



BIOMOTION MEDICAL TECHNOLOGY

Revolutionizes Healthcare with Innovative Modular OT & Clean Rooms Equipped with HVAC Systems, Adhering to NABH & ASHRAE Guidelines.

"Tailored Clean Room Excellence"






At Biomotion Medical Technology, we are at the forefront of revolutionizing healthcare with our ground breaking modular operation theatres and advanced HVAC systems. Our unparalleled expertise in architecture, engineering and healthcare guarantees the highest standards of patient safety, surgeon comfort and operational efficiency. Adhering to NABH and ASHRAE guidelines, our state-of-the-art solutions excel in infection control and seamlessly integrate with advanced surgical technologies.

We offer both traditional AHU systems with laminar airflow, which are duct-type systems, and ductless AHU systems with laminar airflow. Designed to meet Class 100 standards, our solutions ensure the highest level of cleanliness. With flexibility and scalability in mind, we deliver bespoke installations that perfectly align with your unique requirements, ensuring an outstanding healthcare environment.



"Elevating Surgical Site Infection Prevention through State-of-the-Art Cleanroom Design."




Government of India / भारत सरकार
Ministry of Commerce and Industry / अर्थ और उद्यम विभाग
Directorate General of Foreign Trade / निर्यात और आयात विभाग
Office of the Additional Director General of Foreign Trade, Kolkata (अवर महानिदेशक, निर्यात और आयात विभाग, कोलकाता)
 4, Esplanade East, KOLKATA, WEST BENGAL, 700069 / 4, एस्पलेड ईस्ट, अहमदनगर, अहमदनगर, महाराष्ट्र, 400001
700069


Importer-Exporter Code

This is to certify that **BIOMOTION MEDICAL TECHNOLOGY** is issued an Importer-Exporter Code (IEC) / ABAFB7283R with details as follows -

IEC	ABAFB7283R
आयात/निर्यात सं./को./PAN	ABAFB7283R
कंपनी का नाम/Firm Name	BIOMOTION MEDICAL TECHNOLOGY
फर्म की प्रकृति/Nature of Concern	Partnership
निर्यात करने की तिथि/Date of Issue	06/02/2024
पता/Registered Address	Ground Floor, C-1-53/1/A, New Koyal Para Lane, Ramdashahi, Koyal Para, Garden Reach, Kolkata, KOLKATA, WEST BENGAL, 700024
सहस्रकर्मियों का नाम / Name of the Signatory	Avinash Kumar Singh
निदेशक / Partner Details	Refer online at https://dgtf.gov.in or scan the QR Code
शाखा/एजेंट / Branch Details	Refer online at https://dgtf.gov.in or scan the QR Code

Last Modified : 06/02/2024
 File Number : KOLIECAPPL100029705AM24

Note : This is a system-generated certificate. Authenticity / Updated details of the IEC can be checked at official DGT website <https://dgtf.gov.in> by entering the IEC and Firm Name under Services > View Any IEC Details. You can also authenticate the certificate by scanning the QR code.


Government of India
Form GST REG-06
(See Rule 10(1))
Registration Certificate

Registration Number : 19ABAFB7283R1Z0

1. Legal Name	BIOMOTION MEDICAL TECHNOLOGY			
2. Trade Name, if any	BIOMOTION MEDICAL TECHNOLOGY			
3. Additional trade names, if any	null			
4. Constitution of Business	Partnership			
5. Address of Principal Place of Business	GROUND FLOOR, C-1-53/1/A, NEW KOYAL PARA LANE, RAMDASHATI, KOYAL PARA, Garden Reach, Kolkata, West Bengal, 700024			
6. Date of Liability				
7. Period of Validity	From	21/02/2023	To	Not Applicable
8. Type of Registration	Regular			
9. Particulars of Approving Authority	Signature of Signatory Digitally signed by Avinash Kumar Singh, DN: cn=Avinash Kumar Singh, o=BIOMOTION MEDICAL TECHNOLOGY AND SERVICES PVT. LTD., email=avinash@biomotion.in, c=IN, Date: 2023.02.21:02:00:13:05:17			

Signature

Name	AMARENDRA NATH BISWAS
Designation	Assistant Commissioner
Jurisdictional Office	BUDGE BUDGE
9. Date of issue of Certificate	21/02/2023

Note: The registration certificate is required to be prominently displayed at all places of business in the State.

