

BIO-SAFETY CABINET

AVI-105 SERIES



INTRODUCTION

Biosafety cabinets also referred to as biological safety cabinets and microbiological safety cabinets are used in laboratories to safeguard the exposure of the working personnel from any hazardous materials or materials that are suspected to be a health hazard such as pathogens. These are enclosed, ventilated workspaces that have a defined biosafety level. The first commercially made BSC was launched in the year 1950. There are various types of Biosafety cabinets available, depending on the level of biocontainment required.

These cabinets have powerful exhausts that throw out air and filter the area making the environment free from any harmful bacteria or virus. One more category of these BSC is the laminar airflow category that works on a contradictory mechanism. This type of biosafety cabinet throws unfiltered air on the person and is not considered safe while working with pathogens. The biosafety cabinets are bifurcated into three classes.

The cabinets under Class I provide safety from pathogens but do not safeguard from products. Its inward airflow can lead to the intoxication of samples. It is generally used to store equipment or products with aerosol. The Class II cabinets offer both pathogen and product safety. These are further divided into 5 more categories, each one with a different airflow velocity. Class III cabinets, also known as glove boxes, are only found in labs with extreme exposure to contaminants such as the BSL-4 pathogens and provide maximum safety.

AVANTE manufactures biological safety cabinets and laminar airflow cabinets designed for both user and product safety as well as environmental protection





CONCEPTION

The Biosafety Cabinets are made with a duly powder coated, mild steel outer body. The worktable inside is built with stainless steel. The GMP Models are fully stainless steel manufacturing(Inside S. S 304 with a mirror finish and outside S. 304 with a dull finish). Castor wheels help the unit with easy movement.

BLOWER MOTOR ASSEMBLY

Direct drive, finely balanced, high-quality centrifugal blower units which are aptly sized to deliver the right amount of airflow velocity over the surface of the HEPA filter. The cabinets are noise-free with noise lower than 65 dB and vibration below 2.5 um as they are directly attached to a built-in motor.

FRONT WINDOW

The front window is counterbalanced and made of frameless laminated UV resistant shatterproof glass doors.

UV INTERLOCK SYSTEM

To avoid harmful UV ray exposure, all cabinets come with a UV lamp under the UV interlock system. The user needs to close the sash to make the UV functional. In case of the sash accidentally rising, the UV lamp will be deactivated on its own to assure the safety of the users.

WATERPROOF SOCKET

To easily use the small devices inside the chambers, 2 waterproof sockets are installed on the side panel

EXTENSIBLE VALVE

For extensive working, 2 supply valves are installed that are fully compatible with liquid, gas and vacuum

BIOSAFETY CABINETS FIND TEST APPLICATIONS IN

- Hospitals
- Clinical research
- Life sciences
- Blood banks
- Pharmaceutical laboratories

BIOSAFETY CABINET CLASS II A2

AVANTE's range of class II cabinets are manufactured keeping in mind the safety of the personnel, products and the environment from pathogens and other lethal agents. They work with agents under the biosafety level 1,2 and 3. They are most appropriate for microbiological work. They are an ideal option to be used in hospitals, clinical research, life science and pharmaceutical labs. This instrument is loaded with features such as motorised sliding shatter-proof glass view screen, base stand, removable work tray, supply and HEPA filters. They can be used to exhaust air both inside and outside the working space.



DISCRETIONARY FEATURES

- A Displaying System for UV lamp, HEPA filters and temperature
- A large front panel or display and an easy to use control panel
- A Levelling jack to ensure no vibration during work
- Castor wheels for easy movement of the instrument
- Exhaust duct to throw contaminated air out of the work area
- Highly visible and easily reachable 10" slanted view screen
- No air leakage from the working area due to sturdy cabinets
- Working chambers are equipped with negative pressure and have wall plenums for enhanced safety

