



Microfili

One stop solution for Air Filtration



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FOUR DECADES OF LEGACY IN HEALTH CARE

MicroFilt India was started by Mr. Jagdish Latey in 1978 in a small space of 200 sq. ft. mainly manufacturing Laminar Flow and Bio Safety Cabinets.



1982

We shifted to 400 sq. ft. facility. One of the first importers of HEPA Filters from USA.

1984

Mr. Latey visited Japan and took training in Clean Air Systems.

1984

Imported 'Rion' make particle counters and Photometers.

1986

Exported large consignment of Laminar flow to Russia through Larsen & Turbo.

1986

Shifted to 3,000 sq. ft. facility.

2001

Certification from Harvard School of Public Health, MIT, Houston (USA) for HEPA filter testing.

2004

Received an ISO 9001-2008 Certification.

2012

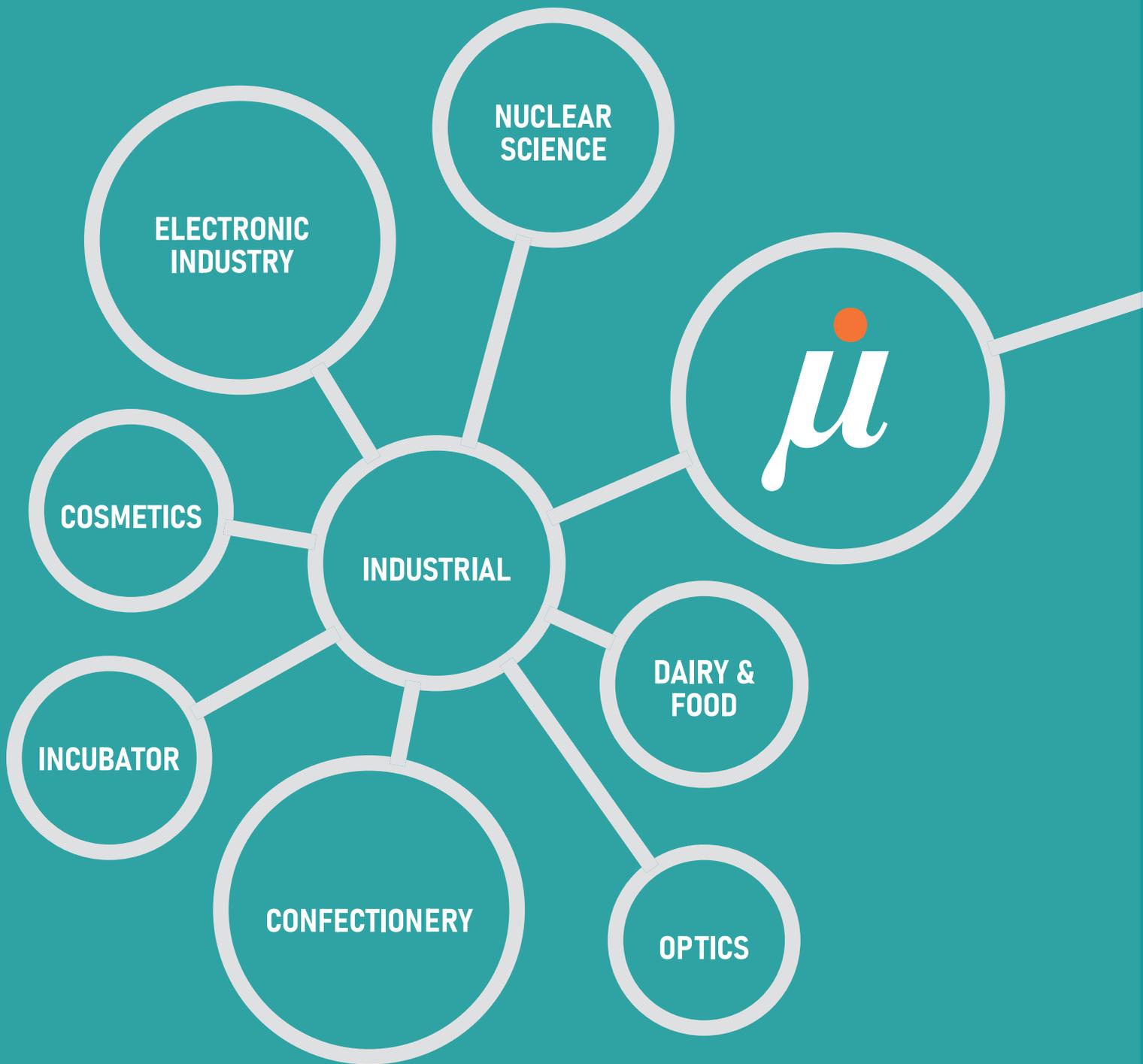
Shifted to state-of-the-art manufacturing facility of 30,000 sq. ft. near Pune.

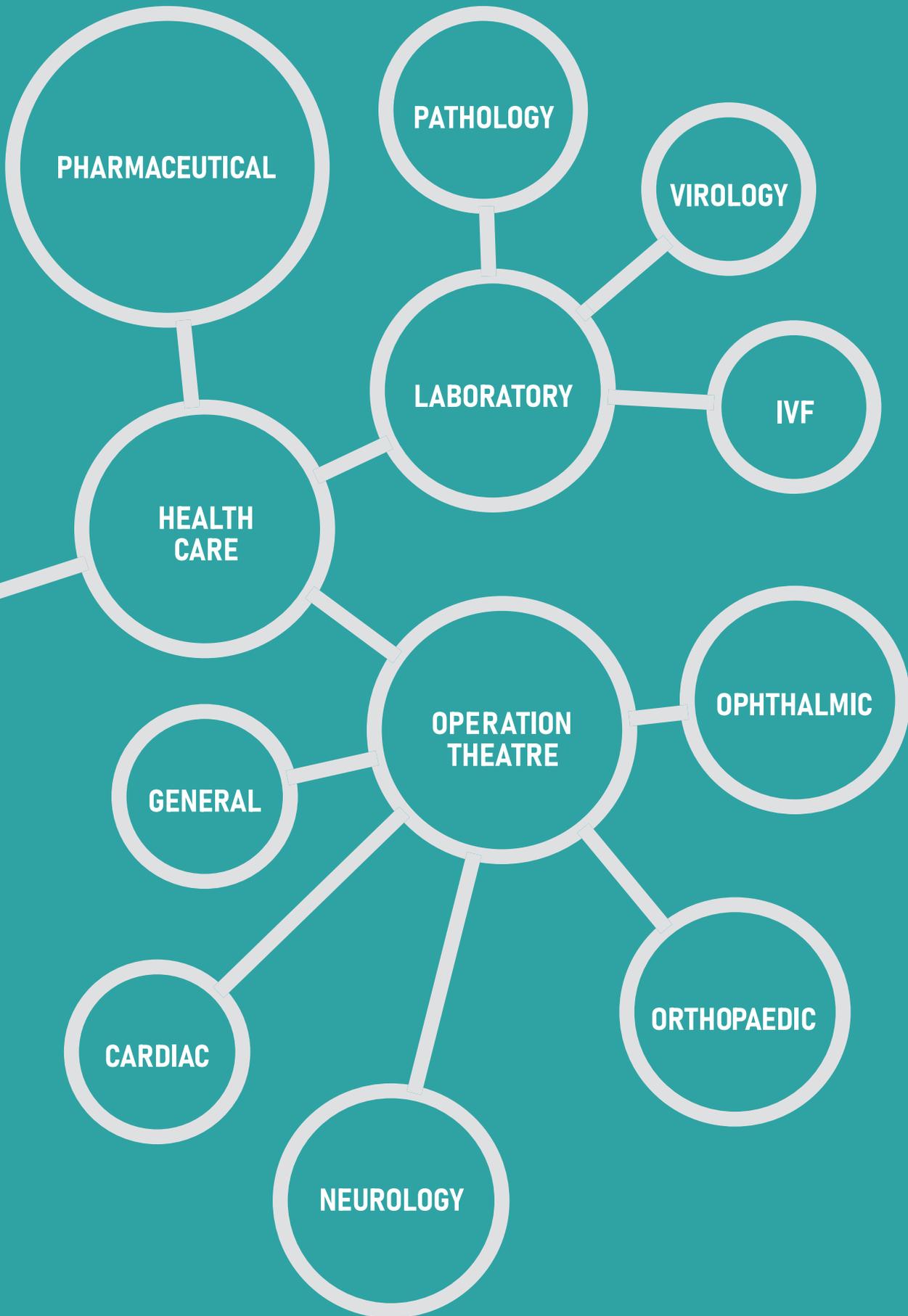
2020

More than 7,500 clients throughout the country.



WHO NEEDS OUR TECHNOLOGY ?







**7500+
CLIENTS**

PHARMACEUTICALS

Lupin Ltd.
FDC Ltd.
Cipla Ltd.
Ranbaxy Laboratories Ltd.
Advinus Therapeutics Pvt. Ltd.
Ventri Biologicals
Serum Institute of India
Wockhardt Ltd.
Syngene International Ltd. (Biocon)
Geno Pharmaceuticals

GOVERNMENT HEALTH BODIES

National Institute of Virology
Indian Institute of Science
Centre for Cellular & Molecular Biology
National AIDS Research Institute
Indian Institute of Science Education & Research
Rajiv Gandhi Centre for Biotechnology
National Chemical Laboratory
National Centre for Cell Science
Central Institute of Medicinal & Aromatic Plants
Central Drug Research Institute
ICMR (Indian Council of Medical Research)
CSIR (Council of Scientific & Industrial Research)
ICAR (Indian Council of Agricultural Research)
HRD (Ministry of Human Resource Development)

HOSPITALS / MEDICAL INSTITUTES

Tata Memorial Hospital
 Christian Medical College
 J. J. Hospital
 P. G. Institute of Medical Education & Research (PGIMER)
 Poona Hospital & Research Centre
 B. J. Medical College
 Jaslok Hospital
 Bangalore Medical College
 KEM Hospital
 Grant Medical College
 Bombay Hospital
 Mahatma Gandhi Inst. of Medical Sciences
 Deenanath Mangeshkar Hospital
 Ruby Hall Clinic
 Sahyadri Group of Hospitals

UNIVERSITIES / AGRI

University of Mumbai
 University of Agricultural Science
 University of Pune
 Mahatma Phule Krishi Vidyapeeth
 Osmania University
 Gujarat Agriculture University
 Banaras Hindu University
 Dr. Punjabrao Deshmukh Krishi Vidyapeeth

OTHER ORGANIZATIONS

Bhabha Atomic Research Centre
 Britannia Industries Ltd.
 Indian Institute of Technology
 Florist De Kwakel B. V. (Holland)
 Tata Institute of Fundamental Research
 Quest Vitamins (U.K.)
 Schreiber Dynamix Dairies Ltd.
 Taj Exotica (Maldives)
 Nestle India Ltd.
 Badr Al Samaa Group of Hospitals (U.A.E.)
 Cadbury
 McDonald's

WHY DO YOU NEED A LAMINAR FLOW CABINET ?

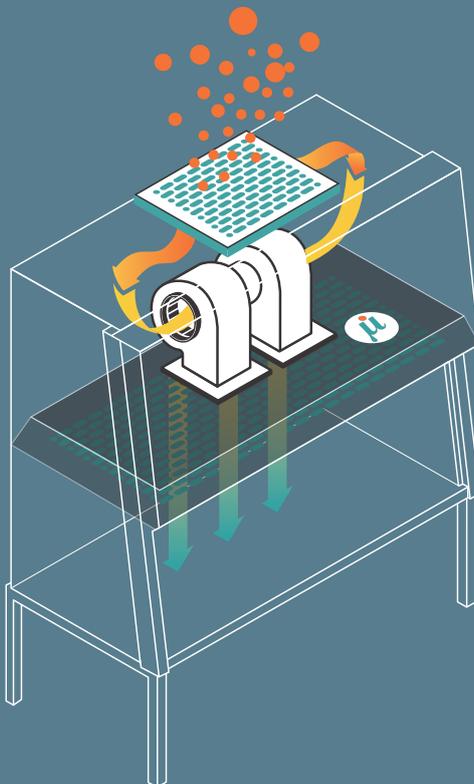
Laminar Flow Cabinets create particle-free working environment by projecting air through a filtration system and exhausting it across a work surface in a laminar or uni-directional airflow. They provide an excellent clean air environment for a number of laboratory requirements & sterile applications.

CHOOSE THE RIGHT LAMINAR FLOW CABINET

PROS

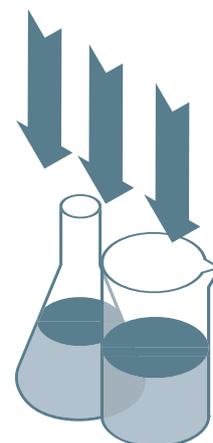
- * Hood not as deep: requires less floor space.
- * Suitable for compounding sterile products.
- * Safety. Air not blowing directly at the operator, and sash provides a barrier in front of the operator's face.
- * Less turbulent effect from air striking large objects or processing equipment.
- * Less cross-contamination of items positioned on the work surface.

VERTICAL LAMINAR FLOW



CONS

- * Filter change or service usually requires repositioning hood for rear access.
- * Overhead clearance requirement; changing filters or servicing unit may require a step-ladder.
- * Cannot place items or hands, on top of other items: As it obstructs airflow.



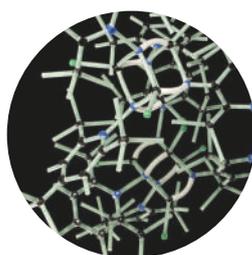
APPLICATIONS



Microbiology



Biotechnology



Forensic Science



Nuclear Science



Electronic & Chemical Industries

COMMON POINTS TO REMEMBER

1

Horizontal and Vertical Laminar Airflow Cabinets are not Bio Safety Cabinets. Neither Vertical nor Horizontal Laminar Airflow Cabinets are recommended for handling bio-hazard or infectious substances.