This is a system generated digitally signed Registration Certificate issued based on the approval of application granted on 21/02/2023 by the jurisdictional authority.


Government of India
Form GST REG-06
(See Rule 10(1))
Registration Certificate

Registration Number : 19GCOFS1291K1Z0

1. Legal Name	Bunata Singh
2. Trade Name, if any	SWASTI LIFE FOUNDATION
3. Additional trade names, if any	
4. Constitution of Business	Proprietorship
5. Address of Principal Place of Business	Ground Floor, C-1-53/1/A, New Koyal Para, Ramdashahi, Koyal Para, Garden Reach, Kolkata, Kolkata, West Bengal, 700024
6. Date of Liability	
7. Period of Validity	From: 29/03/2023 To: Not Applicable
8. Type of Registration	Regular
9. Particulars of Approving	West Bengal


Signature

Digitally signed by Avinash Kumar Singh, DN: cn=Avinash Kumar Singh, o=BIOMOTION MEDICAL TECHNOLOGY AND SERVICES PVT. LTD., email=avinash@biomotion.in, c=IN, Date: 2023.02.21:02:00:13:05:17

Name	SREETAMA ROY
Designation	Assistant Commissioner
Jurisdictional Office	BUDGE BUDGE
Date of issue of Certificate	29/03/2023

Note: The registration certificate is required to be prominently displayed at all places of business in the State.

This is a system generated digitally signed Registration Certificate issued based on the approval of application granted on 29/03/2023 by the jurisdictional authority.


Government of India
विद्युत, सूक्ष्म और मध्यम उद्यम विभाग
Ministry of Micro, Small and Medium Enterprises

UDYAM REGISTRATION CERTIFICATE

UDYAM REGISTRATION NUMBER : UDYAM-WB-18-0036632

NAME OF ENTERPRISE : MS BIOMOTION MEDICAL TECHNOLOGY

TYPE OF ENTERPRISE * : 1 - 2022-23 - Micro - 24-02-2023

MAJOR ACTIVITY : TRADING (For availing benefits of Priority Sector Lending (PSL) ONLY)

SOCIAL CATEGORY OF ENTREPRENEUR : SC

NAME OF UNIT(S) : 1 - BIOMOTION MEDICAL TECHNOLOGY

OFFICIAL ADDRESS OF ENTERPRISE : NEW KAYAL PARA LANE, RAMDASHATI, KOLKATA, WEST BENGAL, 700024

DATE OF INCORPORATION / REGISTRATION OF ENTERPRISE : 01/02/2023

DATE OF COMMENCEMENT OF PRODUCTION/BUSINESS : 01/02/2023

NATIONAL INDUSTRY CLASSIFICATION CODE(S) : 7110 - Architectural and engineering activities and related technical consultancy

