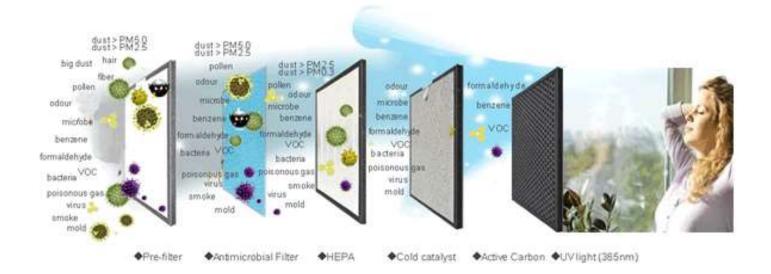


# Product Catalogue







# HORIZONTAL LAMINAR AIR FLOW BENCH



Horizontal Laminar Air Flow is localized clean air station to carry out various test under ISO Class 5 (ISO std. 14644-1) filtered air. Horizontal Laminar Air Flow is used when non toxic and nonflammable tests are carried out. Laminar Unit also consist of UV light, UV hour meter, Steripot as per requirement. Sometimes antistatic grill is provided to remove the static charge as per process requirement.

TECHNICAL SPEC	CIFICATIONS
MOC	1.2 mm thick CRCA Powder coated, or 1mm/ 1.2mm thick SS -304 / 316 imported PVC coated sheet
Pre-filter	Pre-filter are made from Non-Woven HDPE mesh, Efficiency 95% down to 5 micron.
Supply Filter	Imported mini-pleat HEPA filter with hot melt technology, which confirms to EU-14 grade, Efficiency rating 99.997% at 0.3 micron
Motor Blower Assembly	EBM, Dynamic Or Crompton Make Blower Motor Assembly 1440 RPM, Single Phase, 230 VAC 50 Hz
Pressure Gauge	Dwyer make pressure gauge-(0-50 mm/wg)
Work Table	SS 304, Work table
Filter Integrity Port	Filter Integrity Port at upstream of HEPA filter for HEPA integrity test.
Noise Level	Less than 70 dB
Electrical Supply	230 V, Single Phase, 50 Hz, AC Supply

#### APPLICATIONS:

- 1) Tissue cultures ( Preparing tissues)
- 2) Test Laboratories (Carry out tests like blood sample)
- 3) Research Centers (Carry out experiments)
- 4) Educational Institutes (Educational Practical's )
- 5) Electronics Industries (Circuit assembly, Microchip assembly)
- 6) Pharmaceutical Industries (Sample Testing)

Std.Model	Working Area (mm) (wxdxh)	External Dimensions (wxdxh)	Air Flow Velocity	Air Cleanliness	Air Flow Type
HLAF · 2X2	610 x 610 x 610	710 x1150 x1475			
$HLAF \cdot 3X2$	915 x 610 x 610	1015 x1150 x1475	$0.45\ \pm 0.1\ M/Sec$	ISO CLASS-5 (ISO 14644 - 1)	Horizontal Air Flow
$HLAF \cdot 4X2$	1220 x 610 x 610	1320 x1150 x1475	$90\pm 20FPM$	, , , ,	Туре
HLAF · 6X2	1830 x 610 x 610	1930 x 1150 x 1475			

#### OPTIONAL ACCESSORIES:-

1. Flame Proof fittings 2. Steripot 3. Anti Static Grill



# VERTICAL LAMINAR AIR FLOW BENCH

Vertical Laminar Air flow bench is used when air flow requirement is from vertical fashion. It is used when toxic or flammable tests are carried out in Laminar Air. Vertical air flow avoids direct throw of the air towards operator's face. Shutter is provided to avoid the air throw towards operator face.



TECHNICAL SPECIFICATIONS				
MOC	1.2 mm CRCA Powder coated sheet or 1mm /1.2 mm thick SS- 304/316 imported PVC Coated sheet			
Pre-filter	Pre-filter are made from Non-Woven HDPE mesh, Efficiency 95% down to 5 micron.			
Supply Filter	Imported minipleat HEPA filter with hot melt technology, which confirms to EU-14 grade, Efficiency rating 99.997% at 0.3 micron			
Motor Blower Assembly	Statically and dynamically balanced blower motor assembly, EBM, Dynamic, Crompton or equivalent make to take care of sufficient amount of static pressure and air flow requirement. 1440 RPM, Single Phase, 230 V, 50Hz ,AC			
Pressure Gauge	Dwyer make pressure gauge-( $0\text{-}50\ \text{mm/wg})$			
Work Table	SS 304,Work table			
Filter Integrity Port	Filter Integrity Port at upstream of HEPA filter for HEPA integrity test.			
Noise Level	Less than 70 dB			
Electrical Supply	230 V, Single Phase, 50 Hz, AC Supply			

#### **APPLICATIONS:**

- 1) Chemical Test Laboratories (Chemical Sample testing)
- 2) Hospitals Laboratories (Blood testing)
- 3) Pharmaceutical Test Labs (Sample Testing)
- 4) Educational Labs (Carry out experiments)
- 5) Research Centers (Carry out experiments)
- 6) Blood Bank (Blood sample testing)
- 7) Nuclear Research Centers (Experiments work)

Std. Model	Working Area (wxdxh) mm	External Dimensions (wxdxh)mm	Air Flow Velocity	Air Cleanliness	Air Flow Type
VLAF - 2X2	610 x 610 x 610	760 x 1260 x 1600	0.45±0.1 M/Sec 90±20 FPM		Vertical Air Flow Type
VLAF- 3X2	915 x 610 x 610	1065 x1260 x 1600			
$VLAF \cdot 4X2$	1220 x 610 x 610	1370 x 1260 x 1600			
VLAF - 6X2	1830 x 610 x 610	2005 x1260 x1600			

### **OPTIONAL ACCESSORIES:-**

1. Sliding Shutter 2. Flame proof fittings



### REVERSE LAMINAR AIR FLOW (SAMPLING DISPENSING BOOTH)



Reverse Laminar Air Flow is used to control the hazardous emissions of powder dust during powder dispensing/sampling processes without any risk to operator and products as well protecting the environment. The down draught of HEPA filtered air prevents airborne dust caused by handling operation away from the operator breathing zone. Three levels of air filtration is carried out into the booth air stream.

