

CLIENT



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Microflow Devices India Pvt. Ltd.
 for Technology and Reliability

BIO SAFETY Cabinets

PROFILE

Micro flow Devices India Pvt. Ltd. was founded by Young and Dynamic Engineers. Our endeavour is to ensure the greatest possible reliability and innovative excellence in our products to reflect the highest quality in design and workmanship to be the unsurpassed standard of comparison, and to be recognized as a Company of dedication dependability and integrity.

Today Micro Flow Devices due to its deidicated efforts and sustained investments in technology is recognized as world's pioneer contamination control of enclosed spaces. The momentum has made us major players in diverse industrial sectors like Pharmaceuticals, Hospitals, Laboratories, Aerospace, Electronics, Tissue Culture, Microbiology, Biotechnology, Oncology, Ray-diagnosis, ray-therapy, Veterinary Science, Virology etc.,

Microflow Devices working in the field of aseptic technology with an objective of providing engineering services towards minimizing and controlling contamination from vectors like ambint environment, personal process contamination, bioclean room shell, material decontamination and cleaning, material handling within the facility.

Microflow Devices also helps clients to establish protocols for bioclean room operation, maintenance and executes assignments for complete facilities including design, HVAC layouts, air filtration systems and clean room finishes.

Out of consideration for several possible applications, each of a highly specialized nature, we have numerous optional features available that can be added or built into our system at the time of manufacture or retrofitted at site at a later date, so that you may evolve or upgrade the fonfiguration to meet your needs.

BIOLOGICAL SAFETY CABINETS

Micro flow is professional Manufacturer of Laminar Airflow Cabinets, Biological Safety Cabinets, Dispensing and Sampling Booths, Pass Box, Fume Hood, Garment Cubicle, Air Shower, Clean rooms, Pressure Modules, HEPA Filters, Modular Operation Theatres & Validation works etc Biological Safety Cabinets, sometimes referred to as "Biohazard Cabinets", are divided into three categories according to method of operation and level of personnel and environmental protection. These are Class I, II and III. Class I and Class II cabinets are used for work involving low and moderate risk biological agents. Class III cabinets are used for work with high risk agents

BSL 2 LAB

Biological Safety Levels (BSL) are a series of protections relegated to autoclave-related activities that take place in particular biological labs. They are individual safeguards designed to protect laboratory personnel, as well as the surrounding environment and community. These levels, which are ranked from one to four, are selected based on the agents or organisms that are being researched or worked on in any given laboratory setting.. The Centers for Disease Control and Prevention (CDC) sets BSL lab levels as a way of exhibiting specific controls for the containment of microbes and biological agents. Each BSL lab level builds upon on the previous level—thereby creating layer upon layer of constraints and barriers. These lab levels are determined by the following

SALIENT FEATURES:

- ▶ Risks related to containment
- ▶ Severity of infection
- ▶ Transmissibility
- ▶ Nature of the work conducted
- ▶ Origin of the microbe
- ▶ Agent in question
- ▶ Route of exposure
- ▶ Compact & Slick design
- ▶ Perforated Grill / CG screens to protect HEPA Filters
- ▶ Cost effective models
- ▶ PUF insulated Wall & Ceiling Panels
- ▶ PUF insulated Doors
- ▶ Epoxy / Vynil Floors
- ▶ Available with Stainless Steel / PCGI
- ▶ Positive pressure in OT ensures no entry for outside contaminated air





THE CLASS I CABINET

The class I biological cabinet is defined as an open fronted, negative pressure ventilated cabinet for personnel and environmental protection, with an unrecirculated air flow away from the operator. Class I cabinets are very similar in nature to a chemical fume hood except that they have a high efficiency particulate air (HEPA) filter on their exhaust outlet, and they may or may not be connected to an exhaust duct system. One limitation of the Class I cabinet is that it does not provide product protection.



CLASS II TYPE A2 CABINET

Type A2 Cabinets are sometimes referred to "convertible" type units. Some manufacturers of equipments have described their "convertible" unit (from Type A Type B) as having a change in air balance from 70 percent recirculate and 30 percent exhaust to 30 percent recirculate and 70 percent exhaust.

Type A2 cabinets are suitable for work with biological agents treated with minute quantities of toxic chemicals and trace quantities of radionuclides that will not interface with the work if recirculated in the downflow air.

All of the contaminated air flows to a common plenum where part of the air is recirculated and part is exhausted. Essentially, the cabinet Type A2 performs as a Type A with a change in air balances. These types of units are designed to :

Maintain a minimum average inflow velocity of 100 fpm through the work area access opening. (Supply air to the workspace and exhaust air flowing through HEPA filters from a common plenum).

Have HEPA-filtered down flow air from that is a portion of the mixed down flow and inflow air from a common exhaust plenum.

Discharge all exhaust air to the outdoor atmosphere after HEPA filtration.

Have all biological contaminated ducts and plenums under negative pressure or surrounded by negative pressure ducts or plenums. This does lend the "convertible" Type A2 some credence as being different from as type A

CLASS II, TYPE B2 CABINET

Type B2 cabinets are sometimes referred to as "total exhaust". This type of unit.

