

INTRODUCTION:

PhealthG as a pioneer in cleanroom validation services , started recently with knowledge based on engineers and exclusive NEBB certified company in UAE .Now PhealthG has wide range of cleanroom products and one of the well-know modular cleanroom producer in this country with more than 100 projects locally & international .







PhealthG Engineering Company commenced trading as a validation and supplying company for clean room needs, with its aim to be the “*First Choice*” for Clean Rooms Services.

PhealthG

INTRODUCTION:

When a cleanroom has been built and about to be handed over to the employer, or when an existing cleanroom is reopened after being shut down for modifications that could cause changes to its contamination control characteristics, it will be tested.

This initial type of testing is to establish that the cleanroom is working correctly and achieving the contamination standards that it has been designed to fulfill. These standards are laid down in ISO 14644-1. The secondary function of this initial testing is to establish the initial performance of the room so that this can be adopted as a "bench-mark". When the room is checked in the future, either routinely or when a contamination problem is encountered, deviation from the original condition may be found, or the possible reasons for contamination thus ascertained.

The final and indirect reason for carrying out initial testing of a cleanroom is to familiarize and train the staff who will monitor and run the room. This may be their most important, and possibly only, opportunity to understand how their cleanroom works and learn the methods used to test and ensure that the cleanroom continues to perform correctly.

When it has been shown that the cleanroom fulfills the ISO 14644-1 cleanroom classification set down at the design stage, it is necessary to regularly check the room at the time intervals set by ISO 14644-2, to ensure that the room continues to comply with the standard.

CLEANROOMS & ASSOCIATED
CONTROLLED ENVIRONMENTS

www.phealthg.com



Power of Heal





INVESTIGATIONS OF EXISTING FACILITIES BOTH CLEANROOM AND NON CLEANROOM APPLICATIONS

CLEANROOM CONSULTING

PHG stand alone or integrated cleanroom consultant services are offered drawing on over 20 years of hands-on, proven experience in the cleanroom design and construction and BSL bio-safety/bio-containment facilities. Our team of cleanroom consultants will advise in evaluation and recommendations for short range, medium term and long-term design objectives and improvements. Some aspects of our cleanroom consulting services include:

Thinking about a Cleanroom? or Upgrading !?

Document Review Of Plans And Specifications Helping To Correct Errors During Cleanroom Design And Engineering Before Its Actual Construction Building Commissioning Services To Ensure That The Facility Is Functioning As It Was Intended In The Cleanroom Design Phase And Initial Requirements





Upgrades and Modifications as a Cleanroom Contractor



CLEANROOM DESIGN

Our cleanroom design experience is broad based including FDA validatable multi-user/multi-product facilities; medical, pharmaceutical, microbial/cell culture, gene therapy, and health sciences facilities; aseptic filling, medical device, semiconductor, electronic, optics, military/aerospace, and manufacturing cleanrooms.



CLEANROOM ENGINEERING

Clean Air Technology Inc. is a design and build cleanroom manufacturer and construction contractor. We provide design services, evaluations, expansions and upgrades of new or existing cleanrooms. Our company specializes in the engineering of mechanical / HVAC, ductwork, piping, insulation and controls. Staff cleanroom engineers can provide reviewed and sealed P.E. plans and specifications for structural, mechanical, and electrical disciplines for the particular state that the job-site is located in. ACS's cleanroom engineering support is a crucial step to ensure that any cleanroom project is built to attain the highest cost/value ratio.

- Cleanroom Consulting
- Cleanroom Design
- Dryroom Consulting
- Experts in the Areas of Cleanroom Design
- Clean Room Engineering
- Cleanroom Consulting
- Turnkey Construction

