter is placed on the hepa ejection filter, before the entrance on the roof. Supplementary motor-fan connected, by a flexible cable, to the external conveyor Ø200 mm, must be fixed to the wall of the room where is present the exit for ejected air. If you must eject the air in to the room, place the supplementary fan in correspondence of the ejection hole on the roof of the hood.

“THIRD FAN” ADDITIONAL EXHAUST FAN FOR EXACARB MODULE

If the cabinet is already fitted with the third fan, you’ll see in area Accessories:

If the third extra fan was provided as an accessory after the provision of the cabinet, the customer to be able to use the same, in addition to fixing, on the cabinet roof, the switch box/regulator and additional fan electrical wiring/box (see specific instructions of extra fan) must select on touch screen display in Accessories Menu, "Third fan", to enable the power supply connected to the main fan.





Additional fan with switch/speed regulator, positioned on the cabinet roof.

DECLARATION OF CONFORMITY CE

The undersigned, the manufacturer, declares that the device

Called:
BIOHAZARD ASALAIR CABINET

Model:
900 ATLANTIC

Serial number:

Feeding:
230V- 50Hz

Protection fuses:
2 x 5 AF (5x20) mm.
Protection grade:
I°
Electrical input:
700 W + 440 W

Manufacturing year:

it is in conformity with the following European Directives:
2006/95/CE, 2004/108/CE, 2006/42/CE, 2002/96/CE

with the following european standards:
UNI EN 12469 "Performance criteria for microbiological safety cabinets" and CEI EN 61010-1:2001 certificate n°Z1 07 02 36567 025 with omologation by TUV SUD.

directives EMC (European directive 2004/108/CE Electromagnetic compatibility), EN 61326-1:2006

with the following National Laws:
D.Lgs. 81/08 del 09/04/2008

technical file responsable:
sig. Alberto Tivelli presso ASAL s.r.l, via Firenze 37 20063 Cernusco S/N (MI), e-mail: info@asal.it

Cernusco sul Naviglio / /

ASAL s.r.l
The legal Representative
Elisa Tivelli

ZERTIFIKAT ◆ CERTIFICATE ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

CERTIFICATO

Nr 50 100 3290 - Rev. 02

Si attesta che / This is to certify that

IL SISTEMA QUALITÀ DI
THE QUALITY SYSTEM OF

ASAL S.r.l.
VIA FIRENZE 37
I-20063 CERNUSCO SUL NAVIGLIO (MI)

È CONFORME AI REQUISITI DELLA NORMA
HAS BEEN FOUND TO COMPLY WITH THE REQUIREMENTS OF

UNI EN ISO 9001:2008

Riferirsi al manuale della qualità per eventuali dettagli della esclusioni ai requisiti della norma ISO 9001:2008
Refer to quality manual for possible details of exclusions of requirements of the norm ISO 9001:2008

Questo certificato è valido per il seguente campo di applicazione
This certificate is valid for the following product or service range.

Progettazione, fabbricazione, assistenza di apparecchi scientifici ed attrezzature da laboratorio. Commercializzazione di attrezzature da laboratorio, materiale monouso, vetreria ed articoli tecnici medico scientifici (EA 19, 25a)

Design, manufacture and assistance of scientific appliance and laboratory equipment. Trade of laboratory equipment, disposable products, glassware and medical items for scientific and technical purposes *(EA 19, 25a)*

SINCERT

Per l'Organismo di Certificazione / For the Certification Body
TÜV Italia S.r.l.
Andrea Vivi

Data di emissione / *Issue date*
2009-08-28

Data di scadenza / *Expiry date*
2012-07-25

"La validità del presente certificato è subordinata a sorveglianza periodica a 12 mesi e al riesame completo del sistema di gestione aziendale con periodicità triennale"
"The validity of the present certificate depends on the annual surveillance every 12 months and on the complete review of company's management system after three years"

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ZERTIFIKAT ◆ CERTIFICATE ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

CERTIFICATE

No. Z1 07 02 36567 025

Holder of Certificate: **Asal S.r.l**
Via Firenze, 37
20063 Cernusco Sul Naviglio (Milano)
ITALY

Production Facility(ies): 36567

Certification Mark:

Product: Laboratory equipment
(Microbiological safety cabinet)

Model(s): **Atlantic**

Parameters: Rated Input Voltage: 230 V
Rated Input Power:
700 W + 440 W for auxiliary outlet
Class of MSC: II
Safe working area: 1060 x 590 mm

Tested according to: EN 61010-1:2001
EN 12469:2000

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. The certification mark must not be altered in any way. See also notes overleaf.

Test report no.: SIC02057.01

Date, 2007-02-28

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