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ELECTRICAL & UTILITIES

HVAC

CLEAN ROOM EQUIPMENTS

CLEAN ROOM

AXENIC SYSTEMS

CLEAN ROOM

TURNKEY SOLUTIONS



Specialized in
Clean Room, HVAC and Validation

www.axenicsystems.com
www.cleanroomprojects.in

WHAT WE ARE

The Cleanroom Industry is constantly changing, becoming increasingly complex and demanding innovative answers to the contamination free environment, **AXENIC Systems** offers a spectrum of products & services right from conceptualization to commissioning for both turnkey and partial projects.

Our team of professionals specially mastered to evaluate in cleanroom design and execution by using latest CGMP guidelines, National and International accreditation agencies i.e., FDA, US FDA, ISO, and EUGMP standards. The result provides customized designed layouts to accommodate the specific demands of clients environmental requirements within budgets and time schedules.

OUR EXPERTISE

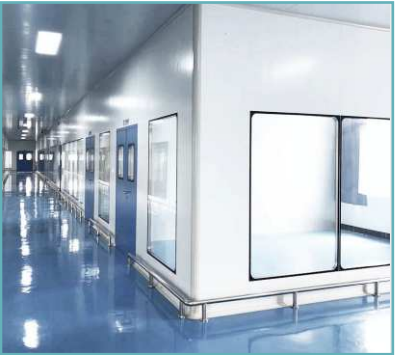
- Our Expert team with multiple experience
- We are familiar with guidelines such as WHO, USFDA, UKMHRA, GMP, etc. and other Regulatory and Statuary Compliance.
- We cater to the requirements of HVAC and Cleanroom for Pharmaceuticals and allied industries.
- Over vast experience we have successfully executed projects of API, Formulation, Academic Research Labs, Semiconductor & Device Fabrication Labs in India.



DESIGN & ENGINEERING



MODULAR CLEANROOM



CLEANROOM PANELS



CLEAN ROOM DOOR & CEILINGS



CLEANROOM EQUIPMENTS



HVAC



DUCTING & UTILITY



ELECTRICAL SERVICES



BMS & SAFETY MANAGEMENT

WHAT WE DO

- Turnkey Solution Provider of prefabricated clean rooms for Pharma and Pharma Research Laboratory,
- Cleanroom field & HVAC Systems,
- Cleanroom Equipments & Accessories,
- Cleanroom Finishes with TURNKEY SOLUTIONS.
- Validation as per ISO 14644

