



Pharma Egypt for Engineering

(Cleanroom & Lab Equipment)

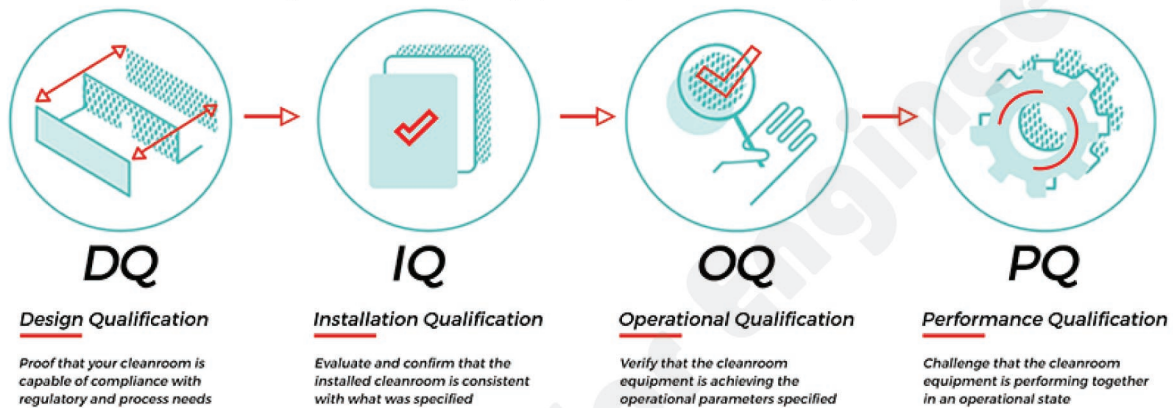
Experts Of Cleanroom Equipment in Egypt



About Pharma Egypt for Engineering

Pharma Egypt for Engineering established in the year 2018 that is involved in the manufacturing a wide range of Cleanroom Equipment and Air Borne Technology. and aids us in creating a remarkable range of items that lead to international standards (ISO 14644, FS 209 E, cGMP and USP 797/800). We have more than 15 years of providing full service design, engineering, manufacturing, Installation and validation for cleanroom projects and cleanroom equipment, 100% Successful Manufacturing Validation and Certification of all systems built. We provide our customers with all necessary documents about our cleanroom equipment and we work according to validation master plan.

Pharma Egypt for Engineering is ISO 13485 Certified for Design, Development, Manufacturing, Sales, Installation and Testing of laboratory equipment, Cleanroom equipment and Cleanroom Projects



VISION

We worked with all members to ensure that **pharma Egypt** is the premium selection for the Turnkey Cleanroom projects (Medical Device factories, cleanroom sampling and dispensing area, Microbiology lab, clinical pharmacy, Nano technology,) and cleanroom Equipment in Egypt.

MISSION

We guarantee our work, delivering a Cleanroom that meets your project requirements and exceed your expectations for quality and service with approved from EDA , ISO 14644 & cGMP.

Our Factory



All Solutions

- **Pharma Egypt** provides you with system solutions and components for all cleanroom component "Turnkey Cleanroom Solutions " (HVAC - Cleanroom partition – Ceiling panels – Cove profiles – Windows – Doors – Electrical works – Interlock – Epoxy floors).
- **Pharma Egypt** is the manufacturer of Biological Safety Cabinet, Laminar Flow Cabinet, Fume Hood, Pass box, Air shower, Weighing booth, Sampling booth, Mobile Laminar air flow, Ceiling laminar air flow, Trolley laminar air flow and Soft wall cleanroom.

Cleanroom Classification

Cleanroom Standard	Cleanroom Classification Guidelines					
ISO 14644-1	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8
Federal Standard 209E	1	10	100	1,000	10,000	100,000
EU GMP	-	-	A/B	-	C	D

Cleanroom Classification 1:2015-ISO 14644

This table details the air cleanliness class by particle concentration.

ISO Classification Number	Maximum allowable concentrations (particles/m ³) for particles equal to and greater than the considered sizes, shown below					
	≥0.1µm	≥0.2µm	≥0.3µm	≥0.5µm	≥1µm	≥5.0µm
ISO Class 1	10					
ISO Class 2	100	24	10			
ISO Class 3	1,000	237	102	35		
ISO Class 4	10,000	2,370	1,020	352	83	
ISO Class 5	100,000	23,700	10,200	3,520	832	
ISO Class 6	1,000,000	237,000	102,000	35,200	8,320	293
ISO Class 7				352,000	83,200	2,930
ISO Class 8				3,520,000	832,000	29,300
ISO Class 9				35,200,000	8,320,000	293,000

For cleanrooms and clean zones shown in ISO 14644-1:2015

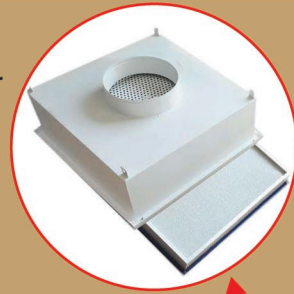
Cleanroom Limits for Airborne Particulate Contamination

Clean room and clean air device classification, in relation to GMP (2008).

