

BIOSAFETY CABINET (S.S. & M.S.)

Bio-Safety cabinets, also known as biological safety cabinets, are enclosed, ventilated laboratory workspace areas designed to protect the user and surrounding environment from pathogens. All exhaust air is HEPA filtered to remove hazardous agents such as viruses and bacteria. Bio-safety cabinets are used in many laboratories including clinical and research labs. **We manufacture top class Bio-Safety Cabinet of standard & customized sizes.**

Cabinet Classification

Classification	Description
Class I	Protection for the user and surrounding environment, but no protection for the sample being tested.
Class II	Protection for the user, environment and sample. Type A1/A2: Re-circulate air back into the laboratory. A1 and A2 are similar but differentiated by the minimum average inflow velocity (FPM). Type B1/B2: B1 re-circulates a percentage of air into the laboratory. B2 cabinets are entirely hard-ducted.
Class III	Also known as glove boxes, provides maximum protection. The enclosure is gas-tight, and all materials enter and leave through a dunk tank or double-door autoclave.



Note: Choice of cabinet depends on the level of protection needed for the laboratory worker and the sample of interest.

ECONOMIC MODEL

Technical Specifications

Specification	Details
Construction	SS 304 / SS 316 or combination of both
Filtration	1st Stage - Pre Filter with efficiency of 85% down to 10 micron 2nd Stage - HEPA Filter with efficiency of 99.999% down to 0.3 micron at supply/exhaust position return air filter 3rd Stage - Fine Filter with efficiency of 95% down to 5 micron
Motor Blower	Dynamically balanced with suitable ratings & suspension arrangement
Electrical Accessories	LED Lights 5/15 Amp. switch socket ON/OFF Switch Digital Pressure Gauge
Air Quality	ISO Class 5 (ISO 14644-1-1999)
Velocity	0.45 +/- 0.05 mps
Air Flow Direction	Vertical re-circulatory
Noise	Less than 67dB
Optional Features	Audio Visual alarm indicating HEPA filter condition Flame proof Fittings



ECONOMIC MODEL

BIOSAFETY CABINET (S.S. & M.S.) Class-II Type A2/B2

- Size 4x2x2 Fully S.S. 304Grade, .6 in gauge.
- CNC Based Hydraulic Bending.
- Hepa Filter .3 Micron with 99.97% Efficiency with 100% Exhaust System.
- Detachable Working Table for easy clean.
- Modular Gas Tap.
- LCD Display Controller.
- Base Table Detachable for easy movement for one place to another (Portable).
- S.S. Channel in both side of door for easy up and down.
- Inflow: 0.1-4.0m/s (20 to 800fpm).
- Intelligent microcontroller control, Alarm, Monitoring based control system supervises operation of all.
- Touched data entry access.
- Built in RFI and electrical noise filters eliminate interface with adjacent instrumentation.
- Noise Level: less than 65dbm.

Application and uses

- Pharmaceutical Industry
- Chemical Research Laboratory
- Electronic Industry
- Semi-Conductor Production
- Food Processing Industry



STANDARD MODEL

BIOSAFETY CABINET (S.S. & M.S.) Class-II Type A2/B2

These Biological Safety Cabinet are made of Stainless Steel 304 Grade.

These Biological Safety Cabinets are class II/Type 2 and are designed for universities, research laboratories, pharmacies and pharmaceuticals companies to protect both users and procedures from contamination when working with biological fields.

How it Works: Minimum airflow velocity is 100 fpm (0.51 m/s) through face opening. HEPA filtered downflow air is a portion of the mixed downflow and inflow air from a common exhaust plenum. All contaminated ducts and plenums are under the negative pressure.

Features

- **Class II Design Safety:** Personal, product and environmental protection.
- **Safety:** HEPA filtration.

Protection

1. **Personal Protection:** Protects personnel from potentially harmful agents used inside the cabinet.
2. **Product Protection:** Protects the research materials/product/experiment from contaminants.
3. **Environmental Protection:** Protects the environment from research material/contaminants generated inside the cabinet.

Model Comparison

Specification	A	B	C	D
Dimensions (Feet)	2' X 2' X 2'	3' X 2' X 2'	4' X 2' X 2'	6' X 2' X 2'
Size of HEPA Filter	2' X 2' X 6"	3' X 2' X 6"	4' X 2' X 6"	3' X 2' X 6"
No. of HEPA Filter	1	1	1	2
Illumination	1 x 20W	1 x 20W	1 x 40W	2 x 40W

Application and uses

- Pharmaceutical Industry
- Chemical Research Laboratory
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DELUX MODEL

BIOSAFETY CABINET (S.S. & M.S.) Class-III Type 3B

- Shall have Negative pressure plenum to prevent leakage into the environment.
- Shall have Long-life ULPA filters for supply and exhaust with 99.999% efficiency for particle size between 0.1 to 0.3 microns.
- Shall have main body made up of stainless steel 304 grade in heavy gauge 16G (approx.)
- Shall have table top and working zone made up of stainless steel of 304 grade in heavy gauge 16 G (approx.)
- Shall have work area with dimension approx. 1200mmx600mmx600mm with shutter opening.
- Shall have overall size (approx.) 1300mmx 900mmx2400 mm.
- Must have vertical down flow air flow with 100% exhaust.
- Shall have vibration level less than 2.3um.
- Shall have air pressurization system statically and dynamically balanced, fitted with special vibration reducing system to suit low noise and vibrations.
- Shall have front door made of polycarbonate/ toughened glass (6mm) adjustable as per lab requirement.
- Side wall shall be made up of stainless steel 304 grade in heavy gauge 14G.
- Shall have fluorescent light with low energy, choke less (preferred) to withstand larger fluctuations in voltage.(placed outside working area to avoid turbulence preferred)
- Shall have UV lamp in working zone (40 micro watts/ square cm at 254 nm or better)and placed so that the operator cannot see directly i.e. eyes
- Shall be always protected. Shall have universal Service fittings for gas and air.
- Shall be provided with gas burner along with gas cylinder which can be refilled on requirement.
- Shall have Pressure Monitors to indicate pressure drop across HEPA filter.
- Shall have air tight duct exhaust extension.
- Shall feature to give alarm if by chance the exhaust blower is not working properly.
- Shall have Air short circuiting or the bye pass arrangement or equivalent in cases where there is ingress of fresh air from the top of front shutter, this ingress shall not percolate into the working zone: but will be directed to return duct at the back.
- Shall have Audible alarm to warn the operator if the window is raised above the recommended height of 203 mm (8 inches) approx.
- Shall have Spillage trough below the working table of 16G heavy duty stainless steel. This trough Shall have drain cock.
- Shall have Rehab table pre filters shall have efficiency of more than 80%