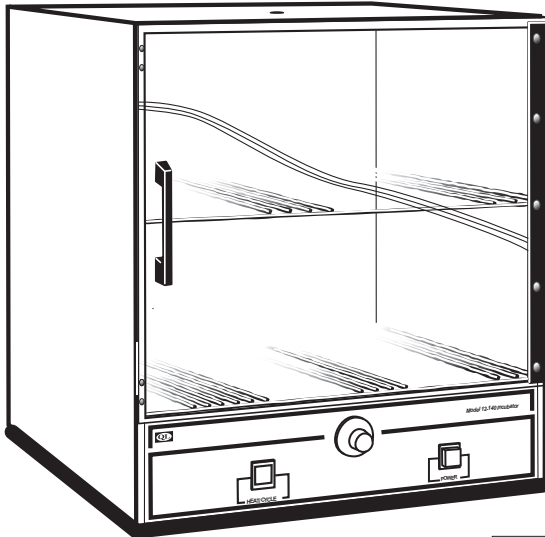


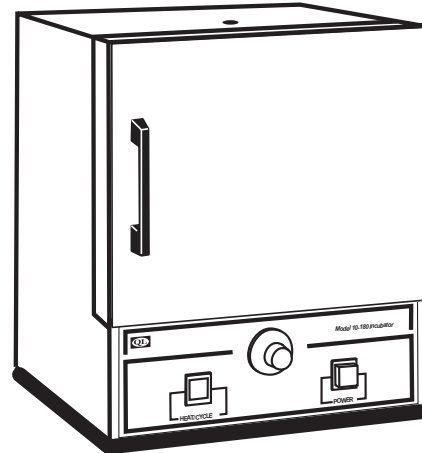
# General Purpose Incubators

## OPERATING MANUAL

Model Series 140 & 180



Model 12-140



Model 10-180



SPECIFICATIONS	MODEL 10-140	MODEL 12-140	MODEL 10-180	MODEL 12-180
<b>Interior Dimensions</b>				
INCHES W x H x D	12x10x10	18x16x12	12x10x10	18x16x12
(CM) W x H x D	31x25x25	46x41x30	31x25x25	46x41x30
<b>Exterior Dimensions</b>				
INCHES W x H x D	13x15x11	19x21x13	13x15x11	19x21x11
(CM) W x H x D	33x38x28	48x53x33	33x38x28	48x53x33
<b>Weight (lbs)</b>	19 lbs	33 lbs	19 lbs	33 lbs
<b>Cubic Foot Capacity</b>	.7 ft <sup>3</sup>	2.0 ft <sup>3</sup>	.7 ft <sup>3</sup>	2.0 ft <sup>3</sup>

Standard Electrical	MODEL 10-140	MODEL 12-140	MODEL 10-180	MODEL 12-180
VOLTS / WATTS	115 / 120*	115 / 235*	115 / 270*	115 / 385*

\* Standard models voltage only, optional 230 voltage available. Check label on back of unit.

Temperature Range	MODEL 10-140	MODEL 12-140	MODEL 10-180	MODEL 12-180
	Ambient + 2°C to 62°C		Ambient + 3°C to 94°C	

### Common Unit Specifications

<b>Operating Environment:</b>	Indoor use, altitude to 6,500 ft. (2,000m) Installation Category II, Pollution Degree 2, ambient temperature 10°C/50°F to 35°C/95°F, 80% RH maximum.
<b>Storage Temperature:</b>	-10°C/14°F to 70°C/158°F, 70% RH maximum.
<b>Approvals:</b>	Underwriter's Laboratory Listed, Laboratory Equipment, C/UL United States/Canadian. E212550 (115VAC models only)
<b>Compliance:</b>	UL Standard 61010-1, IEC 61010-1, 2nd Edition.

