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INSTRUMENT STANDARD OPERATING PROCEDURE MANUAL

College of Medicine

SAFETY AND LABORATORY COOMMITTEE, C.O.M, K.F.U.

Prepared by

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Document History

Document Section	Details of Amendments	Date	Modified by (Initials)
SOP	First Draft on SOP for the operation of **Water Purification Systems(Milli-Q)**	**21.4.2021**	

1. OBJECTIVE

- The document describes the operation of **Water Purification Systems(Milli-Q)**.
- **Uses regular tap water as feed, and produces pure and ultrapure water delivered by independent POD .**
- A**llows control over both ionic and organic contaminants that can impact research results.**
- Allows installation of a comprehensive water purification chain in a minimal amount of space.
- Eliminates the constraints of centralized water stations and their distribution loops (complexity, heavy maintenance, prolonged downtime, contamination
- To obtain Milli-Q water quality, purified water passes through a long-life dual wavelength UV lamp, which ensures organic molecule degradation by photooxidation.– Ultrapure water free of particulates, bacteria, pyrogens, nucleases, proteases, VOCs, endocrine disruptors and organics .
- Feed water quality Elix, RiOs, distilled or DI water with conductivity < 100 µS/cm and TOC < 50 ppb Feed water connection 1/2 in Gaz M Feed water pressure.
- Electrical power supply frequency 50 – 60 Hz ± 10 % Feed water connection 1/2 in. Gaz F Data connection Ethernet (RJ45)* 0 – 0.3 bar Feed water temperature 5 – 35 °C
- The Main Display is used to navigate the Milli-Q System software.

2. SCOPE

3. RESPONSIBILITIES

- It is the responsibility of designated personnel in Research lab to train staff and students on this procedure and to ensure adherence to this procedure under supervision.
- It is the responsibility of designated personnel (staff or Student) to follow the instructions of this procedure under supervision.
- Routine in R & D laboratories of the pharmaceutical and biotechnical industry.

4. REFERENCES

- **Water Purification Systems(Milli-Q)** operating instructions manual

5. DEFINITIONS

1-Tap water feed
2-Strainer
3-Inlet solenoid valve
4-Progard® pretreatment pack
5- Pressure regulator
6- Booster pump
7-Feed water conductivity cell
8-RO cartridge with sanitization port
9-RO reject recycling
10-Drain
11-RO reject solenoid valve
12-Permeate conductivity cell

13-3-way solenoid valve
14-Elix® electrodeionization module
15-Elix® resistivity cell
16-Thermistor
17-Check valve
18-Bactericidal UV Lamp
19-PE Reservoir, ASM and Vent filter
20-Delivery pump
21-Flow meter
22-E-POD® dispenser and final polisher
23-Photooxidation UV Lamp
24-Quantum® cartridge
25-Milli-Q® product water resistivity cell
26-Thermistor
27-Milli-Q® water TOC monitor
28-Q-POD® dispenser
29-Final polisher Application-Pak
30-Recirculation solenoid & check valve

6. SAFETY PRECAUTIONS

- ☐ Do not remove the covers of the Milli-Q System at any time. Electrical and mechanical components inside the Milli-Q System could pose a hazard.
- ☐ A qualified Millipore Service Representative should perform any work that needs to be done while the Milli-Q System is opened.
- ☐ Make sure the PS/2 cable and the Termination Plug are well connected to the Q-POD Unit.

7. PROCEDURE FOR OPERATINGTHE Water Purification Systems(Milli-Q)

7.1. Turning on the instrument:

- ☐ Switch on the instrument (mains switch on).

7.2. Software Operation.

7.3. Steps of the Procedure

- ☐ After setup and installation .
- ☐ Switch start up /On

7.4. Turning off the Instrument

- ☐ Switch the unit off and disconnect from the mains

7.5. Warning

Write any the warning in BOLD and RED FONT.