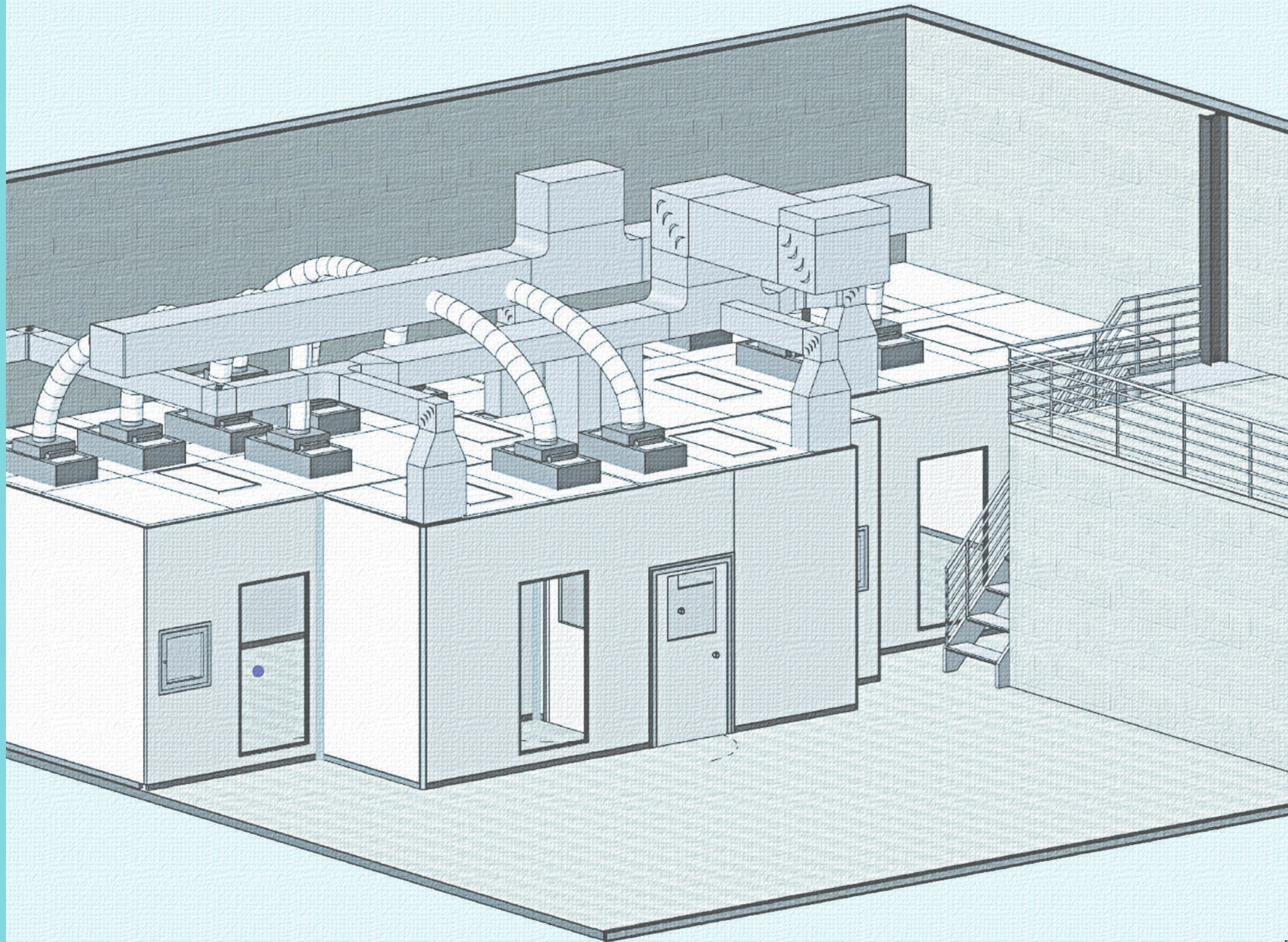
VISION

Become Customer’s first choice for Design Consulting for all specialized facility utilities such as Cleanroom, Electronics Clean Labs & HVAC Systems.

OUR DOMAIN EXPERTISE

- **ACADEMIC RESEARCH LABORATORY**
- **SEMICONDUCTOR & DEVICE FABRICATION LAB**
- **AVIONICS, DEFENSE LABORATORIES SPACE TECHNOLOGY**
- **BIO-TECHNOLOGY**
- **PHARMACEUTICAL SECTORS & BULK DRUGS**
- **FMCG, FOOD AND CHEMICAL**
- **PETROCHEMICAL OIL & GAS**
- **DAIRY SECTOR & PACKAGING INDUSTRIES**

A new story is beginning with a new vision for the future, an expertise across the entire Cleanroom industry cycle and the ambition to give energy its full value