### Common Unit Construction

<b>Exterior:</b> Powder-Coated Steel	<b>Interior:</b> Aluminum
<b>Insulation:</b> Fiberglass	<b>Door:</b> 140: Acrylic, 180: Steel Insulated
<b>Thermo-control:</b> Bi-Metal	<b>Heater:</b> Resistive-Tubular Incoloy

## Safety Precautions Read Operating Instructions Thoroughly Prior to Operation

Read Operating Instructions thoroughly prior to operation and observe the following safety precautions:

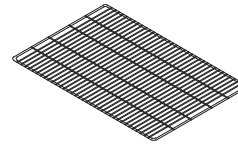
- Use only a grounded outlet that is rated for your model's electrical requirement.
- Do not modify the oven or factory control settings to operate the oven above the stated maximum operating temperature.
- Exterior surfaces on the 180 models may become hot to the touch when operating at higher set temperatures.
- Conduct periodic maintenance as required.

**WARNING:** Do not place volatile or combustible materials into incubators.

**CAUTION:** This unit is not intended for use with any flammable liquids or vapors, or with chemicals that produce toxic gases.

### UNPACKING AND CONTENTS

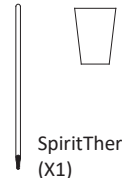
Unpack your incubator and inspect it for any shipping damage. Verify that the (4) rubber feet at the bottom of the unit are not missing. Make sure you have received all the items shown on this section. *The design of the parts and accessories may differ from the pictures shown. Their design is subject to change without notice for product improvement.*



Fixed Shelf (X1)  
Adjustable Shelf (X1)



Shelf Bracket (X2)



SpiritThermometer (X1)

Thermometer Grommet (X1)

If you encounter any shipping damage to the unit and/or are missing any of the units contents, please refer to the enclosed **DAMAGE/MISSING ITEM REPORT** or call 1800-482-4328.

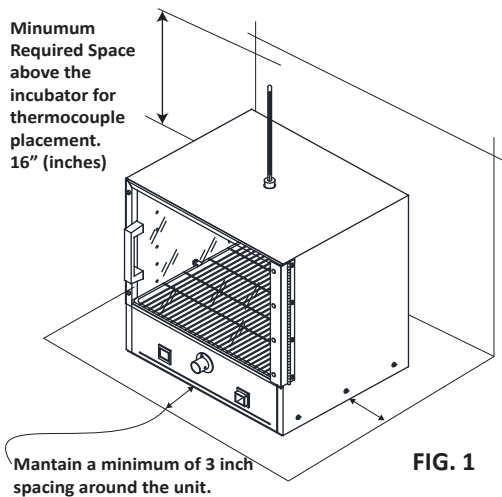


FIG. 1

### INCUBATOR SET-UP

- Place the Incubator on a flat surface. Maintain a minimum of 3" (7.6 cm) of airspace around the unit and a minimum of 16" (40.6 cm) above the unit to allow for the placement of the thermometer.
- Install the desired shelves in the unit (see Shelf Installation).
- Plug the unit into a grounded outlet that is rated for your model's electrical requirement.

#### IMPORTANT:

Do NOT modify the provided plug. Do NOT use an extension cord. Use an individual branch circuit for your incubator. For information on your unit's electrical specifications and rated voltage, refer to label on the back of the unit.

### INCUBATOR SHELF INSTALLATION

Your incubator allows shelves to be adjusted at different heights in the unit and are easy to install and adjust using the wire shelf brackets. To install and/or adjust shelves follow the steps below:

- Align bracket ends with holes located inside the ovens walls (FIG. 2)
- Insert shelf bracket ends into the hole and press down on the bracket as shown in (FIG. 3). Repeat process on the opposite side of the wall.
- Place shelf on top the the brackets.

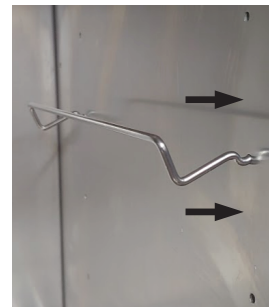


FIG. 2

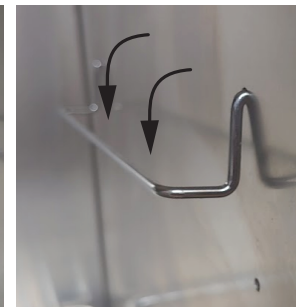


FIG. 3

### THERMOMETER INSTALLATION

Remove the glass thermometer from its container and insert into the rubber grommet using a slow twisting motion. (FIG. 4)

#### CAUTION:

AVOID FORCING GLASS THERMOMETER IN GROMMET, THIS CAN CAUSE THERMOMETER TO SHATTER , RISKING A POSSIBILITY OF INJURY.

