

# MTC-4000

## Milk Pasteurization Testing System



Operational  
Instructions



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# Lumenite®'s MTC-4000

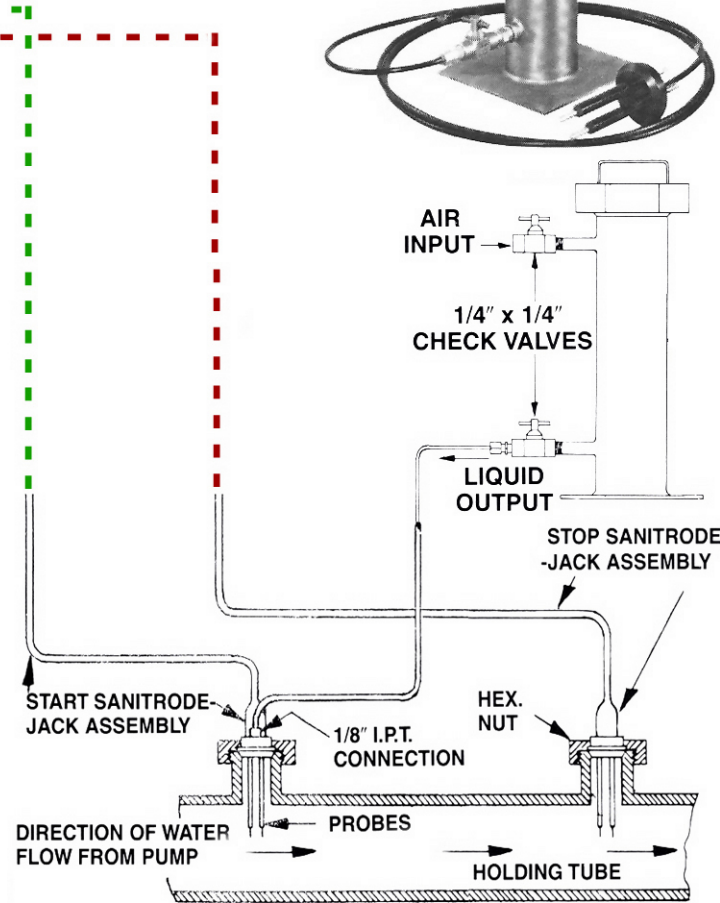
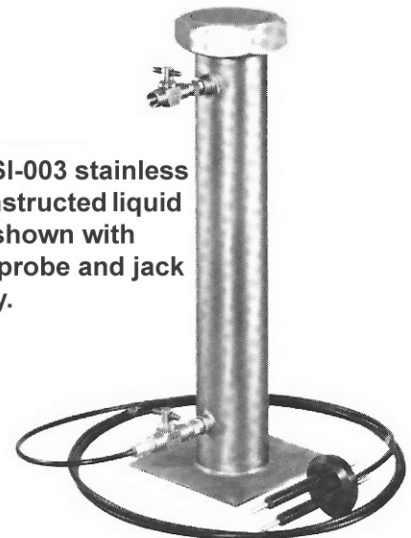
## Milk Pasteurization Testing System

The Lumenite Electronic (h.t.s.t.) Testing System, provides a simple and efficient method of measuring the short time, pasteurization holding period required by the U.S. Public Health Code.

This code states that every particle of milk be heated to at least 160 degrees fahrenheit and held at that temperature for a minimum of 15 seconds.

Lumenite's new Milk Pasteurization Testing Kit measures short time pasteurization periods to 1/100 of a second accuracy.

Model SSI-003 stainless steel constructed liquid injector shown with sanitary probe and jack assembly.



### Testing Printout

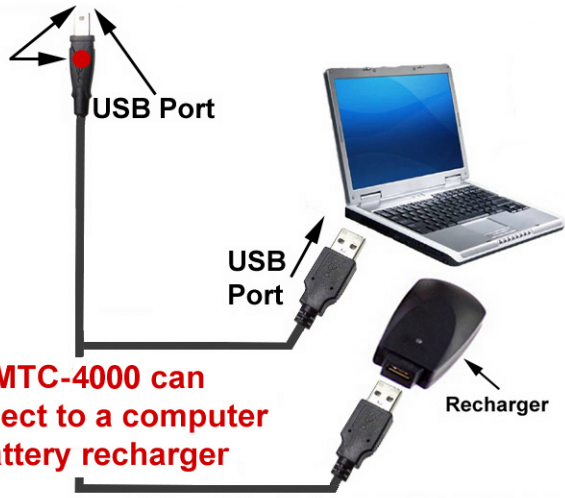
MTC-4000 Test Results  
Session 1 of 1

Test Date/Time: 10/5/2015 13:48:47  
Test Location: Plant Location  
Inspector: Inspector Name  
Test Iterations: 9