DESIGN & ENGINEERING

CLEANROOM CLASSIFICATIONS

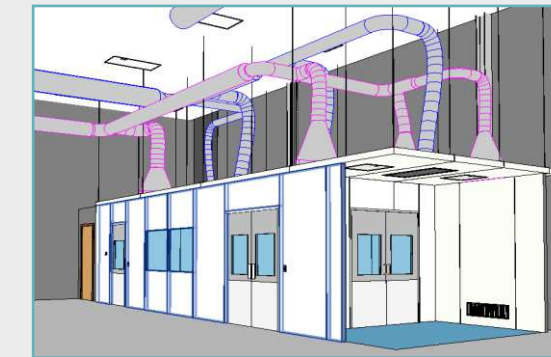
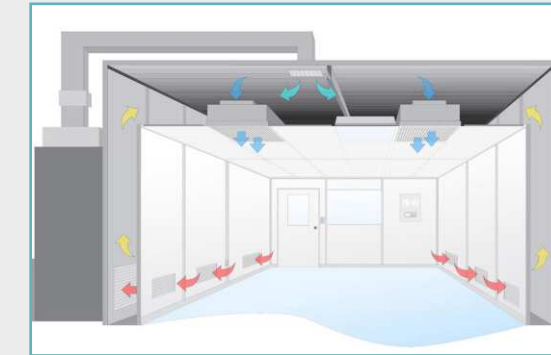
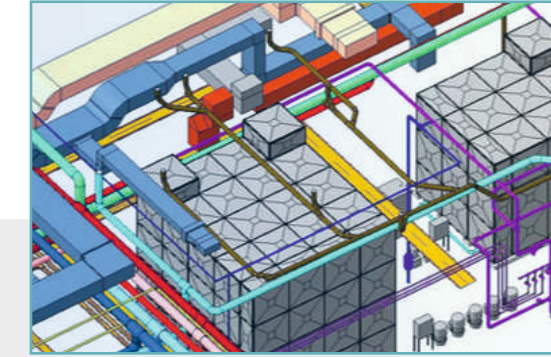
We are established manufacturer, provider and bourgeois during this room business .

Experienced: professional Turnkey Clean rooms, standard Clean rooms style, producing, installation and certification since 2000. We tend to had engineered quite one hundred clean rooms.

OUR ENGINEERING EXPERTISE

- Drawing and Engineering calculations
- Professional Engineer review
- AUTOCAD electronic design files
- Cleanroom air / cleanroom class
- Make-up and exhaust air balance
- Positive and negative pressure requirements
- Contamination capture or exhaust
- Heat Load : temperature and humidity control
- Lighting requirements
- Electrical load
- Energy conservation systems
- Monitoring systems
- Shop drawing
- Construction schedule
- Final as built cleanroom class certifications

A microbial culture that contains only one species, variety, or strain of microorganism. Supplement. Microorganisms can be grown under controlled laboratory conditions in cultures where they are allowed to grow and reproduce.



Axenic System is experienced, professional provides Trunkey Solutions for Cleanrooms, Modular Clean rooms design, manufacturing, installation and certification since 2000. We ensure that our modular clean rooms conform to appropriate standards (ISO 14644/ US Fed STD 209E).



MODULAR CLEANROOM

Modular Cleanroom is a specially constructed enclosed area which is environmentally controlled, with respect to airborne particulate, temperature, humidity, air pressure, air flow patterns, air motion, Air Changes Per Hour (ACPH). To secure high-quality and reliability of products, it is very important to prevent adhesion of particles.

Our modular cleanrooms in all sizes and designs. Compared to the traditional fixed cleanrooms, our cleanrooms distinguish themselves by lower costs in purchasing, shorter delivery time and enhanced flexibility.

WE DEVELOPED



Modular Hard Wall Cleanrooms provide a clean, protected & structured environment without the need for internal bracing or ceiling supports, unlike other modular structures. We have many different modular cleanroom options to suit the Cleanroom or customer demands.



Modular Soft Wall Cleanrooms are controlled spaces designed to keep out air contaminants of a certain level. The cleanroom is used to filter polluted air as per the requirements of certain industries such as Pharmaceuticals, E-liquids, Healthcare facilities as well as science and technology.



A floor area or space, usually not well defined, operating at a lower airborne contamination level than the general surrounding environment.

OUR KEY PRODUCTS

- MODULAR WALL PANELS
- MODULAR DOORS
- CEILING
- FLOORING
- WINDOWS
- GMP LIGHT FIXTURES
- AIR SHOWER
- HEPA BOX
- SS PRODUCTS
- PASS BOXES / LAF / RLAF

FEATURES

- Flexibility & Future expansion and upgrades.
- Easy relocation capabilities.
- Less expansive than standard sheetrock with disruptive to day-to-day operations.
- Environmental control system implementation & quick expert installations.



CLEAN ROOM PANELS

Modular Clean Room Panels have several unique features to build State-of-the-Art Clean rooms and other controlled environments for various applications like Pharmaceuticals, Bio Technology, Electronics, Food Processing Industry and Hospitals.

