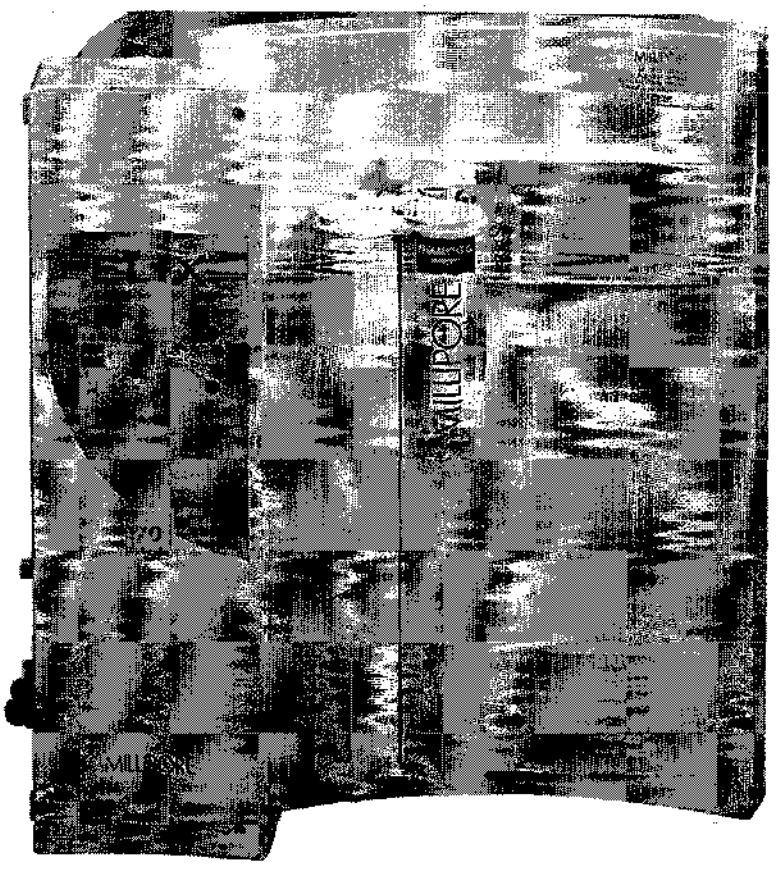
ELIX 20, ELIX 35, ELIX 70 AND ELIX 100
USER MANUAL



Note

This User's Manual refers to an item called a 'TAG' Sensor. This version of your system may not include this 'TAG' Sensor. Please kindly disregard all references to this item while reviewing this User's Manual.

You will find the complete User Manual for your system (installation, maintenance...) on the CD located in the front of the binder.

Notice

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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.

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DECLARATION OF CONFORMITY
EUROPEAN UNION EC DIRECTIVES

CE Directive 89/336/CEE
Directive 73/23/CEE

Elix

- The Elix System mentioned above is manufactured in Millipore SAS - 67120 Molsheim - FRANCE -facilities whose quality management system is approved by an accredited registering body to the ISO9001 Quality System Standards.

- We certify that these Lab Elix Systems are designed and manufactured in application of the following European Council directives:

  - 89/336/CEE relating to Electromagnetic compatibility
  - 73/23/CEE relating to electrical equipment designed for use within certain voltage limits

- Standards to which conformity is declared as applicable are the following :

  - EN 61326-1: 1997: Electrical equipment for measurement, control and laboratory use – EMC requirements.
  - EN 61010-1: 2001: Safety requirements for electrical equipment for measurement, control, and laboratory use.

Guy REYMANN

Quality Assurance Manager

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Chapter 1 USING THE ELIX SYSTEM

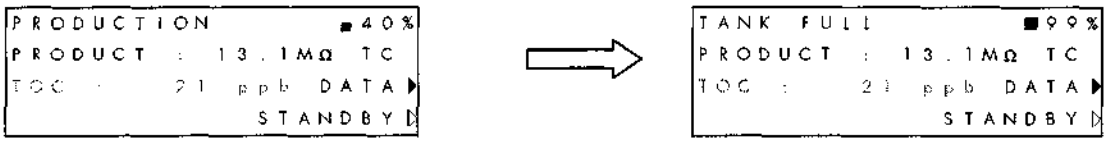
1-1 HOW THE ELIX NORMALLY DELIVERS PRODUCT WATER

SDS AND LOOPS

The Product Water from an Elix System is normally delivered to a Storage Reservoir (called a SDS). The SDS usually has a Distribution Pump. The Distribution Pump is used to pressurise stored water and to send it through a network of pipes (a Loop). The Loop is used to deliver water to various applications such as a dishwasher, a humidifier and so forth. The water from the Loop that is not used is returned back the SDS.

