MILLIPORE

| User Manual | Milli-Q® Reference System |

About this User Manual

Purpose

This User Manual is intended for use with a Milli-Q$^{®}$ Reference Water Purification System.
This User Manual is a guide for use during the installation, normal operation and maintenance of a Milli-Q Reference 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 Reference Water Purification System" is replaced by the term "System" for the remainder of this User Manual unless otherwise noted.

Document

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About Millipore$^{®}$

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Legal Information

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

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

Warranty
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Legal Information Continued

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Safety Information

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

Symbols

Symbol	Meaning
⚠ (!)	This <u>HAZARD</u> symbol is used to refer to instructions in this manual that need to be done safely and carefully.
△	This <u>ATTENTION</u> symbol is used to refer to instructions in this manual that need to be done carefully.
UV-C	This <u>UV RADIATION</u> 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 <u>DANGER</u> sticker is used to refer to a position on the Milli-Q System Cabinet or inside of it that could be hazardous.
⏚	This <u>ELECTRICAL GROUND </u>sticker is used to refer to a position on the Milli-Q System Cabinet or inside where an electrical ground connection is made.
⚡	This <u>ELECTRICAL DANGER</u> sticker is used to refer to a position on the Milli-Q System Cabinet or inside where an electrical danger could exist.

⚠ Do not remove the covers of the Milli-Q System at any time.
Electrical and mechanical components inside the Milli-Q System could pose a hazard.
A qualified Millipore Service Representative should perform any work that needs to be done while the Milli-Q System is opened.

Table of Contents

Product Information

Overview

Purpose This chapter contains topics related to the System.
Some of the more important topics in this chapter are:
- installation requirements,
- consumable information, and
- dimensions of various components of the System

Contents This chapter contains the following topics:

Cabinet

Overview
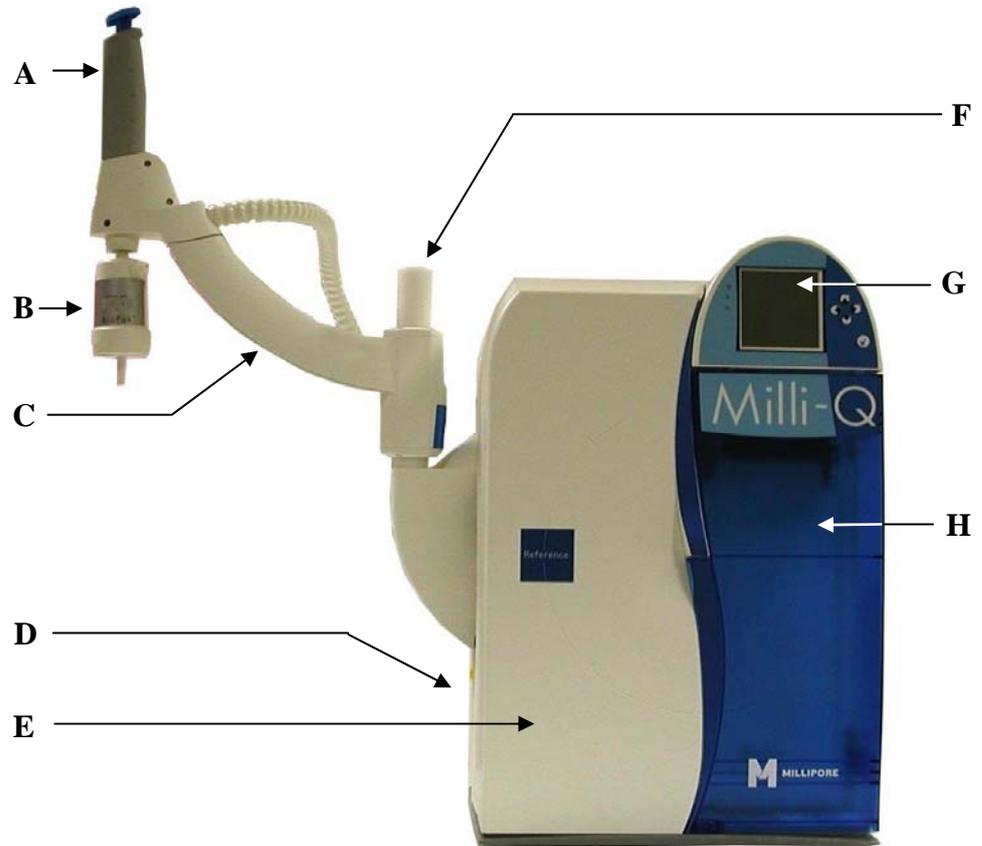
Item	Description/Name
A	Point Of Delivery (POD)
B	POD Pak
C	POD Arm
D	Connections for tubings, power cord, level sensor and other cables
E	Q-Gard® Pack
F	POD Mast
G	Main Display
H	Quantum® Cartridge

Main Display function

The Main Display is used to navigate the System software.

Cabinet, Continued
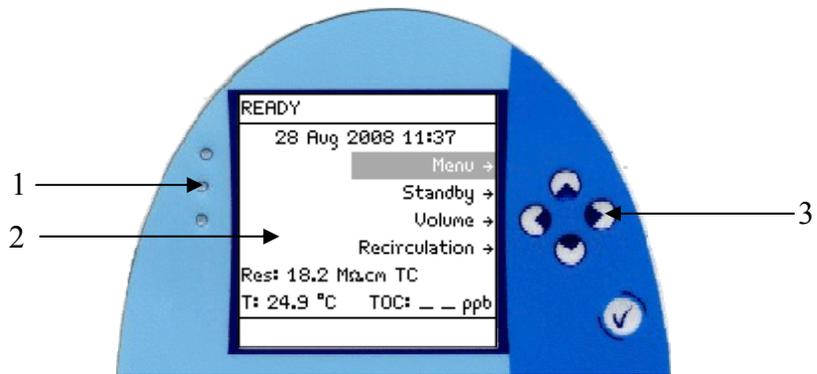
Details of the Main Display

Item	Description
1	LEDs
2	Main LCD
3	Main Keypad

Right

The use of the Right Keypad button is shown below. It is used to move to the next screen.
In this example, the system is changed from STANDBY Mode to READY Mode.

Diagram 1	Action	Diagram 2
STANDBY 15 Dec 2008 22:28 Menu → Ready →	Press ▶.	READY 15 Dec 2008 22:29 Menu → Standby → Volume → Recirculation → Res: _ _._ MΩcm TC T: _ _._ °C TOC: _ _

Left

The use of the Left Keypad button is shown below. It is used to move to the former screen.

Diagram 1	Action	Diagram 2
MQ RECIRC MODE Automatic Recirculation : 5 min/h Press ↑ and ↓ to adjust. Press ✓ to validate. Press ← to exit.	Press ◀.	SETUP Buzzer → MQ Recirc Mode → POD Flow Stop → Temp Comp Mode → Flow Calibration → UV 185 nm Activation → Network Settings →

Cabinet, Continued

Up

The use of the Up Keypad button is shown below. It is used to scroll up in a menu.

Diagram 1	Action	Diagram 2
READY 05 Dec 2008 09:40 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb	Press .	READY 05 Dec 2008 09:40 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb

Down

The use of the Down Keypad button is shown below. It is used to scroll down in a menu.

Diagram 1	Action	Diagram 2
READY 05 Dec 2008 09:40 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb	Press .	READY 05 Dec 2008 09:40 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb

Validate

The use of the Validate Keypad button is shown below. It is used to confirm a parameter modification.
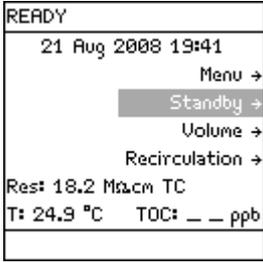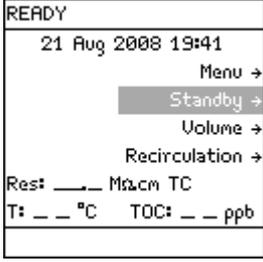
Diagram 1	Action	Diagram 2
MILLI-Q PRODUCT RES Milli-Q Product Resistivity Setpoint : 16.5 MΩcm TC Press ↑ and ↓ to adjust. Press ↲ to validate. Press ← to exit.	Press .	SET POINTS Strainer Frequency → Milli-Q Feed Cond → Milli-Q Inter Res → Milli-Q Product Res → Milli-Q Product TOC → Millipak → BioPak →

Cabinet, Continued

READY Mode – water quality values

The READY Mode screen display is explained below.

Diagram	Explanation
READY 21 Aug 2008 19:41 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩ.cm TC T: 24.9 °C TOC: _ _ ppb	In this example, the water dispensed from the POD Unit has: • a resistivity of 18.2 MΩ.cm, • is temperature compensated (TC) at 25°C, • a temperature of 24.9°C, and • the TOC value is: − not indicated with a Milli-Q Reference System, and − indicated with a Milli-Q Reference C+ System. *NOTE:* This Milli-Q Reference System does not have a built-in TOC indicator and therefore does not display a TOC value. Should you wish to have a display of the TOC value, please contact Millipore and inquire about availability of the TOC Indicator Upgrade Kit.
READY 21 Aug 2008 19:41 Menu → Standby → Volume → Recirculation → Res: _ _ . _ MΩ.cm TC T: _ _ °C TOC: _ _ ppb	In this example, there are no water quality measurements to display. The water quality is only displayed when it is actually measured during water delivery or recirculation.

LEDs

The LEDs are described below.

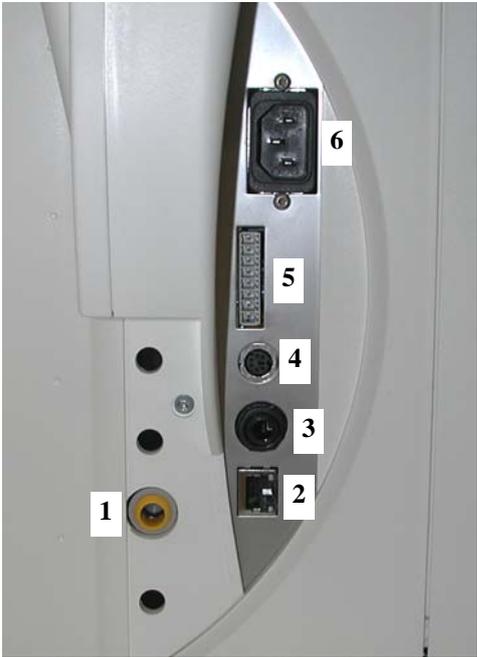| Item	Description
Green LED	System is operating within specifications.
Yellow LED	An Alert is present.
Red LED	An Alarm is present.

NOTE:

If an Alarm and an Alert are present at the same time, then only the red LED is lit.

The red and yellow LEDs are never lit at the same time.

Cabinet, Continued

Port and cables   The port and cable connections are explained below.