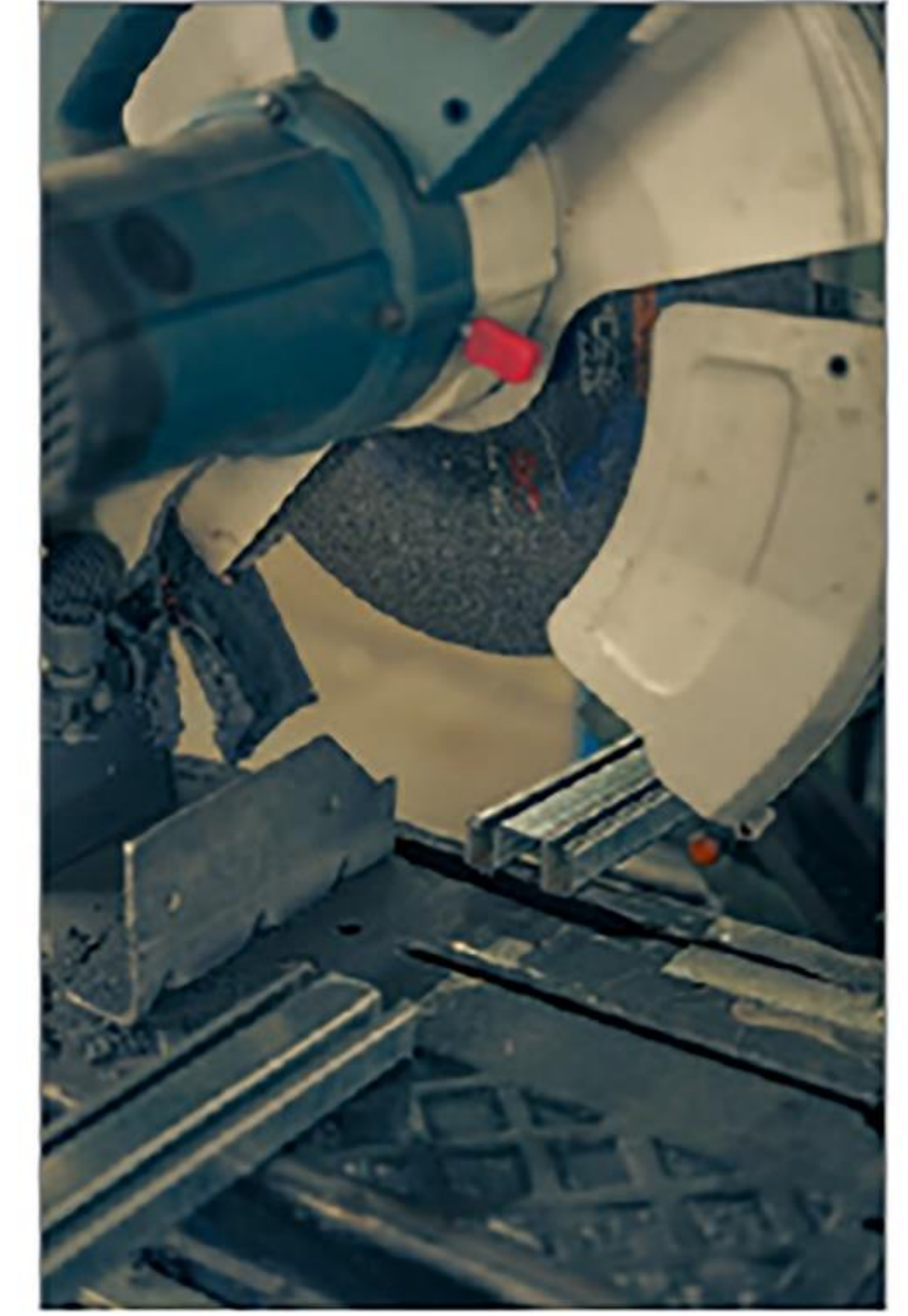


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The background is a monochromatic teal color with a complex, abstract geometric pattern. It features various overlapping planes, lines, and shapes that create a sense of depth and architectural structure. A small, rectangular window with a grid pattern is visible on the left side, showing a glimpse of a different scene. The overall effect is modern and technological.

Engineering & Construction of Technology Facilities

CLEANROOMS & ASSOCIATED CONTROLLED ENVIRONMENTS



Engineering & Construction of Technology Facilities

PhealthG Engineering Company modular cleanroom includes :
modular sandwich panels with pu - rockwool core and very profesional
design of profiles to help for better cleaning .





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**CLEANROOM
TECHNOLOGY**



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& Upgrades of Your Existing Cleanroom

HVAC Design

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Cleanroom HVAC system / Air handing units / Ducting system

We specialize in the Turnkey Design
Engineering, Fabrication, Installation
Startup, and Testing of ISO Class 1
to ISO Class 9 Modular Cleanrooms
Dryrooms, Softwall Cleanrooms and
Custom Cleanroom HVAC Equipment

CLEANROOMS & ASSOCIATED CONTROLLED ENVIRONMENTS

Versatile to Precision detail

Flush Integrated air return panel

Flush Integrated service conduit

Single component 3-way pre-formed corner

Semi-flush Integrated window detail

Site assembled 3-way corner detail

Recessed adjustable floor track detail

Flush Integrated window detail

U-channel floor track detail

Versatile panel joint detail

Semi-flush Integrated door detail (viewed from Inside)