AUTOMATIC METHOD

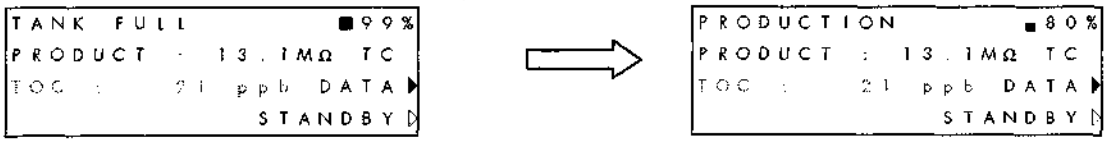
The Elix System will enter PRODUCTION Mode automatically if it is connected to a SDS or similar type of storage reservoir.



When the word **PRODUCT appears on the 2nd line**, the Resistivity and TOC values are measured inside the Elix System.

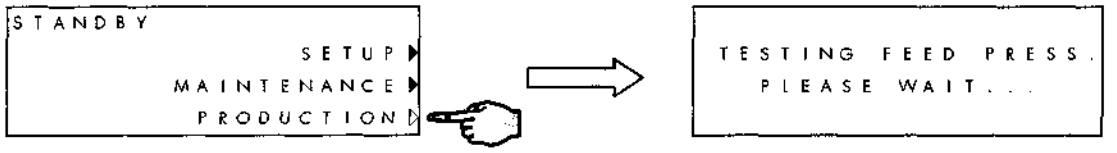
TC = Temperature Compensated to 25 °C

A parameter called the TANK LEVEL RESTART is used to go from TANK FULL Mode to PRODUCTION Mode. This parameter is factory set to 80%. When the Elix System is in TANK FULL Mode and water is withdrawn from the Reservoir, then the Elix will go to PRODUCTION Mode automatically when the Reservoir is 80% full.



MANUAL METHOD

1. Start in STANDBY Mode.
2. Press the PRODUCTION Keypad Button for about 2 seconds.

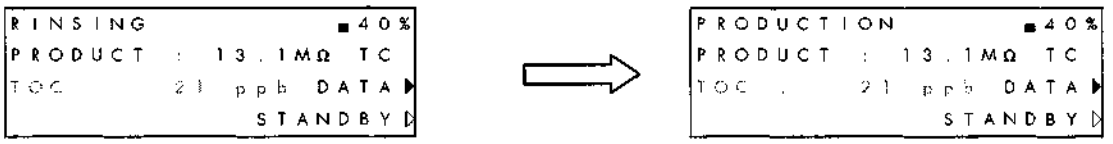


Press PRODUCTION for about 2 - 3 seconds.

Lasts for about 16 seconds.

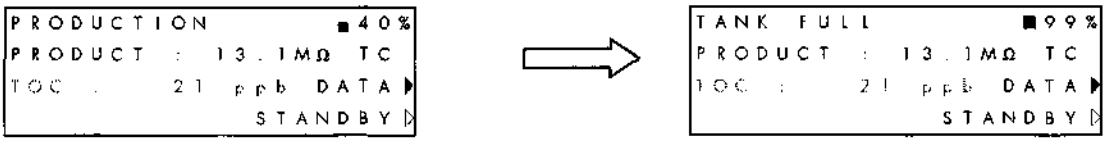
3. The Elix System will perform a Pressure Test for about 16 seconds. This tests the pressure reaching the Elix System.
4. The Elix System will go into RINSING Mode for a minimum of 1 minute. See Section 1-5 for an explanation about RINSING Mode.

5. When RINSING Mode is finished, the Elix System will go into PRODUCTION Mode.



If a Polisher Upgrade Kit or a Loop Resistivity Sensor has been added, then this LCD may look different. See Section 1-2.

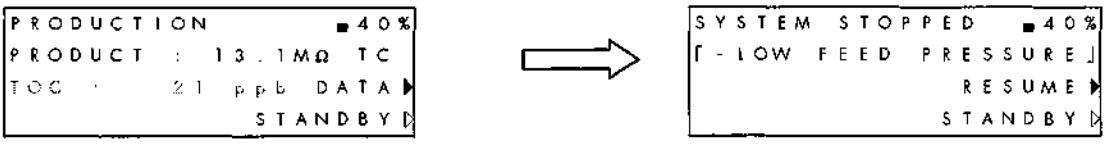
6. The Elix System will stay in PRODUCTION Mode until TANK FULL Mode. TANK FULL Mode results when a level sensor device on a storage reservoir indicates that it is full. In this example, the reservoir water level went from 40% full to 100% full. The Product Water Resistivity shown in TANK FULL Mode is the last value measured in PRODUCTION Mode.