TECHNICAL DATA

Cat. No.	AVI-105A-A2 AVI-105A-A2-G AVI-105A-A2-P AVI-105A-A2-GP	AVI-105B-A2 AVI-105B-A2-G AVI-105B-A2-P AVI-105B-A2-GP	AVI-105C-A2 AVI-105C-A2-G AVI-105C-A2-P AVI-105C-A2-GP	AVI-105D-A2 AVI-105D-A2-G AVI-105D-A2-P AVI-105D-A2-GP
Working Area (mm)	900x600x600	1200x600x600	1500x600x600	1800x600x600
External Size with stand (mm)	1020x800x2260	1320x800x2260	1620x800x2260	1920x800x2260
Inflow Velocity (m/s)	0.53 ± 0.025			
Down flow velocity (m/s)	0.33 ± 0.025			
Control system	PLC / Manual			
Display	Colour HMI with touch screen / Deferential pressure Gauge			
	70 % air recirculation and 30% exhaust			
Front sash door	Counter balanced Toughened glass			
Maximum opening (mm)	400			
Safe Opening (mm)	200			
Filter	HEPA filter 99.999 % efficient			
Particle Retention	0.3 microns			
Class	100			
U V lamp	1			
Base Height (mm)	635			
Noise level (dB)	≥ 65			
	936	1315	1645	1972
Downfolw Volume (m3/h)	626	835	1045	1253
Voltage	230 VAC			
Power	300	350	400	800
Packing Size (mm)	1147x930x1800	1447x930x1800	1747x930x1800	2050x930x1800
Net weight (kg)	200	225	250	275
	250	275	300	325

NB: P Models are with Programmable logic control (PLC)



BIOLOGICAL SAFETY CABINET CLASS II B2

The Class II B2 cabinets are an ideal option for the protection of products, personnel and the environment and work best for personnel using trace amounts of hazardous chemicals and agents under the biosafety level 1, 2 and 3. In these cabinets, all the air flowing inwards or outwards is pumped out in the environment after it is filtered by the HEPA filters without circulating any air in the working area.

DISCRETIONARY FEATURES

- A Displaying System for UV lamp, HEPA filters and temperature
- A large front panel or display and an easy to use control panel
- A Levelling jack to ensure no vibration during work
- Castor wheels for easy movement of the instrument
- Exhaust duct to throw contaminated air out of the work area
- Highly visible and easily reachable 10" slanted view screen
- No air leakage from the working area due to sturdy cabinets
- Working chambers are equipped with negative pressure and have wall plenums for enhanced safety

TECHNICAL DATA				
Cat. No.	AVI-105A-B2	AVI-105B-B2	AVI-105C-B2	AVI-105D-B2
	AVI-105A-B2-G	AVI-105B-B2-G	AVI-105C-B2-G	AVI-105D-B2-G
	AVI-105A-B2-P	AVI-105B-B2-P	AVI-105C-B2-P	AVI-105D-B2-P
	AVI-105A-B2-GP	AVI-105B-B2-GP	AVI-105C-B2-GP	AVI-105D-B2-GP
Working Area (cms)	900×600×600	1200×600×600	1500×600×600	1800×600×600
External Size (cms)	1020x800x2260	1320x800x2260	1620x800x2260	1920x800x2260
Inflow Velocity (m/s)	0.53 ± 0.025			
Down flow velocity (m/s)	0.33 ± 0.025			
Control system	PLC / Manual			
Display	Colour HMI with touch screen / Differential pressure gauge			
Air Flow system	0% recirculation and 100 % exhaust			
Front sash door	Counter balanced Toughened glass			
Maximum opening (mm)	400			
Safe Opening (mm)	200			
Filter	HEPA filter 99.999 % efficient			
Particle Retention	0.3 microns			
Class	100			
Base Height (mm)	635			
Noise level (dB)	≥ 65			
Exhaust Volume (m3/h)	936	1315	1645	1972
Down flow Volume (m3/h)	626	835	1045	1253
Power	300	350	400	800
Voltage	230 VAC			
Net weight (kg)	200	225	250	275
Gross weight	250	275	300	325
Packing Size (mm)	1147x930x1800	1447x930x1800	1747x930x1800	2050x930x1800

NB: P Models are with Programmable logic control (PLC)

G Models are made out of Stainless steel 304 (GMP)



LAMINAR AIRFLOW



AVANTE Laminar airflow chambers is a Clean Bench specifically designed to provide safety from infectious semiconductor wafers, biological samples or any other particle sensitive device. The cabinets are manufactured using Mild steel. These airflow systems find applications in tissue culture, media preparation, sterile handlings, PCR sample preps, etc.