Site assembled corner detail (viewed from Inside)

Flush Integrated door detail (viewed from Inside)

Single component pre-formed corner (viewed from Inside)

CLEANROOM WINDOW

PhealthG manufactures both load-bearing and non load-bearing, partition wall panels for cleanrooms in all sizes and configurations. Load-bearing wall panels utilize "built-in" air return ducts as part of the metal lined interior of the panels. These wall panels utilize adjustable return air grilles, double pane flush windows, built-in electrical outlets and process piping for gases and liquids, as specified. Non load-bearing wall panels are used with external sheet metal ductwork systems and for internal partition walls.

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LOAD-BEARING AIR RETURN CLEANROOM WALL PANELS

Most modular cleanrooms built by UltraTech technology utilize load-bearing air return wall panels. These panels support the load-bearing top deck that closes and seals the top of the cleanroom and serves as a mechanical and process equipment mezzanine. Each wall panel can be used for air return as part of the cleanroom air return system.

NON LOAD-BEARING CLEANROOM WALL PANELS

Non load-bearing wall panels and partition wall panels custom manufactured to order. These are a perfect solution for a quick upgrade to your lab or facility.

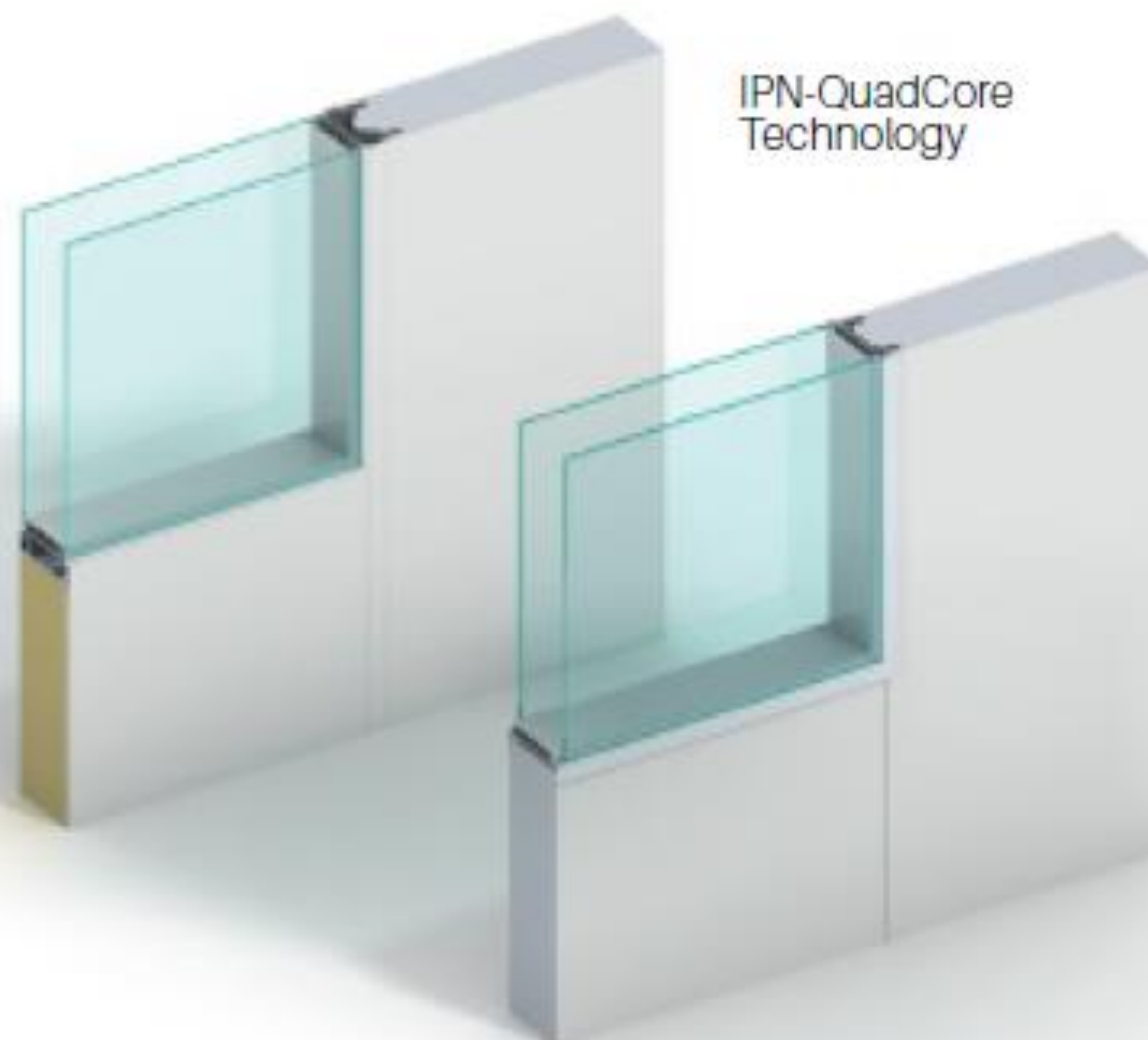
Our high quality, innovative UltraTech cleanroom solutions are ideal for a wide range of sectors.