7. Press STANDBY to exit PRODUCTION Mode if you do not want to go to TANK FULL Mode.

ALARM MESSAGE DISPLAYED

1. Certain Alarm Messages, when activated, will cause PRODUCTION Mode to stop (i.e. LOW FEED PRESSURE Mode). See Section 5-1 in the manual on the CD for an explanation of the Alarm and Maintenance Messages.

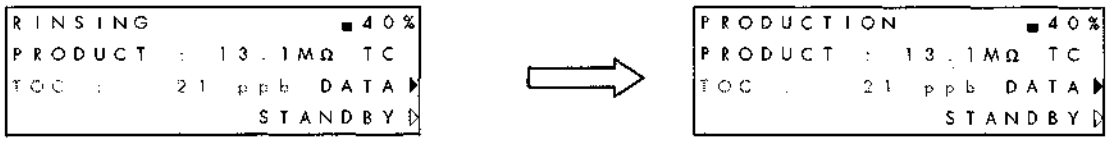


2. When the cause of the Alarm Stop Message has been corrected, press RESUME to go back to PRODUCTION Mode.

1-2 ELIX WITH A POLISHER, LOOP RESISTIVITY SENSOR OR A10 ADDED

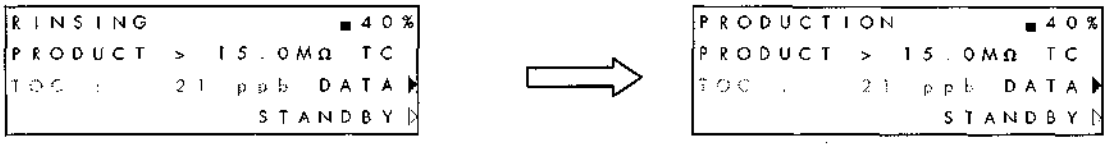
There are a few additional LCD Messages shown when the QGard TL Pack is used or if a Loop Resistivity Sensor has been added.

1. PRODUCTION Mode for an **Elix System without a Polisher Upgrade Kit** looks like:



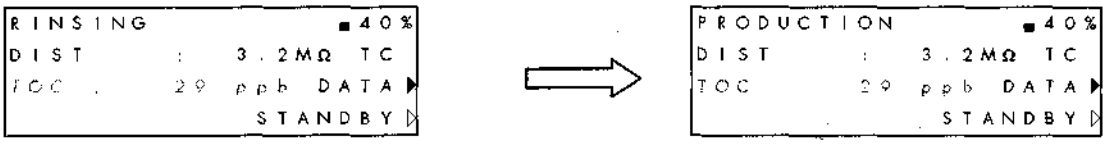
The TOC value may or may not be shown. This depends if the Elix System is configured to have an A10 TOC Monitor.

2. PRODUCTION Mode for an **Elix System with a Polisher Upgrade Kit** looks like:



When a **Polisher is added to an Elix System**, the existing System Resistivity Sensor is used. When a Polisher is added, the existing Resistivity Sensor is configured to measure the Resistivity of the Post QGard Polisher Water instead of the post Elix Module Water. In the example displays above, the Polisher increased the resistivity from 13.1 MΩ.cm to > 15.0 MΩ.cm (at 25 °C).

3. PRODUCTION Mode for an **Elix System with a Loop Resistivity Sensor** looks like:

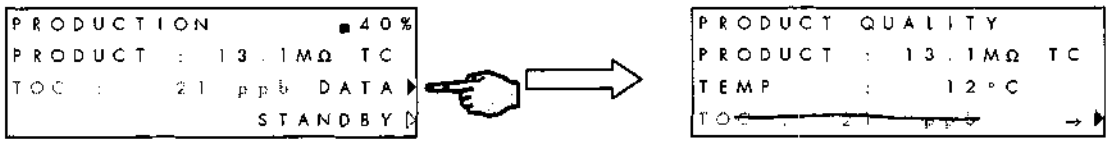


When **DIST is shown on the 2nd line**, then the Resistivity and TOC values are measured from the Loop Water. In the example shown immediately above, the water in the Loop has a Resistivity of 3.2 MΩ.cm (at 25 °C) and a TOC value of 29 ppb. In this same example, pressing DATA will then show the Resistivity and Temperature of the Elix System Product Water (the water filling the storage reservoir that becomes the Loop Water).

1-3 HOW TO VIEW THE ELIX SYSTEM PERFORMANCE

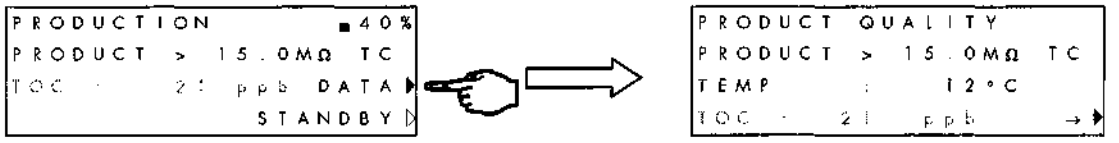
There are several parameters that can be seen using the DATA Button. These parameters are explained and shown below.