<b>TECHNICAL SPE</b>	TECHNICAL SPECIFICATIONS				
MOC	1.2 mm thick CRCA Powder coated, or 1mm /1.2 mm thick SS -304 imported PVC coated sheet				
Pre-filter	Pre-filter are made from Non-Woven HDPE mesh, Efficiency 90% down to 10 micron.				
Intermediate filter	Intermediate filter of 5 micron Non-Woven HDPE mesh, Efficiency 95% down to 5 micron.				
Supply Filter	Imported minipleat HEPA filter with hot melt technology, which confirms to EU-14 grade, Efficiency rating 99.997% at 0.3 micron				
Motor Blower Assembly	EBM, Dynamic Or Crompton Make Blower Motor Assembly 1440 RPM, Single Phase, 230 VAC 50 Hz				
Pressure Gauge	Dwyer make pressure gauge-(0-50 mm/wg)				
Filter Integrity Port	Filter Integrity Port at upstream of HEPA filter for HEPA integrity test.				
Noise Level	Less than 70 dB				
Electrical Supply	230 V, Single Phase, 50 Hz, AC Supply				

#### APPLICATIONS:

- Pesticide manufacturing companies (Powder dispensing or Sampling Process)
- 2) Pharmaceuticals Industries (Powder Sampling or Dispensing Process)

Model	Working Area (w x d x h) mm	External Dimensions (w x d x h) mm	Air Flow Velocity	Air Cleanliness
RLAF-4X3	1315 x 1065 x 1830	1395 x 1660 x 2200	$0.45 \pm 0.1$ M/Sec	ISO-5
RLAF-4X4	1315 x 1340 x 1830	1395 x 1965 x 2200	90± 20 FPM	ISO STD 14644-1
RLAF-6X4	1950 x 1340 x 1830	2030 x 1965 x 2200		

### **OPTIONAL ACCESSORIES:-**

1.Pressure Guage - across prefilter & Intermediate Filter 2. Flame Proof Fittings



# CEILING SUSPENDED TYPE OR STAND MOUNTED TYPE) VERTICAL LAMINAR AIR FLOW

Vertical Laminar Air Flow unit draws air in through the top or side of the unit through pre-filter, through a plenum and vertically down over the work surface and past the lap of the operator. It has the advantage of not passing air towards the face of the operator. It is used for work with low risk substances with protection of working material from environment. MS CRCA or SS 304 perforated grill is provided at filter face as per requirement.



TECHNICAL SPECIE	FICATIONS
MOC	1.2 mm CRCA Power coated or SS 304/316, 1mm/1.2mm imported PVC coated sheet
Pre-filter	Made from Non-Woven synthetic HDPE mesh, EU-5 Grade with an efficiency rating 95% at 5 micron
Supply HEPA filter	Imported minipleat HEPA filter with hot melt technology, EU-14 Grade with efficiency rating better than 99.997% at 0.3 micron
Motor Blower Assembly	Statically and dynamically balanced blower motor EBM , Crompton , Dynamic make,1440 RPM, 1 Phase, 230V, AC 50 Hz
Pressure Gauge	Dwyer make magnehelic pressure gauge. (0-50mm/wg)
Filter Integrity Port	Port or filter integrity test is provided at upstream of HEPA
Noise Level	Less than 70 dB
Power Supply	230 V, 1 Phase, 50 Hz, AC

Model	HEPA Filter Area w x d (mm)	External Dimensions wxdxh (mm)	Air Flow Velocity	Air Cleanliness
CSVLAF-3X2	915x610	1065x760x650		ISO-5
CSVLAF-4X2	1220x610	1370x760x650	$0.45 \pm 0.1 \ M/Sec$	(ISO-14644-1)
SMVLAF-3X2	915x610	1065x760x650	90± 20 FPM	
SMVLAF-4X2	1220x610	1370x760x650		

### **OPTIONAL ACCESSORIES:-**

**APPLICATIONS:** 

1) Chemical Test Laboratories (Chemical Sample testing)

7) Nuclear Research Centers (Experiments work)

Hospitals Laboratories (Blood testing)
 Pharmaceutical Test Labs (Sample Testing)
 Educational Labs (Carry out experiments)
 Research Centers (Carry out experiments)
 Blood Bank (Blood sample testing)

1.PVC Vinyl curtains 2. Variable Speed 3. UV light 4. Flame Proof fittings



# FAN FILTER UNIT(FFU)



Fan Filter unit (FFU) is a leading edge FFU unit designed to provide filtered laminar air flow over a specific area. The unit integrates a high efficiency fan together with a HEPA filter. The FFU draws in contaminated air from top of the module and exhausts filtered clean air vertically class 100 to class 100000 clean rooms. ISO-Class 5 (as per ISO Standard 14644-1)

TECHNICAL SPE	TECHNICAL SPECIFICATIONS				
MOC	1.2mm CRCA Powder coated or SS 304/316,				
	1mm/1.2mm thick imported PVC coated sheet				
Pre-filter	EU5 filter, Efficiency 95% at 5 Micron				
Supply Filter HEPA (H14) Or Efficiency 99.997% at 0.3 m					
Blower Motor	Airtech Japan / Fanstech make				
Blower Static	23-24 mm/wg				
Features	LED on filter face to show operation status				
Power Supply	230V, 1 Phase, 50 Hz, AC				
Noise Level	less than 70 dB				

