

Instruction Manual
CAT. 66118-10, 66118-20
EMS Germinator 500™



Electron Microscopy Sciences

1560 Industry Road Hatfield, PA 19440 U.S.A.

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About the Germinator 500

The Germinator 500 is designed to decontaminate metal micro-dissecting instruments only. It is to be used exclusively for research purposes. The Germinator 500 should not be used as a substitute for traditional methods of terminal sterilization. Effective sterilization cannot be assured due to lack of routine sterilization-efficacy monitoring methods for glass bead sterilization. The Germinator 500 has been designed and built to pass the Validation of Dry Sterilizer Spore Suspension Test: USP XXIII, Part 1211.

The Germinator 500 consists of a stainless steel well filled with tiny glass beads and heated to 500°F (260°C) for dry heat decontamination. Heat from the glass beads decontaminates the surface of the instrument in contact with the beads. Small instrument tips such as scissors, forceps, scalpels and tweezers are decontaminated in about 15 seconds; larger instruments may take as long as one minute. The GERMINATOR 500 can remain turned on all day without overheating or emitting an unpleasant odor. Larger instruments easily fit in the 2-inch diameter x 4-inch deep stainless steel well.

Maintenance

The Germinator 500 requires little maintenance. It is recommended that the unit be cleaned periodically and the glass beads changed as recommended.

Inspection

Inspect the Germinator 500 before each use. Make sure the unit is on a stable surface prior to use. Inspect the power supply cord and all the visible components for damage, and have the unit serviced if necessary. Be sure the glass beads are within 1/2" of the well rim. If low, replace the beads as instructed above.

Cleaning

1. Unplug the unit and let it cool prior to cleaning. Never immerse the GERMINATOR 500 in water.
2. Clean exterior with a damp cloth and mild soap. Do not use aggressive detergents on the exterior. The stainless steel well can be cleaned with a mild disinfecting detergent and a damp cloth. Never remove the cover to the unit.

Service information

With proper use your Germinator 500 may not need service for at least five years. The expected lifetime of the unit is ten years from the first date of operation.

For all service and repairs, contact us at 1-800-523-5874.

How to store unit

1. Turn power switch off and allow the unit to cool down for one hour.

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2. Unplug the power cord from the wall outlet. Detach the cord from the back of the unit.
3. When cool, pour the glass beads into a container and close the container.
4. Wipe the interior of the well and the top of the unit with isopropyl alcohol.
5. Allow the disinfected unit to dry before placing in a storage area. Do not lay the unit on its side.

Verification of performance

It is recommended that the operator periodically check the operating temperature of the unit. Use a thermometer that will exceed 550° Fahrenheit. Insert the probe into the center of the bead mass. If the unit is operating below 360° F, contact Electron Microscopy Sciences Customer Service department as soon as possible.

WARNING!

DO NOT USE MERCURY-FILLED GLASS THERMOMETERS

Proper use of beads

It is important to stir the beads regularly to reduce bacteriological risk. If the unit is allowed to sit uninterrupted for more than thirty minutes—the operator should stir the beads before inserting instruments for decontamination. This will equalize the temperature of the beads and prevent the beads on top from losing too much heat. The glass beads should last about six months under normal use. Inserting dry instruments that are free of tissue and other culture will help extend the life of the glass beads and your instruments.

CAUTION!

TO REDUCE THE CHANCE OF INJURY, CLEAN GLASS BEADS SPILLAGE IMMEDIATELY.

Special markings

Refer to the following warnings, safety precautions, and operating instructions.

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WARNING!

USE THIS DEVICE WITH EXTREME CAUTION. IMPROPER USE CAN RESULT IN SEVERE BURNS. FOLLOW ALL SAFEGUARDS IN THIS INSTRUCTION MANUAL IN ADDITION TO NORMAL SAFETY PRECAUTIONS USED WHEN DEALING WITH A HEATING DEVICE.

Safety precautions

We have taken every precaution with the design of this unit to ensure that it is as safe as possible. Please note, that its safe use depends on the willingness of the operator to follow this instruction manual carefully. Please follow these safety rules:

CAUTION!

METAL INSTRUMENTS WILL BECOME EXTREMELY HOT IF LEFT IN THE HEATED GLASS BEADS FOR LONGER THAN THE RECOMMENDED TIME. IF NORMAL DECONTAMINATION TIME IS EXCEEDED, USE A HEAT-RESISTANT DEVICE OR OTHER AID TO REMOVE INSTRUMENTS AND ALLOW INSTRUMENTS TO COOL ON A CLEAN, STAINLESS STEEL DISSECTING TRAY BEFORE USE.

THE SURFACE OF THE OUTER CASING WILL HEAT UP SLIGHTLY TO THE TOUCH.

INSERT ONLY CLEAN AND DRY INSTRUMENTS INTO THE HOT GLASS BEADS.

- To avoid the risk of electrical shock, do not remove the cover to the Germinator 500 under any circumstances. Removing the cover will void the warranty.
- Do not move the Germinator 500 while it is turned on or when the glass beads are still hot to avoid the risk of severe burns if the hot beads are spilled. Always allow the unit to cool before moving.
- The tips of instruments will become hot after immersion in the hot glass beads. Remove instruments from the beads, place them on a clean, stainless steel dissecting tray, and allow them to cool before use.