The Modular Clean room walls panel seams are sealed by silicone with a perfectly flush finishing. Insulation materials are sandwiched between the two skin layers and sealed from the exterior by the aluminum GI framework. There is a selection list of materials for insulation and wall skins according different needs in modular cleanroom construction.



The unique standard wall skin is an anti-scratch high-pressure laminate. The Modular cleanroom wall system is flexible thus allowing easy installation and accepts changes to design in the field and can be reconfigured for use in other locations. Upvc coated and metal powder coated metal clean room wall panels are also available.



FEATURES

- Flush surfaces for easy cleaning and for complying with cGMP requirements.
- Practically no maintenance.
- Good stability due to advanced architectural design.
- Attractive appearance.
- Custom designed solutions from a single room to complete departments.
- Full modularity.
- Easy to assemble and dismantle.



CLEAN ROOM DOORS

AXENIC provides wide range of Cleanroom Compatible Doors, are basically meant for air ingress in the room. The door has mechanically interlocked vertical edges that add strength and rigidity, which makes them appropriate for light and heavy use.

Specifications

- Flush surfaces for easy cleaning and for complying with cGMP requirements.
- Good stability due to advanced architectural design.
- Attractive appearance.
- Custom designed solutions from a single room to complete departments.
- Full modularity.
- Easy to assemble and dismantle.

CLEAN ROOM CEILING

Our cleanroom walkable ceiling is constructed for direct installation of equipment and circulation of maintenance staff on the ceiling. The walkable ceiling allows for easy access to HVAC control instruments and dampers.

Our ceiling system uses pre-fabricated and pre-engineered steel panels with pre-configured HEPA filters, lighting, and other penetrations for fire alarms, video cameras, sprinklers or sprinkler openings, etc. The absence of tiles gives you a TRULY smooth finish, which is easy to clean.



Specifications

- Single and Double leaf frames.
- Removable over panels.
- Borrowed light and glazing can be provided.
- Ability of accepting glazing in many configurations with louvers,
- air vents and a wide range of hardware.



CLEANROOM EQUIPMENTS & ACCESSORIES

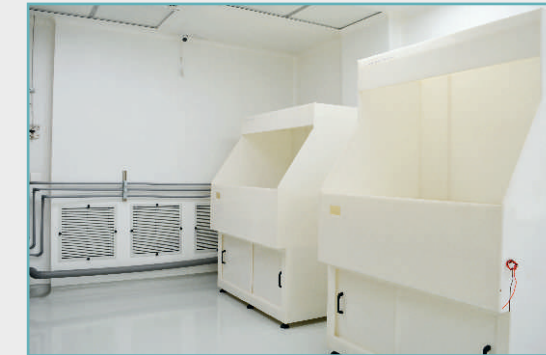
We offers Cleanroom Equipment & Accessories within the Cleanroom for Biotech, Pharmaceuticals, Micro-electronics, Laboratory, Semi-Conductor units & Hospitals and also we provide tailor made solutions for cleanroom equipment. For specific use which are designed with durability, ease of use, compactness and aesthetics in focus.

AXENIC is a supplier of clean room equipment, has made up a world class quality equipment range that strongly meets all the clean room standards. Our clean room equipment includes SS Pass Box, Laminar Air Flow Unit and Clean Room Air Shower etc.



OUR RANGE OF PRODUCTS

- Horizontal/Vertical Laminar Flow
- Dispensing Booth/Sampling Booth
- Bio-Hood/Fume Hood
- Air Curtain
- Pass box – Static/Dynamic
- Garment Cupboard – Static/Dynamic
- Shoe Rack/Cross over bench
- Double Air Handling Unit
- Force Draft Ventilation System
- Exhaust System



Regardless of cleanroom requirements the **Axenic Systems** provides the complete turnkey cleanroom accessories and perform all installations at customer place as per the customer demands or customer needs.

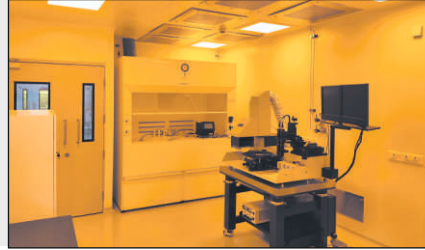


Axenic EXPERTISE IN...

