



Milli-Q® Services: Preventive Maintenance Visit

Your purification system is a sophisticated laboratory instrument that contains highly sensitive and complex technologies to accurately measure water quality. Critical mechanical and electrical components are

in regular contact with water and must be routinely inspected, calibrated and serviced to prevent damage and guarantee your water meets manufacturer's specifications.



Receive a complete review of your water purification system

During the Preventive Maintenance Visit, a Milli-Q®-certified Field Service Engineer performs a complete review of your water purification system following auditable Standard Operating Procedures. The visit includes:

- Comprehensive check of system specifications
- Replacement of aging parts using Maintenance Kit
- Hydraulics and mechanics inspection
- Control of electronic settings & monitoring devices
- Review and testing of events, alarms and alerts
- Software updates
- Operator training
- Application assistance
- Record of service history with traceability of system parameters (Diagnostic Report)

Optimize the performance of your water system

During an annual Preventive Maintenance Visit, the Milli-Q®-certified Field Service Engineer performs a full check-up of all critical components and replaces aging connections and tubing, including:

Verification of electrical components	Adjustments of power supplies & set points
Display, touchscreen and/or keypad(s)	Motor voltage(s)
Main and interface board(s)	EDI module power supply voltage(s)
Power supply board	UV lamp ballast voltage
UV ballast	Pressure set point(s)
Solenoid valve(s)	Conductivity and resistivity set points
Pressurization/recirculation/distribution pump(s)	Rejection set points
Pressure sensor(s)	
Resistivity/Conductivity cell(s) and thermistor(s)	Measuring & recording
Pack Tag Reader(s) or Pack detection microswitch(s)	Feed water conductivity
Flow meter(s)	Product resistivity
Level sensor(s)	Total Organic Carbon (TOC)
Alarm relay	Export of system history
RC/Link and POD connections	Motor(s) voltage(s)
	EDI module power supply voltages
	UV ballast voltage
Verification of mechanical/hydraulic components	Software updates
Bodies of solenoid valve, 3-way valve and motorized valve	Software upgrade for qualified systems
Pressurization/recirculation/distribution pump(s)	Software upgrade for non-qualified systems
Pressure regulator(s) and pressure gauge(s)	
Sanitary overflow	Maintenance Kit to replace aging parts
Reverse osmosis housing and chevron seal	Internal/external tubing
	Internal/external fittings
Verification & regulation of hydraulics	Pump inlet/outlet fittings
Product/distribution water flow rates	Solenoid valve coils
Rejection flow rates	Sanitary overflow solution
Pump pressure	O-ring(s) for cleaning port and point-of-use
	O-ring(s) and strainer(s) for conductivity cell(s) or inlet fittings
	Check valve(s)

We also offer a set of tailor-made options for your lab's specific needs, including:

- Verification
- Calibration
- Pharmacopeia suitability tests
- Sanitization
- Customized user training
- Extended guarantees
- Scheduled shipments of consumables and parts
- Additional Preventive Maintenance Visits

As part of our Qualification program, Preventive Maintenance Visits that are done within the framework of a Service Pharma™ Plan, are performed and documented according to a Maintenance Procedure (MP) in compliance with GLP and cGMP.

Service history traceability

Via the provided Diagnostic Report and Service Visit Report, you benefit from full traceability and archiving of your system's service history and system parameters.

Extract of the Diagnostic Report



System Diagnostics Report

Information	
Work Order Number	
Work Order Type	
Business Field Name	
Product Name	
Serial Number	
Scheduled Date Time	

Work to be performed
Preventive Maintenance Visit according to SOP

Work Performed
Inspection of external hydraulic & electrical connections, motors and capacitors, pumps, sensors, solenoid valves, wires and connectors, tubing & fittings connections. Replacement of maintenance kit. Tank Sanitization. TOC Cleaning and RO Cleaning Software Upgrade

Reverse Osmosis Diagnosis and Maintenance					
Parameters	System Specification	Pre Maintenance Value	Post Maintenance Value	Units	Comments
Regulator Pressure	1 b <= P <= 2.5 b	2	2	bar	
RO Feed Temperature	5° C <= T <= 35 °C	18	18	°C	
RO Feed Conductivity	1 µS <= C <= 2000 µS	733	735	µS	
RO Membrane Pressure	3 b <= P <= 7.5 b	2.5	5	bar	Performed a RO Cleaning
RO Permeate Conductivity	1 µS <= C <= 200 µS	70	25	µS	
RO Reject Flowrate	12 l/h <= Q <= 22 l/h	11.5	17.5	l/h	
RO Rejection	re > 92 %	90.45	96.60	%	RO rejection is back to normal after cleaning
RO Pump Voltage	4 V <= U <= 40 V	23	23	V	

UV Lamp Diagnosis and Maintenance					
Parameters	System Specification	Pre Maintenance Value	Post Maintenance Value	Units	Comments
254nm UV Lamp Current	I > 21 mA	22	23	mA	
185nm UV lamp Current	I > 65 mA	72	72	mA	

Point of Use Performance & Quality					
Parameters	System Specification	Pre Maintenance Value	Post Maintenance Value	Units	Comments
Product Flowrate	Q > 4.25 l/h	5	5.2	l/h	
EDI Product Resistivity	R > 5 MOhm.cm@25°C	9	10	MOhm.cm@25°C	
Product temperature	5° C <= T <= 35 °C	20.3	20.4	°C	
Milli-Q Product resistivity	R = 18.2 MOhm.cm@25°C	18.2	18.2	MOhm.cm@25°C	
Total Organic Carbon (TOC)	TOC <= 5 ppb*	7	2	ppb	Performed a TOC Cleaning
E-Pod Flowrate	1.3 l/min <= Q <= 2.16 l/min	1.86	2	l/min	
Q-Pod Flowrate	1.3 l/min <= Q <= 2.16 l/min	1.7	2	l/min	
Recirculation Pump Voltage	4 V <= U <= 24 V	23	23	V	

**For more information,
visit our website:**

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