THE ULTRATECH RANGE OFFERS FLEXIBLE, HIGH PERFORMANCE, ENGINEERED CLEANROOM SOLUTIONS THAT DELIVER BOTH COST AND OPERATIONAL BENEFITS, MINIMISING RISK AND MAXIMISING RETURN ON INVESTMENT.

ULTRATECH VERSATILE

UltraTech Versatile is our NEW revolutionary hybrid cleanroom-system that offers the client high performance solutions to fulfil their every aspiration for cleanroom systems at much lower cost than traditional methods.

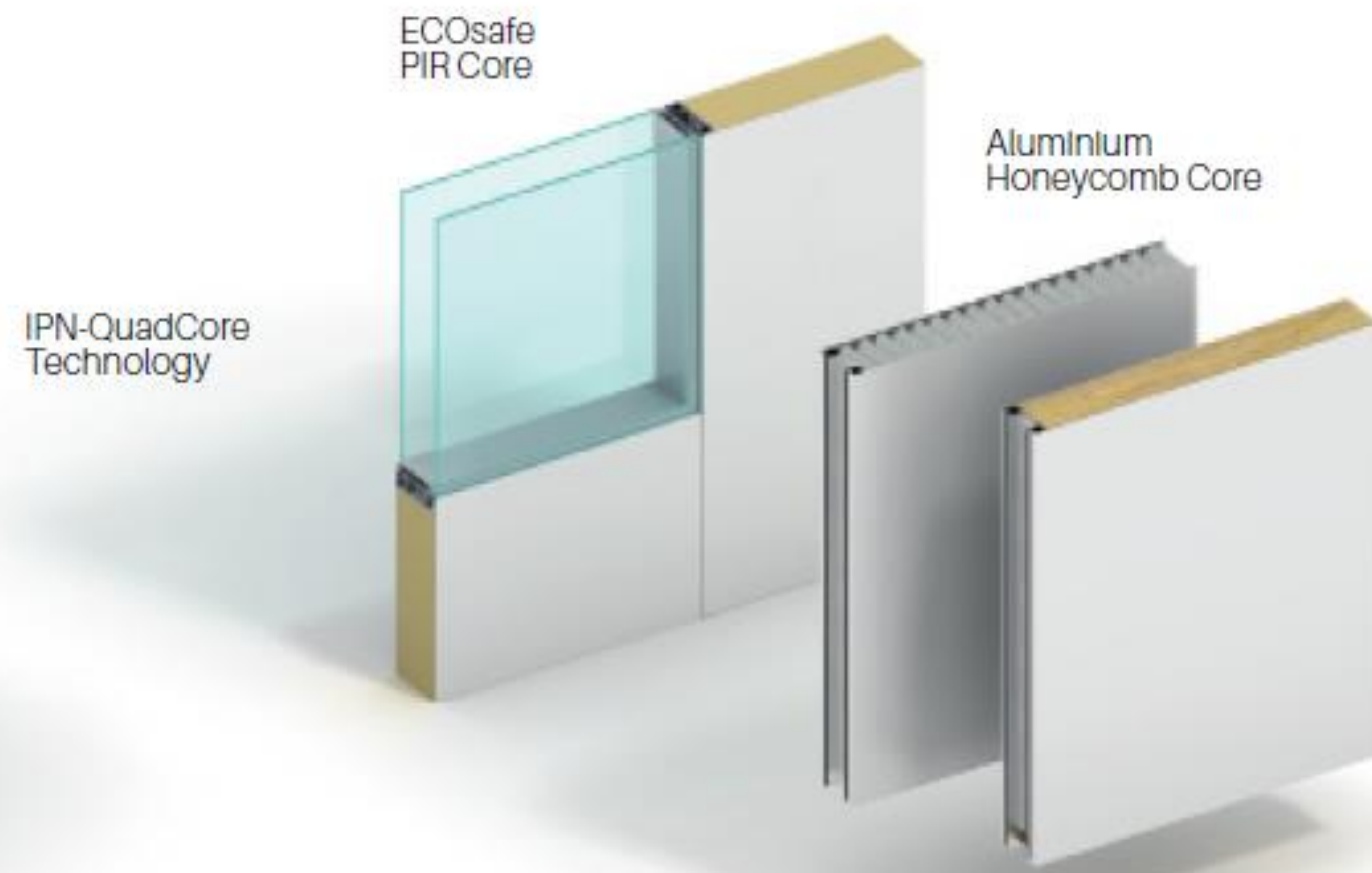
With the option to choose either flush, semi-flush or combination of both elements, UltraTech Versatile removes the boundaries to provide totally flexible cleanroom design.