- Pharmaceutical Companies (Manufacturing area to avoid contamination)
   We are a set of the set of
- Hospitals Patient Recovery Wards (Avoid contamination to recover operation stitches or burn wounds)
- 3) Operation Theatres (Avoid contamination in operating patients)
- 4) Research Centre (Avoid contamination in research samples)

Model	Working Area (w x d) mm	External Dimensions (w x d x h)mm	Air Flow Velocity	Air Flow Type	Air Cleanliness
FFU - 2X2	570x570	575x575x286	0.45±0.1M/Sec	Vertical Air Flow	ISO-Class 5
FFU - 4X2	1170x570	1175x575x303	90±20 FPM	Туре	ISO STD 14644-1
$FFU \cdot 4X4$	1170x1170	1175x1175x333			



# MOBILE LAMINAR AIR FLOW

Mobile Laminar Air Flows are used for transportation of the sterile products inside the ISO Class 5 (ISO 14644-1) particle free work area to ensure that the contamination free transportation is carried out. The working area is under positive pressure class ISO · 5 filtered area hence avoids contamination. Battery back up is provided to maintain air flow continuity during transportation. Side vinyl curtains or acrylic partition is provided as per requirement.



TECHNICAL SPECI	TECHNICAL SPECIFICATIONS				
MOC	SS 304/316 -1mm/1.2mm thick or CRCA powder coated 1.2 mm thick				
Pre-filter	Made from Non-woven synthetic with HDPE Mesh, EU-5 Grade with an efficiency 95% at 5 micron				
Supply filter	Imported minipleat HEPA filter with hot melt technology which confirms to EU-14 Grade at supply position with an efficiency of 99.997% at 0.3 $\mu$				
Motor Blower	Statically and dynamically balanced blower motor of EBM, Dynamic or Crompton make,1440 RPM, 1 Phase, 230V, 50 Hz, AC				
Pressure Gauge	Dwyer make pressure gauge. ( 0-50 mm.wg)				
Filter Integrity Port	Port for HEPA integrity test				
Castor Wheels	PU Coated lockable castor wheels				
Battery Back-up	Battery back- up with inverter for 30 minutes				
Vinyl curtains	Four side PVC vinyl curtains as per requirement.				
Noise Level	Less than 70 dB				
Power Supply	230V, 1 Phase, 50 HZ ,AC				

#### **APPLICATIONS:**

1) Pharmaceutical Industries

(Sample transfer interior of production or testing area)2) Research Centers

(Sample transfer interior of testing area)

Model	Working Area (wxdxh)mm	External Dimensions (wxdxh)mm	Air Flow Velocity	Air Cleanliness
MLAF - 3X2	915x610x610	1065x760x2050		ISO-Class-5
MLAF - 4X2	1220x610x610	1370x760x2050	0.45±0.1 M/sec 90±20 FPM	(ISO 14644-1)
MLAF - 5X2	1525x610x610	1675x760x2050		
MLAF · 6X2	1830x610x610	2005x760x2050		

### **OPTIONAL ACCESSORIES:-**

1.PVC Vinyl curtains 2. Variable Speed 3. UV light 4. Flame Proof fittings



# **BIOSAFETY CABINET**



Bio-safety cabinet is used to protect product, personnel and environment. Mostly it is used when risky microorganisms are handled. Most widely used Bio-Safety Cabinet are of class-II type A and B. Class-II A type Bio-Safety cabinet have partial exhaust i.e. 30% and 70% recirculation and class IIB type Biosafety cabinet have 100% exhaust. Class II B Biosafety cabinet is used when most toxic or radioactive substance are handled.

TECHNICAL SPECIFICATIONS		
MOC	1.2 mm CRCA Powder coated Or SS 304/316, 1mm/1.2mm imported PVC coated sheet	
Supply Filter	Minipleat HEPA filter with hot melt technology, EU-14 Grade, Efficiency 99.997% at 0.3 micron	
Exhaust Filter	Minipleat HEPA fllter with hot melt technology, EU-14 Grade, Efficiency rating of 99.997% for 0.3 micron	
Motor Blower	EBM, Crompton make, 1440 RPM, 1 Phase, 230V, 50 Hz, AC	
Pressure Gauge	Dwyer make magnehelic pressure gauge.	
Filter Integrity Port	Filter Integrity Port at supply and exhaust HEPA	
Door Opening Alarm	Excessive door opening alarm	
Work Table	SS 304 Work table with front and back side perforation for cleaning	
Exhaust Duct	SS 304, 1 Feet long Elbow ductfor exhaust	
Noise Level	Less than 70 dB	
Power Supply	230 V, 1 Phase, 50 Hz, AC supply	

### APPLICATIONS:

- 1) Hospitals Laboratories (Blood testing)
- 2) Research Centers for diseases (Disease sample testing)
- 3) Educational Institutes (Educational Practical)
- 4) Blood Banks (Blood Sample Testing)
- 5) Pharmaceutical Drug Industries (Pharmaceutical or Drug Sample Testing)

Model	Working Area (wxdxh)mm	External Dimentions (wxdxh) mm	Air Flow Veclocity	Air Cleanliness
BSC-3X2 (II A/B)	915x610x610	1105x1050x2130	$0.45 \pm 0.1 \text{ M/sec}$	ISO-Class-5
BSC-4X2 (II A/B)	1220x610x610	1410x1050x2130	$90 \pm 20$ FPM	Class-100
BSC-6X2 (II A/B)	1855 x 610 x 610	2045 x 1050 x 2130		

### **OPTIONAL ACCESSORIES:-**

1. Flame Proof fittings 2. Ducting 3. Exhaust Blower



# **POSITIVE PRESSURE MODULE**

Positive Pressure Module is designed to maintain positive pressure inside work area. It is wall mounted type or Ceiling suspended type. It is of having capacities of 150 CFM to 1500 CFM. Larger modules are normally used in production area. The smaller units are used to reduce biological and non biological airborne particulate activity in microbiological laboratories and intensive care units.



