BIGNEAT

CONTAINMENT TECHNOLOGY

MADE IN BRITAIN

VERTICAL AND HORIZONTAL HEPA FILTERED SYSTEMS

# Laminar Flow Cabinets and Workstations

For process or operater protection


**FOR PROCEDURES REQUIRING PROTECTION FROM PARTICULATE CONTAMINATION AND FOR ASEPTIC TECHNIQUES**

## LAMINAR FLOW CABINETS & WORKSTATIONS

Bigneat's Laminar Flow Workstations have been specifically designed to be affordable yet to provide particle-free, bacteria free, clean air conditions to the work area at a quality standard usually only possible in more expensive cabinets.

A cabinet may be positioned on an existing bench or can be supplied as a free standing system on a supporting mobile bench or static stand with adjustable height feet.

Laminar Flow Cabinets are manufactured to a very high standard using only the best quality materials, fans and components. Materials used are resistant to corrosion and easy to clean.

Experience has shown that Bigneat Laminar Flow Cabinets give consistent performance which is only dependent on replacement of the pre- and HEPA filters at recommended intervals.

## DESCRIPTION AND OPERATION

Room air is drawn into the top of the cabinet, passes through the pre filter and enters the fan housing. The speed controllable fan pushes the air through the HEPA filter located above the working area. Ultra-clean air exits the HEPA filter to provide a sterile working environment which protects the samples and manipulations from external contamination.

The cabinet structure is fabricated from 10mm thick clear UV stabilised cast acrylic which provides excellent all-round visibility for the operator whilst carrying out manipulations and aseptic procedures.

FEATURES

- **Comfortable to use**
- **Flexible access**
- **Excellent view of working area**
- **Easy to maintain**
- **Quiet operation**
- **Meets all worldwide standards**

## INCLUDED AS STANDARD

- A variable fan speed control (pre-set at factory, adjustable by installation/service engineer.
- Magnehelic® differential pressure gauge for monitoring filter performance.
- HEPA Filtration to remove particles greater than 0.3micron @ 99.995% efficiency.
- Pre-filtration to remove particles greater than 5micron @ 92% efficiency.
- HPL work surface with margin groove to catch and contain spills.
- Service port in each side panel.

## TYPICAL APPLICATIONS

For materials or processes that require protection from particulate contamination: Semiconductor handling, laboratory procedures, preparation of sterile medical devices and materials, in pharmaceutical research and food, for cell culture, PCR and RNA and many other general industry uses requiring a particulate-free or sterile environment

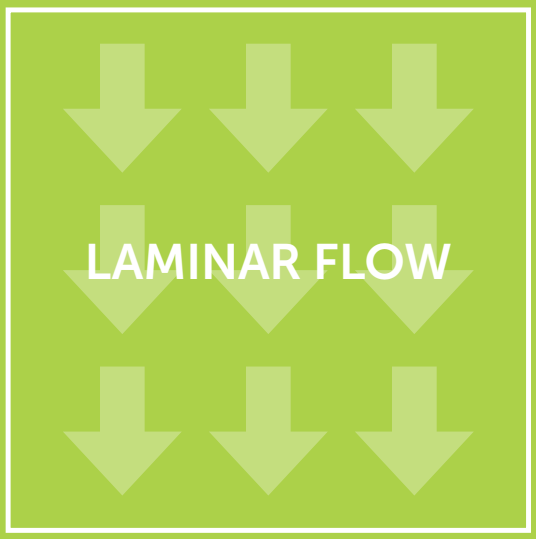
LAMINAR FLOW WORKSTATION

**Definition and classification of clean air safety systems as specified by ISO 14644**

A dedicated space in which the concentration of airborne particles is controlled and is constructed and used in a manner to minimise the introduction, generation and retention of particles inside the zone.

LAMINAR AIRFLOW

**Airflow moving along parallel flow lines minimises air turbulence within the workstation.**



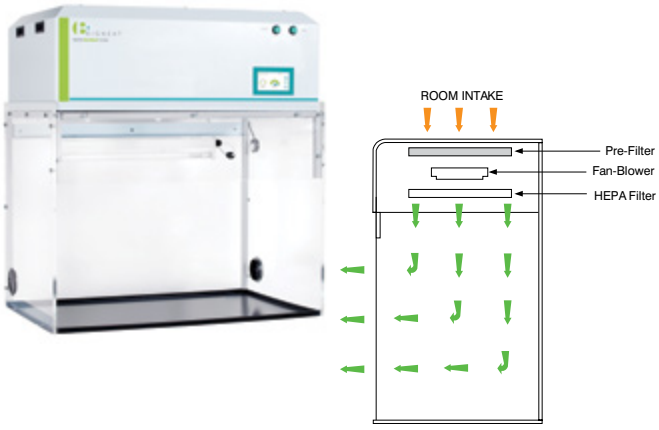

## FILTRATION USED IN LABS ENCLOSURES

- Pre-filtration eliminates particles 5.0 microns or greater to an efficiency of 92% as defined in BS EN ISO 779.
- HEPA filtration (H14 Standard) eliminates particles 0.3 microns or greater to an efficiency of 99.995% providing ultra-clean particle free Class 5 BS EN ISO 14644-1:2000 air conditions.
- Laminar Flow Cabinets are manufactured to comply with the guidelines of ANSI.IEST/ISO 14644 – 1:1999 Class 5, also described as Class 100 or FED STD-209- D:1988, to provide sterile working environment and air velocity at filter face of 0.45 m/s.
- HLFO Operator Protection Workstation includes Carbon Filtration which has a filtration efficiency of 99.9%, meets BS 7989:2001 Standard.