Class 100 (ISO 5)



Class 1000 (ISO 6)



Class 10000 (ISO 7)



Class 100000 (ISO 8)



ISO 9 Clean Rooms



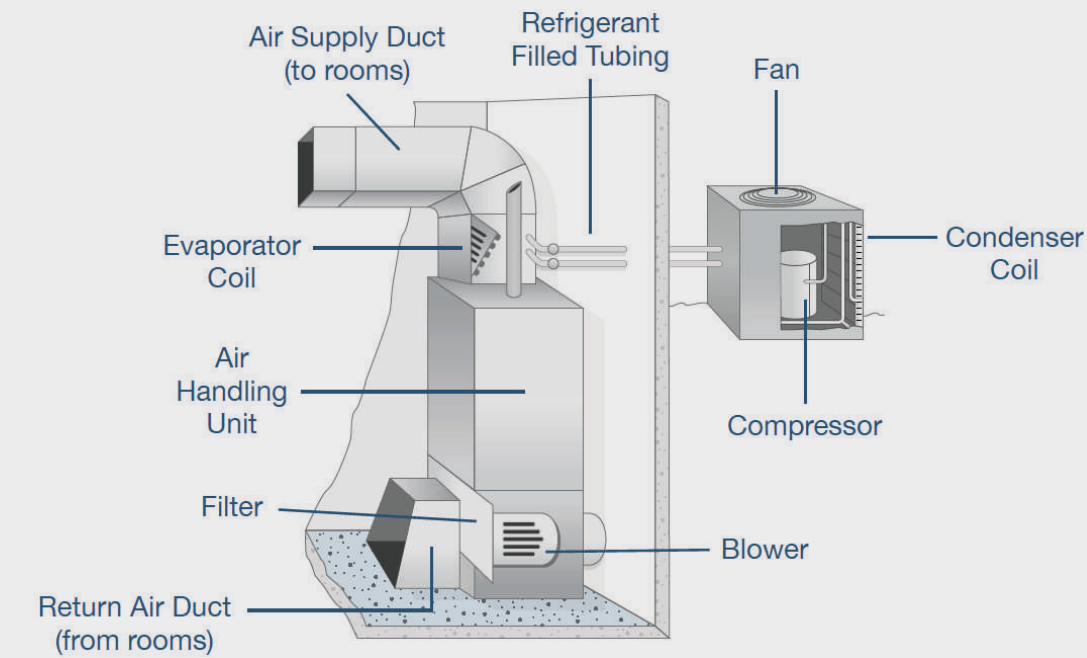
There are a wide variety of reasons that a company may need a cleanroom. Here are a few classifications are given for cleanroom, and some common industries that regularly use cleanrooms.

- Class 100 (ISO 5)
- Class 1000 (ISO 6)
- Class 10000 (ISO 7)
- Class 100000 (ISO 8)
- ISO 9 Clean Rooms



HVAC SYSTEMS (Heating Ventilation and Air Conditioning Systems)

The **HVAC system** is an assembly of various types of equipment built together to provide heating and cooling with indoor climate control. It provides mechanical, electrical and I&C components for providing comfort to building/space occupants or for preserving space-placed objects, products or things.



HVAC Cooling Systems can be combined with or mounted separately depending on the design of the HVAC and also used in the industrial manufacturing sector to keep the machinery running by maintaining the operating temperature of the machineries.

The Construction, Temperature, Humidity, air flow patterns and pressure of a cleanroom are controlled in such a way as to minimize the introduction, generation and retention of articles (such as dust) inside the room.

WE fully understands the art and science of handling air which helps us in delivering the highest degree of control of temperature, humidity and air quality for pharmaceutical applications.

