User Manual

Milli-Q® Integral 3/5/10/15 Systems

About this User Manual

Purpose

- This User Manual is intended for use with a Milli-Q® Integral Water Purification System.
- This User Manual is a guide for use during the installation, normal operation and maintenance of a Milli-Q Integral Water Purification System. It is highly recommended to completely read this manual and to fully comprehend its contents before attempting installation, normal operation or maintenance of the Water Purification System.
- If this User Manual is not the correct one for your Water Purification System, then please contact Millipore®.

Terminology

The term "Milli-Q Integral Water Purification System" is replaced by the term "Milli-Q System" for the remainder of this User Manual unless otherwise noted.

Document

FTPF10479 - V1.0, 02/2010

About Millipore

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Legal Information

Notice

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We manufacture and sell water purification systems designed to produce pure or ultrapure water with specific characteristics (µS/cm, T, TOC, CFU/ml, Eu/ml) when it leaves the water purification system provided that the System is fed with water quality within specifications, and properly maintained as required by the supplier.

We do not warrant these systems for any specific applications. It is up to the end user to determine if the quality of the water produced by our systems matches his expectations, fits with norms/legal requirements and to bear responsibility resulting from the usage of the water.

Warranty

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Legal Information *continued*

Safety Information

Statement

Your Milli-Q System should be installed and operated according to the instructions in this manual.
In particular, the hydraulic and electrical specifications should be followed and met.
It is important to use this equipment as specified in this manual; using this equipment in a different manner may impair the safety precautions of the Milli-Q System.

Symbols

Symbol	Meaning
	This HAZARD symbol is used to refer to instructions in this manual that need to be done safely and carefully.
	This ATTENTION symbol is used to refer to instructions in this manual that need to be done carefully.
	This UV RADIATION sticker is used to refer to a position on the Milli-Q System Cabinet or inside of it where exposure to UV light is possible.
	This DANGER sticker is used to refer to a position on the Milli-Q System Cabinet or inside of it that could be hazardous.
	This ELECTRICAL GROUND sticker is used to refer to a position on the Milli-Q System Cabinet or inside where an electrical ground connection is made.
	This ELECTRICAL DANGER sticker is used to refer to a position on the Milli-Q System Cabinet or inside where an electrical danger could exist.

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.

Table of Contents

Product Information

Overview

Purpose

This chapter contains topics related to the Milli-Q System.
Some of the more important topics in this chapter are:

- installation requirements,
- consumable information, and
- dimensions of various components of the Milli-Q System

Contents

This chapter contains the following topics:

Cabinet

Overview

Item	Description/Name
A	Main Display
B	Connections for tubings, power cord, level sensor and other cables
C	Progard® Pack
D	Quantum® Cartridge
E	Sanitisation Port

Main Display function

The Main Display is used to navigate the Milli-Q System software.

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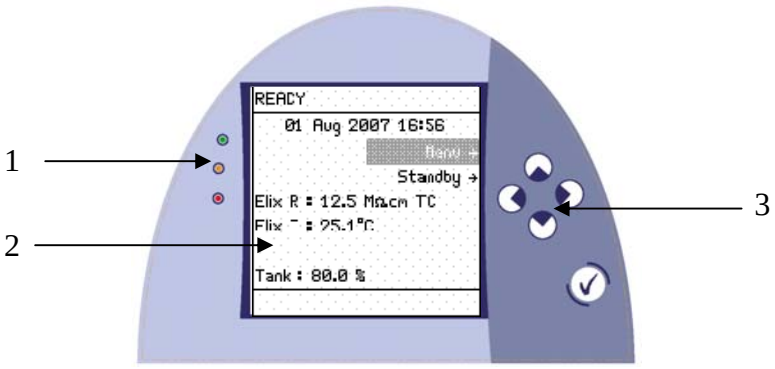
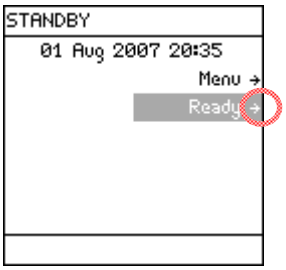
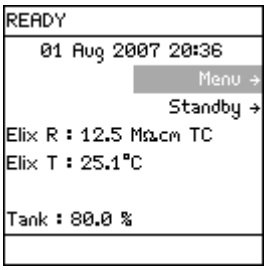
Details of the Main Display



Item	Description
1	LEDs • Green = No Alerts or Alarms • Yellow = Alert • Red = Alarm
2	Main LCD
3	Main Keypad

Right

- The use of the Right Keypad button is shown below.
- In this example, the system is changed from STANDBY Mode to READY Mode.

Diagram 1	Action	Diagram 2
	Press  .	

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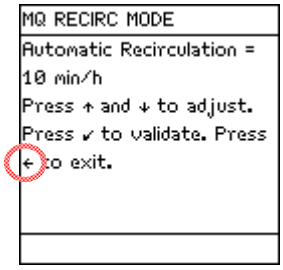
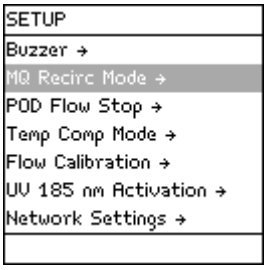
Left

The use of the Left Keypad button is shown below.

Diagram 1	Action	Diagram 2
	Press .	

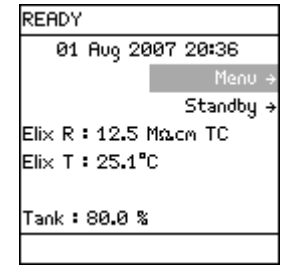
Up

The use of the Up Keypad button is shown below.

Diagram 1	Action	Diagram 2
	Press .	

Down

The use of the Down Keypad button is shown below.

Diagram 1	Action	Diagram 2
	Press .	

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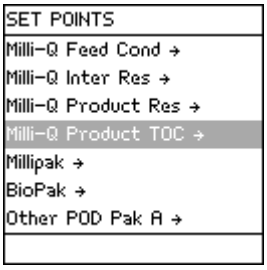
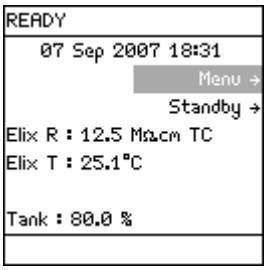
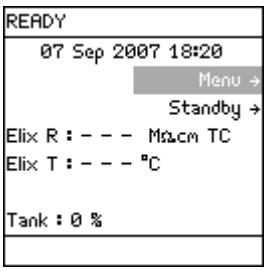
Validate

The use of the Validate Keypad button is shown below.

Diagram 1	Action	Diagram 2
	Press  .	

READY Mode – water quality values

- The READY Mode screen display is explained below.
- This screen display shows the resistivity and temperature of the water filling the Reservoir.
- This water is further purified and is then dispensed from the Q-POD Unit. The quality of the water from the Q-POD Unit is shown on the Q-POD Display.

Diagram	Explanation
	In this example, the water filling the Reservoir has: • a resistivity of 12.5 MΩ.cm, • is temperature compensated (TC), • a temperature of 25.1°C, and • the Reservoir is 80% full. ***NOTE:*** When the Milli-Q System stops filling the Reservoir, the last measurements of water quality are continuously displayed. New measurements are displayed once the Reservoir starts to be refilled.
	• In this example, the Milli-Q System was powered on but did not begin to fill the Reservoir. • In this case, there are no water quality measurements to display.

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LEDs

The LEDs are described below.

Item	Description
Green LED	Milli-Q System is operating within specifications.
Yellow LED	An Alert is present.
Red LED	An Alarm is present.

NOTE:

- If an Alarm and an Alert are present at the same time, then only the red LED is lit.
- The red and yellow LEDs are never lit at the same time.

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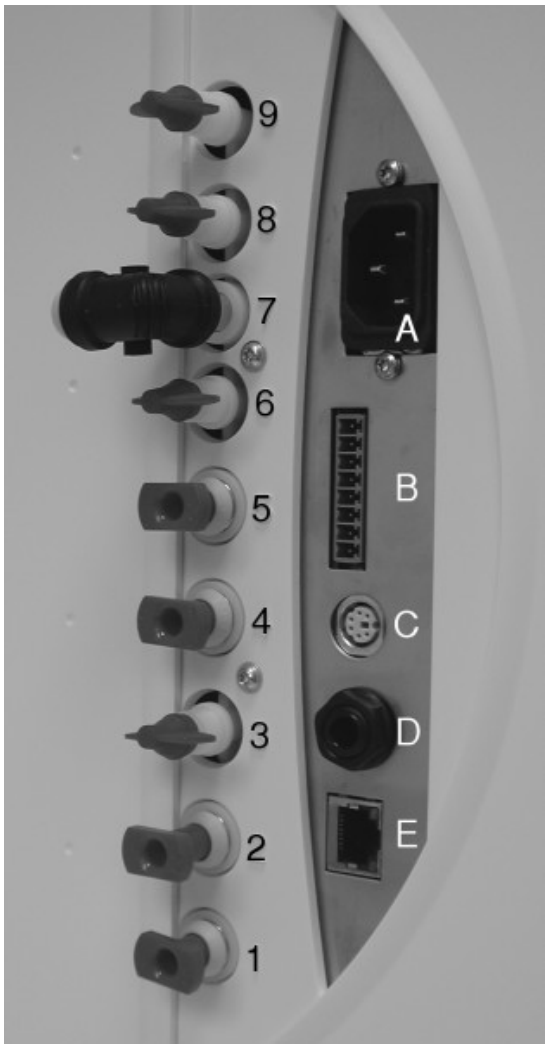
Cabinet, Continued

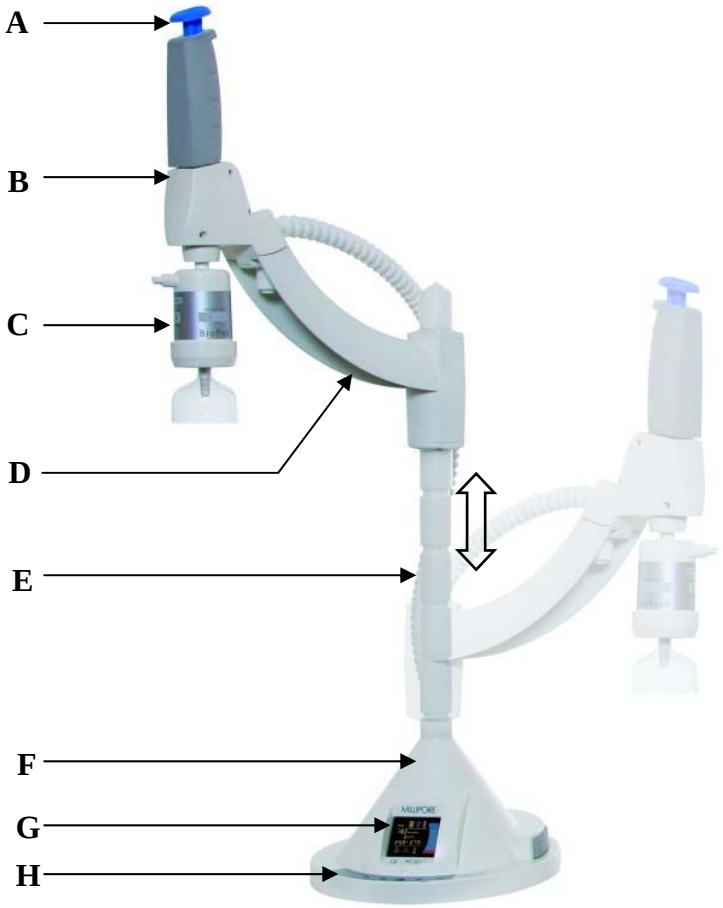
Ports and cables



Item	Description	Item	Description
1	RO Reject Port	8	E-POD™ Unit (Accessory) Port
2	Feedwater Port	9	Reservoir Port
3	Port for RC-Link to Q-POD Unit	A	Power Entry connection (100 – 240 V)
4	Port for RC-Link to Q-POD Unit	B	Accessories connection (maximum 24 VDC)
5	E-POD Unit (Accessory) Port	C	PS/2 cable connection (maximum 5 VDC)
6	EDI Waste Port	D	Level Sensor (maximum 5 VDC)
7	Reservoir Port	E	Ethernet connection (maximum 5 VDC)

Q-POD Unit

Overview



Item	Description
A	Q-POD® Plunger
B	Point of Delivery
C	POD Pak (BioPak™ Ultrafilter pictured here)
D	Q-POD Arm
E	Q-POD Mast
F	Q-POD Base
G	Q-POD Display
H	Q-POD Keypad

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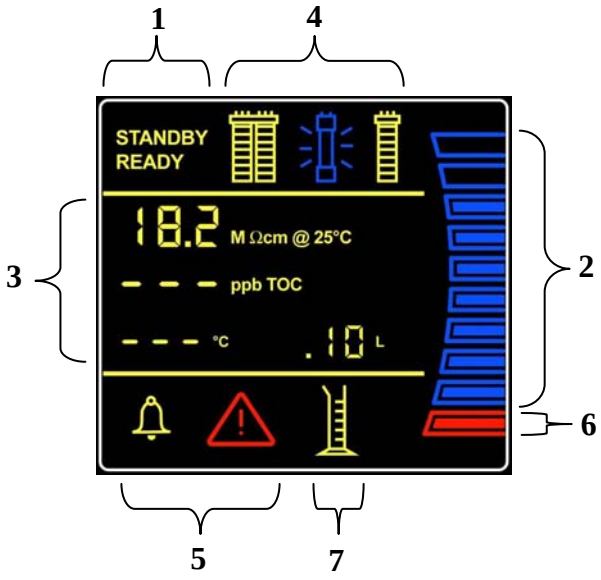
Q-POD Unit, Continued

Display

The Q-POD Display is shown and explained here.



Display - 1 STANDBY and READY

- STANDBY Mode is used only to access the Maintenance and Manager Menus.
- READY Mode is the normal mode for Milli-Q Water production and delivery. The Milli-Q System should be left in READY Mode during evenings, weekends and other times of non use.

Display – 2 Reservoir Level

- The Reservoir volume is represented by 10 graphic bars.
- Each bar is equal to 10% of the total Reservoir volume.

Display – 3 Values

- Resistivity (MΩ.cm or µS/cm)
  – Product water resistivity or conductivity
- TOC (ppb)
  – Product water total oxidizable carbon
- Temperature (°C)
  – Product water temperature
- Volumetric dispensing (L)
  – Volumetric dispensing value

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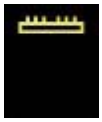
Display – 4 Status of consumables

 Progard Pack out	 Progard Pack not in use	 Progard Pack in use
 UV Lamps off	 UV 185 nm Lamp on	 UV 254 nm Lamp on
 Quantum Cartridge out	 Quantum Cartridge not in use	 Quantum Cartridge in use

NOTE:

When the icon is blinking, then replace the related consumable.

Display -5 Alert and Alarm Symbols

 Blinking	• Alert: MAINTENANCE needed. • Water quality is still adequate.
 Blinking	• Alarm: IMMEDIATE ACTION needed. • Water quality out of specification or hardware problem. • Another Q-POD Unit has stopped dispensing but its microswitch is locked. Locate this Q-POD Unit and press the Q-POD Plunger all the way down and release.

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Q-POD Unit, Continued

Display – FLOW AUTOSTOP Alarm

 Steady + 	• The Milli-Q System has dispensed beyond the POD FLOW STOP time. The FLOW AUTO STOP Alarm is shown on the Main Display. • Press the Q-POD Plunger all the way down and release.

Display – 6 Water not available

 Blinking	• Q-POD Unit not available for use. • Another Q-POD Unit is being used.

Display and POD LOCKED Alarm

 Steady + 	• The microswitch inside the Q-POD Unit was locked when the Milli-Q System made a transition to READY Mode. • Press the Q-POD Plunger all the way down and release.

Display - Volumetric Dispensing

	Adjust the volume using (-) or (+) buttons. Press the volumetric dispensing button to start delivery of selected volume.

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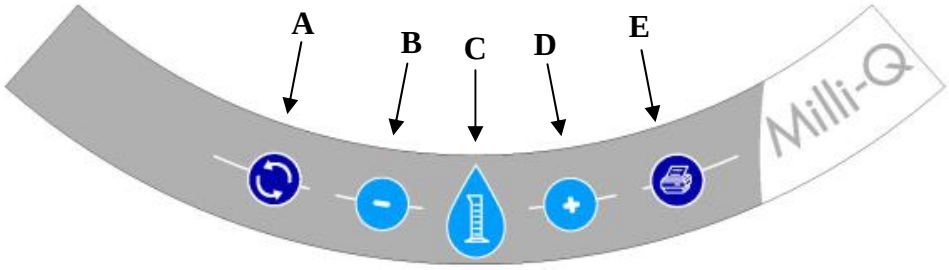
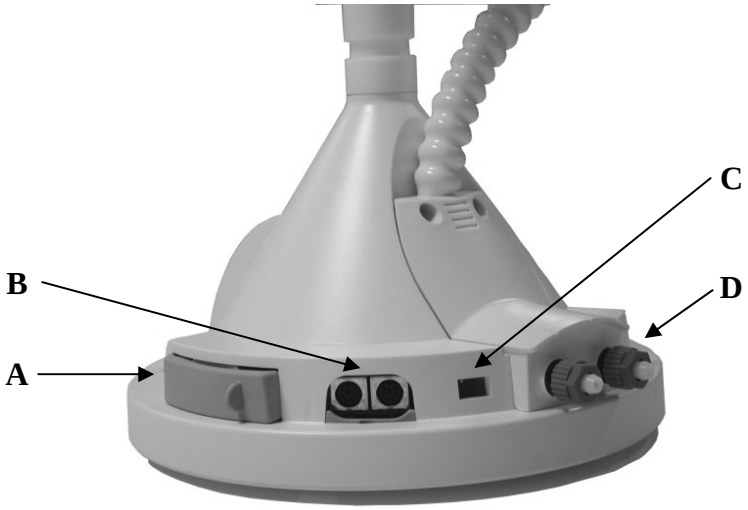
Keypad

The Q-POD Keypad is shown and explained here.