Item	Description	Item	Description
1	Feedwater port	4	Termination Plug connection (maximum 5 VDC)
2	Ethernet connection (maximum 5 VDC)	5	Accessories connection (maximum 24 VDC)
3	Level Sensor (maximum 5 VDC)	6	Power Entry connection (100-240 VAC)

Consumables

Flow diagram   The water flow through a System is shown here in a flow diagram.
The various consumables are described below.
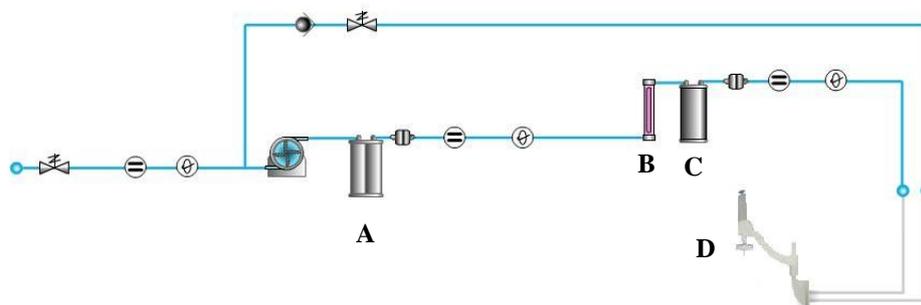
Item	Description
A	Q-Gard Pack
B	UV 185 nm Lamp
C	Quantum Cartridge
D	POD Pak

Q-Gard Pack   The Q-Gard Pack is used to remove ions and organic molecules from the feedwater.

Item	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 and has a Fouling Index ≤ 5.
Q-Gard T3 Pack	The Q-Gard T3 Pack is used whenever the feedwater comes from a source other than mentioned above and has a Fouling Index > 5.

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

Continued on next page

Consumables, Continued

Quantum Cartridge

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

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

POD Pak

The POD Pak is the final water purification device.
It is attached to the Point of Delivery outlet.
The POD Pak provides additional quality and insurance that trace contaminants related to specific applications are removed just before ultrapure water is delivered.

Specifications and requirements

Milli-Q® Water quality
The water delivered from a POD Unit has the following characteristics.

Parameter	Specification	Units
Resistivity	18.2	MΩ.cm @25°C
TOC	≤ 5	ppb
Particulates > 0.22 μm**	< 1	Particulates/mL
Bacteria**	< 0.1	cfu/mL
Pyrogens*	< 0.001	Eu/mL
RNases*	< 0.01	ng/mL
DNases*	< 4	pg/μL
Flow Rate**	0.05 – 2	L/min

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

NOTE:

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

Weight
The various weights are found in the table below.

Item	Operating Weight	Dry Weight	Shipping Weight
Milli-Q Reference System	19.5 kg	14.5 kg	19 kg

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

Parameter	Value
Voltage	100-230 VAC ±10%
Frequency	50-60 Hz ±10%
Main Fuse	3.15 Amp Fast Acting; 5 mm x 20 mm; 250 V safety voltage. The fuse should be serviced by a qualified Millipore Service Representative.
Power Used	125 VA
Power Cord Length	2.5 metres
Electrical Ground	Earth Grounded
Power Cord use	The System is powered on and off by removing the power cord from the wall outlet. The power cord should be plugged into a wall outlet that is accessible.

Specifications and requirements, Continued

Dimensions

360 mm

458 mm

763 mm

500 mm

416 mm

422 mm

552 mm

783 mm
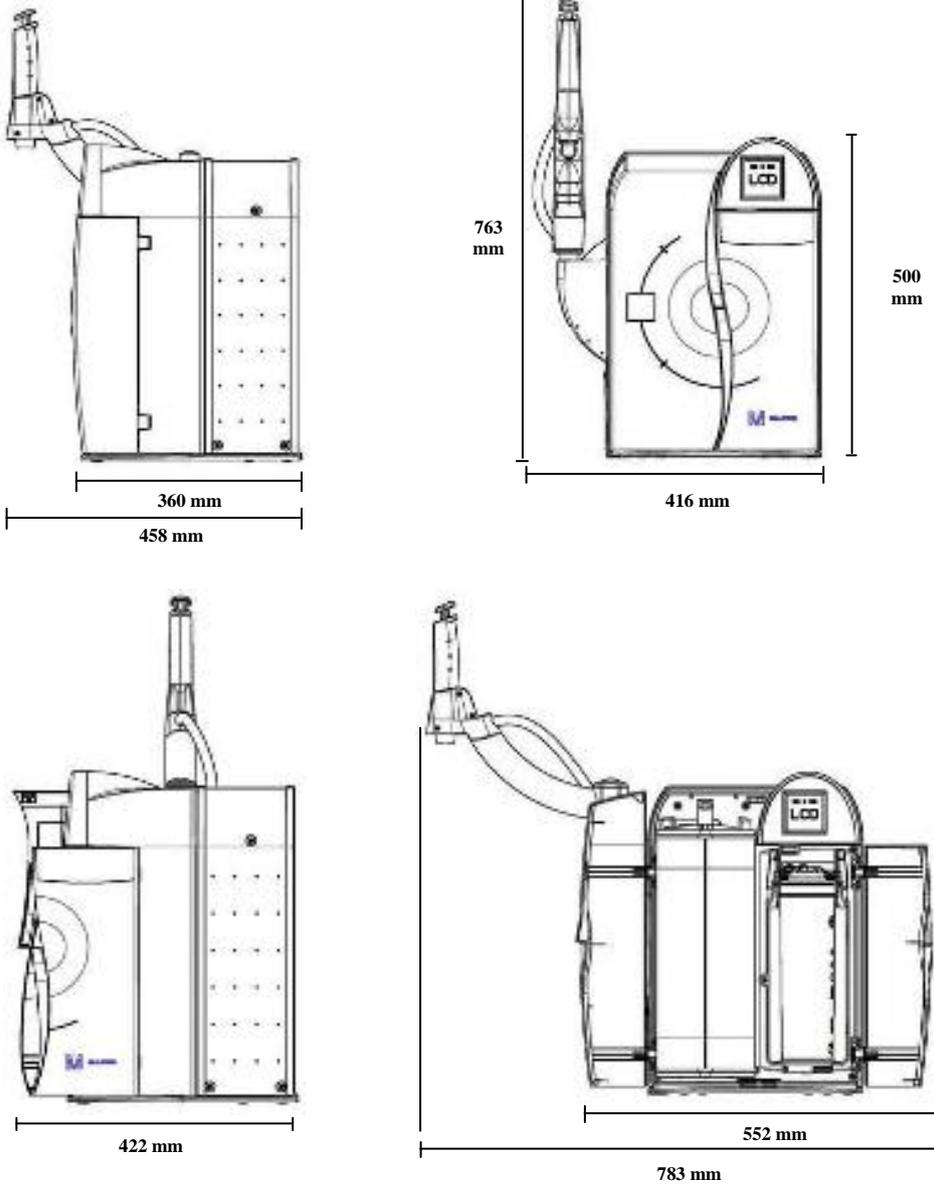
Materials of construction   Please contact Millipore for a list of the Materials of Construction.

Specifications and requirements, Continued

Feedwater   The Feedwater requirements are listed here.

Parameter	Value
Type	Pre-treated water including one or several of the following technologies: • RO • RO + EDI • RO + DI • Distillation, and • DI.
Conductivity	< 100 μS/cm @ 25°C
Pressure	0 bar < P < 0.3 bar
Temperature	5°C < T < 35°C
Maximum TOC	< 50 ppb
Fouling Index	< 5
pH	4 < pH < 10

Environmental   The Environmental requirements are listed here.

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

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

Consumables   The minimum consumables required for installation are listed here.
Note that these items are not shipped with the System and must be ordered separately:
• Q-Gard Pack,
• Quantum Cartridge, and
• POD Pak.

Installation

Overview

Purpose   This chapter explains how to install the System.

Contents   This chapter contains the following topics:

Topic	See Page
Alarms generated during installation	20
POD Unit, tubing and power cord	21
Installing the Q-Gard Pack	24
Rinsing the System	27
Installing a POD Pak	29
Registering UV Lamp timer	31
Calibrating the Flowrate	33

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

Step	Action
1	Put POD Arm onto POD Mast
2	Put Point Of Delivery onto POD Arm
3	Install feedwater tubing, termination plug and power cord
4	Power on the System, check date and time
5	Install, flush and rinse the Q-Gard Pack and the Quantum Cartridge
6	Install and Register the POD Pak
7	Register the UV Lamp timer
8	Calibrate the Product Water flowrate

Alarms generated during installation

Overview During the installation of a System, certain Alarm messages are generated. This occurs because:
- there is air in the:
  - tubings,
  - Q-Gard Pack, and
  - Quantum Cartridge.
- the Q-Gard Pack is not installed, and
- the Quantum Cartridge is not installed.

These alarms are explained here. The ways to cancel them are explained also. For more information about Alarm messages, see the chapter titled 'Alarms'.

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

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

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

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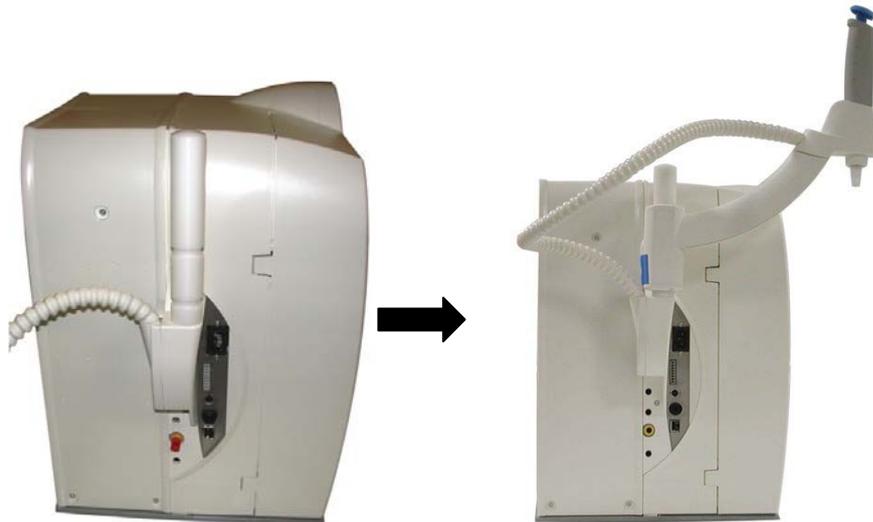
POD Unit, tubing and power cord

Separate POD Arm and Point Of Delivery

Separate the POD Arm and the Point Of Delivery by cutting and removing the tape that holds them together.

POD Arm

Place the POD and POD Arm onto the POD Mast as shown below.