## VERTICAL LAMINAR FLOW (VLF)

- VLF cabinets are available in 3 different widths; 1m, 1.5m, 2m.
- Fan housing design ensures that the positive pressure developed pushes air evenly across the full width of the filter.
- Base tray (HPL) has margin groove to catch and contain spillages.
- May be installed on existing bench or be supplied with a robust static stand.
- VLF Cabinets are flat-packed for easy shipment around the world.

When your choice is sterile air delivered downwards onto the work area then a Bigneat VLF cabinet/ workstation is ideal. It offers a particle-free, clean-air environment with all-round view into the work area. The acrylic frameless construction allows the operator to work by laboratory illumination and natural light and eliminates the need for internal lighting (offered as an option).




*Room air enters the fan housing and passes through the filtration system delivering sterile particulate air to the work area.*

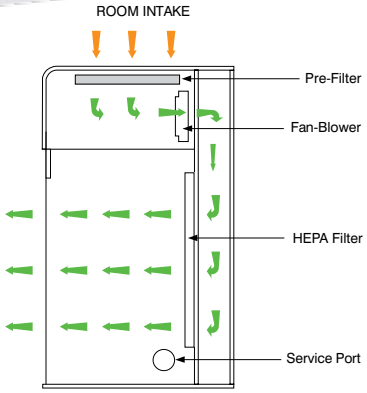
## HORIZONTAL LAMINAR FLOW (HLF)

- VHLF cabinets are available in 3 different widths; 1m, 1.5m, 2m.
- Fan housing design ensures that the positive pressure developed pushes air evenly across the full width of the cabinet work area.
- Base tray (HLF) has margin groove to catch and contain spillages
- May be installed on existing bench or be supplied with a robust static stand.
- HLF Cabinets are flat-packed for easy shipment around the world.

When your choice is sterile air delivered horizontally across the work area then a Bigneat HLF cabinet/ workstation is

ideal. It offers a particle-free, clean-air environment with excellent view into the work area to the front and through the

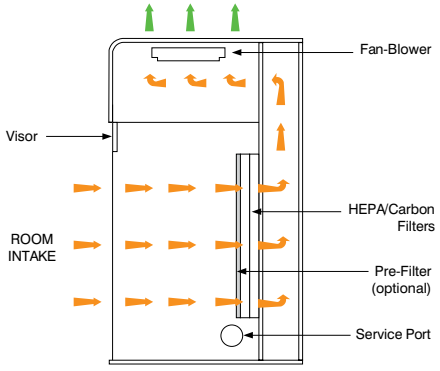
side panels




*Room air enters the fan housing, through the filtration system and passes down the back of the cabinet through the mesh to the rear of the cabinet delivering sterile particulate air across the work area.*

## OPERATOR PROTECTION WORKSTATION (HLFO)

When it is required to protect the operator from particulate and also chemical fumes or solvents vapours which are released during your handlings and procedures, then a Bigneat HLFO cabinet/workstation is ideal. Essentially of the same design as a HLF cabinet/workstation with flow reversed and filtration system reconfigured with a more powerful fan and different filter arrangement. It returns particle-free, clean-air, back into the laboratory and provides an even flow across the work area. This cabinet style allows excellent view into the work area to the front and through the side panels.




*Room air enters the cabinet passing the operator and horizontally through the rear mesh back panel, up the back of the cabinet and through the filtration system returning clean air back into the laboratory.*

## VERTICAL LAMINAR FLOW (VLF)

Bigneat VLF Laminar Flow Cabinets are delivered complete with pre-filtration, HEPA particulate filter(s) and are factory calibrated for immediate use once assembled. Cabinets are supplied with an on/off switch for the fan, and a Magnehelic® differential pressure gauge for monitoring filter performance.