TECHNICAL SPECIFICATIONS		
MOC	1.2mm thick CRCA Powder coated Or SS 304/316, 1 mm/1.2MM thick PVC coated sheet	
Pre-Filters	Made from non-woven synthetic with HDPE Mesh, EU-5 Grade, With an efficiency of 95% at 5 Micron	
Supply Filter	Minipleat HEPA filter with hot melt technology, EU-14 Grade, Efficiency 99.997% at 0.3 micron	
Motor Blower	EBM, Dynamic, Crompton make, 1440 RPM, 1 Phase, 230V, 50 Hz, AC	
Pressure Gauge	Dwyer make magnehelic pressure gauge.	
Filter Integrity	Port for HEPA integrity test	
Perforated HEPA Grill	Capsule perforated grill at filter face to protect HEPA filter	
ON/ OFF Switch	ON/OFF Switch with power ON indication on front side of the unit	
Noise Level	Less than 70 dB	
Power Supply	230 V, 1 Phase, 50 Hz, AC supply	

- 1) Clean Rooms (Pressurizing clean room to positive pressure)
- 2) Clean Room Passages (Pressurizing passages to positive pressure)
- Hotels in lobby, Conference Hall (Pressuring lobby or conference hall to positive pressure)

Std.Model	Working Area (wxdxh)mm	External Dimentions (wxdxh) mm	Air Flow Veclocity	Air Cleanliness
PPM · 2X2	610 x 610	760x760x750 mm	$0.45 \pm 0.1 \text{ M/sec}$	ISO-Class-5
PPM · 4X2	610 x 1220	1370x 760x750 mm	$90 \pm 20$ FPM	(ISO STD-14644-1)



# **AIR SHOWER**



Air showers are used at entrance of dust free premises. High velocity clean air bath is created inside air shower chamber to remove dust particles from human body ,clothes and material if carried out through the air shower. It is a barrier by door interlocking between internal & external environment to avoid the dust. It is used as recovery unit also in gold industry. Gold dust trapped in HEPA filter is recovered by burning the HEPA filter.

#### **TECHNICAL SPECIFICATIONS** MOC 1.2 mm thick CRCA Powder coated or SS-304/316, 1mm / 1.2mm thick imported PVC coated sheet Pre-filter Pre-filter are made from Non-Woven HDPE mesh, Efficiency 95% down to 5 micron. Supply Filter Imported mini-pleat HEPA filter with hot melt technology, which confirms to EU-14 grade, Efficiency rating 99.997% at 0.3 micron Motor Blower Assembly Statically and dynamically balanced blower motor assembly, Hindustan or equivalent make to take care of sufficient amount of static pressure and air flow requirement. 2800 RPM, Three Phase, 440 V, 50Hz, AC Pressure Gauge Dwyer make pressure gauge-(0-100 mm/wg) Control System Interlocking system to ensure that both the doors will not open at the same time. Both the doors locked during operation of the air shower. Time adjusted from 30 sec to 5 Minutes Filter Integrity Port Port at upstream of HEPA filter for HEPA integrity test. Electrical Supply 415 V, Three Phase, 50 Hz AC supply. Below 70 dB Noise Level

- 1) All entries of Automobile Paint Shop ( Avoid contamination in Painting Process)
- Pharmaceutical Companies Production area entrance ( Avoid contamination in production area)
- Research Centre Laboratories Entrances (Avoid contamination in research samples)
- 4) Electronics Industries Production area Entrance (Avoid contamination in circuits assembly)
- 5) Hospital Operation Theatre Entrances (Avoid contamination in surgery)
- 6) Gold ornaments designing center's at exit ( Recover golden dust )
- 7) Photo Labs (Avoid contamination in film printing)
- 8) Film and CD manufacturing Industries (Avoid contamination in film or CD manufacturing)

Std.Model	Working Area (wxdxh) mm	External Dimentions (wxdxh) mm	Persons	Velocity	Air Cleanliness
ASTE-1000	800x900x1900	1700x1000x2200	1 to 2		
ASSE-1000	800x1900x1900	1700x2000x2200	1 to2		
ASTE-2000	800x1900x1900	1700x2000x2200	3 to 4	25 to $\pm 3$ (M/Sec) 4900 to 5900 (FPM)	ISO-Class 5
ASTE -3000	800x2900x1900	1700x3000x2200	5 to 6	4900 10 5900 (FFIVI)	(ISO- 14644-1)
ASTE-TB-1000	800x900x1800	1300x1000x2500	1 to 2		
ASTE-TB-2000	800x1900x1800	1300x2000x2500	3 to 4		
ASTE-TB-3000	800x2900x1900	1300x3000x2500	5 to 6		



# AIR MIST SHOWER

Air mist shower is a contamination control equipment for the respiratory protection from inhalation hazards to the operator during de-gowning process. When person removes his/her protective clothing he/she also removes primary personal protection (respirator). The mist air shower is used to reduce the possible deposition of the particulate in the operators breathing zone. Air mist shower also reduces contamination in de- gowning area. Air mist shower works by wetting the surface of operators gowning with fine mist causing the powder to stick the gowning surface instead of becoming airborne contamination.