Feedwater tubing

The Feedwater tubing is connected to either a:
- Reservoir, or
- Loop (pipe end)

Reservoir

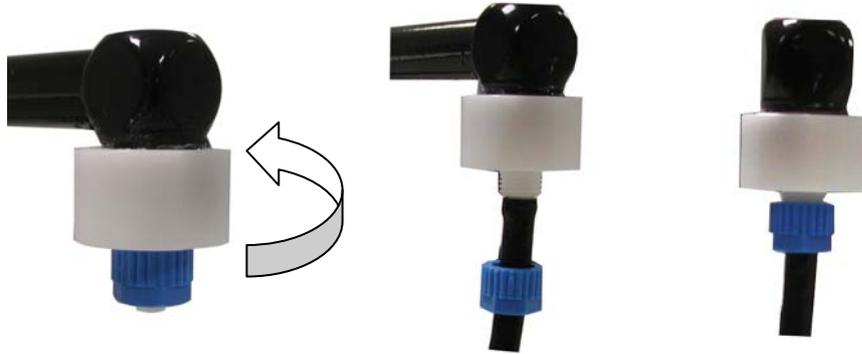Connect the feedwater tubing according to the specifications supplied with the Reservoir.

Continued on next page

POD Unit, tubing and power cord, Continued

Loop

- Install the Inlet Strainer as shown here.
- Connect one end of the feedwater tubing to the Inlet Strainer.

NOTE:

- A pressure regulator is normally required after the Inlet Strainer.

Connections to System Cabinet

Follow the steps below.

Step	Action	Diagram
1	Plug one end of the feedwater tubing to the Cabinet. Open the valve on the other end of the feedwater tubing to allow water flow later.	
2	Plug in the Termination Plug. ⚠ It must be plugged in before the power cord.	
3	Plug in the power cord. The Main Display goes through a series of start up screens.	
4	Wait for the Main Display to show a STANDBY Mode screen. This may take up to a few minutes.	STANDBY 20 Aug 2008 22:48 Menu → Ready →

POD Unit, tubing and power cord, Continued

Alarm messages

Because the System is starting without a Q-Gard Pack or a Quantum Cartridge installed, there are alarm messages displayed.
These alarms are:
- Q-GARD PACK OUT, and
- QUANTUM CARTRIDGE OUT.

NOTE:
The TANK EMPTY Alarm message is shown if the System is configured to have a Level Sensor.

Cancel Alarms

When an Alarm message is displayed, follow the instructions on the screen to cancel the text display of the Alarm.

Check the date

When the Alarm messages are cancelled, check that the displayed date is correct.
If necessary, go to the Manager Menu Software and correct the date and time.
See the Software Map in the beginning of the Software Chapter for more information.

⚠ Do not install a Q-Gard Pack or a Quantum Cartridge until the displayed date is correct.

Installing the Q-Gard Pack

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

Step	Action	Diagram
1	Start in STANDBY Mode. ***NOTE:*** The Q-GARD PACK OUT Alarm message is not shown at this time. By following the instructions earlier in this manual, the alarm was cancelled.	
2	Open the left door of the System Cabinet. Remove the 2 protective caps located on the ports inside.	
3	Remove the covers on the 2 ports of the Q-Gard Pack. Make sure the rubber O-rings are firmly in place. Wet the O-rings with water.	
4	Push the top of the Q-Gard Pack into the ports on the System.	
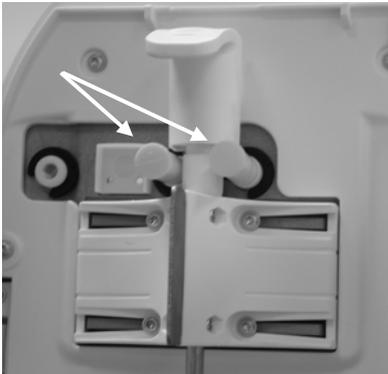
Installing the Q-Gard Pack, Continued

Procedure
(continued)

Step	Action	Diagram
5	Push the bottom of the Q-Gard Pack inwards.	
6	Push the pack locking handle down. Close the left door.	
7	One minute later, the Main LCD shows that a new Q-Gard Pack is installed.	INSTALL Q-GARD A new Q-Gard T1 has been installed. Catalogue N° : QGARDT1X1 Lot N° : F6DN27329. ←
8	Press ◖.	STANDBY 20 Aug 2008 22:48 Menu → Ready →

Installing the Quantum Cartridge

Procedure   Follow the steps below to install a new Quantum Cartridge.

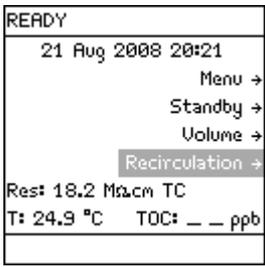| Step	Action	Diagram
1	Open the right door of the System Cabinet. Remove the 2 protective caps located on the ports inside.	
2	Remove the covers on the 2 ports of the Quantum Cartridge. Wet the O-rings with water.	
3	Install the Quantum Cartridge until it is fully seated. Close the right door.	
4	One minute later, the Main LCD shows that a new Quantum Cartridge is installed.	INSTALL QUANTUM A new Quantum has been installed. Catalogue N° : QTUM0TEX1 Lot N° : F6DN27325. ←
5	Press ◖.	STANDBY 20 Aug 2008 22:48 Menu → Ready →
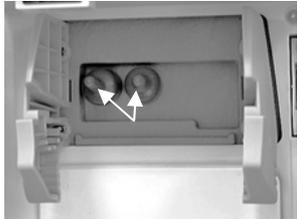
Rinsing the System

Procedure   Follow the steps below to rinse the System.

Step	Action	Diagram
1	Locate the clear tubing and the barbed fitting from the System Accessories Bag. Screw the barbed fitting onto the POD Unit. Push one end of the clear tubing onto the end of the barbed fitting. Place the other end of the clear tubing into a sink. *NOTE:* Do not use any white tape on the threads of the barbed fitting. An O-ring located inside the POD Dispenser ensures water tightness.	
2	Place the System into READY Mode.	READY 21 Aug 2008 20:21 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
3	Push the POD Plunger all the way down and then release it. In a few minutes, water should come out of the POD Unit.	READY 21 Aug 2008 20:21 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
4	Dispense water for at least 10 minutes.	READY 21 Aug 2008 20:21 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
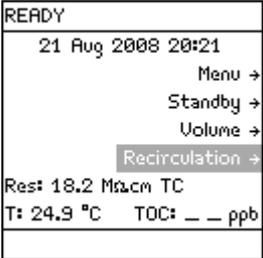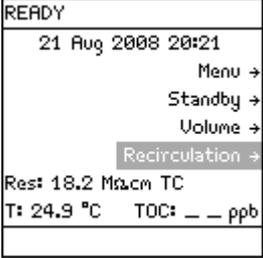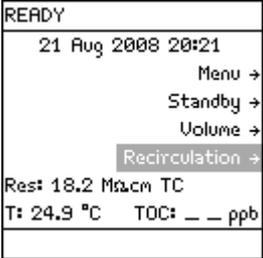
Rinsing the System, Continued

Procedure
(continued)

Step	Action	Diagram
5	Push the POD Plunger all the way down and then release it to stop dispensing water. Leave the System in READY Mode.	READY 21 Aug 2008 20:21 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb

Installing a POD Pak

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

Placing and flushing   Follow the instructions delivered with the POD Pak.

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

Step	Action	Diagram
1	Start in STANDBY Mode.	STANDBY 21 Aug 2008 20:41 Menu → Ready →
2	Select Menu. Press .	STANDBY MENU Maintenance → Sanitise/Clean → Language → Manager Menu →
3	Select Maintenance. Press .	MAINTENANCE Clean Strainer → Install Q-Gard → Install UV 185 Lamp → Install Quantum → Install POD Pak →
4	Scroll down to Install POD Pak. Select it.	MAINTENANCE Clean Strainer → Install Q-Gard → Install UV 185 Lamp → Install Quantum → Install POD Pak →

Installing a POD Pak, Continued

Registering
(continued)

Step	Action	Diagram
5	Press ⬤.	INSTALL POD PAK
6	Press ⬤.	INSTALL POD PAK Select the POD Pak that you wish to install. Press → to continue or ← to exit.
7	In this example, you choose Millipak. Press ⬤.	INSTALL POD PAK Millipak → BioPak → EDS-Pak → Other Pod Pak A → Other Pod Pak B → No Filter →
8	Press ⬤.	INSTALL POD PAK Follow the instructions delivered with the new POD Pak and press ✓. ←
9	Press ✓.	INSTALL POD PAK POD Pak installation is registered. Next maintenance in 182 days. Press ← to exit.
10	Press 3 times on ◀.	STANDBY 21 Aug 2008 20:44 Menu → Ready →

Registering UV Lamp timer

Introduction   The timer used for the UV 185 nm Lamp must be reset when the System is installed.
If this is not done, then the message indicating that a Lamp replacement is needed is shown too early.

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

Procedure   This procedure shows how to reset the timer used for the UV 185 nm Lamp.

Step	Action	Diagram
1	Place the System in STANDBY Mode.	STANDBY 21 Aug 2008 20:44 Menu → Ready →
2	Select Menu. Press ⮕.	STANDBY MENU Maintenance → Sanitise/Clean → Language → Manager Menu →
3	Select Maintenance. Press ⮕.	MAINTENANCE Clean Strainer → Install Q-Gard → Install UV 185 Lamp → Install Quantum → Install POD Pak →
4	Select Install UV 185 nm Lamp. Press ⮕.	INSTALL UV 185 LAMP
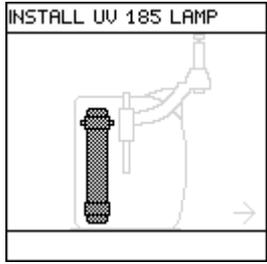
Registering UV Lamp timer, Continued

Procedure
(continued)

Step	Action	Diagram
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 the UV 185 nm Lamp installation by pressing ✓. Press ← to exit.
7	Press ✓.	INSTALL UV 185 LAMP UV 185 nm Lamp installation is registered. Next maintenance in 730 days. Press ← to exit.
8	Press 3 times on ⬤.	STANDBY 21 Aug 2008 21:48 Menu → Ready →

Calibrating the Flowrate

Introduction The Milli-Q Water flowrate should be calibrated when the System is installed. A 1 Litre graduated cylinder is needed.