Cleanroom Standard		Maximum permitted number of particles /m ³			
EU GMP Grade	ISO 14644-1	At rest ≥0.5µm	At rest ≥5.0µm	In operation ≥0.5µm	In operation ≥5.0µm
A	5	3,520	20	3,520	20
B	5	3,520	29	352,000	2,900
C	7	352,000	2,900	3,520,000	29,000
D	8	3,520,000	29,000	Not defined	Not defined

For cleanrooms and clean zones

HEPA filter box with Perforated diffuser



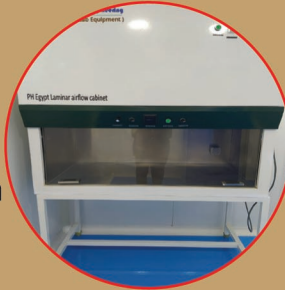
Pharma Egypt
cleanroom walkable ceiling



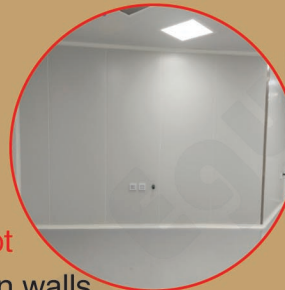
self leveling epoxy



Pharma Egypt
Laminar air
flow clean bench



Pharma Egypt
cleanroom partition walls



Pharma Egypt
Dynamic pass box

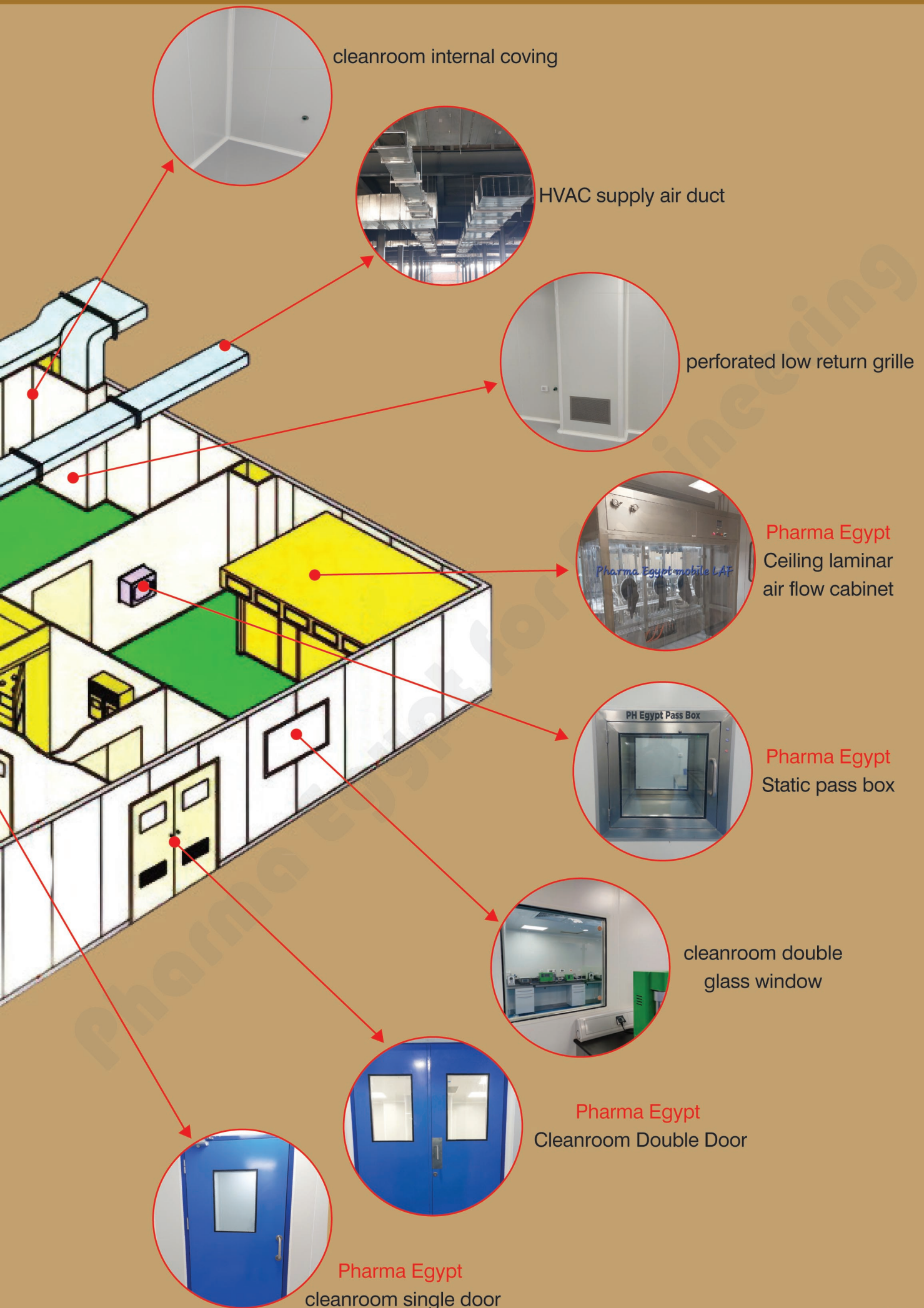


cleanroom external coving



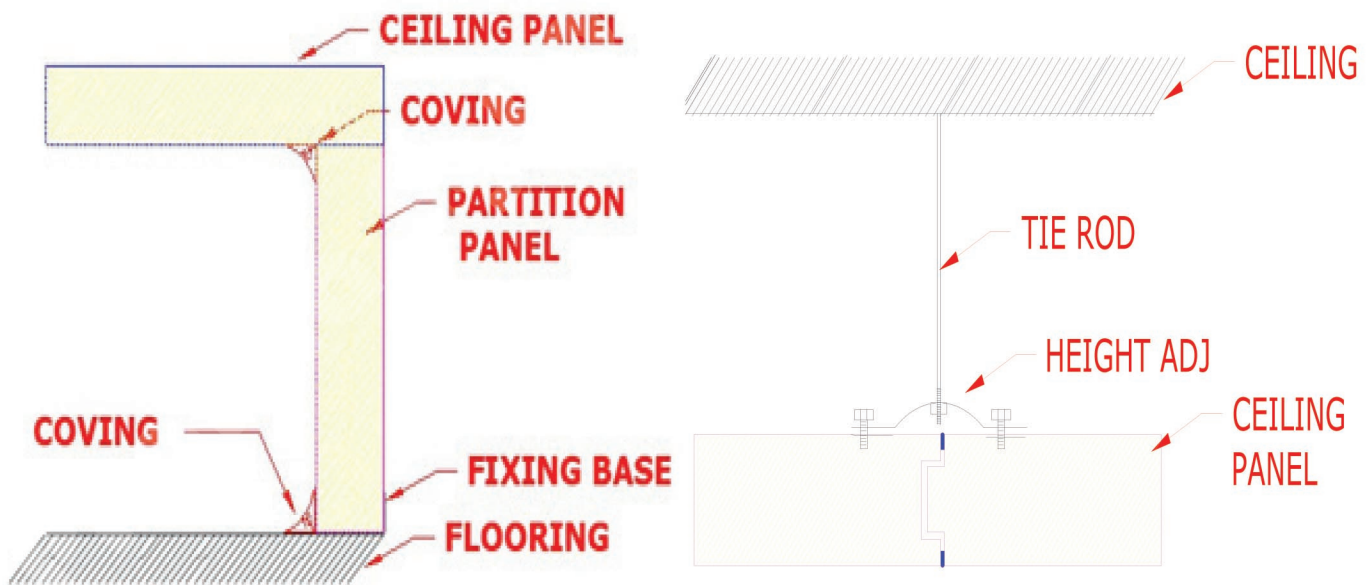
