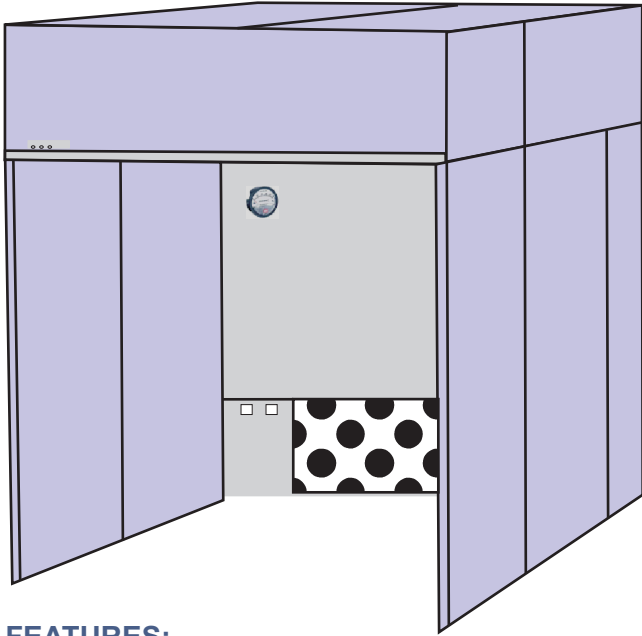


# DOWNFLOW BOOTH for Sampling / Dispensing of Raw Material



Downflow booths are used in the pharmaceutical, fine chemical and food industries, for operations such as grinding, dispensing and filling which generate airborne particles; when

- processes involve hazardous, toxic or hormonal materials.
- operators, adjoining areas require protection from exposure to aerosols of the process materials.

KT Engineering offers a new adaptive ergonomic design, combined with a unique airflow management system.

## BASIC PRINCIPAL:

Downflow air captures airborne dust particles and dirty air is pulled to a Low Level Exhaust Plenum, through following:

- **Filters 1st Stage:** High Capacity Pre Filters
- **Filters 2nd Stage:** Bag Filters - 65% / 95% efficiency.
- **Filters Final Stage:** H14 HEPA filters - 99.999% @ 0.3 microns.

## FEATURES:

- Modular design and panel for easy on-site installation.
- Removable pre-filter(s) panels enable access and service from inside the booth.
- Re-circulatory Airflow.
- Down-flow HEPA filters are replaceable, within the booth.
- Voltage-compensating blower(s) ensure stable airflow.
- Magnehelic gauges provide convenient and reliable means for monitoring booth airflow.
- Energy-efficient tear-drop light fittings minimize airflow disruption.
- Castor wheels provides easy movement for servicing and maintenance.
- Built-in warm white lighting provides excellent illumination of the work zone and reduces operator fatigue.
- Downflow Booth provides unidirectional air from the HEPA Filters @ 0.45 m/s (90 fpm)  $\pm$  20%.
- Booth shipped in form of panels for on-site installation.
- IQ/OQ protocols available (optional)

## FILTRATION AGENTS:

- ISO Class 5 air cleanliness within work zone as per ISO 14644.1 (equivalent to Class 100 as per US Federal Standard 209E).
- High-quality washable pre-filters.
- 65% / 95 % efficiency bag filters.
- Mini-pleat separatorless H14 HEPA filters with a typical efficiency of 99.999% at 0.3 microns.
- Aerosol-PAO challenge test port included (DOP Test).

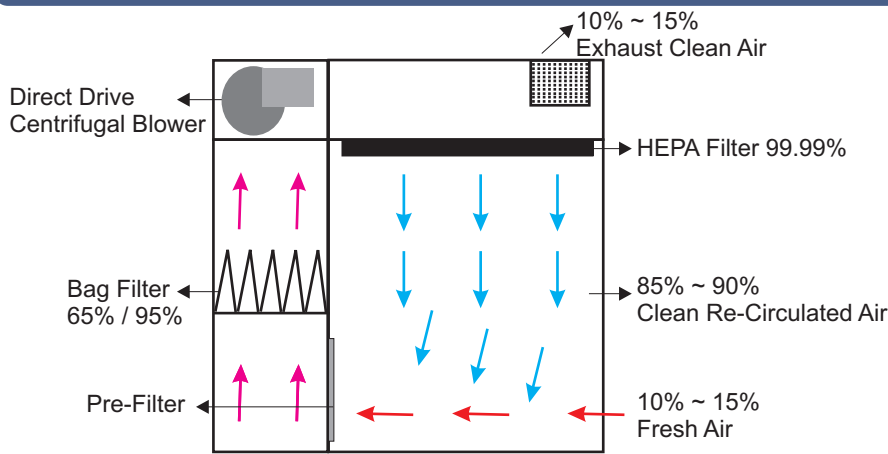
## CONTROL FEATURES:

- Built-in solid state variable speed controllers, adjustable from zero to the maximum setting.
- Booth control system consists of separate switches / indicator lights for:
  - ▶ blowers
  - ▶ lights
  - ▶ electrical sockets for weighing balances
- Pressure gauge for airflow monitoring on the front panel.

## CONSTRUCTION FEATURES:

- Industrial grade Stainless Steel 304.
- Easy-to-clean stainless steel surface is more durable than other materials and will never rust, chip, or generate particles.
- Inner chamber: Double skin side walls.
- Recirculating design: 85-90% re-circulated and 10-15% exhausted.
- Both exhaust and re-circulated down-flow air is HEPA-filtered for operator and environmental protection.
- Airflow balance is adjustable.
- Concealed attractive panels, effective air management system.
- Compliance: GMP, COSHH, ISO 14644.1 Class 5 air cleanliness.
- Modular design ensures design flexibility.
- Negative pressure 100% exhaust Downflow booths also available.

# Technical Specification - Engineering Diagram



## Standard Accessories:

Flourescent Lights.  
Electrical Sockets.  
DOP Test ports.  
Magnehelic Guages.

## Optional Accessories:

Multiple HEPA filtration.  
Digital Air Flow Meter.  
UV Light.  
Front PVC curtains.  
N<sub>2</sub>, water, vacuum, compressed air ports.

General Specifications	KTE-DB-5x5 Internal Safe Working Zone	(Other sizes also available)
<b>External Dimensions (WxDxH)</b>	66" x 82" x 96"	
<b>Internal Dimensions (WxDxH)</b>	60" x 60" x 70"	
<b>Air Velocity</b>	0.45 m/s (90fpm) ± 20%	
<b>Standards Compliance</b>	Air cleanliness: ISO 14644.1 Class 5, EC-GMP, FS 209E Filter performance: IEST-RP-CC034.1, IEST-RP-CC007.1, IEST-RP-CC001.3 and En1822	
<b>Air Cleanliness</b>	ISO 14644.1 Class 5, US Federal Standard 209E Class 100 and other equivalent cleanliness classifications.	
<b>Downflow Filter Type</b>	H14 HEPA filter with integral metal guards and filter frame gaskets; fully compliant with EN1822 and IEST-RP-CC001.3 requirements.	
<b>Downflow Filter Efficiency</b>	99.999% at 0.3 microns.	
<b>Exhaust Filter Type</b>	H13 HEPA filter with integral metal guards and filter frame gaskets; fully compliant with EN1822 and IEST-RP-CC001.3 requirements.	
<b>Exhaust Filter Efficiency</b>	99.99% at 0.3 microns.	
<b>Pre Filter</b>	Washable / Disposable	
<b>Bag Filter</b>	65% / 95% efficiency	
<b>Noise Level</b>	Typically <70 dBA at initial blower speed of individual blower.	
<b>Light Intensity</b>	500 lux minimum.	
<b>Body Construction</b>	16 ~ 18 guage SS 304.	
<b>Power Supply</b>	220 V, Single Phase 50hz / 60hz.	

*Kleentek Engineering manufacture's Downflow Booths , Laminar Flow Cabinet, Biohazard / Biological Safety Cabinet, Fume Hood, Pass Through Boxes, Pass Through Air Showers, Air Showers, HEPA Filter Housings.*

*Kleen Tek Engineering specialized in fabricating the custom sized equipments to meet the customer requirements at competitive prices*

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## Local Representative



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