Procedure Follow the steps below to perform a Flow Calibration.
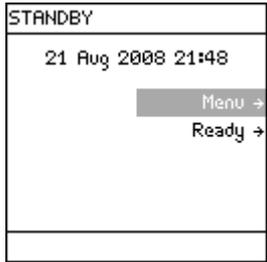
Step	Action	Diagram
1	Go to STANDBY Mode.	STANDBY 21 Aug 2008 21:48 Menu → Ready →
2	Select Menu. Press ⬤.	STANDBY MENU Maintenance → Sanitise/Clean → Language → Manager Menu →
3	Enter the Manager Menu. See the [Software Chapter](#) to learn how to enter the Manager Menu.	MANAGER MENU Change ID and Password → Date and Time → Set Points → Units → Setup → User Parameters → History →
4	Select Setup. Press ⬤.	SETUP Install Date → Buzzer → MQ Recirc Mode → POD Flow Stop → Temp Comp Mode → Flow Calibration → UV 185 nm Activation →
5	Select Flow Calibration. Press ⬤.	FLOW CALIBRATION Place a 1.0L graduated cylinder under the POD outlet. Press ✓ to start calibration, press ← to cancel.
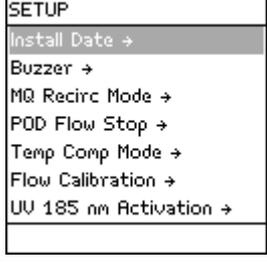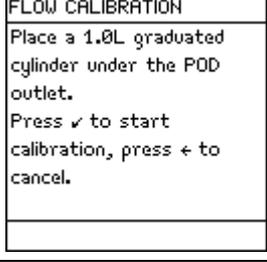
Calibrating the Flowrate, Continued

Procedure
(continued)

Step	Action	Diagram
6	Place a 1 L Graduated Cylinder under the POD Unit. Press ✔.	FLOW CALIBRATION Press ✔ or press 📋 on the Q-POD keypad if you have installed one to start water delivery. After the water dispensing is complete, measure the collected volume.
7	Press ✔.	FLOW CALIBRATION The system is now delivering water. Task Completion: XX %
8	Water dispenses automatically from the POD Unit. Wait until it stops dispensing water.	FLOW CALIBRATION Volume : 900 mL Use ↑ and ↓ keys to register the value of the collected volume. Press ✔ to confirm and exit.
9	Measure the amount of water (in ml) that was dispensed. Suppose 870 ml was collected. Input this using the Keypad.	FLOW CALIBRATION Volume : 870 mL Use ↑ and ↓ keys to register the value of the collected volume. Press ✔ to confirm and exit.
10	Perform again the flow calibration to improve accuracy. Press ✔.	SETUP Install Date → Buzzer → MQ Recirc Mode → POD Flow Stop → Temp Comp Mode → Flow Calibration → UV 185 nm Activation →
11	Press 3 times on ◖.	STANDBY 21 Aug 2008 21:58 Menu → Ready →
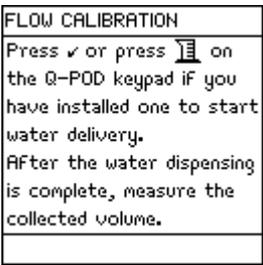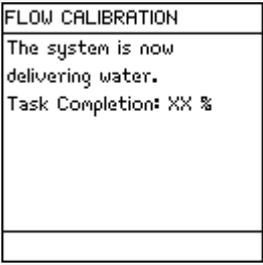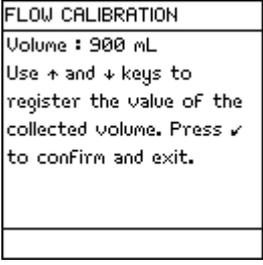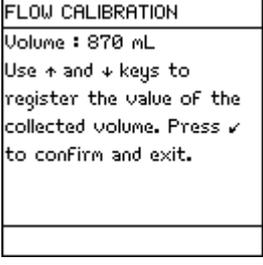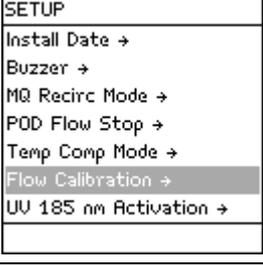
Software

Overview

Introduction   The purpose of this chapter is to explain the various software used in the System.

Contents   This chapter contains the following topics:

Topic	See Page
Software Map	36
Standby Mode	37
Manager Menu	40
Ready Mode	43

READY MENU
- Water Quality →
- View Operation →
- Consumables Status →
- Call Millipore →
- Service Tracking →
- Information →
- TOC Curve Check →

Water Quality:
- MQ Feed Quality
- Tank Level = xxx %
- MQ Prod Quality

View Operation:
- System Operation
- System Alerts
- System Alarms
- System Measures

Consumables Status:
- Q-Gard
- UV 185 nm Lamp
- Quantum
- POD Pak

Call Millipore:
- Application Specialist
- Service Engineer
- Tech Service
- Other

Service Tracking:
- Installation
- Repair
- Service Contract
- Contract Expires
- Next Service
- Next Calibration
- Next Qualification

Information:
- Flow Schematic
- Version
- System Information

STANDBY MENU
- Maintenance →
- Sanitise/Clean →
- Language →
- Manager Menu →

Maintenance:
- Clean Strainer
- Install Q-Gard
- Install UV 185 Lamp
- Install Quantum
- Install POD Pak

Install POD Pak:
- Millipak
- BioPak
- EDS-Pak
- Other POD Pak A
- Other POD Pak B
- No Filter

Sanitise/Clean:
- System Cleaning

Language:
- Chinese/English/French/German/Italian/Japanese/Portuguese/Spanish

LOGIN & PASSWORD
Login‡
Password‡
abcdefghijklmnop
qrstuvwxyz012345
6789--@.
Press ✓ to exit.

MANAGER MENU
- Change ID and Password →
- Date and Time →
- Set Points →
- Units →
- Setup →
- User Parameters →
- History →

Set Points:
- Strainer Frequency
- Milli-Q Feed Cond
- Milli-Q Inter Res
- Milli-Q Product Res
- Milli-Q Product TOC
- Millipak
- BioPak
- EDS-Pak
- POD Pak A
- POD Pak B

Units:
- Milli-Q Product → MΩ.cm ; µS/cm
- Tank Volume → %; L; US Gal

Setup:
- Install Date
- Buzzer → No; Alarm; Alarm & Alert
- MQ Recirc Mode
- POD Flow Stop → Timer Activation; Adjust Timer
- Temp Comp Mode
- Flow Calibration → TC1; TC2; NTC
- UV 185 nm Activation → Yes; No
- Network Settings → IP Address; Subnet Mask; Default Gateway; DHCP
- TOC Curve Check Time

History:
- History Summary
- Print Milli-Q History
- Print Options

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

Enter the Manager Menu

LOGIN & PASSWORD
Login‡   user
Password‡ ***
abcdefghijklmnop
qrstuvwxyz012345
6789--@.
Press ✓ to exit.

1. Choose the letter by moving the cursor with
2. Enter the letter with
3. Put the cursor here
4. Valid login and password with

Login: USER
Password: PASS

Standby Mode

General information

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

Display

```
STANDBY
      06 Jul 2007 17:06
                  Menu →
                 Ready →
```

READY Mode from STANDBY Mode

Diagram 1	Action	Diagram 2
STANDBY 15 Dec 2008 21:23 Menu → Ready →	Press ◗.	READY 15 Dec 2008 21:24 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb

Description of Standby Menu

Maintenance   The Maintenance Menu is described below.

Diagram 1	Diagram 2
STANDBY MENU Maintenance → Sanitise/Clean → Language → Manager Menu →	MAINTENANCE Clean Strainer → Install Q-Gard → Install UV 185 Lamp → Install Quantum → Install POD Pak →

Item	Description
Clean Strainer	Used to reset Alert message 'EXAMINE INLET STRAINER'.
Install Q-Gard	Used to see general information about the Q-Gard Pack exchange.
Install UV 185 Lamp	Used to reset Alert message 'REPLACE 185 NM LAMP'.
Install Quantum	Used to see general information about the Quantum Cartridge exchange.
Install POD Pak	Used to reset Alert message 'REPLACE POD PAK'

Sanitise/clean

Diagram 1	Diagram 2
STANDBY MENU Maintenance → Sanitise/Clean → Language → Manager Menu →	SANITISE / CLEAN System Cleaning →

Item	Description
System Cleaning	Contact Millipore for more information.

Description of Standby Menu, Continued

Language

Diagram 1	Diagram 2
STANDBY MENU Maintenance → Sanitise/Clean → Language → Manager Menu →	LANGUAGE Chinese English ✓ French German Italian Japanese Portuguese

Item	Description
Language	Change the displayed language.

Manager Menu

Description

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

Change ID and Password

Diagram 1	Diagram 2
MANAGER MENU Change ID and Password → Date and Time → Set Points → Units → Setup → User Parameters → History →	CHANGE ID & PASSWORD Login: Password: a b c d e f g h i j k l m n o p q r s t u v w x y z 0 1 2 3 4 5 6 7 8 9 - _ @ . ✓ A≠a ⟸ ⊢⟶ Press ✓ to exit.

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

Date and Time

Diagram 1	Diagram 2
MANAGER MENU Change ID and Password → Date and Time → Set Points → Units → Setup → User Parameters → History →	DATE AND TIME 29 Sep 2006 Press ↑ and ↓ to adjust. Press → and ← to navigate. Press ✓ to confirm and exit.

Item	Description
DATE AND TIME	Adjust your local date and time.

Continued on next page

Description, Continued

Set Points

Diagram 1	Diagram 2
MANAGER MENU Change ID and Password → Date and Time → Set Points → Units → Setup → User Parameters → History →	SET POINTS Strainer Frequency → Milli-Q Feed Cond → Milli-Q Inter Res → Milli-Q Product Res → Milli-Q Product TOC → Millipak → BioPak → SET POINTS Milli-Q Product Res → Milli-Q Product TOC → Millipak → BioPak → EDS-Pak → Pod Pak A → Pod Pak B →

Item	Description
Strainer Frequency	Change set points for controlling the frequency of the message EXAMINE INLET STRAINER.
Milli-Q Feed Cond	Change set point controlling the message MILLI-Q FEED CONDUCTIVITY > SP.
Milli-Q Inter Res	Change set point controlling the message MILLI-Q INTER R < SP, PLEASE ORDER Q-GARD AND QUANTUM.
Milli-Q Product Res	Change set point controlling the message MILLI-Q RES < SP, REPLACE Q-GARD AND QUANTUM.
Milli-Q Product TOC	Change set point controlling the message MILLI-Q TOC > SP.
Millipak	Change set point controlling the message REPLACE POD PAK IN XX DAYS (where $1 \leq XX \leq 15$).
BioPak, EDS-Pak, POD Pak	See above.

Units

Diagram 1	Diagram 2
MANAGER MENU Change ID and Password → Date and Time → Set Points → Units → Setup → User Parameters → History →	UNITS Milli-Q Product → Tank Volume →

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

Description, Continued

Setup

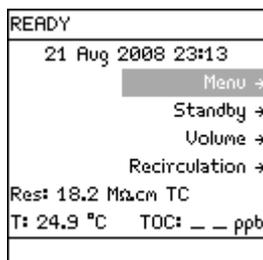| Diagram 1	Diagram 2
MANAGER MENU Change ID and Password → Date and Time → Set Points → Units → Setup → User Parameters → History →	SETUP Install Date → Buzzer → MQ Recirc Mode → POD Flow Stop → Temp Comp Mode → Flow Calibration → UV 185 nm Activation → SETUP POD Flow Stop → Temp Comp Mode → Flow Calibration → UV 185 nm Activation → Network Settings →

Item	Description
Install Date	Change the installation date.
Buzzer	Change the trigger for the Buzzer.
MQ Recirc Mode	Change the amount of time that the System automatically recirculates every hour in READY Mode.
POD Flow Stop	Change the amount of time that the POD Unit dispenses continuously before it automatically stops.
Temp Comp	Change the Temperature Compensation Mode.
Flow Calibration	Used for performing a flow calibration.
UV 185 nm Activation	Used to activate or deactivate the UV 185 nm Lamp.
Network Settings	• Change Network settings. • Contact Millipore for more information.

