PHARMA DEVILS

ENGINEERING DEPARTMENT

STANDARD OPERATING PROCEDURE	
Department: Engineering	**SOP No.:**
Title: Air Flow Pattern Checking	**Effective Date:**
Supersedes: Nil	**Review Date:**
Issue Date:	**Page No.:**

1.0 Revision History

Rev. No.	Details of changes	Reason for change
00	NIL	NEW SOP

2.0 OBJECTIVE:

2.1 The Objective of this SOP is to describe the procedure for Airflow pattern checking.

3.0 SCOPE:

3.1 This SOP is applicable for the describe the procedure for Airflow pattern checking

4.0 RESPONSIBILITY:

4.1 The Maintenance Engineer shall be responsible:

4.1.1 For Airflow pattern checking.

4.1.2 For corrective action in case of deviations.

5.0 ACCOUNTABILITY:

Head –Engineering Services

6.0 PROCEDURE:

6.1 Airflow pattern checking should be done at rest condition.

6.2 Ensure that all the production activities are stopped and machines are put `off'.

6.3 Cover all the production equipment with black polybag.

6.4 Start the respective AHU (Air Handling Unit)/ LAF (Laminar Air Flow) of which the flow pattern is to be checked.

6.5 Person carrying flow pattern checking activity should wear following apparel.

6.5.1 Clean white boiler suit

6.5.2 Snood

6.5.3 Hand Gloves

6.5.4 Shoe covers

6.6 Wrap a piece of cotton cloth at one end of a suitable diameter stainless steel (SS) rod approximately 6 mm in diameter and 300mm in length.

6.7 Dip the cotton end of the SS rod in TTC (Titanium Tetra Chloride) solution, which is used for smoke generation, and expose the smoke at supply end of the system.

6.8 Move the rod gradually towards the return end of the system.

6.9 Observe the smoke pattern and ensured and ensure the following.

6.9.1 The airflow pattern should ensure that all spaces within the controlled and specified area are swept efficiently by the airflow, in order to ensure that both contamination control and environmental control are achieved.

6.9.2 The smoke should be diffused uniformly at supply grille and pass through return grille/ riser.

6.9.3 There should not be any short – circuiting of airflow; dead pockets and the flow of air should be unidirectional i.e. from supply to return.

6.9.4 Airflow pattern of smoke in LAF unit should be laminar.

6.10 To check the pressure difference in the area, open the door slightly and hold the SS rod in

6.11 The adjacent area, which have a positive pressure.

6.12 Video graphs the entire airflow pattern checking activity.

6.13 After completing the activity stop the AHU/LAF unit.

6.14 Inform QA and concerned department.

6.15 **FREQUENCY**:

6.16.1 Airflow pattern checking should be done during qualification of AHU and after any modifications in the AHU or position/design of grilles/risers or cubical size.

7.0 ANNEXURES:

Nil

8.0 References (S)

Nil

9.0 Glossary

SOP : Standard Operating procedure

No : Number

AHU : Air Handling Unit