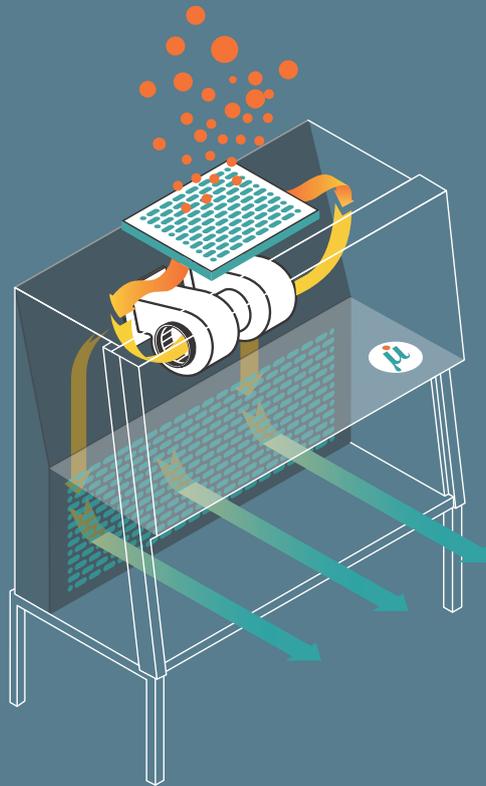
2

Laminar Flow Cabinets are configured to protect work on the work surface. They do not protect the operator as the airflow pushes aerosols or particulates from the work surface towards the operator.

PROS

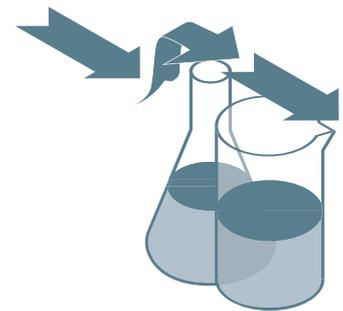
- * Reduced turbulent effect of air striking work surface.
- * Sash is provided: easier to work and position equipment, but air blows directly on the operator.
- * Hands and gloves are generally less contaminated since they are in the downstream of the sample.

HORIZONTAL LAMINAR FLOW



CONS

- * Filter change or service usually requires repositioning hood for rear access.
- * Blows fumes and/or powders on the operator's face.
- * Large samples obstruct laminar airflow. May also contaminate downstream samples.



APPLICATIONS



Plant Tissue Culture



Media Plate Preparation



Pharmaceutical Drug Preparation



Food and Beverages



Medical Device Assembly

3

But which direction is better: Vertical airflow or Horizontal airflow? There are compelling reasons to choose either airflow system such as clearance requirements, process location, work surface design, and operator safety.

4

Laminar Flow Systems are purely dependent on the specific needs as well as the different levels of protection needed.

5

Laminar Flow Cabinets can be tailor-made to the specific requirements of the laboratory and are also ideal for general lab work, especially in the medical, pharmaceutical, electronic & industrial sectors.

VERTICAL LAMINAR FLOW CABINET

The Vertical Laminar Airflow provides product protection within the work area, which is confined by Stainless Steel grade 304 side panels and front sliding sash.

providing a stream of clean air within the work area of the cabinet. This removes all contaminated air from the interior.

Room air is taken in from the top of the cabinet through a Pre-filter with 90% efficiency which traps particles of 10µ and above. Air is spread evenly across the HEPA filter, thereby

Perforated Stainless Steel diffuser screen, protects the HEPA filter and maintains uniform airflow velocity within the work area. Easy disassembly for access through a small door.



1 MATERIAL
 Anti Microbial Powder Coated (60-80µ) Galvanized Iron Sheet with Epoxy Polyester Thermosetting Sheet
OR
 Stainless Steel grade 304 1.2 mm.

2 PRESSURE GAUGE
 Minihelic Gauge
 (Dwyer / Aerosense make)
 Made in USA

3 MAX. WORK AREA
 Maximum coverage for easier hand movements inside the cabinet. The unit has a 10° slope for operator's comfort.

4 GAS AND VACUUM COCK
 (Optional)

5 FEATHER TOUCH
 Feather Touch Microprocessor Controller

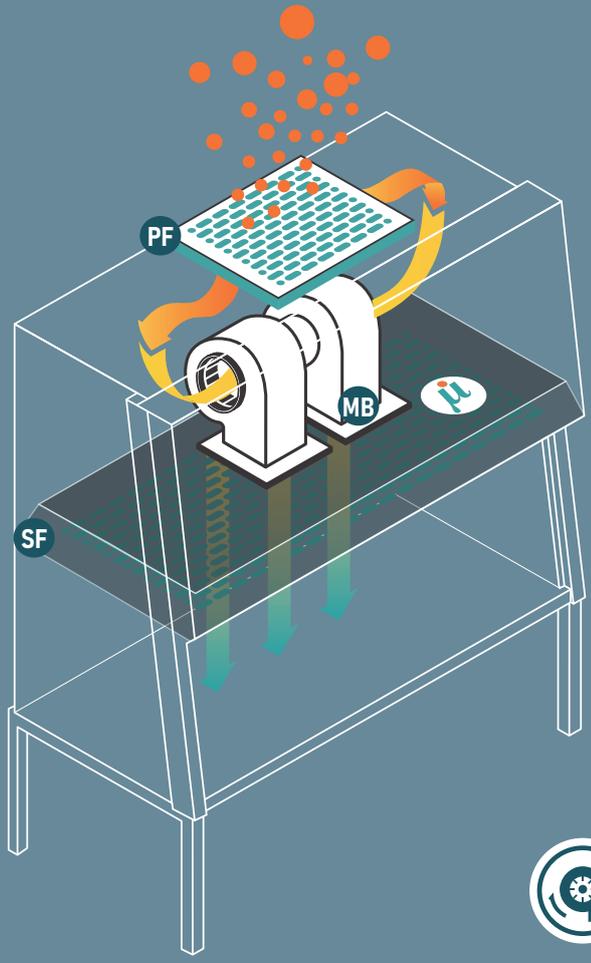


TOUCH SCREEN CONTROL

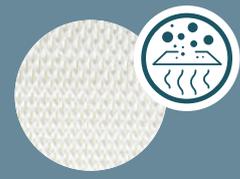
- Digital Pressure Gauge
- Rated filter life indicator
- Timer for UV light
- UV Lamp hour meter
- Interlock UV and light switch

(OPTIONAL)

2X STAGE FILTRATION



PRE-FILTER PF
10 μ with efficiency of 90%
(washable HDPE media with FRP PU / SS 304 frame)



SUPPLY FILTER SF
Mini Pleat HEPA Filter Efficiency 99.999% @ 0.3 μ m (H-14)
High Efficiency Particulate Air

(AAF India Ltd.)
As per IEST - RP - CC002.4



MOTOR BLOWER ASSEMBLY MB
Variable speed motor



CLEANLINESS
ISO Standard 14644- 1 Class 5



FRONT SASH
Sliding 6mm frameless glass sash.
(Optional: Motorized Automatic Sliding Sash)



NOISE LEVEL
Less than 60 Db at 1 Meter from the face of the filter



AIR VELOCITY
90FPM at 6" from face of the filter +/- 20 Feet Per Minute

VERTICAL LAMINAR MODELS (MFI V)	2'x2'			3'x2'			4'x2'			6'x2'		
	L	B	H	L	B	H	L	B	H	L	B	H
Internal Dimensions (mm)	705	630	610	1010	630	610	1315	630	610	1925	630	610
External Dimensions (mm)	825	740	2025	1130	740	2025	1435	740	2025	2045	740	2025
Shipping Size (mm)	890	895	1550	1195	895	1550	1500	895	1550	2110	895	1550
Net Unit Weight (kg)	155			210			230			325		
Gross Packing Weight (kg)	195			280			300			410		

Tolerance +/- 5mm

Ultra Violet Lighting	1.5 ft length G15T8 15 Watt "Sankyo Denki/Philips" make	3 ft length G30T8 30 Watt "Sankyo Denki/Philips" make
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HORIZONTAL LAMINAR FLOW CABINET

The Horizontal Laminar airflow provides product protection within the work area, which is confined by Stainless Steel grade 304 side panels and front sliding sash.

Room air is taken in from the top of the cabinet through a Pre-Filter with 90% efficiency which traps particles of 10µ and above. Air is spread evenly across the HEPA filter, thereby providing a stream of clean air with

in the work area of the cabinet. This removes all contaminated air from the interior.

Perforated Stainless Steel diffuser screen protects the HEPA filter and maintains uniform airflow velocity within the work area. Easy disassembly for access through a small door.



1 MATERIAL


Anti Microbial Powder Coated (60-80µ) Galvanized Iron Sheet with Epoxy Polyester Thermosetting Sheet
OR
 Stainless Steel grade 304 1.2 m.

2 PRESSURE GAUGE


Minihelic Gauge (Dwyer / Aerosense make)
 Made in USA

3 MAX. WORK AREA


Maximum coverage for easier hand movements inside the cabinet. The unit has a 10° slope for operator's comfort.

4 GAS AND VACUUM COCK


(Optional)

5 FEATHER TOUCH


Feather Touch Microprocessor Controller

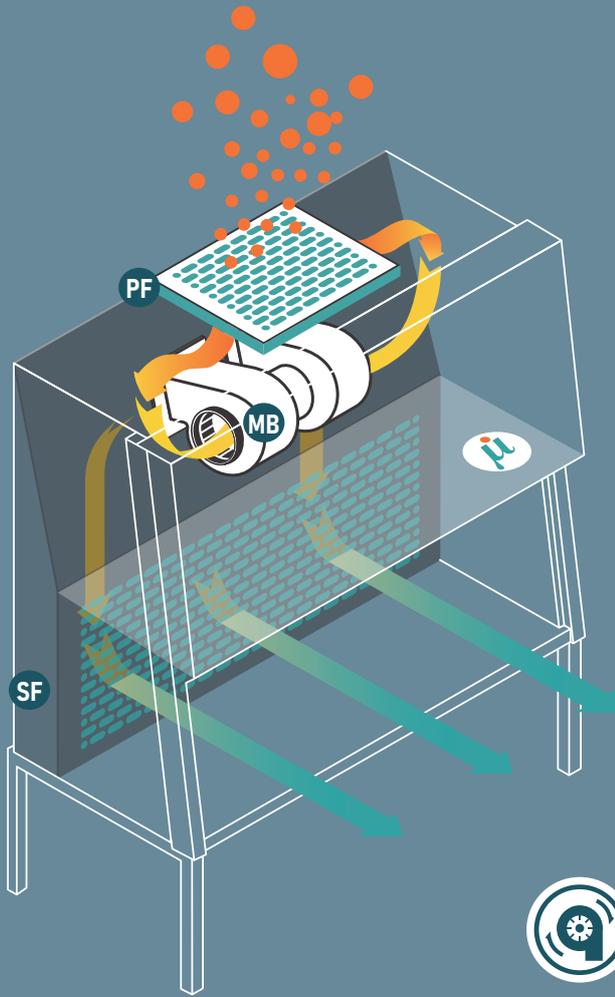


(OPTIONAL)

TOUCH SCREEN CONTROL

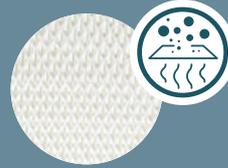
- Digital Pressure Gauge
- Rated filter life indicator
- Timer for UV light
- UV Lamp hour meter
- Interlock UV and light switch

2X STAGE FILTRATION



PRE-FILTER PF

10 μ with efficiency of 90%
(washable HDPE media with FRP
PU / SS 304 frame)



SUPPLY FILTER SF

Mini Pleat HEPA Filter Efficiency
99.999% @ 0.3 μ m (H-14)
High Efficiency Particulate Air

(AAF India Ltd.)
As per IEST - RP - CC002.4



MOTOR BLOWER ASSEMBLY MB

Variable speed motor



CLEANLINESS

ISO Standard 14644- 1 Class 5



FRONT SASH

Sliding 6mm frameless
glass sash.
(Optional: Motorized
Automatic Sliding Sash)



