



**Title:** Operation of AHU Unit

<b>SOP No.:</b>		<b>Revision No.:</b>	00
<b>Effective Date:</b>		<b>Supersedes No.</b>	Nil
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**1.0 OBJECTIVE:**

To lay down the procedure for the operation of AHU Unit.

**2.0 SCOPE:**

This Standard Operating Procedure shall be applicable at formulation plant of.....

**3.0 RESPONSIBILITY:**

**Operator/Technician-Engineering** shall be responsible for attending the minor, major breakdown maintenance work in the plant.

**4.0 ACCOUNTABILITY:**

**Head Engineering:** To provide training to the personnel on this SOP and ensure implementation of this SOP.

**Head Quality Assurance:** To ensure compliance with the SOP.

**5.0 DEFINITIONS:**

NA

**6.0 PROCEDURE:**

**6.1 Starting Procedure**

**6.1.1** Switch ON the power supply from Main HVAC electrical panel.

**6.1.2** Ensure that damper of supply and return are in mark position.

**6.1.3** Change the position of auto/manual select the switch position from “OFF” to “AUTO” mode.

**6.1.4** For Ground floor RM store Area Start the AHU No. 01,02 and 03 one by one in series position from AHU starter panel.

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# PHARMA DEVILS

ENGINEERING DEPARTMENT

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- 6.1.5** For first floor production Area Start the AHU No. 06,03,10,11,12,05,04,09,13,08,01,07,14,15 and 02 one by one in series position from AHU starter panel.
- 6.1.6** For second floor production Area Start the AHU No.06,11,17,03,07,04,09,15,05,10, 16,12,01,13,08, 14,18 and 02 one by one in series position from AHU starter panel.
- 6.1.7** For quality control microArea Start the AHU No. 20,22,23,21 and 19 one by one in series position from AHU starter panel.
- 6.1.8** Start the chiller as per SOP of chiller.
- 6.1.9** Start the hot water as a pressing green push button.
- 6.1.10** Start the dehumidifier as per sop of dehumidifier.
- 6.1.11** Check and record of Magnehelic gauge in installed at AHU for showing under the limit of pre filter (6.5 to 20) and fine filter (8 to 25).
- 6.1.12** If the recording of magnehelic gauge is not in limit then inform to the engineering head for corrective action.
- 6.1.13** If the recording of magnehelic gauge is not in the limit and less than 6.5Pascal of pre filter and 8Pascal of fine filter then stopped the AHU checked the filter condition for any damage, If required rectify or replace the filter as per SOP of filter replacement.
  - 6.1.14** If the reading of magnehelic gauge in more than 20Pascal of pre filter and 25Pascal of fine filter then stop the AHU and clean the filter as per SOP of AHU filter cleaning.
- 6.1.15** After that set the RH temperature AHU frequency of BMS as per SOP of BMS.
- 6.1.16** After that maintained Differential pressure of the process area with respect to service area will be controlled by centralized building management system.
- 6.1.17** Daly monitoring RH, Temperature and differential pressure of magnehelic gauge.

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## 6.2 STOPPING PROCEDURE

- 6.2.1 Stop the dehumidifier as per SOP of dehumidifier
- 6.2.2 Stop the hot water pressing the red push button.
- 6.2.3 Stop the chiller as per SOP of chiller.
- 6.2.4 Change the position of auto/manual select the switch position from “**AUTO**” to “**OFF**” mode.
- 6.2.5 For Ground floor RM store Area Stop the AHU NO. 03, 02 and 01 one by one in series position from AHU starter panel
- 6.2.6 For first floor production Area Stop the AHU NO. 02, 15, 14, 07, 01, 08, 13, 09, 04, 05, 12, 11, 10, 03 and 06 one by one in series position from AHU starter panel.
- 6.2.7 For second floor production Area Stop the AHU NO. 02, 18, 14, 08, 13, 01, 12, 16, 10, 05, 15, 09, 04, 07, 03, 17, 11 and 06 one by one in series position from AHU starter panel
- 6.2.8 For quality control micro Area Stop the AHU NO. 19, 21, 23, 22 and 20 one by one in series position from AHU starter panel.
- 6.2.9 Maintain the record in operation logbook of AHU.