Item	Description
A	Press to start Milli-Q Water Recirculation
B	Decrease volume
C	Press to start volumetric dispensing
D	Increase volume
E	Press to get Instant Quality printout (if a printer is connected to the Q-POD Unit)

Connections



Item	Description
A	Printer cable connection
B	PS/2 cable and Termination Plug connections
C	Footswitch connection
D	RC-Link tubing connections

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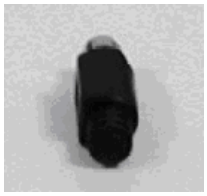
Termination Plug

The Termination Plug (shown below) is connected next to the PS/2 cable on the Q-POD Base.



RC-Link

- The RC-Link is the set of tubings and the PS/2 cable inside a sheath.
- The RC-Link is 2.7 metres in length.

Item	Description
A	PS/2 Cable
B	Tubings

Reservoir

Information

Millipore recommends using a Reservoir having the following catalogue number:

Size	Catalogue Number
30 Litre	TANKPE030
60 Litre	TANKPE060
100 Litre	TANKPE100

Example

- An example of a Milli-Q System is shown here.
- This pictures shows an (from left to right):
  – E-POD Unit,
  – Milli-Q Cabinet,
  – 30 Litre Reservoir, and
  – Q-POD Unit.

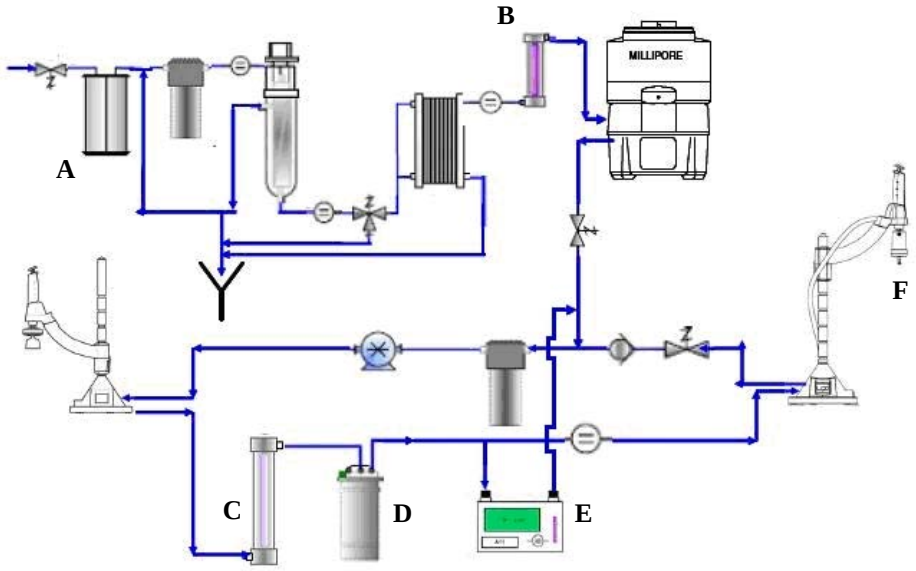
NOTE:

The RC-Link is not shown in this photo nor are the various tubings or cables shown.

Consumables

Flow diagram

The water flow through a Milli-Q System is shown here in a flow diagram. The various consumables are described below.



Item	Description	Item	Description
A	Progard Pack	D	Quantum Cartridge
B	UV 254 nm Lamp	E	A10® TOC Monitor Lamp
C	UV 185 nm Lamp	F	POD Pak

Continued on next page

Progard Pack

- The Progard Pack protects the RO Cartridge in order to increase its lifetime.
- The Progard Pack prevents mineral scaling, organic fouling and chlorine oxidation of the RO Cartridge(s).

Item	Description
Progard Pack	Performs benefits listed above.
Progard Pack without Polyphosphate	• Performs benefits listed above except it does not prevent mineral scaling. • This is used with feedwaters not having tendencies to form mineral scale.

UV 254 nm Lamp

- The UV 254 nm Lamp emits light at 254 nm.
- The UV 254 nm Lamp is used to kill bacteria.

UV 185 nm Lamp

- The dual wavelength UV 185 nm Lamp emits light at 185 nm and at 254 nm.
- The UV 185 nm Lamp kills bacteria and reduces the level of organic molecules in the water.

Quantum Cartridge

The Quantum Cartridge removes trace levels of ions and organic molecules.

Item	Description
Quantum TIX Cartridge	• The Quantum TIX Cartridge contains only ion exchange resin. • This type of Quantum Cartridge is used when maintaining absolutely trace levels of ions is critical.
Quantum TEX Cartridge	• The Quantum TEX Cartridge contains ion exchange resin and synthetic carbon. • These purification media are used when the Milli-Q Water needs to have both trace levels of ions and trace levels of organic molecules.

Continued on next page

Consumables, Continued

A10 Lamp	• The A10 TOC Monitor uses a small lamp during its TOC Analysis Mode. • This is called the A10 Lamp.
POD Pak	• The POD Pak is the final water purification device. • It is attached to the Point of Delivery outlet. • The POD Pak provides additional quality and insurance that trace contaminants related to specific applications are removed just before ultrapure water is delivered.

Specifications and requirements

Milli-Q® Water quality

The water delivered from a Q-POD Unit has the following characteristics.

Parameter	Specification	Units
Resistivity	18.2	MΩ.cm @25°C
TOC	< 5	ppb
Particulates > 0.22 µm**	< 1	Particulates/mL
Bacteria**	< 1	cfu/mL
Pyrogens*	< 0.001	Eu/mL
RNases*	< 0.01	ng/mL
DNases*	< 4	pg/µL
Flow Rate**	0.05 – 2	L/min

(*) With BioPak Final Filter
(**) With Millipak or BioPak Final Filter

NOTE:

These specifications are valid for Elix water feed within specification and for routine operation. Some specifications may not be achieved at start-up.

Weight

The various weights are found in the table below.

Item	Operating Weight	Dry Weight	Shipping Weight
Q-POD Unit	4.7 kg	4.6 kg	7.2 kg
Milli-Q Integral 3 Cabinet	24 kg	18 kg	22 kg
Milli-Q Integral 5 Cabinet	25 kg	19 kg	23 kg
Milli-Q Integral 10 Cabinet	27 kg	20 kg	24 kg
Milli-Q Integral 15 Cabinet	28 kg	21 kg	25 kg

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Electrical

The electrical specifications and data are found in the table below.

Parameter	Value
Voltage	100-230 VAC ±10%
Frequency	50-60 Hz ±10%
Main Fuse	• 3.15 Amp Fast Acting; 5 mm x 20 mm; 250 V safety voltage. • The fuse should be serviced by a qualified Millipore Service Representative.
Power Used	160 VA
Power Cord Length	2.5 metres
Electrical Ground	Earth Grounded
Power Cord use	• The Milli-Q System is powered on and off by removing the power cord from the wall outlet. • The power cord should be plugged into a wall outlet that is accessible.

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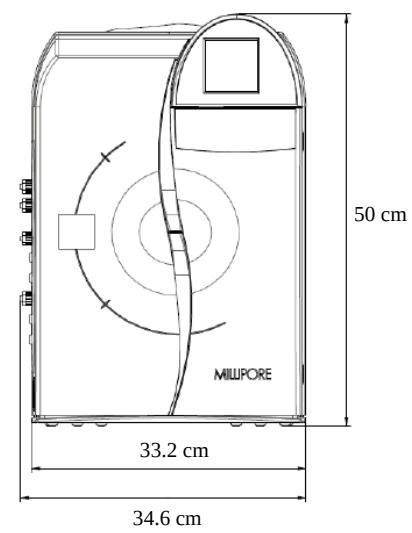
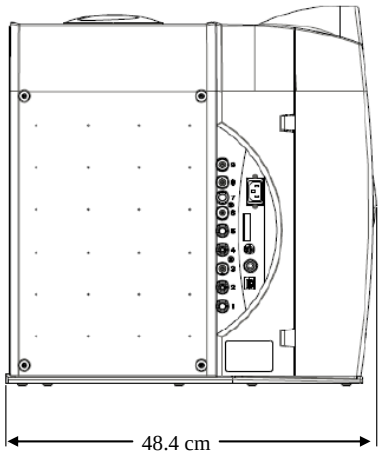
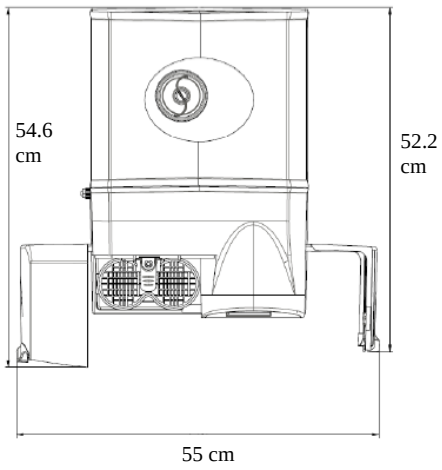
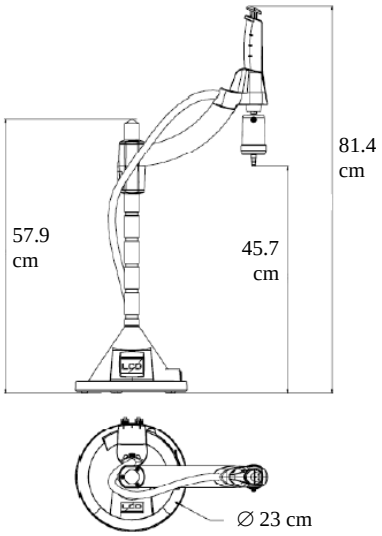
Dimensions









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Specifications and requirements, Continued

Materials of construction

Please contact Millipore for a list of the Materials of Construction.

Feedwater

The Feedwater requirements are listed here.

Parameter	Value
Type of Feedwater	Potable tap water
Conductivity	< 2000 µS/cm
Pressure	1 bar < P < 6 bar
Temperature	5°C < T < 35°C
Dissolved CO_2	< 30 ppm
Free Chlorine	< 3 ppm
Fouling Index	< 12
pH	4 < pH < 10
Maximum TOC	< 2000 ppb
Iron	< 0.1 ppm
Manganese	< 0.05 ppm
Aluminum	< 0.05 ppm

Environmental

The Environmental requirements are listed here.

Parameter	Value
Altitude	< 3000 metres
Ambient operating temperature	4 – 40°C
Ambient storage temperature	4 – 40°C
Installation Category	II
Location	The Milli-Q System is intended for indoor use only.
Pollution Degree	2
Relative humidity during storage and operation	Maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C.

Noise Level

The noise level is < 50 dB at a distance of 1 metre.

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Specifications and requirements, Continued

Consumables	• The minimum consumables required for installation are listed here. • Note that these items are not shipped with the Milli-Q System and must be ordered separately: – Progard Pack, – Quantum Cartridge, and – POD Pak.
Reservoir location	The Reservoir must be located relative to the Milli-Q Cabinet: • $0 \leq y \leq 2$ metres, where y = vertical distance, and • $0 \leq x \leq 3$ metres, where x = horizontal distance.

Installation

Overview

Purpose

This chapter explains how to install the Milli-Q System.

Contents

This chapter contains the following topics:

Summary list

The steps shown below outline the sequence and major actions of a Milli-Q System installation. Please refer to this list throughout the installation.

Step	Action
1	Assemble the Q-POD Unit
2	Connect the RC-Link to the Q-POD Unit
3	Install Milli-Q Cabinet tubings, cables and power cord
4	Power on the Milli-Q System
5	Install the Quantum Cartridge
6	Install the Progard Cartridge
7	Flush and rinse the RO Cartridge(s)
8	Fill the Reservoir
9	Flush and rinse the Quantum Cartridge
10	Install and Register the POD Pak
11	Register the UV Lamp timers
12	Register the timer for the EXAMINE INLET STRAINER message
13	Calibrate the Product Water flowrate
14	Clean the A10 TOC Monitor

Alarms generated during installation

Overview

- During the installation of a Milli-Q System, certain Alarm messages are generated.
- This occurs because:
  – the Reservoir is empty,
  – there is air in the tubings and in the Progard Pack,
  – the Progard Pack is not installed,
  – the Quantum Cartridge is not installed, and
  – an automatic flush of the Progard Pack is manually cancelled.
- These alarms are explained here. The ways to cancel them are explained also. For more information about Alarm messages, see the chapter titled ‘Alarms’.

- It is perfectly normal to see alarms during installation.
- The Milli-Q System is designed to use various sensors to alert you of problems during normal operation of the system. This insures optimal water quality.
- During installation, these sensors are active. As a result, it is possible to have alarms generated. In order to advance during the installation, these alarms should be cancelled.

TANK EMPTY message

- This alarm occurs because the Reservoir is empty during most of the installation.
- This alarm goes away when the Reservoir is partially full.
- To cancel the text display of this alarm message, follow the instructions on the LCD.

PROGARD PACK OUT message

- This alarm occurs because the Progard Pack is not installed.
- This alarm goes away when the Progard Pack is detected by the Milli-Q System.
- To cancel the text display of this alarm message, follow the instructions on the LCD.

QUANTUM CARTRIDGE OUT message

- This alarm occurs because the Quantum Cartridge is not installed.
- This alarm goes away when the Quantum Cartridge is detected by the Milli-Q System.
- To cancel the text display of this alarm message, follow the instructions on the LCD.

Continued on next page

Alarms generated during installation, Continued

MILLI-Q RES < SP, REPLACE QUANTUM message

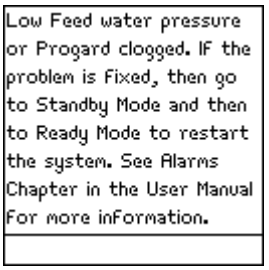
- This alarm occurs because the Quantum Cartridge is not fully rinsed out or there is air in the tubing near a resistivity sensor.
- This alarm goes away when a few litres of water are dispensed from the Q-POD Unit.
- To cancel the text display of this alarm message, follow the instructions on the LCD.

LOW FEED PRESSURE message

- This alarm occurs because there is air in the tubings and in the new Progard Pack.
- When the air is gone and replaced with water, this alarm does not occur anymore during installation.
- To cancel the text display of this alarm message, follow the instructions on the LCD.

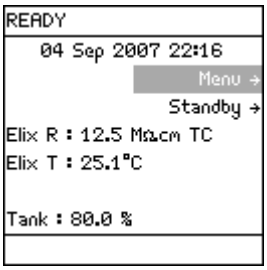
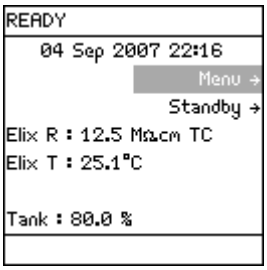
Eliminate LOW FEED WATER PRESSURE message

Follow the steps below to allow the Milli-Q System to function after the LOW FEED WATER PRESSURE alarm message is displayed.

Step	Action	Diagram
1	When the feedwater pressure is low, the Milli-Q System has an Alarm.	
2	Cancel the text display of this alarm. Press .	

Continued on next page

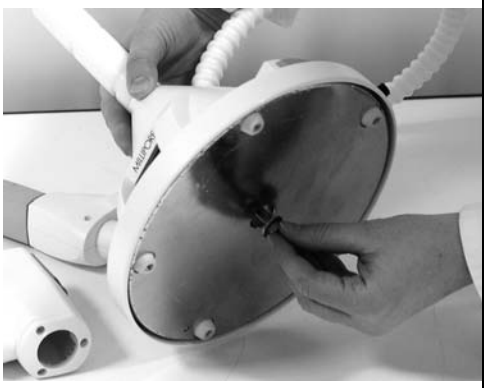
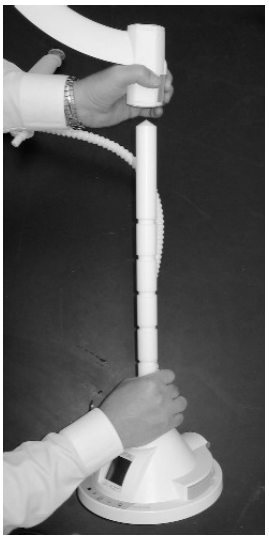
Eliminate LOW FEED WATER PRESSURE message (continued)

Step	Action	Diagram
3	Press  .	
4	• The Milli-Q System tests the feedwater pressure again. • If the pressure is sufficient, then the alarm does not appear again.	

