

DESCRIPTION

The P4850 / P4855 forced-air incubator is a front loading, open-cavity, forced-air incubator with timing capabilities built into the control system.

APPLICATION

The product is used for post-irradiation heat treatment of:

- B3 DoseStix and WINdose dosimeters in their individual factory packaging
- Loose B3 DoseStix and WINdose dosimeters
- Bare B3 film sheets and strips

SPECIFICATIONS

GEX Part No.	Model No.	External Dimensions (W x H x L):	Internal Dimensions (W x H x L):	Unpackaged Weight (lbs.):
P4850	IF30 Plus	23" x 27.7" x 17.1"	15.8" x 12.6" x 9.8"	106
P4855	IF55 Plus	15.8" x 15.8" x 13"	23" x 30.9" x 20.2"	126

Material:	Stainless steel
Color:	Silver
Printing:	Memmert branding
Electrical:	115V or 230V, 50/60 Hz
Temperature Range:	Ambient +10°C to 80°C
Temperature Resolution:	0.1°C
Heat up Time:	40 minutes or less
Temperature Display:	LED
Output:	Ethernet

Timer:

Item Dimensions	Packaging Dimensions	Net Weight
N/A (integrated into control panel)	Included with incubator	N/A

Alarm:	Audible
Functions:	Count-down, Memory
Display:	LED
Resolution:	1 second

Included Components:

Wire shelving

Packaging:

Item is palletized upon delivery. Delivery will require appropriate handling.

Model No.	Approximate Packaged Dimensions	Approximate Packaged Weight (lbs.):
IF30 Plus	26.0" x 35.0" x 25.6"	142
IF55 Plus	28.7" x 37.4" x 26.4"	168

Storage:

Store the incubator in a cool and dry area.

PRODUCT PHOTOS



USAGE

Refer to the Memmert Operation Manual for detailed usage information to include the basic operating precautions and operational safety rules.

General Setup and Installation:

- 1) Un-package and inspect for any shipping damage.
- 2) Using two people for transport, carefully move and place the incubator on a flat, stable, even surface with unobstructed airflow around the incubator and preferably away from air drafts. The recommended distance of each side is minimum of 15 cm from the back wall, 5cm from the side walls, and 20cm from the ceiling.
- 3) Ensure the surface being used can withstand the radiated heat produced by typical incubators and does not vibrate.
- 4) Once the unit is placed in its installation location, let it sit for 15-30 mins to allow stabilization.
- 5) Plug the power cord into a properly grounded power supply.
- 6) Insert the shelves at desired heights.
- 7) Note the timer is located on the inside chamber of the incubator and has its own set of usage and calibration instructions. Attach the timer to the outside of the incubator using the magnetic attachments. The timer can also be attached to a belt or made to stand-up freely.

Operation:

- Power on the device using the switch located on the upper left of the front panel.
- Ensure the unit is in manual mode and the timer is cleared with only dashes visible on the timer display.
 - If the timer displays anything other than dashes, touch the button to the left of the timer and use the center dial to adjust the time until it is cleared. Press the center button on the dial to complete the selection and exit the timer.
- Set the desired temperature set point by touching the button to the left of the temperature setting. Adjust the temperature using the rotary dial and press the center button on the dial to complete the selection and exit the temperature adjustment.
- See the provided Memmert User Manual for complete usage instructions.

Calibration:

Each individual company's standard operating procedures will dictate the calibration frequency of included components.

Determining Heat-Treatment Process Parameters

Different time and temperature settings for heat treatment of GEX B3 dosimeters can and have been successfully implemented. Some users have qualified and use slightly different settings than others. The P4850/P4855 Forced Air Incubators are delivered with a Set Point of 60.0°C which is the most widely used treatment temperature for this device. For more information on determining and validating heat treatment parameters refer to [GEX Doc# 100-201, Post Irradiation Heat Treatment of B3 Dosimeters – Technical Information Report](#).