NOISE LEVEL

Less than 60 Db at 1 Meter
from the face of the filter



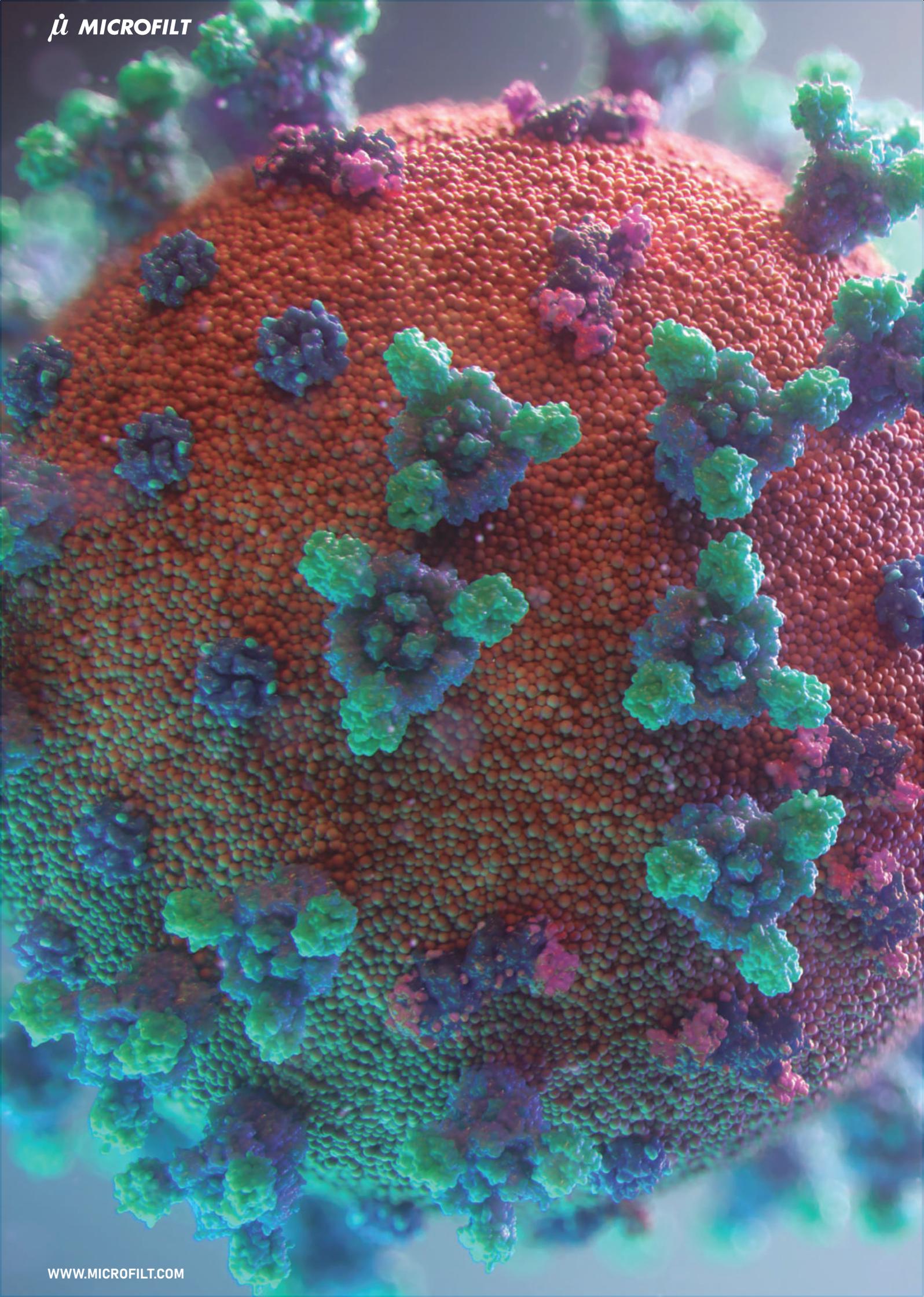
AIR VELOCITY

90FPM at 6" from face of the
filter +/- 20 Feet Per Minute

HORIZONTAL LAMINAR MODELS (MFI H)	2'x2'			3'x2'			4'x2'			6'x2'		
	L	B	H	L	B	H	L	B	H	L	B	H
Internal Dimensions (mm)	705	560	610	1010	560	610	1315	560	610	1925	560	610
External Dimensions (mm)	825	740	2025	1130	740	2025	1435	740	2025	2045	740	2025
Shipping Size (mm)	890	895	1550	1195	895	1550	1500	895	1550	2110	895	1550
Net Unit Weight (kg)	155			205			220			315		
Gross Packing Weight (kg)	195			260			285			395		

Tolerance +/- 5mm

Ultra Violet Lighting	1.5 ft length G15T8 15 Watt "Sankyo Denki/Philips" make	3 ft length G30T8 30 Watt "Sankyo Denki/Philips" make
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WHY DO YOU NEED A BIOSAFETY CABINET ?

Biosafety cabinets are an absolute necessity to provide a personal, product and environment protection when appropriate practices and procedures are followed while handling biohazardous substances.

It has vertical downflow to create a barrier to airborne particles and micro-organisms. Ultra-Low Particulate Air (ULPA) filters are used to provide clean air in the work area as well as to the environment through the exhaust HEPA/ULPA filter. The air in the cabinet is re-circulated over the work area through the HEPA/ULPA filter.

Classification of Risk Groups (RG) and Biosafety Levels (BSL)

Following risk groups & biosafety levels can help you to select the right Biosafety Cabinet

	Risk to Individual, Human	Risk to Community, Environment	Description	
	No or Low	No or Low	A micro-organism that is unlikely to cause human or animal disease.	
	Moderate	Low	A pathogen that can cause human or animal disease but is unlikely to be a serious hazard to the environment. Laboratory exposure may cause serious infection but effective treatment and preventive measures are available.	
	High	Low	A pathogen that usually causes serious human or animal disease but does not ordinarily spread from one infected individual to another. Effective treatment and preventive measures are available.	
	High	High	A pathogen that usually causes serious human or animal disease and that can be readily transmitted from one individual to another. Effective treatment and preventive measures are not usually available.	

Classification of Biosafety Cabinets

		CLASS I	CLASS II				CLASS III
			TYPE A1	TYPE A2	TYPE B1	TYPE B2	
Front (Open/Closed)		Open	Open				Closed
Protection	Human	✓	✓				✓
	Environment	✓	✓				✓
	Product	✗	✓				✓
	Radionuclides/ Toxic Chemicals	✗	✗	✗	✓*	✓	✓
Supply Filter		-	ULPA filter				HEPA filter
Exhaust Filter		HEPA filter	ULPA filter		HEPA filter		2× HEPA filter
Surrounding Plenum		Negative	Positive	Negative	Negative		Negative
Exhaust %		100%	30%		70%	100%	100%
Bio - Safety Level		BSL-1, BSL- 2, BSL-3	BSL-1, BSL- 2, BSL-3				BSL-1, BSL- 2, BSL-3, BSL-4

* - (Low Levels/ Volatility)

Biosafety Cabinets and Biosafety Levels

Each Biosafety Cabinet Classification can only handle certain Biosafety Levels. As shown below :-



CLASS II TYPE A1, A2

BSL-1

BSL-2

BSL-3

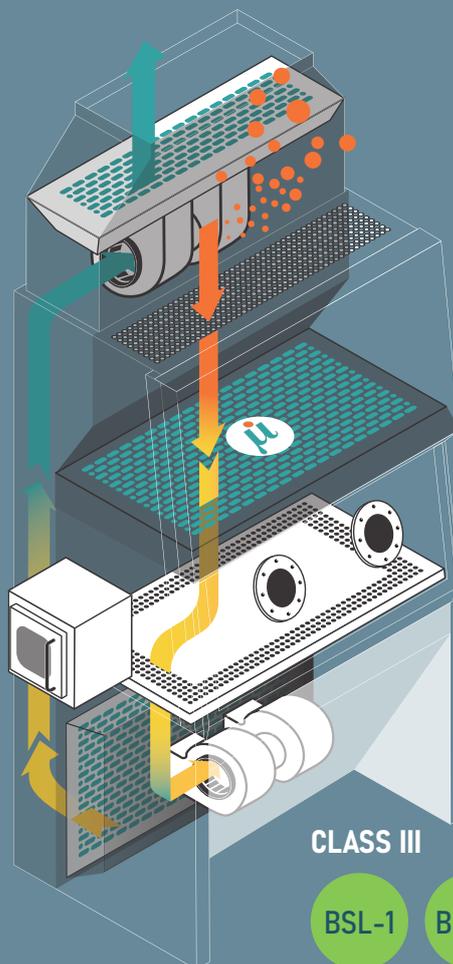


CLASS II TYPE B2

BSL-1

BSL-2

BSL-3



CLASS III

BSL-1

BSL-2

BSL-3

BSL-4

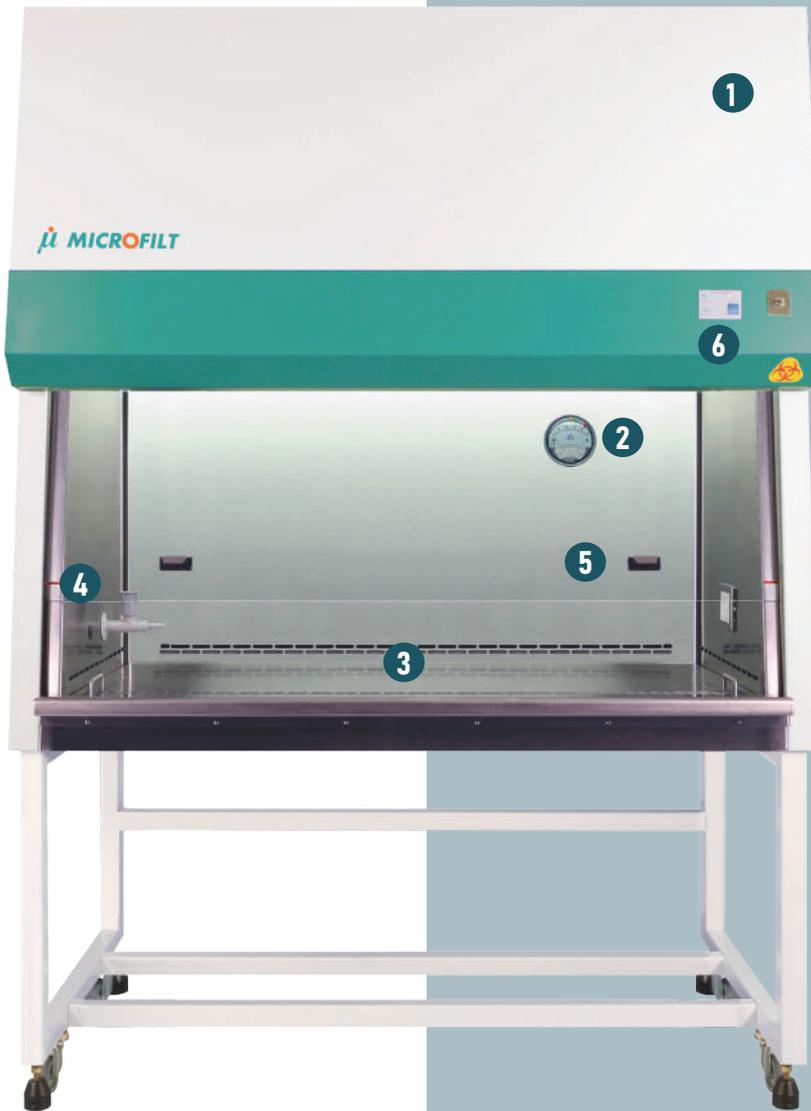
BIOSAFETY CABINET

CLASS II TYPE A1, A2

The Class II, Biological Safety Cabinet is an open-front ventilated cabinet.

This cabinet provides a ULPA-filtered re-circulated mass airflow within the workspace. The exhaust air from the cabinet is also filtered by an ULPA filter. Thus, the Class II biosafety cabinet protects the product as well as human beings and the environment.

While ULPA filters are effective for trapping particulates and infectious agents, it is suitable for the containment of biohazardous materials thereby providing a sterile environment for cell culture. Thus, a Class II cabinet is the most versatile and economical model.



1 MATERIAL
Anti Microbial Powder Coated (60-80µ) Galvanized Iron Sheet with Epoxy Polyester Thermosetting Sheet
OR
Stainless Steel grade 304 1.2 mm

2 PRESSURE GAUGE
Magnehelic Gauge (Dwyer / Aerosense make)
Made in U.S.A

3 MAX. WORK AREA
Maximum coverage for easier hand movements inside the cabinet. The unit has a 10° slope for operator's comfort.

4 GAS AND VACUUM COCK
Optional

5 FRONT SASH
Motorized automatic Sash. One piece full view frameless sliding toughened glass door 6mm thick.

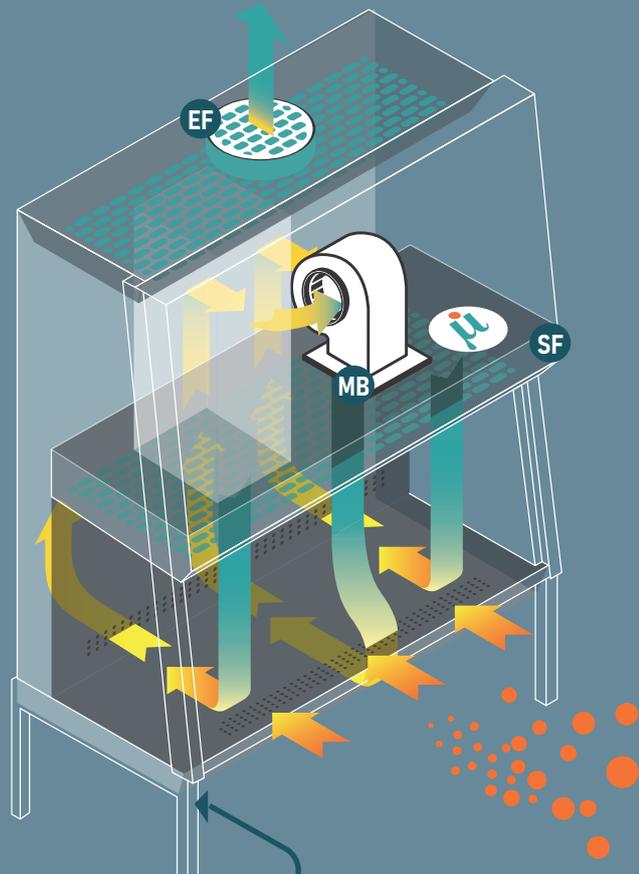
6 FEATHER TOUCH
Feather Touch Microprocessor Controller



(OPTIONAL)

TOUCH SCREEN CONTROL

- Exhaust Pressure
- Downflow Pressure
- Exhaust Velocity
- Downflow Velocity
- Rated filter life indicator
- Timer For UV light
- Interlock UV and light switch
- Temperature and Humidity Display



2X STAGE FILTRATION

SUPPLY FILTER (SF)
Mini Pleat ULPA Filter Efficiency 99.9995% @ 0.12 μ m (U-15)
Ultra Low Particulate Air

EXHAUST FILTER (EF)
Mini Pleat ULPA Filter Efficiency 99.9995% @ 0.12 μ m (U-15)
Ultra Low Particulate Air

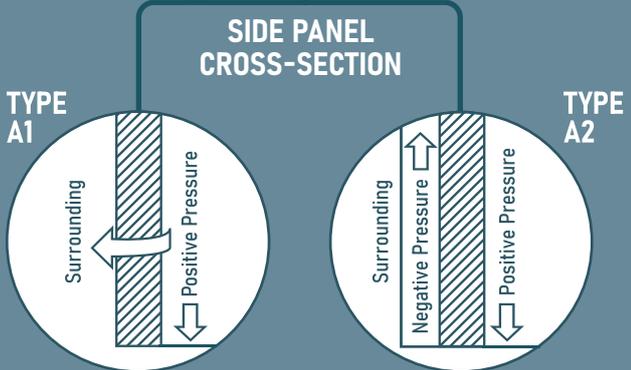
(AAF India Ltd)



CLEANLINESS
ISO Standard 14644- 1
Class 3



MOTOR BLOWER ASSEMBLY (MB)
Variable speed motor



TYPE A1
Due to positive air pressure from the work space, air can escape into the surroundings.