## 7.0 ABBREVIATION:

SOP: Standard Operating Procedure

QA: Quality Assurance

Ltd.: Limited

EN: Engineering

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BMS Building management system

## 7.0 ANNEXURES:

ANNEXURE No.	TITLE OF ANNEXURE	FORMAT No.
Annexure-I	Operation logbook of AHU	
Annexure-II	Operational sequence of AHU	

## 8.0 DISTRIBUTION:

- Master Copy Quality Assurance Department
- Controlled Copy No. 01 Quality Assurance Department
- Controlled Copy No. 02 Engineering Department
- Controlled Copy No. 03 Quality Control Department
- Controlled Copy No. 04 Production Department

## 9.0 REFERENCES:

In house

## 10.0 REVISION HISTORY:

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

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## ANNEXURE-I

	<b>ENGINEERING DEPARTMENT</b>
	<b>OPERATING LOG BOOK OF AHU</b>

**LOCATION:**

**ID:**

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DATE	START TIME	STOP TIME	PRE FILTER D.P LIMIT ( 6.5 -20 ) PASCAL	FINE FILTER D.P LIMIT ( 08 – 25 ) PASCAL	R.H	TEMP	REMARKS	DONE BY	CHECKED BY

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## ANNEXURE-II

	<b>ENGINEERING DEPARTMENT</b>
	<b>OPERATIONAL SEQUENCE OF AHU</b>

### RM STORE GROUND FLOOR

#### START SEQUENCE

AHU NO.	AHU ID	LOCATION	REMARKS
AHU 01	.....	DISPENSING AREA	REMAINS ON 24 HRS
AHU02	.....	SAMPLING AREA	REMAINS ON 24 HRS
AHU 03	.....	OUTER CORRIDOR, CNANGE ROOM	

#### STOP SEQUENCE

AHU 03	.....	OUTER CORRIDOR, CNANGE ROOM	
AHU 02	.....	SAMPLING AREA	REMAINS ON 24 HRS
AHU 01	.....	DISPENSING AREA	REMAINS ON 24 HRS

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	<b>ENGINEERING DEPARTMENT</b>
	<b>OPERATIONAL SEQUENCE OF AHU</b>

### FIRST FLOOR PRODUCTION AREA

#### START SEQUENCE

AHU NO.	AHU ID	LOCATION	REMARKS
AHU 06		EYE DROP FILLING AND FILTRTION ROOM	REMAINS ON 24 HRS
AHU 03		ST. PASSAGE, DPI A/L ,CHANGE ROOM,COOL ZONE.	REMAINS ON 24 HRS
AHU 10		DPI FILLINF ROOM	REMAINS ON 24 HRS
AHU 11		STERILE SAMPLING ROOM	REMAINS ON 24 HRS
AHU12		VIAL SEALING ANA CHANGE ROOM	REMAINS ON 24 HRS
AHU 05		EYE DROP SOLUTION PREPRATION, CHANGE ROOM	REMAINS ON 24 HRS
AHU 04		EYE DROP DEBAGGING, CHANGE ROOM	REMAINS ON 24 HRS
AHU 09		VIAL WASHING AND STERILIZATION, CHANGE ROOM	REMAINS ON 24 HRS
AHU 13		WASHING STERILIZATION (AUTO CLAVE)	REMAINS ON 24 HRS
AHU 08		IRM-I AND IRM-II	REMAINS ON 24 HRS
AHU 01		CHANGE ROOM, OUTER CORRIDOR	REMAINS ON 24 HRS
AHU 07		EYE DROP LABLING AND PACKING	
AHU 14		VIAL INSPECTION ROOM, OFFICE	
AHU 15		FG QUARANTINE	
AHU 02		OUTER CORRIDOR	

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	<b>ENGINEERING DEPARTMENT</b>
	<b>OPERATIONAL SEQUENCE OF AHU</b>

<b>FIRST FLOOR PRODUCTION AREA</b>			
<b>STOP SEQUENCE</b>			
AHU NO.	AHU ID	LOCATION	REMARKS
AHU 002		OUTER CORRIDOR	
AHU 015		FG QUARANTINE	
AHU 014		VIAL INSPECTION ROOM, OFFICE	
AHU 007		EYE DROP LABLING AND PACKING	
AHU 001		CHANGE ROOM, OUTER CORRIDOR	REMAINS ON 24 HRS
AHU 008		IRM-I AND IRM-II	REMAINS ON 24 HRS
AHU 013		WASHING STERILIZATION (AUTO CLAVE	REMAINS ON 24 HRS
AHU 009		VIAL WASHING AND STERILIZATION, CHANGE	REMAINS ON 24 HRS
AHU 004		EYE DROP DEBAGGING, CHANGE ROOM	REMAINS ON 24 HRS
AHU 005		EYE DROP SOLUTION PREPRATION, CHANGE ROOM	REMAINS ON 24 HRS
AHU 012		VIAL SEALING ANA CHANGE ROOM	REMAINS ON 24 HRS
AHU 011		STERILE SAMPLING ROOM	REMAINS ON 24 HRS
AHU 010		DPI FILLINF ROOM	REMAINS ON 24 HRS
AHU 003		ST. PASSAGE, DPI A/L ,CHANGE ROOM,COOL ZONE	REMAINS ON 24 HRS
AHU 006		EYE DROP FILLING AND FILTRTION ROOM	REMAINS ON 24 HRS

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## SECOND FLOOR PRODUCTION AREA

