



PHARMA DEVILS

MICROBIOLOGY DEPARTMENT

STANDARD OPERATING PROCEDURE

Title: Cleaning & Operation of Vertical Autoclave

SOP No.:		Department:	Microbiology	
		Effective Date:		
Revision No.:	00	Revision Date:		
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1.0 OBJECTIVE:

To lay down the procedure for cleaning and operation of vertical autoclave.

2.0 SCOPE:

This SOP is applicable for cleaning and operation of autoclave in Microbiology laboratory.

3.0 RESPONSIBILITY:

Microbiologist- Quality Control

Head- Quality Control

4.0 PROCEDURE:

4.1 General cleaning:

4.1.1 Clean the outer surface of vertical autoclave daily with a cleaned lint free cloth.

4.1.2 Drain water from chamber and clean inner surface of autoclave with 0.1 % v/v Teepol solution followed by 70 % v/v Isopropyl alcohol.

4.1.3 Frequency of cleaning: Outer surface daily and inner surface once in a week.

4.1.4 Record the cleaning of Vertical Autoclave as per "Annexure-I".

4.2 Precautions:

4.2.1 Check the calibration status of the pressure gauge, temperature indicator cum controller.

4.2.2 Do not open the lid of Autoclave, when cycle is on. Wait till it completes.

4.2.3 Take care while handling the articles as they will be hot, after cycle completion.

4.2.4 After completion of cycle, open the lid of Autoclave, when the pressure gauge shows "0" reading and temperature shows below 95°C.

4.2.5 Ensure that heating coils are completely submerged in water.

4.2.6 Use only purified water.

4.2.7 Use Heat resistance gloves and Protective goggle when loading and Unloading the material from autoclave.

4.2.8 Sample containing solvents or substances that may emit toxic fumes should not be autoclave.



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4.3 Operation:

- 4.3.1 Ensure that the instrument is clean and free from dust.
- 4.3.2 Ensure that the main cord is connected to the main supply of electric power socket.
- 4.3.3 Unscrew the locking knob and lift the top lid by turning top lifting lever in anticlockwise direction.
- 4.3.4 Ensure that drain valve is closed and purified water is up to the basket stand.
- 4.3.5 Place the glassware/Media /Garment/Accessories in the Autoclave as per Annexure-II.
- 4.3.6 Place chemical indicators at predetermined locations.
- 4.3.7 Put the load sensor is at desired location.
- 4.3.8 Close the top lid and tight the knob diagonally with equal pressure and Close the release valve.
- 4.3.9 Switch ON the main supply. Temperature as well as pressure within the autoclave will start increasing.
- 4.3.10 Press start button, heater bank will start, purging will be between 100°C -105°C.
- 4.3.11 Sterilization shall be start for 20 Minutes at 121.1°C for media and 30 Minutes at 121.1°C for Media Destruction.
- 4.3.12 After Completion of the cycle, exhaust phase will start. Steam will start exhausting from purging valve.
- 4.3.13 Open the lid of autoclave, when temperature is below 90°C and pressure gauge shows “0” reading and remove the articles from autoclave.

4.4 Controller operating

- 4.4.1 Press “F” and “Enter” key simultaneously for 2 seconds.
- 4.4.2 Display “0.0”, use UP key and make display = 40.0 (password)
- 4.4.3 Press “Enter” , Display will show Pt-I (Purge OFF)
- 4.4.4 Press “Enter”, Change the value by using “UP” or “DOWN” key. Default purge OFF=105°C
- 4.4.5 Press “ENTER” , display will shows PUrg (Purge ON)
- 4.4.6 Press ENTER, Change the value by using “UP” or “DOWN” key. Default purge ON = 100°C
- 4.4.7 Press “ENTER” Display shows “Prop” (Internal setting)
- 4.4.8 Press “ENTER” , Display will show some valve 0.50 (Don,t change it)



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- 4.4.9 Press "ENTER" Display show "Int" (internal setting)
- 4.4.10 Press "ENTER" Display will show some valve 255.0 (Don't change it)
- 4.4.11 Press "ENTER" Display shows rate (Internal setting)
- 4.4.12 Press "ENTER" Display will show some valve 0.0 (Don't change it)
- 4.4.13 Press "ENTER" Display shows "OFSC) (internal setting)
- 4.4.14 Display will show some valve (Don't change it)
- 4.4.15 Press "ENTER" Display shows "Stby" (Stand by).
- 4.4.16 Press "ENTER", Display shows CH/Ld temp. °C normal display

