



STANDARD OPERATING PROCEDURE

Department: Engineering

Title: Replacement of Cartridge Filter and Vent Filter

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Effective Date		Supersedes No.	
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1.0 OBJECTIVE:

1.1 To lay down the procedure for replacement of cartridge filter and vent filter.

2.0 SCOPE:

2.1 This SOP is applicable for the procedure for To lay down the procedure for replacement of cartridge filter and vent filter.

3.0 RESPONSIBILITY:

3.1 The Maintenance Operator shall be responsible:

3.1.1 Responsible for to lay down the procedure for replacement of cartridge filter and vent filter.

3.1.2 Responsible for maintaining the replacement record.

4.2 The Maintenance Engineer shall be responsible:

4.2.1 Responsible to ensure proper replacement.

4.2.2 Responsible to take corrective action if any deviation.

4.0 Accountability

Head –Engineering Services

5.0 PROCEDURE:

5.1 Cartridge Filter

5.1.1 Before replacement of cartridge filter, switch off the potable water pump from main panel.

5.1.2 Initial pressure differential across the cartridge filter initial will be less than 1 kg/cm².

5.1.3 Pressure differential across the cartridge filter increases due as fine suspended solids That passes multi grade sand filter in the water are entrapped in it.



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5.1.4 If pressure differential, across the cartridge filter goes above 1 kg/cm² the cartridge filter should be replaced with the new filter.

5.2 Vent filter:

5.2.1 Open the vent filter from PW/WFI water tank & replace it with standby integrity tested vent filter.

5.2.2 Cover the vent filter in clean poly bag & take it to c-block for integrity testing.

5.2.3 Check the vent filter for any physical damage.

5.2.4 Test the integrity by “water intrusion test-WIT” method.

5.2.5 Tested & dried vent filter again be covered in new poly bag & be fitted again in its original & standby filter will be removed & kept its designated storage condition.

5.2.6 If the integrity of vent filter failed, inform to QA. Department on equipment break down slip and replace the vent filter with new integrity tested vent filter, till testing put stand by filter.

5.2.7 Replacement of filter depends upon integrity failure, if it is pass, No. need of filter to be replaced.

5.3 Operational procedure for integrity test operates (Palltronic flow star)

5.3.1 Start up

5.3.1.1 Filter housing shall be prepared for the filter which is to be tested.

5.3.1.2 First of all thoroughly wash the filter housing by purified water then the filter to be tested shall be fixed to housing and then the housing shall be filled with purified water to the level the filter completely sank.

5.3.1.3 Arrange a plan top table for placing the filter integrity tester.

5.3.1.4 Connect one end of the inlet air pipe to filter integrity tester at connector marked “IN” and other end to compressed air line.

5.3.1.5 Connect one end of the outlet air pipe to filter integrity tester at connector marked “OUT” and other end of the pipe to the inlet of the filter housing through “remote vent valve” (solenoid valve) and the outlet of the filter housing remains open to atmosphere.

5.3.1.6 The electric card of remote vent valve shall be attached to filter integrity tester.

5.4 Operation

6.1.1 The production officer /executive or engineering officer /executive shall connect the power cord of filter integrity tester and switch on the mains as well as the tester.



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6.1.2 The tester shall undergoes a self test for approx 10minutes and then a printed slip of self test pass will come out and then tester shall enter to “ Main menu”

6.1.3 Since the machine is touch screen so all the selections shall be done by a finger touch.

6.1.4 If the filter is being tested first time then a unique “ Test Program “ shall be prepared as follows otherwise no need to follow this step-

6.1.4.1 Now select the “Test Programs” and enter the password for operation.

6.1.4.2 Then “WIT” shall be selected,now select empty (blank) column followed by “edit”.

6.1.4.3 Now enter the details asked by tester TEST PROGRAM (Here the part number of the filter shall be entered), PRODUCTION AREA (concerned area where filter to be tested located), FILTER PART NUMBER (printed on the filter), HOUSING (MOC of housing), TEST PRESSURE (Recommended by filter make), TEST TIME (AUTO) and MAXIMUM FLOW (Recommended by filter make).

6.4.5 Now select the “main menu “and select the “water intrusion” and then select the “Test Program” (made in step 6.4.4) from the right side of the screen. Then select “OK”, screen shall change and now enter the data asked by the tester under the head of “INPUT” operator name, production area, filter line, product name, product batch no. filter part no., and filter serial no.

6.4.6 Now select “OK” followed by “start” to start the test.

6.4.7 Wait for completion of the test and the test printout shall be retained by the concerned personnel.

6.4.8 The test shall be considered pass if the measured flow values are within +10% of the flow value for the filter tested at the same test pressure.

6.4.9 Filter integrity shall be considered ok if the criteria given in point 6.4.8. meet and can be reused otherwise if the criteria not meets then filter shall not be reused and it should be replaced by new one that has passed the test.

6.5 SHUT DOWN

6.5.1 SWITCH “OFF” the tester as well as the mains and disconnect the power cord of filter integrity tester.

6.5.2 All the connection made to tester shall be disconnected properly and all the assembled parts shall be disassembled and shall be stored at respective storage.

6.6 CLEANING

6.6.1 Filter shall be removed from the filter housing by draining the filled water.



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6.6.2 Dry both filter & housing by using compressed air and by mopping with lint free cloth and filter shall be relocated to designated place if integrity found OK otherwise replaced with new one where as housing shall be stored at designated place.

6.6.3 The filter integrity tester shall be cleaned using dry fresh lint free cloth only and store in the box at designated place with a 'cleaned ' label duly signed by production officer/executive or engineering officer / executive.

6.7 Frequency of vent filter integrity.

6.7.1 Check the integrity every six month.

7.0 ANNEXURES:

Annexure –1: Filter Installation Record.

8.0 REFERENCES:

Nil

9.0 GLOSSARY:

SOP	:	Standard Operating procedure
No.	:	Number
%	:	Percentage.
PSG	:	Pure Steam Generator.
MM	:	Millimeter



PHARMA DEVILS
ENGINEERING DEPARTMENT

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ANNEXUR I
FILTER INSTALLATION RECORD

BLOCK NAME	
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DEPARTMENT		LOCATION	
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FILTER CODE		APPLICATION (specify utility line)	
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Filter installation record:

Date of filter installation	Next replacement due on	Filter pore size	Filter serial no. (if applicable)	Done by (operator)	Checked by (Engineer)

Filter integrity testing details (attach the integrity testing report, if applicable):

Integrity testing carried on	Next testing due on	Done by	Checked by