**TITLE: ELGA Medica / 7180-CH-450**

**Principle:** The Department of Chemistry at Rush Copley Medical Center will use Type 1 water supplied by two ELGA Medica-R &/15 – US water units for the operation of the Abbott ci4100 chemistry analyzer. The Elga units will be monitored daily for quality in addition to being cultured monthly. When the water quality begins to deteriorate the filters will be replaced as needed.

The Medica-R 7/15 – US units supplies the analyzers with quality water using UV and microfiltration together with recirculation and ion exchange. A bypass loop allows for continual supply of water to the Abbott analyzer even if one of the Medica units is non-operable.

**Specimen requirements: N/A**

**Reagents and Supply Requirements:**

|  |  |
| --- | --- |
| CONSUMABLES | TYPICAL USAGE |
| LC140 Pre-treatment | 6 months |
| LC141 Ion Exchange | 6 months |
| LC105 UV Lamp | 12 months |
| LC125 0.2um capsule filter | 6 months |
| LC136 Composite vent filter | 6 months |
| LC143 Reverse Osmosis  | 2/3 years |

**Operation of Medica-R- 7/15 US Water Unit:** The Medica-R-7/15 US control panel has a range of control icons. General icons are as described below. 

1. Medica units run continuously without any operator intervention. The box with moving arrows indicates the water is circulating.
2. A reading above >10 MΩ.cm indicates good water quality.

**Maintenance:**

 **Daily:**

* + - 1. Prefilter check (P1-P2) less than 10 psi difference.
			2. Check water quality (>10 MΩ.cm) is desired. An alarm will sound when water quality is <10 MΩ.cm.
			3. Change filters as needed.

**Monthly Water Cultures:**

 **Sampling Method**

* + - 1. Clean Reservoir Dispense Tap with 70% Isopropyl Alcohol Wipe
			2. Insure Medica system is in recirculation mode.
			3. Open sample port fully and allow to flush for 3 minutes.
			4. Open sterile container and place under stream of water and collect 20-30 mLs of Medica water.
			5. Turn off sample port.
			6. Order cultures in Soft Laboratory software using “Patient Yorkville, DI Water” test CXENV and deliver to the main lab Microbiology department for processing.

**Culture Results and Interpretation**

1. Expected result for a water culture is < 10 CFU/mL.
2. For unacceptable results:
	* + - 1. Refrain from using the water unit.
				2. Call Elga Hotline for service 630-296-0850.

**Semi-Annual Maintenance or as needed maintenance, refer to Medica-R 7/15 Operators Manual for instructions.**

1. Change LC140 Pretreatment.
2. Change LC141 Ion Exchange.
3. Change LC125 0.2um capsule filter.
4. Change LC136 Composite vent filter.
5. Sanitization Procedure.

 **Annual Maintenance**

1. Change LC105 UV Lamp.

**Every 2-3 year Maintenance-to be performed by Elga**

1. Replace RO Membrane LC143.

**Emergency Bypass**

Contact your local service provider before putting the unit into emergency bypass.

1. ENSURE the electrical power supply is switched off.
2. ENSURE the inlet water supply is isolated.
3. WAIT several minutes to allow the residual pressure in the inlet water supply to fall.

4. DISCONNECT the inlet tube on the left-hand side

 of the ***MEDICA-R 7/15 US*** and CONNECT to the

 emergency by-pass connector above it.

5. RELIEVE any residual pressure in the rest of the

 system by slowly opening the bleed nipple on the

 capsule filter until water flow ceases. USE an

 absorbent cloth to soak up the water and RETIGHTEN

 the bleed nipple.

 6. REPLACE ion-exchange cartridge pack (LC141).

 *(See Section 7.2of operator manual).*

 7.OPEN the sanitization isolating valve (V2).

 8. CLOSE the analyzer isolating valve (V1).

**Control Panel**

The control panel key is as follows:







**Troubleshooting**

If a problem occurs, the unit will normally sound an alarm and the respective icon will flash. The audible alarm can be silenced by pressing the mute button.

The appropriate action to take is shown on the quick reference guide located on the inside door of the unit. An alarm code will appear on the tip right corner of the display panel. Below is an alarm summary:



**References**

1. Medica –R 7/15 US Operator Manual