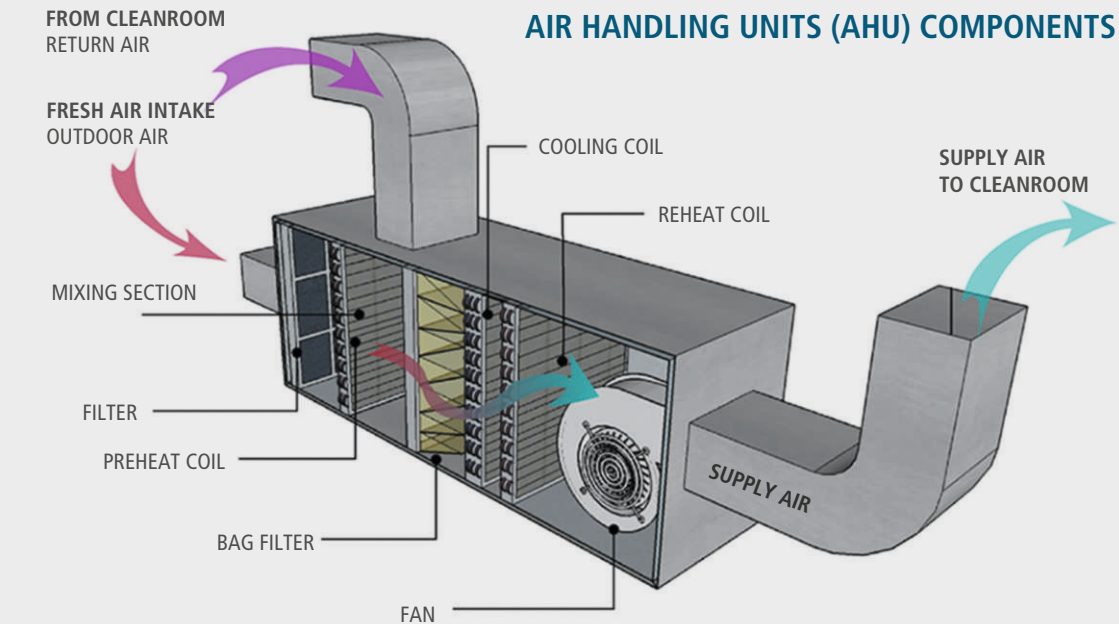


HVAC is the system which is using to provide heating ventilation and air-conditioning for controlled environment. **HVAC Systems** will play the vital role in contamination control for cleanroom projects.



AHU (AIR HANDLING UNITS)

Air Handling Units (AHU) is a device used to circulate air as part of a heating, ventilating and air-conditioning system. An air handler is usually a large metal box containing blower along with motor arrangement, cooling and heating coils, different types of filter chambers and volume control dampers.



WE DESIGN

- Floor Mounted Air Handling Units
- Ceiling suspended Air Handling Units
- Double Skin Air Handling Units
- Single Skin Air Handling Units
- Re-circulation Air Handling Units
- Ventilation Air Handling Units
- Heat Recovery Ventilator (HRV) Air Handling Units
- De-humidifiers

Air Handling Unit (AHU) has the following functions:

- Filtering function with EU-class filter
- Heating function with electrical heater or hot-water heating coil/central heating coil
- Humidifier function with steam nozzles for air humidification
- Droplet separator for removal of water drops from humidifier or air cooler



Air Handling Unit (AHU) is basically a metal box in which are: ventilators, coils, filters, mixing chamber, and dampers. AHUs distributes the conditioned air throughout the building via duct work which also returns the air to the AHUs.

Air handlers usually connect to duct distribution system that distributes the conditioned air through the cleanroom facility and returns it to the AHU

