User Manual

Milli-Q® Advantage A10® System

Safety Information

Safety Statement

Your Milli-Q System should be 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.

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.

Safety Symbols

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.

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 Milli-Q 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.

Millipore's Standard Warranty

Millipore Corporation ("Millipore") warrants its products will meet their applicable published specifications when used in accordance with their applicable instructions for a period of one year from shipment of the products. **MILLIPORE MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED. THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE**. The warranty provided herein and the data, specifications and descriptions of Millipore products appearing in Millipore's published catalogues and product Literature may not be altered except by express written agreement signed by an officer of Millipore. Representations, oral or written, which are inconsistent with this warranty or such publications are not authorised and if given, should not be relied upon.

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Document

REV 1, 08/08

Table of Contents

Chapter 1 Introduction

Section 1-1 About this User Manual

Purpose of this User Manual

This User Manual is intended for use with a Milli-Q® Advantage A10 Water Purification System.

This User Manual is a guide for use during the installation, normal operation and maintenance of a Milli-Q Advantage A10 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 Advantage A10 Water Purification System" is replaced by the term "Milli-Q System" for the remainder of this User Manual unless otherwise noted.

Section 1-2 About Millipore

Telephone

See the Business Card(s) on the inside cover of the User Manual binder.

Internet

The Millipore Internet site address can be used to submit a question to Millipore via electronic mail.

The Millipore Internet site can be used to find addresses, telephone/fax numbers and other information.

Internet site address: www.millipore.com/bioscience

Manufacturing Site

Millipore SAS

67120 Molsheim

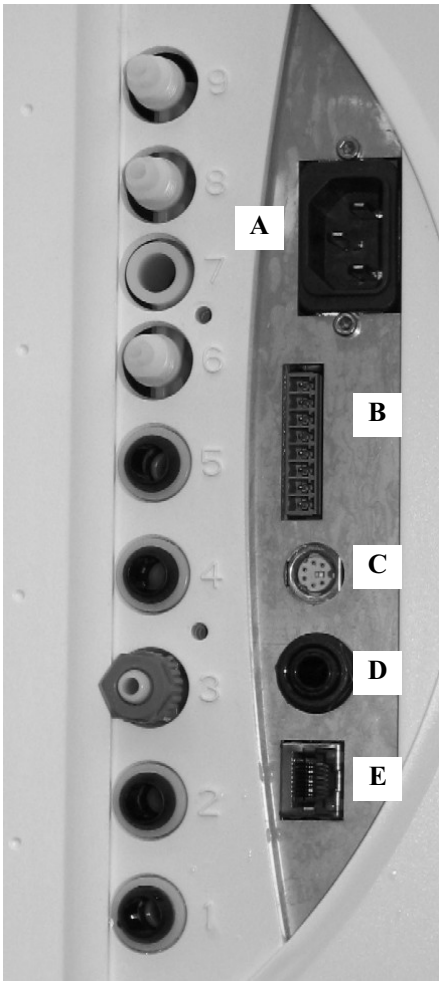
FRANCE

Chapter 2 Product Information

Section 2-1 Overview of the Milli-Q Water System

Milli-Q System Cabinet

Input or output connections



1	**Not Used**	**A**	**Power Entry (100 – 240 VAC)**
2	**Feedwater Port**	**B**	**Accessories Power (maximum 24 VDC)**
3	**Water to Q-POD Dispenser**	**C**	**PS/2 Connection (maximum 5 VDC)**
4	**Water from Q-POD Dispenser**	**D**	**Level Sensor Input (maximum 5 VDC)**
5, 6, 7, 8, 9	**Not Used**	**E**	**Ethernet Connection (maximum 5 VDC)**

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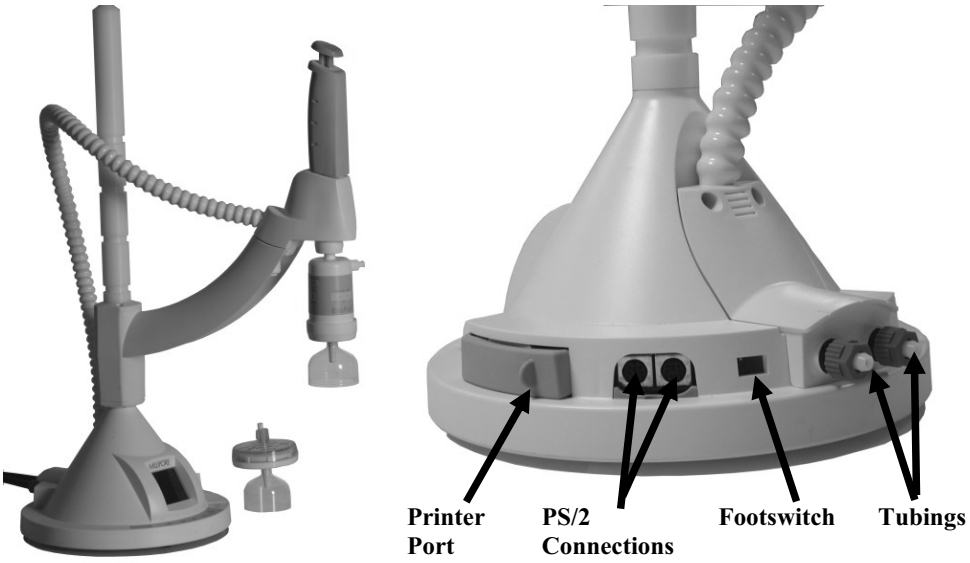
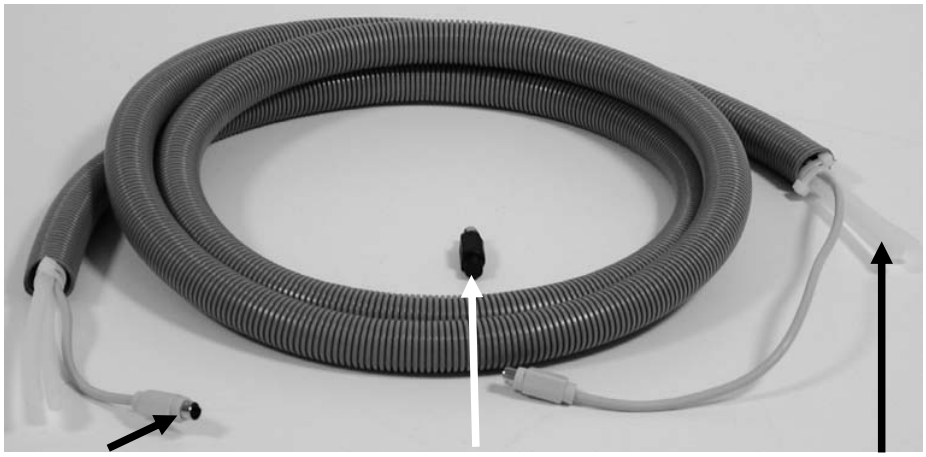
Section 2-1 Overview of the Milli-Q Water System, Continued

Q-POD Dispenser



RC-Link



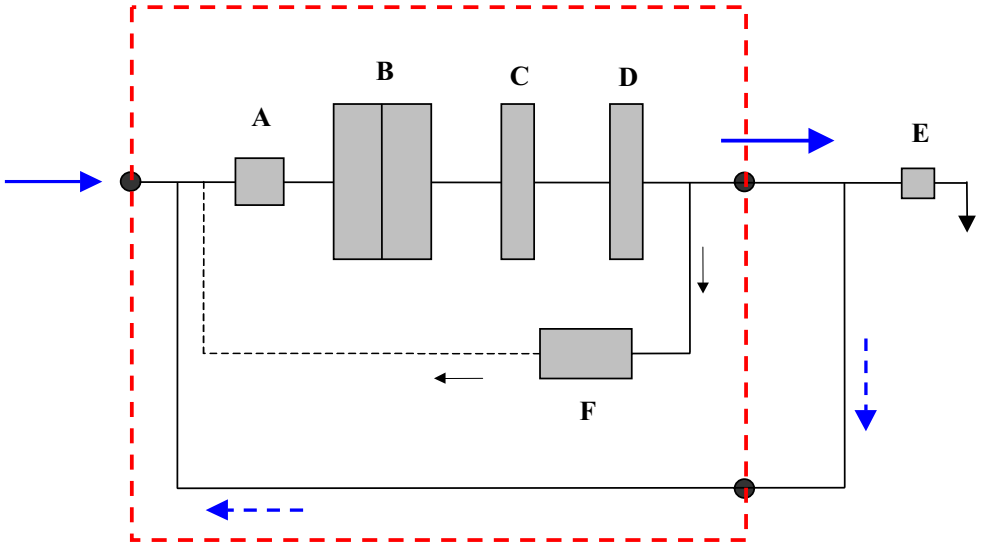
Section 2-2 Milli-Q Water Specifications

Flowrates (from Q-POD Dispenser 1)	0.05 Lpm – 2.0 Lpm
Resistivity	18.2 MΩ.cm @25°C
Conductivity	0.055 µS/cm @25°C
Pyrogens	< 0.001 Eu/ml with BioPak™ Ultrafilter
Particles	≤ 1/ml (particle size > 0.22 µm) with Millipak® Express 40 Filter or BioPak Ultrafilter
TOC	< 5 ppb This specification came from test conditions where a Milli-Q System was fitted with a Q-Gard® T1 Pack and a Quantum™ TEX Cartridge and the feedwater came from a Millipore RiOs™ Water System. The feedwater TOC value was < 50 ppb. The TOC of the Milli-Q Water can vary as a function of the feedwater TOC.
Micro-Organisms	≤ 1 CFU/ml with Millipak Express 40 Filter or BioPak Ultrafilter
RNase	< 0.01 ng/mL with BioPak Ultrafilter
DNase	< 4 pg/µL with BioPak Ultrafilter

Section 2-3 Flow Diagram

Diagram

The water flow through a Milli-Q System is shown here in a flow diagram.



ITEM	DESCRIPTION	ITEM	DESCRIPTION
A	Pump	D	Quantum Cartridge
B	Q-Gard Purification Pack	E	POD Pak
C	UV 185 nm Lamp	F	A10 TOC Monitor

Continued on next page

Section 2-3 Flow Diagram, Continued

Q-Gard Purification Pack

The Q-Gard Purification Pack is used to remove ions and organic molecules from the feedwater. The term "Q-Gard Pack" replaces "Q-Gard Purification Pack" for the remainder of this User Manual unless otherwise noted.

The Q-Gard Pack is a consumable. A consumable is something that is periodically changed out for a new one during the maintenance of the Milli-Q System.

There are different types of Q-Gard Packs. The use of each Q-Gard Pack is dependent upon the type of feedwater.

Type	Description
Q-Gard T1 Pack	**The Q-Gard T1 Pack is used when the feedwater comes from RO, distillation or Electrodeionisation (EDI). An example of RO or EDI feedwater is the water coming from either a Millipore RiOs System or Elix® Water Purification System. This type of feedwater typically has some ions but contains little organic, particulate and colloidal contamination.**
Q-Gard T2 Pack	**The Q-Gard T2 Pack is used whenever the feedwater comes from a source other than mentioned above. The same feedwater would have a Fouling Index ≤ 5.**
Q-Gard T3 Pack	The Q-Gard T3 Pack is used instead of a Q-Gard T2 Pack whenever the feedwater has a Fouling Index > 5.

UV 185 nm Lamp

The dual wavelength UV 185 nm Lamp emits light at 185 nm (for TOC reduction) and at 254 nm (Germicidal action). The UV 185 nm Lamp is used to kill bacteria and to reduce the levels of organic molecules in the water.

The UV 185 nm Lamp is a consumable.

Quantum Cartridge

The Quantum Cartridge is used to remove trace levels of ions and organic molecules.

The Quantum Cartridge is a consumable.

Type	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

Section 2-3 Flow diagram, Continued

A10 TOC Monitor

The A10 TOC Monitor measures the Total Oxidizable Carbon (TOC) of the Milli-Q Water.

The A10 TOC Monitor uses a small lamp during its TOC Analysis Mode. This is called the A10 Lamp.

The A10 Lamp is a consumable.

POD Pak

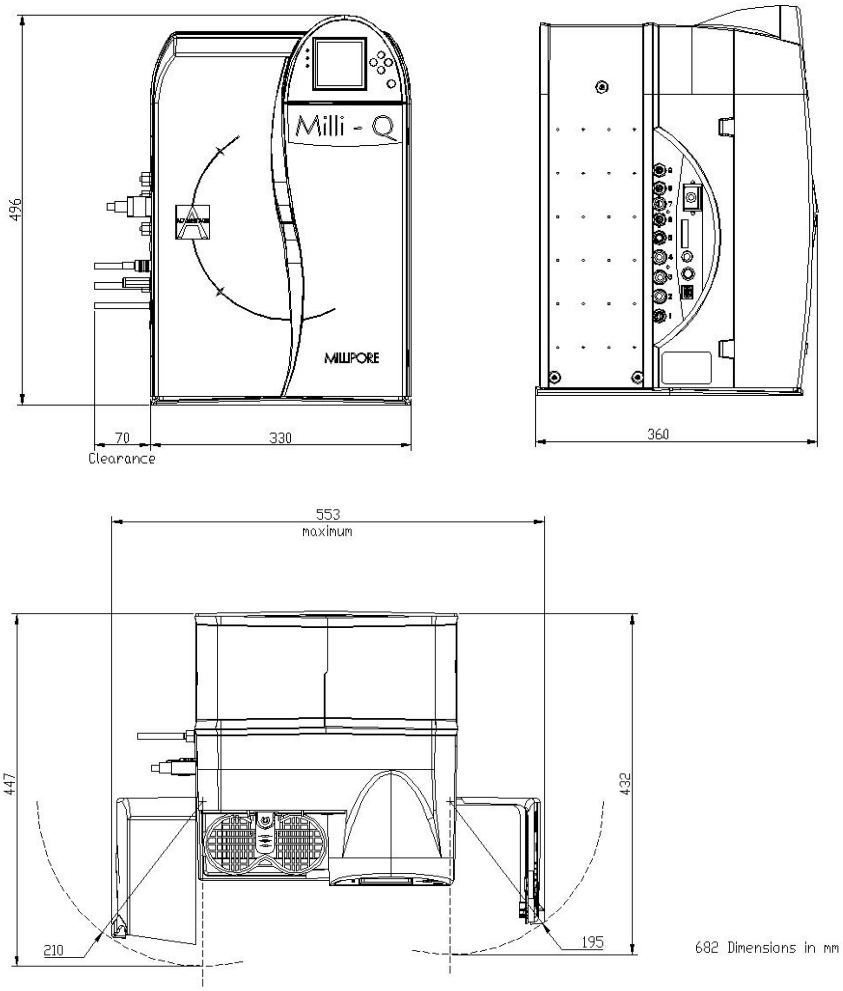
The POD Pak is a water purification device that is attached to the Q-POD Dispenser outlet. It is the final purification device used before Milli-Q Water is dispensed. The POD Pak provides additional quality and insurance that trace contaminants related to specific applications are removed just before ultrapure water is delivered.