TECHNICAL SPE	
MOC	SS 304 / 316 mat finish, 1mm/1.2 mm thick PVC Coated sheet
Supply Mist	Supply mist through SS 304, SS Nozzles with settable time. Solenoid valve at entry junction.
	Compressed air through compressor to be provided by client
Drain Outlet	Internal inclined sheet provided for drain outlet
Mist Jet System	Nozzle arrangement is such that it covers total body at 4 bar pressure Total nozzles -9 Nos
	(4 nozzles at right side, 4 nozzles at left side and 1 nozzle at top side)
Fresh Air System	Fresh air taken from compressor supplied to internal work area through nozzles
Water Line	Proper water line by using Aeroflex / SM & N tube, Valves and sealants with avoiding leakages through pipeline and nozzles.
Doors	SS 304, PUF insulated with view window , door closer ( Dorma make) handles and hinges
	Interlocking for Entry and Exit doors. Automatic door interlocking system along with electromagnets
Electricals	Operation through sequential logic controller, ON /OFF switches for operating tube light and
	Auxiliary sockets, Fluorescent light 500 Lux
Power supply	3 core connection cable along with $6/16$ Amp. 3 pin top, 3 mtrs long cable
	230V, 1 phase 50 Hz supply
Buyers Scope	Water supply at 2 to 3 Kg/cm2 and air supply 4 to 6 Kg/cm2 is in buyers scope

- Hormonal Drug Manufacturing Industries at exit from production area (Avoid dust from inhaling)
- Pesticides manufacturing companies at exit from production area (Avoid dust from inhaling)

Std.Model	Working Area (wxdxh) mm	External Diamentions(mm) (wxdxh)	Persons
AMS-TE-1000	800x900x1900	1700x1000x2200	1
AMS-TE-2000	800x1900x1900	1700x2000x2200	2-3
AMS-TE-3000	800x2900x1900	1700x3000x2200	3-4



# **GARMENT CABINET**



Specially designed garment cabinet provides a wash of sterile filtered clean air through HEPA filters. The cabinet protects dust and other particulates on clean room garments or other material. It is kept in change room to store the garments. It is of vertical air flow type or horizontal air flow type depending upon the requirement. Sometimes heater is also provided to dry the wet garments to avoid sweating odor from the garments.

TECHNICAL SPECIFICATIONS		
MOC	1.2 mm thick CRCA Powder coated or SS 304 /316, 1mm/1.2mm thick imported PVC Coated sheet	
Prefilter	Made from Non-Woven synthetic HDPE mesh, EU-5 Grade with an efficiency rating 95% at 5 micron	
Supply HEPA filter	Imported minipleat HEPA filter with hot melt technology, EU-14 Grade with efficiency rating better than 99.997% at 0.3 micron	
Fresh Air Filter	Non woven synthetic with HDPE mesh filter, EU-4 Grade, 90% efficiency at 10 micron provided	
Motor Blower Assembly	Statically and dynamically balanced blower motor EBM, Crompton Make , Dynamic make,1440 RPM, 1 Phase, 230V, AC	
Pressure Gauge	Dwyer make magnehelic pressure gauge. ( 0-50mm/wg)	
Filter Integrity Port	Filter Integrity Port or filter integrity test is provided at upstream of HEPA	
Noise Level	Less than 70dB	
UV light	UV light for germ killing is provided	
Interlock	Electromagnetic interlock between door and UV provided	
Hanging Garments	SS 304 hanging arrangement or removable shelves or hangers	
Power Supply	230 V, 1 Phase, 50 Hz, AC	

- 1) Pharmaceutical Companies Clean Room Entrance
- 2) Hospitals OT Entrance
- 3) Engineering Industries at Clean Room Entrance
- 4) Food & Beverages Industries Production Area Entrance
- 5) Tissue Cultures Production area Entrance
- 6) Research Centre Laboratories Entrance

Std.Model	Working Area Size(wxdxh)mm	External Dimensions Size(wxdxh)mm	Air Velocity	Air Cleanliness
GSC-2X2	610x610x900	760x760x1800	0.45±0.1	ISO Class-5
GSC-3X2	915x610x900	1065x760x1800	M/Sec	ISO STD- 14644-1
GSC-4X2	1220x610x900	1370x760x1800	90±20FPM	



# AIR CURTAIN

Air curtains are installed on door and it forms invisible and continuous flowing air curtain which helps in preventing escape of conditioned air and also restricts the entry of outside humid, hot and polluted air through open door ways or service hatches into clean room environment.

1) Air curtains avoids cool air escaping to the external environment.

2) It prevents pollution, insects, dust and fumes from interfering production.

3) It is also a barrier for sound.



		TECHNICAL SPECIFICATIONS	
APP	LICATIONS:	MOC	1.2 mm thick CRCA Powder coated or SS 304 /316, 1mm/1.2mm thick imported PVC Coated sheet
1) 2) 3)	<ol> <li>Entrance at Hotels</li> <li>Entrance at Malls</li> <li>Cinema Theatres Entrances</li> <li>Pharmaceutical Companies Entrance</li> <li>Hospital Entrance</li> </ol>	Motor Blower Assembly	Crompton make 1 phase 230 v, 50 Hz or Hindusthan make 3 phase 440 v 50 Hz
- /		Interlocking	Interlocking with operation door with limit switch, Proximity Switch or Photo sensor
6) 7)	Automobile Companies Paint shop entrance All industries production area Entrance	Power Supply	230 V, 10 50 Hz AC · SR 1 to 5 440 V, 30 50 Hz AC · SR 6 to 10

Std.Model	Door width	Door Height
AC-2F	Door width upto 2 feet	Door Height upto 8 feet
AC-3F	Door width upto 3 feet	(MOC- 1.2 mm thick CRCA Powder
AC-4F	Door width upto 4 feet	coated sheet or 1mm thick imported pvc coated sheet)
AC-5F	Door width upto 5 feet	pve coated sheet)
AC-6F	Door width upto 6 feet	
IAC-2F	Door width upto 2 feet	Door Height upto 10 to 12 Feet
IAC-3F	Door width uuto 3 feet	(MOC- 1.2 mm thick CRCA Powder
IAC-4F	Door width upto 4 feet	coated sheet or 1mm thick imported PVC coated sheet)
IAC-5F	Door width upto 5 feet	
IAC-6F	Door width upto 6 feet	

Note- For door width not mentioned in the chart the combination of above standard models can be used.