Q-POD Unit

Assembling

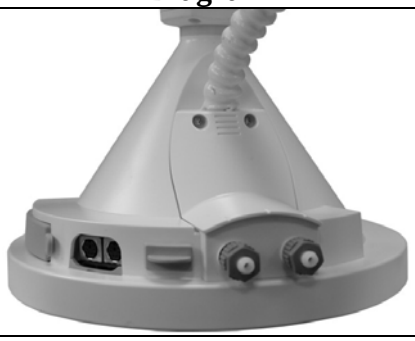
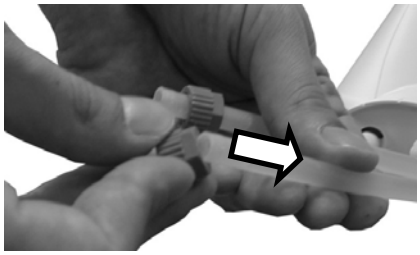
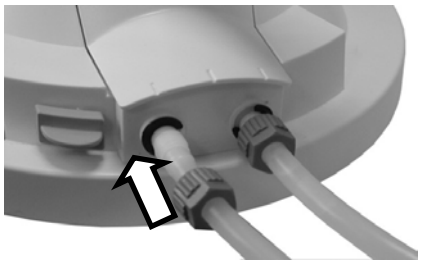
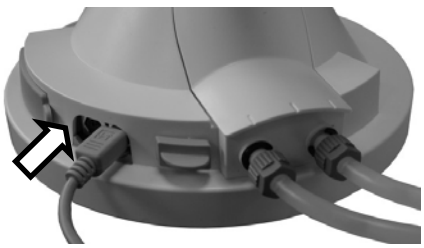
Follow the steps below to assemble the Q-POD Unit.

Step	Action	Result
1	• Open the Q-POD Unit box. • Locate the Q-POD Base and the Q-POD Mast. • Screw them together.	
2	• Locate the Q-POD Arm. • Press on the locking handle and slide the Q-POD Arm onto the Q-POD Mast. • Note that the height can be adjusted up or down.	

Continued on next page

Connecting the RC-Link

Follow the steps below to connect the RC-Link to the Q-POD Base.

Step	Action	Diagram
1	Locate the two tubing ports on the back of the Q-POD Base.	
2	Connect the RC-Link tubing to the Q-POD Ports: • Unscrew the 2 nuts from the Q-POD Ports. • Push the end of each piece of tubing through the nuts. • Push this end of the pieces of tubing onto the plastic stem. • Tighten the 2 nuts. ***NOTE:*** Either end of the RC-Link can be attached to the Q-POD Unit.	  
3	Connect the RC-Link PS/2 cable to either PS/2 port on the Q-POD Base.	

Continued on next page

Connecting the RC-Link (continued)

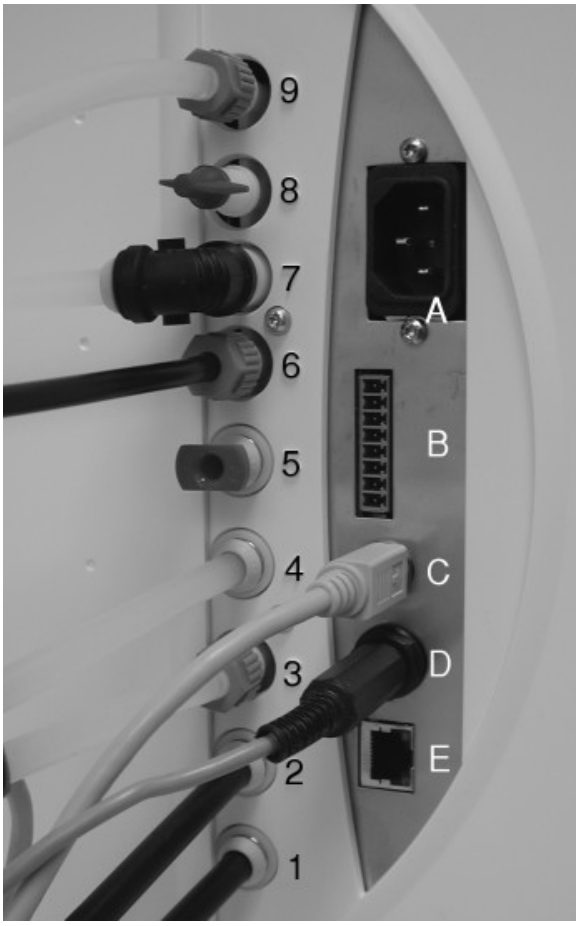
Step	Action	Diagram
4	Connect the Termination Plug to the other PS/2 port on the Q-POD Base.	

Make sure the PS/2 cable and the Termination Plug are well connected to the Q-POD Unit.

Main Cabinet tubings, cables and power cord

Summary

Item	Description
1	RO Reject Water tubing goes to a drain.
2	Feedwater supply tubing to Milli-Q Integral system.
3	Tubing to Q-POD Unit. Use the RC-Link tubing.
4	Tubing to Q-POD Unit. Use the RC-Link tubing.
5	*Water to E-POD Unit (accessory).*
6	EDI Module waste water tubing connected here goes to a drain.
7	Tubing connected here comes from the bottom of the Reservoir. See the next section.
8	*Water to E-POD Unit (accessory).*
9	Tubing connected here goes to the bottom of the Reservoir. See the next section.
A	Power cord connected here.
B	Accessories cable connected here.
C	PS/2 cable connected here.
D	Level Sensor from Reservoir connected here.
E	Ethernet cable connected here.



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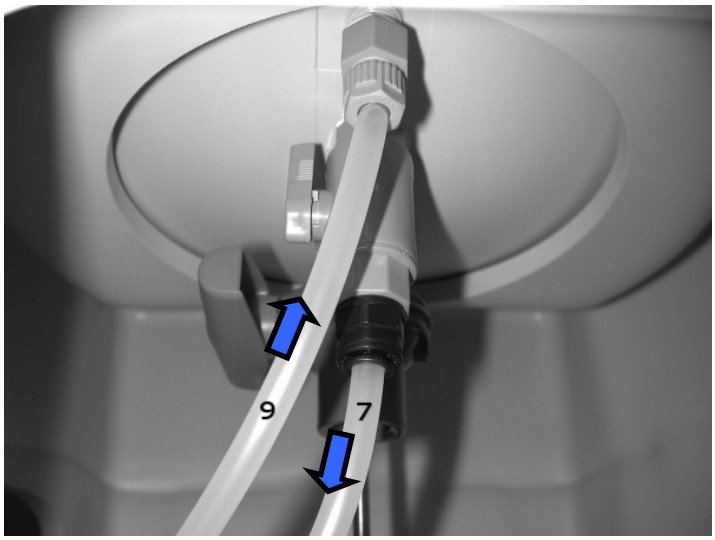
Reservoir connections

The tubings from Milli-Q Cabinet Ports 7 and 9 are connected to the Reservoir as shown here.



NOTE:

The valve where the tubing from Port 7 is connected must be opened.

Feedwater tubing to pipe

- Install the feedwater tubing as shown here.
- Note that the assembly of fittings has a strainer inside.
- This is called the Inlet Strainer for Milli-Q for the remainder of this User Manual.

Continued on next page

Main Cabinet tubings, cables and power cord, Continued

Powering the system

- Plug the power cord into the Milli-Q System.
- Plug the power cord into a source of electrical power.
- The Main LCD shows a series of start-up screens.

Alarm messages

- Because the Milli-Q System is starting with an empty Tank and without a Progard Pack or Quantum Cartridge installed, there are alarm messages displayed.
- These alarms are:
  – TANK EMPTY,
  – PROGARD PACK OUT, and
  – QUANTUM CARTRIDGE OUT.

Cancel Alarms

- When an Alarm message is displayed, follow the instructions on the screen to cancel the text display of the Alarm.
- Cancel the text displays of the Alarm messages:
  – TANK EMPTY,
  – QUANTUM CARTRIDGE OUT, and
  – PROGARD PACK OUT.

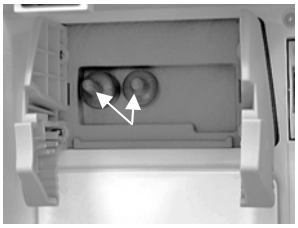
Check the date

- When the Alarm messages are cancelled, check that the displayed date is correct.
- If necessary, go to the Manager Menu Software and correct the date and time. See the Software Map in the beginning of the Software Chapter for more information.
- Do not install a Progard Pack or a Quantum Cartridge until the displayed date is correct.

Installing the Quantum Cartridge

Procedure

Follow the steps below to install a new Quantum Cartridge.

Step	Action	Diagram
1	• Open the right door of the Milli-Q System Cabinet. • Remove the 2 protective caps located on the ports inside.	
2	• Remove the covers on the 2 ports of the Quantum Cartridge. • Wet the O-rings with water.	
3	• Install the Quantum Cartridge until it is fully seated. • Close the right door.	
4	One minute later, the Main LCD shows that a new Quantum Cartridge is installed.	

Continued on next page

Installing the Quantum Cartridge, Continued

Procedure
(continued)

Step	Action	Diagram
5	Press .	

Installing the Progard Pack

Procedure

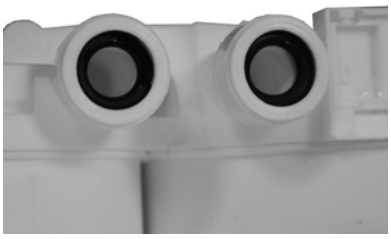
- Follow the steps below to install a new Progard Pack.
- After the Progard Pack is installed, the Milli-Q System starts an automatic flush.
- During Milli-Q System installation procedure, the automatic flush is cancelled.
- During the regular maintenance of the Milli-Q System, the automatic flush is not cancelled.

Step	Action	Diagram
1	Start in STANDBY Mode. ***NOTE:*** The PROGARD PACK OUT Alarm message is not shown at this time. By following the instructions earlier in this manual, the alarm was cancelled.	
2	• Open the left door of the Milli-Q System Cabinet. • Remove the 2 protective caps located on the ports inside.	

Continued on next page

Installing the Progard Pack, Continued

Procedure (continued)

Step	Action	Diagram
3	• Remove the covers on the 2 ports of the Progard Pack. • Make sure the rubber O-rings are firmly in place. • Wet the O-rings with water.	
4	Push the top of the Progard Pack into the ports on the Milli-Q System.	
5	Push the bottom of the Progard Pack inwards.	

Continued on next page

Installing the Progard Pack, Continued

Procedure (continued)

Step	Action	Diagram
6	• Push the pack locking handle down. • Close the left door.	
7	One minute later, the Main LCD shows that a new Progard Pack is installed.	INSTALL PROGARD A new Progard has been installed. Catalogue N° : PR0G0T002 Lot N° : F6DN27324. Press → to start Progard flush.
8	Press .	INSTALL PROGARD Progard flush procedure in progress. Remaining Time : XX min. Press → to cancel.
9	• Wait 5 minutes. • Press .	INSTALL PROGARD Canceling a Progard flush procedure prior to completion may reduce system operation performance. Press ↙ to cancel Progard flush procedure or ← to
10	• Press . • The Progard flush is cancelled.	READY 05 Sep 2007 18:57 Menu → Standby → Elix R : 12.5 MΩ.cm TC Elix T : 25.1°C Tank : 80.0 %

Rinsing the RO Cartridges

Very important! Rinse the RO Cartridges

- The RO Cartridges must be flushed and rinsed when the Milli-Q System is installed.
- Failure to do this results in poor water quality.

Procedure

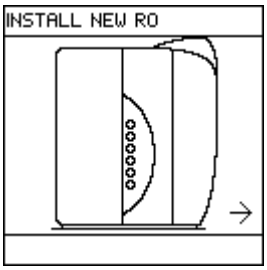
Follow the steps below to flush and rinse the RO Cartridge(s).

Step	Action	Diagram
1	Start in STANDBY Mode.	
2	• Select <Menu>. • Press ◗.	
3	• Select <Maintenance>. • Press ◗.	

Continued on next page

Rinsing the RO Cartridges, Continued

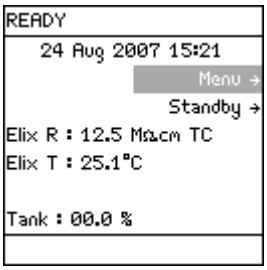
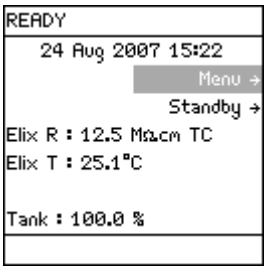
Procedure
(continued)

Step	Action	Diagram
4	• Select <Install new RO>. • Press ◐.	
5	Press ◐.	
6	Press ◐.	
7	Press ✓.	
8	After 15 minutes, the LCD looks like this.	

Continued on next page

Rinsing the RO Cartridges, Continued

Procedure
(continued)

Step	Action	Diagram
9	When the 225 minute RO rinse is finished, the Milli-Q System returns to READY Mode.	
10	• The Reservoir is now being filled. • The Reservoir water level is indicated on the bottom of the READY Mode screen or on the Q-POD Display.	

Rinsing the Quantum Cartridge

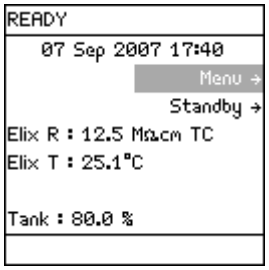
Have enough water!

- There has to be enough water in the Reservoir in order to rinse the Quantum Cartridge.
- If there is not enough water in the Reservoir, the TANK EMPTY Alarm is shown. Additionally, air can enter the tubings and can temporarily affect other sensors.

Millipore Reservoir	Minimum
30 Litre	100% Tank Level
60 Litre	> 40% Tank Level
100 Litre	> 30% Tank Level

NOTE:

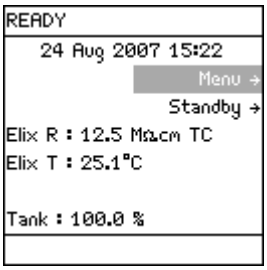
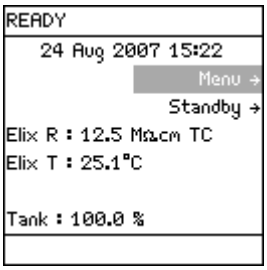
The Reservoir Level is indicated on the READY Mode screen.



Continued on next page

Rinsing the Quantum Cartridge, Continued

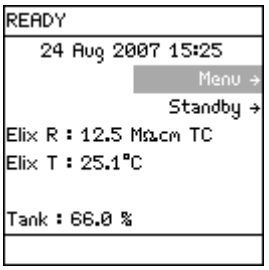
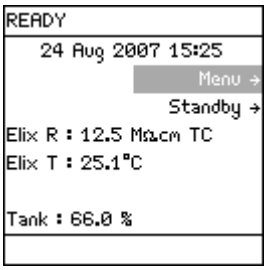
Procedure Follow the steps below to rinse the Quantum Cartridge.

Step	Action	Diagram
1	• Locate the clear tubing and the barbed fitting from the Milli-Q System Accessories Bag. • Screw the barbed fitting onto the Q-POD Unit. • Push one end of the clear tubing onto the end of the barbed fitting. • Place the other end of the clear tubing into a sink. ***NOTE:*** Do not use any white tape on the threads of the barbed fitting. An O-ring is located inside the Q-POD Unit.	
2	The Milli-Q System should be in READY Mode.	
3	• Push the Q-POD Plunger all the way down and then release it. • In a few minutes, water should come out of the Q-POD Unit.	

Continued on next page

Rinsing the Quantum Cartridge, Continued

Procedure
(continued)

Step	Action	Diagram
4	Dispense water for about 10 minutes.	
5	• Push the Q-POD Plunger all the way down and then release it to stop dispensing water. • Leave the Milli-Q System in READY Mode.	

Installing a POD Pak

Overview

The installation of a POD Pak involves 2 steps. These are:
- placing and flushing the POD Pak onto the Q-POD Unit, and
- registering the installation of a specific POD Pak.

Placing and flushing

Follow the instructions delivered with the POD Pak.

Registering

Follow the steps below to register the installation of the POD Pak.

Step	Action	Diagram
1	Start in STANDBY Mode.	
2	• Select <Menu>. • Press .	
3	• Select <Maintenance>. • Press .	

Continued on next page

Installing a POD Pak, Continued

Registering (continued)

Step	Action	Diagram
4	• Scroll down to <Install Q-POD Pak 1>. • Select it.	
5	Press ◐.	
6	Press ◐.	
7	• In this example, you choose <Millipak>. • Press ◐.	
8	Press ◐.	

Continued on next page

Installing a POD Pak, Continued

Registering (continued)

Step	Action	Diagram
9	Press .	
10	Press 3 times on .	

