

Human Immunology Center Core Laboratory

David H. Smith Center for Vaccine Biology and Immunology

Aab Institute of Biomedical Sciences

STANDARD OPERATING PROCEDURE: Operation and Maintenance of the Binder APT Line CB CO₂ Incubator

Date: 01/02/07

Author: Shelley Secor-Socha

Approval: Dr. Sally Quataert

1. Purpose/Scope:

The purpose of this procedure is to outline the operation, maintenance and calibration of the APT Line CB CO₂ incubator from Binder located in the Human Immunology Core Laboratory (HIC).

2. General Policy:

The HIC will adhere to the specific guidelines recommended by Binder for the use and maintenance of the CO₂ incubator. The specific policy will be outline below for use and care of the incubator. This will also include the proper documentation indicating that the maintenance recommended has been completed and also tracking of any issues or problems with the incubator on the maintenance log worksheet. The incubators will be monitored for temperature and CO₂ concentration and adjusted as appropriate to maintain specified calibration for each procedure where equipment is used.

3. Specific Policy**3.1. Installation of the Incubator**

3.1.1. Reference the operation manual for the specific installation procedure of the incubator.

3.1.1.1.The incubator should be installed in a well-ventilated area that is level.

3.1.1.2.The incubator should not be placed directly on the floor.

3.1.1.3.The incubator should be placed in an area that maintains ambient temperature.

3.1.1.4.The gas connection to the incubator must not be set at greater than 2 bars above ambient pressure. The CO₂ gas for the incubator must have a purity of at least 99.5%.

3.2. Operation of the Incubator

3.2.1. Reference the manual for specific operation procedures.

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- 3.2.1.1. Record all relevant information on the current maintenance log worksheet located on the front of the incubator including problems that occur so they can be tracked.
- 3.2.1.2. A clean glove should be worn on the hand opening the incubator door. After each use spray door handle with Vesphene.
- 3.2.1.3. Verify the temperature and the CO₂ concentration before use to meet procedural requirements for the material being placed in the incubator.
- 3.2.1.4. Verify proper maintenance has been performed as documented on the maintenance log worksheet located on the incubator door.
- 3.2.1.5. Do not over load the incubator. Plates, flasks and containers should not be stacked and at least 2 inches of space must be left between items. Airflow through the unit should not be blocked. The addition of racks to handle excess items is preferred to stacking. If stacking becomes necessary, never stack more than two items high.

3.3. Maintenance of the Incubator**3.3.1. Daily**

- 3.3.1.1. Record the temperature and the CO₂ concentration daily from the display visible on the front of the incubator on the maintenance log worksheet.

3.3.2. Weekly

- 3.3.2.1. Verify the CO₂ concentration using a Fyrite following the SOP HIC-4-0005 and record the concentration on the maintenance log worksheet
- 3.3.2.2. Verify the internal temperature of the unit with an Enviro-safe thermometer placed on the shelf for a minimum of 30 minutes and record the value on the maintenance log sheet.
- 3.3.2.3. Wipe down the outside of the unit with vesphene and record on the maintenance log worksheet.
- 3.3.2.4. Verify the water in the basin is not dry and record on the maintenance log worksheet.

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3.3.3. Monthly

- 3.3.3.1. Remove all shelving within the incubator and spray interior with vesphene. Wipe down with paper towels. Repeat with 70% EtOH. Spray all shelving and wipe down with paper towels. Repeat with 70% EtOH. Remove water basin from the incubator and empty. Clean with Vesphene and repeat with 70%EtOH. Add distilled water to fill line, add 7 drops of Clear Bath Algacide to water, and place back in the incubator.
- 3.3.3.2. Visually verify the control fan of the air jacket is operational. Look through the ventilation slides in the back of the incubator for the air fan. The fan should be moving counter clockwise.
- 3.3.3.3. Verify the humidity system fan is working properly by placing a piece of paper behind the incubator and confirm that the paper is being drawn in toward the vent.
- 3.3.3.4. Disinfect the CO₂ sensor on the unit with 70%EtOH by removing the sensor from the unit and spraying it with 70%EtOH. Allow the sensor to completely dry before reinserting. Record completed on the maintenance log worksheet.
- 3.3.3.5. Visually check the fine filter gas inlet for dirt accumulation. It is located behind the lower hosing cover. Replace if needed. Record completed on the maintenance log worksheet.

3.3.4. Every 6 Months

- 3.3.4.1. Verify internal temperature of the incubator using a thermocouple following SOP HIC-4-0023.

3.3.5. Yearly

- 3.3.5.1. Replace the fine filter. Record completed on the maintenance log worksheet.
- 3.3.5.2. An annual preventative maintenance and calibration visit by a Binder technician is recommended. The phone number for Binder is 1-866-885-9794. The current contact representative can be found in the HIC equipment file.

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Reference:

Operation Manual for APT.Line CB CO₂ Incubator located in the equipment file in the HIC laboratory

Attachments:

Maintenance Log Worksheet

Revision History

Version	Change	Impact	Justification	Change Date:
Legacy	No sign off	New/HIC startup		12/28/04
HIC-4-0004	New	New policy for glove use	Control document management system	01/02/07