The POD Pak is a consumable.

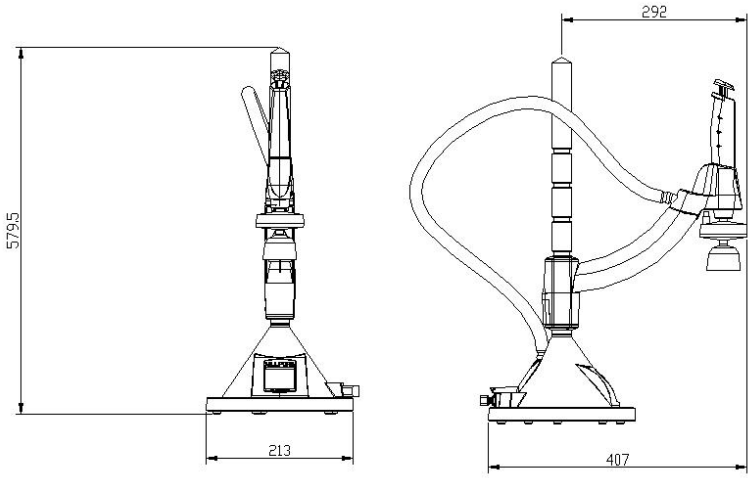
The LCD messages sometimes refer to POD Pak 1 or POD Pak 2 (or 3). POD Pak 1 means the POD Pak on the 1st Q-POD Dispenser. POD Pak 2 refers to the POD Pak installed on a second Q-POD Dispenser.

Section 2-4 Technical Specifications

Milli-Q Cabinet Dimensions



Q-POD Dispenser Dimensions



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Section 2-4 Technical Specifications, Continued

Weight

Item	Shipping Weight	Dry Weight	Wet Weight
Milli-Q System Cabinet (no Q-POD Dispenser)	17.0 kg	13.0 kg	19.0 kg
Q-POD Dispenser	7.2 kg	4.7 kg	4.7 kg

Electrical

Power source voltage	100-230 V ±10%
Power used	160 VA
Power source frequency range	50-60 Hz ±10%
Power Entry Module Fuse	2.5 Amp Fast Acting; 5 mm x 20 mm; 250 V Safety Voltage. The fuse should be serviced by a qualified Millipore Service Representative.
Earth Ground	The power source must be earth grounded.
Power Cord	The power cord should be plugged into a wall outlet that is accessible. The Milli-Q System is powered on and off by removing the power cord from the wall outlet.
Maximum distance from power source to Milli-Q System	2.5 meters

Displayed Value Ranges

Resistivity displayed value range	2 MΩ.cm – 18.2 MΩ.cm @25°C
Conductivity displayed value range	1 µS/cm – 0.055 µS/cm @25°C
Temperature displayed value range	0°C – 50°C
TOC displayed value range	1 ppb – 999 ppb
Flowmeter displayed value range	0.5 Lpm – 3 Lpm

Materials of Construction

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

Noise Level

Noise level = 47 dB at a distance of 1 meter.

Chapter 3 Installation

Section 3-1 Installation Requirements

Consumables

The consumables needed for installation are listed below. Please note that these items are not included with the Milli-Q System. A Milli-Q System is comprised of a Milli-Q System Cabinet, a Q-POD Dispenser with RC-Link.

In addition to the Milli-Q System, you need:

- 1 Q-Gard Pack
- 1 Quantum Cartridge
- 1 POD Pak (example: Millipak Express 40 Filter or BioPak Ultrafilter)

Space

See Section 2-4 for dimensional information.

The installation area needs to accommodate the total operating space of the Milli-Q System.

Weight

See Section 2-4 for weight information.

The installation area needs to accommodate the total operating weight of the Milli-Q System.

Electrical

See Section 2-4 for electrical information.

The electrical supply needs to meet the stated electrical specifications.

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Section 3-1 Installation Requirements, Continued

Feedwater

Type of feedwater required

Pre-treated water including one or several of the following technologies: RO; RO + EDI; RO + DI; Distillation; DI.

Feedwater physical requirements

Flowrate	> 2 Lpm
Pressure range	0.0 – 0.3 bar
Connection thread size and connection type	1/2 inch male GAZ (BSP, NPT)
Feedwater tubing OD	8 mm OD
Feedwater tubing maximum length	2 meters

Feedwater chemistry requirements

Temperature range	5°C – 35°C
pH range	4 - 10
Conductivity range	< 100 µS/cm @25°C
Fouling Index	< 5
TOC (maximum value)	< 50 ppb

Environmental

Ambient temperatures

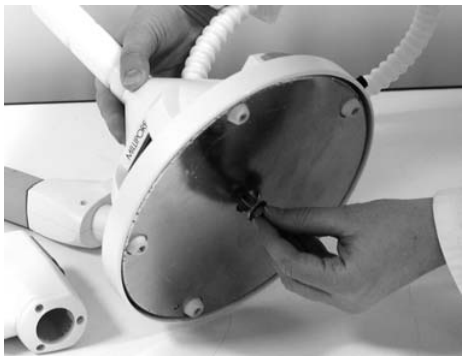
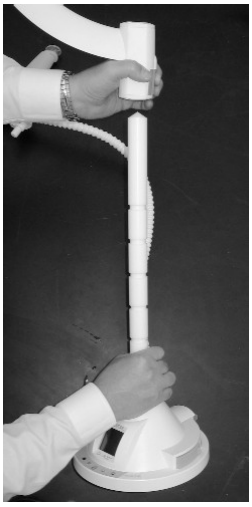
Ambient storage temperature range	4°C – 40°C
Ambient operation temperature range	4°C – 40°C

Other environmental requirements

Location	The Milli-Q System is intended for indoor use only.
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.
Altitude	< 3000 meters
Pollution Degree	2
Installation Category	II

Section 3-2 Assembling the Q-POD Dispenser

Procedure Follow the steps below to assemble the Q-POD Dispenser.

Step	Action	Result
1	Open the Q-POD Dispenser 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.	

Section 3-3 Connecting the Q-POD Dispenser

Before you begin

The Q-POD Dispenser installation instructions in this User Manual are written for the case of one Q-POD Dispenser being connected to the Milli-Q System Cabinet. If the Milli-Q System Cabinet is going to have two or three Q-POD Dispensers, then refer to the Insert document supplied with the Q-POD Dispenser.

RC-Link

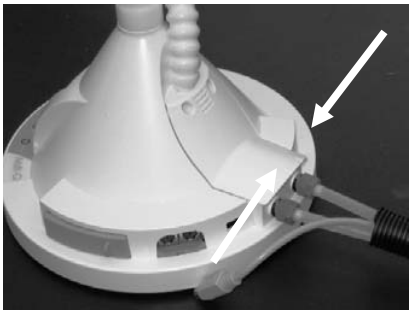
Locate the RC-Link in the Q-POD Dispenser Accessories Bag.

The RC-Link:

- consists of a PS/2 cable with two lengths of tubing. The cable and the tubing lengths are enclosed in a sheath,
- is 2.5 metres in length, and
- terminates on each end with a PS/2 connection

RC-Link tubings to the Q-POD Base

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

Step	Action	Result
1	Locate the two tubing ports on the back of the Q-POD Dispenser Base.	
2	Connect the RC-Link tubing to the Q-POD Dispenser Ports: Unscrew the 2 nuts from the Q-POD Dispenser 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 Dispenser.	

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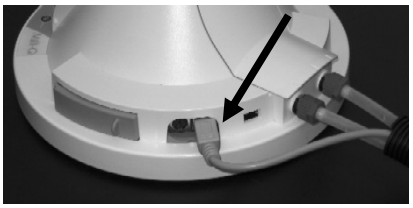
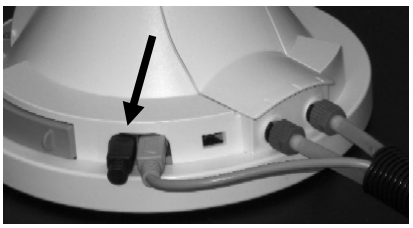
Section 3-3 Connecting the Q-POD Dispenser, Continued

RC-Link cable to the Q-POD Base

When the Milli-Q System Cabinet is connected to one Q-POD Dispenser, both PS/2 connections are used on the Q-POD Base.

- One connection is used with the RC-Link cable.
- The other connection is used for the Termination Plug.

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

Step	Action	Result
1	Plug the RC-Link cable into one PS/2 connection on the Q-POD Base. Note: The RC-Link cable can be plugged into either PS/2 connection on the Q-POD Dispenser Base.	
2	Locate the Termination Plug (small electronic device) that came in the Q-POD Dispenser Accessories Bag. Plug this in the other PS/2 connection on the Q-POD Base.	

RC-Link cable to the Milli-Q System Cabinet

Follow the steps below to connect the RC-Link cable to the Milli-Q System Cabinet.

Step	Action	Result
1	Locate the PS/2 connection on the Milli-Q System Cabinet. It is located below where the Power Cord plugs in. Plug the RC-Link PS/2 cable into the Milli-Q System Cabinet.	
2	Make sure all PS/2 connections (cable and termination plug) are pushed in completely.	

Continued on next page

Section 3-3 Connecting the Q-POD Dispenser, Continued

RC-Link tubings to the Milli-Q System Cabinet

Follow the steps below to connect the RC-Link tubings to the Milli-Q System Cabinet.

Step	Action	Result
1	Locate Port 3 and Port 4 on the Milli-Q System Cabinet.	
2	Plug one length of tubing from the RC-Link into Port 4. When the tubing is pushed in, pull on it to make sure it is securely fastened. Note The Q-POD Dispenser design allows for either length of RC-Link tubing to be connected to Port 4 on the Milli-Q System Cabinet.	
3	Plug the other length of tubing into Port 3. To do this: Unscrew the nut from Port 3. Push the end of the tubing through the nut. Push this end of the tubing onto the plastic stem. Tighten the nut.	
4	Make sure the RC-Link tubing lengths are connected to Port 3 and to Port 4. Do not connect the RC-Link tubing to any other ports on the Milli-Q System Cabinet.	

Section 3-4 Connecting the Feedwater tubing

From a reservoir

If the feedwater source is coming from a reservoir, then follow the steps below.

Step	Action
1	Make sure the Milli-Q System Cabinet is located either beside or lower than the Reservoir. It is not recommended to locate the Reservoir below the Milli-Q System Cabinet.
2	Measure the distance between the Reservoir and the left side of the Milli-Q System. Allow some extra distance so the Milli-Q System could be rotated or moved without stretching the tubing. Cut an appropriate sized length of tubing.
3	Install one end of this tubing to the Reservoir.

From a loop

If the feedwater source is coming from a loop, then follow the steps below.

Step	Action
1	Locate the roll of white tape and the 8 mm tubing (plus Inlet Strainer assembly) from the Accessories Bag. Make sure that the uses a 1/2 inch GAZ (or BSPM or NPTM) connection.
2	Wind about 3 to 4 turns of white tape on the Loop connection. The tape should be wound in a clockwise direction (same direction the fittings are turned). Attach the Inlet Strainer assembly to the Loop connection.
3	Measure the distance needed for the feedwater tubing. This is the distance between the Inlet Strainer and the left side of the Milli-Q System. Allow some extra distance so the Milli-Q System could be rotated or moved without stretching the tubing. Cut the appropriate length of 8 mm tubing as determined above.

Continued on next page

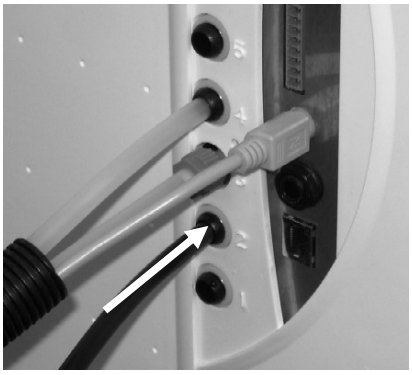
Section 3-4 Connecting the Feedwater tubing, Continued

From a loop (continued)

Step	Action
4	Now install a feedwater pressure regulator. Turn it over to see the arrow that indicates the direction of water flow through the Pressure Regulator. ⚠ It is important not to reverse the water flow through the Pressure Regulator. The Pressure Regulator is installed between the Inlet Strainer (now attached to the pipe end) and the Milli-Q System. Normally, the Millipore Pressure Regulator is pre-set to 0.1 bar and does not need adjustment. ⚠ The setting of the Pressure Regulator should not exceed 0.3 bar while the Milli-Q System is dispensing water at maximum flow.

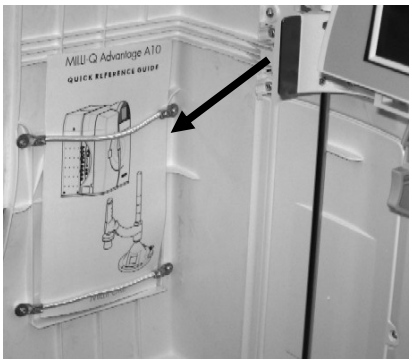
Feedwater tubing to the Milli-Q System Cabinet

Follow the steps below to connect the Feedwater tubing to the Milli-Q System Cabinet.

Step	Action	Result
1	Turn off the feedwater. Locate Port 2 on the Milli-Q System Cabinet.	
2	Connect the feedwater tubing to Port 2 on the Milli-Q System Cabinet. Make sure the tubing is securely fastened.	
3	Make sure the feedwater tubing is connected to Port 2. Do not connect the feedwater tubing to any other port on the Milli-Q System Cabinet.	
4	Turn on the feedwater.	