Pharma Egypt
air shower cabinet





Pharma Egypt cleanroom wall & Ceiling panels

Pharma Egypt designs and installs partition walls and False Ceilings and Walkable Ceilings for the construction and implementation of cleanroom and controlled environmental spaces for the Pharmaceutical, Medical devices, Electronic, Cosmetic and Food Industries as well as Research Laboratories. Pharma Egypt can supply a wide range of panels from local manufacture, China and Italia.



Specifications & Features

Panels material : PCGI , St. St. , HPL

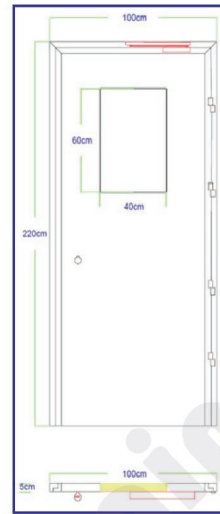
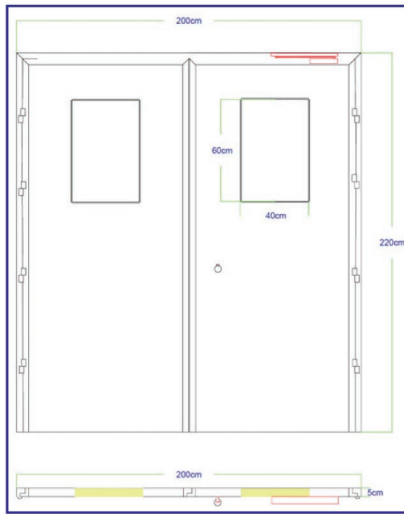
insulation : PUF, Rock wool

Sheet thickness : 0.4 , 0.5 , 0.7 mm

View panel Glazing : Flush 5 mm glass on both sides .

