

Bio safety cabinet is designed to provide both a clean work environment and protection to operators who work with biological hazards. It has vertical laminar airflow to create a barrier to airborne particles and micro organisms. High Efficiency Particulate Air (HEPA) filters are used to provide clean air in the work area as well as to the environment through exhaust HEPA filter. The air in the cabinet is re-circulated over the work area through the HEPA filter.

BIOSAFETY CABINETS are classified into three categories: Class I, Class II, Class III.

Class I: The class I Biological Safety Cabinet is an open front negative pressure cabinet. The exhaust air from the cabinet is filtered by a high-efficiency particulate air (HEPA) filter. It provides protection to human beings and environment only. Class I cabinets are suitable for work where no product protection is required.

Class II: The Class II biological cabinet is an open-front, ventilated cabinet. This cabinet provides a HEPA-filtered re circulated mass airflow within the workspace. The exhaust air from the cabinet is also filtered by HEPA filter. Thus, Class II Bio Safety Cabinet provides protection to product as well as to human beings and environment. While HEPA filters are effective for trapping particulates and infectious agents, it is suitable for the containment of bio hazardous material thereby providing sterile environment for cell culture. Class II cabinet is the most versatile and economical model.

There are four types of Class II cabinets:-

Class II Type A 1 (formerly designated Type A): It exhausts approximately 30% air back into the laboratory and re circulates the remainder. May have positive pressure contaminated ducts and plenums that are not surrounded by negative pressure plenums.

Class II Type A 2 (formerly designated Type B3): It exhausts approximately 30% air through a HEPA filter back into the laboratory or to the environment through an external exhaust duct. It has all biologically contaminated ducts and plenums under negative pressure or surrounded by negative pressure ducts and plenums.

Class II Type B 1: It exhausts 70% air through a dedicated duct exhausted to the atmosphere after passing through a HEPA filter and re circulates the remainder. It has all contaminated ducts and plenums under negative pressure or surrounded by negative pressure ducts and plenums.

Class II Type B 2 (sometimes referred to as "total exhaust"): It exhausts 100% air through an exhaust duct after passing through a HEPA filter and contaminated positive pressure plenums must be surrounded by a vacuum.

Class III: The Class III cabinet is a totally enclosed ventilated cabinet of airtight construction. Operations within the Class III cabinet are through attached rubber gloves. When in use, the Class III cabinet maintains negative air pressure. Supply air is drawn into the cabinet through HEPA filter. The cabinet exhaust air is filtered by two HEPA filters installed in series, before it is discharged outside the facility. The exhaust fan for the Class III cabinet is generally separate from the exhaust fans of the facility's ventilation system.



Name of the Equipment	BIOSAFETY CABINET CLASS II TYPE A2				
Model	MFI BSC 2X2	MFI BSC 3X2	MFI BSC 4X2	MFI BSC 6X2	
External Dimensions (LXWXH) in Inches & MM	29.5" x 38.9" x 83.2" 750 X 990 X 2115	41.3" X 38.9" X 83.2" 1050 X 990 X 2115	53.3" X 38.9" X 83.2" 1355 X 990 X 2115	77.3" X 38.9" X 83.2" 1965 X 990 X 2115	
Work Area Dimensions (LXWXH) in Inches & MM	26.3" x 25.5" x 25.9" 670 X 650 X 660	38" x 25.5" x 25.9" 970 X 650 X 660	46.4" x 25.5" x 25.9" 1180 X 650 X 660	46.6" x 25.5" x 25.9" 1885 X 650 X 660	
Internal Work Area	Stainless Steel 304 with rounded joint less corners.				
Material of Construction	Galvanized Iron Sheet with Epoxy Polyester Thermosetting Powder Coating of 60-80 microns, 1.5 mm Thickness / Stainless Steel grade 304, 1.2 mm Thickness for SS Models				
Body Finish	Glossy Off White Colour for GI Powder Coated / Matt grit finish for Stainless Steel 304				
Table Top	1.5 mm Stainless Steel 304 sheet				
Front Door	Frameless auto Sliding Glass Door of Toughened glass 6 mm thickness				
Wheels & Leveling Lugs	PU solid wheels with plated brackets & Metallic Powder Coated Leveling Lugs for GI Model PU solid wheels with SS 304 Brackets & Solid SS 304 Leveling Lugs For S.S. Models				
Design & Classification	Class II Type A2 complaint and approximately 30% of the air volume exhausted as sterile air back into the environment and approximately 70%of the air is re-circulated inside the work area				
Cleanliness Class	ISO Standard 14644 - 1 ISO Class 3				
Stages Of Filtration	1) ULPA final = 0.12µ with an efficiency of 99.9995% 2) ULPA Exhaust = 0.12µ with an efficiency of 99.9995% (Anti-Microbial treated media) (ULPA Media : Made in Italy)				
Motor Blower Assembly	"Godrej" make variable speed motor mounted on PU coated FRP Blowers with Aluminum Powder Coated Impellers				
Down Flow Velocity Inflow Velocity	80 FPM at 4" from top of work table 100 FPM at work access opening				
Noise Level	< 60 Db at 1 Meter from the face of the equipment				
Pressure Gauge	Dwyer (U.S.A) make Magnehelic gauge				
ULPA Filter Grill	SS 304 grill duly perforated and polished				
Electrical	Switches & Speed Controller	Microprocessor Controlled Feather Touch switch panel			
	Fluorescent lighting	18 Watt - 2 nos.	18 Watt - 2 nos.	36 Watt - 2 nos. 36 Watt - 2 nos. 18 Watt - 2 nos.	
	Chokes for lighting	18 watts - 3 nos.	18 watts - 3 nos.	36 Watt - 3 no. 36 Watt - 3 nos 18 Watt - 2 nos.	
	Ultra Violet Lighting	1.5 feet length G15T8 15 Watt - Philips	1.5 feet length G15T8 15 Watt - Philips	3 feet length G30T8 30 Watt - Philips	3 feet length G30T8 30 Watt - Philips
	Power Consumption	230 Watts	250 Watts	560 Watts	560 Watts
	Lighting	> than 800 lux			
	Power Supply	Single phase 5 Amps power cord, 230V, 50Hz power supply, For Model MFI BSC 6x2 15 Amps power cord			
Accessories	Gas / Vacuum Cock	Standard make - Optional			
	Gas Burner	Standard make - Optional			