DATE OF UDYAM REGISTRATION : 24/02/2023

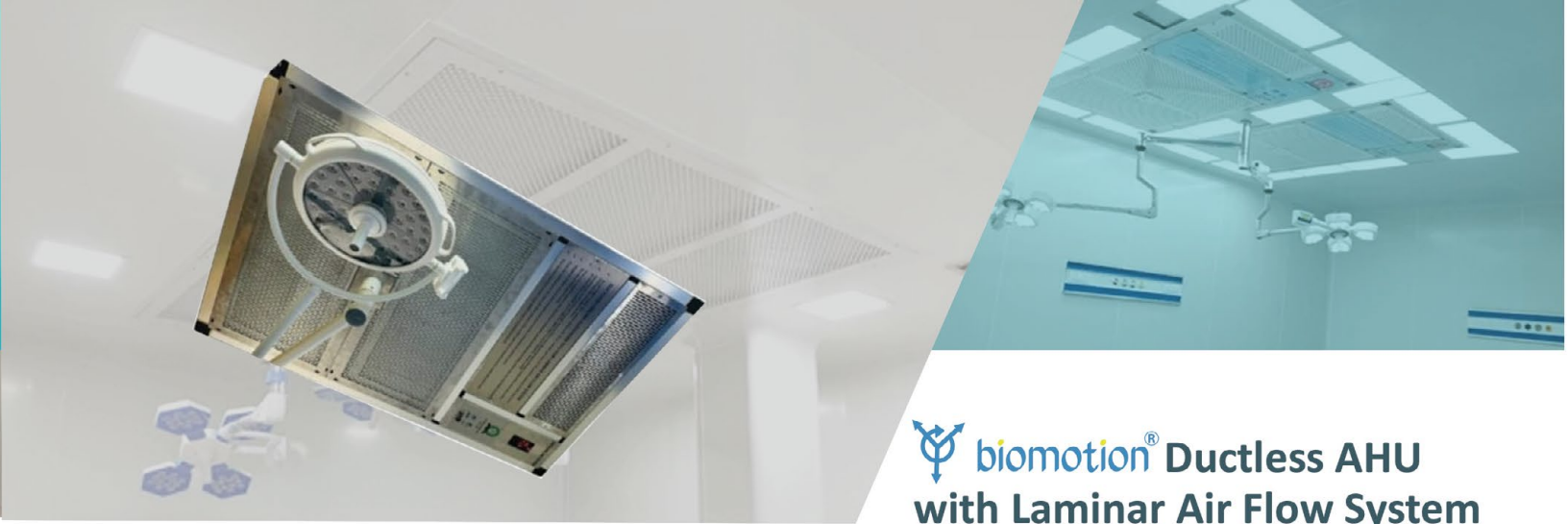
* In case of graduation (upward/revival) of status of an enterprise, the benefits of the Government Schemes will be availed as per the provisions of Notification No. S.O. 2190/2 dated: 26.06.2020 issued by the MSME. Decision: This is computer generated statement, no signature required. Printed from <https://udyamregistration.gov.in> & Date of printing: 24/02/2023



Design considerations for Planning New Operation Theatres (OT) Construction as per NABH

- a) The AHU of each OT should be dedicated one and should not be linked to air conditioning of any other area for all OT constructed.
- b) Window & split A/c should not be used in any type of OT because they are pure re circulating units and have convenient pockets for microbial growth which cannot be sealed.
- c) Paint- antibacterial, anti-fungal.
- d) OT door – automatic/ Hermitically Sealed/Touch free (preferable).
- e) General Lights – Clean room lights.
- f) Provision of safety against static charge.
- g) Separate power circuit for equipment like Laser / C-ARM.
- h) The anti-static flooring, walls and ceiling should be non-porous, smooth, seamless without corners (coving) and should be easily cleanable repeatedly. The material should be chosen accordingly. Anti-static Flooring – seamless, including skirting, should not be of porous stone as it absorbs moisture and could be a source of bio-burden.





 **biomotion[®] Ductless AHU
with Laminar Air Flow System**

**REVOLUTIONARY IN HOSPITAL AIR CONDITIONING SYSTEM
Customized Solution for Air Borne Infection Control Wherever You Want**

For The First Time In The History of Healthcare, We Are Proud To Present Ductless Air Handling Unit .



**Save Upto Rs.
16,24,448/year in OPEX**

Why Compromise When You Have Better Option Available

Compatible with DX Condensing Unit, VRV & Chiller Plant, which Can be Maintained by Local AC Technician

- 7 Times Less Electrical Consumption than Traditional System.
- 15 Times More Savings Compared to the Traditional System.
- 10 Times Better Air Quality with Our Ductless Air Handling Units.