Pharma Egypt cleanroom Doors

Cleanroom door is characterized by air tightness, flush and smooth surface of door leaf and door frame. Pharma Egypt Clean room doors comes with integrated sealing system and in multiple materials like stainless steel and galvanized steel to meet stringent material specification.



Specifications & Features

- * Door material : PCGI , St. St. , HPL
- * Door Thickness : 5 cm , 7 cm
- * Leaf sheet Thickness : 0,7 mm
- * Frame sheet Thickness : 1,5 mm thick GI frame .
- * Insulation : PUF, Rock wool
- * Glazing : Flush 5 mm glass on both sides

Hardware & Accessories

- * Door closer
- * St. St. Hinges
- * Automatic Door Drop seal
- * Kick & Push plates
- * Panic bar for Emergency doors

Pharma Egypt RABS

Reliable product protection for every pharmaceutical process

In light of the new version of Annex 1, which came into force in August 2023, many pharmaceutical manufacturers are facing the question whether they must invest in new equipment. However, in many cases upgrades are a good alternative so **Pharma Egypt** for Engineering is the best choice to make this upgrade. According to the revised EU GMP Annex 1, sterile production must take place under RABS or isolator conditions to ensure maximum product and operator protection. Glove ports are needed to avoid opening of glass doors, for example to change settle plates for environmental monitoring or in the case of manual interventions through the glove ports. Depending on the individual production and filling facility, an oRABS may be the right solution to separate and protect aseptic production in a Class B environment.



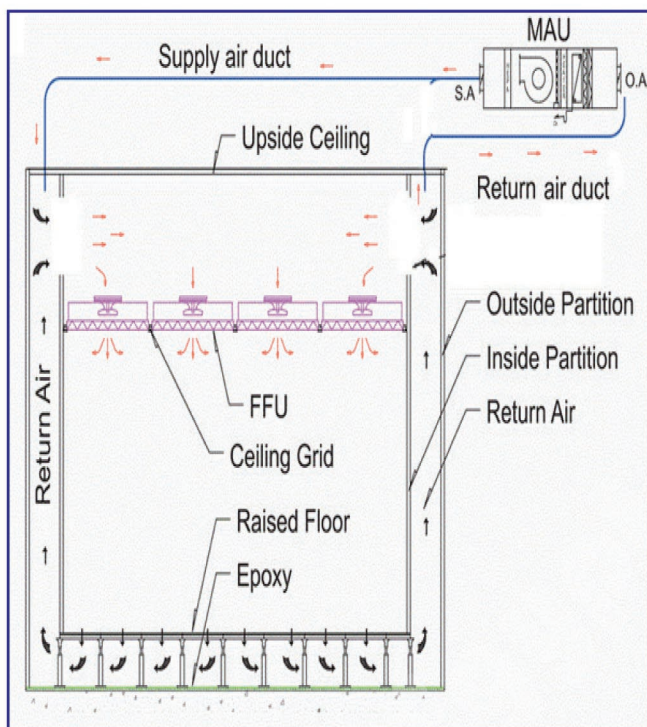
RABS - TECHNICAL DETAILS

- * Open or Closed RABS
- * Active (with integrated laminar air flow (LAF)) or Passive (LAF integrated into the ceiling)
- * Adaptable and customizable
- * Ergonomics validated on real size model in on site
- * Control by plc
- * Operations: personnel can intervene through the gauntlets fixed of the RABS parietal walls

Pharma Egypt Fan filter unit

Pharma Egypt Fan Filter Units (FFU) are ceiling module consisting of HEPA-filter, fan and control system. The module is designed to provide unidirectional vertical airflow of filtered, clean air over a cleanroom space by removing harmful airborne particles from recirculating air. FFU creates a positive room pressure that reduces the contamination risk from potential ceiling bypasses. They are commonly used in cleanroom for applications such as Semiconductor, electronics, flat-panel displays, disc-drive, manufacturers and optics, bio-engineering, clean lines, Nano technology ,etc.