4.5 Program Selection

- 4.5.1 **When display shows CH/Ld temp. Normal display**
- 4.5.2 With the help of UP and DOWN Key select 1-6 Nos. program
- 4.5.3 When display shows CH/Ld temp° C normal display
- 4.5.4 Press "ENTER" Display shows STnP (Sterlizing Temp.)
- 4.5.5 Press ENTER , Display = 121.0
- 4.5.6 Press "ENTER" Display shows Stin i.e Sterilization times (Say = 15 minutes)
- 4.5.7 Press "ENTER" Change the valve by using UP or DOWN key.
- 4.5.8 Press "ENTER" Display shows CHnb (Controlling sensor) (CHnb = chamber sensor , LOAd = load sensor)
- 4.5.9 Press "F: key to select chamber or load sensor.
- 4.5.10 Press "ENTER" Display shows fast (exhaust method fast /slow)
- 4.5.11 Make Slow /Fast with the help of "Up or "Down 'Key.
- 4.5.12 Press "ENTER" Display "pry " (Print 8 interval in minutes)
- 4.5.13 Press "ENTER" Display shows some valve "1"
- 4.5.14 With the help of "Up" or "Down " key change print interval minutes) ie After every set minutes data is stored)
- 4.5.15 Press "ENTER" Display shows start or stop (Start =m St9orage start Stop = Storage stop)
- 4.5.16 Press "ENTER " till display shows "start and make storage start (one time it will get 'start' one time it will get 'stop')



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- 4.5.17 Press Enter , Display will shows "EDIT"
- 4.5.18 Press "ENTER", Display will show chamber and load temperature.
- 4.5.19 Press RUN/STOP Key to run program.
- 4.5.20 Press "ENTER" till the display shows "Start " (Storage start)
- 4.5.21 Press "F" Key , Display shows CLer
- 4.5.22 Press "ENTER" Key , Display shows WAIT
- 4.5.23 After some time data will clear.

4.6 Printing

- 4.6.1 Press ENTER till the Display shows "Stor"
- 4.6.2 Press F key , Display shows d to p.
- 4.6.3 Press Enter , Display shows :ENTER"
- 4.6.4 Press Enter , Display shows WAIT
- 4.6.5 After some time print will be start

4.7 Setting of Date /Time/Hour/Minute

- 4.7.1 Press ENTER till the display shows 'Stor" (Storage)
- 4.7.2 Press F key, Display shows d to p
- 4.7.3 Press F key , Display shows dAtE
- 4.7.4 Press ENTER Key , Change the value by using UP or DOWN Key
- 4.7.5 Press ENTER Key
- 4.7.6 Display shows y E (Year)
- 4.7.7 Press ENTER key
- 4.7.8 Change the value by using UP or DOWN key
- 4.7.9 Press ENTER Key
- 4.7.10 Display shows Hr (Hour)
- 4.7.11 Press ENTER key and Change the value by using UP or DOWN key.
- 4.7.12 Change the value by using UP or DOWN key.
- 4.7.13 Press ENTER key , Display shows nl (minutes)
- 4.7.14 Press ENTER Key, Change the value by using UP or DOWN key.



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4.7.15 Press ENTER Key, normal display will show.

4.7.16 Record the on line activity of Vertical Autoclave as per Annexure -III

4.8 Allocation of Sterilization/Destruction load numbers:

Each Sterilization/Destruction load is assigned a specific lot number as character as given below.

ST/XXXX/YY

ST indicates Media Sterilization/Destruction

4.8.1 XXXX indicates Serial no. of Sterilization/Destruction

YY indicates Year

5.0 ANNEXURE (S):

Annexure –I : Equipment Cleaning Record

Annexure –II: Loading pattern.

Annexure –III: Usage Record of Autoclave.

6.0 REFERENCE (S):

SOP: Preparation, Approval, Distribution control, revision and Destruction of Standard operating Procedure (SOP).

7.0 ABBREVIATION (S) / DEFINITION (S):

psi : Pounds per square inch

REVISION CARD

S.No.	REVISION No.	REVISION DATE	DETAILS OF REVISION	REASON (S) FOR REVISION	REFERENCE CHANGE CONTROL No.
01	00	---	---	New SOP	---