



BIOHAZARD ATLANTIC CYTOCABINET

MODEL:

ATLANTIC CYTOCABINET 900 - CODE 29940097

ATLANTIC CYTOCABINET 1200 - CODE 29940144

MICROBIOLOGICAL SAFETY CABINET
CLASS II TYPE H





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

- ◆ 2014-35-UE (LOW TENSION)
- ◆ 2014-30-UE (EMC)
- ◆ 2006/42/CE (MACHINERY DIRECTIVE)

Technical normatives:

- ◆ UNI EN 12469:2001
- ◆ UNI EN ISO 14644-1:2016
- ◆ EC 61010-1:2010, IEC 61010-1:2010/AMD1:2016
- ◆ EN 61326-1:2013

It complies with the rules:

- ◆ BRITISH STANDARD BSI 5726
- ◆ WEEE Directive 2012/19/UE
- ◆ CEI 66.5 E CEI 62.25
- ◆ U.S. FEDERAL STANDARD 209/E
- ◆ DIN 12980
- ◆ NSF 49:2002

It complies with safety advice being stated by OMS.

DESCRIPTION

BIOHAZARD ATLANTIC CYTOCABINET 900-1200, is a microbiological safety cabinet suitable for the preparation of cytotoxic drugs and chemotherapy, and handling of biological agents, at hospital pharmacies, oncology wards, day hospital and pharmaceutical industries.

It's a Class II Type H cabinet with vertical laminar flow, with a front opening through which the operator can work within the work area and which is designed and built to protect the operator, increasing the protection of the product external contamination, and to minimize biological risks to the environment. **This is made possible by absolute hepa filters triple filtration.**

The sucked front air passes under the work surface, not entering into the work area, and is immediately filtered through a first absolute hepa filter stage.

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 steril laminar flow in class 100), and the rest, approx. 30%, is filtered by a second hepa filter (and by an activated carbon filter, if present) and ejected to the external (air re-circulation system). **In this type of cabins (class II type H) and for the preparation of antineoplastic chemotherapeutic drugs, it is OBLIGATORY to convey and expel the amount of expelled air to the outside**, that 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.

Inlet air flow, vertical laminar flow and the ejected laminar flow are filtered by hepa absolute filters, composed of micro-fibbers 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-H13, 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 airflow speed are constant, since all functions are automatically controlled by the microprocessor and displayed on the controls and programming LCD touch screen 7" panel



Produced airflow 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 work area is pushed away by a source of sterilised air.

The BIOHAZARD ATLANTIC CYTOCABINET 900-1200 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 BIOHAZARD ATLANTIC CYTOCABINET 900-1200 to be classified according to the DIN 12980 and UNI EN 12469 **class II type H, with a laminar flow speed of 0.40 m/sec.**

Ducts and plenum under negative pressure.

BIOHAZARD ATLANTIC CYTOCABINET 900-1200 must be connected with an outlet system to eject the air from the room, and the connector's length must not be over 4/5 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 BIOHAZARD ATLANTIC CYTOCABINET 900-1200 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 m³/h for ATLANTIC CYTOCABINET 900

400 m³/h for ATLANTIC CYTOCABINET 1200

ATTENTION:

All ATLANTIC CYTOCABINTES, 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 workroom.
- ◆ Stainless steel room AISI 304 2B glazed with rounded edges to avoid contamination.
- ◆ Extractable stainless steel worktop AISI 304 2B glazed, tray closed for salvage liquids



Tray closed work surface

- ◆ Stainless steel low box Aisi 304 2B glazed below the worktop to impound liquids.
- ◆ Tilted front panel, to facilitate operator's movement.
- ◆ Front sash in temperate glass thickness 5 mm with motorized movement and work entrance height 200mm, with the start of the fans the glass is positioned automatically thanks to a system of position sensors. Front opening with glass totally open 460 mm.
- ◆ Power switch, connection outlet 10A, power cable and overload fuses.
- ◆ N°2 electric internal auxiliary socket inside the workroom. 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 for 900 - 36 W for 1200, placed outside the work area, easy to be replaced.
- ◆ **Accessory on request:** UV germicidal lamp to be positioned inside the workroom; 18 Watt for Atlantic 900, 30 Watt for Atlantic 1200. The germicidal UV lamp is removable, when not in use can be stored in the compartment under the armrest.
- ◆ Timed UV lamp socket. In case of glass front screen open UV lamp do not start.
- ◆ **ON REQUEST** the germicidal UV lamp can be fixed to the rear wall of the working chamber with direct wiring to the control board.
- ◆ N°3 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% (2 in class H14, 1 in class H13), 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.
- ◆ Plenum in negative pressure.
- ◆ N°2 low background noise electric fans that meet the requirements of the EN 60335-1, EN 50178, EN 60950 directive, VDE,CE, UL approvals.
- ◆ Noise Db (A) < 60
- ◆ Possibility to connect PC with outlet USB (on the LCD internal board).



