Stripes Global

Germfree

Cleanroom Equipment

Biocontainment

Equipment Catalog

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BBF-2SSCH - Class II Type A2 Biological Safety Cabinet

Sell Price: $9,901.50

Performance Criteria

The **Class II, Type A Laminar Flow Biological Safety Cabinet (BBF)** provides protection for the user, product and the environment from particulate and aerosol hazards. The work area is continuously bathed with positive pressure ISO 5 HEPA-filtered air to protect the product from contamination, while an inward airflow protects the user. Approximately 70% of the air from each cycle is recirculated through the supply HEPA filter while the remaining air is discharged from the hood through the exhaust HEPA filter.

The BBF Series of Vertical Laminar Flow Biological Safety Cabinets pass the Biological Tracer Containment Tests of the National Institute of Health (NIH), the National Cancer Institute (NCI) and the National Sanitation Foundation (NSF). All units are NRTL listed with MET Labs to comply with UL1262.

Equipment Specifications

Construction:

- Outer cabinet and work surface are welded stainless steel with a #4 pharmaceutical grade finish
- Filter screen is removable for easy cleaning
- Constructed to allow for optional outside venting of exhaust air

Work Area:

- IV hanging bar with 12 hooks in work area
- High capacity motor/blower system with speed control to extend HEPA filter life
- Supply and exhaust HEPA filters are parallel to work area and each other to prevent turbulence
- Removable stainless steel work tray and tray supports facilitate easy clean up

Front Sash:

- Front lifting viewing panel is easily removed and is gasketed to provide a proper seal when in place

Electrical:

- Fluorescent lights are externally mounted to minimize heat build-up
- Separate lighted power ON/OFF indicator switches for blower and lighting
- Voltage = 115V, 60Hz, 15-amp (220V, 50-60Hz also available)
- Ten-foot power cord with molded grounded plug

BBF-2SSCH Dimensions

	Dimensions (Inches)			Dimensions (Millimeters)		
	W	D	H	W	D	H
Overall	24.5"	26.5"	47"	622.3 mm	673.1 mm	1193.8 mm
Work Area	24"	17.5"	21"	609.6 mm	444.5 mm	533.4 mm

Operation and maintenance manual is included.

Additional Options

BBF-A830: Stainless Steel Stand for all BBF-2SS units

Price: $1,725.00

Option	Description
BBF-A1	Stopcock for Gas, Air and Vacuum
BBF-A2x	Duplex Electrical Outlet in Work Area
BBF-A4	Low Flow Audible Alarm
BBF-A8	2' Stainless Steel Bin Cart (30" W x 26½ D x 29" H)
Bins	Plastic Bins (14" W x 6" D x 6" H)

Z-Series Horizontal Laminar Flow Hood

Z400

Sell Price: $13,363.00

Sell Price: $12,990.00

Z600

Performance Criteria

The **Z-Series Horizontal Laminar Airflow Workstations** are designed for the handling of materials in a sterile working environment. The work area is continuously bathed with positive pressure ISO 5 horizontal laminar flow air that has passed through a High Efficiency Particulate Air (HEPA) filter. This filter removes particulates 0.3 micron in size with an efficiency of 99.99%, and is even more effective for both larger and smaller particles.

The laminar airflow principle consists of moving individual streams of unidirectional, ultra-clean air along parallel lines with minimal turbulence. The HEPA filter is positioned in the rear of the work area and is protected by a removable, perforated stainless steel diffuser.

Equipment Specifications

Construction:

- Touch control interface with integrated pressure monitoring
- Durable 16 & 18 Gauge 100% 304 Stainless Steel
- Work Deck Material: 100% 304 Stainless Steel
- Diffuser Material: 100% 304 Stainless Steel
- IV Bar: Supplied Standard with 6 Hooks, 304 Stainless Steel (Quantity of Hooks Dependent on Size)
- Compatible with future 30-inch stainless steel work deck upgrade (Sold Separately by Germfree).