Usage Procedure:

- 1) For most applications, the incubator remains powered on at all times. If necessary, turn on the power and wait for the temperature to reach the set point and the unit to fully equilibrate.
- 2) Open the door and insert the dosimeters. Close the door.
- 3) Start the timer to countdown the defined dwell-time for the dosimeters (e.g. 20 minutes).
- 4) Open the door and remove the dosimeters after the dwell-time period has elapsed.
- 5) Close the door when not in use.

QUALIFICATION

Installation and Operational Qualification (IQ/OQ):

Verify the equipment is installed and operating correctly before use. Refer to [GEX Doc# 100-276, Heat-Treatment Incubator IQOQ Test Procedure](#) for a suggested method.

Performance Qualification (PQ):

GEX provides no explicit procedure for execution of PQ. Each user must define the limits to test when conducting performance qualification of the heat-treatment process and must consider the impacts of the dosimeter retrieval requirements and dosimeter handling procedure for the site for which qualification will be performed.

GEX recommends users validate the 'Process for Routine Dosimetry' as they would any other process. Users should also assess whether the dosimeter handling process for dosimetry tests used in Irradiator IQ/OQ/PQ (testing methods such as product dose mapping and dosimetry-related irradiator qualification activities) will vary significantly from routine dosimetry and consider in their qualification of heat-treatment. For example, if routine dosimeters will always be heat-treated within 2 hours of irradiation, but dosimeters from Product Qualification Dose Mapping are not typically heat-treated until the next day, there may be a difference in performance to characterize and consider.

CALIBRATION & MAINTENANCE

Cleaning:

- Before cleaning the unit, ensure the power is off.
- Use Isopropyl Alcohol and a lint-free wipe to clean.
- Do not use a large amount of water, Benzene, Thinner, or any alcohol for cleaning; it may cause discoloration, damage, electric shock, or fire.

Calibration:

- The temperature controller is factory calibrated for the operational temperature range. Refer to the Memmert User Manual for detailed instructions on calibration. Calibration should only be performed if the unit is not operating within specification. Perform calibration verification using a calibrated measurement device at a frequency as specified below or as determined and rationalized by the user:
 - The temperature controller on the unit should be calibrated annually.
 - The integrated timer should be verified annually.

PRECAUTIONS

- Only use a power outlet which as a ground terminal. The product should be connected to the rated power supply as specified on the label on the rear side of the unit. If the product is connected to wrong power source it may cause overheating.
- Do not heat-treat a large pile of dosimeters placed into the incubator. The dosimeters should be heat-treated in a single layer unless otherwise qualified.

- The surfaces of the interior are very hot (about 60°C). Use caution when placing and retrieving dosimeters from the incubator.
- To clean the interior, turn off the power to the unit and allow to cool to room temperature; this may take several hours.

WARRANTY

Warranty:

Refer to the warranty information provided with the unit. The unit is provided to GEX for resale by a USA based distributor and all warranty claims must be filed via GEX. Do not contact Memmert for warranty claims.

RELATED DOCUMENTS

- [GEX Doc# 100-201](#) - Post-Irradiation Heat-Treatment of B3 Dosimeter Products – Technical Information Report
- [GEX Doc# 100-276](#), Heat Treatment Incubator IQOQ Test Procedure

REVISION HISTORY

DATE	CHANGE DESCRIPTION	REVISION
09/17/2018	Added 230v model and accompanying inclusions.	B
07/01/2020	Major revision to structure to match P4900 model. Removed VWR model as our Sales is moving to the Memmert brand incubator. ECO 70509.	C
10/01/2020	Operation section: removed reference to set point of 60.0°C in this section. ‘Determining Heat-Treatment Process Parameters’ section; referenced added requirement of Set Point of 60.0°C. Usage Procedure, step 1, added requirement to power on and wait for the temp to reach Set Point. ECO 10046.	D

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