

HORIZONTAL LAMINAR FLOW CABINET

FLOW ACTIVA HF



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Flow Activa HF cabinet is characterized by a modern and elegant design and technically advanced electronics, has been studied only for protection of the product, instead of the operator and environment.

The horizontal laminar flow cabinets are hoods with front opening, air intake from the outside towards the inside of the machine, horizontal laminar sterile air flow towards the operator in the work chamber generated by an absolute HEPA filter and directed towards the operator. All this guarantees ISO 5 class sterility in the working volume, avoiding pollution with ambient air.

HF equipment is used in analysis and research laboratories, floriculture, industry for various applications including: handling of products sensitive to ambient air contamination, preparation of culture media, sterility controls, assembly of electronic devices or opticians, in the food industry for quality checks, etc.

Main features

- Solid and pleasant construction, the hood is in class ISO5 according to the EN14644-1 standard
- Microprocessor-controlled electronic card with real-time air speed display
- Worktop in AISI 304 L stainless steel with underlying longitudinal reinforcement to support considerable masses
- Automatic regulation of the sterile air's speed in horizontal laminar flow
- Non-fatiguing lighting on the work surface, with external laminar flow ceiling lights
- Wide choice of optional services that can be positioned to the left and right both sides of the work area
- Maximum noise level within the limits established by current standards

Structure

- External self-supporting sheet metal carpentry (thickness 12/10), oven painted with very light gray RAL 7035 polyepoxy powder
- Modern design studied to give the operator great comfort in every movement and the safety given by the sturdy physical construction of the machine
- Worktop in AISI 304 stainless steel high

quality, very fine satin scotch-brite

- 6 mm thick tempered transparent protective side glasses, mounted inside the filter surface to avoid the Venturi effect
- An absolute filter (HEPA) in class H14 with efficiency greater than 99.995% MPPS on particles with a diameter equal to or greater than 0.3 μm , compliant with the EN 1822 standard with issue of the manufacturer's original certificate
- N° 1 fan motor (n° 2 fan motors in mod. 180) with electronic control capable of compensating the load losses due to the progressive clogging of the absolute filter and of the pre-filters
- Standard synthetic suction pre-filters (class G3), easy to replace

Command and control panel

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

- Blue light O/I general switch
- Membrane keyboard (soft touch) with passive button commands
- Digital display with real-time reading of the horizontal laminar flow speed expressed in metres/second
- Safety solenoid valve activation buttons (if installed) for gas inlet control; internal electrical outlet power button; LED and U.V.C. lights power button (with interlock); fan motors switch on button and mains presence LED
- Digital electronic hour meter for general machine operation
- Digital electronic hour counter for UVC lamp operation (if required)
- UVC lamp operation timer with countdown settable by the customer with auto-off at the end of the cycle (functioning also indefinitely)
- Warnings on digital display of pre-alarms and alarms in progress, visual and audible (see paragraph relating to alarms)

Type of alarms Flow HF

Acoustic and visual alarm on digital display for:

- clogging of the absolute Hepa filter
- faulty operation of the fan motor(s).
- horizontal laminar flow anomalies
- limit of use of installed filters reached

- UVC lamp lifetime
- Pre-alarm of reaching the maximum time limit for the installed absolute filters use, with signaling necessity for an upcoming replacement
- Pre-alarm of reaching the maximum time using limit of the UVC lamp, with notification of necessity to replace it soon

Fan motor characteristics:

The Flow Activa HF hood is fitted with high-quality motor-fans with automatic control by the electronic board with operating speed regulation, to compensate load losses due to the progressive clogging of absolute filters.

Side crystals

the side glasses are 5 mm thick tempered, positioned perpendicular to the vertical surface of the absolute Hepa filter, leaving a short section of filter (15mm) beyond the profile of the glasses themselves. They are easily removable and replaceable from the hood front.

Lighting and germicidal lamp

Positioned outside the work chamber and hidden from the operator's sight, the LED ceiling lights are easy to replace and guarantee an average internal lighting of about 800 Lux, avoiding shadow areas in the work chamber. The UVC germicidal lamp can be positioned freely on the work chamber surface, it can only be operated as an alternative to white light.

Gas dispensers and vacuum taps (optional)

The gas and vacuum taps are installed on the work surface, in the customer's preferred position; the valve can be opened and closed from the inside, while the connection to the adduction line takes place directly on the attachment of the faucet from the outside. The taps in question are certified according to the relevant standards.

