



BIOTECHNOLOGY

PHARMA



ANIMAL HEALTH

HEALTHCARE



RESEARCH

FOOD PROCESSING

CLEAN AIR SYSTEMS

www.cleanairindia.com

Partners for Life Science

Cleanair[®]

Cleanair® Cleanroom work-stations or a LAMINAR AIRFLOW CLEAN BENCHES are used to maintain an atmosphere essentially free from air borne particulate matters. These self contained work stations are used to perform any specific operations which demands absolute clean environment and prevention of intrusion of particles from outside. With use of HEPA filter design high order of CLEANLINESS is achieved immediately at the DOWNSTREAM side. This is achieved by means of UNIDIRECTIONAL airflow at a VELOCITY of about 90 +/- 20 FPM at the downstream side of the HEPA FILTER. Laminar airflow are designed as per ISO CLASS 5 of 14644-land as per US FED 209E.

Horizontal / Vertical Laminar Airflow Benches allows operation in a sterile and particle free conditions. Due to continuous flushing of the working area by unidirectional and HEPA filtered airflow, the equipment assures a full product protection. Each equipments is tested for their performance parameters before being dispatched to customer.



Special features

International standard MINI PLEAT HEPA filters, high efficient & washable primary filters, Magnahelic gauges for accurate DP reading, spring suspended DIDW blower assembly for high performance at low sound level, SS working surface with curved front for convenient working.

Special features

International standard MINIPLEAT HEPA filters, high efficient & washable primary filters, Magnahelic gauges for accurate DP reading, spring suspended DIDW blower assembly for high performance at low sound level, SS working surface with curved front for convenient working.

These pre-fabricated Vertical Flow Laminar Air Modules are available in different sizes to suit wide range of industrial applications which demands very hygienic and clean environment for any specific process activity.

Provides CLASS 100 or CLASS 1000 isolated environment for any specific locations viz; production machinery, filling line, packing, sealing in pharmaceutical, micro-electronics, food processing, space application etc.



- ▶ Provided with rigid / flexible clear side screens
- ▶ Can be designed to any size to suit site requirement
- ▶ Available in self standing or ceiling suspended types



Horizontal	CAH 600	CAH 900	CAH 1200	CAH 1800
Vertical	CAV 600	CAV 900	CAV 1200	CAV 1800
Working size	2 x 2 x 2	3 x 2 x 2	4 x 2 x 2	6 x 2 x 2

* Custom sizes are also available



Available in SS 304, SS 316, PU Coated GI, Melamine Laminated Wood materials.

Cleanair® Fume Exhaust hoods used to drive-out hazardous chemical fumes, odors and gases generated during the laboratory process work. Cleanair Fume hoods are available in ducted or ductless types.

CAF 900	3 x 2 x 2
CAF 1200	4 x 2 x 2
CAF 1503	5 x 3 x 3
CAF 1803	6 x 3 x 3

* Custom sizes are also available

Special Features

- ▶ Work surface made of polished granite or glazed ceramic tiles.
- ▶ Counter balanced front sash with toughened glass view panels
- ▶ Available with wide range of accessories such as sink, water inlet & outlet, gas/air/vacuum pet cocks, power points, optional FLP fittings, under bench cup-board etc



Available in FRP-GP construction with epoxy coated finish, GI construction with PU coated finish, PP construction, Wood melamine and Stainless Steel.

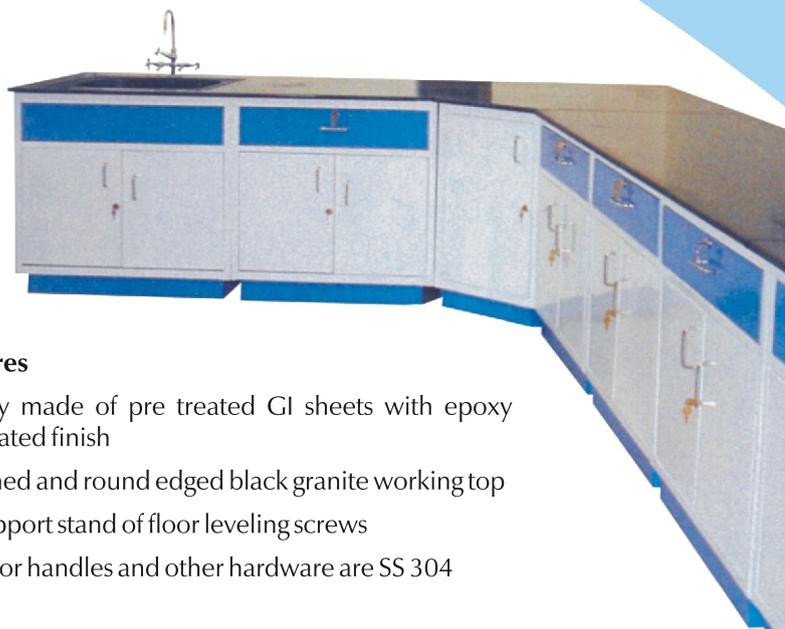
Cleanair® Laboratory Tables are aesthetically designed standard and customized in various sizes to suit the individual customer needs. Cleanair laboratory tables are fabricated by using pre treated and electro galvanized iron sheets of 1.00 mm thick and completely coated with epoxy powder with various colour combinations to match the environs. Each bench will be provided with interchangeable under-bench storage cabinet. These cabinets consist of a top drawer provided with Italian make rails for smooth movement. Bottom cup-board are provided with horizontal partition and swing type doors with locks. All the hardware such as door hinges, door handles and the locks will be of high quality and are made of stainless steel materials.