Registering UV Lamp timers

Introduction

- The timer used for each UV Lamp must be reset when the Milli-Q System is installed.
- If this is not done, then the message indicating that a Lamp replacement is needed is shown too early.
- The UV Lamp timers need to be reset for the:
  – UV 185 nm Lamp,
  – the UV 254 nm Lamp, and
  – the A10 TOC Monitor Lamp.

NOTE:

Before doing this, make sure that the date and time have been checked for accuracy.

Procedure

This procedure shows how to reset the timer used for the UV 254 nm Lamp.

Step	Action	Diagram
1	Start in STANDBY Mode.	
2	• Select <Menu>. • Press .	
3	• Select <Maintenance>. • Press .	

Continued on next page

Registering UV Lamp timers, Continued

Procedure (continued)

Step	Action	Diagram
4	• Select <Install UV 254 nm Lamp>. • Press ◐.	
5	Press ◐.	
6	Press ◐.	
7	Press ✓.	
8	Press 3 times on ◑.	

Reset timer for other lamps

After resetting the UV 254 nm Lamp timer, reset the UV Lamp timer for the:
- UV 185 nm Lamp, and
- the A10 TOC Monitor Lamp.

Registering <Examine Inlet Strainer> message timer

Introduction

- The timer used for cleaning the Inlet Strainer must be reset when the Milli-Q System is installed.
- If this is not done, then the message indicating that the message Examine Inlet Strainer is shown too early.

Procedure

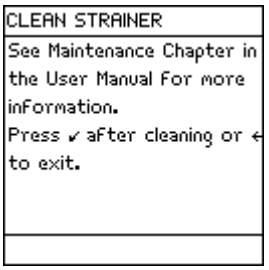
This procedure shows how to reset the timer used for the message Examine Inlet Strainer.

Step	Action	Diagram
1	Start in STANDBY Mode.	
2	• Select <Menu>. • Press ◐.	
3	• Select <Maintenance>. • Press ◐.	
4	• Select <Clean Strainer>. • Press ◐.	

Continued on next page

Registering <Examine Inlet Strainer> message timer, Continued

Procedure
(continued)

Step	Action	Diagram
5	Press .	
6	Press .	
7	Press 3 times on .	

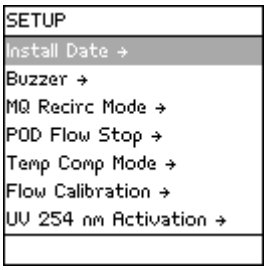
Calibrating the Flowrate

Introduction

- The Milli-Q Water flowrate should be calibrated when the Milli-Q System is installed.
- This calibration should be done with Q-POD Unit 1 in case there are multiple Q-POD Units.
- A 1 Litre graduated cylinder is needed.

Procedure

Follow the steps below to perform a Flow Calibration.

Step	Action	Diagram
1	Go to STANDBY Mode.	
2	• Select <Menu>. • Press .	
3	• Enter the <Manager Menu>. • See the Software Chapter to learn how to enter the Manager Menu.	
4	• Select <Setup>. • Press .	

Continued on next page

Calibrating the Flowrate, Continued

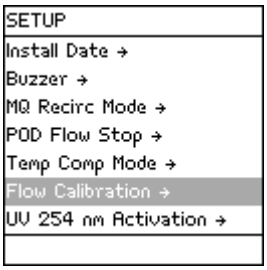
Procedure
(continued)

Step	Action	Diagram
5	• Select <Flow Calibration>. • Press .	FLOW CALIBRATION Place a 1.0L graduated cylinder under the Q-POD N°1 outlet. Press ↙ to start calibration, press ← to cancel.
6	• Place a 1 L Graduated Cylinder under the Q-POD Unit. • Press .	FLOW CALIBRATION Press on the Q-POD Keypad to start water delivery. After the water dispensing is complete, measure the collected volume.
7	• Using the Q-POD Keypad, press .	FLOW CALIBRATION The system is now delivering water. Task Completion: 0 %
8	• Water dispenses automatically from Q-POD Unit 1. • Wait until it stops dispensing water.	FLOW CALIBRATION Volume : 900 mL Use ↑ and ↓ keys to register the value of the collected volume. Press ↙ to confirm and exit.
9	• Measure the amount of water (in ml) that was dispensed. • Suppose 870 ml was collected. • Input this using the Keypad.	FLOW CALIBRATION Volume : 870 mL Use ↑ and ↓ keys to register the value of the collected volume. Press ↙ to confirm and exit.

Continued on next page

Calibrating the Flowrate, Continued

Procedure (continued)

Step	Action	Diagram
10	Press .	
11	Press 3 times on .	

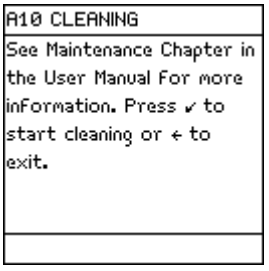
Cleaning the A10 TOC Monitor

Introduction

The A10 TOC Monitor is cleaned whenever a new Quantum Cartridge is installed.

Procedure

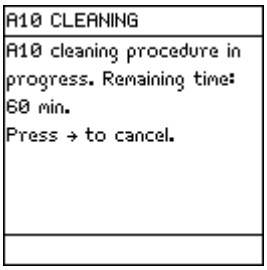
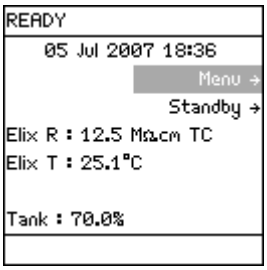
Follow the steps below to clean the A10 TOC Monitor.

Step	Action	Diagram
1	Start in STANDBY Mode.	
2	• Select <Menu>. • Press ◗.	
3	• Select <Sanitise/Clean>. • Press ◗.	
4	• Select <A10 Cleaning>. • Press ◗.	

Continued on next page

Cleaning the A10 TOC Monitor, Continued

Procedure (continued)

Step	Action	Diagram
5	Press .	
6	When the A10 CLEANING Mode is finished, the Milli-Q System automatically goes into READY Mode.	

Installation complete!

The installation is now complete.

Software

Overview

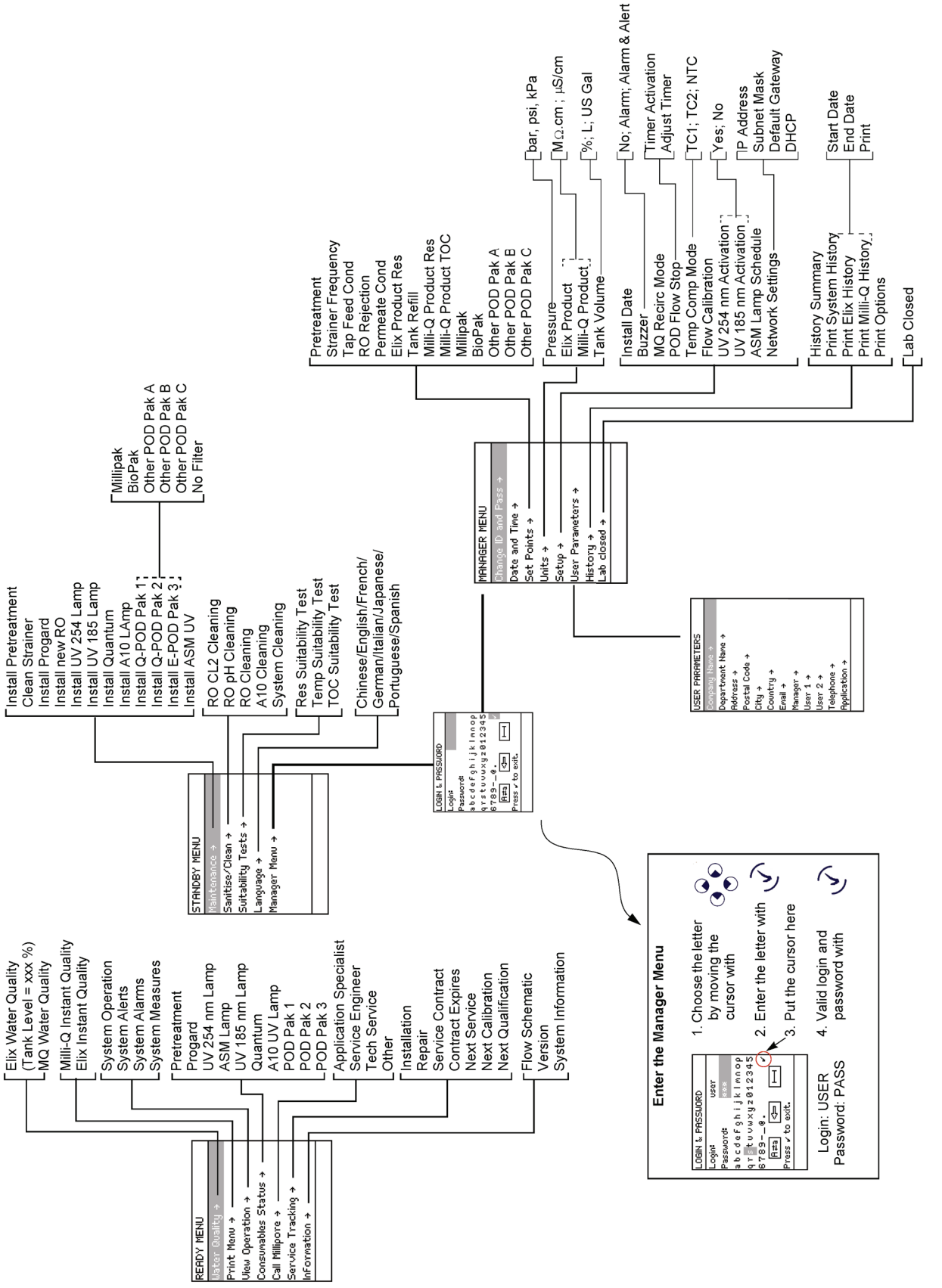
Purpose

The purpose of this chapter is to explain the various software used in the Milli-Q System.

Contents

This chapter contains the following topics:

Software Map



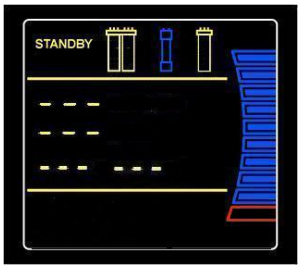
Standby Mode

General information

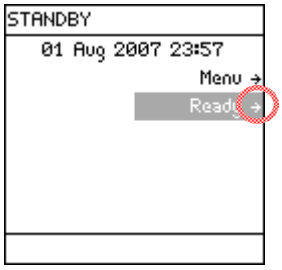
Purpose

STANDBY mode is used primarily for:
- maintenance actions, and
- accessing the Manager Menu.

Display

Main Display	Q-POD Display
	

READY Mode from STANDBY Mode

Diagram 1	Action	Diagram 2
	Press .	

Description of Standby Menu

Maintenance

The Maintenance Menu is described below.

Diagram 1	Diagram 2	
		

Item	Description
Install Pretreatment	Used to reset Alert message 'REPLACE EXTERNAL PRE-TREATMENT'.
Clean Strainer	Used to reset Alert message 'EXAMINE INLET STRAINER'.
Install Progard	Used to see general information about the Progard Pack exchange.
Install new RO	Used to start a flush and rinse of a new RO Cartridge.
Install UV 254 Lamp	Used to reset Alert message 'REPLACE 254 NM LAMP'.
Install UV 185 Lamp	Used to reset Alert message 'REPLACE 185 NM LAMP'.
Install Quantum	Used to see general information about the Quantum Cartridge exchange.
Install A10 UV Lamp	Used to reset Alert message 'REPLACE A10 LAMP'.
Install Q-POD Pak 1	Used to reset Alert message 'REPLACE Q-POD PAK 1'
Install ASM UV	Used to reset Alert message 'REPLACE ASM UV LAMP'

Continued on next page

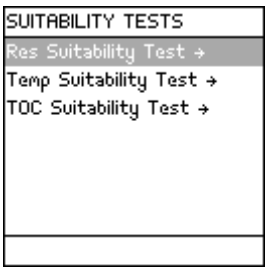
Description of Standby Menu, Continued

Sanitise/clean

Diagram 1	Diagram 2
	

Item	Description
RO CL2 Cleaning	Used to sanitise the RO Cartridge(s).
RO pH Cleaning	Used to clean the RO Cartridge(s).
A10 Cleaning	Used to clean the A10 TOC Monitor.
System Cleaning	Contact Millipore for more information.

Suitability Tests

Diagram 1	Diagram 2
	

Item	Description
Res Suitability Test	Contact Millipore for more information.
Temp Suitability Test	
TOC Suitability Test	

Continued on next page

Description of Standby Menu, Continued

Language

Diagram 1	Diagram 2
	

Item	Description
Language	Change the displayed language.

Manager Menu See the next section for information about the Manager Menu.

Manager Menu

Description

How to enter

- See the Software Map at the beginning of this chapter. The map shows how to enter the Manager Menu.
- To enter the Manager Menu, it is necessary to input a Login and a Password.
- The Software Map indicates how to input a Login and a Password.

Change ID and Password

Diagram 1	Diagram 2
	

Item	Description
Change ID and Password	Change the Login and Password used to enter the Manager Menu.

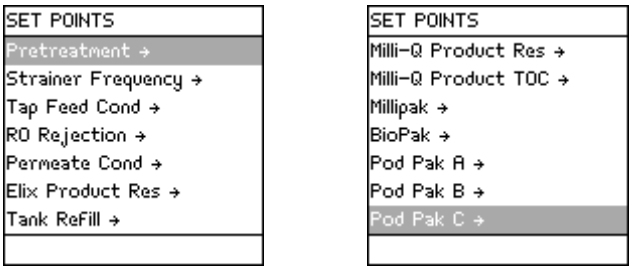
Date and Time

Diagram 1	Diagram 2
	

Item	Description
Date and Time	Change the Milli-Q System date and time.

Continued on next page

Set Points

Diagram 1	Diagram 2
	

Item	Description
Pretreatment	Change set point for controlling the frequency of the message REPLACE EXTERNAL PRE-TREATMENT.
Strainer Frequency	Change set points for controlling the frequency of the message EXAMINE INLET STRAINER.
Tap Feed Cond	Change set point controlling the message TAP FEED CONDUCTIVITY > SP.
RO Rejection	Change set point controlling the message RO REJECTION < SP.
Permeate Cond	Change set point controlling the message PERMEATE C > SP.
Elix® Product Res	Change set point controlling the message ELIX PRODUCT R < SP.
Tank Refill	Change set point controlling the tank level where the Milli-Q System starts to refill the tank.
Milli-Q Product Res	Change set point controlling the message MILLI-Q RES < SP, REPLACE QUANTUM.
Milli-Q Product TOC	Change set point controlling the message MILLI-Q TOC > SP.
Millipak	Change set point controlling the message REPLACE Q-POD (or E-POD) PAK X IN YY DAYS (where $1 \leq X \leq 3$ and $1 \leq YY \leq 14$).
BioPak	See above.
POD Pak A, POD Pak B, POD Pak C	See above.

Continued on next page

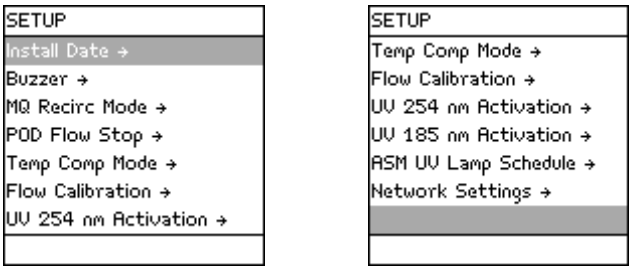
Units

Diagram 1	Diagram 2
	

Item	Description
Pressure	• Change the displayed units of pressure. • Choices are bar, psi and KPa.
Elix Product	• Change the displayed units of Elix Product Water quality. • Choices are MΩ.cm or µS/cm.
Milli-Q Product	• Change the displayed units of Milli-Q Product Water quality. • Choices are MΩ.cm or µS/cm.
Tank Volume	• Change the displayed units of Tank Volume. • Choices are % full, Litres or US Gallons.

Continued on next page

Setup

Diagram 1	Diagram 2
	

Item	Description
Install Date	Change the installation date.
Buzzer	Change the trigger for the Buzzer.
MQ Recirc Mode	Change the amount of time that the Milli-Q System automatically recirculates the water in the Quantum Cartridge every hour in READY Mode.
POD Flow Stop	Change the amount of time that the Q-POD dispenses continuously before it automatically stops.
Temp Comp	Change the Temperature Compensation Mode.
Flow Calibration	Used for performing a flow calibration.
UV 254 nm Activation	Used to activate or deactivate the UV 254 nm Lamp.
UV 185 nm Activation	Used to activate or deactivate the UV 185 nm Lamp.
ASM UV Lamp Schedule	• Used to change the times when the ASM (Automatic Sanitisation Module) turns on. • See the ASM User Manual for more information.
Network Settings	• Change Network settings. • Contact Millipore for more information.

Continued on next page

Description, Continued

User Parameters

The User Parameters are seen when a History Report is printed out.