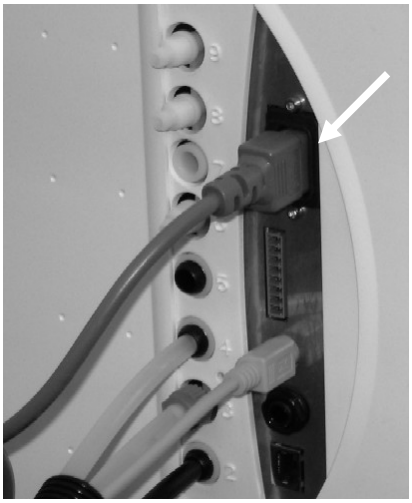
Section 3-5 Placing the Quick Reference Guide

Procedure Follow the steps below to place the Quick Reference Guide.

Step	Action	Result
1	Open the left door of the Milli-Q System Cabinet. Locate the two elastic bands attached to the inside of this door.	
2	Place the Quick Reference Guide here.	

Section 3-6 Powering on the Milli-Q System

Procedure Follow the steps below to power on the Milli-Q System.

Step	Action	Result
1	Locate the electrical power receptacle on the Milli-Q System Cabinet.	
2	Plug the power cord into the Milli-Q System Cabinet.	

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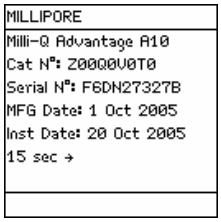
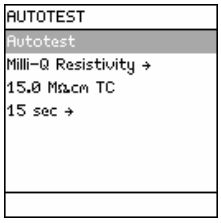
Section 3-6 Powering on the Milli-Q System, Continued

Displays shown The following table describes the first displays shown when the Milli-Q System is powered on.

Description	Main Display	Q-POD Display
1. The Milli-Q System is powered. 2. The Milli-Q System displays a TESTING LCD and an INTEGRITY CHECK LCD for several seconds. 3. The Q-POD displays POD 1 during this time. 4. The Main Display and the Q-POD Display look like the LCDs shown to the right. Note that your Milli-Q System may have a different Serial Number, Manufacturing Date (MFG Date) and Installation Date (Inst Date) than shown here.		
5. An AUTOTEST is being done.		
6. Because the Q-Gard Pack and the Quantum Cartridge are not installed, the LCD look like this. 7. At this time, do not scroll to the right. Do not press the Keypad buttons at this time.		

Section 3-7 Installing the Q-Gard Pack

Procedure Follow the steps below to install the Q-Gard Pack.

Step	Action	Result
1	Open the left door of the Milli-Q System Cabinet.	
2	• **Remove the covers on the 2 ports of the Q-Gard Pack.** • **Look inside the ports.** • **Make sure the rubber O-rings are firmly in place.** • **Wet the O-rings with water.**	
3	Push the top of the Q-Gard Pack into the ports on the Milli-Q System.	

Continued on next page

Section 3-7 Installing the Q-Gard Pack, Continued

Procedure (continued)

Step	Action	Result
4	Push on the bottom of the Q-Gard Pack.	
5	Push the Pack Locking Handle down. Close the left door.	
6	The Milli-Q System sees that a new Q-Gard Pack is installed.	
7	Press 	

Section 3-8 Installing the Quantum Cartridge

Procedure Follow the steps below to install the Quantum Cartridge

Step	Action	Result
1	Open the right door of the Milli-Q System Cabinet. Remove the covers on the 2 ports of the Quantum Cartridge. Wet the O-rings with water.	
4	Install the Quantum Cartridge until it is fully seated. Close the right door.	
5	The Milli-Q System sees that a new Quantum Cartridge is installed.	
6	Press 	

Section 3-9 Rinsing the Milli-Q System

Installing the barbed fitting and clear tubing

Step	Action
1	Locate the clear tubing and the barbed fitting from the Milli-Q System Accessories Bag.
2	Screw the barbed fitting onto the Q-POD Dispenser. ⚠ Do not use any white tape on the threads of the barbed fitting. An O-ring is located inside the Q-POD Dispenser.
3	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.

Purging air from the Milli-Q System

Step	Action
1	At this time you should have installed the Q-Gard Pack, the Quantum Cartridge, the barbed fitting and the clear tubing. The Milli-Q System should be powered. The Main Display and the Q-POD Dispenser should be in READY Mode. See Section 4-3 to see how to go from STANDBY Mode to READY Mode.
2	Verify that you have several Litres of feedwater (i.e. full Reservoir).
3	Push the plunger down on the Q-POD Dispenser. See Section 4-4.
4	In a few minutes, water should dispense from the Q-POD Dispenser.
5	Dispense water for about 10 minutes. This flushes out any trapped air in the Milli-Q System. This also rinses off the purification media located in the Q-Gard Pack and the Quantum Cartridge.
6	Push the Q-POD Dispenser Plunger again to stop dispensing water. See Section 4-4.

Hydrating the Milli-Q System

Step	Action
1	At this time, the POD Pak should not be installed. The barbed fitting and the clear tubing should still be attached to the end of the Q-POD Dispenser.
2	Leave the Milli-Q System in READY Mode overnight or for several hours (> 6 hours). Do not leave the Milli-Q System in STANDBY Mode. This allows the purification media in the Q-Gard Pack and Quantum Cartridge to hydrate.
3	Afterwards, dispense water for about 10 minutes.
4	Leave the Milli-Q System in READY Mode when finished.

Section 3-10 Cleaning the A10 TOC Monitor

Introduction

The A10 TOC Monitor should be cleaned when the Milli-Q System is installed.

Go to Section 5-7 and follow the instructions about cleaning the A10 TOC Monitor.

Section 3-11 Installing the POD Pak

Introduction

There are two things that need to be done when installing a POD Pak:

- the POD Pak needs to be installed on the Q-POD Dispenser
- you need to register a POD Pak installation

Before you begin

Before you begin installing the POD Pak:

- Remove the clear tubing and the barbed fitting from the Q-POD Dispenser.
- There is an O-ring inside the Q-POD Dispenser. Make sure the O-ring remains in place and does not come out

Procedure

Follow the steps below to install the POD Pak.

Step	Action	Result
1	Go to STANDBY Mode.	
2	Press 	

Continued on next page

Section 3-11 Installing the POD Pak, Continued

Procedure (continued)

Step	Action	Result
3	Press 	
4	Press 	
5	Press 	
6	Press 	

Continued on next page

Section 3-11 Installing the POD Pak, Continued

Procedure (continued)

Step	Action	Result
7	Press 	
	• **Follow the instructions delivered with the new POD Pak.** • **Dispense water for 5 minutes to flush out the Millipak Express 40 Filter. For other POD Paks, refer to the instructions.**	
8	Press 	

Section 3-12 Entering the Manager Menu

Introduction

The Manager Menu is a password-protected feature of the Milli-Q System Firmware. The Manager Menu is used to access features that are not used in day-to-day operation.

Procedure

Follow the steps below to enter the Manager Menu.

Step	Action	Result
1	**Go to STANDBY Mode.**	
2	Press 	
3	Press 	
4	The default Login is USER. To change to the letter case, use the upper/lower case button. Select the letter ‘U’ using the Keypad. Press  If you make a mistake, then use the backspace button.	

Continued on next page

Section 3-12 Entering the Manager Menu, Continued

Procedure (continued)

Step	Action	Result
5	Repeat the steps above until the Login (USER) is entered.	
6	Select the tick on the LCD using the Keypad. Then use the Keypad. Press 	
7	Enter in the Password. The Password is PASS	
8	Select the tick on the LCD using the Keypad. Press 	

Section 3-13 Selecting the Language

Procedure Follow the steps below to select the language.

Step	Action	Result
1	Go to STANDBY Mode.	
2	Press 	
3	Press 	
4	Select the language. Press 	
5	Press 	

Section 3-14 Setting the Date and Time

Procedure Follow the steps below to set the date and time.

Step	Action	Result
1	Go to the MANAGER MENU. See Section 3-12 for information about how to enter the MANAGER MENU.	
2	Press 	
3	Press 	
4	Follow the instructions shown on the LCD.	
5	Press 	

Continued on next page

Section 3-14 Setting the Date and Time, Continued

Procedure (continued)

Step	Action	Result
6	Press 	
7	Press 	

Section 3-15 Calibrating the Milli-Q Water flowrate

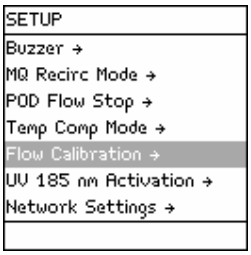
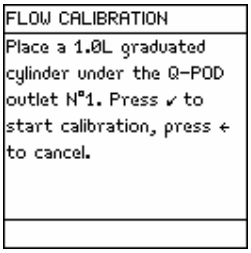
Introduction

The Milli-Q Water Flowrate should be calibrated when the system is installed. This calibration should be done with Q-POD Dispenser 1 in case there are multiple Q-POD Dispensers. You need a 1 Litre graduated cylinder before starting the Flow Calibration.

The Flow Calibration Software is accessed from the MANAGER MENU Mode.

Procedure

Follow the procedure below to calibrate the water flowrate.

Step	Action	Result
1	Go to the Manager Menu. See Section 3-12 for information about how to enter the MANAGER MENU.	
2	Press 	
3	Press 	
4	Press 	

Continued on next page

Section 3-15 Calibrating the Milli-Q Water flowrate, Continued

Procedure (continued)

Step	Action	Result
5	Place a graduated cylinder under Q-POD Dispenser 1. Press 	FLOW CALIBRATION Press on Q-POD base to start water delivery. After the water dispensing is complete, measure the collected volume.
6	Press 	FLOW CALIBRATION The system is now delivering water. Task Completion: 0 %
7	Water dispenses automatically from Q-POD Dispenser 1. Wait until the Task Completion is completed	FLOW CALIBRATION Volume = 900 mL Use ↑ and ↓ keys to register the value of the collected volume. Press ✔ to confirm and exit
8	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
9	Press 	SETUP Buzzer → MQ Recirc Mode → POD Flow Stop → Temp Comp Mode → Flow Calibration → UV 185 nm Activation → Network Settings →
10	Press 	MANAGER MENU Change ID and Pass → Date and Time → Set Points → Units → Setup → User Parameters → History →

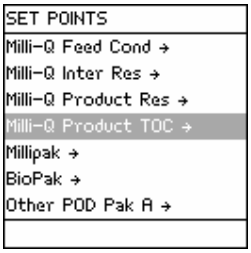
Section 3-16 Changing the Set Points

Introduction

Inside the MANAGER MENU is a section called Set Points. These are used to trigger the display of various Alerts or Alarms. Adjust a Set Point if needed.

Procedure

Follow the steps below to change a set point.

Step	Action	Result
1	Go to the Manager Menu. See Section 3-12 for information about how to enter the MANAGER MENU.	
2	Press 	
3	As an example, select the Set Point for the Milli-Q Product TOC. Press 	
4	Press 	

Continued on next page

Section 3-16 Changing the Set Points, Continued

Procedure (continued)

Step	Action	Result
5	To adjust the Set Point, use the UP or DOWN keypad buttons.  	MILLI-Q PRODUCT TOC Milli-Q Product TOC Setpoint = 50 ppb Press ↑ and ↓ to adjust. Press ↙ to validate. Press ← to exit.
6	Press 	SET POINTS Milli-Q Feed Cond → Milli-Q Inter Res → Milli-Q Product Res → Milli-Q Product TOC → Millipak → BioPak → Other POD Pak A →
7	Press 	MANAGER MENU Change ID and Pass → Date and Time → Set Points → Units → Setup → User Parameters → History →

Continued on next page

Section 3-16 Changing the Set Points, Continued

Summary of Set Points

Setpoint	Purpose	LCD messages related to this set point
Milli-Q Feed Cond	This set point is related to the maximum feedwater conductivity value. The feedwater to the Milli-Q System can be measured and displayed using an accessory device.	If this value is exceeded, then the Alert MILLI-Q FEED CONDUCTIVITY > SP is displayed.
Milli-Q Inter Res	This set point is related to the Intermediate Resistivity Sensor measurement. The Intermediate Resistivity Sensor is located between the Q-Gard Pack and the UV 185 nm Lamp. This set point is used to indicate that the resistivity of the post Q-Gard Pack water is decreasing.	If the post Q-Gard Pack resistivity is measured below this set point, then the Alert MILLI-Q INTER R < SP, PLEASE ORDER Q-GARD AND QUANTUM is displayed.
Milli-Q Product Res	This set point is used to indicate that the resistivity of the Milli-Q Water is decreasing.	If the Milli-Q Water resistivity is measured below this set point, then the Alarm MILLI-Q RES < SP, REPLACE Q-GARD AND QUANTUM is displayed
Milli-Q Product TOC	This set point is used to indicate that the TOC of the Milli-Q Water is increasing.	If the Milli-Q Water TOC is measured above this set point, then the Alarm MILLI-Q TOC > SP is displayed.
Millipak	This set point is used to indicate that the Millipak Express 40 Filter should be changed.	If the Millipak Express 40 Filter has been installed for x -14 Days (where x is the set point), then the Alert message REPLACE POD PAK N°1 IN 14 DAYS is shown. Note that this message could be displayed for POD PAK N°2 or POD PAK N°3 instead.

Continued on next page

Section 3-16 Changing the Set Points, Continued

Summary of Set Points (continued)

Setpoint	Purpose	LCD messages related to this set point
BioPak	This set point is used to indicate that the BioPak Ultrafilter should be changed.	If the BioPak Ultrafilter has been installed for x-14 Days (where x is the set point), then the Alert message REPLACE POD PAK N°1 IN 14 DAYS is shown. Note that this message could be displayed for POD PAK N°2 or POD PAK N°3 instead.
Other POD Pak A (or POD Pak B or POD Pak C)	This set point is for a POD Pak other than a Millipak Express 40 Filter or a BioPak Ultrafilter. This set point is used to indicate that the POD Pak should be changed.	If the POD Pak has been installed for x-14 Days (where x is the set point), then the Alert message REPLACE POD PAK A IN 14 DAYS is shown. Note that this message could be displayed for POD PAK B or POD PAK C instead.

Section 3-17 Other settings

Introduction

Inside the MANAGER MENU, the following settings can be adjusted if needed:

- Units
- Temperature Compensation
- MQ Recirc Mode
- POD Flow Stop
- Buzzer
- ID and Password
- User Parameters

Units

This setting is used to change:

- the units of Milli-Q Water quality between MΩ.cm (units of resistivity) and µS/cm (units of conductivity)
- the reservoir water level units between % full, Litres and Gallons

Follow the steps below to change the units if needed.

Step	Action	Result
1	Go to the Manager Menu. See Section 3-12 for information about how to enter the MANAGER MENU.	
2	Press  Select Units.	
3	Press 	
4	Press  As an example, select the Unit "µS/cm" for the Milli-Q Product.	