Suitable foot rest will be provided wherever applicable. The working top will be made from finely polished black granite. The granite edges are round finished for smooth handling.

The under bench modules are either laid continuously or alternatively as per the users' requirement. Water sink with high quality swan neck type are provided and the sink materials will be selected suitably based on the lab activities. The Sink can be of stainless steel or ceramic or FRP as per the user's choice.

Cleanair® centre tables are provided with suitably designed reagent racks with a standard width of 300mm and about 600mm height and are provided with best quality and ISI certified electrical power points and gas cocks on either sides.



Special Features

- ▶ Completely made of pre treated GI sheets with epoxy powder coated finish
- ▶ Fully polished and round edged black granite working top
- ▶ Bottom support stand of floor leveling screws
- ▶ Hinges, door handles and other hardware are SS 304

Class II Bio-safety Cabinet

A ventilated cabinet for personnel, product, and environmental protection having an open front with inward airflow for personnel protection, downward HEPA filtered laminar airflow for product protection, and HEPA filtered exhausted air for environmental protection. When toxic chemicals or radio-nuclides are used as adjuncts to biological studies or pharmaceutical work, Class II cabinets designed and constructed for this purpose should be used.



Class II, Type A2 Cabinets (formerly designated Type B3)

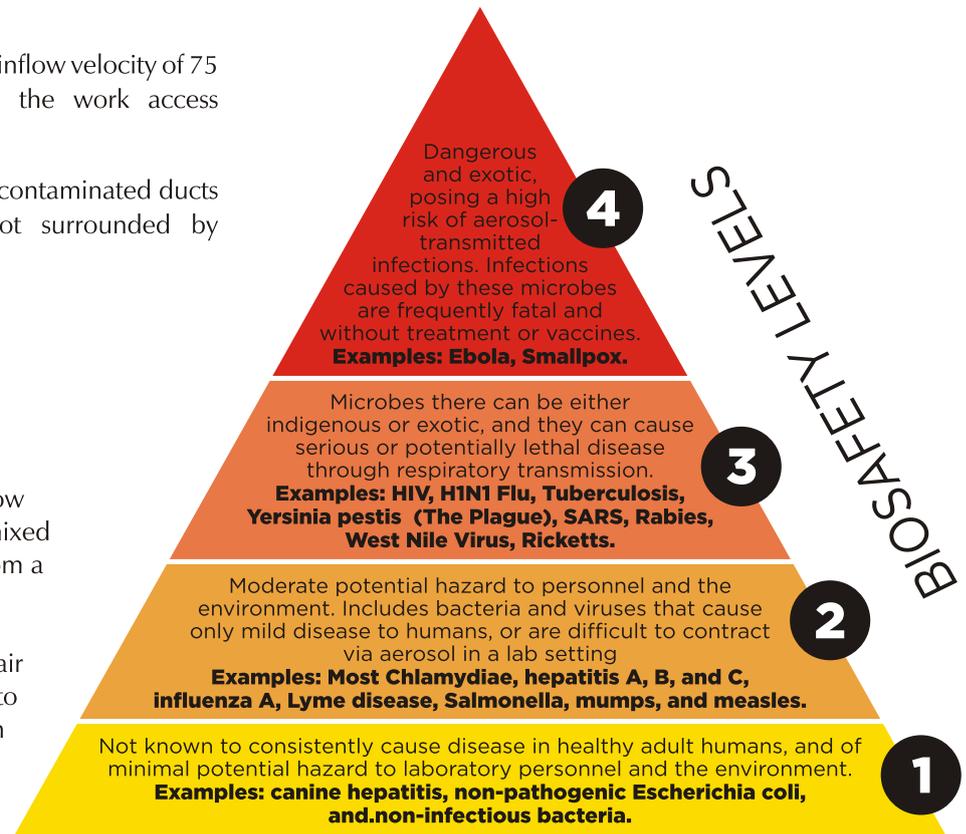
- ▶ Maintain a minimum average inflow velocity of 100 ft/min (0.5 m/s) through the work access opening;
- ▶ Have all biologically contaminated ducts and plenums under negative pressure or surrounded by negative pressure ducts and plenums.