### START SEQUENCE

AHU NO.	AHU ID	LOCATION	REMARKS
AHU 006		VIAL FILLING AND FILTERATION ROOM	REMAINS ON 24 HRS
AHU 011		AMPOULE FILLING-I AND FILTERATION	REMAINS ON 24 HRS
AHU 017		AMPOULE FILLING-II AND FILTERATION	REMAINS ON 24 HRS
AHU 003		STERILE PASSAGE, COOL ZON,CH ROOM	REMAINS ON 24 HRS
AHU 007		VIAL SEALING AND CHANGE ROOM	REMAINS ON 24 HRS
AHU 004		VIAL SOLUTION PREPRATION, CH ROOM	REMAINS ON 24 HRS
AHU 009		AMPOULE-I SOLUTION PREPTATION, CH ROOM	REMAINS ON 24 HRS
AHU 015		AMPOULE-II SOLUTION PREPRATION, CH ROOM	REMAINS ON 24 HRS
AHU 005		VIAL WASHING AND STERILIZATION, CH ROOM	REMAINS ON 24 HRS
AHU 010		AMPOULE-I WASHING AND STERILIZATION	REMAINS ON 24 HRS
AHU 016		AMPOULE-II WASHING AND STERILIZATION	REMAINS ON 24 HRS
AHU 012		WASHINGE AND STERILIZATION (AUTO CLAVE)	REMAINS ON 24 HRS
AHU 001		CHANGE ROOM, OUTER CORRIDOR	REMAINS ON 24 HRS
AHU 013		AMPOULE INSPECTION,HOLDING,POST STER.	
AHU 008		VIAL INSPECTION , PAKCKING.	
AHU 014		AMPOULE-I, II, LEBLING AND PACKING	
AHU 018		QUARANTINE	
AHU002		OUTER CORRIDOR	

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## SECOND FLOOR PRODUCTION AREA

### STOP SEQUENCE

AHU NO.	AHU ID	LOCATION	REMARKS
AHU 002		OUTER CORRIDOR	
AHU 018		QUARANTINE	
AHU 014		AMPOULE-I, II, LEBLING AND PACKING	
AHU 008		VIAL INSPECTION , PAKCKING.	
AHU 013		AMPOULE INSPECTION,HOLDING,POST STER.	
AHU 001		CHANGE ROOM, OUTER CORRIDOR	REMAINS ON 24 HRS
AHU 012		WASHINGE AND STERILIZATION (AUTO CLAVE)	REMAINS ON 24 HRS
AHU 016		AMPOULE-II WASHING AND STERILIZATION	REMAINS ON 24 HRS
AHU 010		AMPOULE-I WASHING AND STERILIZATION	REMAINS ON 24 HRS
AHU 005		VIAL WASHING AND STERILIZATION, CH ROOM	REMAINS ON 24 HRS
AHU 015		AMPOULE-II SOLUTION PREPRATION, CH ROOM	REMAINS ON 24 HRS
AHU 009		AMPOULE-I SOLUTION PREPTATION, CH ROOM	REMAINS ON 24 HRS
AHU 004		VIAL SOLUTION PREPRATION, CH ROOM	REMAINS ON 24 HRS
AHU 007		VILE SEALING AND CHANGE ROOM	REMAINS ON 24 HRS
AHU 003		STERILE PASSAGE, COOL ZOON,CH ROOM	REMAINS ON 24 HRS
AHU 017		AMPOULE FILLING-II AND FILTERATION	REMAINS ON 24 HRS
AHU 011		AMPOULE FILLING-I AND FILTERATION	REMAINS ON 24 HRS
AHU 006		VIAL FILLING AND FILTERATION ROOM	REMAINS ON 24 HRS

## QUALITY CONTROL MICRO AREA

### START SEQUENCE

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AHU NO.	AHU ID	LOCATION	REMARKS
AHU 020		STERILITY, CHANGE ROOM	REMAINS ON 24 HRS
AHU 022		MICRO ROOM	REMAINS ON 24 HRS
AHU 023		MLT ROOM	REMAINS ON 24 HRS
AHU 021		STERILE PASSAGE, COOLE ZOON, ASEPTIC CH ROOM	REMAINS ON 24 HRS
AHU 019		WASHING STERILISATION, INCUBATOR, MEDIA PREPTATION, MEDIA DISCARD, DOCUMENT ROOM, OUTER CORRIDOR AND CHANGE ROOM	REMAINS ON 24 HRS
<b>STOP SEQUENCE</b>			
AHU 019		WASHING STERILISATION, INCUBATOR, MEDIA PREPTATION, MEDIA DISCARD, DOCUMENT ROOM, OUTER CORRIDOR AND CHANGE ROOM	REMAINS ON 24 HRS
AHU 021		STERILE PASSAGE, COOLE ZOON, ASEPTIC CH ROOM	REMAINS ON 24 HRS
AHU 023		MLT ROOM	REMAINS ON 24 HRS
AHU 022		MICRO ROOM	REMAINS ON 24 HRS
AHU 020		STERILITY, CHANGE ROOM	REMAINS ON 24 HRS

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