Diagram 1	Diagram 2
	

Item	Description
Company Name	Change the item
Department Name	
Address	
Postal Code	
City	
Country	
Email	

History Summary

Diagram 1	Diagram 2
	

Item	Description
History Summary	Used to see the day by day history of the Milli-Q System.
Print System History	See the section <Printing> for more information.
Print Elix History	
Print Milli-Q History	
Print Options	

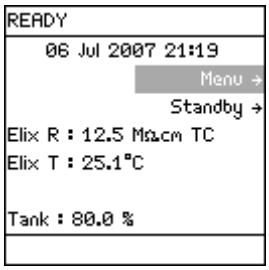
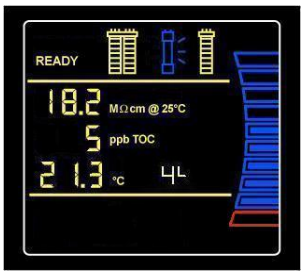
Ready Mode

General information

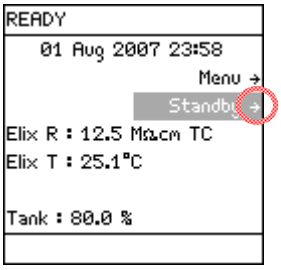
Purpose

- In READY Mode, water can be dispensed from the Q-POD Plunger.
- The Milli-Q System should be left in READY Mode most of the time.

Display

Main Display	Q-POD Display
	

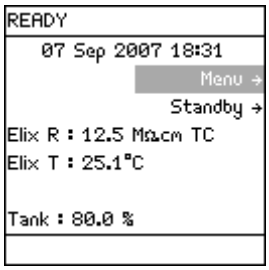
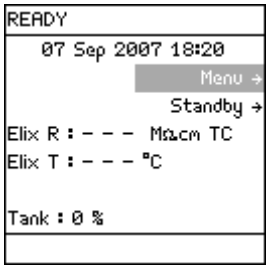
STANDBY Mode from READY Mode

Display	Action	Result
	Press .	

Continued on next page

READY Mode – water quality values

- The READY Mode screen display is explained below.
- This screen shows the resistivity and temperature of the water filling the Reservoir.
- The Reservoir water is further purified and dispensed from the Q-POD Unit.
- The Q-POD Display shows the quality of this water.

READY Mode screen	Explanation
	In this example, the water filling the Reservoir has: • a resistivity of 12.5 MΩ.cm, • is temperature compensated, • a temperature of 25.1°C, and • the Reservoir is 80% full. ***NOTE:*** When the Milli-Q System stops filling the Reservoir, the last measurements of water quality are displayed.
	• In this example, the Milli-Q System was powered on but did not begin to fill the Reservoir. • In this case, there are no water quality measurements to display.

Description of Ready Menu

Water Quality

Diagram 1	Diagram 2
	

Item	Description
Elix Water Quality	• View the quality of the water filling the Reservoir. • Reverse Osmosis Cartridge data – feed and permeate conductivity, and – RO % Rejection
Tank Level	View the level of water in the Reservoir.
Milli-Q Water Quality	View the quality of water obtained from the Q-POD Unit.

Print Menu

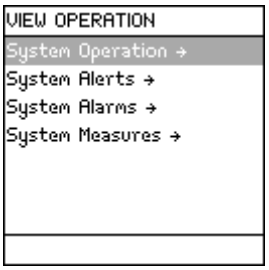
Diagram 1	Diagram 2
	

Item	Description
MQ Instant Quality	Print the parameters related to the quality of water delivered from the Q-POD Unit.
Elix Instant Quality	Print the parameters related to the quality of water filling the Reservoir.

Continued on next page

Description of Ready Menu, Continued

View Operation

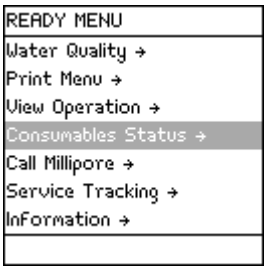
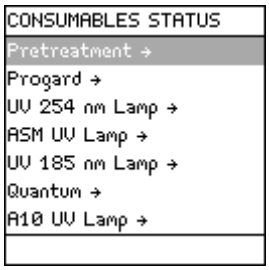
Diagram 1	Diagram 2
	

Item	Description
System Operation	View operating parameters: • operating mode, • feedwater and pump pressures, • status of UV lamps, and • status of pumps.
System Alerts	• View a list of active Alert messages. • See the Alert Chapter for more information.
System Alarms	• View a list of active Alarm messages. • See the Alarm Chapter for more information.
System Measures	View: • accumulated production time, • pump voltages, • EDI Module electrical data, • UV Lamp electrical data, and • flowmetre measurements.

Continued on next page

Description of Ready Menu, Continued

Consumables Status

Diagram 1	Diagram 2
	 

Consumable	Description
Pretreatment	View information about various consumable items. Information may include: • installation date, • lifetime remaining, • volume processed, • catalogue number, and • serial number ***NOTE:*** Not all of this information is shown for each type of consumable item.
Progard	
UV 254 nm Lamp	
ASM UV Lamp	
UV 185 nm Lamp	
Quantum	
A10 UV Lamp	
• POD Pak 1, • POD Pak 2, or • POD Pak 3.	

Continued on next page

Description of Ready Menu, Continued

Call Millipore

Diagram 1	Diagram 2
	

Item	Description
Application Specialist	View: • name, • phone number, and • email address of a Millipore Representative. ***NOTE:*** This information is typically inputted by a Millipore Service Representative.
Service Engineer	
Tech Service	
Other	

Continued on next page

Description of Ready Menu, Continued

Service Tracking

Diagram 1	Diagram 2
	

Item	Description
Installation	• View information that was inputted into the Milli-Q System at time of servicing. • View information related to upcoming service. ***NOTE:*** This information is typically inputted by a Millipore Representative.
Repair	
Service Contract	
Contract Expires	
Next Service	
Next Calibration	
Next Qualification	

Continued on next page

Description of Ready Menu, Continued

Information

Diagram 1	Diagram 2
	

Item	Description
Flow Schematic	View information that explains the purpose of the major components.
Version	View Software versions.
System Information	View: • System Type, • Catalogue Number, • Serial Number, • Installation Date, and • Manufacturing Date.

Using the Milli-Q System

Overview

Purpose

The purpose of this chapter is to explain:

- various ways that water can be dispensed from the Milli-Q System,
- how to print,
- how to leave the Milli-Q System when it is not used for a long time, and
- how to view information, operating parameters and other things about the Milli-Q System.

Contents

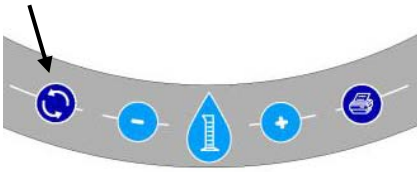
This chapter contains the following topics:

Dispensing water

Optimise Water Quality

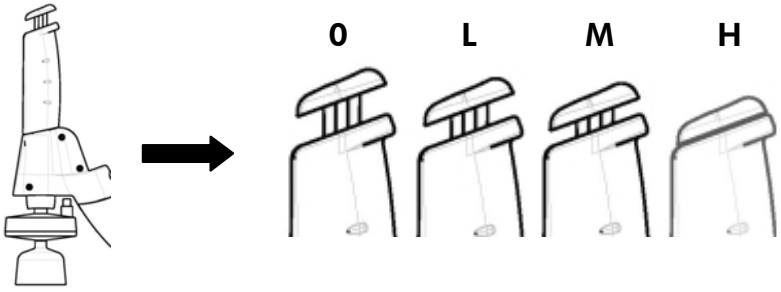
The Milli-Q Product Water quality can be optimised before dispensing it. To do this:

- Press the Recirculation Keypad Button on the Q-POD Keypad (the system will recirculate water for 3 minutes).
- wait for the displayed Resistivity to rise (may take several seconds), and
- wait for the displayed TOC to change (may take up to 9 minutes but can be shorter).



Using the Q-POD Plunger

To dispense water, press down on the Q-POD Unit plunger while in READY Mode.

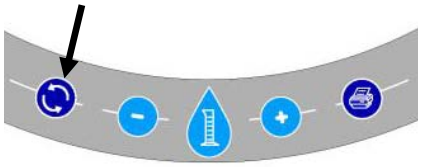
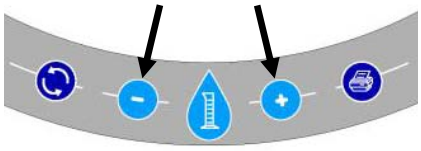
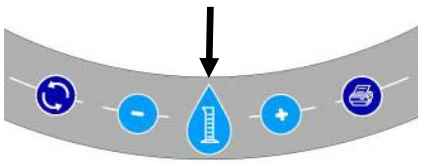
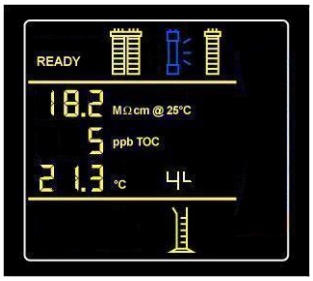


Position	Water flow
0	No water delivered
L	Low Flow (push slightly)
M	Medium Flow (push 1/2 way down)
H	High Flow (push down and hold, release when done)
H	Continuous high flow (push down and release; push down again to stop).

Continued on next page

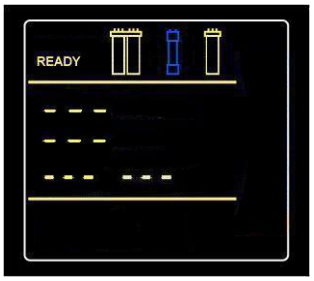
Volumetric dispensing

Follow the steps below to volumetrically dispense from the Q-POD Unit.

Step	Action	Diagram
1	Make sure the Milli-Q System is in READY Mode.	
2	• Place the Milli-Q System into a forced recirculation mode. • To do this, press this button on the Q-POD Keypad. 	 In this example, the desired amount of water is 4 Litres.
3	Press these buttons to change the desired amount of water. 	
4	Press this button. The Q-POD Unit will start dispensing water a few seconds later. 	

Continued on next page

Volumetric dispensing (continued)

Step	Action	Diagram
5	When the volumetric dispensing is finished, the Q-POD Display will look like this for 3 minutes.	
6	After 3 minutes, the Q-POD Display will look like this.	

Footswitch

It is possible to use a Footswitch accessory with the Q-POD Unit. Contact Millipore for more information.

Printing

Overview

A print out can be obtained from a Milli-Q System.
See the paragraphs below for more information.

Hardware

- A parallel port printer cable is needed. The cable has the following characteristics:
  – 1 end = 25 pin Db-25 male parallel printer port connection, and
  – 1 end = 36 pin Centronics male parallel port connection.
- A parallel port printer is needed.
- Contact Millipore for a list of recommended printers.

Printer cable connection

The printer cable is connected to the Q-POD Base.

Instant Quality Report

There are 2 types of Instant Quality Reports. These are the:
- Milli-Q Instant Quality Report, and
- the Elix Instant Quality Report.

The Instant Quality Report can be obtained from using the:
- the Main Display, or
- the Q-POD Keypad by pressing  in READY Mode.

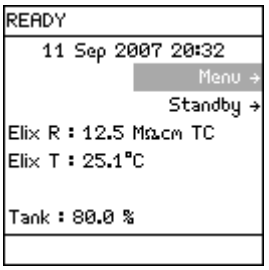
Q-POD and E-POD Units

When the print keypad button is pressed on a:
- Q-POD Unit, the Milli-Q Instant Quality Printout is made, and
- E-POD Unit (an accessory), the Elix Instant Quality Printout is made.

Continued on next page

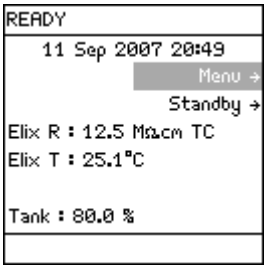
Instant Quality Report from Main Display

Follow the steps below to obtain an Instant Quality Report from the Main Display.

Step	Action	Diagram
1	• Make sure the Milli-Q System is in READY Mode. • Select MENU.	
2	Press ◐.	
3	• Select <Print Menu>. • Press ◐.	
NOTE: • For a Milli-Q Instant Quality Report, the Q-POD Unit should be dispensing. • For an Elix Instant Quality Report, the Milli-Q System should be filling the Reservoir or an E-POD Unit should be in use.		
4	Press ◐.	

Continued on next page

Instant Quality Report from Main Display (continued)

Step	Action	Diagram
5	Press ✔.	
6	The printing has finished.	
7	Press 3 times on ◔.	

History Printout

- A history report can be printed out.
- There are 3 types of History Reports. These are:
  – Milli-Q History Report,
  – Elix History Report, and
  – System History Report.
- A System History Report is a combination of the 2 former reports.

Continued on next page

History Printout procedure

Follow the steps below to print a History Report.

Step	Action	Diagram
1	• Go to the MANAGER MENU. • See the Software Chapter Map for information on how to access the MANAGER MENU.	
2	• Select <History>. • Press ◐.	
3	• Select <Print Milli-Q History> (or other). • Press ◐.	
4	• Select <Start Date>. • Press ◐.	
5	• Adjust the <Start Date>. • Press ✓.	

Continued on next page

History Printout procedure (continued)

Step	Action	Diagram
6	Repeat the steps above to adjust the <End Date>.	
7	• Select <Print>. • Press ◗.	
8	Press ✓.	
9	When the printing is done, the LCD looks like this.	
10	Press 3 times on ◖.	

Lab Closed feature

Overview

Whenever a Milli-Q System is not used for a long time, it is beneficial to have periodic flushes of various components. This ensures optimal water quality when the system is used again.

What not to do

Do not turn off the power to the Milli-Q System when it is not used for a long time (i.e. more than a few days).

What is the Lab Closed Feature?

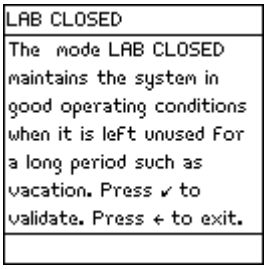
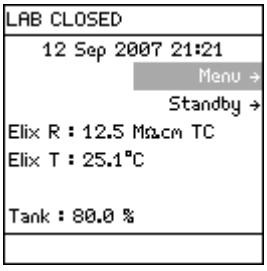
The Lab Closed feature is a software selection that allows the Milli-Q System to go into:

- PRODUCTION Mode between 10:00 and 10:30 each day, and
- to perform a periodic flush for 3 minutes every 3 hours.

NOTE:

During Lab Closed Mode, the Reservoir drain valve is deliberately left open. This allows any produced water to go to a drain.

Procedure

Step	Action	Diagram
1	• Go to the Manager Menu. See the Software Chapter Map for more information on how to enter the Manager Menu. • Scroll down to <Lab closed>.	
2	Press .	
3	Press .	

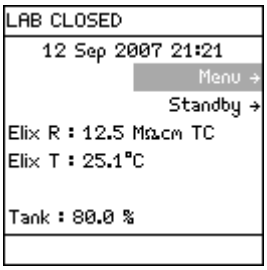
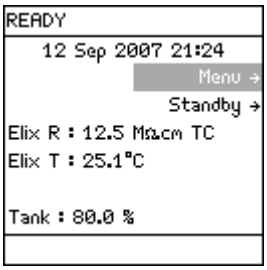
Continued on next page

Procedure (continued)

Step	Action
4	• Place a piece of tubing between a valve on the bottom of the Reservoir and a sink or drain. • Open the valve. ***NOTE:*** Do not place the tubing directly into a drain. This helps to minimise bacterial contamination.

Closing tank valve

Follow the steps below to exit LAB CLOSED Mode.

Step	Action	Diagram
1	The Milli-Q System is in Lab Closed Mode.	
2	• Go to STANDBY Mode. • The Milli-Q System exits LAB CLOSED Mode.	
3	Go to READY Mode.	

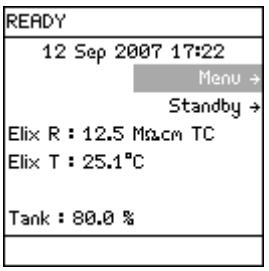
Viewing water quality

Procedure

Follow the steps below to view the water quality.

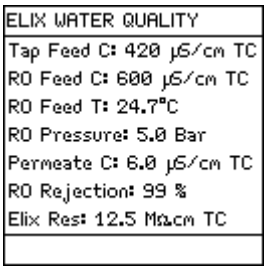
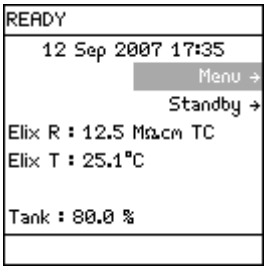
NOTE:

- Milli-Q Water Quality refers to the water dispensed from the Q-POD Unit.
- Elix Water Quality refers to the water filling the Reservoir.

Step	Action	Diagram
1	Make sure the Milli-Q System is in READY Mode.	
2	• Select <Menu>. • Press .	
3	• Select <Water Quality>. • Press .	

Continued on next page

Procedure
(continued)

Step	Action	Diagram
4	• Select the <Water Quality> to be viewed. • Press ▶.	
NOTE: The Elix Water Quality values are shown. The term 'TC' means that the resistivity value is temperature compensated.		
5	Press 3 times on ◀.	