# STATIC PASS BOX



Personnel traffic is the most important factor which must be controlled. Pass boxes allows material to be transferred without actual personnel movement. Static pass boxes are used when material movement is inside the classified area's. Pass boxes are provided with door interlocking system to avoid contamination. Inside pencil coving is provided to avoid dust deposition in the pass box working area.

TECHNICAL SPECIFICATIONS		
МОС	1.2 mm thick CRCA Powder coated, or SS 304/316 / 1mm / 1.2mm thick imported PVC Coated sheet	
Door Construction	Double skinned door construction	
Door Interlocking	Electromagnetic Interlocking type door arrangement	
Door release switch	Door release switch provided on both the sides	
Internal Coving	Internal pencil coving is provided	

#### APPLICATIONS:

- 1) Pharmaceutical Companies (Material transfer and avoiding personnel movement)
- 2) Engineering Industries (Material transfer and avoiding personnel movement)
- 3) Hospitals (Transfer medicines and instruments by avoiding personnel movement)
- 4) Research Centre's (Material movement)
- 5) Food and Beverages industries ( Raw and finished material transfer )

Std. Model	Working Area (wxdxh)mm	External Dimensions (wxdxh)mm	Power Supply Required
SPB-2X2	600x600x600	740x670x750	
SPB-3X3	900x900x900	1040x970x1050	230 V, 1Phase, 50 Hz
SPB-4X4	1200x1200x1200	1340x1270x1350	AC Supply

### **OPTIONAL ACCESSORIES:-**

- 1. Mechanical door interlocking of Pass Box
- 2. UV light with UV Hour meter and interlocking of UV light with pass box doors. When pass box door is opened the UV light will blow off and Fluorescent light will blow on.
- 3. Flange for sealing the gaps in between the wall or panels and pass box external skin.
- 4. Floor mounted construction
- 5. Stand for pass box support.
- 6. Door drop seal
- 7. Flame proof fitting of pass boxes.
- 8. Rigid floor support when heavy material movement is considered.



# **DYNAMIC PASS BOX**

Dynamic pass boxes are used to transfer the material through controlled environment without much personnel movement. It avoids cross contamination during transfer of the material. Pass boxes are available with some standard dimensions but it is manufactured as per customized requirement also. Filtered HEPA air is provided inside the pass box to avoid contamination. UV light and Florescent light is also provided in dynamic pass boxes.

### TECHNICAL SPECIFICATIONS

MOC	1.2 mm CRCA Powder coated or SS 304, 1mm / 1.2mm thick imported PVC Coated sheet
Pre-Filter	Non woven synthetic with HDPE mesh, Confirms to EU-5 Grade with an efficiency rating better than 95% at 5 micron
HEPA filter	Mini-pleat HEPA filter with Hot melt technology, which confirms to EU-14 Grade . Efficiency 99.997% at 0.3 micron
Motor Blower	Statically or Dynamically balanced blower motor assembly EBM, Dynamic make or equivalent. 1440 RPM, 1 Phase, 230 V, 50 Hz Ac
Pressure Gauge	Dwyer make pressure gauge. (0.50mm/ wg)
Interlocking	Electromagnetic Interlocking
SS Coving	SS Pencil coning inside pass box
DOP	DOP Port provided for filter integrity test.
Power Supply	230V, 1 Phase, 50 Hz, AC Power supply



# **APPLICATIONS:**

- 1) Pharmaceutical Companies (Material movement)
- 2) Engineering Industries (Material movement)
- 3) Hospitals (Medicines and Instruments transfer in OT area)
- 4) Research Centre's (Sample material transfer)
- 5) Food and Beverages Industries( Raw material or finished products transfer)

Std.Model	Working Area (wxdxh)mm	External Dimensions (wxdxh)mm	Air Flow	Air Cleanliness
DPB-2X2	600x600x600	740x670x1240	$0.45 \pm 0.1 \text{ M/S}$ $90 \pm 20 \text{ FPM}$	ISO- Class-5 (ISO 14644-1) Class-100
DPB-3X3	900x900x900	1040x970x1540	<i>yo 20</i> mm	110111) Class 100
DPB-4X4	1200X1200X1200	1340x1270x1840		

### **OPTIONAL ACCESSORIES:-**

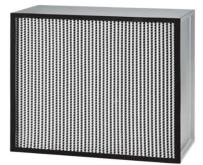
1.UV light with UV hour meter 4.Audio Visual Alarm Mechanical Interlocking
 Door Drop Seal
 Flame Proof fittings



# **HEPA FILTER**

HEPA filters are high efficiency filters that typically capture over 99.99% of all particulate pollution. They are made of fiber glass and can capture things like pollen, viruses, bacteria, mold and PM 2.5 diffusion also. Means they are highly effective at capturing nanoparticles too.

TECHNICAL SPECIFI	CATIONS
MOC	AL Extrusion and Glass Fiber filter media filled with PU
Media	Imported sub-Micronics glass fiber media
Media damage and degradation	eFRM reduce risk of media damage and degradation
Corrosive Resistant	High resistance to corrosive environment (Acid, alkalies and organic substance)
Testing Capability	Compatible with discrete particle counter (DPC) and photometric test methods including high concentration based aerosol testing
Efficiency	99.99% at 0.3 micronH13 and 99.995% at MPPS H14
Temperature	Ambient



# APPLICATIONS:

- 1) Pharmaceutical Companies.
- 2) Hospitals.
- 3) Research Centre's.
- 4) Food and Beverages Industries.
- 5) Tissue culture
- 6) Life Sciences

Std.Model	Working Area (W x H x D ) mm	Air Flow CFM	Initial Pressure Drop mm WG	Final Pressure Drop mm WG	Air Cleanliness
2' x 2'	610x610x150	500/1000	25	65	ISO- Class-5
2'x 2'	610x610x300	1000/2000			(ISO 14644-1)

• Available Customized Sizes as per client's requirement.