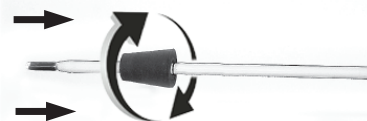


FIG. 4

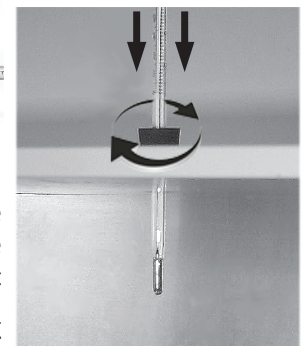


FIG. 5

Insert the rubber grommet/thermometer assembly into the port through the top of the incubator. The thermometer should be inserted with the narrow part of the grommet facing down. Insert by using a slow twisting motion and allow the thermometer to extend into the incubator. (FIG.5)

**NOTE:** When insterting the rubber grommet on top of the unit, ensure that the narrow part of the grommet is facing down. **Grommet will only go in about 1/4 inch into the top port hole.**

## General Operation

Push the illuminated power button to power unit. Rotate the thermostat knob clockwise to approximately the number 6 on the dial. The heat cycle light will illuminate to indicate that the heating element is energized.

As the unit goes through the heating cycle, observe the thermometer on your incubator. When the desired temperature is reached, slowly turn the thermostat knob counter clockwise until the heat cycle indicator turns off. The temperature will continue to rise slightly due to latent heat from the heating element, but eventually achieve thermal equilibrium.

### IMPORTANT:

Allow unit to cycle empty for a minimum of 20 minutes to allow the interior chamber to reach a thermal equilibrium.

Check the thermometer to see if any minor adjustments to the thermostat should be made. With any subsequent adjustment allow time for chamber to achieve a steady state before determining if the desired set temperature has been reached. To maintain a frequently used temperature, leave the thermostat knob at its set point number and use the power button to turn the unit ON or OFF.

Setting the unit's temperature with an empty chamber helps to establish a useful correlation between the unit's performance (heating capacity) and proper processing of various chamber loads and densities (load-effect). See *Performance and Chamber Loading and Important Operational Notes*.

## Performance and Chamber Loading

Understanding the unit's light pressure thermal convection and "load-effect" are necessary to optimizing unit performance.

Article or media processing times and/or uniformity are largely dependent on load density and positioning. When processing various loads it's important to remember that the thermostat senses the temperature at the lower part of the chamber where the heat is generated and the corresponding reading of a temperature setting is taken from the top of the chamber with the installed thermometer. Since loads sit between these two points, load variations such as quantity, arrangement, density and their relative thermal properties can temporarily or permanently affect temperature readings.

### Important guidelines to chamber loading and processing:

- Load the incubator so that air circulation within the chamber is not impaired.
- Leave a space between articles on shelf.
- Stagger articles from those on lower shelves in a "V" formation. (FIG. 6 ON PG. 4)
- Avoid the use of large solid trays or foil on lower shelves, this can drastically limit heat to shelves and articles placed above.
- Avoid extremely large (in quantity or size), or high-density loads ( FIG. 8 ON PG 4). This will show by non-uniform processing and long or impossible "heat-through" times. To help determine a large load's suitability, use the set-point recovery time (the time it takes for the temperature to recover to the original set temperature once load is placed), as a guide.
- To reduce recovery time, reduce load proportionally. Also, large loads such as a beaker containing 2 liters of solution may require an elevated set temperature for the solution to reach and maintain a lower target temperature. When possible, measure large loads or solution temperatures directly with an ancillary thermometer or probe. **Probes can be inserted at top port.**
- Process the smallest possible load the application or workload will permit. For best processing of small multiples or a single item, adjust one shelf so that the article(s) is centered in the incubator.
- Avoid placing articles or media against or within an inch of the walls especially on the lower shelf. Heated air from the lower heat-shield, is designed to travel up the side walls and can have a slightly elevated temperature from set point and the rest of the chamber.

