

# JOY TRADING CO.

## FOR ASSURED CLEAN AIR QUALITY

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Specialist for Clean Room and Clean Air Equipments; New Equipments, Validation, Accessories & Turnkey Projects

Technology Partner for P.B.R. with National Physical Laboratory, New Delhi

### MCA Series Laminar Flow Bench

MAC Series Laminar Air Flow Benches provides class 100 or ISO Class 5 cleanliness environment at the work surface

The units are manufactured to match with the international quality and Standards. The units are ideal where clean air is required to protect the product from contamination It is carefully enclosed bench designed to prevent contamination of semiconductor wafers, biological samples, or any particle sensitive materials. Air is drawn through a HEPA filter and blown in a very smooth laminar flow towards the user. Due to the direction of the flow, the sample is protected from the user but the user is not protected from the sample. The MCA Series comes in both horizontal and vertical configurations as per the requirement from the user

### Horizontal Laminar Flow Bench:

Material : In S.S. 304 Matt finish / MS CRCA Powder coated
 Side Panels : In Toughened Glass or Transparent Acrylic Sheet

• Work Table : S.S. 304 Matt finish

• HEPA Filter : Minipleat HEPA (efficiency 99.999% down to 0.3 microns)

• Pre Filter : HDPE (washable) + Non Woven + HDPE Mesh media,

Aluminium Casing efficiency 95% down to 5 microns

- ISO Class 5 or Class 100 clean environment
- Compact, Mobile transportable design
- Air Velocity 0.45m/s +/- 20% on table
- Quiet operations Less than 55 D
- Excellent lighting more than 900 lux & UV tube to disinfect the bacterial growth
- SS 304 Grade matt Finish table Top



### **Horizontal Laminar Flow Benches**

Model	Inner Dimensions (mm)	Overall Dimensions(mm)	No. of HEPA Filter
MCA-H-2D (2FT.)	610 x 610 x 580	730 x 1050 x 1430	1
MCA-H- 3D ( 3FT.)	915 x 610 x 580	1050 x 1050 x 1430	1
MCA-H- 4D (4FT.)	1220 x 610 x 580	1410 x 1050 x 1430	1
MCA-H- 5D ( 5FT.)	1525 x 610 x 580	1690 x 1050 x 1430	2
MCA -H-6D (6FT.)	1830 x 610 x 580	2015 x 1050 x 1430	2

### **MCA Series Laminar Flow Bench**

### Vertical Laminar Flow Bench:-

• Material : In S.S. 304 Matt finish / MS CRCA Powder coated

Side PanelsSS /MS Sheet panelWork TableS.S. 304 Matt finish

• HEPA Filter : Minipleat HEPA (efficiency 99.999% down to 0.3 microns)

Pre Filter : HDPE (washable) + Non Woven + HDPE Mesh media,

Aluminium Casing efficiency 95% down to 5 microns

ISO Class 5 or Class 100 clean environment

• Sliding Sash with counter weight for smooth operations

• Air Velocity 0.45m/s +/- 20% on table

• Quiet operations Less than 55 D

• Excellent lighting more than 900 lux & UV tube to disinfect the bacterial growth

• SS 304 Grade matt Finish table Top

• Blower motor assembly mounted on antivibration mountings for vibration control



## **Vertical Laminar Flow Benches**

Model	Inner Dimensions (mm)	Overall Dimensions(mm)	No of Hepa Filters
MCA-V-2D (2FT.)	610 x 610 x 580	730 x 700 x 2050	1
MCA-V- 3D (3FT.)	915 x 610 x 580	1050 x 700 x 2050	1
MCA-V- 4D (4FT.)	1220 x 610 x 580	1410 x 700 x 2050	1
MCA-V- 5D (5FT.)	1525 x 610 x 580	1690 x 700 x 2050	2
MCA -V-6D (6FT.)	1830 x 610 x 580	2015 x 700 x 2050	2

# **Reverse Laminar Flow Bench (Dispensing / Sampling Booth)**

Material : In S.S. 304 Matt finish / MS CRCA Powder coated
Pre Filter I : HDPE(washable) (efficiency 90% down to 10 microns)
Pre Filter II : HDPE(washable) (efficiency 95% down to 5 microns)
Post Filter : Minipleat HEPA (efficiency 99.999% down to 0.3 microns)
Exhaust : Minipleat HEPA (efficiency 99.999% down to 0.3 microns)

Model	Inner Dimensions (mm)	Overall Dimensions(mm)	Power (Watt)
MCA-R3( 3FT.)	915 X 610	1050 X 1360 X 2550	240
MCA-R4( 4FT.)	1220 X 610	1500 X 1360 X 2550	240
MCA-R5( 5FT.)	1525 x 610	1850 X 1360 X 2550	480
MCA-R6( 6FT.)	1830 x 610	2130 X 1360 X 2550	700