Electrical:

- Z-Series Requires 120VAC, 60Hz, 15A Circuit
- Power Cord Length: 10ft
- (2) 110VAC Duplex Outlets included standard in each side of the hood
- (2) Sealed Data Ports included standard in each side of the hood

Lighting

- Energy efficient LED
- Night mode lighting
- Visual red light integrated into low/high flow alarm

Filters

- Cleanroom Compliant Pre-Filter
- Germfree SpillGuard for HEPA filter protection
- HEPA Filter: 99.99% at 0.3 microns

Performance

Airflow Volume at 80-100 fpm

- Z400: 1006
- Z600: 1531

Heat Rejected (BTU/Hour)

- Z400: 1200
- Z600: 1264

Z-Series Horizontal Laminar Flow Hood Dimensions

Z400	Dimensions (Inches)			Dimensions (Millimeters)		
	W	D	H	W	D	H
Overall	48"	32"	79"	1219.2 mm	812.8 mm	2006.6 mm
Work Area	47"	20" (22" w/ armrest)	35¾ "	1193.8 mm	508 mm (558.8 mm)	908.05 mm

Z600	Dimensions (Inches)			Dimensions (Millimeters)		
	W	D	H	W	D	H
Overall	72"	32"	79"	1828.8 mm	812.8 mm	2006.6 mm
Work Area	71"	20" (22" w/ armrest)	35¾ "	1803.4 mm	508 mm (558.8 mm)	908.05 mm

Operation and maintenance manual is included.

Additional Options (Z600)

Univstand-E-Cast: Universal Stand Upgrade with Electric Lift

- Casters are attached to the stand. Feet come included and are interchangeable with the casters.
- (1) electric lift add-on feature.
- (1) set of (4) rolling casters.
- (1) set of (4) stationary feet.

Price: $1,725.00

PGB-36 Class III BSC

Sell Price: $55,389.75

Performance Criteria

The **PGB-36** is a Class III Biological Safety Cabinet as defined in the U.S. Centers for Disease Control/ National Institutes of Health publication Biosafety in Microbiological and Biomedical Laboratories, 5th edition (BMBL). It is a self-contained unit designed for protection from biological hazards. The system will also comply with standard EN 12469-2000, and will bear the CE mark. The Biological Safety Cabinet is equipped with an airlock for safe sample transfer. Please note the airlock is static and non-purging, however the airlock utilizes electro-mechanically interlocked doors, preventing both doors from being opened thus creating a breach in containment.

A self-contained blower in a sound attenuating housing provides the required negative pressure and airflow to meet Class III Biological Safety Cabinet standards.

Equipment Specifications

Construction:

- All welded 0.125" (3.2 mm) and 0.090" (2.3 mm) thick aluminum
- Powder coated with chemically resistant coating (white standard, other colors available)
- Coved corners with large radius bends

Viewing Window:

- 0.375" (9.5 mm) thick clear polycarbonate
- Polyciliate coating for abrasion and chemical resistance
- Sealed to the glovebox with an airtight closed cell silicone gasket
- Sloped at an angle for operator comfort

Gloveports and Gloves:

- Two Stainless steel 7" x 11" (180 mm x 280 mm) oval gloveports
- Double groove gloveports allow glove changes without breaking containment.
- Sealed into the window at an ergonomic "V" angle
- Fitted with one set of 32" (815 mm) long Butyl gloves

Electrical:

- Exterior mounted non-glare LED light fixture
- Two sealed electrical receptacles suspended from above near rear of work area
- Requires 230 Volt, 7 Amp, 50Hz

HEPA Filters:

- Rated at 99.995% efficient at a 0.3 µm particle size
- 3" (76 mm) diameter inlet and exhaust ducts
- Sanitary shut-off butterfly valves
- ASHRAE 30% pre-filter cylinder on inlet

Double Door Airlock for Safe Sample Transfer:

- Overall dimensions: 15.38" L x 9.5" D x 12" H (390 mm x 240 mm x 305 mm)
- Door openings:
  - Interior: 9.25" W x 11.75" H (300 mm x 235 mm)
  - Front facing: 10" W x 10" H (254 mm x 255 mm)

Control Panel:

- Minihelic mechanical differential pressure gauge
- Digihelic digital differential pressure gauge
- Low-pressure alarm with audible and visual functions
- Alarm silence switch
- Separate main power, light, and electrical outlet switches
- Ground fault circuit interrupter (GFCI) for electrical outlets inside
- Circuit breaker reset

PGB-36 Dimensions

	Overall Dimensions (Inches)			Overall Dimensions (Millimeters)		
	L	D	H	L	D	H
Interior Work Space	36"	20"	23.75"	914 mm	510 mm	605 mm
Overall (Operational Mode)	51.68"	22.68"	39.75"	1,311 mm	583 mm	1,010 mm
Transport Case	42"	26"	38.5"	958 mm	660 mm	976 mm
Weight (in Transport Case)	213 lbs.			96 kg.		
Standard Blower (HEPA only)	22"	10.68"	14"	559 mm	271 mm	356 mm
Weight	26 lbs.			13 kg.		

