

	SOP-BCR-1.8	Cleaning Incubators	Author: S. Clouthier  Approved: M. Wicha 	Rev: 0	Issued: 9/20/13 Revised: 10/14/13
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1.0 Purpose

The purpose is to describe in detail how to properly clean all different types of incubators in the lab.




2.0 Scope

SOP 1.8 is intended to cover all resources, personnel and equipment in the BCR laboratory.

3.0 Procedure

3.1 Cleaning Incubators in Building 20 Room 326W-B: HeraCell 150s Incubator #'s 1,4 and 5; HeraCell 240 Incubator # 2

- 3.1..1 First, send an e-mail letting the lab members know what incubators will be cleaned, and ask that all cells be taken out.
- 3.1..2 Remember to put a sign up on the incubator door so everyone knows it is being cleaned, therefore people know not to open or use the incubator.
- 3.1..3 Once all the cells are removed from the incubator and transferred to another incubator, turn off the incubator and take out the shelves and shelf holders for manual cleaning. Spray the shelves and shelf holders with 70% ethanol only using magic erasers and paper towel. **No bleach should be used!**
- 3.1..4 Sponge out H₂O from the bottom of incubator. Clean the entire inside, including the fan, with 70% ethanol using magic erasers and paper towels. Put 300 mL of distilled H₂O (brown jug located in B026-314S-A) in the bottom of the incubator and put shelves back in. For the large HeraCell 240 incubator, put 350 mL of distilled H₂O in the bottom of the incubator.
- 3.1..5 Turn on the incubator, and let it come to the correct CO₂ level. Open both doors and wait for the audible alarm/beep after about 30 seconds. Once you hear the beep, hold down the "90°" button, for about 5 seconds, until LED light flashes to indicate ContraCon sterilization cycle is running then shut both doors.
 - 3.1..5.1 To cancel the ContraCon routine: press the [90°C] key until remaining runtime is 0hr.
- 3.1..6 When the ContraCon is done running (this process takes about 25 hours), the incubator will read "0", open the incubator and soak up the H₂O with paper towels. Once all the water is removed, spray the bottom with 70% ethanol and clean with paper towels.
- 3.1..7 Add autoclaved H₂O up to the line in front-use only distilled or de-ionized water. A small amount of copper sulfate may be added too to inhibit bacterial growth.
- 3.1..8 Turn the incubator off then on. Hold the doors open until alarm goes off. Hold down "Auto Start" button until light blinks, indicating that it is running. Shut both doors. This cycle runs for about 8 hours.
- 3.1..9 After "auto start" cycle is complete, the incubator is ready for use again and the cells can go back into the incubator.




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3.2 Cleaning Tissue Incubator in Building 26 Room 314S-A: NuAire CO₂ Water-Jacketed Incubator #6 and incubator in room 386C Forma Direct Heat model 310 Incubator #3

- 3.2..1 First, send an e-mail letting the lab know the tissue incubator will be cleaned, and ask that all cells be taken out.
- 3.2..2 Turn off the incubator, and remove all shelves and shelf holders.
- 3.2..3 Using a sponge, soak up all water that is on the bottom of the incubator.
- 3.2..4 Once all water is removed, clean the entire inside of the tissue incubator with 70% ethanol, using magic erasers and paper towels.
- 3.2..5 Clean all shelves and shelf holders with 70% ethanol, using magic erasers and paper towels. When shelves and shelf holders are cleaned, put all items in a clear autoclave bag. **Make sure bag is for autoclave use only. If the bag is not an autoclave bag, it can cause damage.**
- 3.2..6 Once all items are in an autoclave bag, autoclave all items using cycle Gravity 30.
- 3.2..7 Once all parts are autoclaved, put back in incubator and turn on.
- 3.2..8 For Tissue Incubator only-Flip knob to "set up", then back to "run". It takes about 2 hours to come back up to the correct temperature.
- 3.2..9 When the incubator is at the correct temperature and CO₂ level, cells can be placed back into the incubator.

3.3 Cleaning Incubators in Building 26 Forma Steri-cycle model 370s: Room 320S Incubator # 9 and 10; Room 328S Incubator 7 and 8

- 3.3..1 Send out an e-mail to the lab letting them know in advance the incubator will be cleaned, and ask for them to remove all cells. Put up a sign to let everyone know the incubator is being cleaned/sterilized so they do not open it or use it during the process (which can lead to severe burns/injuries). Turn off the incubator.
- 3.3..2 Take out all shelving and clean with 70% Ethanol ONLY-NO BLEACH, using magic erasers and paper towels. Clean glass door, humidity pan, and inside of incubator, including the top, thoroughly.
- 3.3..3 Remove HEPA filter, access port filter, and air sample filter. (Refer to Section 5 of the 370 Model Incubator Manual for diagrams and complete instructions). These items must be removed before the Sterilization cycle or they will melt. Discard all 3 (they will be replaced with new filters).
- 3.3..4 Once all shelving is cleaned with ethanol, replace all shelving and tubing (without filters-only tubing can withstand temperatures used in sterilization cycle) in incubator.
- 3.3..5 To run the Sterilization cycle, which takes a total of about 12 hours, press and hold the large green sterilization cycle button on the right side of the unit for 3 seconds, until LED lights. The display toggles between "REMOVE HEPAs" and "REMOVE WATER" and "PRESS ENTER" to remind you to remove the filters and water from the humidity pan. Press enter, within 1 minute or it will go back to the normal system.
- 3.3..6 The heat sterilization phase begins and green LED flashes and the display toggles between "STERILIZING" and "HEAT PHASE." When the air temperature in the unit reaches 140 degrees C (takes about 2-4 hours to reach temp), the display will say "STERILIZING" and the sterilization

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phase has begun, which takes 2 hours, so 4-6 hours total by the time it heats up to sterilizing temp and sterilizes.

- 3.3..7 After about 4-6 hours, a five second audible beep will sound, signaling that the sterilization cycle is complete, and the Cool Phase begins, which takes about 6-8 hours. The display toggles between “STERILIZING” and “COOL PHASE”. When the temp cools down to the set temp, the display toggles between “CYC COMPLETE”, “REPL HEPA” and “PRESS ENTER”. The green LED light no longer flashes.
- 3.3..8 Turn the incubator off, and install a new HEPA filter, air sample filter, and access port filter assembly (filter with reddish plug). Then, press enter.
- 3.3..9 Fill the humidity pan with 3 L of autoclaved distilled water.

4.0 Applicable References

Please refer to Section 5 of the 370 Model Incubator Manual, and any other incubator manuals needed, in office 333S in “Equipment Manual” cabinet.

5.0 Change Description

Revision	Date	Reference	Description of Change
1	10/14/13	TL	Updated new building info