 **biomotion® Ductless AHU
with Laminar Air Flow System**



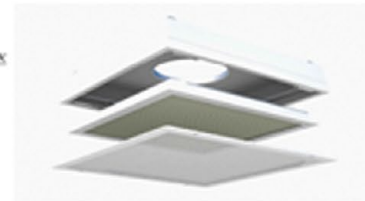
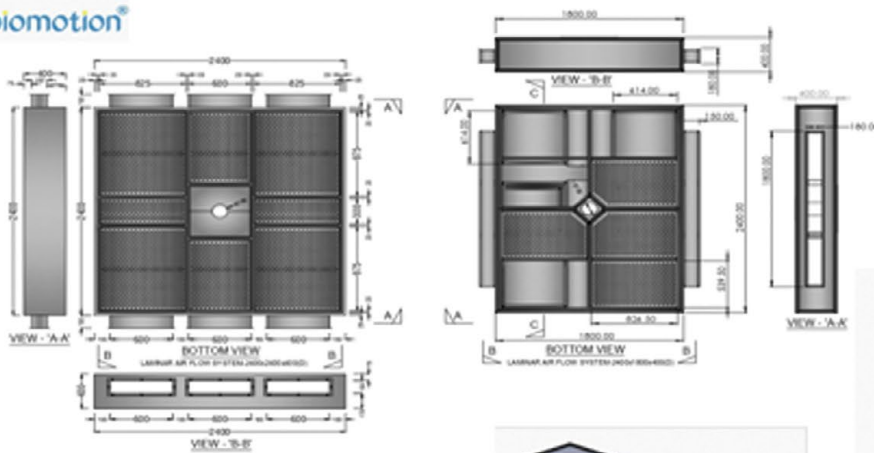
Biomotions Ductless Laminar Airflow System creating a filtered and sterile air tent on the operating table, the Ductless Laminar Air Flow System provides the highest standards of patient safety. This air tent keeps the contaminated air out of the air tent. Class I (1–10 Particles) air quality is found near the HEPA filter in the Ductless Laminar Air Flow System. Class III (100–1000 Particles) and Class IV (1000–10,000 Particles) air quality are found on the Operation Theatre table.

The quality of the air in the Operation Theatre Advantages of the Laminar Air Flow System Without Ducts:- A 0.18 kW blower to provide a 90–120 FPM air velocity at the grill or diffuser level.

Simple daily upkeep from within the OT. The UV light provided by the system prevents germs and fungi from growing on the HEPA filter, which has a lifespan of two to three years. A digital differential pressure gauge provides an audio visual alert and a display of the HEPA filter's condition. Display of temperature and humidity on LAF show.



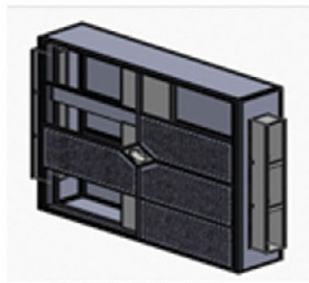
biomotion®
Laminar Air Flow System



SECTION - C-C'

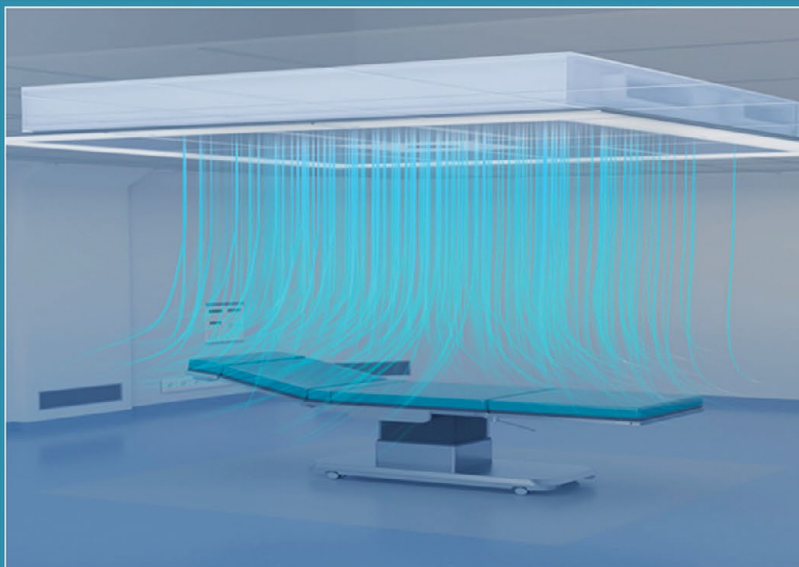


LAMINAR AIR FLOW SYSTEM 2400x1400x4500



LAMINAR AIR FLOW SYSTEM 2400x1800x4500

NAMA : LAMINAR AIR FLOW SYSTEM			
GENT : BIOMOTION MEDICAL TECHNOLOGY			
WE : KUALA LUMPUR			
BIOMOTION MEDICAL TECHNOLOGY 10, Jalan Masjid, Komplek Puncak Jalil, 43600 Kajang, Kuala Lumpur 43600 Kajang, Kuala Lumpur P. NO. 03-73151515, 03-73151515			
TEL : 03-73151515			
NO. UNIT	NO. UNIT	NO. UNIT	NO. UNIT