### IMPORTANT:

It is important to note that large trays placed on lower shelves prevents enough heat to rise within the chamber. Thermometer readings can give a false indication that the temperature setting is too low. Higher temperature adjustments made as a result of these readings could overheat lower placed articles or media. (FIG. 7 ON PG. 4)

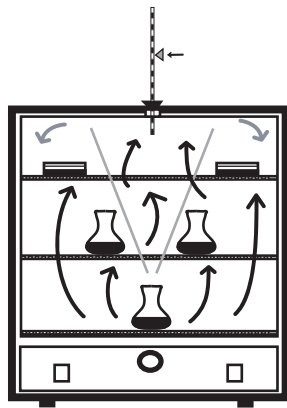


FIG. 6

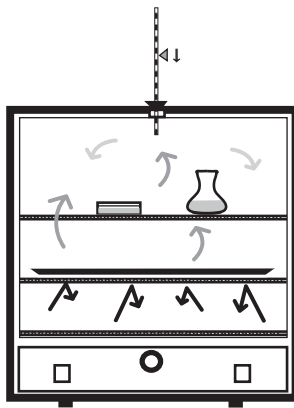


FIG. 7

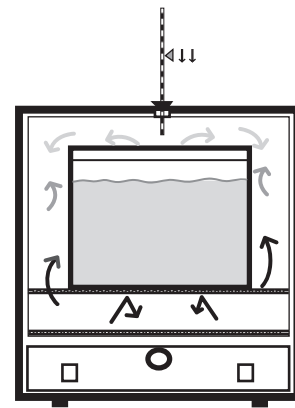


FIG. 8

## Important Operational Notes:

The set point of the thermostat or chamber temperature stability can be affected by changes in ambient (room) temperature and/or equipment running in close proximity (creating micro climates) or cycling on the same electrical circuit. Take time to see how unit location or changes in room temperature from seasonal heating or air conditioning may influence the incubator's set temperature. **For best chamber temperature stability, keep the ambient temperature stable.**

## Additional Notes:

- **The unit's minimum operating temperature is largely determined by ambient (room) temperature.**  
The unit can operate 2°C above room temperature but temperature stability will be degraded.
- The unit's stability improves appreciably for settings that exceed ambient by 4°C or better. Also, the lower the ambient temperature the lower the maximum adjustable operating temperature.
- Adjusting the operational temperature range of the unit for *non-typical ambient conditions* can be done by adjusting the calibration trim screw located recessed in the shaft, behind the knob dial. If a temperature range shift is necessary, contact Quincy Lab for instructions.



## Maintenance

To clean interior and exterior surfaces, use a damp cloth with or without an all-purpose cleaner. Avoid commercially available oven cleaners. The acrylic door should only be cleaned using a lint-free cloth, with or without water. Paper towels can mar the surface of the acrylic door. Use of any commercial cleansers on the acrylic door will cause crazing and cracking of the surface of the acrylic over time. Periodically check the temperature stability (with the unit empty of contents), by observing the temperature through several cycles of the thermostat. (See also Important Operational Notes above).

- If liquid is spilled inside the unit, disconnect it from the power supply and have it checked by a competent person.
- It is the user's responsibility to carry out the appropriate decontamination if hazardous material is spilled on or inside the unit.
- It is the user's responsibility not to use decontamination or cleaning agents that could cause a hazard as a result of a reaction with parts of the equipment or with material contained in it.

If unsure of the compatibility of decontamination or cleaning agents consult the manufacturer.

## Technical Support

If you have any questions or need technical assistance, contact Quincy Lab technical support for further assistance or visit us on the web at [www.quincylab.com](http://www.quincylab.com)

**Email:** [information@quincylab.com](mailto:information@quincylab.com)  
**Voice:** 800-482-4328  
**Fax:** 773-622-2282

Quincy Lab, Inc.  
 109 Shore Dr.,  
 Burr Ridge, Illinois 60527

## Limited Warranty



Quincy Lab, Inc. warrants to the original purchaser that this product will be free from defects in material and workmanship under normal use throughout the warranty period. The standard warranty period for this instrument is twenty four (24) months from date of shipment. The instrument warranty is supplemented with a three year warranty on the heating element. Please refer to your invoice or shipping documents to determine the active warranty period. This warranty covers parts & labor (labor at factory only) and shipping cost for replacement parts.