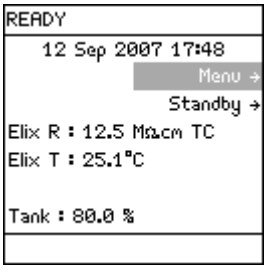
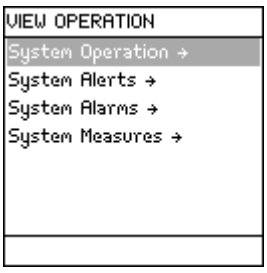
Viewing Operation

Introduction

- VIEW OPERATION allows you to see the status of major components.
- Under the View Operation LCD, the following items can be selected:
  – System Operation,
  – System Alerts,
  – System Alarms, and
  – System Measures

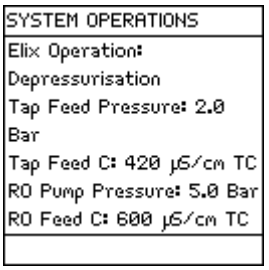
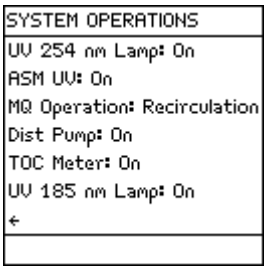
System Operation

Follow the steps below to go to the System Operation LCD.

Step	Action	Diagram
1	Start in READY Mode.	
2	• Select <Menu>. • Press ◐.	
3	• Select <View Operation>. • Press ◐.	

Continued on next page

System Operation (continued)

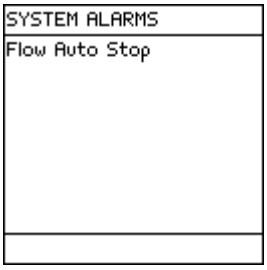
Step	Action	Diagram
4	• Select <System Operation>. • Press .	
5	To see more, press .	

System Alerts

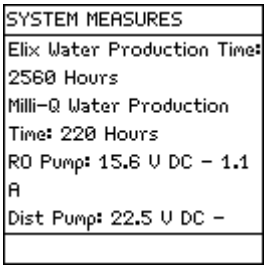
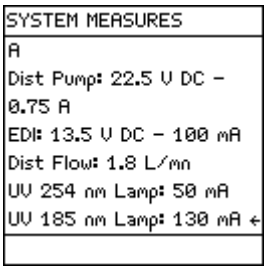
An example Alert is shown here. This is an Alert that is currently being displayed on the bottom of the Main Display in READY Mode or in STANDBY Mode.	
When the timer for the UV 185 nm Lamp is reset, then this Alert is no longer shown on the SYSTEM ALERTS LCD.	

Continued on next page

System Alarms

An example Alarm is shown here. This is an Alarm that is currently displayed on the Main Display unless you override the display for one hour.	
When the cause of this Alarm is fixed, then this Alarm is no longer shown on the SYSTEM ALARMS LCD.	

System Measures

Various measurements related to the Milli-Q System are shown here.	
To see more measurements, press ✓.	

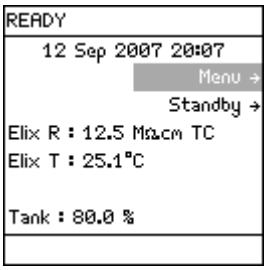
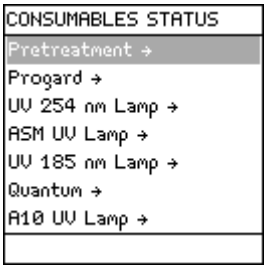
Viewing Consumable Status

Introduction

Consumables Status allows you to see information related to the various consumables.

Procedure

Follow the steps below to view Consumables Status.

Step	Action	Diagram
1	Start in READY Mode.	
2	• Select <Menu>. • Press ◗.	
3	• Select <Consumables Status>. • Press ◗.	
4	To see more, press ◡.	

Continued on next page

Viewing Consumable Status, Continued

Procedure
(continued)

Step	Action	Diagram
5	• Select the consumable that you would like to see information about. • As an example, the Quantum Cartridge status is shown here. • Choose other consumables to see their status	

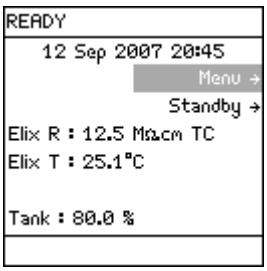
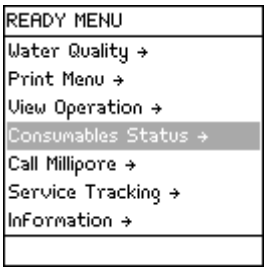
Calling Millipore

Introduction

- Call Millipore allows you to see contact information.
- A Millipore Service Representative can put this information into the Milli-Q System.

Procedure

Follow the steps below to view information under Call Millipore.

Step	Action	Diagram
1	Start in READY Mode.	
2	• Select <Menu>. • Press ◗.	
3	• Select <Call Millipore>. • Press ◗.	
4	• Select the type of Millipore Representative you wish to contact. • Press ◗.	

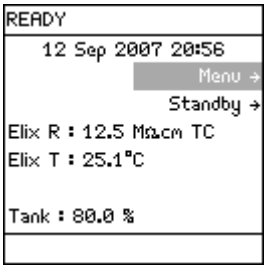
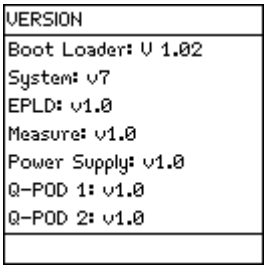
Viewing Information

Introduction

INFORMATION allows you to view:
- flow schematic information,
- version information, and
- serial number and other information.

Procedure

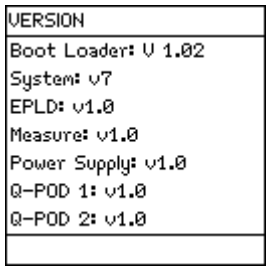
Follow the steps below to see information about the Milli-Q System.

Step	Action	Diagram
1	Start in READY Mode.	
2	• Select <Menu>. • Press ▶.	
3	• Select <Information>. • Press ▶.	
4	• Select the type of information you wish to view. Two examples are shown below. • Press ▶.	

Continued on next page

Version

The various versions for the Milli-Q System are shown here.

This LCD shows the version used for various components inside the Milli-Q System.	

System Information

The Catalogue Number, Serial Number and other information are shown here. The Serial Number is something you should reference when you contact Millipore.

This LCD shows information such as the Serial Number and the Catalogue Number. ***NOTE:*** The Inst Date (Installation Date) needs to be inputted by a Millipore Service Representative. The date is not automatically generated by the Milli-Q System.	

Maintenance

Overview

Introduction

Regularly scheduled preventive maintenance/calibration will help you obtain the best performance from your Millipore water purification system throughout its entire lifetime.

Please contact your Millipore representative to find the best options for your system including our maintenance programs.

Purpose

The purpose of this chapter is to explain the common maintenance needed for a Milli-Q System.

Contents

This chapter contains the following topics:

Maintenance Schedule

Consumables

Item	Maintenance needed	When
Progard Pack	Replacement	When prompted to by an LCD message.
Quantum Cartridge	Replacement	When prompted to by an LCD message.
POD Pak	Replacement	When prompted to by an LCD message or as necessary.
Reservoir Vent Filter	Replacement	When prompted to by an LCD message.

Lamps

Item	Maintenance needed	When
UV 185 nm Lamp	Replacement	When prompted to by an LCD message.
UV 254 nm Lamp	Replacement	When prompted to by an LCD message.
A10 TOC Monitor Lamp	Replacement	When prompted to by an LCD message.

NOTE:

- It is recommended to have a Millipore Field Service Representative change the various lamps in the system.
- The replacement of these lamps involves removing the cover of the system. The instructions for replacing these lamps are not included in this User Manual. The instructions are included with the replacement lamp.

Continued on next page

Maintenance Schedule, Continued

Cleaning/ Sanitisation

Item	Maintenance needed	When
Inlet Strainer	Cleaning	When prompted to by an LCD message or as necessary.
A10 TOC Monitor	Cleaning	• When a new Quantum Cartridge is installed. • When TOC values fluctuate.
RO Cartridge(s)	Cl_2 cleaning	As necessary.
RO Cartridge(s)	pH Cleaning	As necessary.
System	Entire system	Contact Millipore for more details.

Replacing the Progard Pack and Vent Filter

When

The Progard Pack and Tank Vent Filter should be replaced when the following Alert message is displayed.

- Alert message = REPLACE PROGARD AND TANK VENT FILTER

Attention

The Progard Pack must be rinsed after it is installed.

Removing

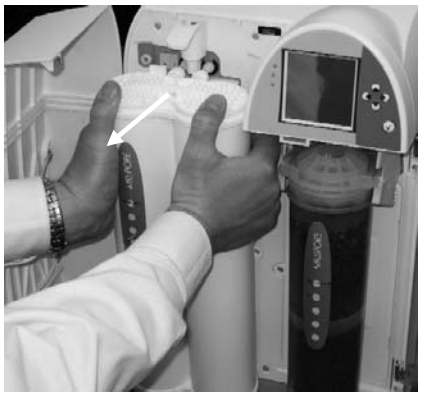
Remove the used Progard Pack by following the steps below.

Step	Action	Diagram
1	Place the system into STANDBY Mode.	
2	• Open the Milli-Q System left door. • Lift up the Pack Locking Handle.	

Continued on next page

Replacing the Progard Pack and Vent Filter, Continued

Removing (continued)

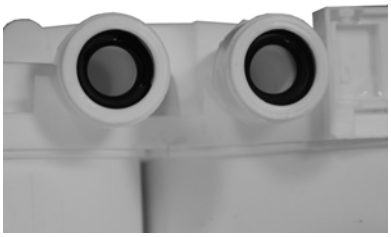
Step	Action	Diagram
3	Remove the used Progard Pack.	
4	The system will indicate that the Progard Pack is removed in a few moments.	

Continued on next page

Replacing the Progard Pack and Vent Filter, Continued

Placing

Follow the steps below to install a new Progard Pack.

Step	Action	Diagram
1	• Remove the covers on the 2 ports of the Progard Pack. • Look inside the ports. • Make sure the rubber O-rings are firmly in place. • Wet the O-rings with water.	
2	• Push the top of the Progard Pack into the ports on the Milli-Q System. • Push on the bottom of the Progard Pack.	
3	• Push the Pack Locking Handle down. • Close the left door.	

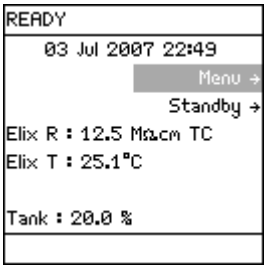
Go to the next set of steps to flush the Progard Pack.

Continued on next page

Replacing the Progard Pack and Vent Filter, Continued

Flushing

- The Progard Pack must be flushed out when it is newly installed.
- Follow the steps below.

Step	Action	Diagram
1	When a new Progard Pack is installed, the LCD looks like this.	
2	Press .	
3	When the Progard Pack flush has finished, the Milli-Q System goes to READY Mode.	

Vent Filter

- The Tank Vent Filter is replaced when the Progard Pack is replaced.
- See the User Manual supplied with the Reservoir for more information.

Replacing the Quantum Cartridge

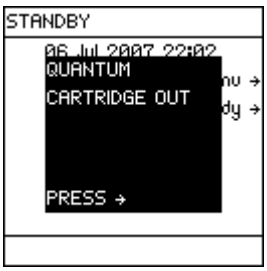
When

The Quantum Cartridge should be replaced when one of the following Alert or Alarm messages is displayed.

- Alert message = REPLACE QUANTUM CARTRIDGE
- Alarm message = MILLI-Q RES < SP, REPLACE QUANTUM

Removing

Follow the steps below to remove the used Quantum Cartridge.

Step	Action	Diagram
1	Place the Milli-Q System into STANDBY Mode.	
2	• Push the Q-POD Plunger down once to depressurise the Milli-Q System. • After water stops being dispensed, push down the Q-POD Plunger again.	
3	• Open the Milli-Q System right door. • Remove the used Quantum Cartridge.	
4	In a few moments, the system indicates that the Quantum Cartridge is removed.	

Continued on next page

Replacing the Quantum Cartridge, Continued

Placing

Follow the steps below to install a new Quantum Cartridge.

Step	Action	Diagram
1	• Remove the covers on the 2 ports of the Quantum Cartridge. • Wet the O-rings with water.	
2	• Install the Quantum Cartridge until it is fully seated. • Close the right door.	
3	When a new Quantum Cartridge is installed, the LCD looks like this.	
4	Press .	

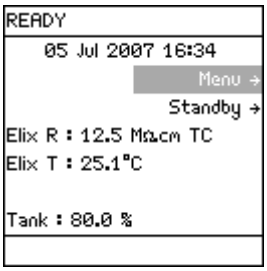
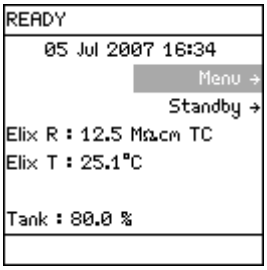
Proceed to the next set of steps to rinse the Quantum Cartridge.

Continued on next page

Replacing the Quantum Cartridge, Continued

Rinsing

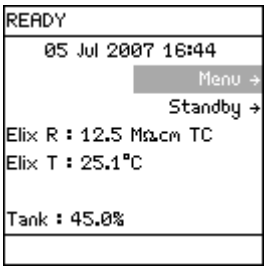
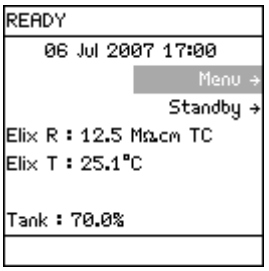
- The Quantum Cartridge, when newly installed, needs to be rinsed.
- This ensures optimal water quality.
- Make sure that the reservoir is at least 80% full of water.

Step	Action	Diagram
1	• Locate the clear tubing and the barbed fitting from the Milli-Q System Accessories Bag. • Screw the barbed fitting onto the Q-POD Unit. ***NOTE:*** Do not use any white tape on the threads of the barbed fitting. An O-ring is located inside the Q-POD Unit. • Push one end of the clear tubing onto the end of the barbed fitting. • Place the other end of the clear tubing into a sink.	
2	The Milli-Q System must be in READY Mode.	
3	• Push the plunger down on the Q-POD Unit. • In a few minutes, water should dispense from the Q-POD Unit.	

Continued on next page

Replacing the Quantum Cartridge, Continued

Rinsing
(continued)

Step	Action	Diagram
4	• Dispense water for about 10 minutes. • This flushes out any trapped air in most of the Milli-Q System. • This also rinses off the purification media located in the Quantum Cartridge.	
5	• Leave the Milli-Q System in READY Mode when finished. • Push the Q-POD Plunger all the way down and then release it to stop dispensing water.	

Replacing a POD Pak

Basing on flowrate

- One possible reason for a decrease in Milli-Q Water flowrate is a clogged POD Pak. The POD Pak should be replaced when it appears to be clogged.
- Make sure the POD Pak is not air-locked. Dispense water and open the vent to see if there is any trapped air. Close the vent after this.

Basing on LCD message

The POD Pak needs replacement when the following Alert message is displayed.

- Alert message = REPLACE Q-POD PAK X *(where X = 1,2 or 3)*

NOTE:

If the E-POD Unit accessory is installed, then the term E-POD is substituted for the term Q-POD in the Alert message above.

Placing and flushing

Follow the instructions delivered with the POD Pak.

Registering

- The POD Pak installation has to be registered.
- Follow the steps below to register the installation of the POD Pak.

Step	Action	Diagram
1	Start in STANDBY Mode.	
2	• Select <Menu>. • Press .	

Continued on next page

Replacing a POD Pak, Continued

Registering
(continued)

Step	Action	Diagram
3	• Select <Maintenance>. • Press ◗.	
4	Scroll down to <Install Q-POD Pak 1>.	
5	Press ◗.	
6	Press ◗.	
7	• In this example, the replacement POD Pak is a <Millipak>. • Press ◗.	

Continued on next page

Replacing a POD Pak, Continued

Registering
(continued)

Step	Action	Diagram
8	Press .	
9	Press .	
10	Press 3 times on .	

Cleaning the A10 TOC Monitor

Purpose

The purpose of cleaning the A10 TOC Monitor is to remove any accumulated organic debris.

When

The A10 TOC Monitor cleaning is recommended when:

- a new Quantum Cartridge is installed,
- the TOC values are fluctuating, or
- the TOC values are higher than normally seen.

NOTE:

There is no LCD message indicating that an A10 TOC Monitor cleaning is needed.

