

	<b>BIO-PM 4.27 Thelco Incubators</b>	
	<i>Document #: 1934</i>	<i>Page 1 of 3</i>
	<i>Revision #: 1</i>	<i>Issued Date: 11/14/2017</i>
	<i>Document Manager: Kristin Schelling</i>	<i>Approved By: Jeffrey Nye</i>

## **4.27 Thelco Incubators**

### **4.27.1 Scope**

To provide an environment with a controlled temperature for the incubation of reactions and the thawing and warming of samples.

### **4.27.2 Background Information**

The Thelco Incubator Installation and Operation Instructions.

### **4.27.3 Operation**

#### **4.27.3.1**

Fully open the exhaust vent shutter cap on top of the incubator and leave it open at all times.

#### **4.27.3.2**

Never cover the shelves with foil or reduce their open surface area by more than 75%.

#### **4.27.3.3**

Press the ON/OFF power to ON for power.

#### **4.27.3.4**

Set the desired operating temperature by depressing the TEMP key once and use arrow keys to raise or lower to desired value. When desired value is displayed, press the ENTER key.

#### **4.27.3.5**

Set desired high limit value by depressing the HIGH LIMIT key and use the arrow keys to raise or lower desired values. This value must be at least 1 degree higher than the TEMP set point value previously set. If not, the display will blink "Hi" until an appropriate value is selected. When desired high limit temp value is shown in the SET POINT window, press the ENTER key.

#### **4.27.3.6**

If the actual temperature exceeds the entered high limit value, the HIGH LIMIT thermostat circuit will take over. The incubator will maintain control at the high limit temperature, and the alarm will sound. Depress the MUTE key to silence the alarm and check Maintenance and Servicing.

#### **4.27.3.7**

At least 1" should be left between objects placed on shelves.

#### **4.27.3.8**

The bottom floor of the chamber must be kept free and clear of objects and never used as a shelf.

	<b>BIO-PM 4.27 Thelco Incubators</b>	
	<i>Document #: 1934</i>	<i>Page 2 of 3</i>
	<i>Revision #: 1</i>	<i>Issued Date: 11/14/2017</i>
	<i>Document Manager: Kristin Schelling</i>	<i>Approved By: Jeffrey Nye</i>

#### **4.27.3.9**

At no time should solid shelves be substituted for the shelves that are provided.

#### **4.27.3.10**

Do not place explosive, combustible, or flammable materials in the incubator.

#### **4.27.3.11**

Clean up any spills inside the incubator immediately. Use caution if incubator is hot.

#### **4.27.3.12**

Do not evaporate noxious or poisonous fumes.

#### **4.27.3.13**

Do not store acidic or caustic materials in the incubators.

#### **4.27.3.14**

The incubators are not intended for food preparation.

#### **4.27.3.15 Temperature Fluctuation**

##### **4.27.3.15.1**

Make sure the vent shutter cap is open. Open to the maximum position.

##### **4.27.3.15.2**

Test unit when empty; if results are satisfactory the chamber was improperly loaded. Redistribute the load.

##### **4.27.3.15.3**

Be sure to allow ample time for an empty chamber to stabilize at the desired temperature setting. It could take over three hours to equilibrate depending upon the difference between ambient and operating temperatures. The mass of the load could also affect the stabilization time.

##### **4.27.3.15.4**

Make certain severe line voltage fluctuations are not occurring.

##### **4.27.3.15.5**

Make certain all wire connections are secure at their terminals.

	<b>BIO-PM 4.27 Thelco Incubators</b>	
	Document #: 1934	Page 3 of 3
	Revision #: 1	Issued Date: 11/14/2017
	Document Manager: Kristin Schelling	Approved By: Jeffrey Nye

### **4.27.3.16 Temperature Calibration**

#### **4.27.3.16.1**

A temperature offset may be required to match a stable incubator's actual temperature display to a calibrated thermometer. This is normal and can be adjusted as follows:

##### **4.27.3.16.1.1**

Allow the incubator to stabilize.

##### **4.27.3.16.1.2**

Press the TEMP key twice; the display will read "CAL".

##### **4.27.3.16.1.3**

Press the arrow keys to make the display agree with the calibrated thermometer reading.

##### **4.27.3.16.1.4**

Press ENTER. The display will agree with the thermometer. The incubator will heat or cool as required to the desired set point.

### **4.27.4**

*Read the Owner's Manual for other calibrations, problems, and parts replacement.*