BIOSAFETY CABINET

Technical Specifications

1 The Bio safety cabinet should be Type A2 in which 70% Air should be re- circulated and 30% of the air should be exhausted

2. The Bio Safety Cabinet must include two DC motors. High power consuming AC motors should not be used

3. The motor must automatically adjust the airflow speed without the use of a damper to ensure continuous safe working conditions, even without maintenance adjustments.

4. In order to preserve safety to the user and the environment, the exhaust blower on the cabinet must continue operating when the supply blower stops working. If the exhaust blower should fail, the supply filter will also be turned off.

5. In order to ensure consistent and reliable down flow velocity across the supply HEPA filter over the life of the cabinet, the cabinet must use a pressure sensor (rather than anemometer) to detect pressure drop across the supply filter, rather than in just one point across the down flow. The pressure sensor must be encased in order to protect the sensor from temperature, humidity and other environmental phenomena that can impact the sensor's performance.

6. The microprocessor must display the inflow and down flow air velocities in real-time on an LED display to ensure the user knows whether or not the cabinet is working under safe operating conditions.

7. The front window must be a 10" sash opening and be made of laminated safety glass to ensure containment of potentially hazardous samples in the case of accidental glass breakage.

8. All interior and exterior parts must be painted or smooth to ensure no risk of cuts to users or maintenance personnel.

9. The front of the cabinet must be angled 10º to help minimize glare on the window to the user, and to ensure that the user's posture is comfortable during a working session. Inadequate user ergonomics in a safety cabinet may lead to excessive fatigue, unsafe working habits and harmful consequences to user safety or product contamination.

10. The cabinet noise level must be less than 63 dB(A) for a 4 foot cabinet as measured in a sound proof room 12 inches in front of the cabinet and 15 inches above the work surface. Lower noise levels promote more comfortable and safer working habits of the user.

11. The Biosafety Cabinet should have microprocessor controller and same must be located on a slanted front panel so it is easy to see and reach from a seated working position in front of the cabinet.
12. The interior of the front window must be accessible for cleaning without requiring the user remove or support the window.
14. The biological safety cabinet must be capable of achieving current state-of-the-art in energy efficiency. A biological safety cabinet with lights on and fan at operating speed should consume less than 200 watts for a nominal four foot width and have a reduced energy mode for non-operational maintenance on containment in the work area.
15. The cabinet must automatically reduce fan/blower motor speed to 30% when the front window sash is in closed position to ensure reduced energy consumption when the cabinet is not is use.
16. In order to provide maximum effectiveness, efficiency and safety to laboratory Personnel, UV light must be programmable to allow for specific exposure times from 0 to 24 hours. The automatic shut off feature on the UV light saves money on replacement of the bulbs.
17. The Cabinet should have provision to fit taps for Vacuum, Water and Combustible Gas. Taps should be quoted as optional items
18. The Bio safety Cabinet should be NSF certified with listing on NSF website.
19. The Bio safety cabinet should incorporate HEPA filter of the class H 14 EN 1822 or better and having minimum efficiency of 99.995% at 0.3 μm particle size.
20. Approximate Dimension
    Exterior 1500 H x 1300 W x 800 D; Interior 800 H x 1200 W x 500 D
21. Ventilation System Exhaust and Inflow air volume approx 300-350 CFM
22. Heat Emissions at 25ºC should be approx 0.2 KW or lesser.
23. The Bidders should provide details of Standard Warranty available
24. The cabinet Should be provided with Microprocessor controller and large LED display for inflow and Down flow air velocity and hours of operation, Audible and visual Alarms for HEPA filter failure, blower failure, airflow speed failure, Incorrect window position.
25. The BSC must incorporate an LED Indicator to indicate filter loading and should provide visual and audible alarm to indicate excessive HEPA filters loading which can result in unsafe airflows deviation from the NSF recommended inflow and down flows air velocity values measured in meters per second or foot per minute.
26. The cabinet should be provided with fixed / adjustable Height Stand, UV Light and one set of detachable arms rest and one / two electrical outlet.
27. The Drain Pan of the BSC should be made of Stainless Steel. The drain pan should not be painted or power coated.

28. The Bio safety cabinet should have dual side wall with negatively pressurized interstitial space. Bio Safety Cabinet with single glass side walls should not be quoted.