DISCRETIONARY FEATURES

- A Displaying System for UV lamp, HEPA filters and temperature
- A large front panel or display and an easy to use control panel
- A Levelling jack to ensure no vibration during work
- Castor wheels for easy movement of the instrument
- Exhaust duct to throw contaminated air out of the work area
- Highly visible and easily reachable 10" slanted view screen
- No air leakage from the working area due to sturdy cabinets
- Working chambers are equipped with negative pressure and have wall plenums for enhanced safety
- Avante provides Laminar airflow systems in both horizontal and vertical configurations. They are equipped

TECHNICAL DATA FOR VERTICAL LAMINAR AIR FLOW					
Cat. No.	AVI-119A	AVI-119B	AVI-119C	AVI-119D	AVI-119E
	AVI-119A-G	AVI-119B-G	AVI-119C-G	AVI-119D-G	AVI-119E-G
	AVI-119A-P	AVI-119B-P	AVI-119C-P	AVI-119D-P	AVI-119E-P
	AVI-119A-GP	AVI-119B-GP	AVI-119C-GP	AVI-119D-GP	AVI-119E-GP
Working Area (mm)	600×600×600	900×600×600	1200×600×600	1500×600×600	1800×600×600
Air Flow	Vertical				
Working Table	Stainless steel 304, 16 SWG				
Control system	PLC / Manual				
Display	Colour HMI with touch screen / Deferential Pressure Gauge				
Size of HEPA filter (mm)	600×600×76	900×600×76	1200×600×76	1500 x600x76	900×600×76
HEPA filters	1		1		2
Pre filters	1				
Illumination	1×80 W				
Filter efficiency	99.9 %				
Air Cleanliness	Class 100				
Particle Retention	0.3 micron				
Velocity	90 FPM + 20 %				
Illumination	LED, 750 - 800 LUX				
External Size with stand	730x700x1975	1030x700x1975	1330x700x1975	1630x700x1975	1930x700x1975
Size with packing	860x830x1500	1260x830x1500	1460x830x1500	1760x830x1500	2060x830x1500
Power	500 W	500 W	1000 W	1000 W	1000 W
Net weight	110	125	150	150	190
Gross weight	145	175	185	185	225
Voltage	110 V/230 V AC				

NB: P Models are with Programmable logic control (PLC)

G Models are made out of Stainless steel 304 (GMP)





TECHNICAL DATA FOR HORIZONTAL LAMINAR AIR FLOW					
Cat. No.	AVI-120A	AVI-120B	AVI-120C	AVI-120D	AVI-120E
	AVI-120A-G	AVI-120B-G	AVI-120C-G	AVI-120D-G	AVI-120E-G
	AVI-120A-P	AVI-120B-P	AVI-120C-P	AVI-120D-P	AVI-120E-P
	AVI-120A-GP	AVI-120B-GP	AVI-120C-GP	AVI-120D-GP	AVI-120E-GP
Working Area (mm)	600×600×600	900×600×600	1200×600×600	1500×600×600	1800×600×600
Air Flow	Horizontal				
	Stainless steel 304, 16 SWG				
Control system	PLC / Manual				
Display	Colour HMI with touch screen / Differential pressure gauge				
Size of HEPA filter	600×600x76	900×600×76	1200×600×76	1500×600×76	1800×600×76
HEPA filters	1		1		2
Pre filters	1				
Illumination	1×80 W				
Filter efficiency	99.9 %				
Working Area	Class 100				
Particle Retention	0.3 micron				
Velocity	90 FPM + 20 %				
Illumination	LED, 750 - 800 LUX				
	110 V/230 V AC				
Power	500 W	500 W	1000 W		1000 W
External Size	730 x800x1200	1040x800x1200	1345x800x1200	1650x800x1200	1960x800x1200
External Size with stand	730x800x1900	1040x800x1900	1345x800x1900	1650x800x1900	1960x800x1900
Size with packing	860x927x1650	1170x927x1650	1480x927x1650	1780x927x1650	2090x927x1650
Net weight	110	125	150	160	190
Gross weight	145	175	185	200	225

Note: The design, color, specification, and models are subject to transformation due to ending research, development, and technological advances.

India

Avant Garde Enterprises Pvt. Ltd (Project Office)
 II Floor, Bldg. No. 1-68/4 & 5, Plot No. 80 & 81
 Arunodaya Co-Op Housing Society Ltd.
 Madhapur, Hyderabad - 500 081, India
 +91-40-4851-4122
info@avantgardeinc.com

Dubai

Avant Garde Inc FZCO (Management Office)
 Building 3W, Office 214, Al Quds Street, Dubai
 Airport Free zone (DAFZA) P.O.Box 54833
 +97142594192
info@avantgardeinc.com