1. Start in PRODUCTION Mode. Press the DATA Keypad Button. If the Elix System is **without a Polisher Upgrade Kit or without a Loop Resistivity Cell**, then the LCD will look like:



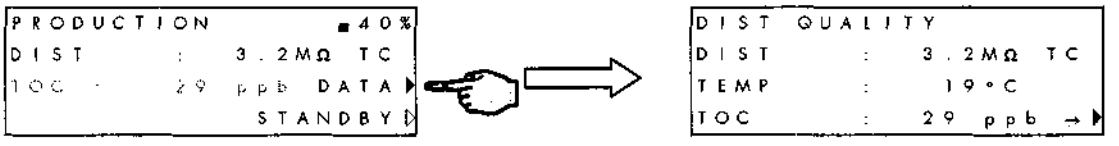
The Elix System Product Water Resistivity is 13.2 MΩ.cm. at 25 °C. The TOC is 21 ppb.

2. Start in PRODUCTION Mode. Press the DATA Keypad Button. If the Elix System is **with a Polisher Upgrade Kit**, then the LCD will look like:



The post QGard TL Polisher resistivity is > 15.0 MΩ.cm at 25 °C. The same water has a temp. of 12 °C.

3. Start in PRODUCTION Mode. Press the DATA Keypad Button. If the Elix System is **with a Loop Resistivity Sensor**, then the LCD will look like:

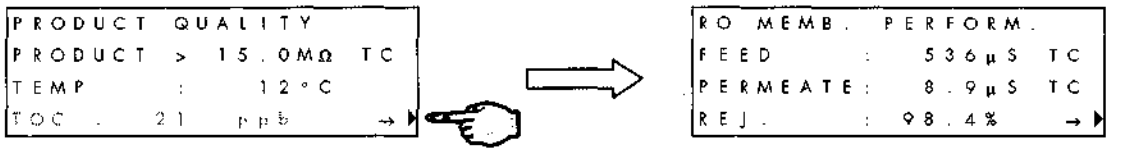


The Loop Water has a resistivity of 3.2 MΩ.cm and a TOC value of 29 ppb. The Loop Water has a temp. of 19 °C.

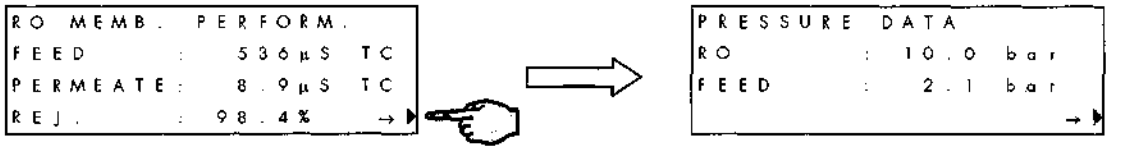
The parameters shown in the next several displays are the same for any configuration of an Elix System.

NB. Wanneer productie is 0%
dan even door stalks scherm
lopen. Mogelijk afwijking bij nr 5.
even later staan en dan loopt op!

4. When the PRODUCT QUALITY is shown, press the Bottom Keypad Button to see the RO Cartridge performance.



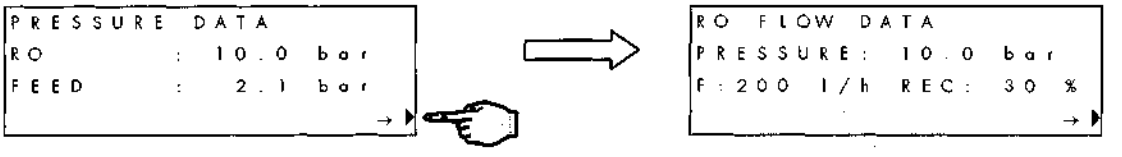
5. When the RO Cartridge performance is shown, press the Bottom Keypad Button to see the PRESSURE DATA.



The RO Cartridge performance is shown here.

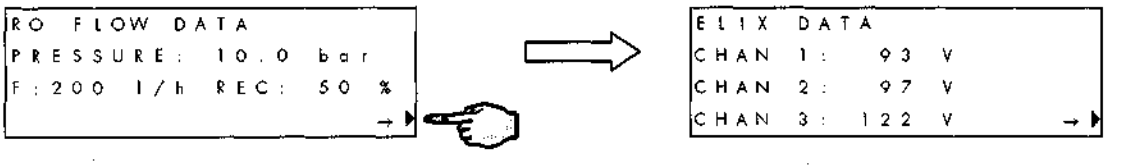
Feedwater pressure is 2.1 bar and the applied RO pressure is 10.0 bar.