Ready Mode

General information

Purpose

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

Display

```
READY
   21 Aug 2008 23:13
                Menu →
             Standby →
              Volume →
          Recirculation →
Res: 18.2 MΩ.cm TC
T: 24.9 °C    TOC: _ _ ppb
```

STANDBY Mode from READY Mode

Display	Action	Result
READY 15 Dec 2008 21:35 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩ.cm TC T: 24.9 °C TOC: _ _ ppb	Press ◗.	STANDBY 15 Dec 2008 21:36 Menu → Ready →

READY Mode – water quality values

The READY Mode screen display is explained below.

READY Mode screen	Explanation
READY 21 Aug 2008 23:13 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩ.cm TC T: 24.9 °C TOC: _ _ ppb	In this example, the water being dispensed has: • a resistivity of 18.2 MΩ.cm temperature compensated (TC) to 25°C, • a temperature of 24.9°C, and • the TOC is not measured.
READY 22 Aug 2008 20:09 Menu → Standby → Volume → Recirculation → Res: _ _._ MΩ.cm TC T: _ _ °C TOC: _ _ ppb	In this example, the System is powered on but is not dispensing or recirculating water. As a result, there are no water quality measurements to display. *NOTE:* A Milli-Q Reference System can be upgraded to have TOC measurements. Contact Millipore for more information.

Description of Ready Menu

Water Quality

Diagram 1	Diagram 2
READY MENU Water Quality → View Operation → Consumables Status → Call Millipore → Service Tracking → Information → TOC Curve Check →	WATER QUALITY MQ Feed Quality → Tank Level : 80.0 % MQ Prod Quality →

Item	Description
MQ Feed Quality	View the feedwater quality (accessory)
Tank Level	View the level of water in the Reservoir.
MQ Prod Quality	View the quality of water obtained from the POD Unit.

View Operation

Diagram 1	Diagram 2
READY MENU Water Quality → View Operation → Consumables Status → Call Millipore → Service Tracking → Information → TOC Curve Check →	VIEW OPERATION System Operation → System Alerts → System Alarms → System Measures →

Item	Description
System Operation	View operating parameters: • operating mode, • status of pump, and • status of UV Lamp.
System Alerts	View a list of active Alert messages. See the Alert Chapter for more information.
System Alarms	View a list of active Alarm messages. See the Alarm Chapter for more information.
System Measures	View: • accumulated production time, • pump electrical data, • UV Lamp electrical data, and • Intermediate Resistivity and temperature measurements.

Consumables Status

Diagram 1	Diagram 2
READY MENU Water Quality → View Operation → Consumables Status → Call Millipore → Service Tracking → Information → TOC Curve Check →	CONSUMABLES STATUS Q-Gard → UV 185 nm Lamp → Quantum → POD Pak →

Consumable	Description
Q-Gard	View information about various consumable items.
UV 185 nm Lamp	Information may include:
Quantum	• installation date,
POD Pak	• lifetime remaining,
	• volume processed,
	• catalogue number, and
	• serial number
	NOTE:
	The five items listed above may not be shown in each Consumable Status screen.

Call Millipore

Diagram 1	Diagram 2
READY MENU Water Quality → View Operation → Consumables Status → Call Millipore → Service Tracking → Information → TOC Curve Check →	CALL MILLIPORE Application Specialist → Service Engineer → Tech Service → Other →

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

Description of Ready Menu, Continued

Service Tracking

Diagram 1	Diagram 2
READY MENU Water Quality → View Operation → Consumables Status → Call Millipore → Service Tracking → Information → TOC Curve Check →	SERVICE TRACKING Installation → Repair → Service Contract → Contract Expires → Next Service → Next Calibration → Next Qualification →

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

Information

Diagram 1	Diagram 2
READY MENU Water Quality → View Operation → Consumables Status → Call Millipore → Service Tracking → Information → TOC Curve Check →	INFORMATION Flow Schematic → Version → System Information →

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

Using the Milli-Q System

Overview

Introduction   The purpose of this chapter is to explain:
- various ways that water can be dispensed from the System, and
- how to view information, operating parameters and other things about the System.

Contents   This chapter contains the following topics:

Topic	See Page
Dispensing water	48
Viewing water quality	51
Viewing Operation	52
Viewing Consumable Status	54
Calling Millipore	55
Viewing Information	56

Dispensing water

Optimise Water Quality

Product Water can be recirculated within the System before dispensing it. This helps optimised water quality.
Follow the steps below to do this.

Step	Action	Diagram
1	Start in READY Mode. *NOTE:* The Resistivity and temperature values may or may not be shown at this time.	READY 22 Aug 2008 20:49 Menu → Standby → Volume → Recirculation → Res: ___.__ MΩcm TC T: _ _ °C TOC: _ _ ppb
2	• Select Recirculation. • Press ▶.	RECIRCULATION Res : 14.8 MΩcm TC Temp : 24.9 °C TOC : ___.__ ppb Press ← to exit.
3	Wait until the Product water quality is optimised.	RECIRCULATION Res : 18.2 MΩcm TC Temp : 24.9 °C TOC : ___.__ ppb Press ← to exit.
4	Press ◀.	READY 22 Aug 2008 20:58 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
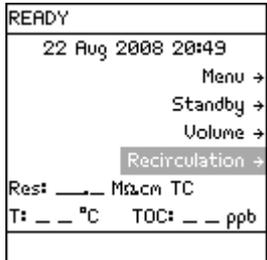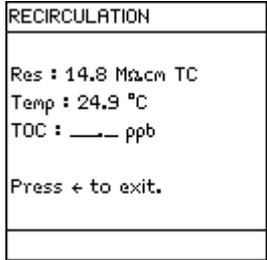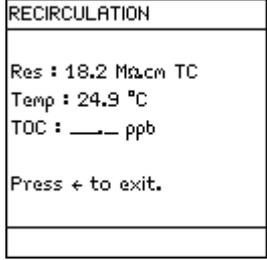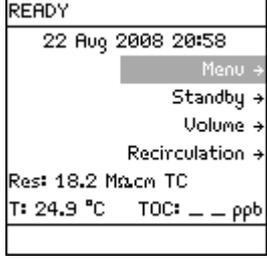
Dispensing water, Continued

Using the POD Plunger

To dispense water, press down on the POD Unit plunger while in READY Mode.
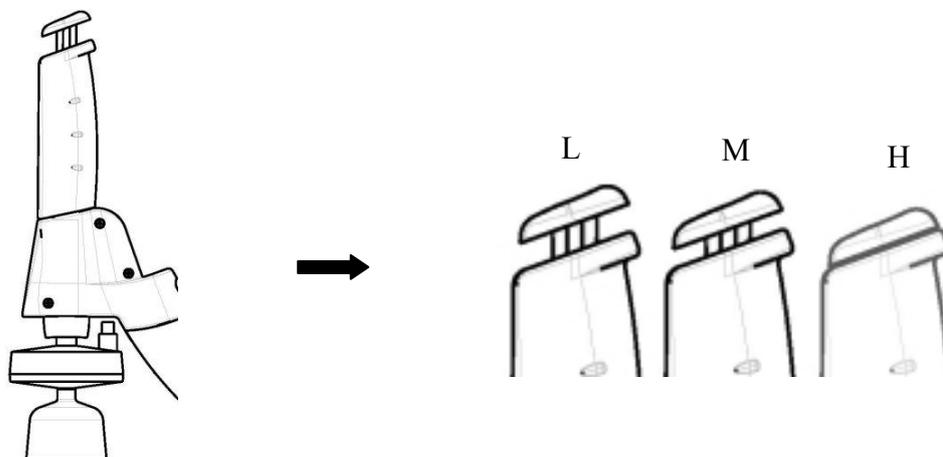
Position	Water flow
L	Low Flow (push slightly)
M	Medium Flow (push slightly)
H	High Flow (push down and hold, release when done)
H	Continuous high flow (push down and release; push down again to stop).

Volumetric dispensing

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

Step	Action	Diagram
1	Make sure the System is in READY Mode.	READY 15 Dec 2008 22:06 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
2	Select Volume. Press ◗.	VOLUME SETUP Volume : 1.00 L Press ↑ and ↓ to adjust. Press ✓ to deliver water. Press ← to exit.

Dispensing water, Continued

Volumetric dispensing (continued)

Step	Action	Diagram
3	Select the desired volume of water to be delivered. Press ✔.	WATER DELIVERY Volume : 1.00 L Res : 18.2 MΩcm Temp : 24.9 °C TOC : _ _ ppb Press ← to stop and exit.
4	When the volumetric dispensing is finished, the System recirculates water for 3 minutes.	READY 15 Dec 2008 22:07 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
5	The System stops recirculating water.	READY 15 Dec 2008 22:08 Menu → Standby → Volume → Recirculation → Res: _ _._ MΩcm TC T: _ _._ °C TOC: _ _
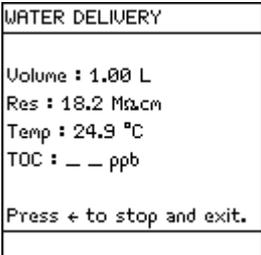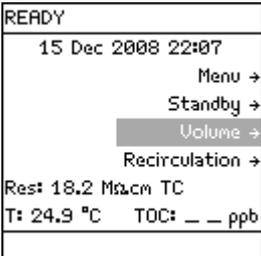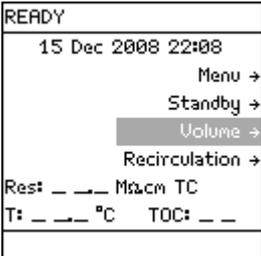
Viewing water quality

Procedure   Follow the steps below to view the water quality.