Air Filtration And Circulation System For MOT, ICU, NICU.



This System helps to prevent nosocomial infection and hospital-acquired infection. This system delivers 20-30 air changes per hour, 2.5 Pa positive pressure & 20% fresh air to minimize the biological burden. Incoming air in OT is filtered through 2 pre-filters, a non-woven bonded activated carbon filter which removes VOC and bad smell from air and a 0.3 micron HEPA filter to arrest bacteria, fungus, and molds. This is a compact system with an aluminum composite panel and thermal profiling which does not rust easily, increasing the life of laminar air flow significantly.

Negative ionizer deactivates bacteria and virus and thus minimizes air particle count and gives freshness in the OT. Easy for maintenance as a nylon pre-filter placed in the suction part has to be cleaned once in a week with plain water.





Why prefer a Ductless System over conventional Ducted System ?

A typical uncleaned Ducted System after a year or two



The horrifying reality

These images of Ducts that have neglected maintenance are horrifying and to imagine Patient and Hospital staff breathing Air coming from these Duct feels like compromising their Health and Quality of Life.



The Major Issue

After a point in the life cycle of the Duct, the Ducts which were installed to control the Air born infection themselves becomes the source of infection in the modular OT which is deadly

Ductless Laminar Air Flow System

Ductless Laminar Air flow system offers superior levels of patient protection through making filtered and sterile air tent on operation table, this Air tent does not allow the infected air to enter the air tent

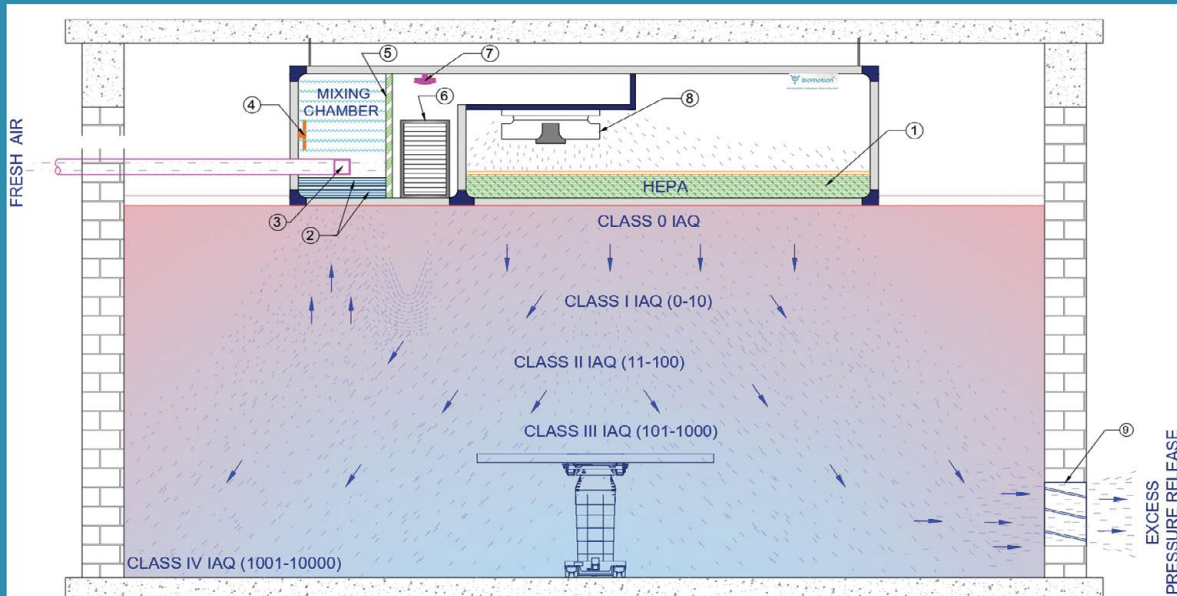
The Ductless Laminar Air Flow System has