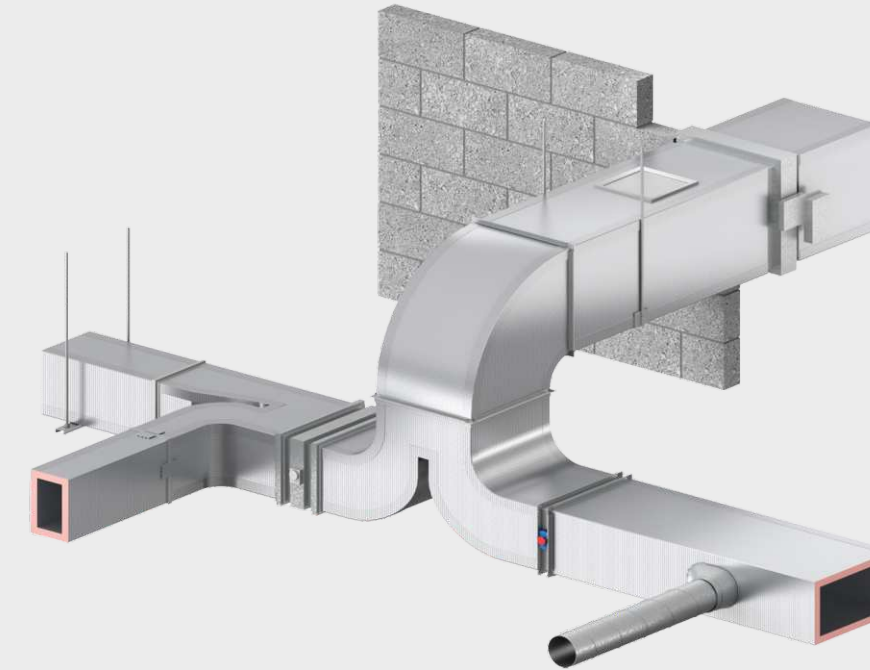


DUCTING (Ductwork System should deliver maximum interior designed air flow to achieve desirable classification)

Ducting plays a crucial role in Air distribution contributing to the functioning of the entire HVAC system.

The needed of air flows are such as supply air, return air and exhaust air. Ducts commonly also deliver ventilation air as part of the supply air. As such, air ducts are one method of ensuring acceptable indoor air quality as well as thermal comfort.

We use leading edge technology for sheet metal fabrication and profiling technology. Efficient manufacturing dramatically reduces fabrication and therefore job completion time.



Air distribution is much improved with the increased area of fabric ducting in a room, creating a platform to supply air over a larger area than traditional grilles alone. This also helps to provide a much more controlled velocity and comfortable environment.

Ducting Systems are conduits or passages used in heating, ventilation, and air conditioning (HVAC) to deliver and remove air.

DUCT MATERIALS:

- **GI Sheets Galvanized Steel:** It is a standard, most common material used in fabricating ductwork for most comfort air conditioning systems.
- **Aluminium:** It is widely used in clean room applications. These are also preferred systems for moisture laden air, special exhaust systems and ornamental duct systems.
- **Stainless Steel:** It is used in duct systems for kitchen exhaust, moisture laden air, and fume exhaust.



CONDENSING UNITS / CHILLERS

Used for lower the temperatures of all kinds of equipment and processes such as - robotic machinery, semiconductors, injection and blow molding machines, welding equipment, die-casting and machine tooling, paper and cement processing, power supplies, power generation stations, compressed air and gas cooling systems, medical imaging machines, chemical, drug, food and beverage production.

UTILITY PIPING



We design, engineer and install Utility Piping System for Utility Gases, CDA, Water Line, etc.

ELECTRICAL

We focused on providing services for the electrical systems in addition of our Control Panel. We provide turnkey Design, Engineering, Supply, Installation and Maintenance services.

ELECTRICAL PRODUCTS OFFERS

- Main switchgear installations
- Power and control wiring for processing and manufacturing equipment
- Power for commercial and industrial projects
- Circuit and Wiring Diagrams
- Earthing and Potential Equalizing
- Lighting, Sockets, Cabling
- Emergency Lighting, Exit Lighting

Our chillers are designed to meet current and future requirements in terms of reliability, energy efficiency and intelligent control. It is ideal for schools, hospitals, shopping malls, office buildings as well as factories and manufacturing plants.



FEATURES

- Perfect airflow design: reasonable fan nozzle design can greatly improve air fluidity and reduce noise.
- Efficient heat transfer copper tube: high heat transfer efficiency, and reduce the refrigerant in the coil pressure drop.
- Efficient fan: it can reduce the energy consumption of the fan while obtaining large heat exchange. Meanwhile, the fan has stable operation and long service life.