6. Press the Bottom Keypad Button to see the FLOWMETER DATA.

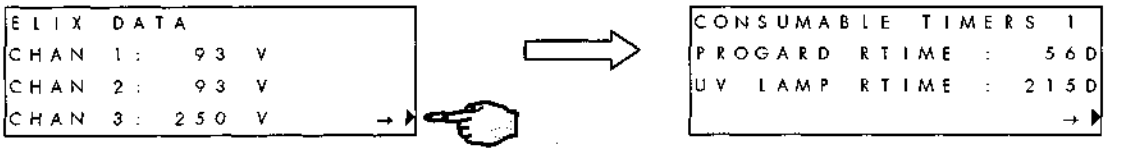


The Feedwater flow rate is 200 LPH. In this example, an Elix 70 was used and the calculated System Recovery is 30%.

7. Press the Bottom Keypad Button to see the Elix Module electrical data.

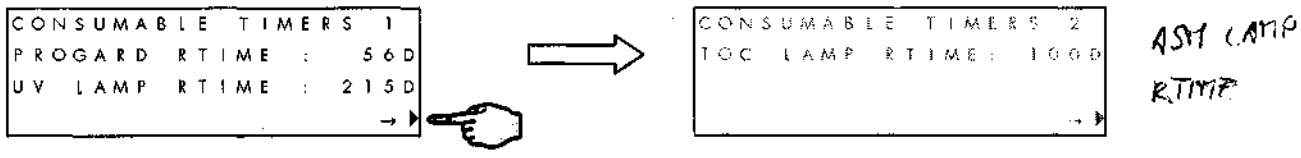


8. Press the Bottom Keypad Button to see the CONSUMABLE TIMER.



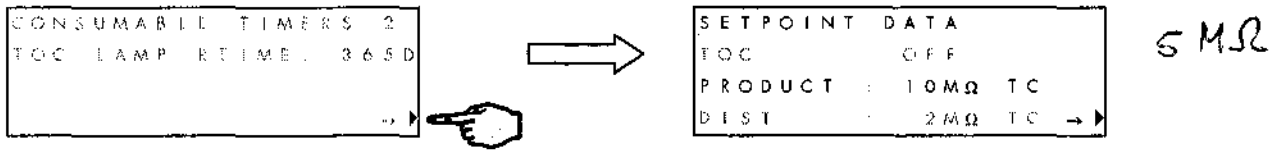
In this example the Progard TL needs to be replaced in 56 days and the Elix System UV Lamp needs to be replaced in 215 days.

9. Press the Bottom Keypad Button to see the next display. If the Elix System is configured to have an A10 TOC Monitor, then the A10 UV Lamp maximum lifetime is shown. In the example shown here, the A10 UV Lamp will normally be replaced every 365 Calendar Days (365 D).



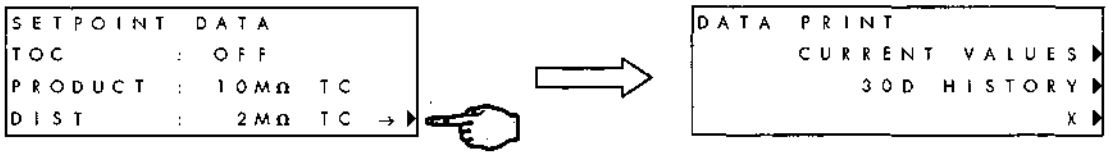
In this example, the A10 UV Lamp will need to be replaced in 100 Days

10. Press the Bottom Keypad Button to see the SETPOINT DATA.

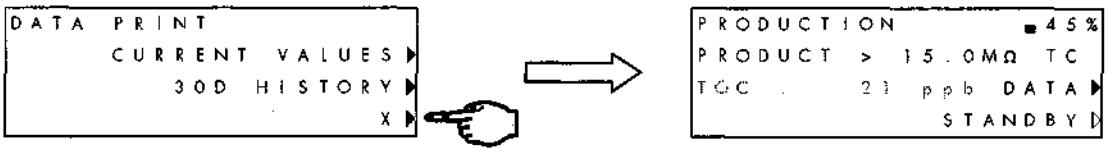


There are 3 Setpoints in the example shown immediately above. The TOC Setpoint is turned off. The Elix System Product Water Resistivity will turn on a message if its resistivity is < 10.0 MΩ.cm. The Loop Resistivity Setpoint is 2 MΩ.cm. A message will be displayed if the Loop Water Resistivity is < 2.0 MΩ.cm.