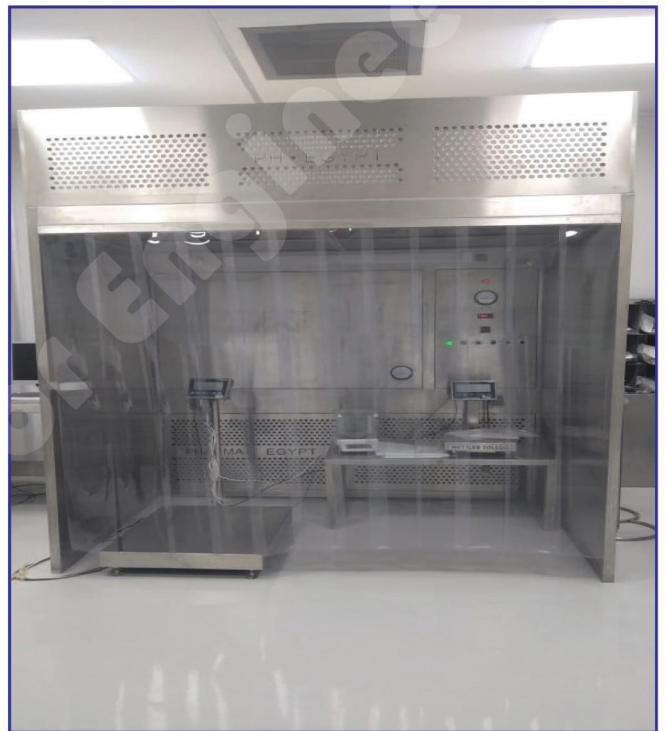
Pharma Egypt Cleanroom class 100 with Fan filter unit



Pharma Egypt Weighing / Sampling / Dispensing Booth

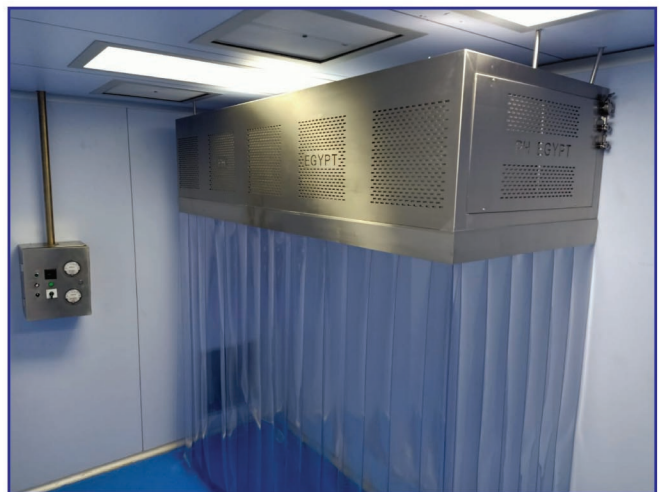
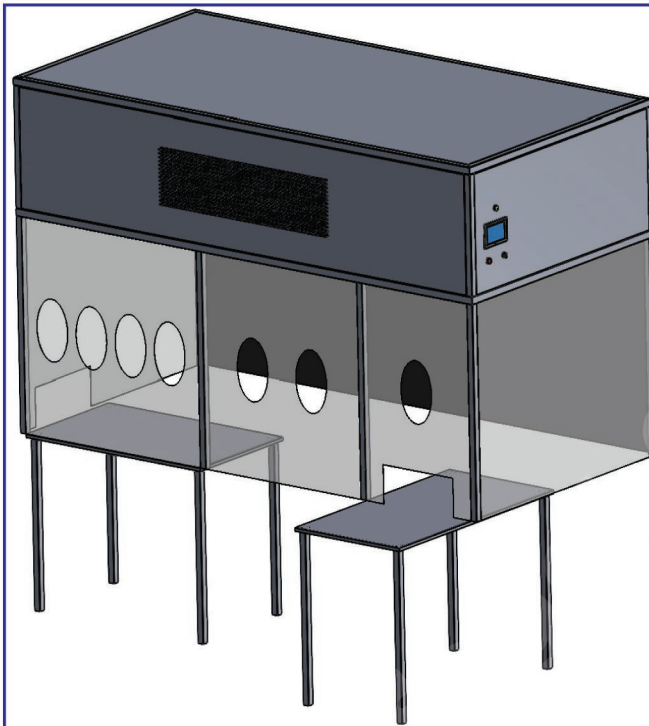
When you need to provide a clean, contained environment for the safe handling of powders in dispensing, weighing, sampling, or subdivision operations, our **Pharma Egypt** booths are a highly effective option.

Ph Egypt Weighing booth protect operating personnel when weighing up and filling products containing active agents . The Ph Egypt weighing and sampling protection cabinets allow to obtain delimited areas of clean and sterile air, through a unidirectional and descendant air filtered flow. Due to lower pressure in the working area, the possibility of cross contamination with other products is avoided. Weighing cabins operate with unidirectional and fully meet the requirements of class (100) to US Federal Standard or EU GMP class A .



Pharma Egypt Ceiling Laminar air flow

Pharma Egypt Ceiling suspended laminar airflow (Claf) are used for pharma filling & packing line etc. Claf provides HEPA filtered class100 air in sterile area . The air blown by the fan (top or side intake) discharges into a chamber / plenum where it is filtered through the HEPA absolute filter before arriving at the working area in laminar form, The LAF unit complies with the guidelines of ISO 14644-1 and 14644-2.”



Pharma Egypt Mobile / Trolley Laminar air flow

PH Egypt Mobile LAF is designed for the transition and handling of materials in a sterile environment. MLAF provides HEPA filtered class100 air in sterile area. The work area is continuously supplied with positive pressure HEPA filtered vertical / horizontal airflow. Our range of mobile LAF is available in Trolley LAF , Tower LAF and various specifications as per the client's requirements.