- ◆ Cabinet is supplied with arms-rest, to improve the operator comfort.
- ◆ Conveyor's connection of external outlet of air, Ø150 mm, with anti-wind grid.
- ◆ Pressure switch of good seal of plenum.

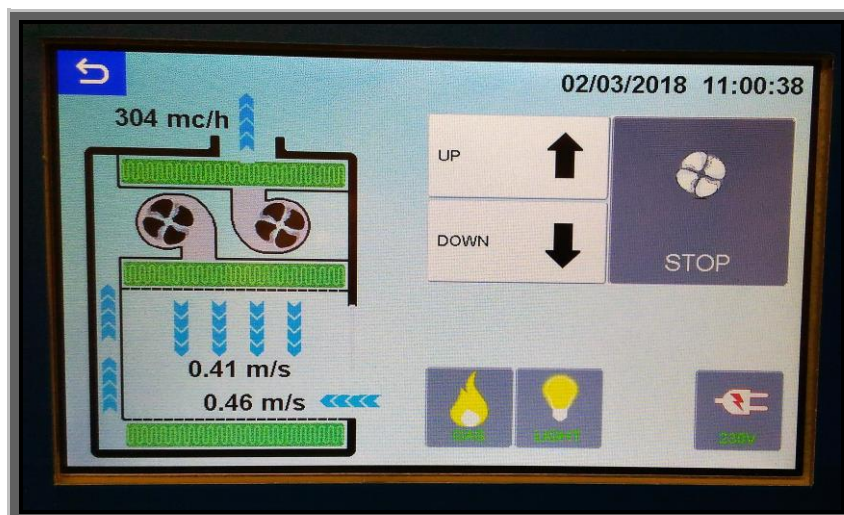
BIOHAZARD ATLANTIC CYTOCABINET 900-1200 cabinet class II type H:

- ◆ **Laminar flow speed m/s 0.40.**
- ◆ **Frontal barrier laminar flow speed m/s 0.45**
- ◆ **Ejected air volume:**
 - **300 m³/h for ATLANTIC CYTOCABINET 900**
 - **400 m³/h for ATLANTIC CYTOCABINET 1200**

- ◆ **70% Air re-circulated**
- ◆ **30% Ejected air**



- ◆ Controls and programming LCD panel, touch screen 7" 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 continuous 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

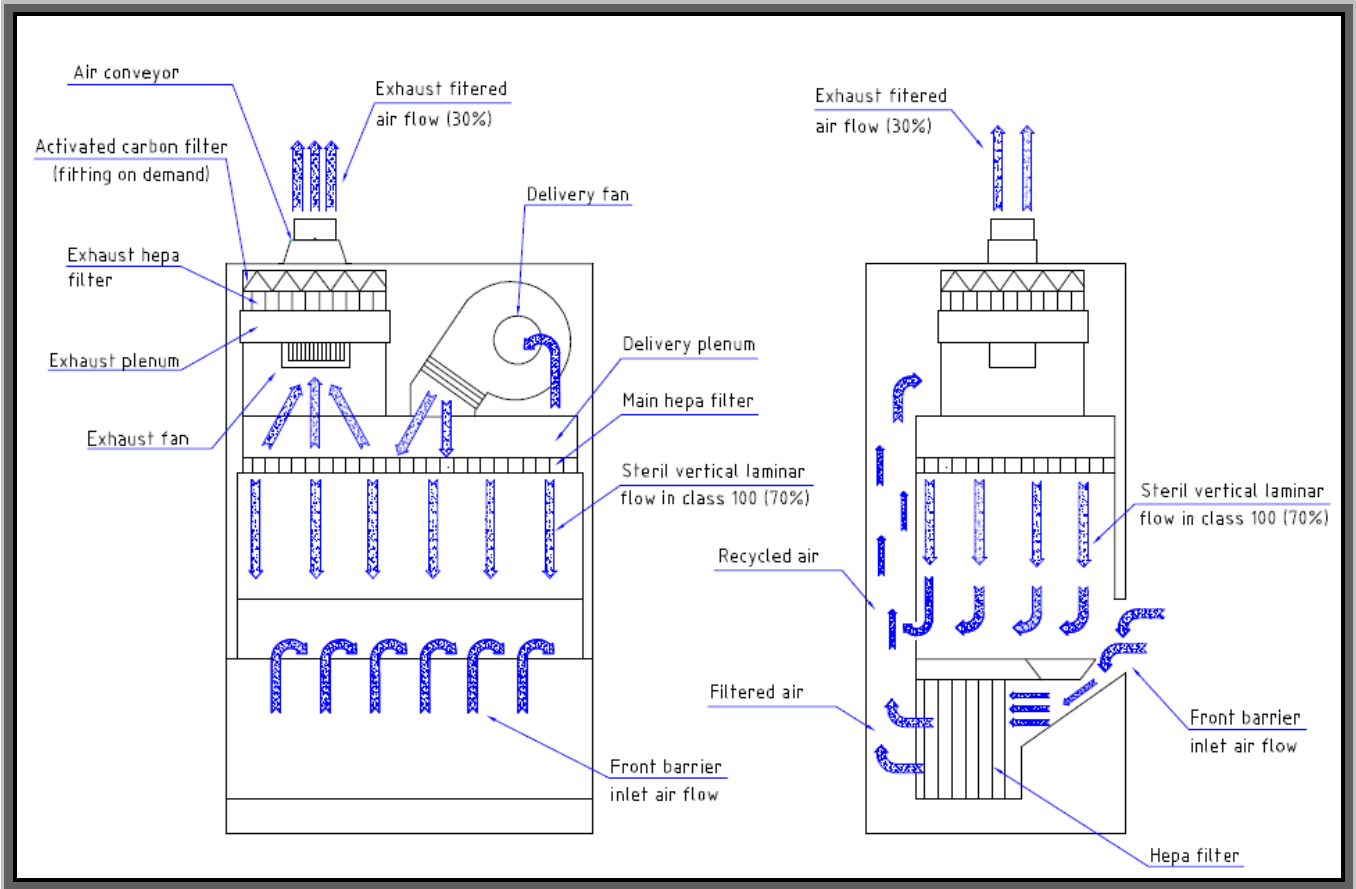
ATLANTIC CYTOCABINET	Work area dimensions WxDxH (mm)	External dimensions WxDxH (mm)	Average vertical laminar flow speed (m/s)	Average frontal barrier laminar flow speed (m/s)	Total / Ejected air volume (m ³ /h)	Weight (Kg)
900	825x550x570	1015x785x2270 H with adjustable buffer	0.40	0.45	1050 / 300	220
1200	1130x550x570	1320x785x2270 H with adjustable buffer	0.40	0.45	1350 / 400	270

