



PHARMA DEVILS

MICROBIOLOGY DEPARTMENT

STANDARD OPERATING PROCEDURE

Department: Microbiology	SOP No.:
Title: Cleaning and Operation of Laminar Air Flow	Effective Date:
Supersedes: Nil	Review Date:
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1.0. OBJECTIVE:

To lay down a procedure for the Cleaning , Operation and Maintenance of LAF.

2.0. SCOPE:

This procedure is applicable for the Cleaning , Operation of LAF installed in Microbiology Laboratory of the Quality control department of

3.0. RESPONSIBILITY:

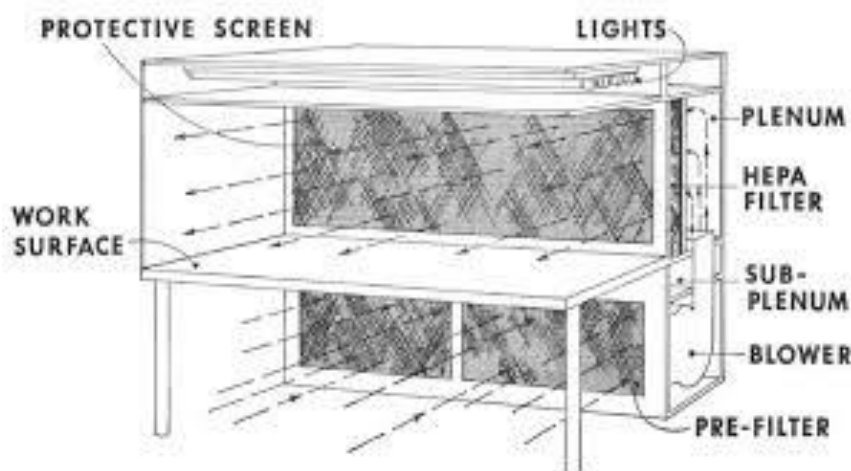
Sr. Officer/Officer – Quality Control (Microbiology)

4.0. ACCOUNTABILITY:

Head–Quality Control Department

5.0 DEFINITION:

A laminar flow cabinet or laminar flow closet or tissue culture hood is a carefully enclosed bench designed to prevent contamination of semiconductor wafers, biological samples, or any particle sensitive materials. Air is drawn through a HEPA filter and blown in a very smooth, laminar flow towards the user.





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6.0 A LAMINAR FLOW CABINET CONSISTS OF THE FOLLOWING PARTS:

6.1 Cabinet:

The cabinet is made up of stainless steel with less or no gaps or joints preventing the collection of spores. The cabinet provides insulation to the inner environment created inside the laminar flow and protects it from the outside environment. The front of the cabinet is provided with a glass shield which in some laminar cabinets opens entirely or in some has two openings for the user's hands to enter the cabinet.

6.2 Working station:

A flat working station is present inside the cabinet for all the processes to be taken place. Culture plates, burner and loops are all placed on the working station where the operation takes place. The worktop is also made up of stainless steel to prevent rusting.

6.3 Filter pad/Pre-filter:

A filter pad is present on the top of the cabinet through which the air passes into the cabinet. The filter pad traps dust particles and some microbes from entering the working environment within the cabinet.

6.4 Fan/Blower:

A fan is present below the filter pad that sucks in the air and moves it around in the cabinet. The fan also allows the movement of air towards the HEPA filter so that the remaining microbes become trapped while passing through the filter.

6.5 UV lamp:

Some laminar flow hoods might have a UV germicidal lamp that sterilizes the interior of the cabinet and contents before the operation. The UV lamp is to be turned on 15 minutes before the operation to prevent the exposure of UV to the body surface of the user.

6.6 Fluorescent lamp:

Florescent light is placed inside the cabinet to provide proper light during the operation.

6.7 HEPA filter:

- The High-efficiency particulate air filter is present within the cabinet that makes the environment more



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sterile for the operation.

- The pre-filtered air passes through the filter which traps fungi, bacteria and other dust particles.
- The filter ensures a sterile condition inside the cabinet, thus reducing the chances of contamination.

7.0. PROCEDURE:

7.1 CLEANING:

7.1.1 Switch off the main electric supply.

7.1.2 Mop the working bench surface with freshly prepared 70 % IPA with clean sponge.

7.1.3 Mop the outer and inside surface of LAF with freshly prepared 70.0 % IPA solution with clean sponge .

Frequency: Before and after use.

7.2 OPERATION:

7.2.1 Ensure that the instrument is clean and free from dust and placed in such a position, that any air thrust while opening the air-lock door do not effect the positive pressure of instrument .

7.2.2 Check the level of the instrument base. The base should be in uniform level with no ups and downs .

7.2.3 Switch on the mains .

7.2.4 There are switches for air flow, light, UV light and a pressure manometer on the panel of the instrument.

7.2.5 Switch “ON” the air flow and UV light of the instrument .

7.2.6 The air flow and U V light should be kept “ON” for about 1 hour before carrying out any work .

7.2.7 Switch “OFF” the U.V. light and put “ON” switch for light .

7.2.8 Check the pressure manometer, pressure should be between 05 mm to 15.0 mm on water gauge when Air flow is “ON”.

7.2.9 Maintain LAF usage record as per Annexure of this SOP.

7.2.10 Switch “OFF the instrument when not in use.



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8.0 ABBREVIATION:

Abbreviation	Full form of abbreviation used
QC	Quality Control
Ltd.	Limited
UV	Ultra Violet
LAF	Laminar Air Flow
SOP	Standard Operating Procedure
QA	Quality Assurance
mm	Millimeter
%	Percentage
Dept.	Department

9.0 ANNEXURES:

Annexure no.	Title of Annexure	Format no.
Annexure -I	LAF Usage Record	

10.0 DISTRIBUTION:

- Controlled Copy No. 01 Quality Control
- Master Copy Quality Assurance Department

11.0 REFERENCES:

- IH

12.0 REVISION HISTORY:

Revision No.	Change Control No.	Details of Changes	Reason of Changes	Effective Date	Done By
00	Not Applicable	Not Applicable	New SOP		