Procedure

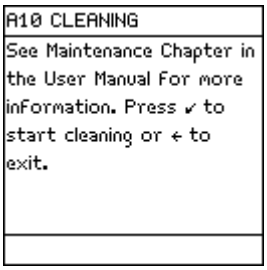
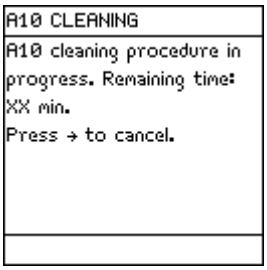
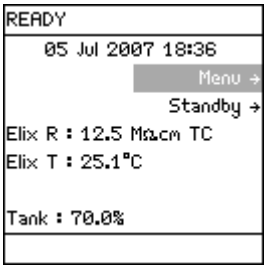
Follow the steps below to clean the A10 TOC Monitor.

Step	Action	Diagram
1	Start in STANDBY Mode.	
2	• Select <Menu>. • Press .	
3	• Select <Sanitise/Clean>. • Press .	

Continued on next page

Cleaning the A10 TOC Monitor, Continued

Procedure (continued)

Step	Action	Diagram
4	• Select <A10 Cleaning>. • Press .	
5	• Press . • The A10 cleaning will last 60 minutes.	
6	When the A10 CLEANING Mode has finished, the Milli-Q System automatically goes into READY Mode.	

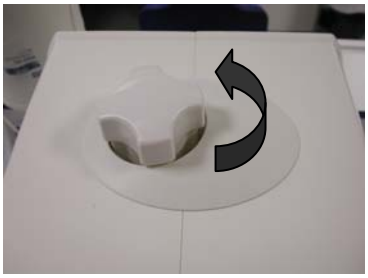
Sanitising or cleaning the RO Cartridge(s)

Safety

Wear Eye Safety Glasses and Laboratory Gloves and other appropriate safety equipment when sanitising or cleaning the RO Cartridge(s).

Opening the Sanitisation Port

Follow the steps below to open the Sanitisation Port.

Step	Action	Diagram
1	• Go to STANDBY Mode. • Allow the Milli-Q System to depressurise for a few seconds.	
2	Use the Sanitisation Port Removal Tool and loosen the cap.	
3	Remove the cap.	

Closing the Sanitisation Port

Reverse the steps above.

NOTE:

Do not use the Sanitisation Port Removal Tool to tighten the cap.

Continued on next page

Sanitising or cleaning the RO Cartridge(s), Continued

Sanitising

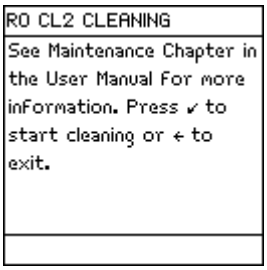
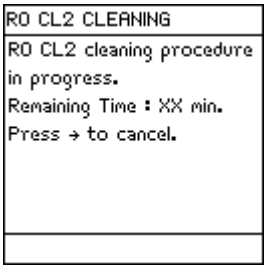
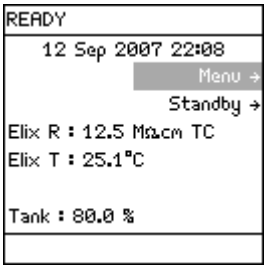
Follow the steps below to sanitise the RO Cartridge(s).

Step	Action	Diagram
1	Place a chlorine tablet into the Sanitisation Port.	
2	Put the cap back on and tighten it.	
3	Go to STANDBY Mode.	
4	• Select <Menu>. • Press ◐.	

Continued on next page

Sanitising or cleaning the RO Cartridge(s), Continued

Sanitising
(continued)

Step	Action	Diagram
5	• Select <Sanitise/Clean>. • Press .	
6	• Select <RO CL2 Cleaning>. • Press .	
7	• Press . • The RO CL2 cleaning mode will last 19 minutes.	
8	When the cleaning is finished, the Milli-Q System automatically goes into READY Mode.	

Continued on next page

Sanitising or cleaning the RO Cartridge(s), Continued

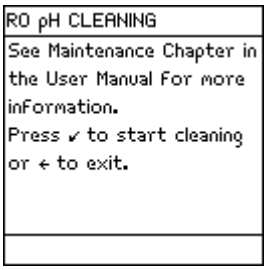
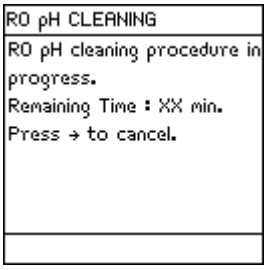
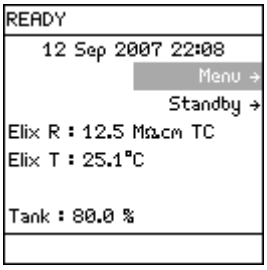
Cleaning

Step	Action	Diagram
1	Place a cleaning agent pouch (ROClean™ A or ROClean B) into the Sanitisation Port.	
2	Put the cap back on and tighten it. ***NOTE:*** The chemical in the pouch will dissolve during the pH Cleaning sequence. Remove the empty pouch the next time the Santisation Port cap is removed.	
3	Go to STANDBY Mode.	
4	• Select <Menu>. • Press ◗.	

Continued on next page

Sanitising or cleaning the RO Cartridge(s), Continued

Cleaning
(continued)

Step	Action	Diagram
5	• Select <Sanitise/Clean>. • Press .	
6	• Select <RO pH Cleaning>. • Press .	
7	• Press . • The RO pH cleaning will last 142 minutes.	
8	When the pH Cleaning is finished, the Milli-Q System automatically returns to READY Mode.	

Cleaning the Inlet Strainer

Purpose

- The purpose of the Inlet Strainer is to prevent a large particle from entering the Milli-Q System.
- If the Inlet Strainer becomes clogged, then feedwater does not flow freely to the Milli-Q System.
- Cleaning the Inlet Strainer removes any trapped debris.

When

- The Inlet Strainer should be cleaned when the following Alert message is displayed.
  – Alert message = EXAMINE INLET STRAINER
- The Inlet Strainer should also be cleaned whenever you suspect it is clogged.

Procedure

Follow the steps below to clean the Inlet Strainer.

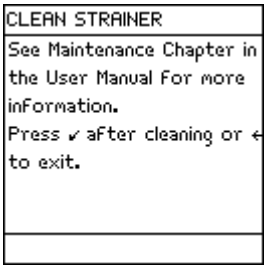
Step	Action
1	Go to STANDBY Mode.
2	Shut off the feedwater supply.
3	Unscrew the Inlet Strainer from the feedwater supply.
4	Detach the tubing on the other end of the Inlet Strainer.
5	Flush water backwards through the Inlet Strainer.
6	Apply 3 to 4 turns of new white tape to the threads of the feedwater pipe.
7	Screw the Inlet Strainer back onto the feedwater pipe.
8	Attach the tubing to the other end of the Inlet Strainer.
9	Open the feedwater supply valve.
10	Go to READY Mode.

Continued on next page

Cleaning the Inlet Strainer, Continued

Registering

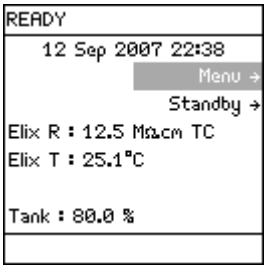
Follow the steps below to register the cleaning of the Inlet Strainer.

Step	Action	Diagram
1	Go to STANDBY Mode.	
2	• Select <Menu>. • Press ◐.	
3	• Select <Maintenance>. • Press ◐.	
4	• Select <Clean Strainer>. • Press ◐.	
5	• A picture is shown. • Press ◐.	

Continued on next page

Cleaning the Inlet Strainer, Continued

Registering
(continued)

Step	Action	Diagram
6	Press .	
7	Press 3 times on .	
8	Go to READY Mode.	

Alarms

Overview

Introduction

- The purpose of this chapter is to explain the Alarm messages shown on a Milli-Q System.
- Specifically, this chapter explains:
  – how an Alarm message is displayed,
  – how to read an Alarm message,
  – how to cancel an Alarm, and
  – a list of Alarm messages is shown.

Contents

This chapter contains the following topics:

Alarm Information

Definition

An Alarm message is a way of informing you that immediate attention is required for the Milli-Q System.

Alarm shown – what to do?

- It is not recommended to use the Milli-Q System when an Alarm message is shown.
- Contact Millipore if an Alarm message is shown and the problem can not be resolved.

Types

The following table summarizes the different types of Alarm messages.

Type	Description
Alarm stops Milli-Q System	• Some Alarms automatically stop the Milli-Q System from dispensing water. • An example of this is the Alarm message QUANTUM CARTRIDGE OUT. • The text display of this type of Alarm can be cancelled for one hour by using the Keypad.
Alarm does not stop Milli-Q System	• Some Alarms do not automatically stop the Milli-Q System from dispensing water. • An example of this is the Alarm message MILLI-Q T < MIN. • The text display of this type of Alarm can be cancelled for one hour by using the Keypad.

Main Display

- The Alarm message is shown superimposed on the Main Display.
- The red LED is lit steadily when an Alarm message is shown.
- In this example, the Alarm Message MILLI-Q T > MAX is shown.

Continued on next page

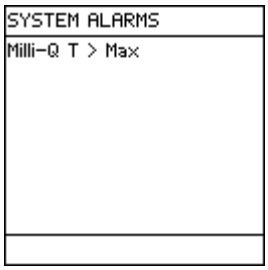
Alarm Information, Continued

Q-POD Display

The Q-POD Display has a flashing symbol indicating an Alarm.

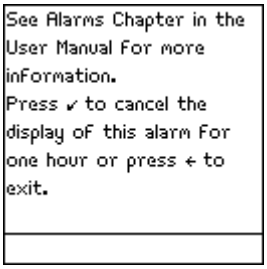
System Alarms

When an Alarm is shown, it is listed under the System Alarms LCD.
See the section <View Operation> for information on how to access this LCD.



Viewing an Alarm Message

Follow the steps below to view an Alarm message.

Step	Action	Diagram
1	The Alarm message is shown superimposed on the Main Display.	
2	Press ◑.	

Continued on next page

Viewing an Alarm Message (continued)

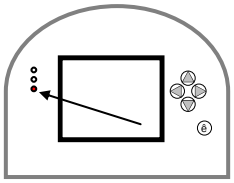
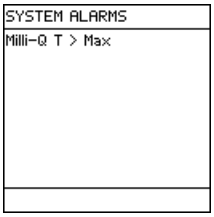
Step	Action	Diagram
3	Press .	

Cancelling an Alarm message

- The display of an Alarm message can be cancelled by:
  – fixing the cause of the Alarm, or
  – by using the Keypad. This cancels the display of the Alarm message for 1 hour.

Alarm – before cancelling

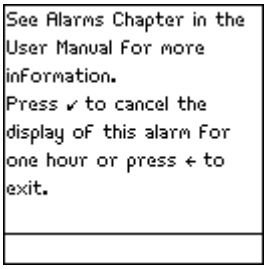
In this example, the Alarm message is MILLI-Q T > MAX.

Main Display	Q-POD Display	LEDs	Main Display
			

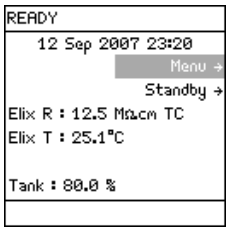
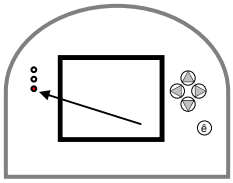
Continued on next page

Cancelling an Alarm message procedure

Follow the steps below to cancel an Alarm message.

Step	Action	Diagram
1	The Alarm message is shown superimposed on the Main Display.	
2	Press .	
3	Press .	• The display of the Alarm is cancelled for one hour. • It appears after one hour unless the cause of the Alarm is fixed.

Alarm – after cancelling the text display

Main Display	Q-POD Display	LEDs	Main Display
			

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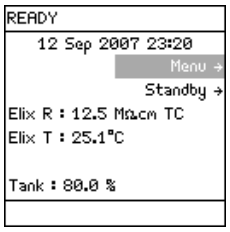
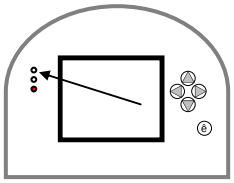
Alarm Information, Continued

Alarm – fixed

Now suppose a Millipore Service Representative fixes the cause of the Alarm.

Main Display	Q-POD Display	LEDs	Main Display
			

Summary of Alarm messages

Alarm messages

LCD message	What it means
A10 ERROR 0	• A10 PCB E^2Prom defective. • Power off, power on the Milli-Q System. • Dispense water for several minutes. • If the message continues, then contact Millipore.
A10 ERROR 1	• A10 PCB A/D converter defective. • Power off, power on the Milli-Q System. • Dispense water for several minutes. • If the message continues, then contact Millipore.
A10 ERROR 2	• A10 Thermistor defective. • Power off, power on the Milli-Q System. • Dispense water for several minutes. • If the message continues, then contact Millipore.
A10 ERROR 3	• Problem occurred with temperature compensation. • Power off, power on the Milli-Q System. • Dispense water for several minutes. • If the message continues, then contact Millipore.
A10 ERROR 4	• The water entering the A10 is < 4°C. • If the problem can not be resolved, then contact Millipore.
A10 ERROR 5	• The water entering the A10 is > 41°C. • If the problem can not be resolved, then contact Millipore.

Continued on next page

Summary of Alarm messages, Continued

Alarm messages (continued)

LCD message	What it means
A10 ERROR 6	• The conductivity of the water entering the A10 is > 1.1 μS/cm. • If the problem can not be resolved, then contact Millipore.
A10 ERROR 7	• The temperature inside the A10 during its Analysis Mode exceeded 55°C. • Power off, power on the Milli-Q System. • Dispense water for several minutes. • If the message continues, then contact Millipore.
A10 ERROR 8	• The TOC sample oxidation was not completed in the allotted time. • If the message continues, then contact Millipore.
A10 ERROR 9	• The A10 is not detecting a TOC value. • This can be caused by: – The A10 Solenoid Valve is not closing and could have a particle stuck in it or – The A10 Lamp is not turning on. • Perform an A10 Cleaning Mode. This might dislodge a stuck particle • Replace the A10 Lamp if the A10 Cleaning did not fix the problem. • If the message continues, then contact Millipore.
CHECK A10 COM	• The communication between the A10 TOC Monitor and the Milli-Q System PC Board is interrupted. The TOC value is no longer reported. • Contact Millipore.

Continued on next page

Summary of Alarm messages, Continued

Alarm messages (continued)

LCD message	What it means
CLEANING CANCELLED	• A cleaning mode was cancelled and was not fully completed. • Go to STANDBY Mode and then go to READY Mode. • The Milli-Q System will go into a 15 minute FLUSH Mode. The system will then automatically fill the Reservoir.
ELIX PRODUCT R < SP	• The resistivity of the water filling the Reservoir is < set point. • Contact Millipore.
ELIX PRODUCT R > MAX	• The resistivity of the water filling the Reservoir is out of measurement range. • Contact Millipore.
ELIX PRODUCT T < MIN	• The temperature of the water filling the Reservoir is out of measurement range. • Contact Millipore.
ELIX PRODUCT T > MAX	• The temperature of the water filling the Reservoir is out of measurement range. • Contact Millipore.
FLOW AUTO STOP	• The Milli-Q System has automatically stopped dispensing water. The POD FLOW STOP timer has reached 0 minutes. • Push the Q-POD Unit Plunger all the way down and release. • This resets the dispenser timer and makes the Q-POD Unit available for dispensing.
INCORRECT PROGARD PACK	• The Milli-Q System does not recognise the type of Progard Pack being installed. • Contact Millipore.
INCORRECT QUANTUM CARTRIDGE	• The Milli-Q System does not recognise the type of Quantum Cartridge being installed. • Contact Millipore.

Continued on next page

Summary of Alarm messages, Continued

Alarm messages (continued)

LCD message	What it means
LOW FEED WATER PRESSURE	• Check Feedwater pressure and rectify. • Go to STANDBY Mode and go to READY Mode to release any trapped air in the Milli-Q System. • Contact Millipore if problem persists.
MILLI-Q RES < SP, REPLACE QUANTUM	• The Milli-Q Water resistivity is < set point. • Dispense water to eliminate any trapped air in the Milli-Q System. • Replace the Quantum Cartridge.
MILLI-Q RES > MAX	• The Milli-Q Water resistivity is out of measurement range. • Contact Millipore.
MILLI-Q T < MIN	• The Milli-Q Water temperature is out of measurement range. • Contact Millipore.
MILLI-Q T > MAX	• The Milli-Q Water temperature is out of measurement range. • Contact Millipore.
MILLI-Q TOC > SP	• The TOC is > set point. • Contact Millipore.
NO FLOW MEASURE	• The Flowmetre has measured < 0.2 Lpm during Volumetric Dispensing mode. • Push the Q-POD Unit Plunger all the way down and release.
PERMEATE C < MIN	• The Permeate conductivity is out of measurement range. • Contact Millipore.
PERMEATE C > MAX	• The Permeate conductivity is out of measurement range. • Contact Millipore.
PERMEATE C > SP	• The Permeate conductivity is > set point. • Contact Millipore.