- ◆ After positioning the cabinet must be mounted armrest. The total depth "P" will result 885 mm.
- ◆ Height 2390 mm with exhaust air conveyor

ELECTRIC SPECIFICATION

ATLANTIC CYTOCABINET	Feeding power	Absorption	Protection fuses	Lighting lamp Watt/Lux	Electrical outlet power	Germicide UV lamp
900	230 V - 50 Hz.	700 W + 440 W	2 x 5 AF (5 x 20) mm.	1x30 W 900 Lux	10 A	1x15 W
1200	230 V - 50 Hz.	700 W + 440 W	2 x 5 AF (5 x 20) mm.	1x36 W 900 Lux.	10 A	1x30 W

PARTS LIST AND FLOW SCHEME



Third hepa filter placed under the work plan

FITTINGS ON DEMAND

- ◆ Activated carbon cell to be introduced after the second hepa filter, in ejection, in case of work with toxic steam.
- ◆ UV lamp to place in the work's room: **15 Watt for ATLANTIC CYTOCABINET 900, 30 Watt for ATLANTIC CYTOCABINET 1200**



- ◆ **ON REQUEST** the germicidal UV lamp can be fixed to the rear wall of the working chamber with direct wiring to the control board.
- ◆ Chest of drawers with 3 drawers with wheels and key (WxDxH:420x550x560 mm.) to fit under support
- ◆ EXACARB Module - activated carbon filtering system. Activated carbon filtering module, with its motor-fan and external conveyer 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. Therefore, you will 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 conveyer 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.