Continued on next page

Section 3-17 Other settings, Continued

Units (continued)

Step	Action	Result
5	Press 	
6	Press 	
7	Select Tank Volume. Change the Units of Tank Volume using the UP or DOWN keypad buttons.	
8	**Press 2 x** 	

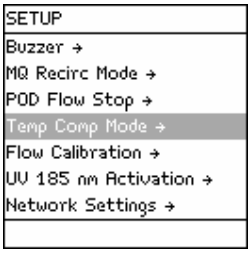
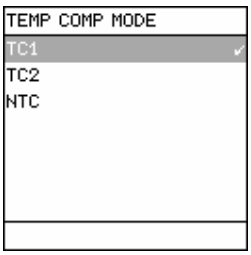
Continued on next page

Section 3-17 Other settings, Continued

Temperature compensation

It is possible to show non-temperature compensated resistivity or non-temperature compensated conductivity. Temperature compensation is a way of standardising resistivity or conductivity to measurements that would be seen if the water temperature was 25°C.

Follow the steps below to change the Temperature Compensation Mode if needed.

Step	Action	Result
1	Go to the Manager Menu. See Section 3-12 for information about how to enter the MANAGER MENU.	
2	Press  Select Setup.	
3	Press  Select Temp Comp Mode.	
4	Press 	

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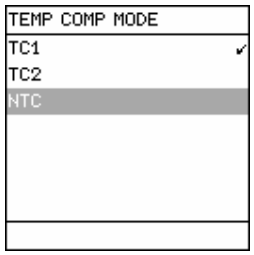
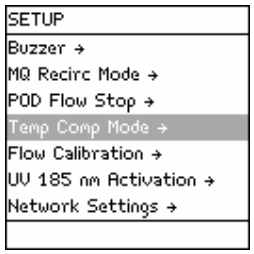
Section 3-17 Other settings, Continued

Temperature compensation (continued)

Step	Action	Result
5	Select NTC.	
6	Press 	
7	Press 	

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Section 3-17 Other settings, Continued

Temperature compensation (continued)

The table below is a summary of the temperature compensation modes.

Mode	Description
NTC (Non Temperature Compensation)	▪ **The temperature compensation is off.** ▪ **The displayed resistivity or conductivity is not temperature compensated** ▪ **The temperature of the water is shown at the same time as the non-temperature compensated resistivity or conductivity value.**
TC1 (normal setting)	▪ **The resistivity or conductivity values are temperature compensated to 25°C.** ▪ **The values are normalised.** ▪ **The Milli-Q System Firmware eliminates small fluctuations of temperature compensated resistivity or conductivity due to the fact that these two parameters are not measured at the same time.**
TC2	▪ **The actual temperature compensated resistivity or conductivity values are displayed.** ▪ **The TC2 setting should be used in applications that require the detection of trace ionic levels or when performing the verification of the Milli-Q System resistivity meter operation with an independent calibrated resistivity meter.** ▪ **In some operating conditions the feed water can be warmer or cooler than the water temperature inside the Milli-Q System. As a result:** o **This can cause small fluctuations of the resistivity and conductivity values. Resistivity values could fluctuate between 18.0 MΩ.cm and 18.4 MΩ.cm @ 25°C while the actual resistivity value is 18.2 MΩ.cm @ 25°C.**

Continued on next page

Section 3-17 Other settings, Continued

MQ Recirculation Mode

The MQ Recirc Mode parameter is a setting for how many minutes, per hour of READY Mode, the Milli-Q System recirculates water internally. This is done to insure optimal water quality.

Follow the steps below to adjust the MQ Recirc Mode if needed.

Step	Action	Result
1	Go to the Manager Menu. See Section 3-12 for information about how to enter the MANAGER MENU.	STANDBY MENU Maintenance → Sanitise/Clean → Suitability Tests → Language → Manager Menu →
2	Press  Select Setup.	MANAGER MENU Change ID and Pass → Date and Time → Set Points → Units → Setup → User Parameters → History →
3	Press  Select MQ Recirc Mode.	SETUP Buzzer → MQ Recirc Mode → POD Flow Stop → Temp Comp Mode → Flow Calibration → UV 185 nm Activation → Network Settings →
4	Press 	MQ RECIRC MODE Automatic Recirculation = 5 min/h Press ↑ and ↓ to adjust. Press ↵ to validate. Press ← to exit.

Continued on next page

Section 3-17 Other settings, Continued

MQ Recirculation Mode (continued)

Step	Action	Result
5	Adjust the Automatic Recirculation Time using the UP or DOWN keypad buttons.	MQ RECIRC MODE Automatic Recirculation = 10 min/h Press ↑ and ↓ to adjust. Press ↙ to validate. Press ← to exit.
6	Press 	SETUP Buzzer → MQ Recirc Mode → POD Flow Stop → Temp Comp Mode → Flow Calibration → UV 185 nm Activation → Network Settings →
7	Press 	MANAGER MENU Change ID and Pass → Date and Time → Set Points → Units → Setup → User Parameters → History →

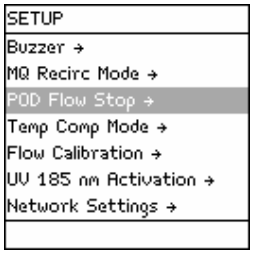
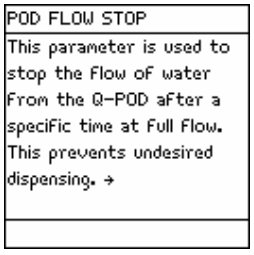
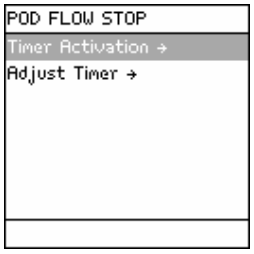
Continued on next page

Section 3-17 Other settings, Continued

POD Flow Stop

If you press the Q-POD Dispenser Plunger all the way down and release, then the Q-POD Dispenser is locked while dispensing at high flow. It continues to dispense until it automatically stops. The time it takes to automatically stop is called the **POD Flow Stop** time. This feature is primarily used to prevent undesired dispensing.

Follow the steps below to adjust the POD Flow Stop if needed.

Step	Action	Result
1	Go to the Manager Menu. See Section 3-12 for information about how to enter the MANAGER MENU.	
2	Press  Select Setup.	
3	Press  Select POD Flow Stop.	
4	Press 	
5	Press 	

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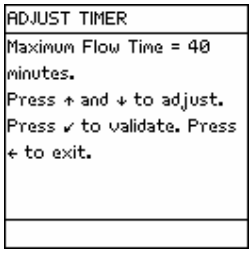
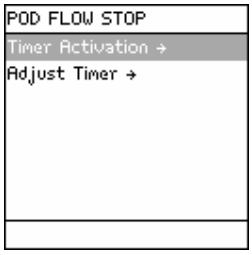
Section 3-17 Other settings, Continued

POD Flow Stop (continued)

Step	Action	Result
6	**Press**  Yes: **Select Yes if you want to set the time to automatically stop dispensing water.** No: **Select No if you do not want the Milli-Q System to set the time to automatically stop dispensing water.**	
7	If you select Yes, Press 	
8	Adjust the Time using the UP or DOWN keypad buttons.	
9	Press 	
10	Press 3 x 	

Continued on next page

Section 3-17 Other settings, Continued

POD Flow Stop (continued)

Step	Action	Result
11	NOTE: If the timer is already set to Yes, then input the timer as shown here. Select Adjust Timer.	POD FLOW STOP Timer Activation → Adjust Timer →
12	Press 	ADJUST TIMER Maximum Flow Time = 30 minutes. Press ↑ and ↓ to adjust. Press ↙ to validate. Press ← to exit.
13	Adjust the Time using the UP or DOWN keypad buttons.	ADJUST TIMER Maximum Flow Time = 30 minutes. Press ↑ and ↓ to adjust. Press ↙ to validate. Press ← to exit.
14	Press 	POD FLOW STOP Timer Activation → Adjust Timer →

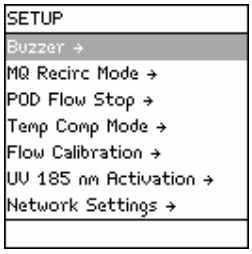
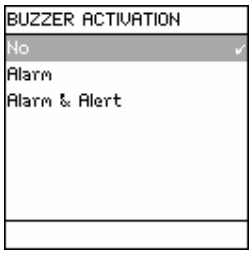
Continued on next page

Section 3-17 Other settings, Continued

Buzzer

The Buzzer sounds when there is an Alarm or Alert message. It is possible to change which type of message turns the Buzzer on. For example, it is possible to turn on the Buzzer only with an Alarm message. It is also possible to never turn on the Buzzer with any message.

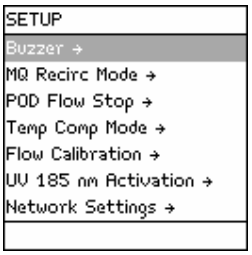
Follow the steps below to select the Buzzer setting if needed.

Step	Action	Result
1	Go to the Manager Menu. See Section 3-12 for information about how to enter the MANAGER MENU.	
2	Press  Select Setup.	
3	Press  Select Buzzer.	
4	Press 	
5	Select the type of message that should turn on the Buzzer. For example, Select Alarm if you want the Buzzer to turn on only with an Alarm message.	

Continued on next page

Section 3-17 Other settings, Continued

Buzzer (continued)

Step	Action	Result
6	Press 	
7	Press 	

Continued on next page

Section 3-17 Other settings, Continued

ID and Password

The LOGIN and PASSWORD can be changed.

- The default Login is USER.
- The default Password is PASS.
- The LOGIN and PASSWORD have a maximum length of 4 alphanumeric characters.

Follow the steps below to change the LOGIN and PASSWORD if needed.

Step	Action	Result
1	Go to the Manager Menu. See Section 3-12 for information about how to enter the MANAGER MENU.	
2	Select Change ID and Pass.	
3	Press 	
4	Example: You want the Login to be “john” and the Password to be “1234”. Select the letter ‘j’ using the Keypad.	
5	Press 	

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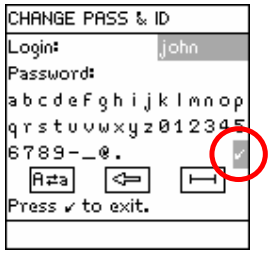
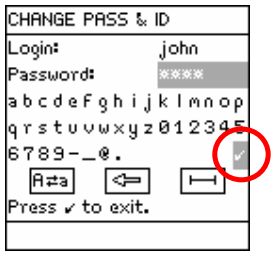
Section 3-17 Other settings, Continued

ID and Password (continued)

Step	Action	Result
6	Repeat the previous steps until the Login is completed. Select the tick on the LCD using the Keypad.	
7	Press 	
8	Enter the new Password. Note: The Password is not actually shown on the LCD. It is shown as "****".	
9	Select the tick on the LCD using the Keypad.	
10	Press 	
11	Press 	

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Section 3-17 Other settings, Continued

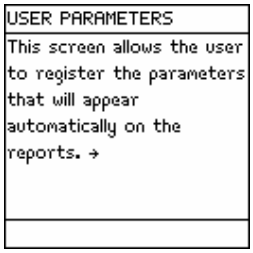
User Parameters

The User Parameters LCD is used to change various data that appears on reports. An example of a report would be a History Printout from the Milli-Q.

A list of the User Parameters is shown here:

- Company Name
- Department Name
- Address
- Postal Code
- City
- Country
- Email
- Manager
- User 1
- User 2
- Telephone
- Application

Follow the steps below to change a User Parameter if needed.

Step	Action	Result
1	Go to the Manager Menu. **See Section 3-12 for information about how to enter the MANAGER MENU.**	
2	**Press**  **Select User Parameters.**	
3	**Press** 	
4	**Press** 	

Continued on next page

Section 3-17 Other settings, Continued

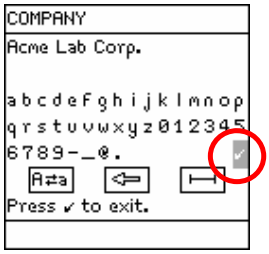
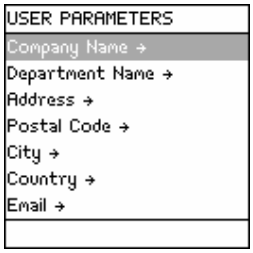
User Parameters (continued)

Step	Action	Result
5	**Select the parameter you want to input. For example, Company Name is chosen.** **Press** 	
6	Select the first letter using the Keypad.	
7	Press 	
8	Now input the rest of the Company Name.	

Continued on next page

Section 3-17 Other settings, Continued

User Parameters (continued)

Step	Action	Result
9	Select the tick on the LCD using the Keypad.	
10	Press 	
11	**The Company Name is now entered. If desired, repeat the previous steps for other parameters.** **Press 2 x** 	

Section 3-18 Registering UV and A10 Lamps lifetime

Introduction

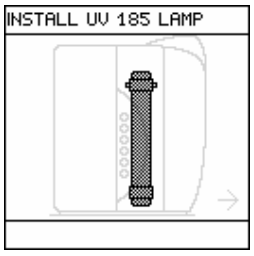
The UV 185 nm Lamp and the A10 Lamp have to be registered during the installation of the Milli-Q System.

NOTE

Before doing this, make sure that the Date and Time have been set.

Procedure for the UV Lamp

Follow the steps below to register the UV Lamp lifetime.

Step	Action	Result
1	Go to Standby Mode. Select Menu.	
2	Press 	
3	Select Install UV 185 nm Lamp.	
4	Press 	

Continued on next page

Section 3-18 Registering UV and A10 Lamps lifetime, Continued

Procedure for the UV Lamp (continued)

Step	Action	Result
5	Press 	INSTALL UV 185 LAMP This procedure should be performed by a Millipore trained service engineer. Press → to continue or ← to exit.
6	Press 	INSTALL UV 185 LAMP The Millipore trained service engineer confirms UV 185 nm Lamp installation by pressing ✓. ←
7	Press 	INSTALL UV 185 LAMP UV 185 nm Lamp installation is registered. Next maintenance in 730 days.←
8	The UV Lamp is now registered.	
9	Press 	MAINTENANCE Clean Strainer → Install Q-Gard → Install UV 185 Lamp → Install Quantum → Install A10 Lamp → Install POD Pak 1 → Install POD Pak 2 →

Continued on next page

Section 3-18 Registering UV and A10 Lamps lifetime, Continued

Procedure for the A10 Lamp

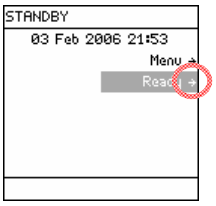
Step	Action	Result
10	Press  Choose Install A10 Lamp.	
11	Press 	
12	Press 	
13	Press 	
14	Press 	
15	The A10 Lamp is now registered.	