TYPE A2
Due to negative air pressure created in the double walled side panel, air does not escape into the surrounding.



NOISE LEVEL
Less than 60 Db at 1 Meter from the face of the filter



AIR VELOCITY
60FPM at 4" from face of the ULPA filter

BIO-SAFETY CLASS II TYPE A1, A2 (MFI BIO)	2x2			3x2			4x2			6x2		
	L	B	H	L	B	H	L	B	H	L	B	H
Internal Dimensions (mm)	630	600	650	935	600	650	1235	600	650	1845	600	650
External Dimensions (mm)	800	800	2220	1100	800	2220	1400	800	2220	2010	800	2220
Shipping Size (mm)	889	915	1730	1168	915	1730	1473	915	1730	2057	915	1730
Net Unit Weight (kg)	200			230			280			325		
Gross Packing Weight (kg)	260			315			370			410		

Tolerance +/- 5mm

Ultra Violet Lighting	1.5 ft length G15T8 15 Watt "Sankyo Denki/Philips" make	3 ft length G30T8 30 Watt "Sankyo Denki/Philips" make
Motor Blower Assembly	Godrej	Kruger

CE Approved

BIOSAFETY CABINET

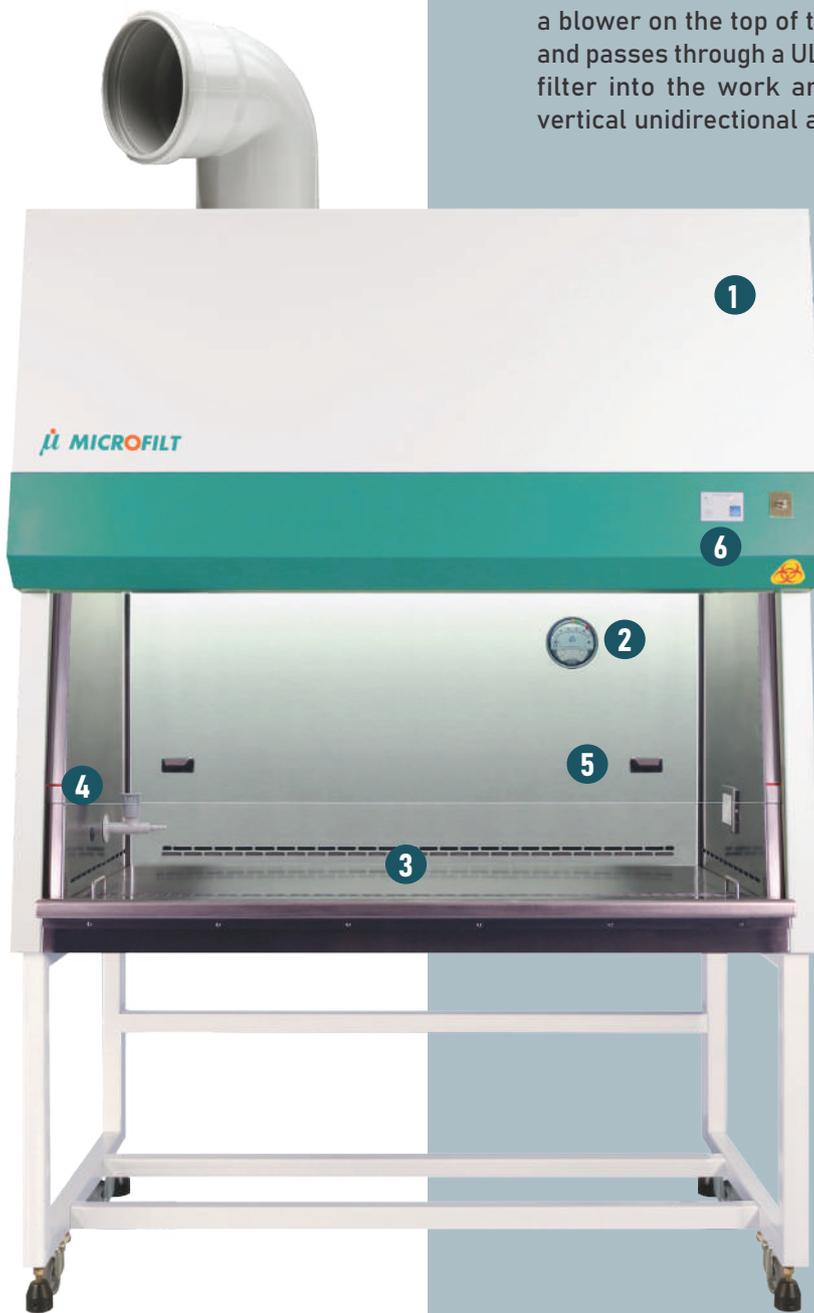
CLASS II TYPE B2

The Class II B2 cabinets are the total exhaust cabinets used in toxicology laboratories and similar applications where chemical efficiency is present and clean air is essential.

There is no recirculation within the cabinet. Room air enters through a blower on the top of the cabinet and passes through a ULPA supply filter into the work area as the vertical unidirectional airflow.

Descending air is pulled within the base of the cabinet through the perforated front and rear grill and exhausted immediately. 100% of air is pulled into the facility exhaust system for appropriate treatment.

Type B2 cabinets must be hard connected to an exhaust system and vented outside the building without recirculation.



1 MATERIAL
Anti Microbial Powder Coated (60-80µ) Galvanized Iron Sheet with Epoxy Polyester Thermosetting Sheet
OR
Stainless Steel grade 304 1.2 mm

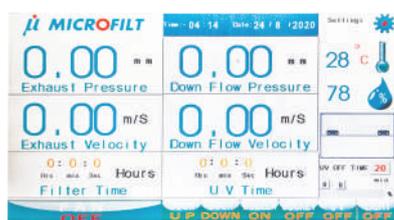
2 PRESSURE GAUGE
Magnehelic Gauge (Dwyer / Aerosense make) Made in U.S.A

3 MAX. WORK AREA
Maximum coverage for easier hand movements inside the cabinet. The unit has a 10° slope for operator's comfort.

4 GAS AND VACUUM COCK
Optional

5 FRONT SASH
Motorized automatic Sash. One piece full view frameless sliding toughened glass door 6mm thick.

6 FEATHER TOUCH
Feather Touch Microprocessor Controller

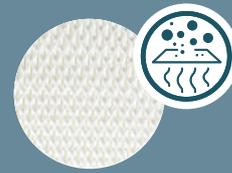
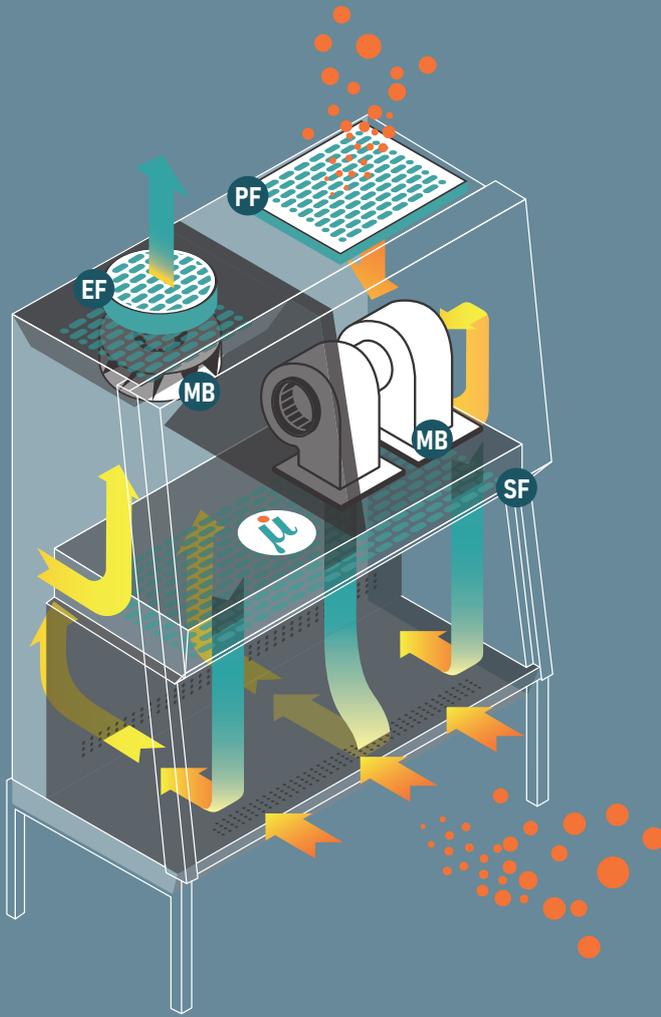


(OPTIONAL)

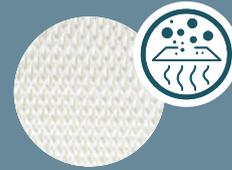
TOUCH SCREEN CONTROL

- Exhaust Pressure
- Downflow Pressure
- Exhaust Velocity
- Downflow Velocity
- Rated filter life indicator
- Timer For UV light
- Interlock UV and light switch
- Temperature and Humidity Display

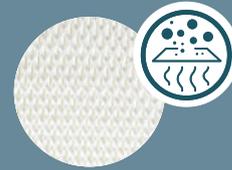
3X STAGE FILTRATION



PRE-FILTER PF
10 μ with efficiency of 90%
(washable HDPE media with FRP PU / SS 304 frame)



SUPPLY FILTER SF
Mini Pleat ULPA Filter Efficiency 99.9995% @ 0.12 μ m (U-15)
Ultra Low Particulate Air
(AAF India Ltd)



EXHAUST FILTER EF
Mini Pleat HEPA Filter Efficiency 99.999% @ 0.3 μ m (H-14)
High Efficiency Particulate Air
(AAF India Ltd.)



MOTOR BLOWER ASSEMBLY MB
Variable speed motor



CLEANLINESS
ISO Standard 14644-1 Class 3



AIR VELOCITY
60FPM at 4" from face of the ULPA filter



NOISE LEVEL
Less than 60 Db at 1 Meter from the face of the filter

BIO-SAFETY CLASS II TYPE B2 (MFI BIO)	3×2			4×2			6×2		
	L	B	H	L	B	H	L	B	H
Internal Dimensions (mm)	935	600	650	1235	600	650	1845	600	650
External Dimensions (mm)	1100	800	2525	1400	800	2525	2010	800	2525
Shipping Size (mm)	1168	915	1905	1473	915	1905	2057	915	1905
Net Unit Weight (kg)	250			300			345		
Gross Packing Weight (kg)	335			390			430		

Tolerance +/- 5mm

Ultra Violet Lighting	1.5 ft length G15T8 15 Watt "Sankyo Denki/Philips"	3 ft length G30T8 30 Watt "Sankyo Denki/Philips"
Motor Blower Assembly	Godrej	Kruger

CE Approved

BIOSAFETY CABINET

CLASS III

The Class III cabinet is a completely enclosed ventilated cabinet with an airtight construction. Operations within the Class III cabinet are through attached rubber gloves.

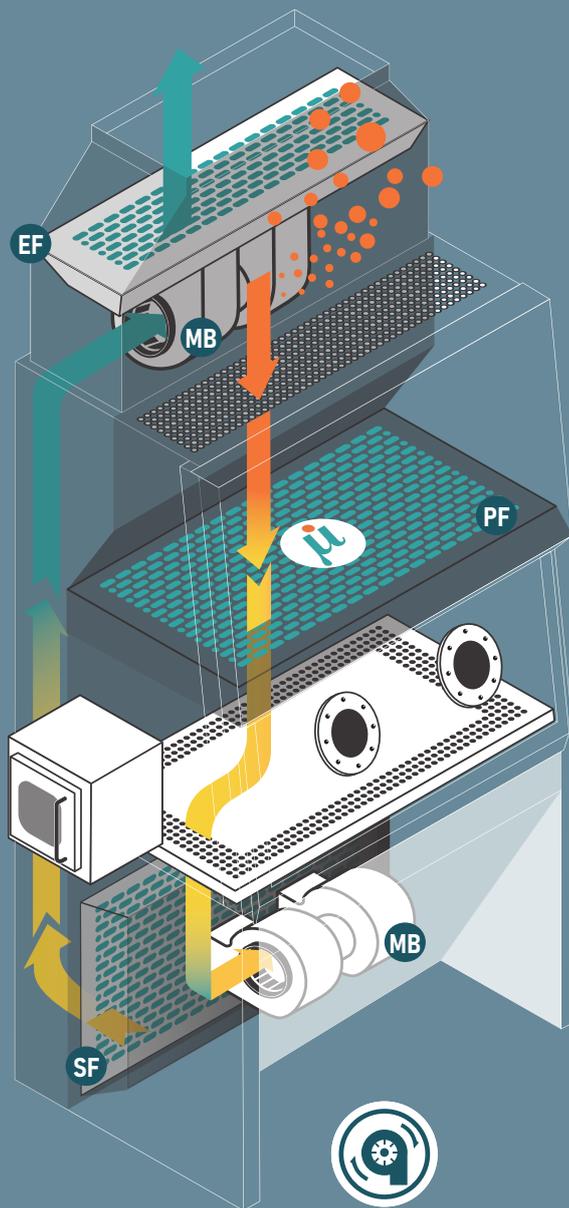
When in use, the Class III cabinet maintains negative air pressure. Supply air is drawn into the cabinet through the HEPA filter.