13.1 – “THIRD FAN” ADDITIONAL EXHAUST FAN FOR EXACARB MODULE

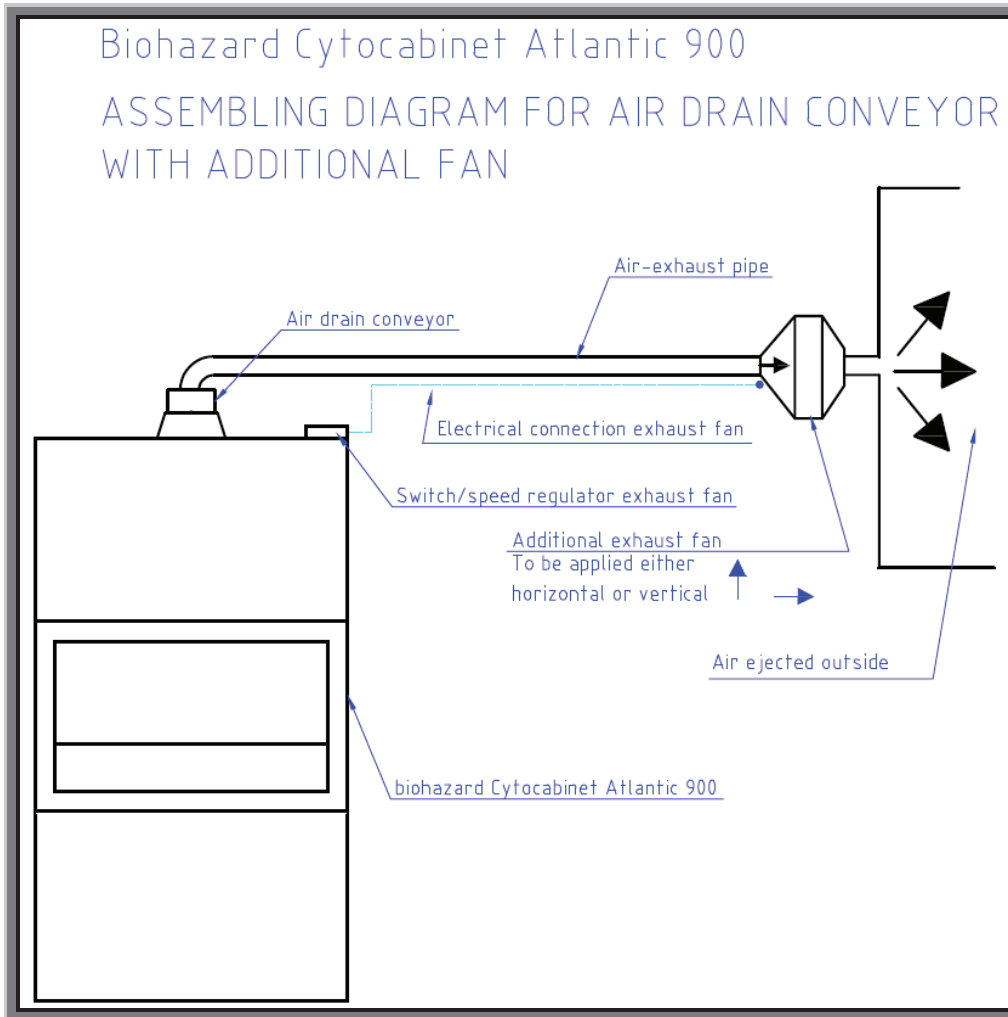
INSTALLATION AND USE OF ADDITIONAL EXHAUST FAN

NOTE: in the box that contains additional exhaust fan you'll find instruction booklet, with installation instructions and wiring.

If the cabinet is already fitted with the third fan for air exhaust is necessary:

1. Attach supplied additional exhaust fan to the wall with brackets supplied.
2. Connect air drain conveyor Ø 200 mm, placed in correspondence of the air exhaust hole, on the cabinet roof, to the additional exhaust fan through air exhaust pipe.
3. Electrically connect the additional exhaust fan to the speed regulator mounted on the cabinet roof, using approximately 1 meter long cable that comes out if the fan is mounted on the cabinet, or prolonging the length necessary if the the fan is mounted on the wall.
4. Turn on the cabinet and turn on the fans.
5. Turn on the speed regulator to turn on the additional exhaust fan and regulate its speed.
6. Using an anemometer check that these parameters are guaranteed, with cabinet in use:
 - ◆ Vertical laminar flow speed, inside the workroom: m/s $0.40 \pm 20\%$.
 - ◆ Frontal barrier laminar flow speed m/s $0.45 \pm 20\%$.
 - ◆ Exhaust air volume on the third fan exit
 - ◆ 300 m³/h $\pm 20\%$ - **ATLANTIC CYTOCABINET 900**
 - ◆ 400 m³/h $\pm 20\%$ - **ATLANTIC CYTOCABINET 1200**
7. The cabinet has a self-regulation of the two fans, principal and expulsion, to ensure correct operating parameters listed above.
8. To get the correct value of volume of air ejected at the exit of the third supplementary fan, 300/400 m³/h, you must run the anemometer measurement of the average speed of the outgoing air and calculate the volume of air expelled by the formula **$V = S \times A \times 3600$** , where:
V: exhaust air volume in m³/h
S: exit fan area. In this case with diameter 200 mm area is 0.031 m².
A: exhaust air average speed (at least 5 points), measured on the exit fan area.
9. Act on the speed regulator to increase or decrease the speed of additional fan in order to offset any losses generated by the conformation of the eject system.

If the third extra fan was provided as an accessory after the provision of the cabinet, the customer have to fix, on the cabinet roof, the switch box/regulator and the additional fan electrical wiring/box (see specific instructions of extra fan).



Fix additional exhaust fan at the room wall, so that the air outlet pipe is always in aspiration. This allows the ejection of the exhaust airflow also in case of losses of the pipe.



Switch and speed regulator for additional exhaust fan, positioned on the cabinet roof