11. Press the Bottom Keypad Button to see DATA PRINT.



12. Press the Bottom Keypad Button to return to PRODUCTION Mode.



1-4 How to view Serial Numbers and Maintenance Information from the LCD

Serial Number found on the Elix System Cabinet

The Serial Number of the Elix System can be found on the left side of the Elix System Cabinet. A Serial Number sticker is placed just above the Feedwater Tubing Port.

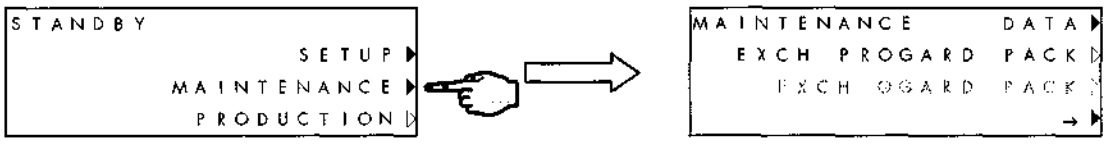
Serial Number and other information found with the LCD

It is possible to view information about your Elix System on the LCD. This information includes:

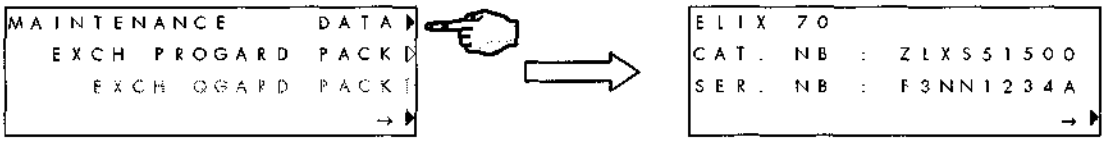
- Elix System Catalogue Number
- Elix System Serial Number
- Elix System Installation Date
- Elix System Software Version
- Elix System Accumulative Production Time
- Progard TL Serial Number
- Progard TL Installation Date
- Progard TL Remaining Time
- UV Lamp Remaining Time
- A10 UV Lamp Remaining Time

Follow the steps below to see the information listed above.

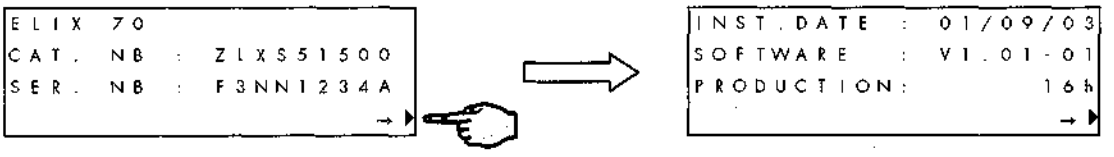
- ❑ Start in STANDBY Mode. Press MAINTENANCE.



- ❑ Press the DATA Keypad Button.

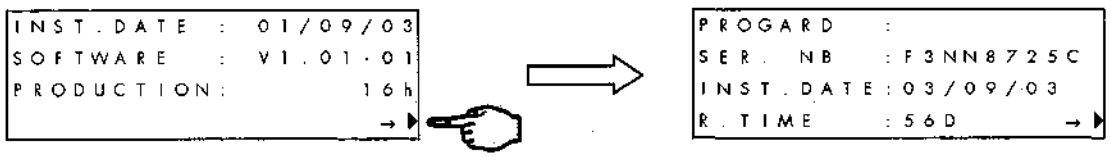


- ❑ The Catalogue Number for the Elix System is shown. The Serial Number for the Elix System is shown.
- ❑ Press the 4th Keypad Button to access more information about the Elix System.

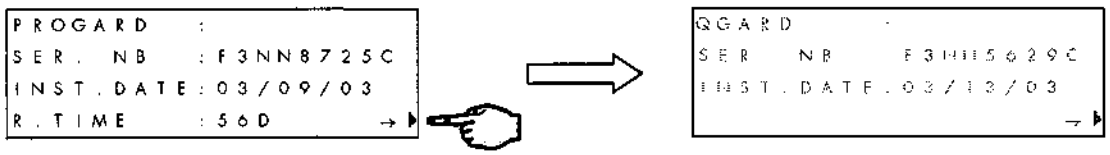


- ❑ The Elix System Installation Date is shown. The Software Version is shown. The Elix System Production Time is shown. This is the accumulated time that the RO Motor has been powered in order to make RO Permeate Water.

