TECHNICAL FEATURES VERTICAL LAMINAR FLOW BIOHAZARD CABINET - CLASS II A/B3

BIO ACTIVA

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Elmont S.R.L.
Costruzioni Elettriche Generali

Biohazard hood with vertical laminar flow, the Bio Activa has been in production for several years and is an excellent product. The class II biohazard cabinets are hoods with front opening, air intake from outside to inside, vertical laminar sterile air flow inside the cabinet and absolute HEPA expulsion filter. This cabinet is characterized by a modern and elegant design, by technically advanced electronics and a remarkable simplicity of maintenance, it has been studied for the global protection of the operator, product and environment. The biohazard cabins in class II type A and B3 are hoods with front opening, air intake from the outside to the inside, vertical laminar air flow inside the cabin and absolute HEPA filter in expulsion. The machines have been certified by a third party company in compliance with the EN12469:2001 standard.

Main features

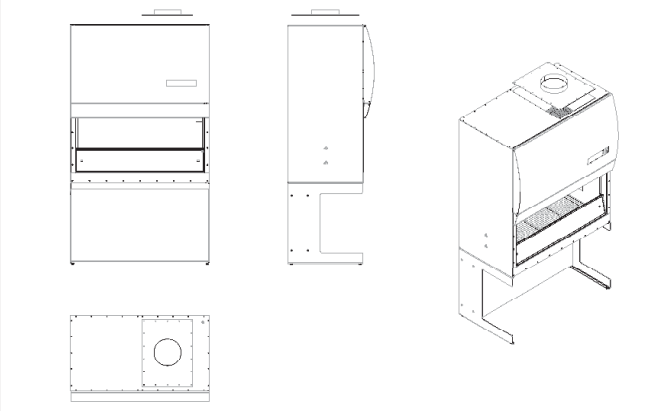
Two models proposed in different versions: Bio Activa Standard and Bio Activa Plus.

- External carpentry in sheet steel BV (thickness 12/10), RAL 7035 epoxy powder coating and internal carpentry in AISI 304L stainless steel with scotch-brite finish. Perforated worktop in AISI 304L stainless steel with scotch-brite finish, divided into sectors that can be easily removed and sterilized in an autoclave. Liquid collection in stainless steel under the worktop.
- 6 mm thick tempered protective front glass with flap opening over 90° with acoustic alarm for wrong operating conditions, equipped with 2 gas springs for glass anti-fall system while opening.
- Collar diam. 250 mm for ducting the expelled air outside (optional)
- N°2 absolute filters (HEPA H14 according to standard EN1822), extractable from the front and top, with efficiency higher than 99.995% MPPS (ex 99.999% on particles with a diameter equal to or greater than 0.3 µm), compliant with all standards
- Rigid internal dynamic sealing plenum.
- Taken for DOP test on downflow and exhaust
- n° 1 fan motor (Bio Activa Standard) or n° 2
- electronically controlled fan motors (Bio Activa Plus) capable of compensating the load losses due to the progressive clogging of the absolute filters.
- automatic regulation of the air speed of downflow and exhaust air (frontal barrier)
- predisposition for gas valve valves
- n° 1 internal IP65 4A electric socket 230V
- 50Hz for small instruments (IP65)

Control panel

On the control panel, which contains the electronic card controlled by a new generation microprocessor, there are in both solutions:

- O/I general switch.
- Membrane keyboard with passive button controls
- Electronics and displays:
- mod. Standard: digital display with real-time reading of the velocity of the vertical laminar flow and frontal barrier, expressed in ms
- mod. Plus: small graphic display with additional various information displayed
- Emergency button for the possibility of increasing the speed of the expelled air flow (operator protection barrier)
- Button for operating the safety solenoid valve (if installed) on the gas tap
- Digital electronic counter of: general machine operation; UVC germicidal lamp operation (when provided).
- UVC lamp timer Countdown, operation that can be set by the customer with auto-off at the end of the cycle. During the countdown will show the time remaining until shutdown.
- Operation timer of the internal electrical outlet with countdown that can be set by the customer with automatic switch-off at the end of the cycle (maximum time: 24 hours).



Acoustic and visual alarms Bio Activa mod. Standard for:

- Front glass in wrong position: it is shut-down automatically when the glass is closed.
- Downflow and/or exhaust anomalies (frontal barrier) due to both clogging of the filters and/or faulty operation of the fan motors

Acoustic and visual alarms Bio Activa mod. Plus for:

- low downflow speed alarm: it is activated when the air speed read by the main sensor drops below the minimum set limit
- high downflow speed alarm: it is activated when the air speed read by the main sensor rises above the minimum limit set
- low exhaust air speed alarm: it is activated when the air speed read by the secondary sensor falls below the minimum limit set
- high exhaust air speed alarm: it is activated when the air speed read by the secondary sensor rises above the minimum limit set;
- main fan alarm not connected or faulty: it is activated when the fan is powered and there is no current, i.e. when it does not work;
- secondary fan alarm not connected or faulty: it is activated when there is no current circulating with the fan powered, i.e. when it does not work;
- Furthermore, on the Bio Activa Plus model, equipped with a graphic display, the following are provided:
- UP/DOWN button for moving the electric window
- UVC lamp ignition button with countdown timer that can be set by the customer with auto-off at the end of the cycle. During the countdown, the time remaining until switching off will be displayed. Timer for the internal electrical outlet with countdown that can be set by the customer with self-switching off at the end of the cycle (maximum time: 24 hours). During the countdown, the time remaining until shutdown will be displayed;
- main fan not connected or faulty alarm: it is activated when with the fan powered there is no current circulating or when it does not work
- secondary fan alarm not connected or broken: it is activated when there is no current circulating with the fan powered, ie when it doesn't work
- possibility to choose the preferred buzzer sound (among the various pre-set by default)
- Visual pre-alarms with signaling on the display of the need to replace it soon for:
- UVC lamp end of life
- installed filters usage limit reached (appears after 3900 hours of fan motor operation)
- display of the event memory in the alarm history, where the microprocessor stores any alarms and anomalies signaled by the hood. Resettable
- Possibility of entering startup passwords
- Monitoring of the temperature inside the working chamber
- Stand by system: when active, it makes the machine operate in energy saving mode with a lower laminar flow
- Possibility to use the preferred display language between Italian, English (other languages on request).

General technical characteristics:

External drain connection: mm250 vert.
(diam. ext mm) (optional for
transform class II type A, to type B3
(only for plus model)

Exhaust air flow:

· Bio Activa 90	approx. 300 m3/hour
· Bio Activa 120	about 400 m3/hour
· Bio Activa 180	about 600 m3/hour
· noisiness:	< 60 dBA
· thermal increase:	< 4°C
· Filtration Efficiency:	> 99.995% MPPS H 14
· LAF average speed:	0.40 m/sec user adjustable within the limits of the norm
· barrier average speed:	> 0.40m/sec
· light intensity on the work surface:	> 800 lux
· liquid collection tank capacity:	> 20 liters (ref. Bio Activa 120)
	power supply: 230V; 50Hz

Nominal power mod. pluses:

· Bio Activa 90:	670W
· Bio Activa 120:	700 W
· Bio Activa 180:	900 W

External dimensions (excluding stand):

· Bio Activa 90:	985 x 795 x 1450 mm (L x P x h)
· Bio Activa 120:	1285 x 795 x 1450 mm (L x P x h)
· Bio Activa 180:	1895 x 795 x 1450 mm (L x P x h)

Internal useful dimensions:

· Bio Activa 90:	
· Bio Activa 120:	885 x 600 x 655 mm (L x P x h)
· Bio Activa 180:	1185 x 600 x 655 mm (L x P x h)
· Altezza apertura frontale in condizioni di lavoro:	1795 x 600 x 655 mm (L x P x h)
·	200 mm

Gross weight:

· Bio Activa 90:	204 kg
· Bio Activa 120:	264 kg
· Bio Activa 180:	315 kg

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Net weight:

· Bio Activa 90:	174 kg
· Bio Activa 120:	234 kg
· Bio Activa 180:	285 kg

Compliance:

Safety cabinet against biological risks (BIOHAZARD), with work area protected from vertical laminar flow in class ISO 5 (according to EN 14644-1), bench version, classified class II type A/B3 and therefore suitable for handling pathogens at low and medium biological risk.
The machines have been certified by a third-party company in compliance with the EN12469:2001 and UNI EN ISO 14644-1:2016 standards.

Built in compliance with:
European standard UNI-EN12469:2000
European Standard EN 1822 (absolute filters)
EN14644-1 standard in ISO class 5
Standard 2006/42/EC Machinery Directive
Standard 2014/30/EU Electromagnetic Compatibility Directive
Standard 61010-1:2010 Safety requirements

Models available

Bio Activa standard, equipped with:
n°1 modular perforated worktop
n°1 front night closing panel
n°1 centrifugal fan motor
n°2 led lamp 4000°K
n°1 downflow HEPA H14 filter
n°1 HEPA H14 exhaust filter
n°1 internal 800W electric socket
n°1 power supply cable 230 V - 50 Hz equipped with UNEL-schuko type plug

Bio Activa Plus, equipped with:
n°1 modular perforated worktop
n°1 front night closing panel
n°2 internal centrifugal fan motors
n°3 led lamps 4000°K
n°1 downflow HEPA H14 filter
n°1 HEPA H14 exhaust filter
n°1 internal 800W electric socket
n°1 power supply cable 230 V - 50 Hz equipped with UNEL-schuko type plug

Accessories available

Special worktops
Floor stands (height 77 cm; worktop height 87 cm)
Cabinets and chests of drawers
Gas taps
Additional electrical outlets
Solenoid valve on gas cock
UVC germicidal lamp in fixed internal location
Accessories for possible channeling of the expelled air to the outside