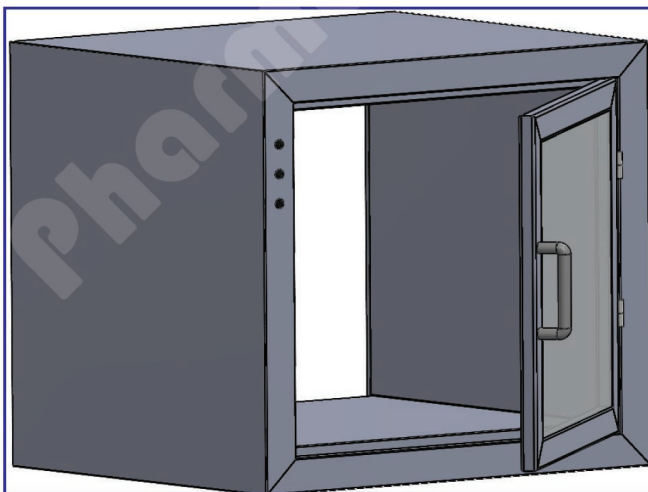
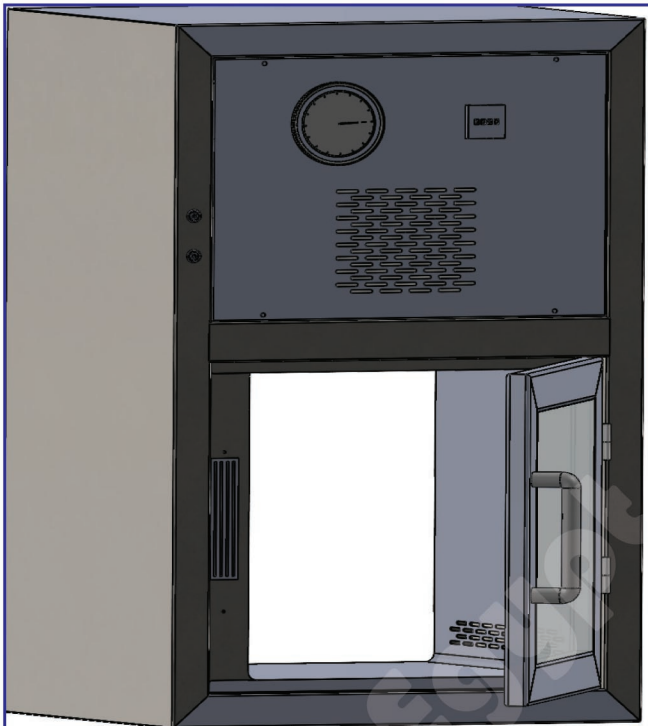


Pharma Egypt Static/ Dynamic Pass Box

Pharma Egypt Static/ Dynamic Pass Box is used for transfer of material from and into cleanroom, without contaminating the air of cleanroom and without having to open room door. This is achieved with the help of interlocking type doors of pass box. The pass box has two doors at its extreme ends. These doors are electrically interlocked type so that any one door can be opened at a time. Boxes are available with various surface finishes including: painted steel or stainless steel.

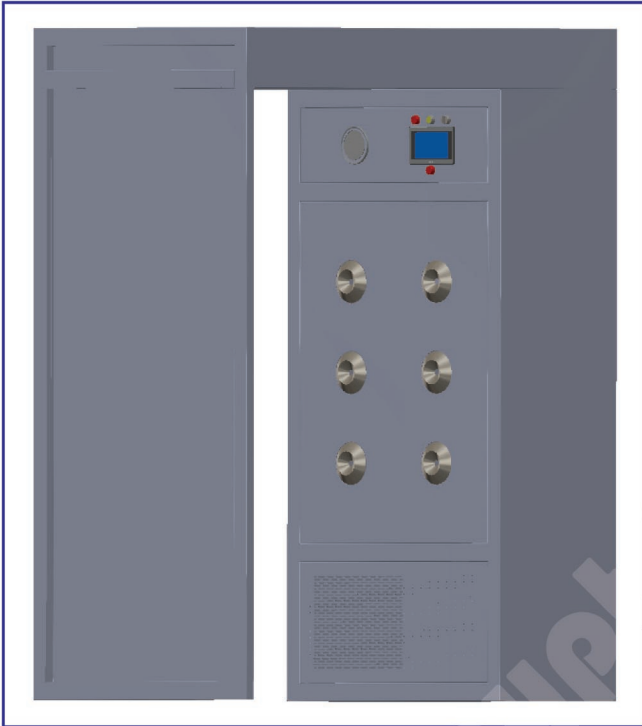
Pharma Egypt Static Pass Boxes are used to transfer materials between two rooms of equal cleanliness levels