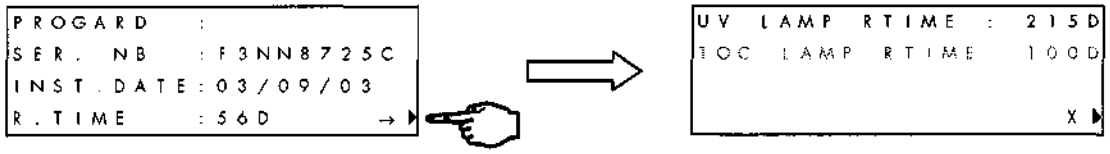
- Press the 4th Keypad Button to see information about the Progard TL.



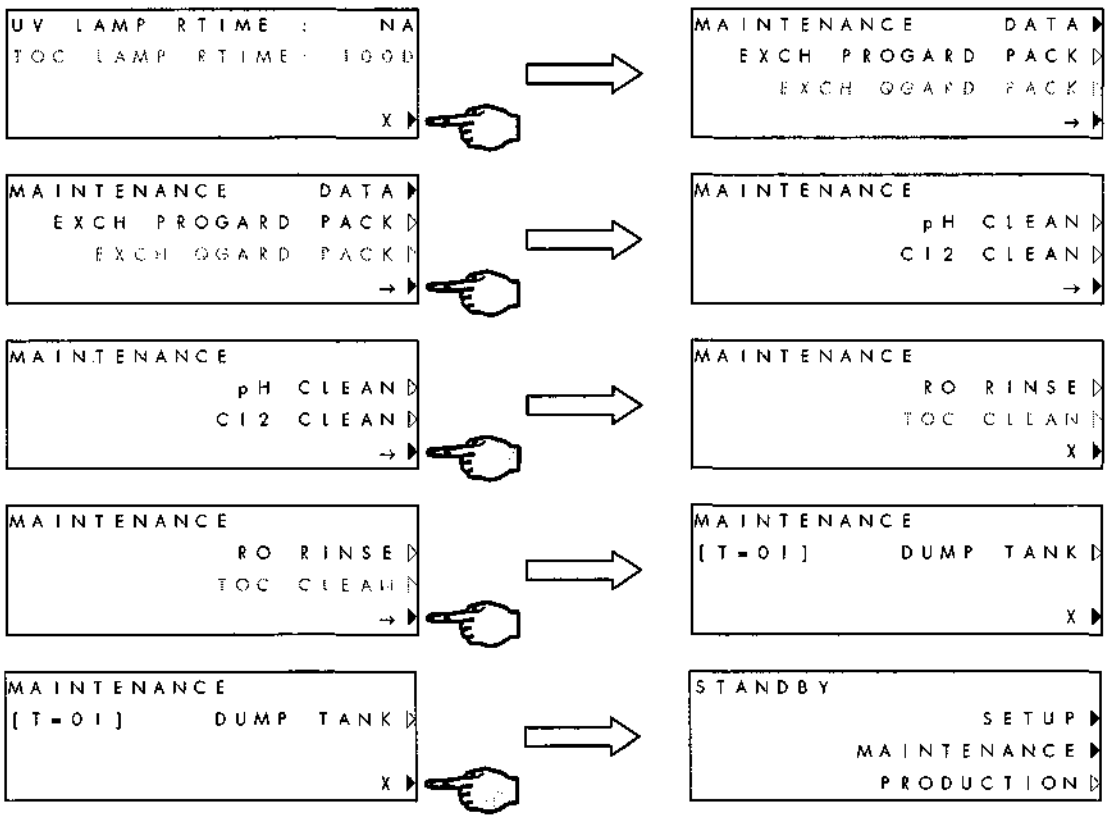
- The Progard Serial Number (SER. NB) is shown. The Installation Date (INST.DATE) is shown (d/m/year). The Progard TL Pack Remaining Time (R.TIME) is shown. If the R.TIME value is "NA" (not available), then the Progard TL has been installed within the last 7 days.
- Press the 4th Keypad Button to see information about the QGard TL if it is installed.



- Press the 4th Keypad Button to view information about the UV Lamp.



- The UV Lamp Remaining Time (RTIME value) is shown. The value shown is based upon the number of hours the UV Lamp has been powered. If the UV Lamp has been powered for less than 100 hours, then the value is shown as "NA" (Not Available).
- Follow the steps below to return to STANDBY Mode.



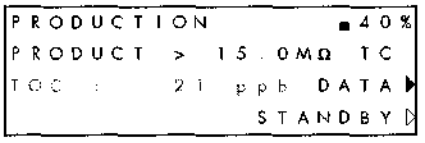
1-5 WHAT ARE THE DIFFERENT OPERATING MODES?

STANDBY MODE



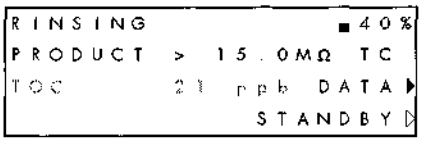
The Elix System is not producing water. STANDBY Mode is used to enter other software modes such as MAINTENANCE, SETUP and PRODUCTION Mode.