Step	Action	Diagram
1	Make sure the System is in READY Mode. *NOTE:* The Resistivity (Res) and Temperature (T) are seen in the main READY Mode screen.	READY 25 Aug 2008 20:15 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
2	To see Tank Level indicator, select Menu. Press ⬤.	READY MENU Water Quality → View Operation → Consumables Status → Call Millipore → Service Tracking → Information → TOC Curve Check →
3	Select Water Quality. Press ⬤. The Tank Level is shown if the System is configured to have a level sensor.	WATER QUALITY MQ Feed Quality → Tank Level : 80.0 % MQ Prod Quality →
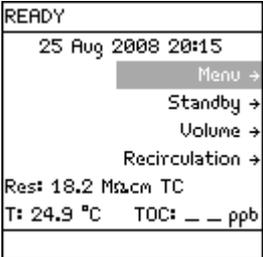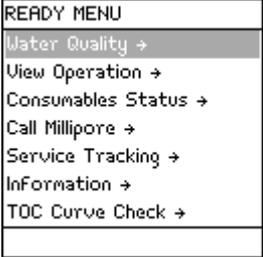
Viewing Operation

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

System Operation   Follow the steps below to go to the System Operation LCD.
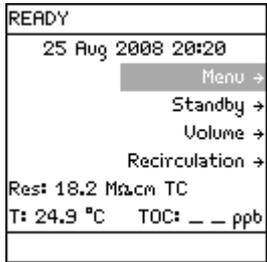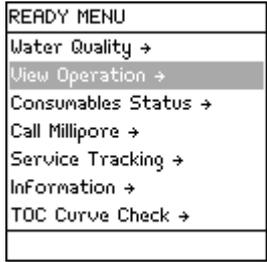
Step	Action	Diagram
1	Start in READY Mode.	READY 25 Aug 2008 20:20 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
2	Select Menu. Press ▶.	READY MENU Water Quality → View Operation → Consumables Status → Call Millipore → Service Tracking → Information → TOC Curve Check →
3	Select View Operation. Press ▶.	VIEW OPERATION System Operation → System Alerts → System Alarms → System Measures →
4	Select System Operation. Press ▶.	SYSTEM OPERATIONS MQ Operation: Recirculation Dist Pump: On UV 185 nm Lamp: On ←
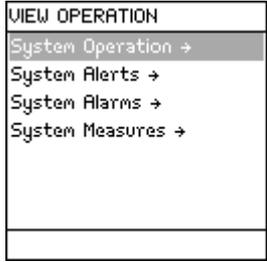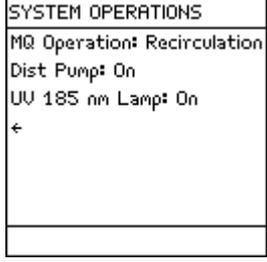
Viewing Operation, Continued

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 Mode or in STANDBY Mode.	SYSTEM ALERTS Replace UV 185 nm
When the timer for the UV 185 nm Lamp is reset, then this Alert is no longer shown on the SYSTEM ALERTS LCD.	SYSTEM ALERTS No Alerts
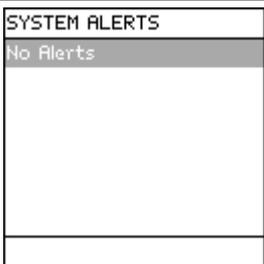
System Alarms

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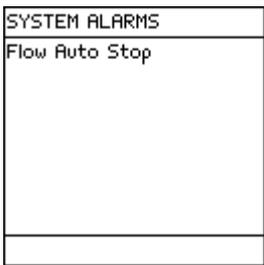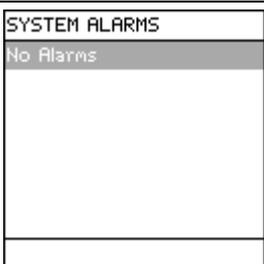
System Measures

Various measurements related to the System are shown here.	SYSTEM MEASURES Milli-Q Water Production Time: 220 Hours Dist Pump: 22.5 V DC – 0.75 A UV 185 nm Lamp: 130 mA Inter Res: 10.0 MΩcm TC Inter T: 26.3°C
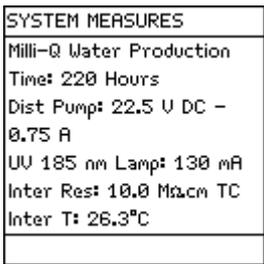
Viewing Consumable Status

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

Procedure   Follow the steps below to view Consumables Status.

Step	Action	Diagram
1	Start in READY Mode.	READY 25 Aug 2008 20:43 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
2	Select Menu. Press ⬤.	READY MENU Water Quality → View Operation → Consumables Status → Call Millipore → Service Tracking → Information → TOC Curve Check →
3	Select Consumables Status. Press ⬤.	CONSUMABLES STATUS Q-Gard → UV 185 nm Lamp → Quantum → POD Pak →
4	Select the consumable that you would like to see information about. As an example, the Quantum Cartridge status is shown here. Choose other consumables to see their status.	QUANTUM Name: Quantum Cat N°: QTUM0TEX1 Lot N°: F6DN27325 Installed: 20 Oct 2006 Replace In: 15 days Volume: 1000 L ←

Calling Millipore

Introduction   Call Millipore allows you to see contact information.
A Millipore Service Representative can enter this information into the
System.

Procedure   Follow the steps below to view information under Call Millipore.
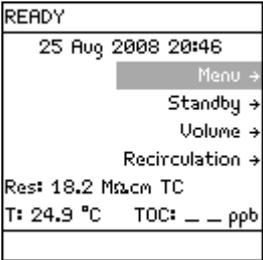
Step	Action	Diagram
1	Start in READY Mode.	READY 25 Aug 2008 20:46 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩ.cm TC T: 24.9 °C TOC: _ _ ppb
2	Select Menu. Press ⬤.	READY MENU Water Quality → View Operation → Consumables Status → Call Millipore → Service Tracking → Information → TOC Curve Check →
3	Select Call Millipore. Press ⬤.	CALL MILLIPORE Application Specialist → Service Engineer → Tech Service → Other →
4	Select the type of Millipore Representative you wish to contact. Press ⬤.	SERVICE ENGINEER Name: John SMITH Tel: +61 98 9999 Email: John_Smith@Millipore.com ←

Viewing Information

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

Procedure   Follow the steps below to see information about the System.

Step	Action	Diagram
1	Start in READY Mode.	READY 25 Aug 2008 20:46 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
2	Select Menu. Press 〉.	READY MENU Water Quality → Print Menu → View Operation → Consumables Status → Call Millipore → Service Tracking → Information →
3	Select Information. Press 〉.	INFORMATION Flow Schematic → Version → System Information →
4	Select the type of information you wish to view. Two examples are shown below. Press 〉.	VERSION Boot Loader: V 1.02 System: v7 EPLD: v1.0 Measure: v1.0 Power Supply: v1.0 POD: v1.0 Tag Reader 1: v1
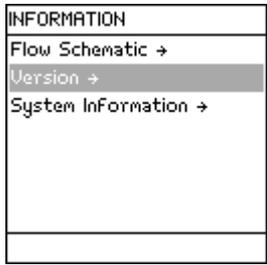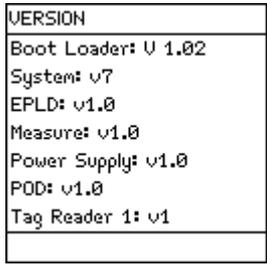
Viewing Information, Continued

Version
The various versions for the System are shown here.

This LCD shows the version used for various components inside the System.	VERSION Boot Loader: V 1.02 System: v7 EPLD: v1.0 Measure: v1.0 Power Supply: v1.0 Q-POD 1: v1.0 Q-POD 2: v1.0

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

This LCD shows information such as the Serial Number and the Catalogue Number. *NOTE:* The Inst Date (Installation Date) needs to be entered by a Millipore Service Representative. The date is not automatically generated by the System.	SYSTEM INFORMATION Milli-Q Reference Cat N°: ZRXQ003T0 Serial N°: F6DN27327B MFG Date: 1 April 2006 Inst Date: 1 June 2006 ←

Maintenance

Overview

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

Contents   This chapter contains the following topics:

Topic	See Page
Maintenance Schedule	59
Replacing the Q-Gard Pack	60
Replacing the Quantum Cartridge	63
Replacing a POD Pak	67
Cleaning the Inlet Strainer	70
Calibrating the Flowrate	73

Maintenance Schedule

Consumables

Item	Maintenance needed	When
Q-Gard Pack	Replacement	Prompted to by an LCD message.
Quantum Cartridge	Replacement	Prompted to by an LCD message.
POD Pak	Replacement	Prompted to by an LCD message or as necessary.

Lamp

Item	Maintenance needed	When
UV 185 nm Lamp	Replacement	Prompted to by an LCD message.

NOTE:

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

Cleaning/ Sanitisation

Item	Maintenance needed	When
Inlet Strainer	Cleaning	Prompted to by an LCD message or as necessary.
System	Sanitisation	Contact Millipore for more details.

Calibrating the flowrate

Item	Maintenance needed	When
Flowmeter	Recalibration	New Consumable, Sensor or change to Feedwater. See 'Calibrating the Flowrate' for more information.

Replacing the Q-Gard Pack

When   The Q-Gard Pack should be replaced when one of the following Alarm or Alert messages is displayed.
- Alarm message = MILLI-Q RES < SP, REPLACE Q-GARD AND QUANTUM
- Alert message = REPLACE Q-GARD PACK

Removing   Remove the used Q-Gard Pack by following the steps below.
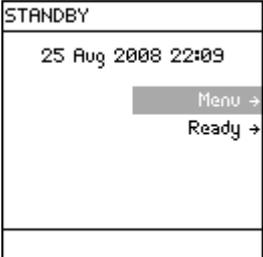
Step	Action	Diagram
1	Place the system into STANDBY Mode.	STANDBY 25 Aug 2008 22:09 Menu → Ready →
2	Push the POD Plunger down once to depressurise the System. After water stops being dispensed, push down the POD Plunger again.	STANDBY 25 Aug 2008 22:09 Menu → Ready →
3	Open the System left door. Lift up the Pack Locking Handle.	

Continued on next page

Removing
(continued)

Step	Action	Diagram
4	Remove the used Q-Gard Pack.	
5	The System will indicate that the Q-Gard Pack is removed in a few moments.	

Placing

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

Step	Action	Diagram
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.	
2	Push the top of the Q-Gard Pack into the ports on the System. Push on the bottom of the Q-Gard Pack.	

Replacing the Q-Gard Pack, Continued

Placing
(continued)

Step	Action	Diagram
3	Push the Pack Locking Handle down. Close the left door.	

Quantum Cartridge

The Quantum Cartridge should be replaced whenever the Q-Gard Pack is replaced in order to ensure optimal water quality.
Proceed to the next section for information about replacing the Quantum Cartridge.

Replacing the Quantum Cartridge

When

The Quantum Cartridge should be replaced when one of the following Alert or Alarm messages is displayed.
- Alert message = REPLACE QUANTUM CARTRIDGE
- Alarm message = MILLI-Q RES < SP, REPLACE Q-GARD AND QUANTUM

The Quantum Cartridge should be replaced whenever the Q-Gard Pack is replaced.

Removing

Follow the steps below to remove the used Quantum Cartridge.

Step	Action	Diagram
1	Place the System into STANDBY Mode.	STANDBY 25 Aug 2008 22:59 Menu → Ready →
2	Push the POD Plunger down once to depressurise the System. After water stops being dispensed, push down the POD Plunger again.	STANDBY 25 Aug 2008 22:59 Menu → Ready →
3	Open the System right door. Remove the used Quantum Cartridge.	
4	In a few moments, the System indicates that the Quantum Cartridge is removed.	STANDBY QUANTUM CARTRIDGE OUT nu → dy → PRESS →
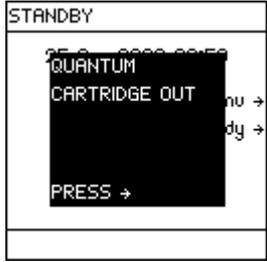
Replacing the Quantum Cartridge, Continued

Placing   Follow the steps below to install a new Quantum Cartridge.

