STANDARD OPERATING PROCEDURE	
Department: Production	**SOP No.:**
Title: Cleaning and Operation of Air Jet Cleaner (Make: CVC)	**Effective Date:**
Supersedes: Nil	**Review Date:**
Issue Date:	**Page No.:**

Vernacular SOP: No

1.0 OBJECTIVE:

1.1 To lay down a procedure for cleaning and operation of Air Jet Cleaner (CVC).

2.0 SCOPE:

2.1 This procedure is applicable for cleaning & operation of Air Jet Cleaner in production department.

3.0 RESPONSIBILITY:

3.1 Technical Associate : Cleaning and Operation of Air Jet Cleaner

3.2 Officer and Executive : Supervision for cleaning and operation Air Jet Cleaner

3.3 Officer and Executive IPQA : Line clearance and SOP Compliance

3.4 Head of Department : SOP Compliance for Cleaning and Operation of Air Jet Cleaner

4.0 DEFINITION (S):

4.1 NA

5.0 PROCEDURE:

5.1 **CLEANING**

5.1.1 Ensure that all the materials of previous batch are removed from the cubicle.

5.1.2 Remove "EQUIPMENT STATUS" label and affix "UNDER CLEANING" label on the machine with date and sign of the production officer.

5.1.3 Switch ''OFF'' the electric supply from main junction box and compressed air before start the cleaning of machine.

5.1.4 Clean the control panels with clean and dry lint free cloth.

5.1.5 Clean the top and outer surface of machine with the dry lint free cloth.

5.1.6 Open the guards of machine clean the area inside the guard with clean and dry lint free cloth and then moist lint free cloth.

5.1.7 Clean the conveyor belt, Hook unit, "T" shaped bottle rotating assembly, Slide assembly plate with clean and dry lint free cloth and then with moist lint free cloth open the guard of hopper and clean the hopper with dry lint free cloth and wipe with 70% v/v IPA solution.

	PHARMA DEVILS	
	PRODUCTION DEPARTMENT	

STANDARD OPERATING PROCEDURE

Department: Production	**SOP No.:**
Title: Cleaning and Operation of Air Jet Cleaner (Make: CVC)	**Effective Date:**
Supersedes: Nil	**Review Date:**
Issue Date:	**Page No.:**

5.1.8   Clean the Elevator and rotating disc (orienter disc) and rotating assembly with dry lint free cloth and wipe with 70 %v/v IPA solution.

5.1.9   Clean the air nozzle of air jet cleaner, Discharge bin and Vacuum filter after every batch with compressed air.

5.1.10   Replace the "UNDER CLEANING" status label by "CLEANED" status label on the machine with date and sign of the production officer.

5.1.11   Record the cleaning activity in equipment usage log as per SOP ("Making entries in equipment usage and cleaning log sheet").

5.1.12   Clean the area as per SOP ("Cleaning of production area").

5.1.13   If machine is ideal for more than 72 hrs. Then clean the machine with lint free cloth dipped in 70% v/v IPA solution.

5.2   BASIC SETTINGS OF MACHINE

5.2.1   Adjust the all five-conveyor belt (horizontal position) as per the bottle size, by losing the adjusting knob of the conveyor belt.

5.2.2   Adjust the hook unit for rotating the bottle for traveling in the right way

5.2.3   Adjust the hopper and orienter disc sensor in such a manner that elevator should be stop if jamming of bottle occur in orienter disc

5.2.4   Adjust the " T" shaped assembly for change the direction of bottle before and after air jet cleaning at the both side of air jet cleaning assembly. Adjust the position of rotating fan by loon the knob to stop jamming of bottle.

5.3   OPERATING PROCEDURE

5.3.1   Feed the empty bottle in the hopper manually.
NOTE: After feeding the empty bottle lock the acrylic door of the feeding port.

