

TECHNICAL SPECIFICATIONS
BIOLOGICAL SAFETY CABINET

Technical Specifications of item - Biological Safety Cabinet Based On Class II Type A-2 For 30% Exhaust- Vertical Flow As per International

Standards:

1. Work Area :- 4 x 2 ft (approx) Shutter opening
2. Air Flow :- Vertical down flow (30% Exhaust)
3. Cleanliness Level :- Less than 3.5 particles/liter of 0.5 um and larger (ISO 14644-1)
4. Noise Level :- Less than 65 db
5. Vibration Level :- Less than 2.5 um
6. Average Air Flow :- 90 ± 20 fpm (down flow)

CONSTRUCTION

1. Main Body :- STAINLESS STEEL [(304 GRADE) - Heavy gauge – 16G]
2. Table Top & Working zone :- STAINLESS STEEL [(304 GRADE) - Heavy gauge – 14G & 16G]
3. Table Top in two part :- (a) Front Perforated portion – 4" size
(b) Non – Perforated working Zone: - Table sunken type (through type) for Spillage Management. It can be lift easily for cleaning below the table.

INCLUSIVE OF STANDARD ACCESSORIES

1. HEPA / ULPA filter- MINIPLEAT – 99.99 % efficiency for 0.3 micron with integral metal guard & filter frame gasket & manufactured in class 1000 super clean Air-Conditioned environment for longer life. (at supply and exhaust)
2. Air Pressurization system- Statically and dynamically balanced fitted with special vibration reducing system to suit low noise and vibrations.
3. Front Door-Polycarbonate/Toughened Glass (6 mm) – Adjustable as per requirement vertical sliding (one piece with counter weight arrangement finger tip control)
4. Slide walls in Stainless Steel (304 grade) - Heavy Duty – 14 Gauge.
5. Fluorescent Light-low energy chokes less to withstand larger fluctuations in voltage- Placed outside working zone to avoid turbulence. (Intensity – More than 1200 Lux)
6. Support Stand with leveling Screws adjustable from 55-85 mm
7. U.V. lamp-in working zone (40 micro watts/squares cm at 254 nm or better). So placed that you cannot see directly i.e. eyes are always protected.
8. Universal Service fittings for gas & Air
9. Rehabitable Pre Filters with efficiency of more than 80%
10. Switches & Electrical Socket outlet (15/5 amp- industrial type for longer life)
11. Pressure Monitors: Magnehelic Gauge- to indicate pressure drop across HEPA Filter / air velocity sensors.
12. DOP Port. Current Leakage Circuit Breaker. Air Tight Duct Exhaust Extension Exhaust ducting

SPECIAL FEATURES

- Contaminated plenum in negative pressure to prevent leakage into the environment. Exhaust blower placed outside at roof top level.

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- Exhaust Blower- Suitable for 30% Exhaust interconnected with supply air blower, the system will only start when the negative pressure is developed. With virus burn out unit.
- Special precautions are taken so that if by chance the exhaust blower is not working, you will get buzzer
- Audible alarm warns the operator if the window is raised above the recommended height of 203 mm (8")
- Air Short Circuiting or the By Pass arrangement: By chance there is ingress of fresh air from near the top of front shutter. This ingress will not percolate into the working zone: but will be short circuited to return duct at the back. Safety Suction points near the upper portion of the front shutter transfer short circuit dirty air into exhaust/return duct.
- Adjustable Zero-leak proof damper at supply air intake & exhaust ducting
- Special provision for system which gives alarm to stop supply air in case the negative pressure goes beyond certain limits to stop contamination egress to laboratory
- Spillage trough below the working table is of 16G Heavy Duty Stainless Steel. This trough has drain cock
- Back holes on vertical walls: To provide more work area on table top.
- Certifications Required : NSF-49 / EN-12469

POWER REQUIREMENT: 1KW Single/Three Phase

Firm to validate the cabinet at time of installation and 2 times every year to change HEPA as and when required during guarantee period validation to include following requirements (at site) :-

1. Down flow velocity and volume Test
2. Inflow velocity Test
3. Airflow Smoke Pattern Test
4. HEPA Filter Leakage Test
5. Cabinet Leakage Test
6. Electrical Leakage : Ground Circuit Resistance and Polarity Test
7. Lighting Intensity Test
8. Vibration Test
9. Noise Level Test
10. UV Lamp Intensity Test
11. Alarms and indicators test (if provided).
12. The differential pressure gauge should be calibrated.

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