Class II Type A1 Cabinets (formerly designated Type A)

- ▶ Maintain minimum average inflow velocity of 75 ft/min (0.38 m/s) through the work access opening.
- ▶ May have positive pressure contaminated ducts and plenums that are not surrounded by negative pressure plenums.

Both Class II Type A1&A2

- ▶ Have HEPA filtered downflow air that is a portion of the mixed downflow and inflow air from a common plenum
- ▶ May exhaust HEPA filtered air back into the laboratory or to the environment through an exhaust canopy



Class II Type B1 Cabinets

Maintain a minimum average inflow velocity of 100 ft/min (0.5 m/s) through the work access opening;

- ▶ Have HEPA filtered downflow air composed largely of uncontaminated re-circulated inflow air; Exhaust most of the contaminated downflow air through a dedicated duct exhausted to the atmosphere after passing through a HEPA filter;
- ▶ Have all biologically contaminated ducts and plenums under negative pressure or surrounded by negative pressure ducts and plenums.
- ▶ Type B1 cabinets may be used for work treated with minute quantities of volatile toxic chemicals and tracer amounts of radio nuclides required as an adjunct to microbiological studies if work is done in the direct exhausted portion of the cabinet, or if the chemicals or radio nuclides will not interfere with the work when re-circulated in the downflow air.



Class II Type B2 Cabinets

(sometimes referred to as "total exhaust")

Maintain a minimum average inflow velocity of 100 ft/min (0.5 m/s) through the work access opening;

Have HEPA filtered downflow air drawn from laboratory or the outside air i.e., downflow air is not re-circulated from the cabinet exhaust air);

Exhaust all inflow and downflow air to the atmosphere after filtration through a HEPA filter without recirculation in the cabinet or return to the laboratory

Have all contaminated ducts and plenums under negative pressure or surrounded by directly exhausted (non-recirculation through the work area) negative pressure ducts and plenums.

Type B2 cabinets may be used for work with volatile toxic chemicals and radio-nuclides required as adjuncts to microbiological studies.

Class III Bio-safety Cabinet

A totally enclosed ventilated cabinet of leak-tight construction. Operations in the cabinet are conducted through attached rubber gloves. The cabinet is maintained under negative air pressure of at least 0.50" WG (120 Pa). Downflow air is drawn into the cabinet through HEPA filters. The exhaust air is treated by double HEPA filtration or by HEPA filtration and incineration

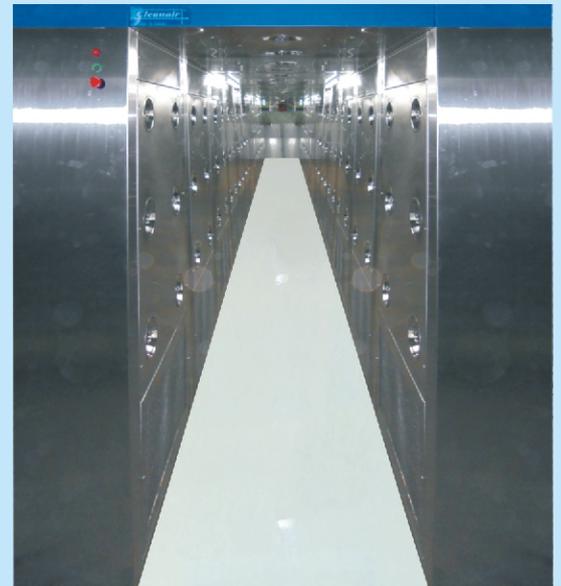


Powder containment booths are used to control the hazardous emissions of powders, dust or vapors during powder dispensing, product sampling, or bag dispensing, etc., without risk to the operator or environment. The down draught prevents airborne dusts caused by weighing and dispensing operations rising into the operator's breathing zone. The air forced downwards is extracted at low level into the booth's filtration system where dust particles are contained at each level of filtration prior to being re-circulated back into the booths' air stream.