The fan housing is fabricated from mild steel with an epoxy chemical resistant, white coating. Side panels are manufactured from transparent clear cast acrylic which is non-flammable and easy to clean (10mm thick) and each is fitted with a services port. The integrated work surface is manufactured from HPL and has a margin groove to catch spills.

| Model | External dims mm (WxDxH) | Internal dims mm (WxDxH) | Sound Levels | Air velocity at filter face |
|---|---|---|---|---|
| VLF 1000 | 1000 x 725 x 1040 | 966 x 700 x 700 | <65dBa | 0.45 m/s |
| VLF 1500 | 1000 x 725 x 1040 | 1466 x 700 x 700 | <65dBa | 0.45 m/s |
| VLF 2000 | 2000 x 725 x 1040 | 1966 x 700 x 700 | <65dBa | 0.45 m/s |

*Cabinets available for power supply: 230V, AC,50Hz,5Amp,1Ø and 110V, AC, 60Hz, 8Amp, 1Ø*

## HORIZONTAL LAMINAR FLOW CABINETS (HLF)

Bigneat HLF Laminar Flow Cabinets are delivered complete with pre-filtration, HEPA particulate filter(s) and are factory calibrated for immediate use once assembled. Cabinets are supplied with an on/off switch for the fan and for the integral fluorescent tube lighting and a Magnehelic® differential pressure gauge for monitoring filter performance.

The fan housing and back panel is fabricated from mild steel with an epoxy chemical resistant, white coating. Side panels are manufactured from transparent clear cast acrylic which is non-flammable and easy to clean (10mm thick) and each is fitted with a services

| Model | External dims mm (WxDxH) | Internal dims mm (WxDxH) | Sound Levels | Air velocity at filter face |
|---|---|---|---|---|
| HLF 1000 | 1000 x 762 x 1160 | 960 x 600 x 665 | <65dBa | 0.45 m/s |
| HLF 1500 | 1500 x 762 x 1160 | 1460 x 600 x 665 | <65dBa | 0.45 m/s |
| HLF 2000 | 2000 x 762 x 1160 | 1960 x 600 x 665 | <65dBa | 0.45 m/s |

*Cabinets available for power supply: 230V, AC,50Hz,5Amp,1Ø and 110V, AC, 60Hz, 8Amp, 1Ø*

## OPERATOR PROTECTION WORKSTATION (HLFO)

Bigneat HLF Laminar Flow Cabinets are delivered complete with pre-filtration, Chemcap carbon and HEPA filtration and are factory calibrated for immediate use once assembled. Cabinets are supplied with an on/off switch for the fan and the integral fluorescent tube lighting and a Magnehelic® differential pressure gauge for monitoring filter performance.

The fan housing and back panel is fabricated from mild steel with an epoxy chemical resistant, white coating. Side panels are manufactured from transparent clear cast acrylic which is non-flammable and easy to clean (10mm thick). The integrated work surface is manufactured from HPL and has a margin groove to catch spills.

| Model | External dims mm (WxDxH) | Internal dims mm (WxDxH) | Sound Levels | Air velocity at filter face |
|---|---|---|---|---|
| HLF 1000 | 1000 x 725 x 1040 | 966 x 700 x 700 | <65dBa | 0.45 m/s |
| HLF 1500 | 1000 x 725 x 1040 | 1466 x 700 x 700 | <65dBa | 0.45 m/s |
| HLF 2000 | 2000 x 725 x 1040 | 1966 x 700 x 700 | <65dBa | 0.45 m/s |

*Cabinets available for power supply: 230V, AC,50Hz,5Amp,1Ø and 110V, AC, 60Hz, 8Amp, 1Ø*

## OPTIONS AND ACCESSORIES

| Ref | Item Description | VLF | HLF | HLFO |
|---|---|---|---|---|
| MT | Bench for cabinet, open box-section framework with levelling/adjustable feet. | OPTION | OPTION | OPTION |
| MTA | Bench for cabinet with 2 leg frame, electrical height adjustment and levelling/adjustable height feet. | OPTION | OPTION | OPTION |
| EC | Electronic touch button control panel incorporating LED airflow indicator and audible and visual alarms. | OPTION | OPTION | OPTION |
| L | Fluorescent tube lighting. | OPTION | STANDARD | STANDARD |
| UF | Upgrade to ULPA filtration (Grade U16). | OPTION | OPTION | - |
| IB | Ionising bars for controlling the static environment | OPTION | OPTION | OPTION |
| SK | Tap (air, gas, vacuum). Installed through side panels or through work surface if cabinet is provided with an optional bench. Supplied with suitable flexible tubing (2m). | OPTION | OPTION | OPTION |
| EB | Electrical plug socket (double). | OPTION | OPTION | OPTION |
| BS | Upgrade to stainless steel work surface (304L) with front spillage lip. | OPTION | OPTION | OPTION |
| D | Removable front 'night' door. | - | OPTION | OPTION |
| UV | Ultraviolet sterilisation lamp with timer and key switchwith acrylic panels blackened for protection, supplied with front 'night' door. | OPTION | OPTION | OPTION |

### BENCH OPTION

Your laminar flow cabinet can be provided with an open box-section bench with levelling/adjustable feet or there is an electrically operated height adjustable bench alternative.


**Magnahelic®** Gauge as fitted in base model

**Services Port and filter mesh** shown in HLF workstation

### QUALITY ASSURED

Bigneat is accredited to BS EN ISO 9001: 2008

CE Bigneat systems are CE marked

Bigneat manufactures from UL approved components

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