Operation and maintenance manual is included.

FS-75 (HEPA/Carbon Filtration System)

Sell Price: $34,287.25

Performance Criteria

The **FS-75 High Containment CBR Filtration System** was developed under a Cooperative Research and Development Agreement (CRADA) with the U.S. Army's Edgewood Chemical and Biological Center (ECBC). The system is designed to provide the necessary exhaust airflow volume and negative pressure to maintain the Class III BSC in a safe operational mode. The system consists of one HEPA filter and two ASZM-TEDA carbon filters in series (HEPA-only filtration system available). The HEPA filter serves to capture biological particulates thus extending the life of the carbon filter beds.

The Class III BSC (SGB) system combined with the secondary exhaust filtration system will provide safe daily operation with an exhaust airflow volume of 50-75 CFM (25-35 L/S) and a negative pressure of -0.5" to -1.00" WG (-125 to -250 pascals). The optional secondary exhaust filtration systems both include an on-board motor/blower.

Specifications and Features

Filters:

- One HEPA filter meets the following Military Standards:
  - MIL-STD-282, dioctyl-phthalate (DOP) test method for HEPA filter, 99.99% efficient for particles measuring 0.3µm in Ø (diameter)
  - MIL-F-51079D for HEPA filter medium requirements
- Two approved ASZM-TEDA carbon filters in series meet the following Military Standards:
  - MIL-PRF-32016 test method for absorber charcoal media to absorb aerosol with a minimum residence time of 0.25 seconds
  - MIL-DTL-32101 specifications for ASZM-TEDA Carbon

Filter Housings:

- Welded 14 and 16-gauge type 316L stainless steel
- Polished to a 180-grit pharmaceutical grade (#4) finish
- BI/BO design for safe filter change without breaking containment
  - Stainless steel bag ring with bag and safety strap included
- Stainless steel sanitary shut-off butterfly valves 3" or 4" in Ø at inlet and exhaust for isolation of filter housings

Properly sized motor-blower mounted in SS housing provides required negative pressure.

Testing

FS-75 Filtration systems are fully tested prior to shipping with test data provided in manual. Customers may choose to attend the Factory Acceptance Testing (FAT) at their own expense.

- All Class III BSCs are tested to meet with American Glovebox Society (AGS) Guidelines for construction and testing of Glovebox enclosures (AGS-G001-2007). Tests include:
  - Pressure decay test, rate of rise test
  - Helium leak test
  - Electrical safety tests
- Germfree includes a Class III BSC operation and routine maintenance manual
- EXCLUDES: Setup and Certification on site.

FHM-2.5SS Stainless Steel Fume Hood

Sell Price: $40,508.75

Performance Criteria

The **FHM-2.5SS Stainless Steel Fume Hood** is a purpose-built containment solution designed to ensure a safe and controlled environment when working with volatile chemicals. Engineered for high performance and durability, this hood offers exceptional protection for operators by effectively capturing and exhausting hazardous fumes, vapors, and airborne particles generated during laboratory processes.

The FHM-2.5SS Stainless Steel Fume Hood delivers reliable performance, operator protection, and long-term durability, making it a trusted choice for any application requiring the safe handling of hazardous or volatile substances.