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.



- 1 MATERIAL**
Anti Microbial Powder Coated (60-80µ) Galvanized Iron Sheet with Epoxy Polyester Thermosetting Sheet
OR
Stainless Steel grade 304 1.2 mm
- 2 PRESSURE GAUGE**
Magnehelic Gauge (Dwyer / Aerosense make)
Made in U.S.A
- 3 FEATHER TOUCH**
Feather Touch Microprocessor Controller
- 4 MAX. WORK AREA**
Complete Stainless Steel grade 304 with rounded joint less corner
- 5 PASS BOX**
Stainless Steel grade 304
- 6 FRONT SASH**
Fixed 10mm Toughened glass door with two glove ports
- 7 GLOVE PORT**
High Performance Butyl Gloves



3X STAGE FILTRATION

PRE-FILTER PF
 10 μ with efficiency of 90%
 (washable HDPE media with FRP
 PU / SS 304 frame)

SUPPLY FILTER SF
 Mini Pleat HEPA Filter Efficiency
 99.999% @ 0.3 μ m (H-14)
 High Efficiency Particulate Air

EXHAUST FILTER EF
 Mini Pleat HEPA Filter Efficiency
 99.999% @ 0.3 μ m (H-14)
 High Efficiency Particulate Air

(AAF India Ltd.)



MOTOR BLOWER ASSEMBLY FOR SUPPLY AND EXHAUST MB
 Variable speed motor



CLEANLINESS
 ISO Standard 14644-1
 Class 5



NOISE LEVEL
 Less than 60 Db at 1 Meter
 from the face of the filter

BIO-SAFETY CLASS III	MFI 3x2 BIO CLASS III (GI)			MFI 4x2 BIO CLASS III (GI)			MFI 4x2 BIO CLASS III (SS)		
	L	B	H	L	B	H	L	B	H
Internal Dimensions (mm)	940	585	650	1245	585	650	1855	585	650
External Dimensions (mm)	1375	860	2450	1680	860	2450	2290	860	2450
Shipping Size (mm)	1435	915	2500	1730	915	2500	2350	915	2500
Net Unit Weight (kg)		310			375			425	
Gross Packing Weight (kg)		400			450			500	

Tolerance +/- 5mm

CE Approved

BIOSAFETY COVID-19 TESTING BOOTH

COVID-19 Testing Booth is an enclosed ventilated cabinet with an airtight construction. Cabinet maintains positive air pressure inside and keeps away contaminants from entering inside. Supply air is drawn into the cabinet through the pre-filter & HEPA filter.

This can be used to take samples of any infectious unidentified pathogens or viruses. This booth mainly protects the health worker.



SAVE PPE

Save valuable PPE while protecting the provider during COVID-19 Rapid Testing. No need to remove PPE between patients



SAFETY & CONVENIENCE

Convenient Walk-in Design. Protects the provider from contamination



UV LAMP × 2

2X Filtration with 2X UV Lamp. Positive pressure keeps contaminants out



GLOVE PORT

Chemical and puncture resistant Gloves. Elastomer seals to provide tight seal.



LED LAMP

LED Lighting



USABILITY

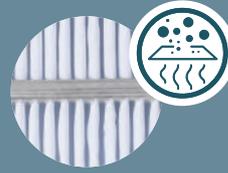
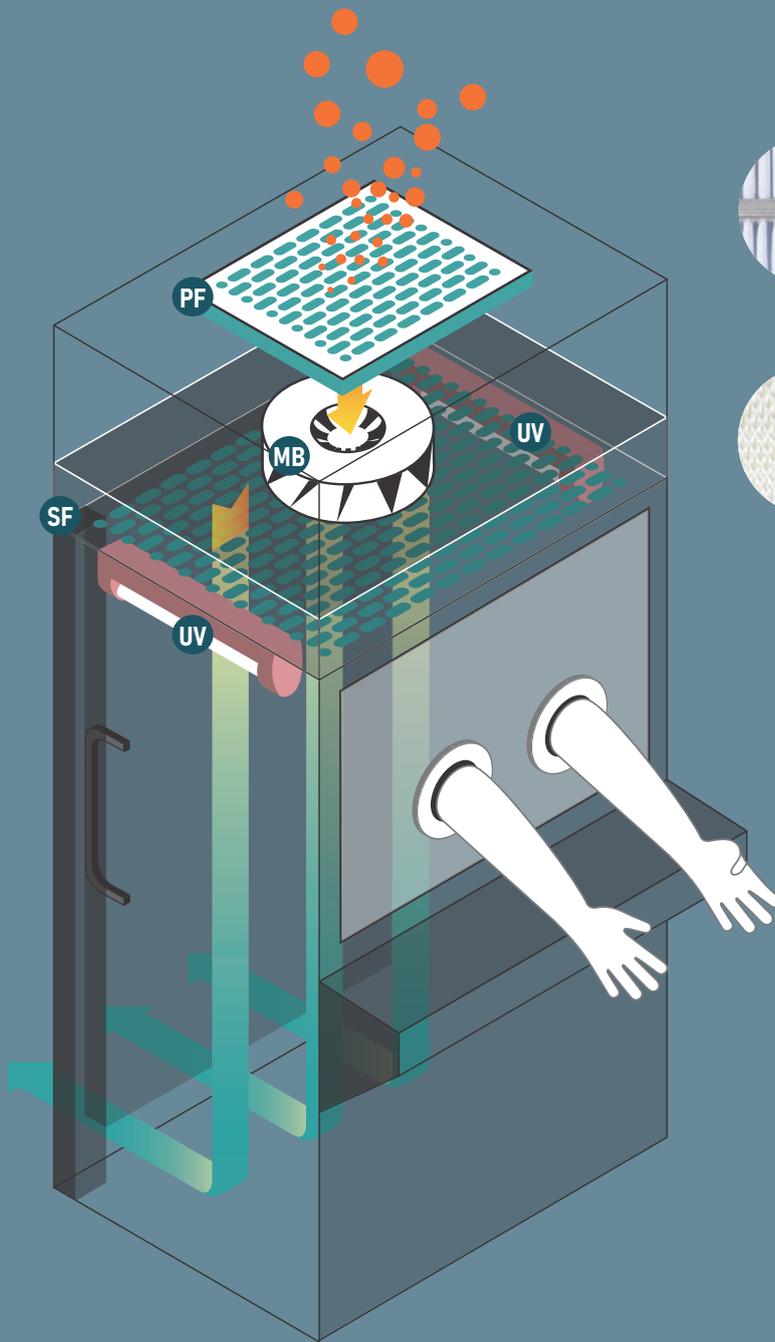
Indoor and outdoor usage



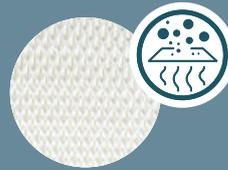
SIDE TABLES

Two side tables for glove disinfectant

2X STAGE FILTRATION



PRE-FILTER PF
10 μ with efficiency of 90%
(washable HDPE media with FRP PU / SS 304 frame)



SUPPLY FILTER SF
Mini Pleat HEPA Filter Efficiency 99.999% @ 0.3 μ m (H-14)
High Efficiency Particulate Air

(AAF India Ltd.)



UV LAMP UV
2X Filtration with 2X UV Lamp.
Positive pressure keeps contaminants out



MOTOR BLOWER ASSEMBLY MB
Variable speed motor

BIOSAFETY COVID-19 TESTING BOOTH	L	B	H
External Dimensions (mm)	1000	1000	2000
Net Unit Weight (kg)		150	
Gross Packing Weight (kg)		185	

Tolerance +/- 5mm

CE Approved



IVF LAMINAR FLOW

The MicroFilt India make IVF workstation is specially designed for use in fertility laboratories for research work in the fields of human and animal reproduction.

A controlled work environment is of high priority due to the complexity of the process, which requires hygienic conditions. To minimize microbial contamination, a warmed temperature controlled work surface is provided for the sustenance of biological matter. Provision for the use of a microscope is made with a laser-cut tabletop.

Air is taken in from above the workstation and passed through a HEPA filter through the front opening.

- 1 MATERIAL**
 Anti Microbial Powder Coated (60-80µ) Galvanized Iron Sheet with Epoxy Polyester Thermosetting Sheet OR Stainless Steel grade 304 1.2 mm
- 2 TEMP CONTROLLED AREA**
 2mm Stainless Steel grade 304 Temperature consistency of 37°C
A. Under Microscope
B. Near Incubator
C. Open Area
- 3 PRESSURE GAUGE**
 Minihelic Gauge
- 4 SIDE PANELS**
 6mm Float Glass in Powder Coated Channels on 2 sides
- 5 SPEED CONTROLLER**
 Variable
- 6 UV LAMP**
 3 feet length 30 Watt "Sankyo Denki" Japan Make (Optional)
- 7 MICROSCOPE**
 Integrated Nikon Olympus
- GAS AND VACUUM COCK**
 (Optional)



CLEANLINESS

ISO Class 5 / As per IEST -RP-CC002.2



AIR VELOCITY

100FPM at 6" from face of the filter +/- 20 Feet Per Minute



NOISE LEVEL

Less than 60 Db at 1 Meter from the face of the filter



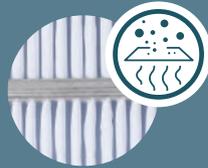
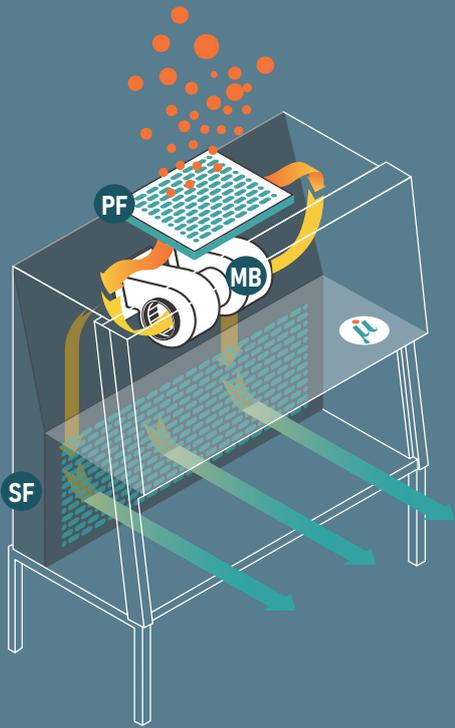
INTEGRATED SYSTEM

Has an easily accessible Control Panel. Most microscope can be incorporated on the table. The light base is mounted below the table plate transmitting light, ensuring smooth work flow.

IVF LAMINAR FLOW UNIT (MFI V IVF)	4x2		
	L	B	H
Internal Dimensions (mm)	1220	610	572
External Dimensions (mm)	1320	1015	1450

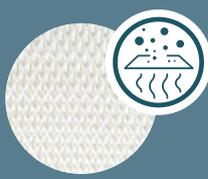
CE Approved

2X STAGE FILTRATION



PRE-FILTER PF

Top Loading Pre-filter
Pre = 10 μ with efficiency of 90%
(washable HDPE media with FRP PU / SS 304 frame)



SUPPLY FILTER SF

Mini Pleat HEPA Filter Efficiency 99.999% @ 0.3 μ m (H-14)
High Efficiency Particulate Air (AAF India Ltd.)
As per IEST - RP - CC002.4



MOTOR BLOWER ASSEMBLY MB

Variable speed motor



TENT LAMINAR FLOW

Tent Laminar Flow is a standalone structure made up of a tubular frame of Stainless Steel with the required size HEPA filter mounted on top of the frame. It provides sterile air in 'vertical downflow' direction, creating positive pressure inside the entire work zone.

Thus preventing outside air from entering the work zone. The tent could be covered with PVC curtains or glass, which prevents outside air from entering the work zone.