Air balancing	90% Re circulation and 10% exhaust
Cleanliness	Class 5 of ISO 14644-1
Particle Retention	0.3µ & Above
Noise Level	65 decibel on "A" scale ±5
Velocity	90 Feet/Minute ±20
Differential pressure	By Magnehelic Gauge 0-25 mm
Illumination	Diffused LED Lights
Power Supply	230V single phase, 50 Hz



Air showers are installed to avoid contamination through personnel entry in to a cleanroom. Air Showers employ concentrated airflows to lift off contamination such as lint, dirt, dust etc., while an individual walks through chamber. The high velocity air from jet nozzles ensures efficient scrubbing action necessary to remove particulate matter. Contaminated air then flows through sidewalls of the air shower and flows through pre filters and final HEPA filters.



- Sizes available to suit various site conditions with direct or diagonal entry/exit

Available in SS 304, SS 316, PU Coated GI, Melamine Laminated Wood materials.

To store sterile garments used in the controlled environments. These cabinets provide CLASS 100 clean storage space with UV disinfectant and warming by IR lamps. Air balancing; 90% re circulating and 10% exhaust.

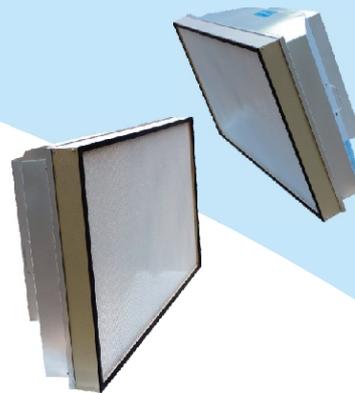
Available in SS 304, SS 316, PU coated GI



Cleanliness Level	CLASS 100
Particle Retention	0.3μ & Above
Air velocity	90 FPM ±20
Noise Level	65 decibels ±5

Provides HEPA filtered airflow to create positive pressure within smaller enclosures. Ambient air is filtered up to 5micron level through primary filters and the HEPA filter removes particles of 0.3 micron and larger. Available in 250, 500 & 1000 CFM capacities in window mounted / ceiling mounted or self standing models

Available in SS 304, PU Coated GI



Cleanair® Pass through box is designed to minimize traffic and contamination entry into the clean room. Enable movement of materials to and from Cleanroom. Acts as an air lock device to prevent cross contamination between two adjacent environments.

Available in Static & Dynamic versions to suit site requirement.

Features include; Double skin constructions with mechanical or electromagnetic interlocking of doors, stainless steel platform, doors with view panels.

Available in SS 304, SS 316, PU Coated GI





We design and establish Modular Cleanroom facilities of ISO 6, ISO 7 and ISO 8 Cleanroom classes. The nature of work involves analyzing the user requirement, studying the process flow and site condition, design engineering and supply & installation of HVAC and air distribution systems, HEPA filter terminals and return air risers, modular Cleanroom wall panels, ceiling panels, double glazed view panels, Cleanroom doors, corner covings, lighting epoxy flooring etc. The modular panels are of double skin construction using pre coated galvanized iron sheet with EPS / PUF infill. Cleanroom doors are made of double skin construction, using pre-treated galvanized iron sheet with powder coated finish with PUF / EPS / honeycomb paper craft in fill.

About Us

We, at Clean Air Systems, strive towards excellence in quality of each product that we manufacture. our utmost aim is to meet the highest level of customer satisfaction by offering quality products, timely delivery and effective after-sales service.

Started as a small-scale industry in the year 1991, we continually progressed in tune with time and changing environment in our endeavor to meet the international standards in our products and services.

While we share the pleasure with you on the 25th year of our service to science, we reaffirm that we will continue to develop new range of products and services and latest technologies in manufacturing to offer most cost-effective solutions.

With the state-of-the-art in-house testing facility, each and every product manufactured by us are tested for its efficiency and performance.

BiOCARE[®]

Specialised Bio-safety Cabinets

Introducing an exclusive range of Biosafety Cabinets, which are specially designed to have an enhanced working experience with elegant appearance. These cabinets comes with a wide range of inbuilt features such as fully PLC controlled operations with range of sensors for monitoring and displaying various parameters of cabinet functions such as Airflow speed, Differential pressure, lapsed time / totalizer for HEPA and UV, off timer for UV, real time clock, etc. on a touch screen HMI panel on the front facia. Fully motorized touch enabled automatic front shutter with alarm for operating zone limits door opening etc. are standard features of the BIOCARE[®] Biosafety cabinets.



CLEAN AIR SYSTEMS

Registered Office:

#4, Senthil Nagar, 100 Feet Road
Arumbakkam, Chennai 600 106. India
Tel: +91 44 2362 1476
Fax: +91 44 2362 0360

For enquiries:

+91 98410 74504
+91 955 111 9111
ravi@cleanairdia.com

www.cleanairindia.com