Step	Action	Diagram
1	Remove the covers on the 2 ports of the Quantum Cartridge. Wet the O-rings with water.	
2	Install the Quantum Cartridge until it is fully seated. Close the right door.	
3	When a new Quantum Cartridge is installed, the LCD looks like this.	INSTALL QUANTUM A new Quantum has been installed. Catalogue N° : QTUM0TEX1 Lot N° : F6DN27325. ↵
4	Press ◖.	STANDBY 25 Aug 2008 23:00 Menu → Ready →

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

Rinsing   The Quantum Cartridge, when newly installed, needs to be rinsed. This ensures optimal water quality.

Step	Action	Diagram
1	Locate the clear tubing and the barbed fitting from the System accessories bag. Screw the barbed fitting onto the POD Unit. *NOTE:* Do not use any white tape on the threads of the barbed fitting. An O-ring is located inside the POD Unit. Push one end of the clear tubing onto the end of the barbed fitting. Place the other end of the clear tubing into a sink.	
2	The System must be in READY Mode.	READY 28 Aug 2008 11:09 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
3	Push the plunger down on the POD Unit. In a few minutes, water should dispense from the POD Unit.	READY 28 Aug 2008 11:09 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
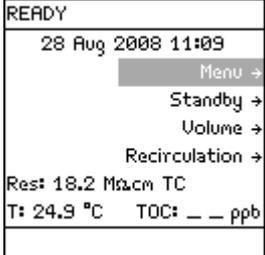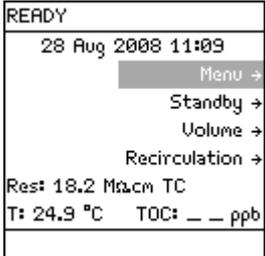
Replacing the Quantum Cartridge, Continued

Rinsing
(continued)

Step	Action	Diagram
4	Dispense water for about 10 minutes. This flushes out any trapped air in most of the System. This also rinses off the purification media located in the Q-Gard Pack and the Quantum Cartridge.	READY 28 Aug 2008 11:09 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
5	Leave the System in READY Mode when finished.	READY 28 Aug 2008 11:09 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
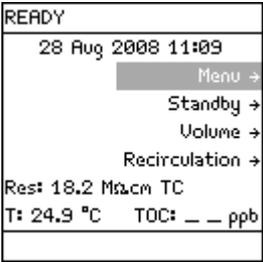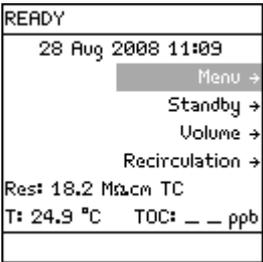
Replacing a POD Pak

Basing on flowrate

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

Basing on LCD message

The POD Pak needs replacement when the following Alert message is displayed.
- Alert message = REPLACE POD PAK

Placing and flushing

Follow the instructions delivered with the POD Pak.

Registering

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

Step	Action	Diagram
1	Start in STANDBY Mode.	STANDBY 03 Jul 2007 22:17 Menu → Ready →
2	Select Menu. Press ⬤.	STANDBY MENU Maintenance → Sanitise/Clean → Language → Manager Menu →
3	Select Maintenance. Press ⬤.	MAINTENANCE Clean Strainer → Install Q-Gard → Install UV 185 Lamp → Install Quantum → Install POD Pak →

Replacing a POD Pak, Continued

Registering
(continued)

Step	Action	Diagram
4	Scroll down to Install POD Pak.	MAINTENANCE Clean Strainer → Install Q-Gard → Install UV 185 Lamp → Install Quantum → Install POD Pak →
5	Press ⟩.	INSTALL POD PAK
6	Press ⟩.	INSTALL POD PAK Select the POD Pak that you wish to install. Press → to continue or ← to exit.
7	In this example, the replacement POD Pak is a Millipak. Press ⟩.	INSTALL POD PAK Millipak → BioPak → EDS-Pak → Other Pod Pak A → Other Pod Pak B → No Filter →
8	Press ⟩.	INSTALL POD PAK Follow the instructions delivered with the new POD Pak and press ✓. ←

Replacing a POD Pak, Continued

Registering
(continued)

Step	Action	Diagram
9	Press ✔.	INSTALL POD PAK POD Pak installation is registered. Next maintenance in 182 days. Press ← to exit.
10	Press 3 times on ◖.	STANDBY 28 Aug 2008 11:32 Menu → Ready →

Cleaning the Inlet Strainer

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

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

Procedure Follow the steps below to clean the Inlet Strainer.

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

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

Step	Action	Diagram
1	Go to STANDBY Mode.	STANDBY 28 Aug 2008 11:32 Menu → Ready →

Cleaning the Inlet Strainer, Continued

Registering
(continued)

Step	Action	Diagram
2	Select Menu. Press ●.	STANDBY MENU Maintenance → Sanitise/Clean → Language → Manager Menu →
3	Select Maintenance. Press ●.	MAINTENANCE Clean Strainer → Install Q-Gard → Install UV 185 Lamp → Install Quantum → Install POD Pak →
4	Select Clean Strainer. Press ●.	CLEAN STRAINER
5	A picture is shown. Press ●.	CLEAN STRAINER See Maintenance Chapter in the User Manual for more information. Press ✓ after cleaning or ← to exit.
6	Press ✓.	CLEAN STRAINER The strainer cleaning date is registered. Next maintenance in 365 days. Press ← to exit.
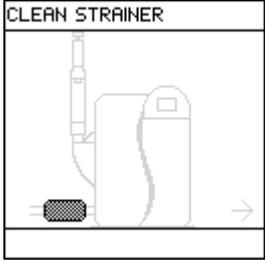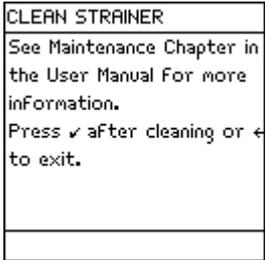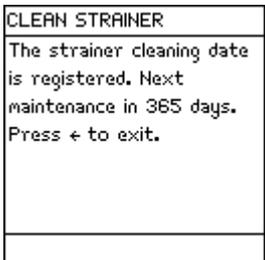
Cleaning the Inlet Strainer, Continued

Registering
(continued)

Step	Action	Diagram
7	Press 3 times on ◖.	STANDBY 28 Aug 2008 11:37 Menu → Ready →
8	Go to READY Mode.	READY 28 Aug 2008 11:37 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb
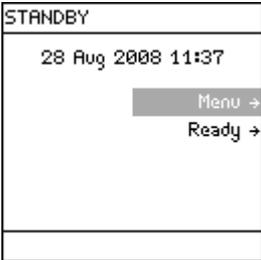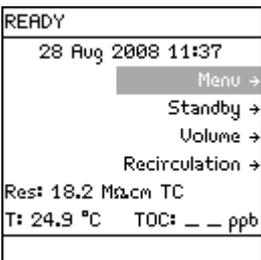
Calibrating the Flowrate

When

The flowrate should be calibrated when a:
- new consumble is installed such as a:
  - POD Pak, or
  - Q-Gard Pack, and
  - Quantum Cartridge
- sensor or major component is changed.
- feedwater parameter has changed such as the:
  - pressure
    - setting of pressure regulator,
    - larger or smaller Reservoir, or
    - Inlet Strainer cleaned
  - temperature changed (> 3°C).

Procedure

Follow the procedure shown in the Installation Chapter.

Alarms

Overview

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

Contents   This chapter contains the following topics:

Alarm Information

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

⚠

Alarm shown –   It is not recommended to use the System when an Alarm message is shown.
what to do?   Contact Millipore if an Alarm message is shown and the problem can not be resolved.

Types   The following table summarizes the different types of Alarm messages.

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

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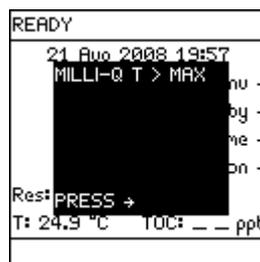
Continued on next page

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

```
SYSTEM ALARMS
Milli-Q T > Max
```
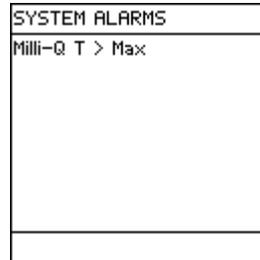
**Viewing an
Alarm Message**   Follow the steps below to view an Alarm message.

Step	Action	Diagram
1	The Alarm message is shown superimposed on the Main Display.	READY 21 Aug 2008 19:57 MILLI-Q T > MAX Res: PRESS → T: 24.9 °C TOC: _ _ ppb
2	Press ◗.	See Alarms Chapter in the User Manual for more information. Press ✓ to cancel the display of this alarm for one hour or press ← to exit.
3	Press ◖.	READY 21 Aug 2008 19:57 MILLI-Q T > MAX Res: PRESS → T: 24.9 °C TOC: _ _ ppb

Cancelling an Alarm message

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.

Alarm – before cancelling

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

Main Display	LEDs	Main Display
READY 21 Aug 2008 19:57 MILLI-Q T > MAX Res: PRESS → T: 24.9 °C TOC: _ _ ppb		SYSTEM ALARMS Milli-Q T > Max
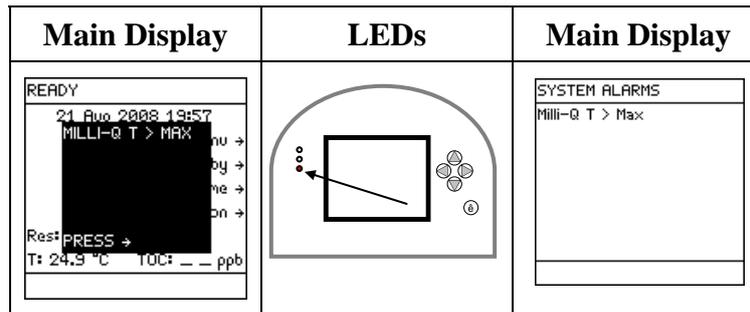
Cancelling an Alarm message procedure

Follow the steps below to cancel an Alarm message.

Step	Action	Diagram
1	The Alarm message is shown superimposed on the Main Display.	READY 21 Aug 2008 19:57 MILLI-Q T > MAX Res: PRESS → T: 24.9 °C TOC: _ _ ppb
2	Press ◗.	See Alarms Chapter in the User Manual for more information. Press ✓ to cancel the display of this alarm for one hour or press ← to exit.
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 Information, Continued

Alarm – after cancelling the text display

Main Display	LEDs	Main Display
READY 21 Aug 2008 20:01 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩ.cm TC T: 24.9 °C TOC: _ _ ppb		SYSTEM ALARMS Milli-Q T > Max

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

Main Display	LEDs	Main Display
READY 21 Aug 2008 20:01 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩ.cm TC T: 24.9 °C TOC: _ _ ppb		SYSTEM ALARMS No Alarms

Summary of Alarm messages

Alarm messages

LCD message	What it means
FLOW AUTO STOP	The System has automatically stopped dispensing water. The POD FLOW STOP timer has reached 0 minutes. Push the POD Unit Plunger all the way down and release. This resets the dispenser timer and makes the POD Unit available for dispensing.
INCORRECT Q-GARD PACK	The System does not recognise the type of Q-Gard Pack being installed. Contact Millipore.
INCORRECT QUANTUM CARTRIDGE	The System does not recognise the type of Quantum Cartridge being installed. Contact Millipore.
MILLI-Q FEED C > MAX	The feedwater conductivity is out of measurement range. Contact Millipore.
MILLI-Q FEED T < MIN	The feedwater temperature is out of measurement range. Contact Millipore.
MILLI-Q FEED T > MAX	The feedwater temperature is out of measurement range. Contact Millipore.
MILLI-Q INTER R > MAX	The Intermediate resistivity is out of measurement range. Contact Millipore.
MILLI-Q INTER T < MIN	The Intermediate temperature is out of measurement range. Contact Millipore.
MILLI-Q INTER T > MAX	The Intermediate temperature is out of measurement range. Contact Millipore.
MILLI-Q RES < SP, REPLACE Q-GARD AND QUANTUM	The Milli-Q Water resistivity is < set point. Dispense water to eliminate any trapped air in the System. Replace the Q-Gard Pack and the Quantum Cartridge.