# MINIPLEAT HEPA FILTER

MINIPLEAT HEPA filters are high efficiency filters made of hot melt mini pleat filter design and having lower pressure drop that typically capture over 99.99% of all particulate pollution. They are made of fiber glass and can capture things like pollen, viruses, bacteria, mold and PM 2.5 diffusion also. Means they are highly effective at capturing nanoparticles too.

TECHNICAL SPECIFIC	ATIONS
MOC	Lightweight anodized aluminum frame filled with PU
Media	Imported Submicronic Glass Fiber (Minipleat Packs)
Media damage and degradation	eFRM reduce risk of media damage and degradation
Corrosive Resistant	High resistance to corrosive environment (Acid, alkalies and organic substance)
Testing Capability	Compatible with discrete particle counter (DPC) and photometric test methods including high concentration based aerosol testing
Efficiency	99.99% at 0.3 micronH13 and 99.995% at MPPS H14
Temperature	Ambient



### APPLICATIONS:

- 1) Pharmaceutical Companies.
- 2) Hospitals.
- 3) Research Centre's.
- 4) Food and Beverages Industries.
- 5) Tissue culture
- 6) Life sciences

Std.Model	Working Area (W x H x D ) mm	Air Flow CFM	Initial Pressure Drop mm WG	Final Pressure Drop mm WG	Air Cleanliness
2' x 2'	610x610x75	700	25	65	ISO- Class-5 (ISO 14644-1)
2'x 2'	610x610x100	1000			

• Available Customized Sizes as per client's requirement.



### **RIGID BOX FILTER ( PRE & FINE)**

RIGID all metal construction and water resistant media in a supported pleat type configuration. MERV-14, MERV-13, MERV-11 efficiency. MERV14 and MER-11 available with antimicrobial. MERV-14 and MERV-13 meet LEED Project certification efficiency requirements.

TECHNICAL SPECIFIC	CATIONS
MOC	SS or GI metal construction
Media	HDPE+Non Woven +HDPE +Aluminium Mesh
Media damage and degradation Corrosive Resistant	eFRM reduce risk of media damage and degradation High resistance to corrosive environment
Operating Conditions	Variable Air Volume, Turbulent Air Flow, Repeated fan shut down, High Temperature, High humidity, Intermittent exposure to sea coast installations.
Testing Capability	Compatible with discrete particle counter (DPC) and photometric test methods including high concentration based aerosol
Efficiency	G-4 – 90% down to 10 micron F-5 – 95% down to 5 micron
	F-6/7 – 99% down to 0.3 micron F-8/9- 50 % down to 0.3 micron
Temperature	Ambient



- Commercial Buildings
   Health care
- 2) meanin eare
- 3) School and universities
- 4) Food and beverages
- 5) Pharmaceuticals

Std. Model	Working Area (W x H x D ) mm	Air Flow CFM	Initial Pressure Drop mm WG	Final Pressure Drop mm WG	Air Cleanliness
2' x 2'	610x610x50 (G-4)	2000	4-5 mm WG	12-13 mm WG	( Class-5 (ISO14644-
2' x 2'	610x610x300 (F-5)	2000	6.5-7.5 mm WG	18-19 mm WG	1)
2' x 2'	610x610x300 (F-6/7)	2000	7.5-8.5 mm WG	20-22 mm WG	
2' x 2'	610x610x300 (F-8/9)	2000	12-14 mm WG	45 mm WG	



### V-BANK FILTER ( Plastic cell side)

V-Cell filter to provide high efficiency filtration at low energy consumption and compact format. V-cell can be used in any air conditioning application and preparatory filtration in clean rooms.



TECHNICAL SPECIFI	CATIONS	
MOC	Plastic robust construction	
Media	Small diameter fiber material UL certified media	
Corrosive Resistant	No corrosion as plastic construction	
Operating Conditions	Variable Air Volume, Turbulent Air Flow, Repeated fan shut down, High humidity, Intermittent exposure to sea coast installations.	
Cost effectiveness	2-4 V-Bank design filters with less than 100 Pa	
Efficiency	Rigid configuration maintain good performance in turbulent airflow with long operating life	APPLICATIONS: 1) Commercial Buildings 2) Health care
Temperature	Ambient	<ol> <li>School and universities</li> <li>Food and beverages</li> <li>Pharmaceuticals</li> </ol>

Std. Model	Working Area (W x H x D ) mm	Air Flow CFM	Initial Pressure Drop mm WG	Final Pressure Drop mm WG	Air Cleanliness
2' x 2'	592 x 592 x 292	2200	25	65	ISO-Class-5
					(ISO14644-1)
2' x 2'	592 x 292 x 292	1100	25	65	ISO-Class-5
					(ISO14644-1)



# INDUSTRIAL EPOXY FLOORING

Industrial Epoxy flooring services offered widely demanded for its various attributes and extensively used in various sectors. We take special care to keep your place clean and safe during flooring installation process. We cover sensitive area with plastic and sanding tools are equipped with an automatic dust collection system. We also take all precautions to maintain an ecofriendly work environment by using nontoxic and odorless, staining and lacquering materials.



# **PU FLOORING**

Benefits from PU modification include enhanced flexibility. Improved wear resistance and impact strength while retain in pertinent properties of epoxy such as adhesion, gloss and toughness. They can withstand attaches by oils, lubricants, Alkalis, Acids, water, Abrasion and impact like no other polymers with excellent bonding properties. They are suitable for various civil and metal structure maintenance jobs. According to the high capacity of industrial ability and understanding, we are providing top class PU flooring service. Services are delivered in agreement with the clients requisites to achieve client gratification. In addition, we provide these services only after identifying the given details of the clients.

