



Title: Operation of Purified Water Circulation Loop

SOP No.:		Revision No.:	00
Effective Date:		Supersedes No.	Nil
Review Date:		Page No.	1 of 4

1.0 OBJECTIVE:

To lay down a procedure for Operation of Purified Water Circulation Loop.

2.0 SCOPE:

This SOP is applicable for Operation of Purified Water Circulation Loop at

-p

3.0 RESPONSIBILITY:

Officer / Executive - Engineering

4.0 ACCOUNTABILITY:

Head – Engineering

5.0 DEFINITION:

5.1 Purified water is water that has been mechanically filtered or processed to remove impurities and make it suitable for use.

6.0 PROCEDURE:

6.1 PRE STARTUP CHECKS:

- 6.1.1 Check the Water Level of PW make up.
- 6.1.2 Check the Air Pressure should be 5 Kg/cm² for Pneumatic Valve Operation.

6.2 OPERATION:

- 6.2.1 Switch “ON” the Main Control of PW distribution system.
- 6.2.2 ‘Log in’ screen shall appear, enter the user name and password.
- 6.2.3 Press the PW distribution button, the PW distribution screen shall appear.
- 6.2.4 Press the AUTO button, then the START and STOP button shall appear.
- 6.2.5 Press the START button, the PW circulation pump shall start.
- 6.2.6 Switch ON the main panel of WFI distribution system.
- 6.2.7 ‘Log in’ screen shall appear, enter the user name and password.
- 6.2.8 Press the AUTO button, then the START and STOP button shall appear.
- 6.2.9 Press the START button, the WFI circulation pump shall start.



Title: Operation of Purified Water Circulation Loop

SOP No.:		Revision No.:	00
Effective Date:		Supersedes No.	Nil
Review Date:		Page No.	2 of 4

6.2.10 Observe parameters mentioned in following table.

S. No.	Parameter	Range
1.	Flow Rate	NLT 7300 L/Hr
2.	Conductivity	<1.3 μ S/cm
3.	Temperature (WFI)	NLT 80 Deg. C
4.	Temperature (PW)	Ambient
5.	UV Intensity	> 9 W/m ²

NOTE: The Purified Water dump valves will be operated if the limits of conductivity & TOC are out of limit (mentioned above).

6.3 VELOCITY:

6.3.1 **Velocity (M/Sec.) for 2” Dia Loop Line Pipe** = Flow (LPH) X K /1000

Where, K = Conversion Factor (0.167)

6.3.2 **Velocity (M/Sec.) for 1” Dia Loop Line Pipe** = Flow (LPH) X K /1000

Where, K = Conversion Factor (0.802)

6.4 Record the Operation Details in “**Purified Water Circulation Loop Operation Record**” as shown in **Annexure-I**.

6.5 UV light provided in purified water circulation loop shall be replaced after 7000 burning hours.

7.0 ABBREVIATIONS:

SOP	Standard Operating Procedure
QA	Quality Assurance
No.	Number
PW	Purified Water
WFI	Water for Injection
UVD	Ultra Violet Detector
kg	Kilogram
cm	Centimeter
TOC	Total Organic Carbon



PHARMA DEVILS

ENGINEERING DEPARTMENT

Title: Operation of Purified Water Circulation Loop

SOP No.:		Revision No.:	00
Effective Date:		Supersedes No.	Nil
Review Date:		Page No.	3 of 4

8.0 ANNEXURES:

ANNEXURE No.	TITLE OF ANNEXURE	FORMAT No.
Annexure-I	Purified Water Circulation Loop Operation Record	

9.0 DISTRIBUTION:

- Controlled Copy No. 01 Head Engineering
- Master Copy Quality Assurance

10.0 REFERENCES:

Not Applicable

11.0 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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SOP No.:		Revision No.:	00
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Review Date:		Page No.	4 of 4

ANNEXURE – I

PURIFIED WATER CIRCULATION LOOP OPERATION RECORD

Section:

Frequency: Hourly

Date:..... PW- Purified Water System								Checked By (Sign & Date)
Time	Water level (350.1 LT-01)	Conductivity (NMT 1.3µS/cm)	Flow Rate (NLT 7300 L/Hr.)	Temperature (Ambient)	UV Intensity (> 9 W/m ²)	UV Running Hours	Done By (Sign & Date)	