- 1

MATERIAL

Stainless Steel grade 304
1.2mm Thickness
- 2

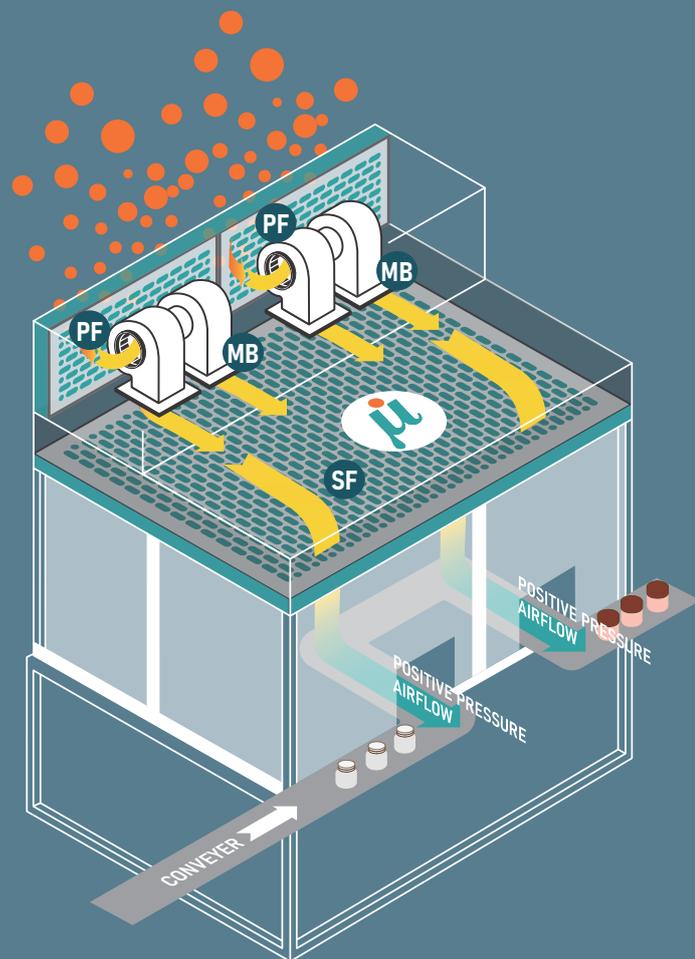
PRESSURE GAUGE

Magnehelic Gauge (Dywer make/Aerosense) Made in USA
- 3

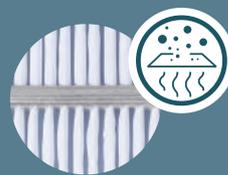
SPEED CONTROLLER

Microprocessor Control

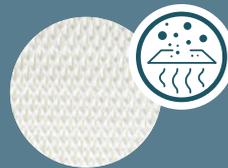
INTRODUCTION



2X STAGE FILTRATION



PRE-FILTER PF
10 μ with efficiency of 90%
(washable HDPE media with FRP PU / SS 304 frame)
- 4 No.



SUPPLY FILTER SF
Mini Pleat HEPA Filter Efficiency 99.999% @ 0.3 μ m (H-14)
High Efficiency Particulate Air (AAF India Ltd.)
As per IEST - RP - CC002.4



MOTOR BLOWER ASSEMBLY MB
"Godrej" variable speed motor mounted on PU coated FRP Blowers with Aluminium Impellers



CLEANLINESS
ISO Standard 14644-1-Class 5



AIR VELOCITY
90FPM at 6" from face of the filter
+/- 20 Feet Per Minute



NOISE LEVEL
Less than 60 Db at 1 Meter from the face of the filter

LAMINAR FLOW CABINETS

OTHER PRODUCTS

CASE STUDIES

APPLICATIONS

- * Dairy Products
- * Nuclear Sciences
- * Electronic Industry
- * Beauty & Health Care
- * Food Processing
- * Laser Optics

Dimensions (ft)

3x2 / 4x2 / 6x2 / 3x3 / 4x3 / 4x4 / 6x3 / 6x4 / 10x4 & Customised Sizes

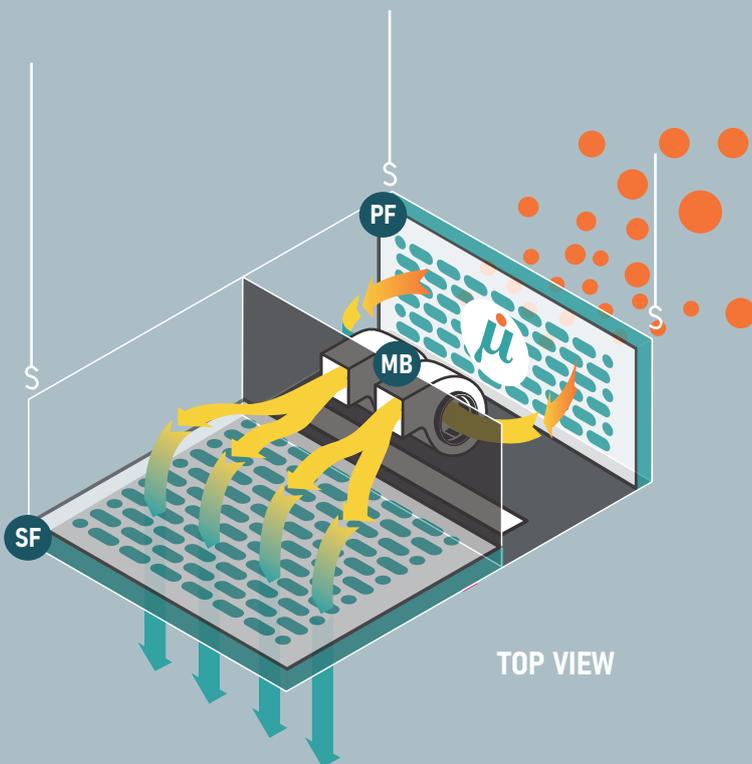


The Vertical Ceiling mounted Laminar Airflow is suspended from ceiling at a desired height from the floor.

APPLICATIONS

- * Pharmaceutical Industry
- * Nuclear Science
- * Food Processing

CEILING SUSPENDED LAMINAR FLOW UNIT



CLEANLINESS

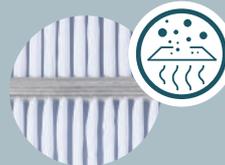
ISO Class 14644-5-1 Environment (Class 100 U.S Federal Standards 209) Within the work area which complies with the latest IEST recommended practices



AIR VELOCITY

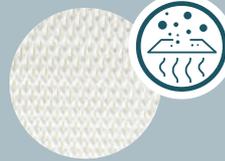
90FPM at 6" from face of the filter +/- 20 Feet Per Minute

2X STAGE FILTRATION



PRE-FILTER PF

10μ with efficiency of 90% (washable HDPE media with FRP PU / SS 304 frame)



MAIN-FILTER SF

Mini Pleat HEPA Filter Efficiency 99.999% @ 0.3μm (H-14) High Efficiency Particulate Air



MOTOR BLOWER ASSEMBLY MB

Direct Drive , Continuous duty 1 /4 HP with sealed bearings. It is mounted on Fibreglass Re-enforced Plastic (FRP) casing to reduce noise & vibration and is dynamically balanced. Noise Level 65 +/- 5Db

OPTIONAL

- * Pressure Gauge:
- * Magnehelic Gauge (Dywer/Aerosense)
- * UV Lamp
- * Vinyl Curtain

Dimensions (ft)

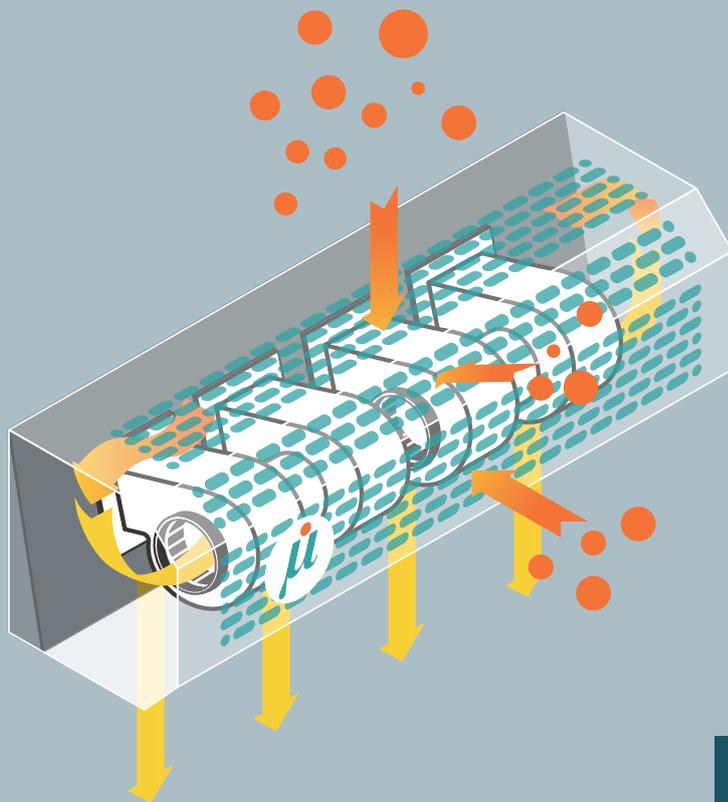
3x2 / 4x2 / 6x2 / 6x3 / 4x3 / 4x4 / 6x4 & Customised Sizes

CE Approved

AIR CURTAIN

An air curtain is a fan-powered device that creates an invisible air barrier over the doorway to separate efficiently two different environments, without limiting the access of the people or vehicles.

The energy-saving air screen reduces heating and cooling costs up to 80% while protecting the internal climate and increasing people's comfort. It keeps the atmosphere clean from pests and insects, dust, airborne pollution, smell, odour and stops cold or hot air entrances. The functioning of an air curtain is based on high-velocity jets.



MATERIAL
Stainless Steel 304 Matt Finish
1.2mm Thickness



WIND SPEED
10-12 m/s

AIR CURTAIN UNIT (MFI AC 1220)	4x2		
	L	B	H
Internal Dimensions (mm)	1220	300	300
External Dimensions (mm)	1220	325	325

REVERSE LAMINAR AIRFLOW BOOTH



It is also known as a Sampling or Dispensing Booth. It is used to control hazardous emissions of powder, dust, or vapour during Powder Dispensing, Drum Tipping and Product Sampling without risk to the operator or environment and are available in a wide modular range of sizes.



PRESSURE GAUGE

Magnehelic Differential Gauge



UV TUBE

Philips Make



WORK TABLE

(Optional)



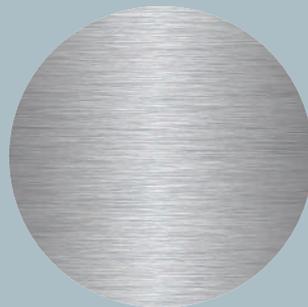
FLAME PROOF

Electrical Fitting (Optional)



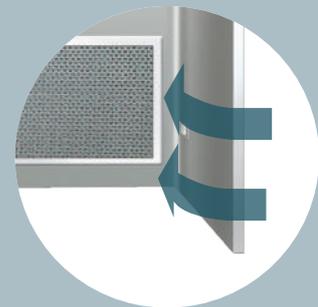
CURTAIN

A physical barrier like a flexible PVC strip curtain is provided. Downward airflow provides full protection to the operator and product.



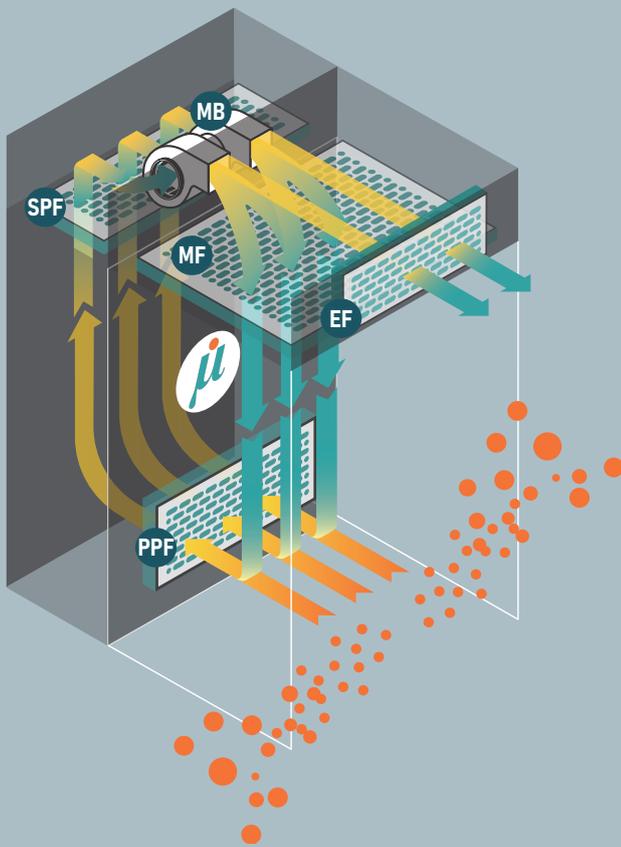
MATERIAL

AISI 304 Scotch Brite finished self-supporting structure, provided with rounded corners for easy cleaning.

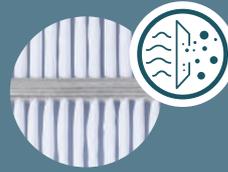


PLENUM

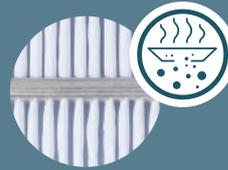
Designed in negative pressure to prevent escape and/or bypass of HEPA filter by contaminated air and/or dust.



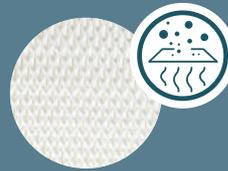
4X STAGE FILTRATION



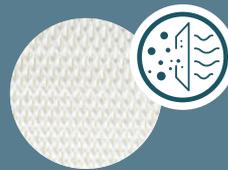
PRIMARY PRE-FILTER **PPF**
Washable type HDPE Pleated pre-filter with **80%** efficiency. EU4 rating



SECONDARY PRE-FILTER **SPF**
Washable type HDPE Pleated pre-filter with **90%** efficiency. EU4 rating



MAIN FILTER **MF**
Mini pleat HEPA Filter 0.3 μ with an efficiency of 99.999%, encased in Aluminium Frame.



EXHAUST FILTER **EF**
Mini pleat HEPA Filter 0.3 μ with an efficiency of 99.999%, encased in Aluminium Frame.

(AAF India Ltd.)
As per IEST - RP - CC002.4



CLEANLINESS
ISO 14644 Environment-1 Class 5



NOISE LEVEL
65 +/- 5Db measured from the face of the filter.



MOTOR BLOWER ASSEMBLY **MB**
Direct Drive, Continuous duty 1/4 HP with sealed bearings. It is mounted on FRP casing to reduce noise & vibration and is dynamically balanced.