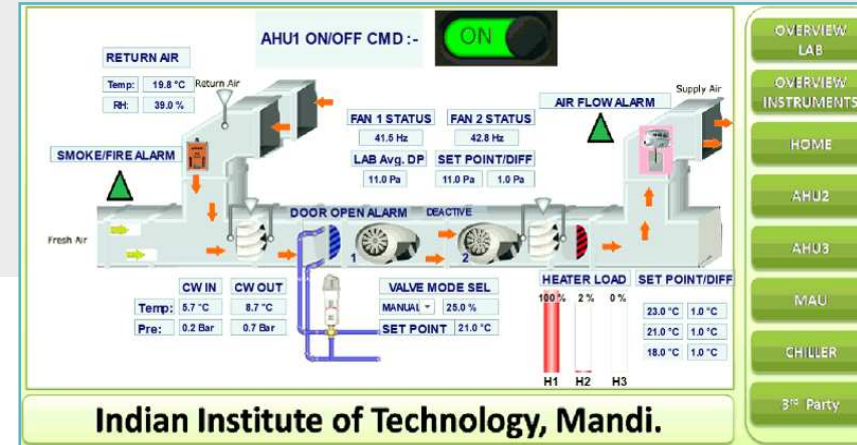
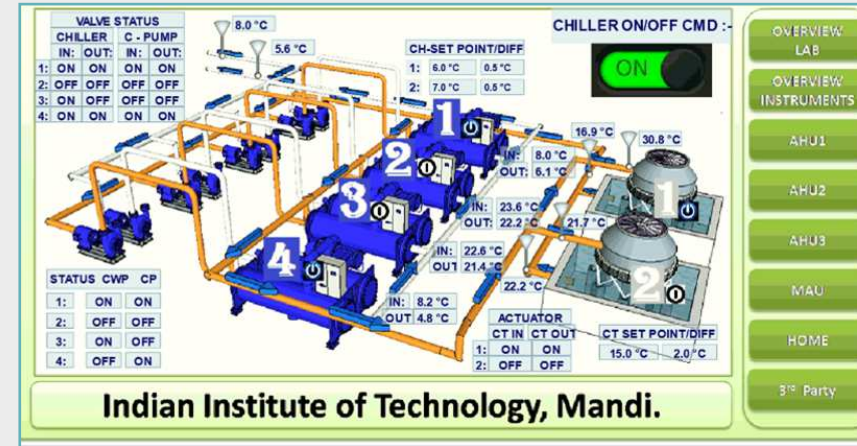
The Aim of a BMS is to maintain occupant comfort and ensure occupant safety, whilst delivering energy efficiency and lower operating costs.

CLEAN ROOM HANDLING AND PROTECTION

BUILDING MANAGEMENT SYSTEM (BMS)

The Aim of a BMS is to maintain occupant comfort and ensure occupant safety, whilst delivering energy efficiency and lower operating costs.

Comprehensive and continued monitoring of required parameters to verify the performance and overall health of CR facility and critical processes. This will alert you the moment something is wrong, so that appropriate remedial action can be taken promptly.



FIRE / GAS PREVENTION & FIRE FIGHTING

Fire prevention & Fire Fighting measures are a key element in the Clean Room Development.

FIRE PROTECTION /SUPPRESSION SYSTEM

- Gas Based Fire Suppression System (CO₂, NOVEC1230, FM200 & Inert Gases)

FIRE ALARM SYSTEM

- Conventional Fire Alarm System
- Addressable Fire Alarm System
- Semi Addressable Fire Alarm System

GAS LEAK DETECTION SYSTEM

- Fixed gas detectors
- Portable Gas detectors



The BMS monitored and controlled the Relative Humidity, Temperature, Differential Pressure and all required parameters of all the cleanrooms.

WIDE RANGE OF EQUIPMENT

 Horizontal Laminar Air Flow	 Vertical Reverse Flow Clean Air work Station	 Stainless Locker	 Stainless Locker
 Air shower	 Air shower	 Work Station	 Pass Box
 Pass Box	 BIO Hood	 Dispensing Booth	 Stainless Work Table
 Stainless Shoe Rack	 Stainless Shoe Rack	 Stainless Shoe Rack	 Filters

OUR CLIENTS IN DIFFERENT SECTORS

Institution & Research Sector



Manufacturing Sector



Food & Beverages



Pharmaceuticals Sector