PRODUCTION MODE



The Elix System is producing water. A storage reservoir is getting filled with water from the Elix System. Pressing DATA in PRODUCTION Mode allows various operating parameters to be seen.

RINSING MODE



The Elix System is diverting the RO Permeate to drain instead of sending it to a Storage Reservoir. RINSING Mode is used to insure that only high quality RO Permeate is sent to the Storage Reservoir.

RINSING Mode occurs for a few different reasons.

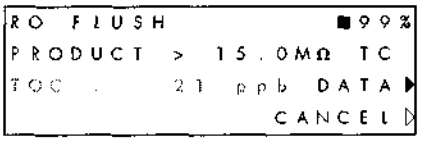
One reason is that the Elix System is going into PRODUCTION Mode. RINSING Mode will occur automatically for one minute or more whenever entering PRODUCTION Mode.

The 2nd reason for RINSING Mode is that the RO % Rejection is 1% lower than the Memorised RO % Rejection Value. When 4 continuous minutes of PRODUCTION Mode have occurred, the RO % Rejection is "memorised". RINSING Mode will continue until the RO % Rejection is within 0.5% of the Memorised Value.

FLUSH MODE

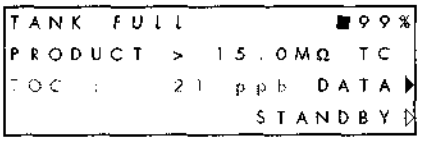


FLUSH Mode occurs when the Inlet Solenoid Valve and the RO Reject Solenoid Valve both are open. This allows Tap Water to enter and to sweep away any accumulated impurities on the Feedwater surface of the RO Cartridge.



FLUSH Mode occurs automatically every 6 hours for 5 minutes in either STANDBY Mode (1st LCD screen shown on the left) or in TANK FULL Mode (2nd LCD).

TANK FULL MODE



TANK FULL Mode occurs when a Storage Reservoir is full. A Level Sensor in the reservoir sends a signal to the Elix System indicating that it is full. The Elix System will stay in TANK FULL Mode until water is withdrawn from the reservoir (i.e. emptied about 20%). The Resistivity and TOC values measured upon entering TANK FULL Mode are displayed during TANK FULL Mode.

Chapter 2 ORDERING INFORMATION

2-1 CATALOGUE NUMBERS FOR CONSUMABLES

Consumable Item	Catalogue Number	Comments
Progard TL1 System Pretreatment Pak	PROGTLOS1	1/box
Progard TL1 System Cl_2 autoClean Pretreatment Pak	PROGTLCS1	1/box
Progard TL2 System Pretreatment Pak	PROGTLOS2	1/box
Progard TL2 System Cl_2 autoClean Pretreatment Pak	PROGTLCS2	1/box
PrePak L1 Pre-System Pretreatment Pak	PRPKOLOS1	1/box; requires Pack Holder (see Accessories below)
UV Lamp	ZLXUVLPL1	1/box (used for replacement UV Lamp for an Elix System or ASM)
QGard TL1 Polishing Pak	QGARDTL01	1/box (used only with an Elix System having the Polishing Option added)
A10 UV Lamp	ZFA10UV01	1/box

2-2 CATALOGUE NUMBERS FOR ACCESSORIES

Accessory	Catalogue Number	Comments
RiOs/Elix-L Syst. Wall Bracket	ZLXOWMBKT	Wall Mounting Bracket for an Elix System
Wall Bracket PrePak L	WBPRPKL01	Wall Mounting Bracket for external PrePak L
Water Sensor RiOs/Elix-L	TANKLK001	Water Sensor that connects to an Elix System
Water Sensor with cable	TANKLK002	Used to add a 2nd Water Sensor.
RiOs/Elix-L Cleaning Port Kit	ZR00CLNKT	Used to add a Cleaning Port to the Elix System.
RiOs/Elix-L Q-Gard TL Kit	ZLXQGRDKT	Kit allows an Elix System to use a Polisher to deionise the Product Water.
RiOs/Elix-L Resistivity Sensor Kit	ZLXORESKT	Kit allows the measurement of resistivity in a loop and to be reported on the Elix System LCD.
Flow Meter Kit RiOs/Elix-L	ZLXFLOWKT	Kit allows an extra Flow Meter to be added to an Elix System.
System Mounting Cart	ZAFSCART1	Cart which can be used to hold the Elix System.
Elix-L TOC Upgrade Kit	ZLXOTOCKT	Kit that allows an A10 to be added to an Elix System.

2-3 CATALOGUE NUMBERS FOR ALL ELIX SYSTEMS