ULTRATECH PRECISION

UltraTech Precision is a conventional flush modular system for specialist cleanroom applications.

With a choice of three core options - ECOsafe PIR, MF Core and Aluminium Honeycomb - UltraTech Precision is suitable for cleanrooms with distinct performance requirements





CLEANROOMS & ASSOCIATED CONTROLLED ENVIRONMENTS

CLEANROOM DOORS

Our standard doors are constructed of cleanroom grade anodized aluminum; 1.75" thick, with bottom flush solid panels, 1/4" thick safety glass, half glass, sloped sills, stainless steel hinges, push/pull hardware, and door closers. Aluminum doors eliminate the problems of paint chipping and scratching, and are easy to keep clean.

Hollow metal, painted steel, stainless steel, automatic or manually operated, overhead rollup or sliding doors are all other options available and can all be easily built in to meet any special requirements. Door hardware can be supplied to your specifications.



A photograph of a modern, brightly lit hallway. The walls are white, and the floor is a light-colored, polished material. On the left side, there are several bright yellow doors with vertical glass inserts. To the right of these doors are glass partitions. On the right side of the hallway, there are more yellow doors, also with glass inserts. The ceiling is white and features several circular ventilation grilles and rectangular light fixtures. A semi-transparent grey rectangular box is overlaid in the center of the image, containing the text "Engineering & Construction of Technology Facilities" in white. In the bottom right corner, there is a small teal square containing the number "21".

Engineering & Construction of Technology Facilities

We specialize in the Turnkey Design, Engineering, Fabrication, Installation, Startup, and Testing of ISO Class 1 to ISO Class 9 Modular Cleanrooms, Dryrooms, Softwall Cleanrooms and Custom Cleanroom HVAC Equipment.



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Cleanroom Validation Test (Airflow Velocity Testing)

Air Flow Velocity is usually measured at filter face and at the specified work surface elevation. It is very important that have a sufficient airflow velocity at the working surface which is capable to remove any contamination or particles at the sensitive locations. The purpose of this test is to determine the average room airflow velocity and uniformity of that airflow velocity at the specified work surface elevation.



CLEANROOM PERFORMANCE AUDITS

**(A) DEVELOPMENT AND DOCUMENTATION
OF REGULARLY SCHEDULED CERTIFICATION
AND/OR ROUTINE MONITORING AND
TESTING PROGRAMS TO ASSURE
CONFORMANCE WITH CURRENT INDUSTRY
GUIDELINES FOR :**

Cleanroom Facilities
Laminar Airflow Devices
Metrology Labs
Fume/ Exhaust Hoods
Biological Safety Cabinets (BSC'S)
Precision Assembly/Mfg.
Non Viable Particle Counting (Settling Plate with Surfscan
results and report)
Airflow Visualization Studies (SmokeTest)
Differential Pressure Gage Calibration.
Air Pressure Re-Balancing of Critical Areas.
Negative Room Pressure Monitoring and Rebalancing

A person wearing a white cleanroom suit and hood is kneeling on a light blue floor. They are holding a handheld device that emits a black smoke stream, used for testing airflow direction in a cleanroom. The device is silver and black with a red label. The background shows a cleanroom environment with a blue door and a white wall.

Cleanroom Validation Test Airflow Smoke Direction Testing



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Capture Hood Airflow Test

K factor must be applied when use capture hoods



CLEANROOM PERFORMANCE INVESTIGATIONS OF EXISTING FACILITIES

Developed specifically for your particular requirements, that is menu driven, which encompasses the profiling and documentation of the overall operational performance of your existing space in question, such tests may include, but is not limited to;



Testing Benchmarking of Portable High Efficiency Air Filtration Devices



SEE OUR TRAINING SEMINAR'S
OFFERING, TO LEARN MORE ABOUT
ESTABLISHING A "CLEANROOM
MANUFACTURING ATTITUDE".

