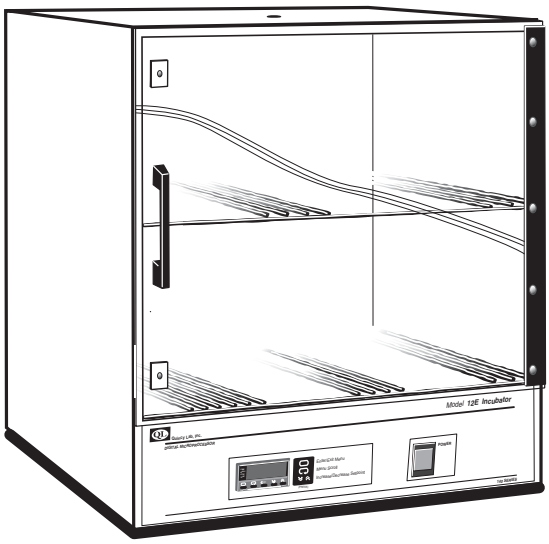
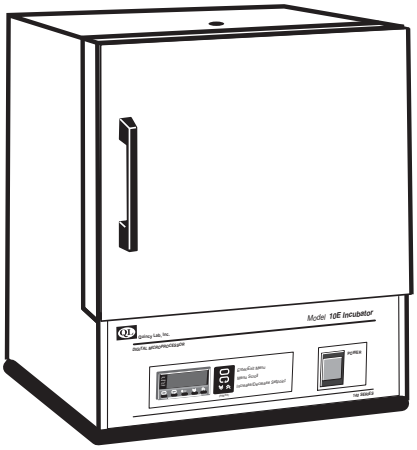
Quincy Lab, Inc.

Model Series 140AE & 180AE
General Purpose Incubators
OPERATING MANUAL



Model 12-140AE



Model 10-180AE

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SPECIFICATIONS	MODEL 10-140AE	MODEL 12-140AE	MODEL 10-180AE	MODEL 12-180AE
Interior Dimensions				
INCHES W x H x D	12x10x10	16x15.5x12	12x10x10	16x15.5x12
(CM) W x H x D	31x25x25	46x41x30	31x25x25	46x41x30
Exterior Dimensions				
INCHES W x H x D	13x15x11	19x21x13	13x15x11	19x21x11
(CM) W x H x D	33x38x28	48x53x33	33x38x28	48x53x33
Weight (lbs)	23 lbs	39 lbs	23 lbs	39 lbs
Cubic Foot Capacity	.7 ft^3	1.72 ft^3	.7 ft^3	1.72 ft^3
Standard Electrical				
VOLTS / WATTS	115 / 200*	115 / 295*	115 / 365*	115 / 465*
Temperature Range				
Ambient +8°C to:	62°C	62°C	94°C	94°C

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

Common Unit Specifications

Operating Environment: 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.
Storage Temperature: -10°C/14°F to 70°C/158°F, 70% RH maximum.
Approvals: Underwriter's Laboratory Listed, Laboratory Equipment, C/UL United States/Canadian. E212550 (115VAC models only)
Compliance: UL Standard 61010-1, IEC 61010-1, 2nd Edition.

Common Unit Construction

Exterior: Powder-Coated Steel
Insulation: Fiberglass
Thermo-control: PID Microprocessor
Interior: Aluminum
Door: 140AE: Acrylic, 180AE: Steel Insulated
Heater: Resistive-Tubular Incoloy

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Safety Precautions ⚠ Read Operating Instructions Thoroughly Prior to Operation

Read Operating Instructions thoroughly prior to operation. 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 180AE models may become hot to the touch when operating at higher set temperatures. Conduct periodic maintenance as required.

Set-up & Installation

Position unit in its ultimate operating location. Keep a minimum of 3" of airspace around the unit and a minimum of 6" above the unit. The port hole at the top of the unit will expel a small amount of warm air through natural convection. This port can also be used as an access way for external temperature measurement of a solution for example.

Install adjustable shelf by placing the ends of the wire shelf bracket into the corresponding holes located on the inner sides of the oven at the desired height. Push the ends of the bracket into the holes until the first bends in the bracket are against the wall, then rotate the bracket down. Place the shelf on the brackets. **(FIG 1)**

Place drip tray on lower shelf.

Plug the unit into a grounded outlet for your unit's rated voltage.

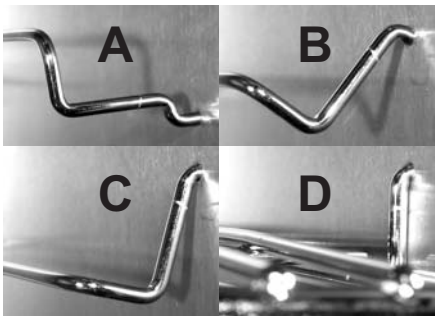

FIG. 1

General Operation

The unit is ready for your immediate use. All control parameters, calibration and tuning has been done at the factory, no adjustments are necessary.

Push the illuminated power button. All LED's on the temperature control will light up and display the current chamber temperature and the set temperature. The motor will also start.

Set temperature is constantly displayed in the lower right-hand corner of the display. To change the set temperature, simply press either the up arrow key or the down arrow key until desired set temperature is reached. **(FIG 2)** The temperature control is set at the factory to read in 1/10 degree F, or Fahrenheit units. To change Controller functions see: Menu Level Functions (page 3).

Once the unit nears the desired temperature, allow the unit to cycle for 20 minutes at set point before temperature becomes fully stable.