Chapter 4 Using the Milli-Q System

Section 4-1 Main Display and Keypad

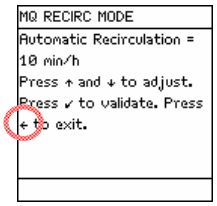
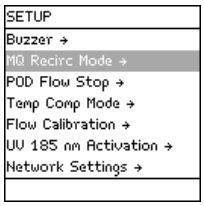
Keypad - RIGHT

The RIGHT Keypad button is described below.

Display	Action	Result
	Press 	

Keypad - LEFT

The LEFT Keypad button is described below.

Display	Action	Result
	Press 	

Keypad – UP

The UP Keypad button is described below.

Display	Action	Result
	Press 	

Continued on next page

Section 4-1 Main Display and Keypad, Continued

Keypad – DOWN

The DOWN Keypad button is described below.

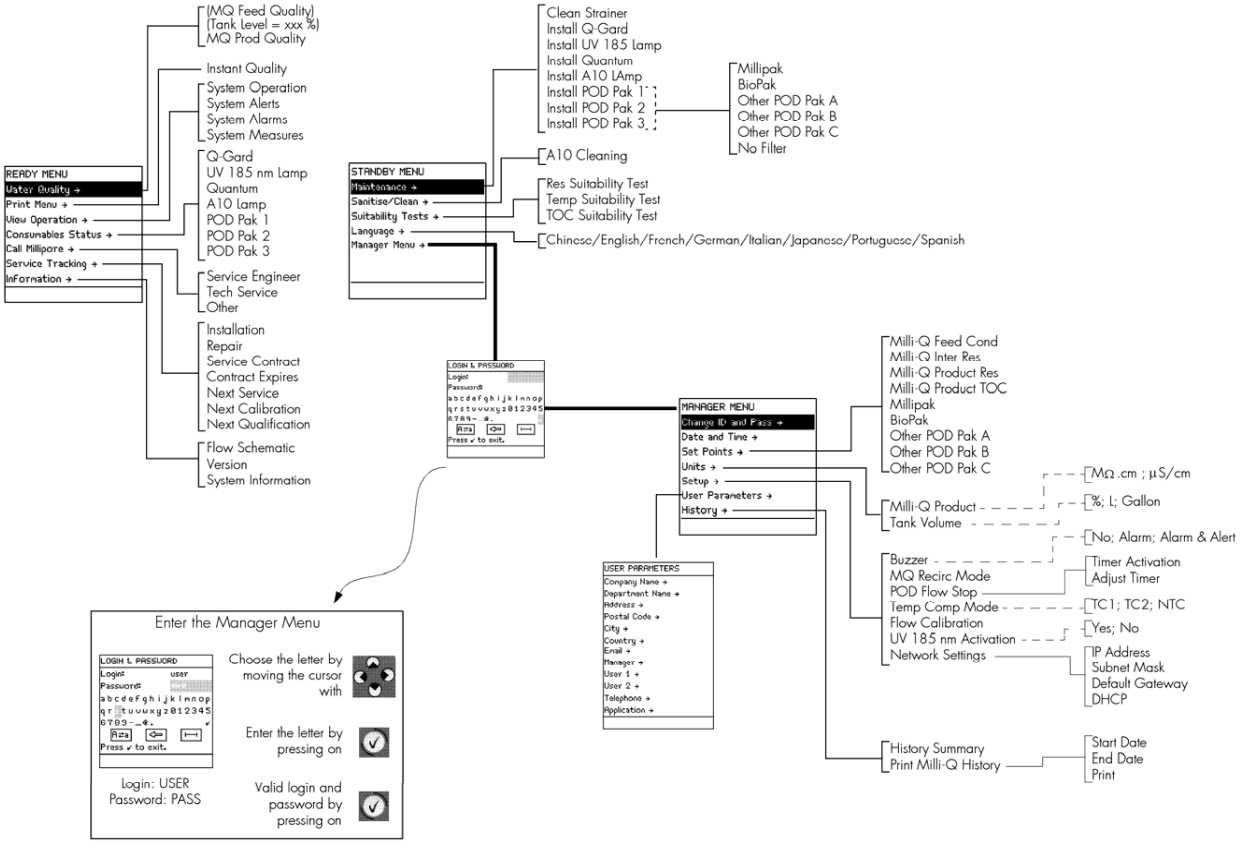
Display	Action	Result
READY 03 Feb 2006 21:56 Menu → Standby →	Press 	STANDBY 03 Feb 2006 21:53 Menu → Ready →

Keypad - VALIDATE

The VALIDATE Keypad button is described below.

Step	Action	Result
MILLI-Q PRODUCT TOC Milli-Q Product TOC Setpoint = 501 ppb Press ↑ and ↓ to adjust. Press ✓ to validate. Press ← to exit.	Press 	SET POINTS Milli-Q Feed Cond → Milli-Q Inter Res → Milli-Q Product Res → Milli-Q Product TOC → Millipak → BioPak → Other POD Pak A →

Section 4-2 Software Map



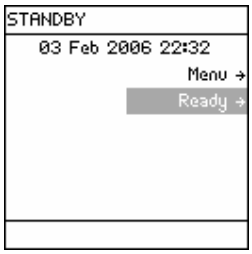
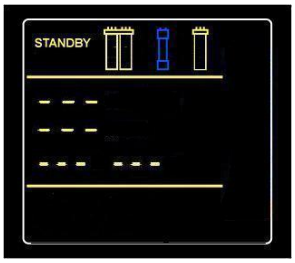
Section 4-3 STANDBY Mode and READY Mode

STANDBY Mode

STANDBY Mode is selected before attempting maintenance on the Milli-Q System.

It is not possible to dispense water in STANDBY Mode.

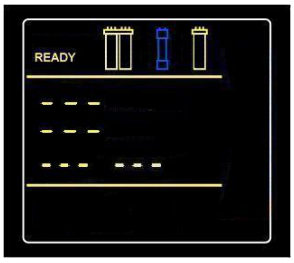
In STANDBY Mode, pressing the Q-POD Dispenser Plunger down allows the Milli-Q System to depressurise. After depressurising, push the Plunger again.

Main Display	Q-POD Display
	

READY Mode

In READY Mode, water can be dispensed from the Q-POD Plunger.

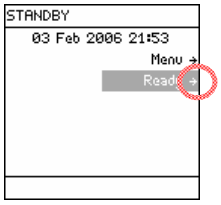
The Milli-Q System should be left in READY Mode most of the time.

Main Display	Q-POD Display
	

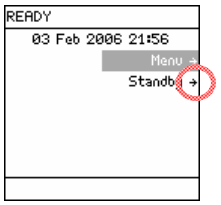
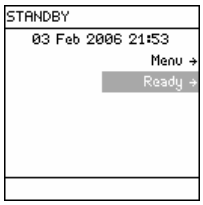
Continued on next page

Section 4-3 STANDBY Mode and READY Mode, Continued

STANDBY Mode to READY Mode

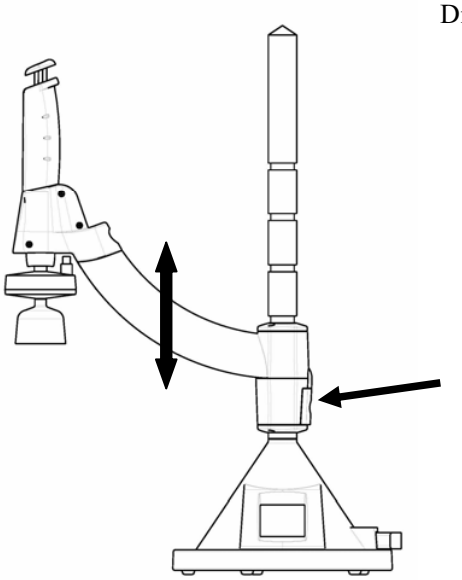
Display	Action	Result
	Press 	

READY Mode to STANDBY Mode

Display	Action	Result
	Press 	

Section 4-4 Dispensing water

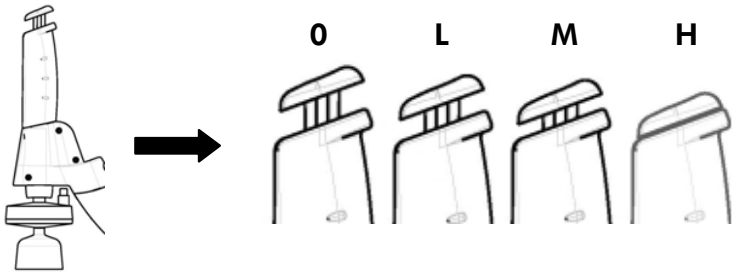
Adjusting the height of the Q-POD Dispenser



Press here and hold. Move the Q-POD Dispenser up and down.

Using the Q-POD Dispenser

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



0	No water delivered
L	Low Flow (push slightly)
M	Medium Flow (push 1/2 way down)
H	High Flow (push down and hold or push down and release)

Continued on next page

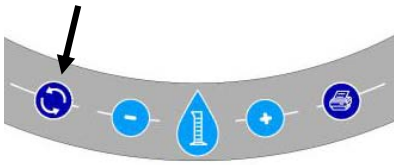
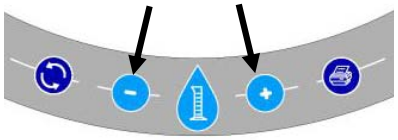
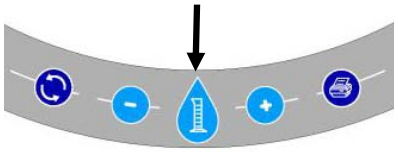
Section 4-4 Dispensing water, Continued

Volumetric Dispensing amounts

It is possible to volumetrically dispense water from the Q-POD Dispenser in amounts of 0.1 Litre, 0.25 L, 0.50 L, 0.75 L, 1 L, 1.25 L, 1.5 L, 1.75 L, 2 L, 2.25 L, ..., 4.75 L, 5 L, 6 L, 7 L, ..., 60 Litre.

Volumetric Dispensing Procedure

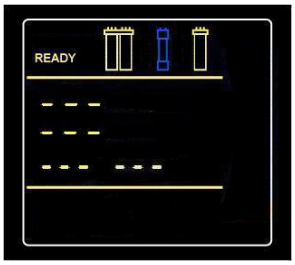
Follow the steps below for Volumetric Dispensing.

Step	Action	Result
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 Dispenser will start dispensing water a few seconds later. 	

Continued on next page

Section 4-4 Dispensing water, Continued

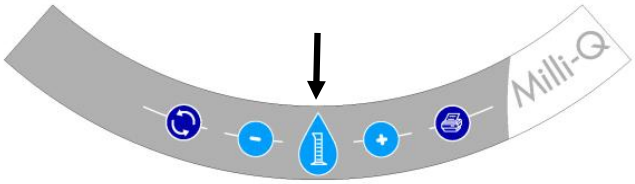
Volumetric Dispensing Procedure (continued)

Step	Action	Result
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.	

Cancelling Volumetric Dispensing

To cancel volumetric dispensing, press the bottom shown below at any time.

Do not press the Q-POD Plunger to stop volumetric dispensing.



Footswitch

It is possible to use a Footswitch accessory with the Q-POD Dispenser.

Section 4-5 Viewing and Printing Water Quality

Viewing the Water Quality

Follow the steps below to view the Water Quality.

Step	Action	Result
1	Make sure the Milli-Q System is in READY Mode.	
2	Press 	
3	Press 	
4	Press 	
Note: **The Milli-Q Water quality values are shown. Note that 'TC' means that the resistivity value is temperature compensated.**		
5	Press 3 x 	

Continued on next page

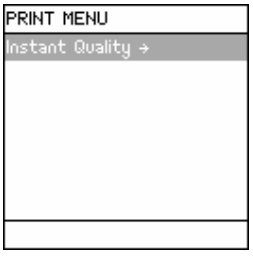
Section 4-5 Viewing and Printing Water Quality, Continued

Connecting the printer cable

The printer cable needs to terminate in a 25 pin male parallel printer port connection. It plugs into the base of the Q-POD Dispenser.

Printing from the Main Display

Follow the steps below to print from the Main Display.

Step	Action	Result
1	Make sure the Milli-Q System is in READY Mode. Select MENU.	
2	Press 	
3	Press 	
Note: The system should be dispensing water in order to get an Instant Quality Printout.		
4	Press 	
5	Press 	

Continued on next page

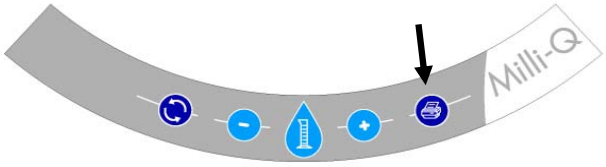
Section 4-5 Viewing and Printing Water Quality, Continued

Printing from the Main Display (continued)

Step	Action	Result
6	The printing has finished.	MQ INSTANT QUALITY Press ↙ to print Milli-Q Water Instant Quality Report. ←
7	Press 3 x 	READY 03 Feb 2006 21:56 Menu → Standby →

Printing from the Q-POD Dispenser

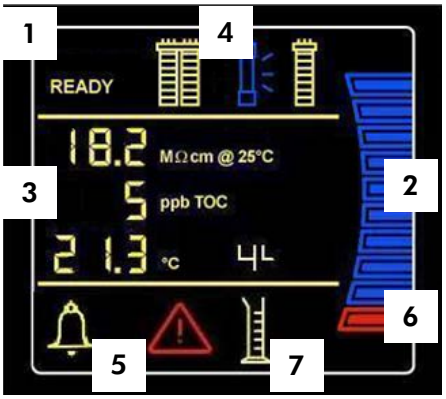
In READY Mode, press the Printer Keypad button on the Q-POD Keypad. It may take a few minutes for the printout to begin.



Section 4-6 Q-POD Display and Keypad

Q-POD Display

A Q-POD Display is shown below with all of its icons illuminated. For more information about each icon, refer to the number adjacent to it.