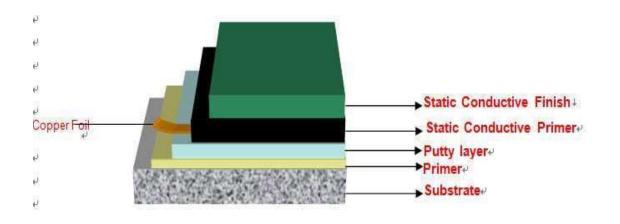




# ANTI-STATIC FLOORING

Industrial floors inhibit the generation of electrostatic discharge or ESD which is the pulse of static electricity that happens when charged person or surface comes in contact with another object. Antistatic spray coatings typically consist of a conducting polymer (plastic) and a solvent made from deionized water and alcohol. They allow fibers to retail a little moisture which makes them more electrically conductive and reduces the chances static charge building. Copper stripping inside the flooring is done to improve the conductivity.





# ANTI-SKID FLOORING

With an aim to fulfil customers request we bring forth a complete spectrum of Anti-skid flooring is provided with numerous specifications according to the details given by customers. The Anti-skid flooring is done with the aid of best quality of components and technologically advanced tools. In addition to this the offered anti-skid flooring is widely demanded for commercial purposes and its properly examined against various provisions of quality. Our customers can benefit this anti-skid flooring in various specifications.





# **OT PLENUM**

We offer OT Plenum made up of SS304 or GI powder coated construction. It is used in various hospitals and healthcare units. Unit is effective in circulating fresh bacteria free air around the operation table of OT'S. With AHU capacity depending on the class is required and total operation area of the room the plenum dimensions are decided. It is available with OT light at center or any one side of the plenum as required. It can protect the person who is operated from particle contamination with help of ISO Class 5 filtered air. We provide UVC in a plenum to destroy the viruses. UVC in support with TiO2 is also provided to kill dangerous virus and keep the AHU supplied air germ free.



TECHNICAL SPECI	FICATIONS
MOC	SS 304, 19 SWG or GI Powder coated
Design Compactness	Compact and slick design with flange
HEPA Protection	Capsule perforated grill provided at filter face to protect HEPA Filter
HEPA Clamping	Easy removable clamping with adjustable studs provided.
Face Screen	If required fine filter cloth screen provided at plenum face
OT light	OT light provision at center or any one side as required
Air Supply Duct	Both side or Top side supply duct provision with air flow damping.
Insulation	Nitrile rubber insulation to avoid loss of chilling effect of air
Germ Protection	UVC provided in plenum to kill germs. If required UVC with TiO2 protection to kill viruses.
Filter Chocking Indication	Differential Pressure gauge provided to know filter healthiness.
Side Isolation	PVC Vinyl isolation is provided if required.



# **MODULAR OPERATION THEATRE**

We offer modular operation theatre with SS304 or GI Paneling PUFF insulated. OT plenum normally made up of SS 304 material. Capsule perforated grill for filter protection and center OT light cut out for OT Pendent installation. All electrical cabling done by inbuilt conduits in wall panels. Return risers are inbuilt in wall panels. Supply air from AHU installed outside the operation theatre. Illumination done by clean room compatible fittings installed in ceiling panels. Floor is epoxy coated for maintaining cleanliness. Supply air dust protected by UVC for germ killing. X-ray screen provided on panel wall.



TECHNICAL SPECIFICATIONS	
MOC Panels	SS 304 or GI Powder coated puff filled
MOC OT Plenum	SS 304, 19 SWG
HEPA Protection	Capsule perforated grill provided at filter face to protect HEPA Filter
HEPA Clamping	Easy removable clamping with adjustable studs provided.
Face Screen	If required fine filter cloth screen provided at plenum face
OT light	OT light provision at center or any one side as required
Air Supply Duct	Both side or Top side supply duct provision with air flow damping.
Insulation	Nitrile rubber insulation to avoid loss of chilling effect of air
Germ Protection	UVC provided in plenum to kill germs. If required UVC with TiO2 protection to kill viruses.
Filter Chocking Indication	IF required Differential Pressure gauge provided to know filter healthiness.
Side Isolation	PVC Vinyl isolation is provided if required.



# **RECIRCULATORY CLEAN ROOM**

Recirculatory clean room airflow system filter air through a dedicated air handling system specifically designed and engineered to maintain the clean room at required operating environment tolerance. Recirculating airflow system offer temperature relative humidity and pressurization control through an interface on the air handling unit itself. These systems are typically paired with static filtration modules instead of fan powered modules. Unidirectional airflow inside a recirculating cleanroom can be achieved via placement of HEPA filter modules and low level return, which direct airflow and heat load removal in areas of the clean room environment that require higher airflow. In some cases lower ISO class recirculating clean room can also be filtered via HEPA units in line with the supply air from HVAC system rather than ceiling modules. This reduces cost of maintenance requirement in future.



TECHNICAL SPECIFICATIONS	
MOC Panels	GI Powder coated puff filled
AHU	Air Handling Unit with fresh air intake installed outside clean room as per required CFM capacity.
HEPA Housing	Terminal HEPA housings are installed inside the clean room at ceiling. MOC- MS or SS
HEPA Protection	Capsule perforated grill provided at filter face to protect HEPA Filter. MOC -MS or SS
HEPA Clamping	Easy removable clamping with adjustable studs provided. MOC -SS
Air Supply Duct	Both side or Top side supply duct provision with air flow damping. MOC - GI
Insulation	Nitrile rubber insulation to avoid loss of chilling effect of air
Isolation	PVC Vinyl isolation is provided if required to maintain class difference
Flooring	Epoxy flooring on area of clean room
Lighting	Clean room compatible light fittings are used In ceiling panels

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