Continued on next page

Summary of Alarm messages, Continued

Alarm messages (continued)

LCD message	What it means
POD LOCKED	• The Q-POD (or E-POD) Unit microswitch is locked. • Push the Q-POD Unit Plunger all the way down and release.
PROGARD PACK OUT	• The Progard Pack is not installed correctly or it has been removed. • The Milli-Q System stops operating. • Verify that the Progard Pack is installed correctly. • Contact Millipore if the problem continues.
QUANTUM CARTRIDGE OUT	• The Quantum Cartridge is not installed correctly or it has been removed. The Milli-Q System stops operating. • Verify that the Quantum Cartridge is installed correctly. • Contact Millipore if the problem continues.
RO FEED C < MIN	• The Feedwater conductivity is out of measurement range. • Contact Millipore.
RO FEED C > MAX	• The Feedwater conductivity is out of measurement range. • Contact Millipore.
RO FEED T < MIN	• The Feedwater temperature is out of measurement range. • Contact Millipore.
RO FEED T > MAX	• The Feedwater temperature is out of measurement range. • Contact Millipore.

Continued on next page

Summary of Alarm messages, Continued

Alarm messages (continued)

LCD message	What it means
TANK EMPTY	• The Milli-Q System has detected an empty Reservoir. • Refill the Reservoir. • Verify that the Reservoir level sensor is plugged into the Milli-Q System Cabinet.
WATER DETECTED	• A Water Sensor (an accessory connected to the Milli-Q System) has detected water. The Milli-Q System stops operating. • Clean up the spilled water. • Make sure the source of the leak is fixed.

Alerts

Overview

Introduction

- The purpose of this chapter is to explain the Alert messages shown on a Milli-Q System.
- Specifically, this chapter explains:
  – how an Alert message is displayed,
  – how to read an Alert message,
  – how to cancel an Alert, and
  – a list of Alarm messages is shown.

Contents

This chapter contains the following topics:

Alert information

Purpose

An Alert message corresponds to a maintenance request. Most of the Alert messages are related to the replacement of a consumable.

Types

The following table summarises the different types of Alert messages.

Type	Description
Minor Alert	A minor alert message indicates that a maintenance action is needed within a number of days.
Major Alert	A major Alert message corresponds to an immediate maintenance request.

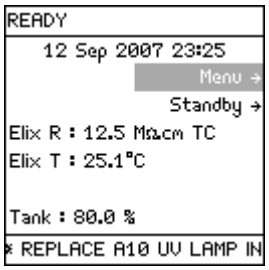
Examples

- An example of a minor alert message would be REPLACE A10 LAMP IN 14 DAYS, REPLACE A10 LAMP IN 13 DAYS.
- An example of a major alert message would be REPLACE A10 LAMP.

Main Display

An Alert message is shown on the bottom of the Main Display.

In this example, the Alert message REPLACE A10 LAMP IN 15 DAYS scrolls across the bottom of the LCD.



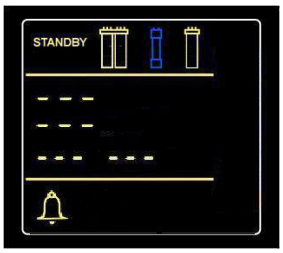
- The yellow LED is lit steadily when an Alert message is shown. However, if an Alert and an Alarm are both present, then only the red LED is lit.
- When an Alert is shown, it is listed under the System Alerts LCD. To access the System Alerts LCD, see the Section View Operation.

Continued on next page

Alert information, Continued

Q-POD Display

The Q-POD Display has a flashing yellow symbol indicating an Alert.



Viewing an Alert Message

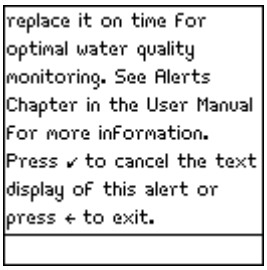
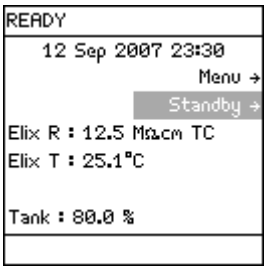
Follow the steps below to view an Alert message.

Step	Action	Diagram
1	Start in either READY or STANDBY Mode.	READY 12 Sep 2007 23:25 Menu → Standby → Elix R : 12.5 MΩcm TC Elix T : 25.1°C Tank : 80.0 % * REPLACE A10 UV LAMP IN
2	Press ▼.	READY 12 Sep 2007 23:29 Menu → Standby → Elix R : 12.5 MΩcm TC Elix T : 25.1°C Tank : 80.0 % * REPLACE A10 UV LAMP IN
3	Press ▶.	The A10 UV Lamp in the TOC Analyser should be replaced in 365 days. Please make sure to replace it on time For optimal water quality monitoring. See Alerts Chapter in the User Manual

Continued on next page

Alert information, Continued

Viewing an Alert Message (continued)

Step	Action	Diagram
4	Press ✓.	
5	Press ←.	

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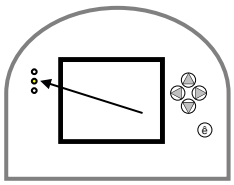
Cancelling a Minor Alert message - procedure

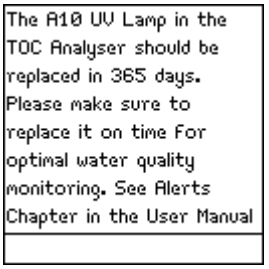
A Minor alert message can be cancelled by:

- performing the maintenance action (i.e. replace consumable),
- using the Keypad (see below), or
- a Major Alert message is shown. This eliminates the Minor Alert message.

- Example: Before cancelling, the Minor Alert message is Replace A10 Lamp in 15 Days.

Main Display	Q-POD Display	LEDs	Main Display
			

Follow the steps below to cancel a Minor Alert message.

Step	Action	Diagram
1	Press .	
2	Press .	
3	Press .	The display of the Minor Alert is cancelled.

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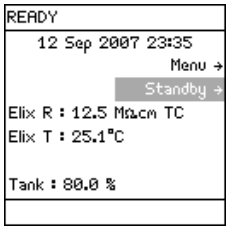
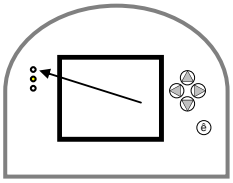
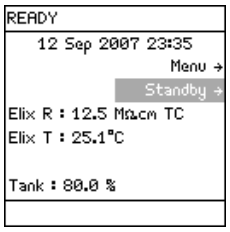
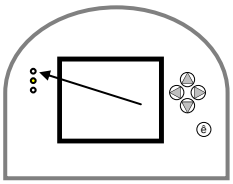
Minor Alert - after cancelling

The Alert message has been cancelled but the cause of the message is still active.

Main Display	Q-POD Display	LEDs	Main Display
			

Minor Alert - consumable replaced

The Alert message has been cancelled when the A10 Lamp has been replaced.

Main Display	Q-POD Display	LEDs	Main Display
			

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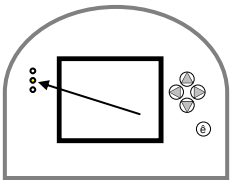
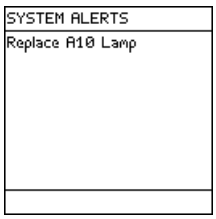
Cancelling a Major Alert message - procedure

A Major Alert message can be cancelled by:

- performing the maintenance action (i.e. replace consumable), or
- by using the Keypad. This cancels the display of the Major Alert message for 24 hours.

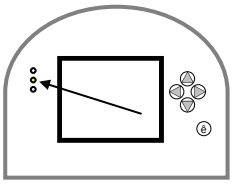
Example: Before cancelling, the Major Alert message is <Replace A10 Lamp>.

Main Display	Q-POD Display	LEDs	Main Display
			

- A Major Alert message can be cancelled using the Keypad. This is done in the same way that a Minor Alert message is cancelled.
- The display of the Major Alert is cancelled for 24 hours. It appears again after 24 hours unless the maintenance action is performed.

Major Alert – after cancelling

The Alert message has been cancelled but the cause of the message is still active.

Main Display	Q-POD Display	LEDs	Main Display
			

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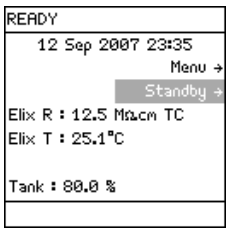
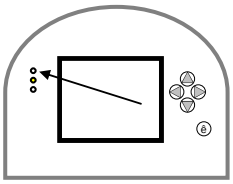
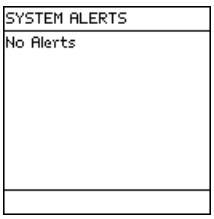
Major Alert - consumable replaced

The Alert message has been cancelled when the A10 Lamp has been replaced.

Main Display	Q-POD Display	LEDs	Main Display
			

Summary of Alert messages

Alert messages

LCD message	What it means
CALIBRATION VISIT OVERDUE XX DAYS	• The Milli-Q System has determined that a Calibration Visit is overdue. • Contact Millipore.
CHECK ASM UV LAMP	• The ASM UV Lamp is not turning on. • Contact Millipore.
CHECK UV 185 NM LAMP	• The UV 185 nm Lamp is not turning on. • Contact Millipore.
CHECK UV 254 NM LAMP	• The UV 254 nm Lamp is not turning on. • Contact Millipore.
EDI LOW INTENSITY	• The Milli-Q System has determined that the electrical intensity used by the EDI Module is below specification. • Contact Millipore.
EXAMINE INLET STRAINER	• The Milli-Q System has determined that it is time to clean the Inlet Strainer. • Clean the Inlet Strainer and reset the message.
NEXT CALIBRATION VISIT IN XX DAYS	• The Milli-Q System is prompting you that a Calibration Visit should be scheduled. • Contact Millipore.
NEXT QUALIFICATION VISIT IN XX DAYS	• The Milli-Q System is prompting you that a Qualification Visit should be scheduled. • Contact Millipore.
NEXT SERVICE VISIT IN XX DAYS	• The Milli-Q System is prompting you that a Service Visit should be scheduled. • Contact Millipore.

Continued on next page

Summary of Alert messages, Continued

Alert messages (continued)

LCD message	What it means
NO RESPONSE FROM DHCP SERVER	• Contact your network administrator. • Restart the Milli-Q System.
QUALIFICATION VISIT OVERDUE XX DAYS	• The Milli-Q System has determined that a Qualification Visit is overdue. • Contact Millipore.
REPLACE A10 LAMP	• The Milli-Q System has determined that the A10 Lamp should be replaced. • Contact Millipore.
REPLACE A10 UV LAMP IN XX DAYS	• The Milli-Q System has determined that the A10 Lamp should be replaced in XX days. • Contact Millipore.
REPLACE ASM UV LAMP	• The Milli-Q System has determined that the ASM UV Lamp should be replaced. • Contact Millipore.
REPLACE ASM UV LAMP IN XX DAYS	• The Milli-Q System has determined that the ASM UV Lamp on the Reservoir should be replaced in XX days, where XX is 14, 13, …, 1. • Contact Millipore.
REPLACE E-POD PAK 3	• The Milli-Q System has determined that POD PAK on the E-POD Unit needs replacement. • Replace the POD Pak and reset the timer.
REPLACE E-POD PAK 3 IN XX DAYS	• The Milli-Q System has determined that the POD PAK on the E-POD Unit should be replaced in XX days, where XX is 14, 13, …, 1. • Replace the POD Pak and reset the timer.

Continued on next page

Summary of Alert messages, Continued

Alert messages (continued)

LCD message	What it means
REPLACE EXTERNAL PRETREATMENT	• The Milli-Q System has determined that the external pretreatment should be replaced. • Consult the documentation supplied with the external pretreatment for more information.
REPLACE EXTERNAL PRETREATMENT IN XX DAYS	• The Milli-Q System has determined that the external pretreatment should be replaced in XX days, where XX is 14, 13, …, 1. • Consult the documentation supplied with the external pretreatment for more information.
REPLACE PROGARD AND TANK VENT FILTER	• The Milli-Q System has determined that the Progard Pack and the Vent Filter should be replaced. • Replace the Progard Pack.
REPLACE PROGARD AND TANK VENT FILTER IN XX DAYS	• The Milli-Q System has determined that the Progard Pack and the Vent Filter should be replaced in XX days, where XX is 14, 13, …, 1. • Replace the Progard Pack and Vent Filter.
REPLACE Q-POD PAK 1 IN XX DAYS	• The Milli-Q System has determined that the POD PAK on Q-POD Unit 1 should be replaced in XX days, where XX is 14, 13, …, 1. • Replace the POD Pak and reset the timer.
REPLACE Q-POD PAK 2 IN XX DAYS	• The Milli-Q System has determined that the POD PAK on Q-POD Unit 2 should be replaced in XX days, where XX is 14, 13, …, 1. • Replace the POD Pak and reset the timer.

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Summary of Alert messages, Continued

Alert messages (continued)

LCD message	What it means
REPLACE Q-POD PAK 1	• The Milli-Q System has determined that POD PAK on Q-POD Unit 1 needs replacement. • Replace the POD Pak and reset the timer.
REPLACE Q-POD PAK 2	• The Milli-Q System has determined that POD PAK on Q-POD Unit 2 needs replacement. • Replace the POD Pak and reset the timer.
REPLACE QUANTUM CARTRIDGE	• The Milli-Q System has determined that the Quantum Cartridge should be replaced. • Replace the Quantum Cartridge.
REPLACE QUANTUM CARTRIDGE IN XX DAYS	• The Milli-Q System has determined that the Quantum Cartridge should be replaced in XX days, where XX is 14 or 13, …, 1. • Replace the Quantum Cartridge.
REPLACE UV 185 NM LAMP	• The Milli-Q System has determined that the UV 185 nm Lamp should be replaced. • Contact Millipore.
REPLACE UV 185 NM LAMP IN XX DAYS	• The Milli-Q System has determined that the UV 185 nm Lamp should be replaced in XX days, where XX is 14, 13, …, 1. • Contact Millipore.
REPLACE UV 254 NM LAMP	• The Milli-Q System has determined that the UV 254 nm Lamp should be replaced. • Contact Millipore.
REPLACE UV 254 NM LAMP IN XX DAYS	• The Milli-Q System has determined that the UV 254 nm Lamp should be replaced in XX days, where XX is 14, 13, …, 1. • Contact Millipore.

Continued on next page

Summary of Alert messages, Continued

Alert messages (continued)

LCD message	What it means
RO REJECTION < SP	• The RO % Rejection is < set point. • Contact Millipore.
SERVICE VISIT OVERDUE XX DAYS	• The Milli-Q System has determined that a Service Visit is overdue. • Contact Millipore.
TAP FEED CONDUCTIVITY > SP	• The Tap Water conductivity is > set point. • Contact Millipore.
THE NETWORK CABLE IS UNPLUGGED	• Check the Ethernet Cable plugged into the Milli-Q System and the computer. • Restart the Milli-Q System.
THIS IP ADDRESS IS ALREADY USED BY ANOTHER SYSTEM	• Contact your network administrator. • Restart the Milli-Q System.

Ordering Information

Consumables, Accessories and Systems

Consumables

Item	Catalogue Number
BioPak Ultrafilter	CDUFBI001
Millipak Express 40 Final Filter	MPGP04001
EDS™- Pak Final Filter	EDSPAK001
EDS-Pak Installation Kit - ordered 1 time only for multiple EDS-Pak uses.	EDSKIT001
Progard TNPS2 Pack	PR0G0TNP2
Progard TS2 Pack	PR0G0T0S2
Quantum TEX Cartridge	QTUM0TEX1
Quantum TIX Cartridge	QTUM0TIX1
Reservoir Vent Filter (0.65 μm filter)	TANKMPK01
Reservoir Vent Filter (0.22 μm filter)	TANKMPK22
UV 185 nm Lamp	ZMQUVLP01
UV 254 nm Lamp	ZLXUVLP01
A10 TOC Monitor Lamp	ZFA10UVM1
ASM (Automatic Sanitisation Module) UV Lamp	ZLXUVLPL1

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Accessories

Item	Catalogue Number
ASM (Automatic Sanitisation Module) for Reservoir	TANKASMIN
Cabinet Wall Mounting Bracket	WMBSMT002
E-POD Unit for Elix Water	ZRXSP0D01
Footswitch	ZMQSFTS01
Reservoir 30 Litre	TANKPE030
Reservoir 60 Litre	TANKPE060
Reservoir 100 Litre	TANKPE100
Q-POD Wall Mounting Bracket	WMBQP0D01
Q-POD Unit	ZMQSP0D01
Water Sensor	ZFWATDET4

Milli-Q Integral System Cabinet

Item	Catalogue Number
Milli-Q Integral 3	ZRXQ003T0
Milli-Q Integral 5	ZRXQ005T0
Milli-Q Integral 10	ZRXQ010T0
Milli-Q Integral 15	ZRXQ015T0

NOTE:

A complete Milli-Q Integral System consists of:

- a Q-POD Unit,
- a Reservoir,
- a Milli-Q Integral System Cabinet, and
- a Progard Pack, Quantum Cartridge and POD Pak.

Note

Regularly scheduled preventive maintenance/calibration will help you obtain the best performance from your Millipore water purification system throughout its entire lifetime.

Please contact your Millipore representative to find the best options for your system including our maintenance programs.