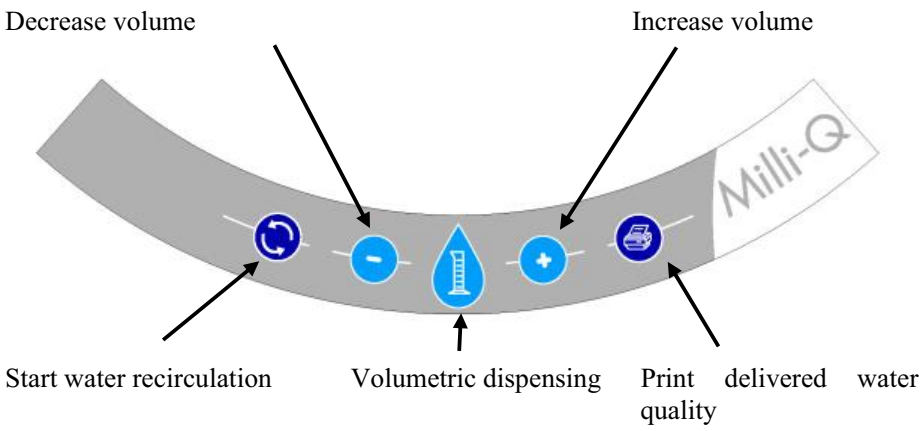
1	**STANDBY and READY**	STANDBY Mode is used only for maintenance, settings or entering the Manager Menu. READY Mode is used for delivering Milli-Q Water.			
2	**Reservoir Level**	If the Milli-Q System is fed by a reservoir, then its volume is represented by 10 graphic bars (each bar equals 10% of the total reservoir volume).			
3	**Displayed values**	Resistivity (MΩ.cm or µS/cm) – Milli-Q Water resistivity or conductivity TOC (ppb) – Milli-Q Water Total Oxidizable Carbon Temperature (°C) – Milli-Q Water temperature			
4	**Q-Gard Pack Consumable Status**				
		Blinking – Pack needs replacement	Pack out	Pack not used	Pack used
	Quantum Cartridge Consumable Status				
		Blinking – Cartridge needs replacement	Cartridge out	Pack not used	Pack used
	UV 185 nm Lamp status				
		Blinking - check UV 185 nm Lamp, contact Millipore or Lamp needs replacement		OFF	ON

Continued on next page

Section 4-6 Q-Pod Display and Keypad, Continued

5	**Alert and Alarm Symbols**		
		Alert Symbol – maintenance is needed. See MAINTENANCE Chapter.	Alarm Symbol – immediate action required. Water quality out of specification or hardware problem.
6	**Water Not Available**	 Blinking	Water dispensing not available. Another Q-POD Dispenser is dispensing.
		 Blinking and  Steady	Flow Autostop Alarm. Press and release the Q-POD Plunger.
		 Blinking and  Blinking	Alarm Stop. Check if another Q-POD Dispenser is locked or see main display for further information.
7	**Volumetric Dispensing**		
		Symbol present during volumetric dispensing.	Symbol gone – Milli-Q System is not using volumetric dispensing

Q-POD Dispenser Keypad



Section 4-7 Printing the System History

Procedure Follow the steps below to print the System History.

Step	Action	Result
1	Go to the MANAGER MENU. See Section 3-12 for more information.	
2	Press 	
3	Press 	
4	Press 	
5	Enter the date and time.	

Continued on next page

Section 4-7 Printing the System History, Continued

Procedure (continued)

Step	Action	Result
6	Press 	
7	Enter the End Date (not shown here). It is recommended to print a maximum of one month at a time.	
8	Press 	
9	Press 	
10	Press 	

Continued on next page

Section 4-7 Printing the System History, Continued

Procedure (continued)

Step	Action	Result
11	When the printing is done, the LCD looks like this.	MILLI-Q WATER HISTORY Press ↙ to print 31 days of Milli-Q Water History. We suggest that you print a maximum of one month of history at a time. ←
12	Press 3 x 	MANAGER MENU Change ID and Pass → Date and Time → Set Points → Units → Setup → User Parameters → History →

Section 4-8 Viewing Operation

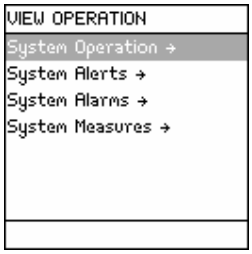
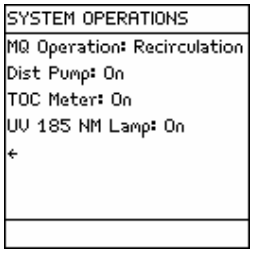
Introduction

VIEW OPERATION allows you to see the status of major components. Under the View Operation LCD, the following views can be selected:

- System Operation
- System Alerts
- System Alarms
- System Measures

Procedure

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

Step	Action	Result
1	Start in READY Menu.	
2	Press 	
3	Example: the Milli-Q System is Dispensing Mode. The status of other components is shown.	

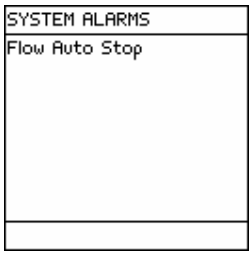
Continued on next page

Section 4-8 Viewing Operation, Continued

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 or 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	

System Alarms

An example Alarm is shown here. This is an Alarm that is currently displayed on the Main Display unless you overrode 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.	

Continued on next page

Section 4-8 Viewing Operation, Continued

System Measures

Various measurements related to the Milli-Q System are shown here.	SYSTEM MEASURES Milli-Q Water Production Time: 1.2 HOURS Dist Pump: 22.5 V DC – 750 mA Dist Flow: 2.0 L/mn
To see the UV 185 nm Lamp measurement, Press 	SYSTEM MEASURES 1.2 HOURS Dist Pump: 22.5 V DC – 750 mA Dist Flow: 2.0 L/mn UV 185 nm Lamp: 130 mA ←

Section 4-9 Viewing Consumables 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	Result
1	Start in READY Menu.	READY MENU Water Quality → Print Menu → View Operation → Consumables Status → Call Millipore → Service Tracking → Information →
2	Press 	CONSUMABLES STATUS Q-Gard → UV 185 nm Lamp → Quantum → A10 Lamp → POD Pak 1 → POD Pak 2 → POD Pak 3 →
3	Select the consumable that you would like to see information about.	

Q-Gard Pack

The Q-Gard Pack status is shown.	Q-GARD Name: Q-Gard T1 Cat N°: QGARDT1X1 Lot N°: F6DN27329 Installed: 5 Feb 2006 Replace In: 182 days Volume: 123L ←

Quantum Cartridge

The Quantum Cartridge status is shown.	QUANTUM Name: Quantum Cat N°: QTUM0TEX1 Lot N°: F6DN27325 Installed: 5 Feb 2006 Replace In: 182 days Volume: 123L ←

Continued on next page

Section 4-9 Viewing Consumables Status, Continued

UV 185 nm Lamp

The UV 185 nm Lamp status is shown.

A10 Lamp

The A10 Lamp status is shown.

POD Pak

The POD Pak status on Q-POD Dispenser 1 is shown.

Section 4-10 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	Result
1	Start in READY Menu.	
2	Press 	
3	Select the type of contact you would like information about. Example: Service Engineer	
4	Press 	

Section 4-11 Viewing Service Tracking

Introduction

Service Tracking allows you to see service information about the Milli-Q System. A Millipore Service Representative can put this information into the Milli-Q System.

Procedure

Follow the steps below to view information under Service Tracking.

Step	Action	Result
1	Start in READY Menu.	READY MENU Water Quality → Print Menu → View Operation → Consumables Status → Call Millipore → Service Tracking → Information →
2	Press 	SERVICE TRACKING Installation → Repair → Service Contract → Contract Expires → Next Service → Next Calibration → Next Qualification →
3	Select the type of Service you would like information about.	SERVICE TRACKING Installation → Repair → Service Contract → Contract Expires → Next Service → Next Calibration → Next Qualification →
4	Press 	INSTALLATION DATE Installation performed by John Smith Date 5 Feb 06. ←

Section 4-12 Viewing Information

Introduction

INFORMATION allows you to view:

- Flow Schematic information
- Version information
- Serial Number and other information

Procedure

Follow the steps below to see view information.

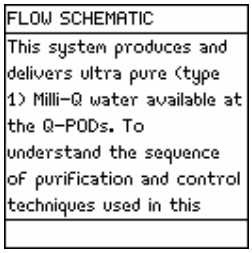
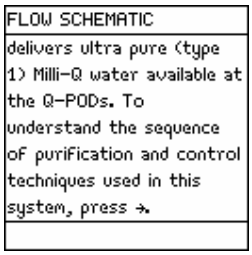
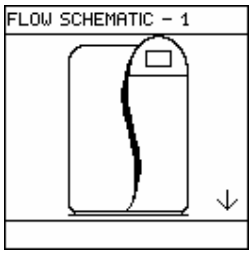
Step	Action	Result
1	Start in READY Menu.	
2	Press 	
3	Select the section you would like to see information about.	

Continued on next page

Section 4-12 Viewing Information, Continued

Flow Schematic

The Flow Schematic information is a display of the major components of the Milli-Q System.

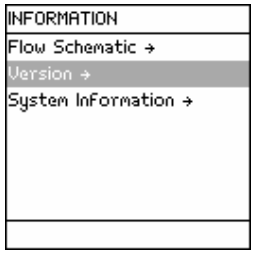
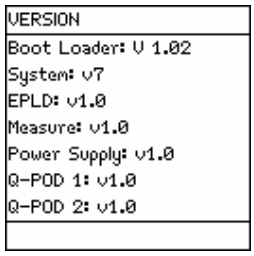
Step	Action	Result
1	Start in INFORMATION.	
2	Press 	
3	Press 	
4	The Keypad can be used to access more Flow Schematic information. Press 	

Continued on next page

Section 4-12 Viewing Information, Continued

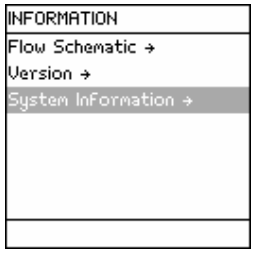
Version

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

Step	Action	Result
1	Start in INFORMATION.	
2	Press 	

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.

Step	Action	Result
1	Start in INFORMATION.	
2	Press 	

Chapter 5 Maintenance

Section 5-1 Maintenance Schedule

Item	Maintenance needed	When	How to
Q-Gard Pack	Replacement	When prompted to by an LCD message.	See Section 5-2.
Quantum Cartridge	Replacement	When prompted to by an LCD message.	See Section 5-3.
POD Pak	Replacement	When prompted to by an LCD message or as necessary.	See Section 5-4.
UV 185 nm Lamp	Replacement	When prompted to by an LCD message.	See Section 5-5.
A10 TOC Monitor	A10 Lamp Replacement	When prompted to by an LCD message.	See Section 5-6.
A10 TOC Monitor	Cleaning	When a new Q-Gard Pack or a new Quantum Cartridge is installed. When TOC values fluctuate.	See Section 5-7.
Inlet Strainer	Cleaning	When prompted to by an LCD message or as necessary.	See Section 5-8.

Section 5-2 Replacing the Q-Gard Pack

When

The Q-Gard Pack should be replaced when one of the following Alert or Alarm messages is displayed.

- Alert message = REPLACE Q-GARD PACK, or
- Alarm message = MILLI-Q RES < SP, REPLACE Q-GARD AND QUANTUM

Removal procedure

Follow the steps below to remove the Q-Gard Pack.

Step	Action	Result
1	Make sure the Milli-Q System is in STANDBY Mode.	
2 ⚠	While in STANDBY Mode, push the Q-POD Dispenser Plunger down once to depressurise the Milli-Q System. After water stops being dispensed, push down the Q-POD Dispenser Plunger again.	

Continued on next page

Section 5-2 Replacing the Q-Gard Pack, Continued

Removal Procedure (continued)

Step	Action	Result
3	Open the Milli-Q System left door. Lift up the Pack Locking Handle.	
4	Remove the used Q-Gard Pack.	
5	The system will indicate that the Q-Gard Pack is removed.	

Continued on next page

Section 5-2 Replacing the Q-Gard Pack, Continued

Installation procedure

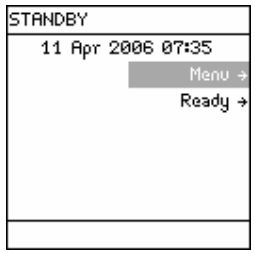
Follow the steps below to install the Q-Gard Pack.

Step	Action	Result
1	Remove the covers on the 2 ports of the Q-Gard Pack. Look inside the ports. Make sure the rubber O-rings are firmly in place. Wet the O-rings with water. Push the top of the Q-Gard Pack into the ports on the Milli-Q System.	
2	Push on the bottom of the Q-Gard Pack.	

Continued on next page

Section 5-2 Replacing the Q-Gard Pack, Continued

Installation procedure (continued)

Step	Action	Result
3	The Milli-Q System sees that a new Q-Gard Pack is installed.	
4	Push the Pack Locking Handle down. Close the left door.	
5	Press 	

Rinsing

The Q-Gard Pack needs to be rinsed out after it is installed. See 'Rinsing' in Section 5-3.

A10 TOC Monitor cleaning

The A10 TOC Monitor should be cleaned if a new Q-Gard Pack or a new Quantum Cartridge is installed.

Go to Section 5-7 for instructions about cleaning the A10 TOC Monitor.

Section 5-3 Replacing the Quantum Cartridge

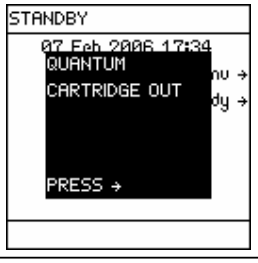
When

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

- Alert message = REPLACE Q-GARD PACK
- Alarm message = MILLI-Q RES < SP, REPLACE Q-GARD AND QUANTUM

Removal procedure

Follow the steps below to remove the Quantum Cartridge.

Step	Action	Result
1	Make sure the Milli-Q System is in STANDBY Mode.	
2	Push the Q-POD Dispenser Plunger down once to depressurise the Milli-Q System. After water stops being dispensed, push down the Q-POD Dispenser Plunger again.	
3	Open the Milli-Q System right door. Remove the used Quantum Cartridge.	
4	The system will indicate that the Quantum Cartridge is removed.	

Continued on next page

Section 5-3 Replacing the Quantum Cartridge, Continued

Installation procedure

Follow the steps below to install the Quantum Cartridge.