### **Filtration Module**

Filtration Module Available in

I Suspended Type

II Trolley Mounted Type

III Wall Mounted Type

- Minipleat HEPA Filter (efficiency 99.999% down to 0.3 microns)
- Pre filter HDPE(washable) (efficiency 95% down to 5 microns)
- Compact low noise Motor Blower assembly
- Optional PVC Strip Curtains

Model	Air Volume CUM/Hr	Net weight (Kgs approx)	Power (Watt)
MFM-7M	500	55	100
MFM-15M	700	90	180
MFM-30M	1400	130	375



## **Bio Safety Cabinets**

Bio Safety Cabinets is an enclosed Ventilated laboratory workspace for safely working with materials contaminated with (or potentially contaminated with) pathogens requiring a defined bio safety level. Several different types of Bio Safety Cabinets exist, differentiated by the degree of bio containment required

#### CLASS II, TYPE A2 BIOSAFETY CABINETS

These cabinets protect the user, product and lab. They recirculate 70% of the HEPA-filtered laminar air while 30% passes through an exhaust HEPA filter for discharge to the lab or optional duct. These unit are utilized for containing low to moderate risk biohazardous materials. These Bio Safety Cabinets have downward airflow and Hepa filter that recirculates air providing the required level of protection. The inner work surface is made up of SS 304 grade irrespective of SS or MS model. The units are tested with each parameters before despatch to ensure safety standards, These units are manufactured in compliance with NSF standard, optional accessories like gas valve, Stabilisers, Data Ports etch can be provided with the customised models

**Bio safety Cabinet Series D** 

## **Bio safety Cabinet Type A II**

- Partial Exhaust
- Sliding Sash of 6 mm thick acrylic sheet
- LCD control panel for unit monitoring
- Virus burner out unit
- Flexible duct upto 20 ft.
- Minipleat HEPA Filters
- Dynamically mounted motor for low noise and vibrations
- Caster wheels for easy moment of unit
- Optional Accessories Gas valve, Data logging port, hand rest

Model	Inner Dimensions (mm)	Overall Dimensions(mm)	No of HEPA Filters
MCA-2D	610 x 610 x 610	730 x 700 x 2050	2
MCA-3D	9015 x 610 x 610	1050 x 700 x 2050	2
MCA-4D	1220 x 610 x 610	1410 x 700 x 2050	2
MCA-6D	1830 x 610 x 610	2100 x 700 x 2050	3



### **CLASS II, TYPE B2 (TOTAL EXHAUST) BIOSAFETY CABINETS**

These total exhaust cabinets protect the user, product and lab. They're designed to be hard-ducted to the outside, exhausting 100% of the HEPA-filtered air outside the lab. These units are expensive to operate because no air is recirculated within therefore this type of unit is mainly found in such applications as toxicology laboratories where the ability to use hazardous chemistry is important, The downflow air drawn from within the laboratory or outside air. No downflow air is drawn from the cabinet exhaust air. All downflow and inflow air is exhausted through a HEPA filter without recirculation within the cabinet. All contaminated ducts and plenums are maintained at negative pressure. The Serried D Bio Safety Cabinets BII Bio Safety Cabinets are economical and comes with 3 years standard warranty it also features annual calibration inclusive with the purchase for the next 2 years, with all the primary and secondry testing parameters inclusive

## **Bio safety Cabinet Type B II**

- 100% Exhaust System
- Sliding Sash of 6 mm thick acrylic sheet
- LCD control panel for unit monitoring
- Virus burner out unit
- Flexible duct upto 20 ft.
- Minipleat HEPA Filters
- Dynamically mounted motor for low noise and vibrations
- Caster wheels for easy moment of unit
- Optional Accessories Gas valve, Data logging port, hand rest

Model	Inner Dimensions (mm)	Overall Dimensions(mm)	No of HEPA Filters
MCA-2D	610 x 610	730 x 700 x 2050	2
MCA-3D	9015 X 610	1050 x 700 x 2050	2
MCA-4D	1220 x 610	1410 x 700 x 2050	2
MCA-6D	1830 x 610	1690 x 700 x 2050	3



# **Bio safety Cabinet Series B**

## **Bio Safety Cabinet**

The MCA Series **B** Bio Safety cabinets are dynamically designed for areas for optimum utilisation of spaces . The unit have compact designed and assembly which can be fitted even in small spaces since it comes with optional floor stand . These units can also be mounted on tables or shelfs the sizes and specifications of series B model varies as per users requirements

