



SOP for Cleaning and Operation of Air Jet Cleaner Machine (Make: CVC Model : 1267)

1.0 OBJECTIVE:

1.1 To lay down a procedure for cleaning and operation of Air Jet Cleaner Machine (Make: CVC, Model:1267).

2.0 SCOPE:

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

3.0 RESPONSIBILITY:

- 3.1 Technical Associate : Operation and cleaning
- 3.2 Officer and Executive : Supervision for cleaning and operation
- 3.3 Officer and Executive IPQA : Line clearance and SOP Compliance
- 3.4 Head Production : SOP Compliance

4.0 DEFINITION (S):

4.1 NA

5.0 PROCEDURE:

5.1 CLEANING OF AIR JET CLEANER MACHINE.

- 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 "TO BE CLEANED" label on the machine with date and sign of the production officer.
- 5.1.3 Switch "OFF" the electric supply and close the compressed air supply before start the cleaning activity of machine.
- 5.1.4 Clean the control panels with clean and dry lint free cloth.
- 5.1.5 Clean the top and outer side surface of machine with the dry lint free cloth.
- 5.1.6 Open the guards of machine and clean the area inside the machine with clean and dry lint free cloth.
- 5.1.7 Clean the conveyor belt, Hook unit, "T" shaped container rotating assembly, Slide assembly plate with clean and dry 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
- 5.1.8 Clean the Elevator and rotating disc (orienteer 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 "TO BE CLEANED" 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



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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 SETTINGS OF MACHINE:

5.2.1 Adjust the hopper and orienteer disc sensor in such a manner that elevator should be stop if jamming of container occur in orienteer disc

5.2.2 Adjust the all conveyor belts as per the container size, By losing the adjusting knob of the conveyor belt

5.2.3 Adjust the position of rotating paddle fan by loosen the knob to stop jamming of container.

5.2.4 Adjust the “T” shaped assembly for change the direction of container before and after air jet cleaning at the both side of air jet cleaning assembly.

5.2.5 Adjust the hook unit for rotating the container for traveling in the right way.

5.3 OPERATING PROCEDURE:

5.3.1 Switch “ON” the main electric supply of machine

5.3.2 Turn on the Compressed air supply.

5.3.3 Feed the empty container in the hopper manually. After feeding the empty container close the door of the feeding port.

5.3.4 Turn “ON” the start/stop button which will activate the machine for operation and wait for few seconds, HMI will display as follow:

5.3.5 Three level password available in machine to access the function as described below:

S.No.	Function	Rights Assignment		
		Operator	Supervisor	Administrator (Manager)
1.	Start/Stop the machine	Y	Y	Y
2.	Continue Function	Y	Y	Y
3.	Call memory Function	Y	Y	Y
4.	Service testing Function	Y	Y	Y
5.	Self set Function	N	Y	Y
6.	User Password Management	N	N	Y

5.3.6 Enter the password and press enter key, then screen will display as follow:

5.3.6.1 SELFSET: Automatically measure the container height and self set production parameters.

5.3.6.2 CALL MEMORY: Call a previous saved job data. This function is used to call from the memory a



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previously saved job setting data for reuse. Touch on CALL MEMORY option screen will display as follow:

5.3.6.2.1 As shown in above screen, from these saved jobs we can select any job and can start the process. After selecting the job screen will display as follow:

5.3.6.3 CONTINUE: Continue with the same job as before the last power off. This function is used to continue working on the same job as before the last power off. Touch on CONTINUE option. The screen will display as follow:

5.3.6.3.1 If continue has been selected, then the operation screen will displayed directly. if containers have been loaded in hopper, the machine will start operating by pressing START key

5.3.6.3.2 ELEVATOR SPD: This function controls the speed of container in feed elevator

5.3.6.3.3 SORTER SPD: This function controls the speed of sorter disc.

5.3.6.3.4 PADDLE SPD: This function control the speed of sorter paddle wheel.

5.3.6.3.5 OUTPUT SPD: This function control the container separating speed.

5.3.6.3.6 ORT BLT SPD: This function controls the speed of orientating belt.

5.3.6.3.7 STAND UP SPD: This function control the speed of standup belt.

5.3.6.3.8 SCALE RECORD: This function is used to keep the record of position of various manual adjustment parts.

5.3.6.3.9 LANGUAGE: This function is used to select the language either English or Chinese, only two languages are provided.