- ▶ Maintains minimum average inflow velocity of 100 fpm through the work area access openings.
- ▶ Has HEPA-filtered downflow air drawn from the laboratory or outside air (i.e., downflow air is not recirculated from the cabinet exhaust air).
- ▶ Exhaust all inflow and downflow air to the atmosphere after filtration through HEPA filter without recirculation in the cabinet or return to the laboratory room air.
- ▶ Has all contaminated ducts and plenums under negative pressure, or surrounded by directly exhausted negative pressure ducts and plenums (not recirculated through the work area).



CLASS III CABINETS are defined as a totally enclosed ventilated unit of gas-tight construction. Operations in the cabinet are conducted through hand-holes with rubber gloves. The cabinet unit is maintained under negative air pressure of at least 0.5 inch water gauge (12.7mm WG).

- ▶ Supply air is drawn into the cabinet through HEPA filters. The exhaust air treated by double incinerations. The Class III Cabinets are suitable for work with agents that require biosafety level 1, 2, 3 or 4 containment.
- ▶ Class III biological safety cabinet systems aid in the control of airborne particulate contaminants generated during various procedures, including weighing and diluting chemical carcinogens, working with high risk agents or high concentrations of low or moderate risk agents, or when there equipment which generates high volume aerosol is used.
- ▶ This type cabinet system provides the means to control airborne particulate contaminants, including micro-organisms determined to be potentially harmful to personnel, the product and the environment.

- ▶ The Biological Safety Cabinets meet or exceed ISO 14644-1, Federal Standard 209E for ISO 3 & 5/ Class 100 air and IES Recommended Practice for Clean Air Devices.

Our Biological Safety Cabinets are available in different sizes and these models can also be configured to meet your needs. These units feature 99.997 % HEPA filtration system or 99.999% ULPA filtration system, air intake grill and pre-filter, fluorescent lighting, centrally located control centre, vibration control system and available in optional stainless steel work-surfaces and increased work zone height.

MICROFLOW RANGE OF PRODUCTS

- Laminar Airflow
- Biological Safety Cabinets
- Dispensing and Sampling Booth
- Static and Dynamic Pass Boxes
- Air Showers
- Positive & Negative Pressure Modules
- Fume Exhaust Systems
- Modular Clean Room Panels
- Modular Clean room Door
- Inoculation Chambers
- Air Handling Unit
- Fan Filter Unit
- Garment Cubicle
- Air Curtain
- HEPA/ULPA/Pre Filters
- Negative pressure modules
- Modular Sterile Operation Theatre
- BSL 2 & BSL 3 Clean rooms

TECHNICAL FEATURES

MATERIAL OF CONSTRUCTION (Main Body)	MODEL NO	Dimensions	
		EXTERNAL (WXDXH)	INTERNAL (WXDXH)
CLASS I BIO SAFETY CABINET CRCA/GI Powder Coated / Stainless Steel 304	MFD-BS/A1-900	1050 X 900 X 2250 MM	915 X 610 X 610 MM
	MFD-BS/A1-1200	1350 X 900 X 2250 MM	1220 X 610 X 610 MM
	MFD-BS/A1-1800	1950 X 900 X 2250 MM	1830 X 610 X 610 MM
CLASS II TYPE A2 BIO SAFETY CABINET CRCA/GI Powder Coated / Stainless Steel 304	MFD-BS/A2-900	1050 X 900 X 2250 MM	915 X 610 X 610 MM
	MFD-BS/A2-1200	1350 X 900 X 2250 MM	1220 X 610 X 610 MM
	MFD-BS/A2-1800	1950 X 900 X 2250 MM	1830 X 610 X 610 MM
CLASS II TYPE B2 BIO SAFETY CABINET CRCA/GI Powder Coated / Stainless Steel 304	MFD-BS/B2-900	1050 X 900 X 2250 MM	915 X 610 X 610 MM
	MFD-BS/B2-1200	1350 X 900 X 2250 MM	1220 X 610 X 610 MM
	MFD-BS/B2-1800	1950 X 900 X 2250 MM	1830 X 610 X 610 MM
CLASS III BIO SAFETY CABINET CRCA/GI Powder Coated / Stainless Steel 304	MFD-BS-III-900	1650 X 900 X 2250 MM	915 X 610 X 610 MM
	MFD-BS/A2-1200	1950 X 900 X 2250 MM	1220 X 610 X 610 MM
MATERIAL OF CONSTRUCTION (Work Table)	STAINLESS STEEL 304		
AVERAGE AIR VELOCITY	90 ± 20% FPM		
HEPA / ULPA	EFFICIENCY 99.997% / 99.999%		
CLASS LEVEL	ISO 3 / 5 (CLASS 100)		
NOISE LEVEL	65 ± 5 DB		
ELECTRICAL	230 V, 50 HZ, SINGLE PHASE		
STANDARDS	US FED STD 209 E, ISO 14644-1, IEST- RP-CC-002-2, BSI		
CERTIFICATIONS	CE & ISO		