- Class I (1-10 Particles) air quality near the HEPA filter
- Class III (100-1000 Particles) air quality on the Operation Theatre table
- Class IV (1000-10000 Particles) air quality throughout the Operation Theatre



What's inside ductless Laminar Air Flow System

AIR FLOW PATTERN



POSITIVE PRESSURE INSIDE OT DOESN'T ALLOW ANY BLANK POCKETS IN ANY CORNER

No	Name	No	Name	No	Name
1	HEPA FILTER (0.3 Micron)	4	NEGATIVE IONIZER	7	U V LIGHT
2	PRE FILTERS (5 & 10 Micron)	5	ACTIVATIO CARBON FILTER	8	AIR BLOWER
3	FRESH AIR DAMPER	6	EVAPORATOR COIL	9	PRESSURE RELEASE

Benefits of Ductless Laminar Air Flow System :

- 0.180kW blower to give air velocity 90-120 FPM flow at grill/diffuser level.
- Easy routine cleaning from inside the OT.
- Life of the HEPA filter used in the system is 3 years.
- UV light given near cooling coil to avoid the bacteria, fungus growth on HEPA filter.
- Digital differential pressure gauge gives display to HEPA filter condition.
- Temperature and Humidity display given on LAF show operational area's actual reading.



PATENTED AHU cum Ductless Laminar Flow System

Advantages of Ductless System against conventional Ducted System

Basic Ductless Laminar OT with Ceiling mounted Air Handling Unit



OPERATION COMPARISON FOR OT SIZE 20X20X10

DUCTED AHU	DUCTLESS AHU
<ul style="list-style-type: none"> • Generally requirement of Tonnage is upto 11 to 16TR • Blower required for Ducted system is of 3HP to 5HP • During non functional hours AHU blower needs to run for 24 Hrs. Else Duct becomes wet due to condensation and bacterial proliferation occurs. 	<ul style="list-style-type: none"> • Generally requirement of Tonnage is upto 5.5 to 8TR. • Blower required for Ducted system is of 0.180 KW. • System needs to be operated 1 Hour prior to surgery.

COST COMPARISON FOR OT SIZE 20X20X10

DUCTED AHU	DUCTLESS AHU
Generally Power consumption of 1 TR - 0.8 KW/HR, TR required in the ducted system is 11 TR, Power consumption of 11 TR= 11x0.8 KW=8.8 KW/HR. Considering minimum hours usages = 6HR, the Rate of 1 Unit of energy is Rs.12/-	Generally Power consumption of 1 TR - 0.8 KW/HR, TR required in the ductless system is upto 8 TR, Power consumption of 8 TR= 8x0.8 KW=6.4 KW/HR. Considering minimum hours usages = 6+1HR, the Rate of 1 Unit of energy is Rs.12/-

TOTAL YEARLY COST COMPARISON

PARAMETERS	DUCTED AIR HANDLING UNIT	DUCTLESS AHU
Electrical Consumption	10,32,804/-	1,28,772/-
Annual Maintenance	1,00,000/-	50,000/-
HEPA Filter	1,92,000/-	48,000/-
Robotic DUCT Cleaning	1,00,000/-	-
AHU Room	5,00,000/-	-
Total	19,24,804	2,26,772/-

As we can see from the calculation the ducted system consume 7 times more cost i.e. Rs. 16,98,032/- as compared to Ductless Air Handling Unit



"Tailored Clean Room Excellence"

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 # C-1/53/1A, Garden Reach Kolkata-700024

West Bengal India

 +91 9830016987

 info@biomotionmed.com, sales@biomotionmed.com

 www.biomotionmed.com, www.biomotionmedical.in

Patna :
+916291263139

Ranchi :
+916289134743

Bhubaneswar :
+916290789377

Siliguri & Guwahati :
+916290778597

Bengaluru :
+918210372364