Holding Time #1:	16.48 Secs
Holding Time #2:	16.29 Secs
Holding Time #3:	16.38 Secs
Holding Time #4:	16.25 Secs
Holding Time #5:	16.53 Secs
Holding Time #6:	16.40 Secs
Holding Time #7:	16.57 Secs
Holding Time #8:	16.31 Secs
Holding Time #9:	16.43 Secs

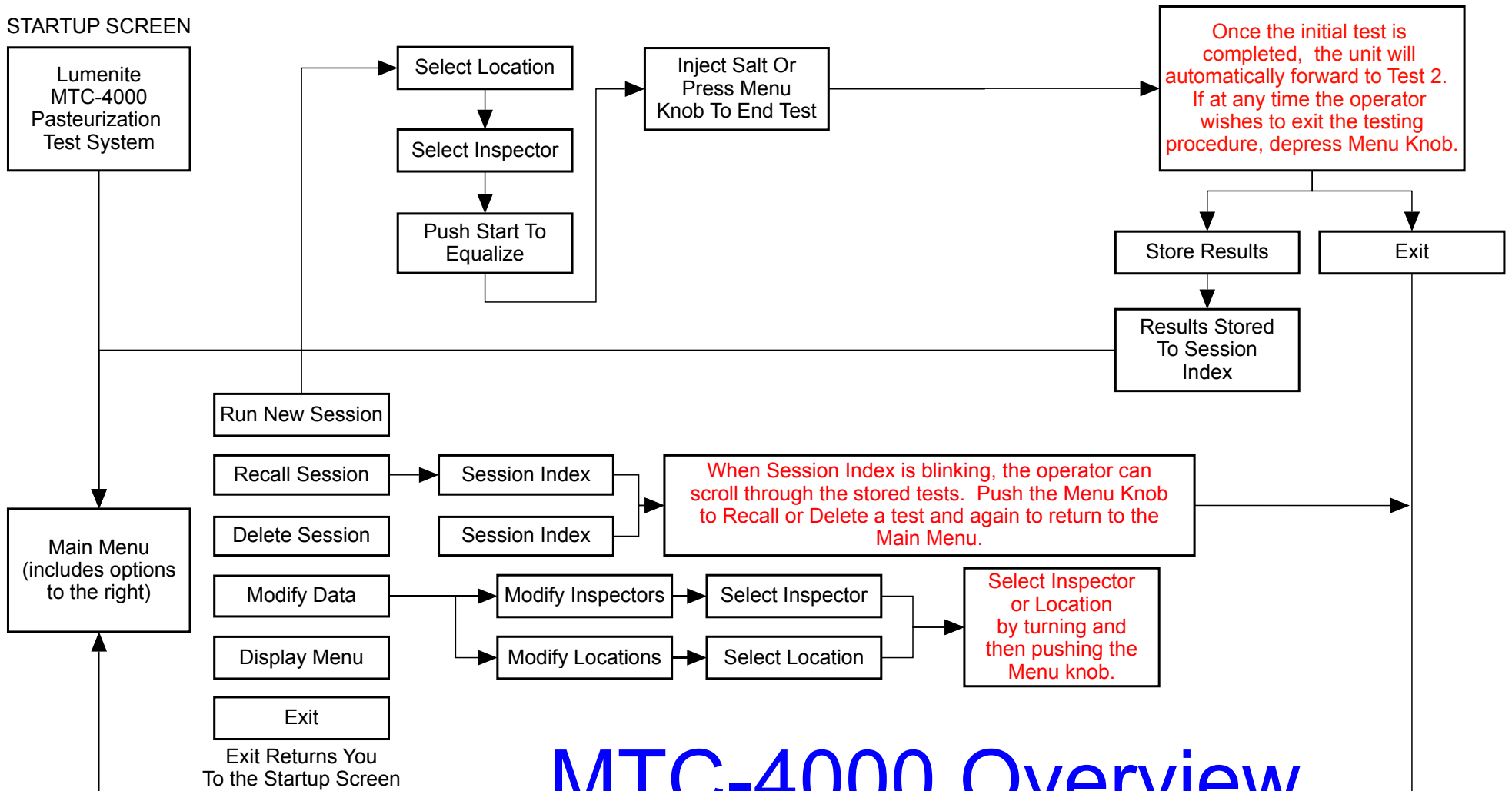
#### STATISTICAL DATA

Average:	16.40 Secs
Median:	16.40 Secs
Standard Deviation:	0.11 Secs
Maximum Deviation:	0.34 Secs



The MTC-4000 can connect to a computer or battery recharger

STARTUP SCREEN



# MTC-4000 Overview

DISPLAY MENU :

The DISPLAY Menu button allows the operator to adjust or check the basic functionality of the unit. The Date, Time, Time Between Tests, Liquid Sensitivity, Auto Shutdown Time, Adjust Contrast, Adjust Backlight, Backlight Duration, and Battery Status can be toggled and changed using the Menu/Enter knob/button.

- Please NOTE : The Liquid Sensitivity feature is factory set at 15% and should not be changed. Consult Lumenite Technical Support before adjusting this percentage.