Step	Action	Result
1	Remove the covers on the 2 ports of the Quantum Cartridge. Wet the O-rings with water. Install the Quantum Cartridge into the Pack Adapter as shown.	
2	Using your fingers as shown here, push the top of the Quantum Cartridge into the Pack Adapter.	
3	The Milli-Q System sees that a new Quantum Cartridge is installed.	
4	Press 	

Continued on next page

Section 5-3 Replacing the Quantum Cartridge, Continued

Rinsing procedure

The Quantum Cartridge and the Q-Gard Pack need to be rinsed out after they are installed.

Step	Action
1	Locate the clear tubing and barbed fitting from the Accessories Bag.
2	Screw the barbed fitting onto the Q-POD Dispenser.
3	Push the clear tubing onto the barbed fitting. Place the other end in a sink.
4	Dispense water for about 10 minutes.
5	Perform an A10 Cleaning at this time. See Section 5-7.
6	Leave the Milli-Q System in READY Mode overnight or for several hours (> 6 hours).
7	Dispense water for about 10 minutes after the Milli-Q System has been left overnight or at least for several hours (> 6 hours).
8	Remove the barbed fitting and clear tubing.
9	Install a POD Pak.
10	Leave the Milli-Q System in READY Mode.

Section 5-4 Replacing the POD Pak

Replacement based 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.

Replacement based on LCD message

The POD Pak should be replaced when the following Alert message is displayed.

- Alert message = REPLACE POD PAK N° 1.

Note that the POD Pak Number can also be 2 or 3 (i.e. REPLACE POD PAK N° 2 or REPLACE POD PAK N° 3).

Installing the POD Pak

Follow the steps below to install the POD Pak.

Step	Action	Result
1	Go to STANDBY Mode.	
2	Press 	
3	Press 	
4	Press 	

Continued on next page

Section 5-4 Replacing the POD Pak, Continued

Installing the POD Pak (continued)

5	Press 	
6	Press 	
7	Press 	
	• **Follow the instructions delivered with the new POD Pak.** • **Dispense water for 5 minutes to flush out the Millipak Express 40 Filter. For other POD Paks, refer to the instructions.**	
8	Press 	

Section 5-5 Replacing the UV 185 nm Lamp

When

The UV 185 nm Lamp should be replaced when the following Alert message is displayed.

- Alert message = REPLACE UV 185 NM LAMP.

Replacement

It is recommended to have a Millipore Field Service Representative change the UV 185 nm Lamp. The replacement of the UV 185 nm Lamp involves removing the cover of the system. The instructions for replacing the UV 185 nm Lamp are not included in this User Manual. The instructions are included with the replacement UV 185 nm Lamp.

Section 5-6 Replacing the A10 Lamp

When

The A10 Lamp should be replaced when the following Alert message is displayed.

- Alert message = REPLACE A10 LAMP.

Replacement

It is recommended to have a Millipore Field Service Representative change the A10 Lamp. The replacement of the A10 Lamp involves removing the cover of the system. The instructions for replacing the A10 Lamp are not included in this User Manual. The instructions are included with the replacement A10 Lamp.

Section 5-7 Cleaning the A10 TOC Monitor

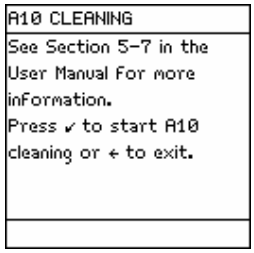
Introduction

The A10 TOC Monitor cleaning is recommended when:

- A new Q-Gard Pack or Quantum Cartridge is installed,
- the TOC values are fluctuating, or
- the TOC values are higher than normally seen

Procedure

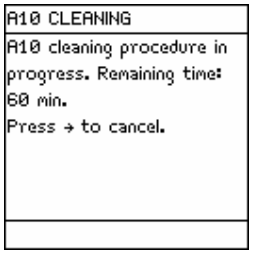
Follow the steps below to clean the A10 TOC Monitor.

Step	Action	Result
1	Go to STANDBY Mode. Select MENU.	
2	Press 	
3	Press 	
4	Press 	

Continued on next page

Section 5-7 Cleaning the A10 TOC Monitor, Continued

Procedure (continued)

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

Section 5-8 Cleaning the Inlet Strainer

Introduction

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.

When

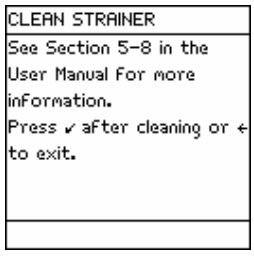
The Inlet Strainer should be cleaned when the following Alert message is displayed. The Inlet Strainer should also be cleaned whenever you suspect it is clogged.

- Alert message = EXAMINE INLET STRAINER

Continued on next page

Section 5-8 Cleaning the Inlet Strainer, Continued

Procedure Follow the steps below to clean the Inlet Strainer

Step	Action	Result
1	Go to STANDBY Mode. Select Menu.	
2	Press 	
3	Press 	
4	Press 	
	• Unscrew the Inlet Strainer from the feedwater supply. Detach the tubing on the other end of the Inlet Strainer. • Flush water backward through the Inlet Strainer. • Apply 3 to 4 turns of new white tape to the threads of the feedwater pipe. • Screw the Inlet Strainer back onto the feedwater pipe. • Attach the tubing to the other end of the Inlet Strainer. • Open the feedwater supply valve. • Go to READY Mode. • Dispense some water. During this time, check the setting of the feedwater pressure regulator. It should be set to 0.1 bar.	

Continued on next page

Section 5-8 Cleaning the Inlet Strainer, Continued

Procedure (continued)

Step	Action	Result
5	Press 	
6	Press 3 x 	

Chapter 6 Alarms and Alerts

Section 6-1 Overview of Alert and Alarm messages

Alert

An Alert message corresponds to a maintenance request. Most of the Alert messages are related to the changing of a consumable. A list of Alert messages can be found in Section 6-4.

The following table summarizes the different types of Alert messages.

Type	Description
Minor Alert	**A minor Alert message corresponds to an early maintenance request.** **A minor Alert message usually indicates that a maintenance action is needed within a number of days.** **An example of a Minor Alert message would be** REPLACE A10 LAMP IN 14 DAYS, REPLACE A10 LAMP IN 13 DAYS**. If you cancel this Alert message, then it is not shown again. See Section 6-2 for information about how Alert messages are shown and cancelled.** A cancelled Minor Alert message appears again when the maintenance action is overdue. For example, the Alert message SERVICE VISIT OVERDUE 1 DAY automatically appears if this maintenance action is not done.
Major Alert	A major Alert message corresponds to an immediate maintenance request. See Section 6-2 for information about how Alert messages are shown.

Alarm

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

A list of Alarm messages can be found in Section 6-5.

The Milli-Q System can respond in two different ways depending upon the type of Alarm message that is shown.

The following table summarizes the different types of Alarm messages.

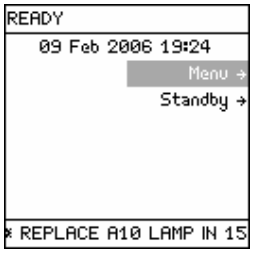
Type	Description
Alarm stops System	**Some Alarms, when displayed, automatically stop the Milli-Q System from dispensing water. An example of this is the Alarm message** QUANTUM CARTRIDGE OUT**. This type of Alarm message can not be cancelled for one hour by using the Keypad.**
Alarm does not stop System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

Section 6-2 Viewing and cancelling Alert messages

Main Display

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

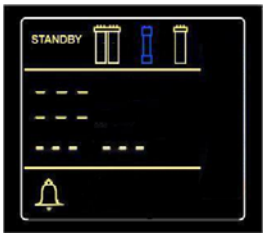
In this example, the Alert message REPLACE A10 LAMP IN 15 DAYS scrolls across the bottom of the LCD.



- 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 Section 4-8 (View Operation).

Q-POD Display

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

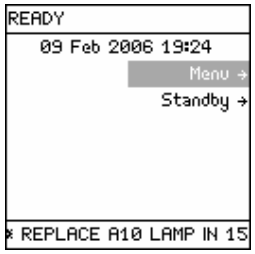
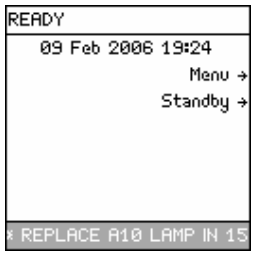
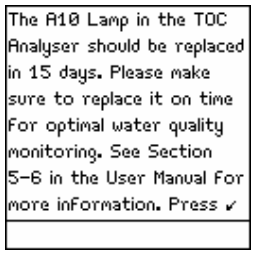
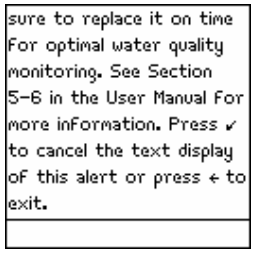
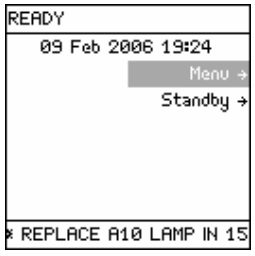


Continued on next page

Section 6-2 Viewing and cancelling Alert messages, Continued

Viewing an Alert Message

Follow the steps below to view an Alert message.

Step	Action	Result
1	Start in either READY or STANDBY Mode.	
2	Press 	
3	Press 	
4	Press 	
5	Press 	

Continued on next page

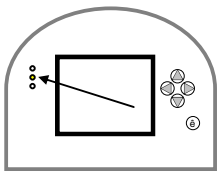
Section 6-2 Viewing and cancelling Alert messages, Continued

Cancelling a Minor Alert message procedure

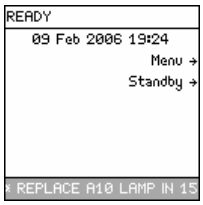
A Minor alert message can be cancelled by:

- 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.**

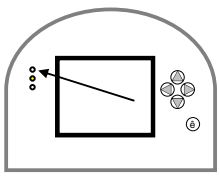
Main Display	Q-POD Display	LEDs	Main Display
			

Follow the steps below to cancel a Minor Alert message.

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

Minor Alert - after cancelling

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

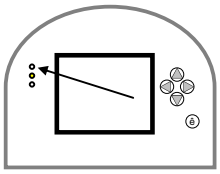
Main Display	Q-POD Display	LEDs	Main Display
			

Continued on next page

Section 6-2 Viewing and cancelling Alert messages, Continued

Minor Alert - consumable replaced

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

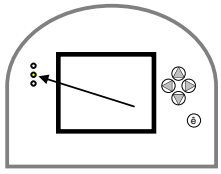
Main Display	Q-POD Display	LEDs	Main Display
			

Cancelling a Major Alert message procedure

A Major Alert message can be cancelled by:

- Performing the maintenance action (i.e. replace consumable), or
- 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.**

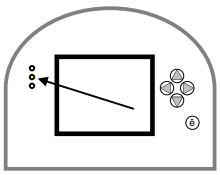
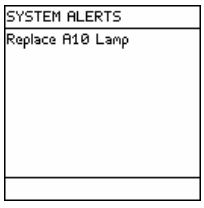
Main Display	Q-POD Display	LEDs	Main Display
			

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.

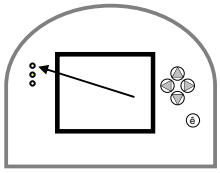
Main Display	Q-POD Display	LEDs	Main Display
			

Continued on next page

Section 6-2 Viewing and cancelling Alert messages, Continued

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
			

Section 6-3 Viewing and canceling Alarm messages

Alarm shown – what to do?

It is not recommended to use the Milli-Q System when an Alarm message is shown. See Section 6-5 or contact Millipore when an Alarm message is shown.

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.

Q-POD Display

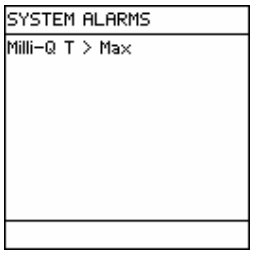
The Q-POD Display has a flashing symbol indicating an Alarm.

Continued on next page

Section 6-3 Viewing and cancelling Alarm messages, Continued

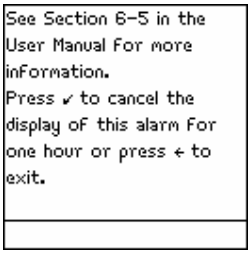
System Alarms

When an Alarm is shown, then it is listed under the System Alarms LCD. To access the System Alarms LCD, see Section 4-8 (View Operation).



Viewing an Alarm Message

Follow the steps below to view an Alarm message.

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

Continued on next page

Section 6-3 Viewing and cancelling Alarm messages, Continued

Cancelling an Alarm Stop message

The display of an Alarm Stop message (i.e. Q-Gard Pack out) can only be cancelled by fixing the cause of the Alarm. It is not possible to cancel the display of an Alarm Stop message.

Cancelling an Alarm message

This information is only relevant to Alarm messages that do not stop the Milli-Q System.

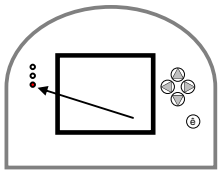
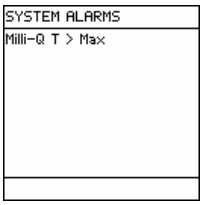
The display of an Alarm message can be cancelled by:

- Fixing the cause of the Alarm, or
- using the Keypad. This cancels the display of the Alarm message for 1 hour.

Note that you can not cancel the display of an Alarm that automatically stops the Milli-Q System.

Alarm – before cancelling

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

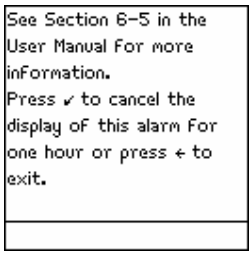
Main Display	Q-POD Display	LEDs	Main Display
			

Continued on next page

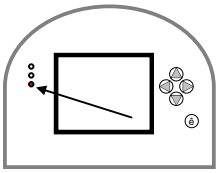
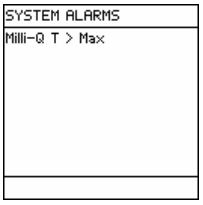
Section 6-3 Viewing and cancelling Alarm messages, Continued

Cancelling an Alarm message procedure

Follow the steps below to cancel an Alarm message.