Pharma Egypt Dynamic Pass Boxes are used to transfer materials between two rooms of different cleanliness levels

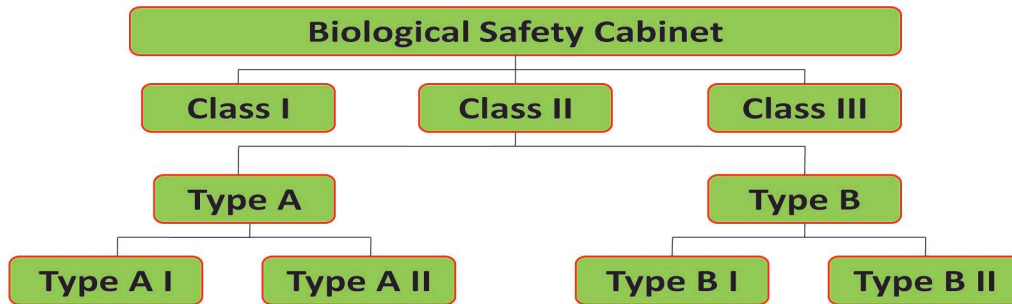


Pharma Egypt air shower cabinet

Pharma Egypt air shower cabinet is designed to supply Class 100 HEPA filtered air at high velocity to minimize particulate matter entering or exiting the clean space to mitigate the risk for cross-contamination. Air Shower works as partial clean equipment installed at the partition between the cleanroom and non-cleanroom to shower the personnel before entering or exiting the clean area. This unit helps to remove dust effectively and maintains the normal working status. Air shower are available with various surface finishes including: painted steel or stainless steel.



Pharma Egypt Biological Safety Cabinets



Class I:

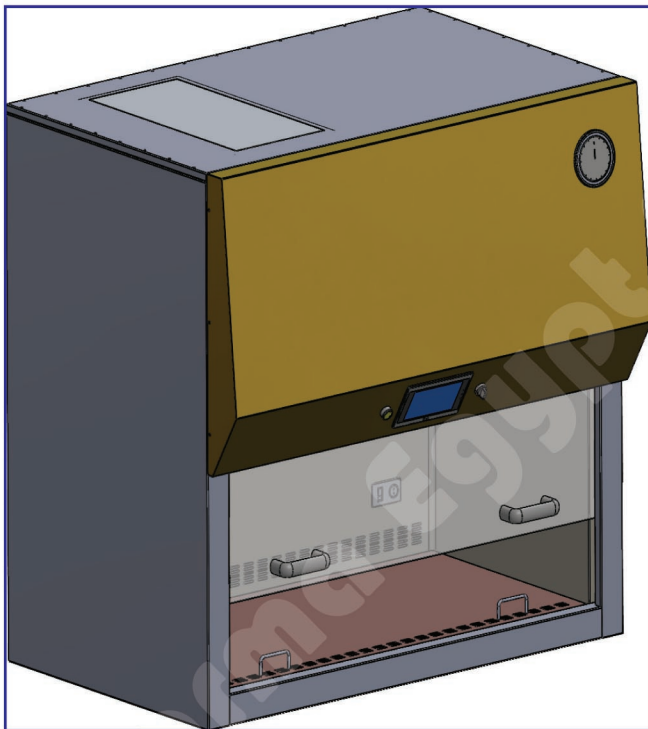
Personnel and Environment protection, Product is not protected.

Class II:

Personnel, Product and Environment are protected.

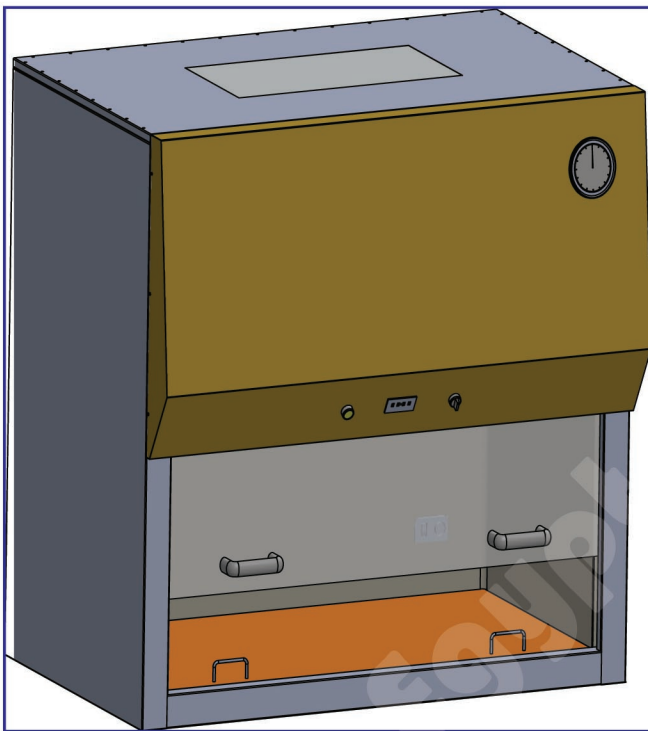
Class III:

Maximum protection to Personnel, Product and Environment.