AIR VELOCITY
90 FPM (0.45m/s) +/- 10 FPM (0.05m/s). Average Velocity measured in 6 inch. (152.4mm) from the diffuser screen. Uniformity +/- 20% of average or better.

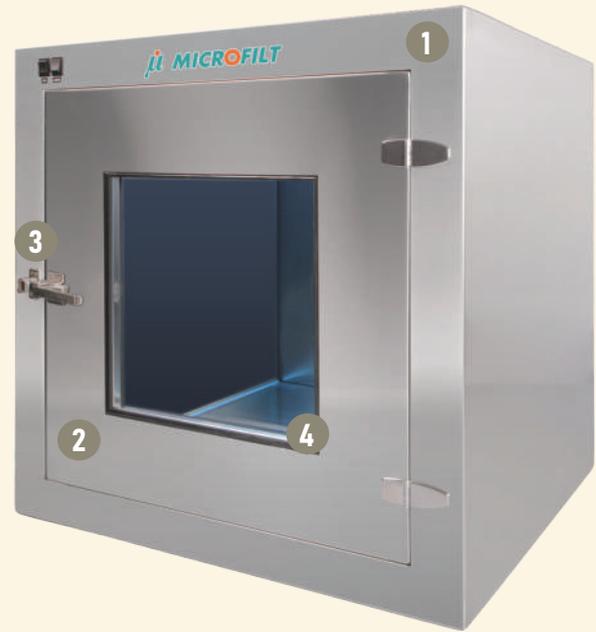
Dimensions (ft)
3x2 / 4x2 / 6x2 / 4x3 / 4x4 / 6x3 / 6x4 & customised sizes

CE Approved

STATIC PASS BOX

Personnel movement has to be controlled in sterile work zones to maintain sterility of the room. However to enable the smooth flow of material transfer and limit the personnel movement Pass Box is used.

The static pass box is fitted with a UV Lamp and Interlocking Doors. Interlocking Doors ensure that they cannot be opened at the same time.



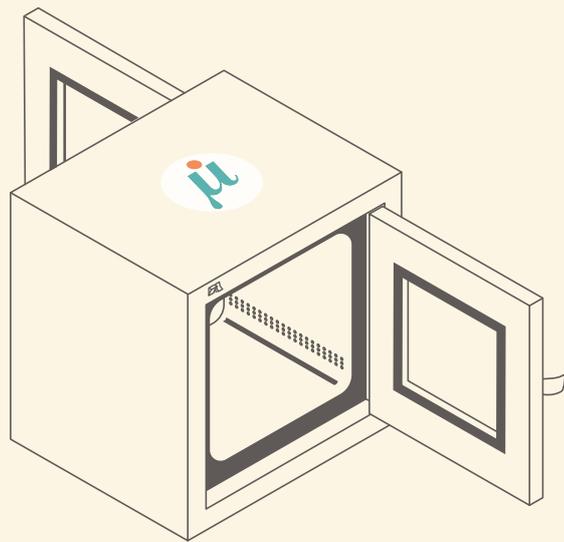
DYNAMIC PASS BOX

Dynamic Pass Box is also used to pass material between the less clean area to clean area.

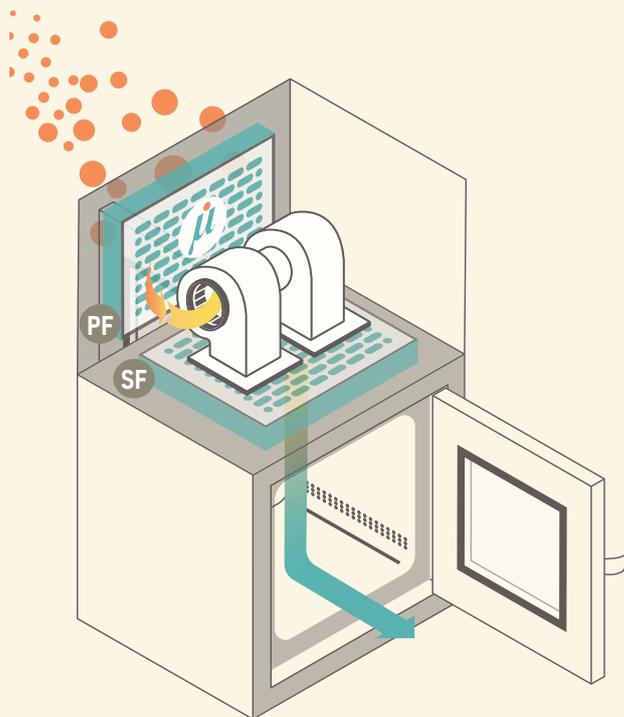
The difference between Static Pass Box and Dynamic Pass Box is that the air is recirculated through HEPA filter between the confined area.



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STATIC

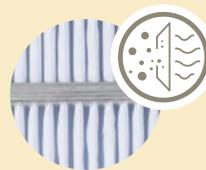


DYNAMIC

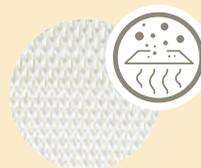
COMMON FEATURES

- 1 MATERIAL**
Stainless Steel grade 304 Mirror Finish 1.2mm Thickness
- 2 DOOR**
Double Skinned
- 3 INTERLOCKING SYSTEM**
Mechanical Type.
Both Doors cannot open at the same time.
- 4 SIDE PANEL**
6 mm thick float glass for each door. Double Wall Construction.
- UV TUBE**
1.5 feet length G15T8 15Watt "Sankyo Denki" Japan Make

2X STAGE FILTRATION FOR DYNAMIC PASS BOX



PRE-FILTER PF
(Only for Dynamic Pass Box)
10 μ with efficiency of 90%
(washable HDPE media with FRP PU / SS 304 frame)



SUPPLY FILTER SF
Mini Pleat HEPA Filter Efficiency 99.999% @ 0.3 μ m (H-14)
High Efficiency Particulate Air

(AAF India Ltd.)
As per IEST - RP - CC002.4

Dimensions (ft)
1.5x1.5, 2x2, 3x2, 3x2 & customised sizes

POSITIVE / NEGATIVE PRESSURE MODULE

The pressure module is designed to provide clean air in a small enclosure. These modules deliver filtered air to built up and maintain positive pressure in the sterile area. The positive pressure effect caused by the module ensures that the air movement is always outside and prevents the entry of contaminated air inside the sterile area.

Pressure modules are units with pre-filters & HEPA filter. It provides sterile air in the room. Desired ACH is calculated according to the room volume.

Lets take an example,

Room :- 10'x 10'x 10'
 Volume :- 1000 CFM (Cubic feet per minute)
 CFM = 1000x60 (Minutes to hour)
 CFH = 60,000

ACH = 60,000/1000
 = 60 Air changes per hour

(ACH = Air changes per hour)



MATERIAL

Anti Microbial Powder Coated (60-80µ) Galvanized Iron Sheet with Epoxy Polyester Thermosetting Sheet



CLEANLINESS

ISO Class 14644-5-1 Class 5 at inlet



NOISE LEVEL

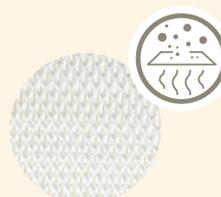
60 Db at 1 meter from the face of the filter

2X STAGE FILTRATION



PRE-FILTER

10µ with efficiency of 90% (washable HDPE media with FRP PU / SS 304 frame)



MAIN-FILTER

Mini Pleat HEPA Filter Efficiency 99.999% @ 0.3µm (H-14) High Efficiency Particulate Air

APPLICATION :-

Hospitals, IVF lab, Laboratories (where controlled environment is required)

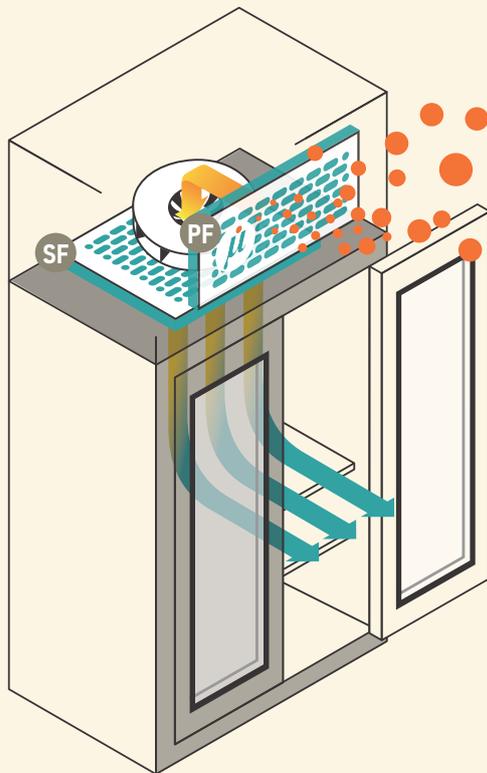
POSITIVE PRESSURE MODULE MODELS	CAPACITY
MFI PPM- 500	500 CFM
MFI PPM- 1000 CFM	1000 CFM
MFI PPM- 2000 CFM	2000 CFM
MFI PPM- 3000 CFM	3000 CFM

(AAF India Ltd.)
 As per IEST - RP - CC002.4

GARMENT CUBICLE

Garment Cubicle is designed to provide particle-free air to the storage area.

They discharge HEPA filtered air across the storage area. Air is sucked from the room through pre-filter and passed through HEPA Filter to give particle-free air to the storage area. They are used for garment storage. It is equipped with a UV lamp and heating element to maintain controlled temperature to restrict growth of bacteria.



Dimensions (ft) 3x2, 4x2



MATERIAL

All Stainless Steel grade 304 ensures a strong and easy to clean sterile work chamber.



PRESSURE GAUGE

Minihelic Gauge



TEMPERATURE CONTROL

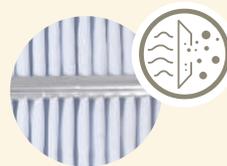
40-60° C temperature is maintained to keep the clothes warm.



UV LAMP

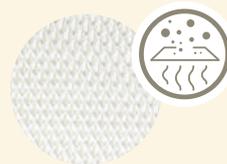
Philips Make

2X STAGE FILTRATION



PRE-FILTER PF

10 μ with efficiency of 90% (washable HDPE media with FRP PU / SS 304 frame)



SUPPLY FILTER SF

Mini Pleat HEPA Filter Efficiency 99.999% @ 0.3 μ m (H-14) High Efficiency Particulate Air

(AAF India Ltd.)

As per IEST - RP - CC002.4

AIR SHOWER

Air showers are specialised enclosed antechambers, which are incorporated as entryways of cleanrooms and other controlled environments to reduce particle contamination. Air showers utilize high-pressure, HEPA or ULPA-filtered air to remove dust, fibrous lint, and other contaminants from personnel or object surfaces. The forceful "cleansing" of surfaces before entering clean environments reduces the number of airborne particulates introduced.

When properly incorporated into cleanroom design, air showers provide an ISO classified transition vestibule to ensure the cleanliness of the classified cleanroom. Air showers are typically placed between a gowning area and cleanroom; after workers don appropriate garb and personal protective equipment, they enter the shower so that the pressurised air nozzles remove any residual particles from coveralls. Once the program cycle is complete, users exit out through a second door, into the cleanroom. Air showers may also be placed between cleanrooms of different ISO ratings.



MATERIAL

Stainless Steel grade 304
Mirror Finish 1mm thickness



EMERGENCY BUTTON

A single button for
all emergencies



DOOR

SUS frame with
half glass door



ADJUSTABLE TIMER

0 to 99 min



FANS

2 sets (0.75W 380V/50Hz)



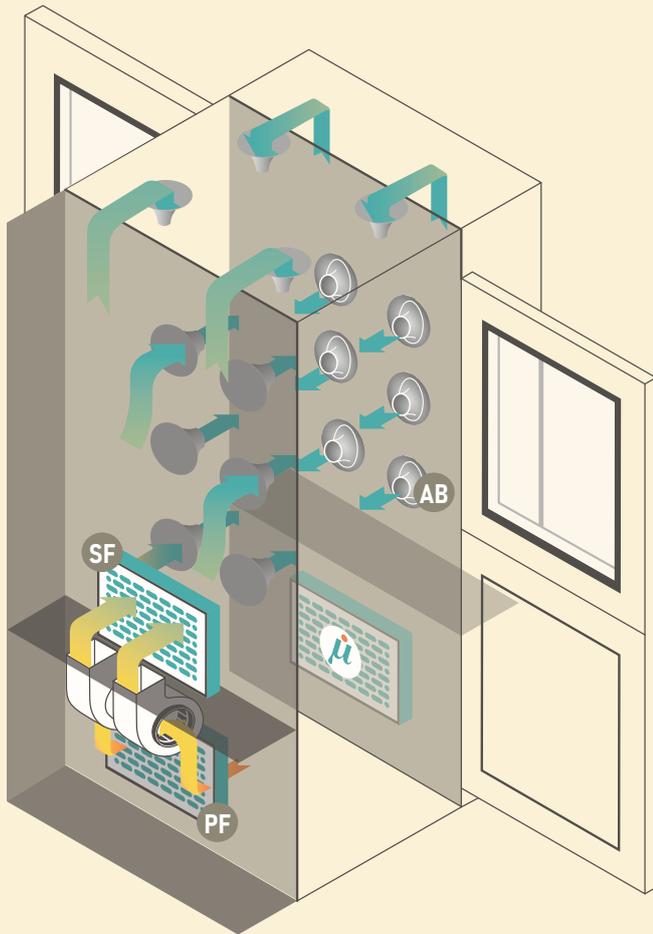
WIND SPEED

>22 m/s



NOISE LEVEL

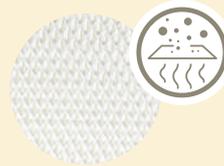
70 Db



2X STAGE FILTRATION



PRE-FILTER (PF)
10 μ with efficiency of 90%
(washable HDPE media with FRP
PU / SS 304 frame)



SUPPLY FILTER (SF)
Mini Pleat HEPA Filter Efficiency
99.999% @ 0.3 μ m (H-14)
High Efficiency Particulate Air

(AAF India Ltd.)
As per IEST - RP - CC002.4



AIR BLOWERS (AB)
3 sides with air blower.
Total = 16.