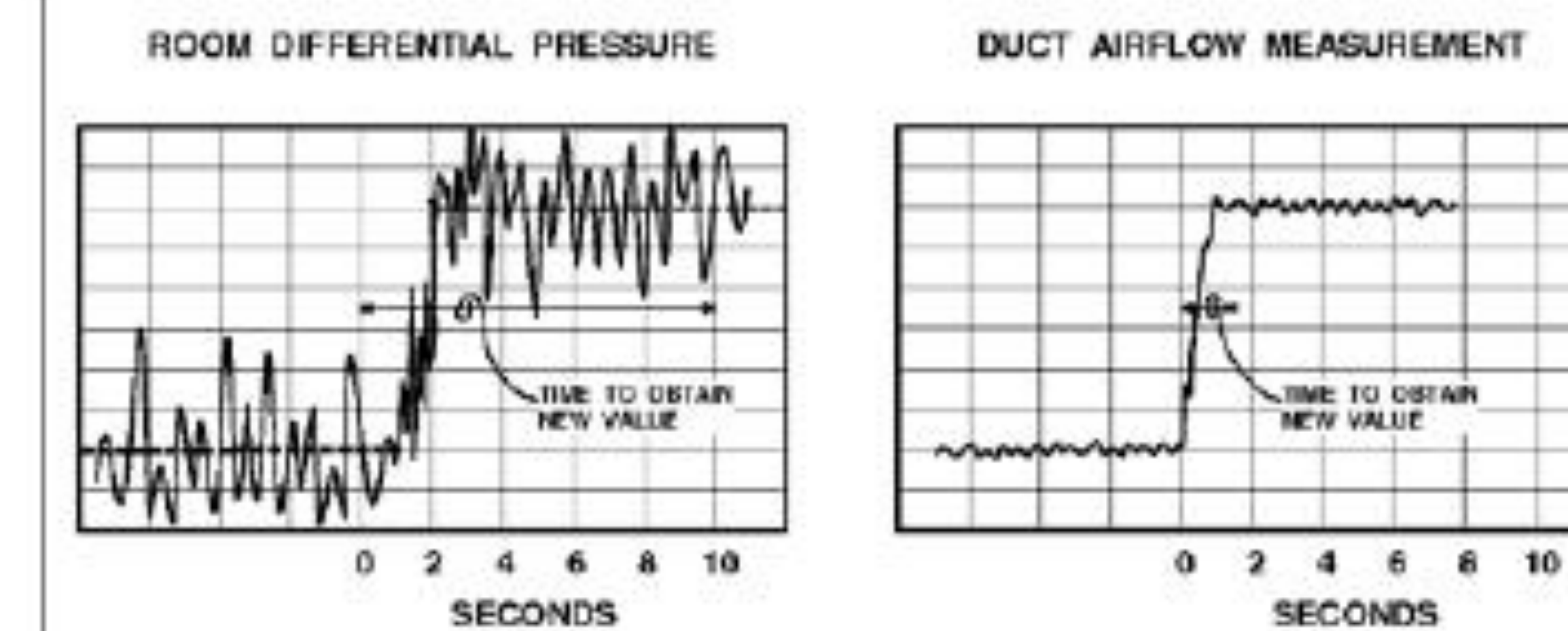


Airflow & Uniformity Testing



Airflow Face Velocity Testing

CLEANROOMS & ASSOCIATED CONTROLLED ENVIRONMENTS



FLOWHOOD METHOD

The supply, return and exhaust airflow to the cleanroom must be monitored to ensure the room air changes (ACH) and the room recovery time. The measured airflow must comply with the design parameters or be in acceptable range.

The equipments utilized in this test is AMI 300 multi sensor, Wane anemometers and Airflow capture hood.

Before this testing the TAB (Testing, Adjusting and Balancing) of Air Handling unit should be done to ensure the supplying of designed airflow.



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Upgrades and Modifications as a Cleanroom Contractor

Use our +10 years experience of cleanroom testing and troubleshooting to assist you in the design and construction of your cleanroom project with :

- Consulting during the contemplation/design and construction phases.
- Training of cleanroom construction personnel on "Build Clean" protocol.
- Provision of a on going monitoring program during the construction phases of your cleanroom.