- Available in Both Typt AII and BII
- Compact Desgin for space utilisation
- LCD control panel for unit monitoring
- Option Air Flow sensors for display
- Pressure drop sensors
- Minipleat HEPA Filters
- Filter life span, UV timers
- Alarms system for proper functions
- Dynamically mounted motor for low noise and vibrations
- Caster wheels for easy moment of unit
- Optional Accessories Gas valve, Data logging port, hand rest

### **Garment Cabinet**

Garment Storage Cabinet is one of the essential equipment in clean room. It is used to keep clean room garments, tools wipes and other materials in maintain cleanliness of clean room environment

- Class 100 or ISO Class 5 cleanliness environment inside the cabinet
- Vertical air flow with low noise motor blower assembly
- HEPA Filter; Minipleat HEPA (efficiency 99.999% down to 0.3 microns)
- Pre Filter ; HDPE (washable) + Non Woven + HDPE Mesh media,
- Door Operated UV lamp
- Removable/ Adjustable Shelfs

Model	Inner Dimensions (mm)	Overall Dimensions(mm)	Power (Watt)
MGC-4	950 X 575 X 1655	1200 X 650 X 2000	115
MFH-6	1550 X 575 x 1655	1800 X 650 X 2000	220

Customised models also available as per clients requirements





## Air Shower

The MAS Air Shower is designed to maintain 100% contamination free environment between two surroundings Air Shower is designed to remove dust and bacteria adhering to personnel entering the clean room and taking various components inside the Clean Room. The air shower is a chamber equipped with a blower motor assembly, with self interlocked doors and recirculating systems. The numerous nozzles are arranged in predetermined pattern for most effective removal of loose particles, fibers, dust etc. from the body, garments and other objects being carried inside the Clean Room. Air Shower also plays the role of air lock for the Clean Room The MAS series Air showers comes in different sizes as under:

# Air Shower (Through Entry/Exit)

Model	Inner Dimensions (mm)	Overall Dimensions(mm)
MAS-A-TE	800 x 1000 x 2000	1500 x 1000 x 2150
MAS-B-TE	800 x 2000 x 2000	1500 x 2000 x 2150
MAS-C-TE	1400 x 2000 x 2000	2100 x 2000 x 2150
MAS-M-TE	800 x 1600 x 2000	1500 x 1600 x 2150

## Air Shower (Side Entry/Exit)

Model	Inner Dimensions (mm)	Overall Dimensions(mm)
MAS-A-SE	800 x 1725 x 2000	1500 x 1725 x 2150
MAS-B-SE	800 x 3450 x 2000	1500 x 3450 x 2150
MAS-C-SE	1400 x 3450 x 2000	2100 x 3450 x 2150
MAS-M-SE	800 x 2000 x 2000	1500 x 2000 x 2150

## Air Shower (Double Entry/Exit)

Model	Inner Dimensions (mm)	Overall Dimensions(mm)
MAS-A-DE	800 x 1850 x 2000	1500 x 1850 x 2150
MAS-B-DE	800 x 2850 x 2000	1500 x 2850 x 2150
MAS-C-DE	1400 x 2850 x 2000	2100 x 2850 x 2150
MAS-M-E	800 x 2150 x 2000	1500 x 2150 x 2150













### **Clean Air Tent**

The clean air tent is a mobile clean room built with heap filter mounted on the top ,motor blower assembly and Pre filter It is built to maintains ISO Class 5, 6 or class 7 Clean room environment in the premises It is also known as portable clean room The size and specifications vary as per users requirement and space available . Also these units are assembly units which can be easily shifted and reassemble if required. The portable clean room has optinal door entry . exit along with optinal PVS Strip curtain or acylic sheet wall panels

- ISO Class 5.6 or class 7
- Minipleat Hepa Fillters
- Pre Filters
- Dynamically mounted motor blower assembly
- Low noise and vibrations
- Optional fluorescent lightening more than 1000 lux
- Anodised aluminium pipe enclosure
- PVC Strip curtains with brackets
- Optional acrylic sheet panels enclosure
- Positive pressure inside the chamber
- Compact designed assembly unit
- SS and MS filter mounting
- Easy customisation option

# **Fume Hoods**

FUME Hoods is a type of ventilation device that is designed to limit exposure to hazardous or toxic fumes, vapours or dust. It is ducted cabinet where all the air flows through baffle filters into the duct These units provide the protection to the user from hazardous aerosols , manufactured in both SS /MS

- Baffele filters
- Hard duct
- UV lamp
- SS Sink with tap optional
- Caster wheels
- Sling sash door

Model	Inner Dimensions (mm)	Overall Dimensions(mm)	Power (Watt)
MFH-4	1200 X 725 X 600	1350 X 750 X 1700	240
MFH-6	1800 X 725 x 600	1950 X 750 X 1700	480