Enter/Exit Menu

Menu Scroll

Increase/Decrease Setpoint

(PRESS)

FIG. 2

NOTE: Upon each initial powering-up, the control may typically overshoot the set temp by a few degrees, especially if the temperature set point is close to the operating ambient temperature. After equilibrium is achieved the control will hold set temperature within 1 unit degree.

Chamber Loading

Article processing times and temperature uniformity are largely dependent on load density and positioning. Load the incubator so that air circulation within the incubator is not impaired. Here are some general guidelines:

Leave a space between articles on a shelf to allow the unit's horizontal air flow to circulate around each article. **(FIG. 3)**

Don't block the return air port located at the back of the lower plenum/shelf.

Avoid extremely large (in quantity or size) or high-density loads. 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. When possible, measure large loads or solution temperatures directly with an ancillary thermometer or probe. Probes can be inserted at top port.

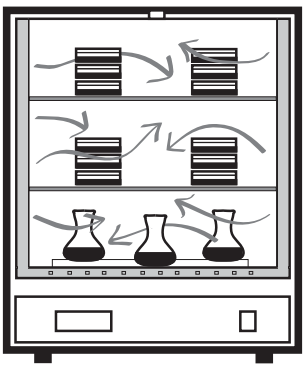

FIG. 3

Menu Level Functions Guide

To access menu for common menu functions, please refer to the easy-to-use ***Menu Guide*** below: Menu setting changes are quick and easy with our new 5-button digital microprocessor.
Through the use of these controls you can:

- set the operating temperaure,
- lock the set-temperature,
- select either degrees Farenheit or Centigrade,
- calibrate your unit to your independent temperature-sensing device,
- auto-tune your Incubator for maximum efficiency.

After **most** changes to the configuration, return to normal operating mode by holding the  enter/exit key for 3 seconds.

For returning from setting the **set-point temperature lock**, hold ***both***  and  for 3 seconds.

MENU GUIDE

Digital Controller Function Buttons


Enter / Exit MENU


MENU Scroll

Changes digit cursor on set temperature


Decrease


Increase

To set setpoint temperature


Decrease


Increase

Up and down arrow keys (shown left) are used to increase or decrease set-point control temperature as desired by user

To adjust control to read in C or F temperature units

Hold 3 sec — View

When at the d-U "Degree Units" prompt, you can change the temperature units to F for Farenheit, or C for Celcius, by using the ⩔⩓ buttons.
Default set to F

To lock setpoint temperature

Hold together 3 seconds

Lock setpoint by changing to '3'
Default set to 0

To calibrate control to independent probe/sensor

Hit ONCE — Hit ONCE

Use ⩔⩓ keys to enter temperature shift in degrees

To calibrate unit add (or subtract) the temperature differential, to the existing iNS value shown at prompt

To Auto-tune oven

Hit ONCE — Use ⩔⩓ keys to change setting
Default set to 40%

All units are Auto-tuned at the factory using the 'At-1' option for faster response time. You may, however, want to Auto-tune your oven to your specific application. To do this, once at the 'At' prompt (at left), use arrow keys to initiate either Auto-tune option: 'At-1' (for 40% Auto-tune), or 'At-2' (for 100% Autotune). The 40% Auto-tune (At-1), will stabilize the oven temperature quicker and with less 'overshoot' than the 100%, but will be somewhat less precise. The 100% Auto-tune (At-2), will take longer to stabilize oven temperature but will be more precise, and take a little longer to complete the Auto-tune process.

Control Self Diagnostics

Control prompts will only display when a fault or alarm condition exists.

ALARM Codes "S.ERR" & "- - - -"

or

Indicates Input Error

Check to make sure Thermocouple wiring is connected securely

ALARM Code "E333"

Indicates Internal Circuit Error

Turn Controller OFF and On. If problem remains, replace Controller

ALARM Code "E111"

Indicates Internal Memory Error

Turn Controller OFF and On. If problem remains, replace Controller

Common Replacement Components

All replacement components are readily available and are easily replaced in the field.

COMPONENT	MODEL	VOLTAGE	PART #	COMPONENT	MODEL	VOLTAGE	PART #
Digital Controller	All	All	101-1230	Acrylic Door/Hinge	10-140AE	All	401-1010
Relay	All	All	401-1235	Acrylic Door/Hinge	12-140AE	All	401-1211
Push Button Switch	All	115V	401-2213	Motor w/ Fan & Brkt	All	115V	401-2025
Push Button Switch	All	230V	401-2213-1	Motor w/ Fan & Brkt	All	230V	401-2025-1
Thermocouple	All	All	401-1231	Fuse (3 amp)	10-140AE 12-140AE	All	Q-1196
Magnetic Catch (set)	All	All	401-1214	Fuse (5 amp)	10-180AE 12-180AE	All	Q-1193
Aluminum Shelf	10-140AE 10-180AE	All	401-6033	Fuse Holder (Black)	All	All	Q-1197
Aluminum Shelf	12-140AE 12-180AE	All	F-6043A	Fuse Holder (Red)	All	All	Q-1198
Shelf Supports (2)	10-140AE 10-180AE	All	101-1001	6' Cord & Plug	All	115V	101-1803
Shelf Supports (2)	12-140AE 12-180AE	All	101-3001	6' Cord & Plug	All	230V	101-1603-1

Maintenance / Control Calibration

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 accuracy of the control's temperature display against a known accurate or calibrated device. This should be done with an empty chamber after the set temperature becomes steady (typically after 45 - 60 minutes). Calibrate the control in the control's function menu, (see page 3).

Technical Support

If you have any questions or need technical assistance, please contact Quincy Lab Tech Support at:

Email: information@quincylab.com
Voice: 800-482-HEAT (4328)
Fax: 773-622-2282

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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 eighteen 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.