# MTC-4000

## Operational Instructions



### How To Run A Test . . .

```
LUMENITE MTC-4000
PASTEURIZATION
TEST SYSTEM
1/1/2015 6:00 AM
```

1. Push the On/Off button to power up the unit. The startup screen will appear after a few seconds. Proceed to the Main Menu by pushing the center knob marked Menu/Enter.

```
___MAIN__MENU___
> RUN NEW SESSION <
  RECALL SESSION
```

2. Once in the Main Menu, the RUN NEW SESSION option will be blinking. Push the Menu/Enter knob to continue.

```
RUN NEW SESSION
1/01/2015 6:00 AM
> SELECT LOCATION: 0 <
Not Specified
```

3. You can set multiple locations for different testing sites. Turn the Menu/Enter knob to change the location number then push to Enter. You can also bypass this step by pressing the Menu/Enter knob first.

```
RUN NEW SESSION
1/01/2015 6:00 AM
> SELECT LOCATION: 1 <
Location 1
```

```
RUN NEW SESSION
1/01/2015 6:00 AM
> SELECT INSPECTOR: 0 <
Not Specified
```

4. At times you may not only have multiple locations but multiple inspectors/users as well. Use the same procedure you did in step 3.

```
RUN NEW SESSION
1/01/2015 6:00 AM
> SELECT INSPECTOR: 1 <
Inspector A
```

```
EQUALIZATION STAGE
START:
STOP:
If Ready Press START
```

5. During the equalization stage the MTC-4000 automatically calibrates to the optimum sensitivity. Press the START button to initiate the process.

```
EQUALIZATION STAGE
START:■■■■ |
STOP:■■■■ |
SYSTEM EQUALIZED
```

```
TEST: 1 INJECT SALT
START:■■■■ |
STOP:■■■■ |
To end, hold ENTER
```

```
TEST: 1 INJECT SALT
+15.0:■■■■ |
STOP:■■■■ |
To end, hold ENTER
```

```
TEST: 1 INJECT SALT
+12.7:■■■■ |
STOP:■■■■ |
To end, hold ENTER
```

```
TEST: 1 INJECT SALT
START:■■■■■■■■ |
STOP:■■■■ |
To end, hold ENTER
```

```
TEST: 1 INJECT SALT
START:■■■■ |
STOP:■■■■■■■■ |
To end, hold ENTER
```

```
__TEST_RESULTS_MENU__
> STORE RESULTS <
EXIT
```

6. Once the system is equalized you will see "INJECT SALT", start and stop bargraphs, and to the right, single bar start and stop trigger points. In auto sensitivity mode, you may now inject salt water to initiate the test.

7. If the water is highly mineralized, very conductive, or contains too much salt, the MTC-4000 may not automatically equalize. The operator can manually equalize the system by pressing the Start and/or Stop Sanitrode adjust knob(s), and turning the knob(s) to the LEFT to INCREASE sensitivity or to the RIGHT to DECREASE sensitivity. The corresponding Start and Stop trigger points move to the left or right, indicating the manual change in sensitivity.

NOTE: Lumenite® recommends rinsing the holding tube with clean, unsalted water, between tests. Rinsing will normally allow repeated tests in the auto sensitivity mode, without need of manual sensitivity adjustment.

8. The saline solution is injected triggering the start counter.

9. When the salt water reaches the stop probe the counter stops ending the test. The MTC-4000 will then prompt the user to "INJECT SALT" again and start "TEST: 2". You can also exit the testing session by pressing and holding the Menu/Enter knob.

10. Upon exiting the testing session, the user will be asked if they would like to Store Results or Exit to the main menu. Rotate the Menu/Enter knob until the desired option is blinking and push the knob.

# How To Take Care Of Your MTC-4000's Li-Ion Battery

Your MTC-4000 uses Li-Ion technology to power it. Just like your laptops and cellphones, there are ways to prolong their operational timeframe. Here are some pointers to keep the battery fresh and maximize its shelf-life.

1. **Keep the MTC-4000 at Room Temperature when Charged**  
Charging or subjecting a charged Li-Ion battery to heat will reduce its lifespan.

2. **Lower Charging Voltages Prolong Battery Life**

Avoid third party quick charge devices. It may charge faster but the battery won't hold up as long. (Lumenite® USB Wall Plug Output : 5VDC 1000mA)

3. **Storing the MTC-4000 for Longer Than a Month**

For prolonged storage, it is recommended to keep the MTC-4000 in a cool environment with the battery at half charge or 50%. Li-Ion batteries break down and lose their charging capacity when stored for extended periods of time at maximum capacity.

4. **Avoid Completely Discharging Your MTC-4000**

At depleted voltages the Li-Ion enters a sleep mode rendering the battery unusable. There are methods of waking up a Li-Ion but we don't recommend them. They can cause the battery to overheat and potentially damage the MTC-4000.