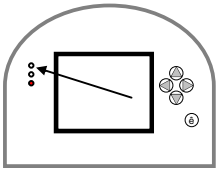
Step	Action	Result
1	The Alarm message is shown superimposed on the Main Display.	
2	Press 	
3	Press 	The display of the Alarm is cancelled for one hour. It appears after one hour unless the cause of the Alarm is fixed.

Alarm – after cancelling

Main Display	Q-POD Display	LEDs	Main Display
			

Alarm – fixed

Now suppose a Millipore Service Representative fixes the Alarm.

Main Display	Q-POD Display	LEDs	Main Display
			

Section 6-4 Summary of Alert messages

LCD Messages	Minor or Major Alert	1. What it means. 2. What to do.
CALIBRATION VISIT OVERDUE X DAYS	Major	1. The Milli-Q System has determined that a Calibration Visit is overdue. 2. Contact Millipore.
CHECK UV 185 NM LAMP	Major	1. The UV 185 nm Lamp is not turning on. 2. Contact Millipore.
EXAMINE INLET STRAINER	Major	1. The Milli-Q System has determined that it is time to clean the Inlet Strainer. 2. See Section 5-8.
MILLI-Q FEED CONDUCTIVITY > SP	Major	1. The measured feedwater conductivity is > Set Point. 2. Check the source of feedwater. Check its conductivity. See Section 4-5 for information about viewing the Feed conductivity. See Section 3-16 for Set Point information.
MILLI-Q INTER R < SP, PLEASE ORDER Q-GARD AND QUANTUM	Minor	1. The measured resistivity after the Q-Gard Pack is < Set Point. 2. The Q-Gard Pack and Quantum Cartridge are replaced together. Contact Millipore about ordering a replacement Q-Gard Pack and Quantum Cartridge.
NEXT CALIBRATION VISIT IN XX DAYS	Minor	1. The Milli-Q System is prompting you that a Calibration Visit should be scheduled. 2. Contact Millipore.
NEXT QUALIFICATION VISIT IN XX DAYS	Minor	1. The Milli-Q System is prompting you that a Qualification Visit should be scheduled. 2. Contact Millipore.
NEXT SERVICE VISIT IN XX DAYS	Minor	1. The Milli-Q System is prompting you that a Service Visit should be scheduled. 2. Contact Millipore.
QUALIFICATION VISIT OVERDUE XX DAYS	Major	1. The Milli-Q System has determined that a Qualification Visit is overdue. 2. Contact Millipore.
REPLACE A10 LAMP	Major	1. The Milli-Q System has determined that the A10 Lamp should be replaced. 2. See Section 5-6.
REPLACE A10 LAMP IN XX DAYS	Minor	1. The Milli-Q System is prompting you that the A10 Lamp should be replaced in XX Days. 2. Contact Millipore about ordering a replacement A10 Lamp.

Continued on next page

Section 6-4 Summary of Alert messages, Continued

LCD Messages	Minor or Major Alert	1. What it means. 2. What to do.
REPLACE POD PAK N° 1 (or 2 or 3)	Major	1. The Milli-Q System has determined that POD PAK N° 1(or 2 or 3) should be replaced. 2. See Section 5-4.
REPLACE POD PAK N° 1 IN XX DAYS	Minor	1. The Milli-Q System is prompting you that POD Pak N° 1(or 2 or 3) should be replaced in XX Days. 2. Contact Millipore about ordering a replacement POD Pak.
REPLACE Q-GARD PACK	Major	1. The Milli-Q System has determined that the Q-Gard Pack should be replaced. 2. See Section 5-2.
REPLACE Q-GARD PACK IN XX DAYS	Minor	1. The Milli-Q System is prompting you that the Q-Gard Pack should be replaced in XX Days. The Quantum Cartridge should be replaced at the same time. 2. Contact Millipore about ordering a replacement Q-Gard Pack and Quantum Cartridge.
REPLACE QUANTUM CARTRIDGE	Major	1. The Milli-Q System has determined that the Quantum Cartridge should be replaced. 2. See Section 5-3.
REPLACE QUANTUM CARTRIDGE IN XX DAYS	Minor	1. The Milli-Q System is prompting you that the Quantum Cartridge should be replaced in XX Days. 2. Contact Millipore about ordering a replacement Quantum Cartridge.
REPLACE UV 185 NM LAMP	Major	1. The Milli-Q System has determined that the UV 185 nm Lamp should be replaced. 2. See Section 5-5.
REPLACE UV 185 NM LAMP IN XX DAYS	Minor	1. The Milli-Q System is prompting you that the UV 185 nm Lamp should be replaced in XX Days. 2. Contact Millipore about ordering a replacement UV 185 nm Lamp.
SERVICE VISIT OVERDUE XX DAYS	Major	1. The Milli-Q System has determined that a Service Visit is overdue. 2. Contact Millipore.

Section 6-5 Summary of Alarm messages

LCD Messages	Alarm stops or does not stop Milli-Q System	1. What it means. 2. What to do.
A10 ERROR 0	Not Alarm Stop	1. A10 PCB E^2Prom defective. Unplug the power cord, and then plug it in to power on the Milli-Q System. Dispense water for several minutes. 2. If the message continues, then contact Millipore.
△ If you cancel any A10 ERROR (i.e. A10 ERROR 3) using the Keypad (see Section 6-3), go to STANDBY Mode and then back to READY Mode. Dispense water for at least 9 minutes. A new TOC Analysis is done during this time. If the new TOC value is satisfactory, then proceed to use the Milli-Q Water. Contact Millipore if the A10 ERROR returns after 1 hour.		
A10 ERROR 1	Not Alarm Stop	1. A10 PCB A/D converter defective. Unplug the power cord, and then plug it in to power on the Milli-Q System. Dispense water for several minutes. 2. If the message continues, then contact Millipore.
A10 ERROR 2	Not Alarm Stop	1. A10 Thermistor defective. Unplug the power cord, and then plug it in to power on the Milli-Q System. Dispense water for several minutes. 2. If the message continues, then contact Millipore.
A10 ERROR 3	Not Alarm Stop	1. Problem occurred with temperature compensation. Unplug the power cord, and then plug it in to power on the Milli-Q System. Dispense water for several minutes. 2. If the message continues, then contact Millipore.
A10 ERROR 4	Not Alarm Stop	1. The water entering the A10 is < 4°C. 2. If the problem can not be resolved, then contact Millipore.
A10 ERROR 5	Not Alarm Stop	1. The water entering the A10 is > 41°C. 2. If the problem can not be resolved, then contact Millipore.
A10 ERROR 6	Not Alarm Stop	1. The conductivity of the water entering the A10 is > 1.1 µS/cm. 2. If the problem can not be resolved, then contact Millipore.

Continued on next page

Section 6-5 Summary of Alarm messages, Continued

LCD Messages	Alarm stops or does not stop Milli-Q System	1. What it means. 2. What to do.
A10 ERROR 7	Not Alarm Stop	1. The temperature inside the A10 during its Analysis Mode exceeded 55°C. Unplug the power cord, and then plug it in to power on the Milli-Q System. Dispense water for several minutes. 2. If the message continues, then contact Millipore.
△	If you cancel any A10 ERROR (i.e. A10 ERROR 3) using the Keypad (see Section 6-3), go to STANDBY Mode and then back to READY Mode. Dispense water for at least 9 minutes. A new TOC Analysis is done during this time. If the new TOC value is satisfactory, then proceed to use the Milli-Q Water. Contact Millipore if the A10 ERROR returns after 1 hour.	
A10 ERROR 8	Not Alarm Stop	1. The TOC sample oxidation was not completed in the allotted time. 2. If the message continues, then contact Millipore.
A10 ERROR 9	Not Alarm Stop	1. 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 or replace the A10 Lamp.
CHECK A10 COM	Not Alarm Stop	1. The communication between the A10 TOC Monitor and the Milli-Q System PC Board is interrupted. The TOC value is no longer reported. 2. Contact Millipore. When this is fixed, dispense water for at least 9 minutes. A new TOC Analysis is done during this time. If the new TOC value is satisfactory, then proceed to use the Milli-Q Water.
FLOW AUTO STOP	Alarm Stop	There are two different reasons for this Alarm. These are listed below. 1. The Q-POD Dispenser is not available for dispensing. See Section 4-6. Or The Milli-Q System has automatically stopped dispensing water. The POD FLOW STOP timer has reached 0 minutes. 2. Push the Q-POD Dispenser Plunger all the way down and release. This resets the dispenser timer and makes the Q-POD Dispenser available for dispensing. See Section 3-18.4 for information about changing this timer. See Section 4-6 for more information.

Continued on next page

Section 6-5 Summary of Alarm messages, Continued

LCD Messages	Alarm stops or does not stop Milli-Q System	1. What it means. 2. What to do.
INCORRECT Q-GARD PACK	Alarm Stop	1. The Milli-Q System does not recognise the type of Q-Gard Pack being installed. 2. Contact Millipore.
INCORRECT QUANTUM CARTRIDGE	Alarm Stop	1. The Milli-Q System does not recognise the type of Quantum Cartridge being installed. 2. Contact Millipore.
△ If you cancel any Alarm related to temperature, resistivity or conductivity measurements (i.e. MILLI-Q FEED C < MIN) using the Keypad (see Section 6-3.6), go to STANDBY Mode and then back to READY Mode. These types of Alarm messages indicate a parameter is measured out of range. It is important to realise the displayed water quality values may be in error. It is your decision to use the Milli-Q Water in this case.		
MILLI-Q FEED C > MAX	Not Alarm Stop	1. The feedwater conductivity is out of measurement range. 2. Contact Millipore.
MILLI-Q FEED T < MIN	Not Alarm Stop	1. The feedwater temperature is out of measurement range. 2. Contact Millipore.
MILLI-Q FEED T > MAX	Not Alarm Stop	1. The feedwater temperature is out of measurement range. 2. Contact Millipore.
MILLI-Q INTER T < MIN	Not Alarm Stop	1. The Intermediate temperature is out of measurement range. 2. Contact Millipore.
△ If you cancel any Alarm related to temperature, resistivity or conductivity measurements (i.e. MILLI-Q FEED C > MAX) using the Keypad (see Section 6-3.6), go to STANDBY Mode and then back to READY Mode. These types of Alarm messages indicate a parameter is measured out of range. It is important to realise the displayed water quality values may be in error. It is your decision to use the Milli-Q Water in this case.		
MILLI-Q INTER T > MAX	Not Alarm Stop	1. The Intermediate temperature is out of measurement range. 2. Contact Millipore.
MILLI-Q INTERM R > MAX	Not Alarm Stop	1. The Intermediate resistivity is out of measurement range. 2. Contact Millipore.
MILLI-Q RES < SP, REPLACE Q-GARD AND QUANTUM	Not Alarm Stop	1. The Milli-Q Water resistivity is < set point. 2. Replace the Quantum Cartridge and the Q-Gard Pack.

Continued on next page

Section 6-5 Summary of Alarm messages, Continued

LCD Messages	Alarm stops or does not stop Milli-Q System	1. What it means. 2. What to do.
MILLI-Q RES > MAX	Not Alarm Stop	1. The Milli-Q Water resistivity is out of measurement range. 2. Contact Millipore.
MILLI-Q T < MIN	Not Alarm Stop	1. The Milli-Q Water temperature is out of measurement range. 2. Contact Millipore.
MILLI-Q T > MAX	Not Alarm Stop	1. The Milli-Q Water temperature is out of measurement range. 2. Contact Millipore.
MILLI-Q TOC > SP	Not Alarm Stop	1. The TOC is > set point. 2. Contact Millipore.
Q-GARD PACK OUT	Alarm Stop	1. The Q-Gard Pack is not installed correctly or it has been removed. The Milli-Q System stops operating. 2. Verify that the Q-Gard Pack is installed correctly. See Section 5-2.
QUANTUM CARTRIDGE OUT	Alarm Stop	1. The Quantum Cartridge is not installed correctly or it has been removed. The Milli-Q System stops operating. 2. Verify that the Quantum Cartridge is installed correctly. See Section 5-3.
TANK EMPTY	Alarm Stop	1. The Milli-Q System has detected an empty tank. 2. Refill the tank. Verify that the tank level sensor is plugged into the Milli-Q System Cabinet.
WATER DETECTED	Alarm Stop	1. A Water Sensor (an accessory connected to the Milli-Q System) has detected water. The Milli-Q System stops operating. 2. Clean up the spilled water. Make sure the source of the leak is fixed. Go to **STANDBY** Mode and then go to **READY** Mode.

Chapter 7 Ordering Information

Section 7-1 Catalogue Numbers for Consumables

CONSUMABLE ITEM	CATALOGUE NUMBER	COMMENTS
A10 Lamp	ZFA10UVM1	1/box
BioPak Ultrafilter	CDUFBI001	1/box
Millipak Express 40 Filter	MPGP04001	1/box (¼ inch GAZ female connection)
Q-Gard T1 Pack	QGARDT1X1	1/box, used for RO, Elix, Milli-RX™, Milli-RO®, distilled feedwaters
Q-Gard T2 Pack	QGARDT2X1	1/box, used for DI, Service DI feedwaters
Q-Gard T3 Pack	QGARDT3X1	1/box, used for DI, Service DI feedwaters with a Fouling Index > 5
Quantum TEX Cartridge	QTUM0TEX1	1/box, Millipak Express 40 Filter not included, used for applications needing trace levels of ions and trace levels of organic species.
Quantum TIX Cartridge	QTUM0TIX1	1/box, Millipak Express 40 Filter not included, used for applications needing trace levels of ions.
UV 185 nm Lamp	ZMQUVLP01	1/box (gloves included)

Section 7-2 Catalogue Numbers for Accessories

ACCESSORY	CATALOGUE NUMBER
Drop by Drop Device	FL0RDC001
Feedwater Conductivity Cell	ZFC0NDCL1
Footswitch	ZMQSFTS01
Pressure Regulator	ZFMQ000PR
Q-POD Dispenser for Milli-Q Water (2^{nd} or 3^{rd} Q-POD Dispenser)	ZMQSP0D01
Wall Mounting Bracket for Q-POD Dispenser	WMBQP0D01
Wall Mounting Bracket for Water System Cabinet	WMBSMT002
Water Sensor	ZFWATDET4

Section 7-3 Catalogue Numbers for Milli-Q Advantage A10 System

SYSTEM	CATALOGUE NUMBER
Milli-Q Advantage A10 System (without Q-POD)	Z00Q0V0T0
Q-POD Dispenser	ZMQSP0D01

A Milli-Q Advantage A10 Water Purification System is designed to use universal voltage (100-230 V ±10%).