

CEILING SUSPENDED LAMINAR AIR FLOW



APPLICATIONS

Pharmaceutical Industry

Preparation of sterile drugs, vaccines, and parenteral formulations. Critical operations like filling, mixing, or transferring sterile products.

Hospital & Medical Settings

Preparation of intravenous (IV) solutions, chemotherapy drugs, and sterile dressings. Operation theatres. Ensuring a contaminant-free workspace for high-risk medications.

KEY FEATURES

Unidirectional Airflow :

Provides a uniform, laminar (unidirectional) flow of HEPA-filtered air vertically downwards over the working area to maintain a clean zone.

HEPA Filtration:

Equipped with high-efficiency HEPA filters (typically H14 grade) with an efficiency of 99.97% at 0.3 microns to ensure contaminant-free air.

Pre-filter System:

Includes washable pre-filters to trap larger particles and extend HEPA filter life.

Construction:

Made of high-quality materials such as powder-coated mild steel, stainless steel (SS 304/316), for durability and corrosion resistance.

Modular and Customizable

They are often built with a modular design to be easily integrated into cleanroom ceiling grids and are customizable in size, air velocity, and construction material typically stainless steel or powder-coated GI to suit specific cleanroom layouts

Perforated Diffuser Screen

The face of the unit uses a perforated plate or a flow-optimized distributor to ensure the filtered air is discharged with a uniform, low velocity and minimal turbulence across the entire area, maintaining the laminar flow pattern.

Ceiling-Mounted/Suspended Design:

This overhead configuration is a defining feature, as it maximizes usable floor space and allows the air flow to be delivered from directly above the critical process (e.g., an operating table, a pharmaceutical filling line)

Pressure Differential Monitoring:

Provision for magnehelic gauge or differential pressure indicator to monitor filter health and airflow resistance.

TECHNICAL MATRIX

PARAMETER	SPECIFICATION / RANGE
Design	Ceiling Mounted / Suspended
Airflow Type	Unidirectional Laminar Flow
Air Velocity	0.3–0.5 m/s
Filter Type	HEPA (H14) / ULPA
(PTE CLAF 81 A) (PTE CLAF 81 B) (PTE CLAF 81 C) (PTE CLAF 81 D) (PTE CLAF 81 E) (PTE CLAF 81 F) (PTE CLAF 81 G)	(LxBxH) 4'x2'x2' 4'x3'x2' 4'x4'x2' 6'x3'x2' 6'x4'x2' 8'x4'x2' 8'x6'x2' Customized sizes available
Noise Level	<60 dB
Material of Construction	SS 304 / SS 316
Work Surface Area	2 –30 sq. ft / customized
Illumination	LED light, 300 –500 lux
UV Sterilization	Optional, UVC lamp 254 nm
Control Panel	Switches / Sensitive Key Pad
Alarm System	Airflow disruption / Filter clogging (Optional)
Blower / Fan	Centrifugal / Low noise
Power Supply	220V / 50Hz Single Phase

OPTIONAL ADD ONS

- LED lighting integrated within the housing.
- UV germicidal light for microbial control (optional).
- Airflow velocity control through a variable speed drive (VFD).