5.3.2   Switch ''ON'' the main supply of the machine from control panel which will activate the machine for operation and HMI will display as follow:

	PHARMA DEVILS	
	PRODUCTION DEPARTMENT	

STANDARD OPERATING PROCEDURE	
Department: Production	**SOP No.:**
Title: Cleaning and Operation of Air Jet Cleaner (Make: CVC)	**Effective Date:**
Supersedes: Nil	**Review Date:**
Issue Date:	**Page No.:**

5.3.3   Press against the "MAIN" and HMI will display as follow:

5.3.4   "Production speed" displays current speed of the machine.

5.3.5   "Total bottles" displays total output of the machine.

5.3.6   Different speeds of the motors are displayed (HZ) in the columns (Elevator SPD, sorter SPD, Paddle SPD, Output SPD etc.)

5.3.7   Press RUN key to start the machine and STOP key to stop the machine.

5.3.8   Press RESET to clear any alarm.

5.3.9   Press Alarm to check the fault displayed on HMI.

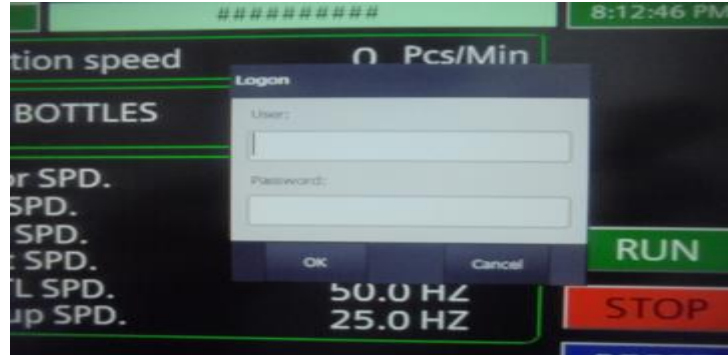5.3.10 Press on the "COUNTER" screen will open and display as follow:

	PHARMA DEVILS	
	PRODUCTION DEPARTMENT	

STANDARD OPERATING PROCEDURE		
Department: Production		**SOP No.:**
Title: Cleaning and Operation of Air Jet Cleaner (Make: CVC)		**Effective Date:**
Supersedes: Nil		**Review Date:**
Issue Date:		**Page No.:**

NOTE: Enter the respective password, as we have three level password protections.

5.3.11   The counter screen will display as follow :-

5.3.12   "TOTAL BOTTELS" displays output of the machine.

5.3.13   "Capacity of Real output" displays standard output of the machine.

5.3.14   "Capacity of running" displays speed of the machine.

5.3.15   "RESET Press 2sec" to reset the counter.

5.3.16   Press "RUN" key to start the machine and "STOP" key to stop the machine.

5.3.17   Press the "MANNUAL" key and HMI will display following options:
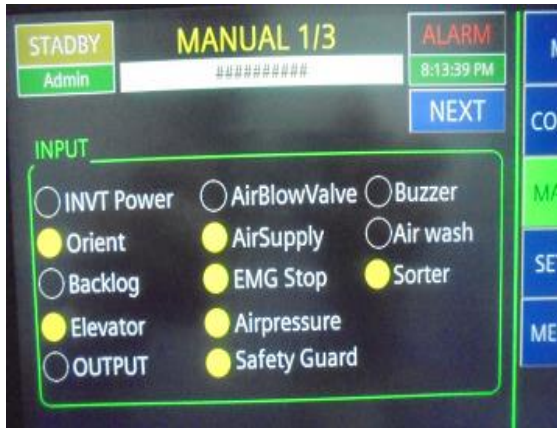
	PHARMA DEVILS	
	PRODUCTION DEPARTMENT	

STANDARD OPERATING PROCEDURE

Department: Production	**SOP No.:**
Title: Cleaning and Operation of Air Jet Cleaner (Make: CVC)	**Effective Date:**
Supersedes: Nil	**Review Date:**
Issue Date:	**Page No.:**

NOTE: "MANNUAL" has three pages displayed as 1/3, 2/3, 3/3.We can switch into different pages by pressing NEXT BACK. Press ON OFF key to start / stop the different parameters.