5.3.6.3.10 SAVE: This function is used to save the current parameter setting in the memory for the future reuse

5.3.6.3.11 CALL MEMORY: This function is used to call a previously saved set of parameter setting from the memory for reuse. Proper setting should be made by considering the actual container size and unscramble speed.

5.3.6.4 SERVICE TESTING: Access to machine testing functions for troubleshooting purpose. If SERVICE TESTING has been selected then screen will display as follow:



SCREEN I

5.3.6.4.1 AIR RINSE: To check the air rinse (air blow) is working properly



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- 5.3.6.4.2 ELEVATOR MOTOR: To check the elevator motor (container in feed from hopper) is working properly.
- 5.3.6.4.3 SORTER MOTOR: To check the sorter disc motor is working properly.
- 5.3.6.4.4 PADDLE MOTOR: To check paddle wheel motor is working properly.



SCREEN II

- 5.3.6.4.5 OUTPUT MOTOR: To check the output motor is working properly.
- 5.3.6.4.6 ORIENT MOTOR: To check the orient motors are working properly.
- 5.3.6.4.7 STAND UP MOTTOR: To check the standup motor is working properly.
- 5.3.6.5 Click on the edit key option from screen to edit the various parameter given in screen as below:



- 5.3.6.6 All the parameter given like Elevator SPD, Sorter SPD, Paddle SPD, Output SPD, and ORT BLT SPD, Stand up SPD can be changed by pressing against the numeric values which can be edited with the help of numeric key board displayed.
- 5.3.6.7 Scale record parameter gives the actual position of different parts of machine. Scale parameter available in machine described as below:
- A: It represent the value of orientation and stand up belt position
 - B: It represents the value of height of leading guide position.
 - C: It represents the value of front-rear position of leading guide position.
 - D: It represents the value of right-left position of orientating (Hook).
 - E: It represents the value of front-rear position of orientating (Hook).
 - F: It represents the value of up-down position of air blower device.
 - G: It represents the value of front-rear position of air blower device.
 - H: It represents the value of left-right position of invert down guide.
 - I: It represents the value of front-rear position of invert down guide.
 - J: It represents the value of up-down position of invert down guide.



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K: It represents the value of height position of upward guide.

L: It represents the value of front-rear position of upward guide.

M: It represents the value of front-rear position of stand-up guide.

5.3.6.8 Press START option key to start the machine and “STOP” option to stop the machine.

5.3.6.9 Guide track setting should be done as it guides the empty containers to travel in the right path. During the travel the containers should be in horizontal position and facing its bottom face. Opposite traveling container are rotated by the hook and made straight, further by the container guide directs the container to form its right way for further traveling.

5.3.6.10 The “T” shaped orientating hook assembly tilts the container upside down for air jet cleaning. The ionized air blowing device blows the ionized air inside the inverted container.

5.3.6.11 The cleaned containers travel to the upward slide assembly where a plate in between this assembly changes the reverse direction of the containers making it straight and allows the container to travel on conveyor belt. Inverted and fallen containers are rejected by the machine and cleaned containers are passed further on conveyor belt.

5.3.6.12 After completion of container cleaning activity press the stop key in the HMI to stop the machine operation.

5.3.6.13 Switch off the mains which will cut off the electric power of the machine.

5.4 **Precaution**

5.4.1 Containers which falls during cleaning operation between orientating belt and stand up belt are collected into collection box of machine should be rejected.

5.4.2 Clean the air nozzles and filters of air blowing system with compressed air during the changeover.

5.4.3 Containers which fall on the floor should be rejected.

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 BLT SPD – Orientating Belt Speed

7.0 **RERERENCE (S):**

7.1 SOP No. : Making entries in equipment usage and cleaning log sheet.

7.2 SOP No. : Cleaning of production area.

8.0 **ANNEXURE (S):**



PHARMA DEVILS

QUALITY ASSURANCE DEPARTMENT

SOP for Cleaning and Operation of Air Jet Cleaner Machine (Make: CVC Model : 1267)

8.1 Nil

9.0 DISTRIBUTION

9.1 **Master Copy** : Quality Assurance.

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

9.3 **Reference Copy (S)** : Production Department (01).

10.0 Revision History

SR. NO.	VERSION NO.	CHANGE CONTROL NO.	REASON (S) FOR REVISION	DETAILS OF REVISION	EFFECTIVE DATE