ONCE IN OPERATION, WE CAN ASSIST YOU WITH:

- Training of your Operational/Maintenance personnel on proper cleanroom protocol/disciplines.
- Establishment of Housekeeping Procedures.
- Establishment of On-going Monitoring Programs.
- HEPA Filter Life Expectancy Monitoring Program
- SOP Development and/or Review.
- Air Flow Visualization Studies for areas of concern.



**CLEANROOM
TECHNOLOGY**



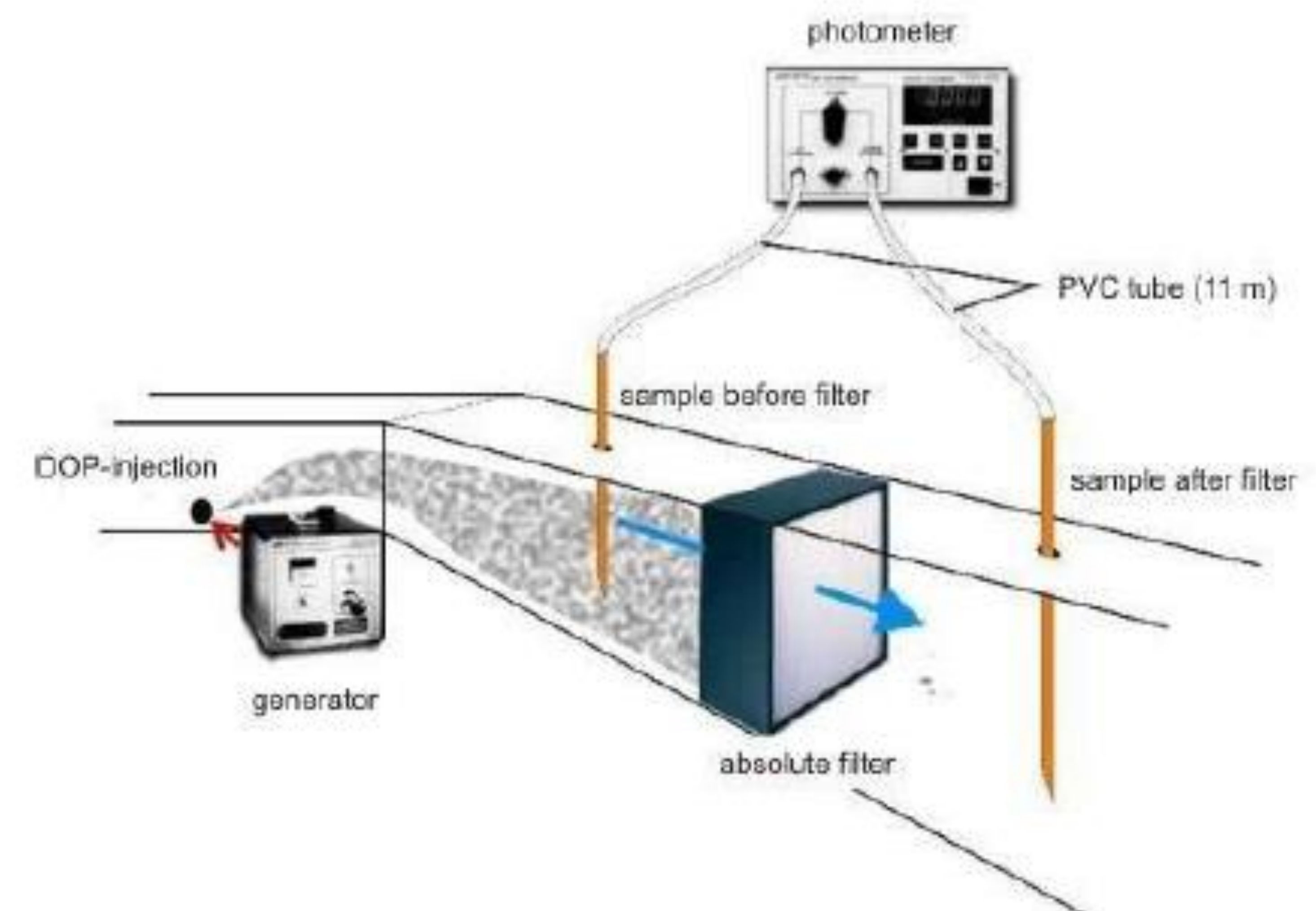
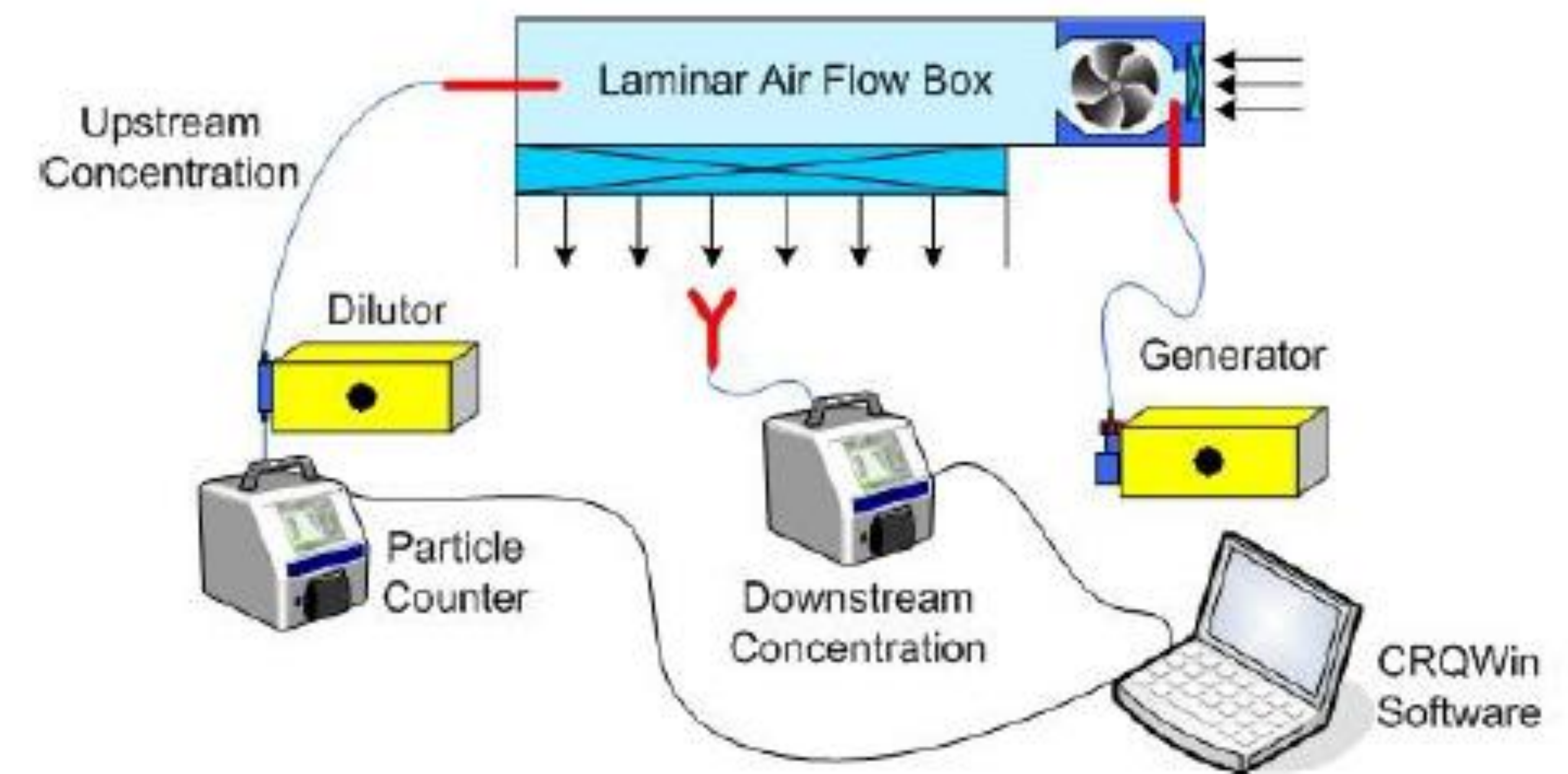
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CLEANROOM CLASSIFICATION TESTING

The particle counter test method employs discrete particle sizing and quantitative analysis. This test is performed by introducing an artificial aerosol challenge upstream of the filter and verifying the installation integrity by scanning the downstream side of the filter with the particle counter.



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We are expert in contamination control and we keep moving forward in order to pass the benefits back to our clients.



Investigations of Existing Facilities
Both Cleanroom and Non Cleanroom Applications

Upgrades and Modifications as a Cleanroom Contractor



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Power of Heal

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CONTROLLED ENVIRONMENT & CLEANROOM SOLUTIONS