5.3.18   Press the "SETTING" key from the above screen (It contains the different parameters used for setting of product) and HMI will display:

	PHARMA DEVILS
	PRODUCTION DEPARTMENT

STANDARD OPERATING PROCEDURE

Department: Production	**SOP No.:**
Title: Cleaning and Operation of Air Jet Cleaner (Make: CVC)	**Effective Date:**
Supersedes: Nil	**Review Date:**
Issue Date:	**Page No.:**

5.3.19 "Backlog Set Delay" displays the delay for stopping of machine after jamming sensor detects the bottle jam.

5.3.20 "Backlog Reset Delay" displays the delay for starting of machine after jamming sensor does not detect any bottle jam.

5.3.21 "Feed delay" the delay for starting of elevator after level sensor detects the low bottle level in sorter disc/hopper.

5.3.22 "Feed off delay" the delay for starting of elevator after level sensor detects the low bottle level in sorter disc/hopper.

5.3.23 In second page it displays different speed i.e. Elevator SPD, Sorter SPD, Paddle SPD, Output SPD, and ORT BTL SPD. , Stand up SPD.All the parameters can be changed by pressing against the numeric values which can be edited with the help of key board displayed.

5.3.24 Press "RUN" key to start the machine and "STOP" key to stop the machine.

5.3.25 Press the "MEMORY" key and HMI will display :

NOTE: "MEMORY" has saved data of previous run batches after pressing CALL we can load the previous message/values.

5.3.26 Guide track setting should be done as it guides the empty bottles to travel in the right path. During the travel the bottles should be in horizontal position and facing its bottom face. Opposite traveling bottle are rotated by the hook and made straight ,further by the bottle guide (Round Teflon ring) directs the bottle to form its right way for further traveling.

5.3.27 The "T" shaped bottle rotating assembly tilts the bottle upside down for air jet cleaning. The air purging unit blows the fresh air inside the bottle where on the other side the vacuum unit sucks the dust particles from the bottle and the sucked dust particles are collected in the vacuum filter provided on the left side of the air jet cleaner unit.

	PHARMA DEVILS	
	PRODUCTION DEPARTMENT	

STANDARD OPERATING PROCEDURE

Department: Production	**SOP No.:**
Title: Cleaning and Operation of Air Jet Cleaner (Make: CVC)	**Effective Date:**
Supersedes: Nil	**Review Date:**
Issue Date:	**Page No.:**

5.3.28 The cleaned bottles travel to the slide assembly where a plate in between changes the reverse direction of the bottles making it straight and allows the bottle to get discharge the collection bin.

5.3.29 After bottle cleaning press the stop key in the HMI to stop the operation. Switch off the main supply switch on the control panel to in – activate the machine operating panel.

5.3.30 Switch off the mains from the main junction box which will cut off the electric power from the machine.

6.0 ABBREVIATION (S):

6.1 SOP - Standard Operating Procedure

6.2 HMI - Human Machine Interface

6.3 IPA – Isopropyl alcohol

6.4 v/v- Volume by Volume

6.5 SPD – Speed

6.6 ORT BTL SPD – Orientating disc Bottle Speed

7.0 RERERENCE (S):

7.1 SOP, Making entries in equipment usage and cleaning log sheet.

7.2 SOP, Cleaning of production area.

8.0 ANNEXURE (S):

8.1 Nil

9.0 DISTRIBUTION:

9.1 **Master Copy** **:** Quality Assurance

9.2 **Controlled Copy (S) :** Production Department (02), Quality Assurance (01)

9.3 **Reference Copy (S) :** Production Department (02)

10.0 REVISION HISTORY

S. No.	Version No.	Change Control No.	Reason (s) For Revision	Details of Revision	Effective Date