Equipment Specifications

Cabinet Shell Construction:

- All welded, type-316 stainless steel
- Coved corners and radius bends to facilitate decontamination
- 2" raised lip at the sash opening for containment of spills and to minimize turbulence inside the hood
- 4"Ø Exhaust flange for connection to exhaust duct, located on the top of cabinet

Work Area:

- Adjustable, removable baffle system, affixed to interior back panel of the fume hood
- Baffle slotted and reversible so airflow may be biased to top or bottom of work area depending on application
- Removable to facilitate cleaning and decontamination

Front Sash:

- Polycarbonate (Lexan® MR10) window, 3/8" thick
- Polyciliate coating for chemical and abrasion resistance
  - 20"W x 12"H opening for operator access
- Stainless steel frame
  - In track with notches for sash height settings
- Additional sash provided to seal the operator opening during non-use or decontamination

Electrical:

- Externally mounted non-glare fluorescent light fixture
- Switch for light

FHM-2.5SS Dimensions

	Overall Dimensions (Inches)			Overall Dimensions (Millimeters)		
	W	D	H	L	D	H
Overall	30"	27"	30"	762 mm	685.8 mm	762 mm
+ exhaust flange and shut off valve	30"	27"	36"	762 mm	685.8 mm	914.4 mm
Work Area	30"	24"	30"	762 mm	609.6 mm	762 mm

Operation and maintenance manual is included.

FS-150 (HEPA/Carbon Filtration System)

Sell Price: $62,473.75

Performance Criteria

The **FS-150 HEPA and ASZM-TEDA Carbon Filtration System** is designed to provide the necessary exhaust airflow volume and negative pressure to maintain the Germfree FHM-2.5 Portable Fume Hood in a safe operational mode. The system consists of HEPA and ASZM-TEDA carbon filters in series, and an exhaust blower with speed control.

Two filter housings are ducted in parallel, each with one HEPA filter and two ASZM-TEDA carbon filters in series. The upstream HEPA filters capture particulates to extend the life of the ASZM-TEDA carbon filter beds. A sampling array allows for an air sample to be taken from between the two carbon filters and passed through Tenax tubes. The tubes can then be desorbed to test for the presence of chemical agent. The filter housings, isolation valves, and sampling system are mounted in one transport case. The exhaust blower, speed control, digital differential pressure gauge, and the switches for the blower and sampling vacuum pump are mounted in a second transport case.

Specifications and Features

Filters:

- Two HEPA filters meet the following Military Standards:
  - MIL-STD-282, dioctyl phthalate (DOP) test method for HEPA filter efficiency of 99.97 percent at a 0.3 µm diameter particle size
  - MIL-F-51079D for HEPA filter medium requirements
  - MIL-STD-282- T105/EAF1284
- Four approved ASZM-TEDA carbon filters that meet the following Military Standards:
  - MIL-PRF-32016 test method for absorber charcoal media to absorb aerosol with a minimum residence time of 0.25 seconds
  - MIL-DTL-32101 specifications for ASZM-TEDA Carbon
  - MIL-STD-282- T105/EAF1284

Filter Housings:

- Welded 14 and 16-gauge type 316 stainless steel
- Polished to a 180-grit pharmaceutical grade (#4) finish
- Bag-in/bag-out design for filter change without breaking containment
  - Stainless steel bag ring
  - Bag and safety strap included
- Bubble-tight shut-off valves (4"Ø) at inlet and exhaust for isolation of filter housings

Filter Housing Aluminum Transport Case:

- Dimensions: 51½"W x 26½"D x 48½"H (designed to fit in 28" wide aisle)
- Filter housings mounted on support frame on base of transport container
- Transport case cover provided with large panels for access to valves and controls
- Access panels are removable with latches to fall from the clip
- Telescoping lifting/carrying handles (approximate 18" extension)

Approximate weight 350 lbs.

Exhaust Blower and Housing

Properly Sized Motor-Blower Mounted on a Support Frame:

- Variable Frequency Drive (VFD) blower speed control
- Digital pressure gauge with visual alarm
- Operates on 240 Volt, 50-60 Hz. single-phase, 20-amp dedicated circuit power supply

Blower Aluminum Transport Case:

- Dimensions: 30"W x 21¼"D x 29"H
- Transport case cover provided with panels for access to duct fittings and controls
- Access panels are removable with latches to fall from the clip

Testing

- Equipment is fully tested prior to shipping (test data provided in manual). This includes:
  - Helium and pressure decay leak testing of housings and ducts
  - HEPA filter scan testing
  - Rated airflow test and initial speed set
- Germfree strongly recommends certification on site prior to use
- Germfree will include an operation and maintenance manual