The fan motors installed on the hood are recent generation class, and have remarkable qualities in terms of performance and low noise emissions. Therefore the machine reaches a maximum level of 58 dBA, a lot below the norm (65 dBA), with high quality standards in terms of silence.

Floor stand (optional)

Solid tubular structure, very light gray (RAL 7035) epoxy powder coating, adjustable feet. Prepared for union with the hood above through specific holes for the passage of the fixing screws.

Frontally open for inserting the operator's legs when seated and/or for a possible cabinet on wheels.

Technical features:

· Vibration on the stainless steel:	< 0,006 mm rms
· Noise level:	< 65 dBA
· Filtration efficiency:	> 99,995% MPPS — class H14 according to EN 1822
· LAF average speed:	> 0.45m/sec (user editable)
4000°K led lamps:	
· Mod. 90:	2 x 10 W
· Model 120:	2 x 13 W
· Form 180:	2 x 24 W
Light intensity on the work surface:	
· Mod. 90:	> 800 lux
· Form 120:	> 800 lux
· Form 180:	> 800 lux
Lamps U.V.C :	
· Mod. 90:	1 x 18 W (optional)
· Form 120:	1 x 30 W (optional)
· Form 180:	1 x 36 W (optional)
· Power supply:	230 V / 50 Hz
Nominal power:	
· Mod. 90:	420 W
· Form 120:	450 W
· Form 180:	800 W
External dimensions:	
· Mod. 90:	970 x 1100 x 1280 mm (L x W x h)
· Form 120:	1270 x 1100 x 1280 mm (L x W x h)
· Form 180:	1880 x 1100 x 1280 mm (L x W x h)
Internal useful dimensions:	
· Mod. 90:	810 x 630 x 725 mm (L x W x h)
· Form 120:	1110 x 630 x 725 mm (L x W x h)
· Form 180:	1720 x 630 x 725 mm (L x W x h)
· Worktop height from flooring:	900 mm
Gross weight:	
· Mod. 90:	150 kg
· Form 120:	170 kg
· Form 180:	220 kg
Net weight:	
· Mod. 90:	120 kg
· Form 120:	140 kg
· Form 180:	185 kg

Compliance

Cabin with work area protected from horizontal laminar flow in ISO 5 class according to standard EN14644-1, bench version, suitable for handling non-pathogenic products or culture media in a sterile environment.

The FLOW ACTIVA_HF hood is a class I appliance according to the CEI EN 61010-1 standards

Furthermore, it is built in compliance with the following standards:

- 2006/42/CE Machinery Directive/Directive on machinery /Directive relating to aux machines
- 2014/30/EU Electromagnetic Compatibility Directive/ Electromagnetic Compatibility Directive/ Directive sur la compatibilité électromagnétique
- CEI EN 61010-1:2010 (Safety requirements for electrical equipment, measurement, control and laboratory use)

They also comply with the recommendations expressed by the WHO and the National Commission for the fight against AIDS of the Ministry of Health on the safety of health workers.

Models available

The 90 and 120 models are equipped with:

n° 1 304L stainless steel worktop

n° 1 fan motor

n° 2 LED lamps

n° 1 HEPA H14 absolute filter

230 V power supply cable fitted with UNEL-schuko type plug

The 180 model is equipped with:

n° 1 stainless steel worktop

n° 2 fan motors

n° 2 LED lamps

n° 1 HEPA H14 absolute filter

230V power supply cable fitted with UNEL-schuko type plug

Optional accessories

Floor stands

Floor stand for FLOW ACTIVA HF 90

Floor stand for FLOW ACTIVA HF 120

Floor stand for FLOW ACTIVA HF 180

Mobile

Height adjustable stool with backrest

Metal cabinet with 1 pull-out door on wheels

Pull-out metal chest of drawers on wheels

Various gas / vacuum / compressed air taps

Solenoid valve on gas cock

KIT 1 ball valve for combustible or technical gas

Lamps

15 W UVC lamp for FLOW ACTIVA HF 90

30 W UVC lamp for FLOW ACTIVA HF 120

36 W UVC lamp for FLOW ACTIVA_HF 180

ACCESSORIES

Bunsen burner with electronic control

Foot control for Bunsen burner

Analog differential pressure gauge

KIT 1 internal turret socket 230V/50Hz KIT 2

internal turret sockets 230V/50Hz