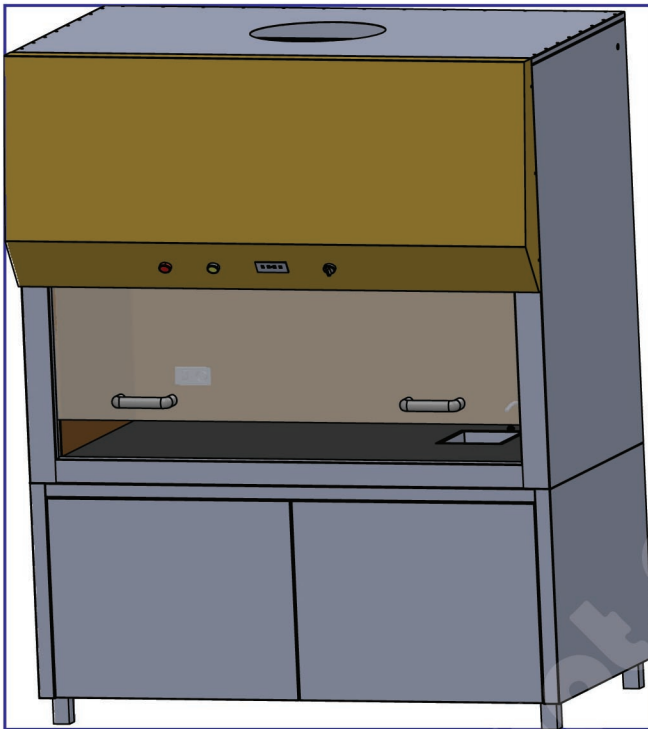
Pharma Egypt Laminar air flow cabinet

Pharma Egypt Laminar Air Flow Cabinet is designed to provide a high degree of protection for products in laboratories and production facilities. Many critical applications in the medical, pharmaceutical, and micro electronic fields demand an ultra-clean work environment which is free from biological and particulate contamination. The two main types of laminar flow hoods are horizontal and vertical. The ambient air is drawn in through the pre-filter fitted in the upper side of the cabinet and it then passes after filtration through the HEPA filter into the Work-area in Vertical / Horizontal laminar airflow conditions.



Pharma Egypt Fume Hood Cabinets

Pharma Egypt chemical fume hood protects lab workers by venting fumes and other harmful gases out of the laboratory and the indoor room air. The inflow flushes the entire work zone of the hood; within the main chamber of the hood, negative pressure (relative to the ambient environment) is maintained so that no chemical fumes or vapours escape the work zone.



Pharma Egypt fume hood is fitted with Two stages of filtration:

- A. G-4 synthetic fibre pre-filters of efficiency equivalent to $\leq 80\%$.
- B. Carbon Filters (these carbon filters are designed for the control of intermittent odor problems, Carbon filters remove a wide range of odors and common indoor air pollutants) .

Maintenance Service

Pharma Egypt is well aware of what it means to work in an environment with controlled contamination, and research laboratories.

Pharma Egypt is able to secure the services of emergency, periodic review and preventive and corrective maintenance of:

- * Laminar air flow cabinet.
- * Biological safety cabinet.
- * Laminar air flow booth.
- * Weighing and sampling booth.
- * Static and dynamic Pass Box.

GMP consulting service

Pharma Egypt is a specialist medical device and pharmaceutical consultancy. **Pharma Egypt** offers a comprehensive consulting service on issues regarding cGMP and EDA , our engagements include :

- * cGMP Audits , layout review and approved from EDA.
- * Personnel and material layout design .
- * Design, Engineering and commissioning.
- * Qualification services for cleanroom and all types of laminar air flow booths (IQ,OQ&PQ)

Air speed sensor

According to the latest EDA requirements, air velocity must be monitoring for class 100 Laminar Airflow cabinets so **Pharma Egypt** supply , install and calibrate air speed sensors for all laminar airflow devices.



Door Airlock & Interlock Systems

To maintain cleanroom pressure differentials, passage should be through airlocks (and ideally controlled by interlocks). Airlocks are mostly used for the coming and going of personnel in gowning and degowning areas and material transfer airlocks.

Pharma Egypt Interlock System prevents more than one door from opening at the same time, under normal conditions. The Door Interlock System is electrically operated using magnetic or Bolt locks and magnetic door switches.

Our Clientele

	 الخليج للصناعات الدوائية Gulf Pharmaceutical Industries					
						
						
						
						
						
						
						
						
						



Pharma Egypt for Engineering

(Cleanroom & Lab Equipment)

Experts Of Cleanroom Equipment in Egypt

Pharma Egypt for Engineering

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