CONTROL SYSTEM



MICROPROCESSOR
Intelligent control board.



VOICE REMINDER
Artificial human voice
reminds each step



SENSORS AND RELAY
Omron infrared sensor and
Schneider electric relay



AIR SHOWER	MFI AS 1300M-1		
	L	B	H
Internal Dimensions (mm)	800	930	1910
External Dimensions (mm)	1300	1000	2180



CASE STUDIES





AMBASSADOR'S SKY CHEF



Vijay Parab
Lab Technician

"Giving the same consistent performance since 1987."



Ambassador's Sky Chef is the pioneer in the field of in-flight catering in India since 1942 to more than 50 international airlines. With such massive operations and advancements in the processes of cookery, Ambassador's Sky Chef has always kept abreast with the stringent international food safety standards.

In 1987, they introduced MicroFilt's Horizontal Laminar Flow cabinet in their food testing lab. Since then, each batch of food produced is tested under this Laminar flow cabinet. MicroFilt calibrates the Horizontal Laminar Flow every year for PAO Integrity Test and Particle Count Test.



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CHITALE



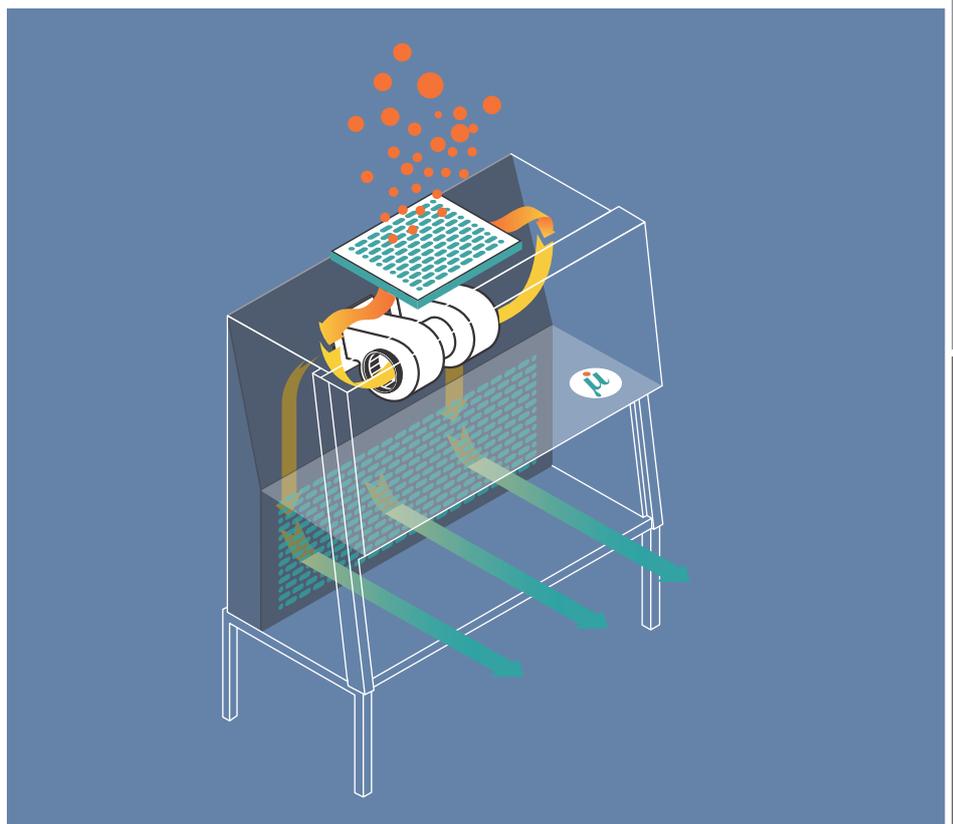
Dr. Omkar Shinde
Lab Technician

"We appreciate MicroFilt's durability and perfect performance."

Since its inception in 1939, the Chitale group has evolved as the most technologically advanced dairy plant in India with a processing capacity of 3 lakh litres of milk per day. Since then, Chitale's have diversified into different types of milk rated products and other savoury food items. Now Chitale has become a preferred and trusted brand of every household.

They have earned their reputation by delivering high quality and safe food products. And to deliver that quality they have adopted to the latest in technological trends.

MicroFilt has provided positive pressure modules for their cleanroom applications as well as Laminar flow Cabinets at the manufacturing facilities. Chitale has been using MicroFilt's products since 1997.



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VENKY'S



Dr. Santosh Deshpande
GM - Operations
Venkateshwara Hatcheries

"MicroFilt is one of the trusted partners of Ventri Biologicals for past 20 years"

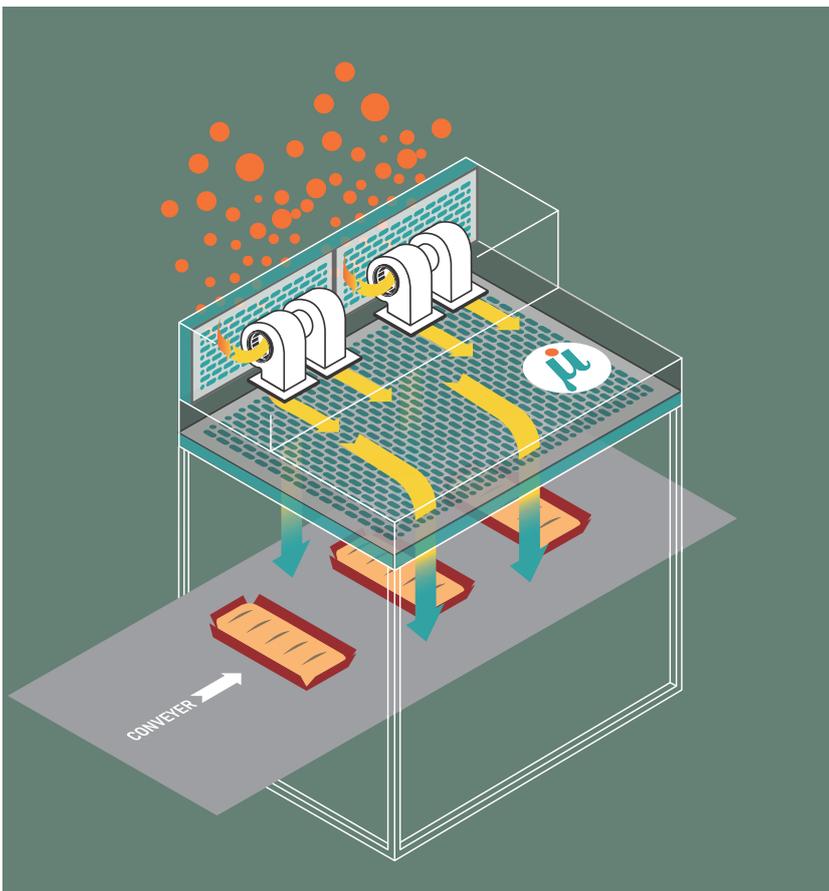
Venkateshwara Hatcheries is the father of the Poultry industry in India. Established in 1971, they have diversified into egg production, processing, broiler, and layer breeding. They have done phenomenal research in genetics, poultry disease diagnostics, poultry vaccines, and vaccine production. They have diversified into related fields of feed supplements, poultry equipment, nutritional health products & many more.

Labs have been the backbone of all the research activities at Venky's. Mainly vaccine manufacturing is an aseptic process and requires them to be carried out in a sterile environment. The most critical component of these operations is the classified areas where MicroFilt equipment has played a crucial role for Venky's.

Since the research in vaccines is a long process, Venky's has always partnered with technical experts from the respective fields with a long term vision. MicroFilt has been working with Venky's since 1990 and has so far installed more than 120 Laminar Flow units.



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BRITANNIA

Britannia Industries is one of India's leading food companies with a 100-year legacy and annual revenues over Rs. 9000Cr. Britannia is among the most trusted food brands and manufactures India's favourite brands like Good Day, Tiger, NutriChoice, Milk Bikis and Marie Gold which are household names in India. Britannia has been using MicroFilt's Laminar flow systems and cabinets since 1988. MicroFilt has provided its products at various Britannia's plants in India at Bangalore, Mundra, Ranjangaon & Mumbai.



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L'ORÉAL

L'Oréal is a French multinational personal care company headquartered in Paris. It is the world's largest cosmetics company and has developed activities in the field concentrating on hair colour, skincare, sun protection, make-up, perfume, and hair care.

One of L'Oréal's manufacturing facilities is located at Chakan, near Pune in India. MicroFilt has installed Reverse Laminar Flow and Laminar Flow Tents for their face cream and hair colour production facilities.

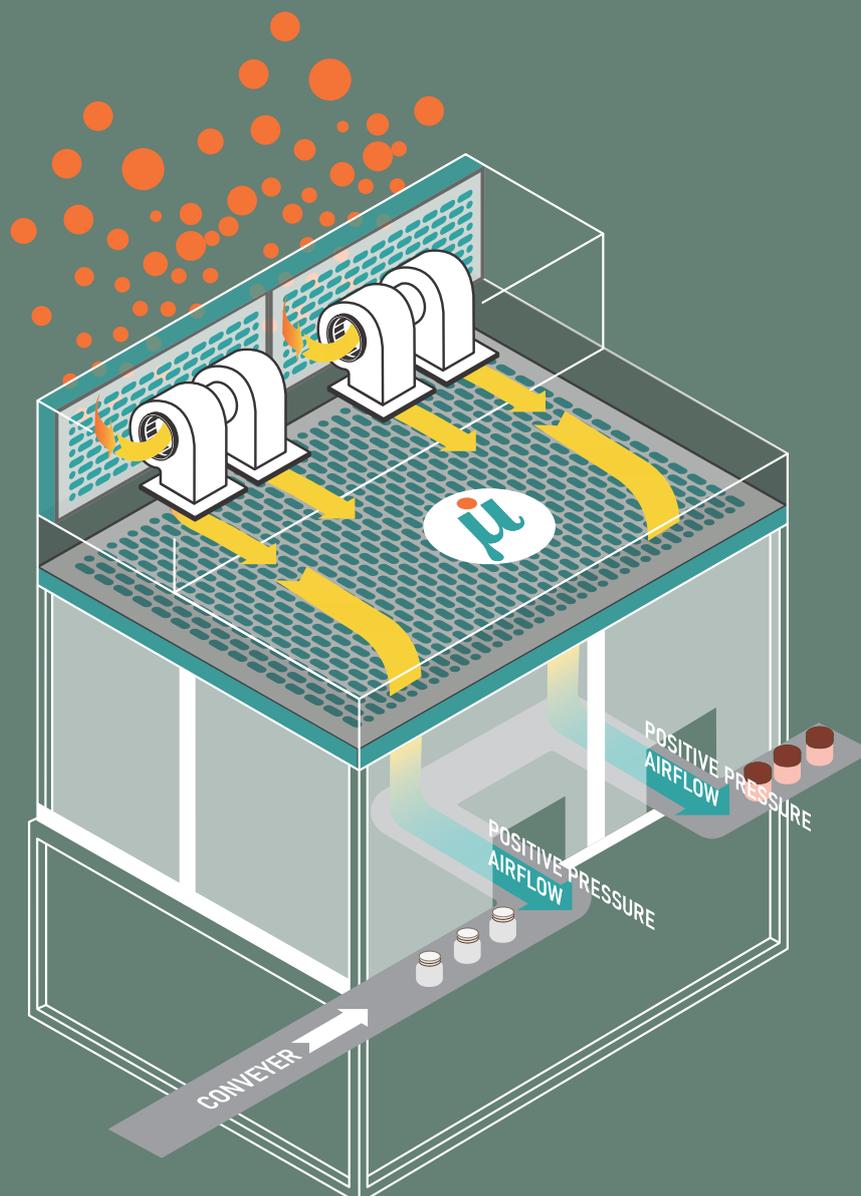
Laminar flow systems have wide application in the cosmetics industry. Having a particle-free environment is necessary to avoid any contamination during any production process.

Tent Laminar flow is a standalone structure made up of Stainless Steel frame with HEPA filter mounted on the top. The motor blower assembly sucks the surrounding air through pre-filters and further passes it through supply filter. This creates positive pressure inside the cabinet where

the actual filling process is happening through a contact-free automated process.

This prevents outside air from entering the work area and avoids any external contamination.

The Stainless Steel framework is referred to as 'Tent', as sometimes it can be covered with PVC curtains as applicable, and is usually placed on top of the processing line, acting as a tent.





Corporate Office

Ganeshkrupa, Plot No.- 31,
Bharti Niwas Society,
Erandwane, Off Karve Rd,
Pune - 411004,
Maharashtra, India.

Factory

Gat No. 200, Kasaramboli,
Taluka Mulshi,
District, Pune - 412115,
Maharashtra, India.

Kolkata Office

91A/1 Park Street,
Avani Signature, 4th Floor,
Kolkata - 700016
West Bengal, India.

Contact

Mob. / WA : +91-93070 50541
Email : info@microfilt.com
sales@microfilt.com

Micro Filt Technologies LLP (Formerly known as Micro Filt (India))

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Published on August 2023. Brand created & managed by www.virtuosity.agency