Alarm messages (continued)

LCD message	What it means
MILLI-Q RES > MAX	The Milli-Q Water resistivity is out of measurement range. Contact Millipore.
MILLI-Q T < MIN	The Milli-Q Water temperature is out of measurement range. Contact Millipore.
MILLI-Q T > MAX	The Milli-Q Water temperature is out of measurement range. Contact Millipore.
POD LOCKED	The POD Unit microswitch is locked. Push the Plunger all the way down and release.
Q-GARD PACK OUT	The Q-Gard Pack is not installed correctly or it has been removed. The System stops operating. Verify that the Q-Gard Pack is installed correctly. Contact Millipore if the problem continues.
QUANTUM CARTRIDGE OUT	The Quantum Cartridge is not installed correctly or it has been removed. The System stops operating. Verify that the Quantum Cartridge is installed correctly. Contact Millipore if the problem continues.
TANK EMPTY	The System has detected an empty Reservoir. Refill the Reservoir. Verify that the Reservoir level sensor is plugged into the System Cabinet.
WATER DETECTED	A Water Sensor (an accessory connected to the System) has detected water. The System stops operating. Clean up the spilled water. Make sure the source of the leak is fixed.

Alerts

Overview

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

Contents   This chapter contains the following topics:

Topic	See Page
Alert information	82
Summary of Alert messages	87

Alert information

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

Types The following table summarises the different types of Alert messages.

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

Examples An example of a minor alert message would be REPLACE POD PAK IN 15 DAYS.
An example of a major alert message would be REPLACE POD PAK.

Main Display An Alert message is shown on the bottom of the Main Display.
In this example, the Alert message REPLACE POD PAK scrolls across the bottom of the LCD.

```
READY
     21 Aug 2008 20:04
                 Menu →
               Standby →
                Volume →
           Recirculation →
Res: 18.2 MΩ.cm TC
T: 24.9 °C    TOC: _ _ ppb
* REPLACE POD PAK *** PF
```
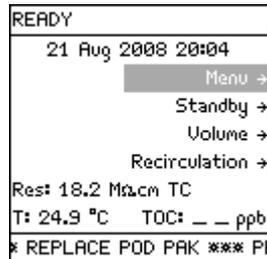
The yellow LED is lit steadily when an Alert message is shown. However, if an Alert and an Alarm are both present, then only the red LED is lit.
When an Alert is shown, it is listed under the System Alerts LCD. To access the System Alerts LCD, see the Section View Operation.

```
SYSTEM ALERTS
Replace POD Pak
```
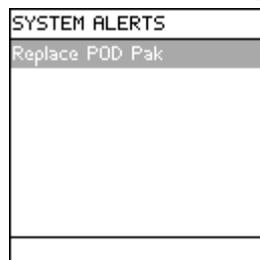
Alert information, Continued

Viewing an Alert Message

Follow the steps below to view an Alert message.

Step	Action	Diagram
1	Start in either READY or STANDBY Mode.	READY 21 Aug 2008 20:04 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩ·cm TC T: 24.9 °C TOC: _ _ ppb * REPLACE POD PAK *** PF
2	Press ▼.	READY 21 Aug 2008 20:06 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩ·cm TC T: 24.9 °C TOC: _ _ ppb * REPLACE POD PAK *** PF
3	Press ▶.	The POD Pak installed on Point of Distribution should be replaced. Please make sure to replace it on time for optimal system performance. See Alerts Chapter in the User Manual for more information.
4	Press ▼.	make sure to replace it on time for optimal system performance. See Alerts Chapter in the User Manual for more information. Press ✓ to cancel the text display of this alert or press ← to exit.
5	Press ◀.	READY 21 Aug 2008 20:06 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩ·cm TC T: 24.9 °C TOC: _ _ ppb * REPLACE POD PAK *** PF

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 POD Pak in 15 Days>.

Main Display	LEDs	Main Display
READY 21 Aug 2008 20:09 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb * REPLACE POD PAK IN 15 [		SYSTEM ALERTS Replace POD Pak in 15 days

Follow the steps below to cancel a Minor Alert message.

Step	Action	Diagram
1	Press ⬇.	READY 21 Aug 2008 20:09 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb * REPLACE POD PAK IN 15 [
2	Press ▶.	The POD Pak installed on Point of Distribution should be replaced in 15 days. Please make sure to replace it on time for optimal system performance. See Alerts Chapter in the User Manual
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	LEDs	Main Display
READY 21 Aug 2008 20:20 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb		SYSTEM ALERTS Replace POD Pak in 15 days

Minor Alert - consumable replaced

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

Main Display	LEDs	Main Display
READY 21 Aug 2008 20:20 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb		SYSTEM ALERTS No Alerts

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 POD Pak>.

Main Display	LEDs	Main Display
READY 21 Aug 2008 20:21 Menu → Standby → Volume → Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C TOC: _ _ ppb * REPLACE POD PAK *** PR		SYSTEM ALERTS Replace POD Pak

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	LEDs	Main Display
READY 　　21 Aug 2008 20:21 　　　　　　　Menu → 　　　　　Standby → 　　　　　Volume → 　　Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C　　TOC: _ _ ppb		SYSTEM ALERTS Replace POD Pak

**Major Alert -
consumable
replaced**

The Alert message has been cancelled when the POD Pak has been replaced.

Main Display	LEDs	Main Display
READY 　　21 Aug 2008 20:21 　　　　　　　Menu → 　　　　　Standby → 　　　　　Volume → 　　Recirculation → Res: 18.2 MΩcm TC T: 24.9 °C　　TOC: _ _ ppb		SYSTEM ALERTS No Alerts

Summary of Alert messages

Alert messages

LCD message	What it means
CALIBRATION VISIT OVERDUE XX DAYS	The System has determined that a Calibration Visit is overdue. Contact Millipore.
CHECK UV 185 NM LAMP	The UV 185 nm Lamp is not turning on. Contact Millipore.
EXAMINE INLET STRAINER	The System has determined that it is time to clean the Inlet Strainer. Clean the Inlet Strainer and reset the message.
MILLI-Q FEED CONDUCTIVITY > SP	The measured feedwater conductivity is > Set Point. Check the source of feedwater and its conductivity.
MILLI-Q INTERMEDIATE RESISTIVITY <SP, PLEASE ORDER Q-GARD AND QUANTUM	The measured resistivity after the Q-Gard Pack is < Set Point. 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	The System is prompting you that a Calibration Visit should be scheduled. Contact Millipore.
NEXT QUALIFICATION VISIT IN XX DAYS	The System is prompting you that a Qualification Visit should be scheduled. Contact Millipore.
NEXT SERVICE VISIT IN XX DAYS	The System is prompting you that a Service Visit should be scheduled. Contact Millipore.
NO RESPONSE FROM DHCP SERVER	Contact your network administrator. Restart the System.
QUALIFICATION VISIT OVERDUE XX DAYS	The System has determined that a Qualification Visit is overdue. Contact Millipore.
REPLACE POD PAK	The System has determined that the POD PAK needs replacement. Replace the POD Pak and reset the timer.
REPLACE POD PAK IN XX DAYS	The System has determined that the POD PAK should be replaced in XX days, where XX is 15, …, 1. Replace the POD Pak and reset the timer.

Summary of Alert messages, Continued

Alert messages
(continued)

LCD message	What it means
REPLACE Q-GARD PACK	The System has determined that the Q-Gard Pack should be replaced. Replace the Q-Gard Pack.
REPLACE Q-GARD PACK IN XX DAYS	The System has determined that the Q-Gard Pack should be replaced in XX days, where XX is 15, …, 1. Replace the Quantum Cartridge.
REPLACE QUANTUM CARTRIDGE	The System has determined that the Quantum Cartridge should be replaced. Replace the Quantum Cartridge.
REPLACE QUANTUM CARTRIDGE IN XX DAYS	The System has determined that the Quantum Cartridge should be replaced in XX days, where XX is 15, …, 1. Replace the Quantum Cartridge.
REPLACE UV 185 NM LAMP	The System has determined that the UV 185 nm Lamp should be replaced. Contact Millipore.
REPLACE UV 185 NM LAMP IN XX DAYS	The System has determined that the UV 185 nm Lamp should be replaced in XX days, where XX is 15, …, 1. Contact Millipore.
SERVICE VISIT OVERDUE XX DAYS	The System has determined that a Service Visit is overdue. Contact Millipore.
THE NETWORK CABLE IS UNPLUGGED	Check the Ethernet Cable plugged into the System and the computer. Restart the System.
THIS IP ADDRESS IS ALREADY USED BY ANOTHER SYSTEM	Contact your network administrator. Restart the System.

Ordering Information

Consumables, Accessories and Systems

Consumables

Item	Catalogue Number
BioPak Ultrafilter	CDUFBI001
Millipak Express® 40 Final Filter	MPGP04001
EDS-Pak® Final Filter	EDSPAK001
EDS-Pak Installation Kit - ordered 1 time only for multiple EDS-Pak uses.	EDSKIT001
Q-Gard T1 Pack	QGARDT1X1
Q-Gard T2 Pack	QGARDT2X1
Q-Gard T3 Pack	QGARDT3X1
Quantum TEX Cartridge	QTUM0TEX1
Quantum TIX Cartridge	QTUM0TIX1
UV 185 nm Lamp	ZMQUVLP01

Accessories

Item	Catalogue Number
Cabinet Wall Mounting Bracket	WMBSMT002
Feedwater Conductivity Cell	ZFC0NDCL1
Footswitch (for Remote POD)	ZMQSFTS01
Pressure Regulator	ZFMQ000PR
Remote POD	ZMQSP0D02
Remote POD Wall Mounting Bracket	WMBQP0D01
Water Sensor	ZFWATDET4

Consumables, Accessories and Systems, Continued

Milli-Q Reference System

Item	Catalogue Number
Milli-Q Reference Cabinet	Z00QSV001

NOTE:

A complete Milli-Q Reference System consists of a:

• Milli-Q Reference System Cabinet, and

• Q-Gard Pack, Quantum Cartridge and POD Pak.

Note

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

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