# Air Curtains

Air curtain is a preliminary method to avoid cross contamination having **FRP blowers** which prevents dust particle, insects etc to directly enter the room It ensure low noise, long life operations with single phase motors for domestic and three phase motor for industrial applications it is available in MS powder coated SS 304, flame proof air curtains. Three categories are available depending upon the air flow requirements and height at which it has to be installed

## General

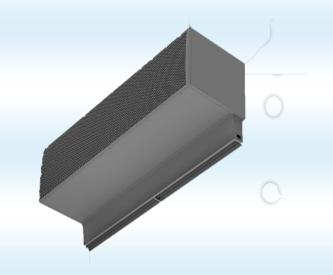
Model	Door Width suitability	Overall Dimensions(mm)	Suitable Height
MAC-3D	3 ft	900 x 415 x 325	Upto 8 ft
MAC-4D	4 ft	1200 x 415 x 325	Upto 8 ft
MAC-5D	5 ft	1500 x 415 x 325	Upto 8 ft
MAC-6D	6 ft	1800 x 415 x 325	Upto 8 ft

# **Industrial**

Model	Door Width suitability	Overall Dimensions(mm)	Suitable Height
MAC-3I	3 ft	900 x 415 x 325	Upto 10 ft
MAC-4I	4 ft	1200 x 415 x 325	Upto 10 ft
MAC-5I	5 ft	1500 x 415 x 325	Upto 10 ft
MAC-6I	6 ft	1800 x 415 x 325	Upto 10 ft

# **Industrial Heavy Duty**

Model	Door Width suitability	Overall Dimensions(mm)	Suitable Height
MAC-3IH	3 ft	900 x 415 x 325	Upto 12 ft
MAC-4IH	4 ft	1200 x 415 x 325	Upto 12 ft
MAC-5IH	5 ft	1500 x 415 x 325	Upto 12 ft
MAC-6IH	6 ft	1800 x 415 x 325	Upto 12 ft



# **Pass Box**

Pass Box is an enclosure made in the clean room for transferring the materials from Non clean room to clean room so that bacteria and other impurities should not escape into the clean room via transferring materials. Pass Boxes are available in both static and dynamic variants and can be fully customised as per the requirement from the user Static pass has only interlocking system, UV and LED tube light with the control panel for display of UV timers and life span, The Dynamic Model comes with interlocking System, UV, LED light, Mototr Blower assembly, Pre Filter and HEPA Filter, Along with the pressure gauge and control system for UV Blower timers and life span, along with the customisation facility for controlling of the pass box

### **Static Pass Box**

- Display panel on both doors
- Magnetic interlocking system
- UV Lamp
- Flourished Lamp
- UV Usage timers

### **Dynamic pass Box**

- HEPA Filter
- Pre filter
- Motor blower assembly
- Display panel on both doors
- Magnetic interlocking system
- UV Lamp
- Flourished Lamp
- UV Usage timers
- Pressure drop gauge

Model	Inner Dimensions (mm)	Overall Dimensions(mm)
MPB-S2	610 X 610 X 610	660 X 650 X 770
MPB-D2	610 X 610 X 610	660 X 650 X 1150





# **SS Clean Room Furniture**

SS Clean Rooms furniture available and can be fully customised as per the user

- Clean room Trolley
- Clean room Storage racks
- SS Tables
- SS Storage cabinets
- Cross over benches
- Glove Boxes
- OT Scrub Sinks
- Material Storage Racks
- Clean room SS Doors
- PVC Strip Curtain with brackets

















# **Testing and Validation Services**

Joy Trading Co. is one of the leading companies in clean room calibrations with the Ex Kirloskar Engineers with more than 30 years of experience in clean room validations our services includes:-

- Air Particle Count Testing (from 0.1 micron to 25 microns)
- DOP/PAO, Filter Integrity testing
- Indoor Air Quality Testing
- Air Velocity Measurements
- Air Changes per hour tests
- Air Flow Pattern Visualization/Smoke tests
- Air Pressure Balancing
- Microbiological Air Sampling
- AHU Recovery Testing
- Outdoor Air Quality Testing (PM 2.5, PM 10)
- Compressed Air Testing for particulate matter, moisture, oil and organic solvents
- Real-time Dust/Aerosols Monitoring
- Dew Point Testing
- Pressure Drop Testing
- Light (Lux) Intensity Testing
- UV Intensity Testing
- Sound Level Testing
- RPM Measurement Testing
- Temperature, Humidity and PH measurements in Clean Rooms
- AMC/CMC services for Clean air equipments
- Complete Premises Validations







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