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- When replacing the glass beads, make sure that the beads are cool and the unit is turned off and unplugged. Do not pour hot glass beads into the trash.
- Use only dry glass beads in the stainless steel well. Never use a liquid!
- Servicing and repairs should be performed only by Electron Microscopy Sciences.
- Unplug the unit prior to cleaning or servicing.
- Use metal instruments only!
- For indoor use only!

Instructions

Set up

1. Remove all packaging material from the GERMINATOR 500 and place the unit on a flat, stable surface. Be sure to position the unit far from the edge of a counter so that it cannot be easily bumped or spilled.
2. Remove the bag of glass beads from the box and cut a small slit at the top of the bag. Using a funnel, pour the glass beads into the well. Fill the well to 1/2" below the rim. Do not overload the well with glass beads.
3. Turn the power switch to "ON" and wait until the "Ready" light illuminates. It will take about 30 minutes for the "Ready" light to illuminate, indicating the beads have reached a minimum decontamination temperature of 450°F (232°C). The glass beads will continue to heat up and stabilize at approximately 500°F ± 15° (260°C). The minor fluctuations in temperature are caused by the on/off cycles of the heating element; these fluctuations will have no effect on the decontamination time.

WARNING!

DO NOT TOUCH THE GLASS BEADS. THEY ARE EXTREMELY HOT!

How to use

- Important: Decontaminate clean and dry metal instruments only. Remove all debris from instruments prior to insertion into the glass beads. Any matter left on the instruments may get

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baked on and may be difficult to remove. Instruments with visible debris will take longer to decontaminate. The glass beads could also adhere to the contaminated portions of the instruments or to instruments that are not dry. Gently insert the contaminated instrument into at least one inch of the glass beads. Only the surface of the instrument touching the glass beads will be decontaminated. Micro-dissecting instruments should be allowed to stand at least 15 seconds before removal. Larger instruments such as operating scissors or bone instruments should stand for at least one minute. If inserting more than one instrument into the glass beads, it is recommended that the decontamination time be doubled according to the instrument size.

- The general rule with decontamination is the larger the instrument, the longer time required to process. Instruments can remain in the glass beads longer than their recommended time; however, they will become very hot. Also, the metal properties of some instruments could degrade if they are left in the glass beads for an extremely long period of time. Be sure to allow instruments to cool before use.
- The top 1/2 inch layer of glass beads loses an excess amount of heat and tends not to be within the recommended temperature range for proper decontamination. If you wish to decontaminate one inch of the instrument tip, you must insert it at least 1-1/2 inches into the glass beads. In addition, be careful not to force instruments to the bottom of the glass bead well to avoid damage to their delicate tips. Stir the glass beads periodically to prevent the growth of heat-resistant microorganisms that can survive in the cooler top ¼ inch of the well, and can contaminate your instruments.
- **NOTE:** Do not overload the glass bead well with instruments. Inserting more than two normal size micro-dissecting instruments will drop the temperature of the glass beads below its operating temperature in less than a minute and proper decontamination cannot be assured.
- After removing instruments from the glass beads, place instruments on a clean, stainless-steel tray and allow them to cool before use.
- When removing the instrument from the glass bead well, make sure that none of the beads are attached to or stuck in the instrument. Failure to detect glass beads on your instruments could have an adverse effect on your research site. If necessary, tap the instrument lightly on the side of the glass bead well to remove beads. If beads remain lodged or attached, thoroughly clean the instrument of any visible contaminant and use a small probe to dislodge beads from the instrument.
- The GERMINATOR 500 may be left "ON" all day if desired, or as long as necessary. The outer casing will heat up slightly to the touch and should be of no concern. We recommend that the unit be left on for the duration of its anticipated use to ensure that the temperature of the beads remains constant.
- When finished with the unit for the day, turn the power switch off.

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- **NOTE:** If the GERMINATOR 500 has been turned off for more than 30 minutes and the “Ready” light comes on when the unit is turned back on, wait approximately 15 minutes for the unit to reach its proper operating temperature before using again.

WARNING!

DO NOT USE HOLLOW METAL INSTRUMENTS IN THE GERMINATOR 500. HEATING HOLLOW INSTRUMENTS THAT ARE NOT RATED FOR USE ABOVE 300°F MAY CAUSE THEM TO EXPLODE AND SPRAY HOT GLASS BEADS. BE SURE TO CHECK THE INSTRUMENT MANUFACTURER'S WARNINGS.

Care for the Germinator 500

The glass beads should last for six months of normal use. The beads should be cleaned at least once every two weeks by washing with mild soap and rinsing thoroughly. The beads must be completely cool before being washed. Always insert dry instruments that are free of tissue or other culture to help extend the life of the glass beads and your instruments. The beads should be replaced when they have become contaminated with debris or if the bead level in the well is low. It is best not to pour new glass beads over the existing beads in the well. Completely replace the glass beads when the level is low. To replace the beads make sure they are cool and the unit is turned off and unplugged. Hold the unit over a trash can and quickly invert it to pour the beads into the trash. **DO NOT POUR HOT BEADS INTO THE TRASH!** A few of the glass beads may fall into the housing. To remove them, shake the **GERMINATOR** over the trash while holding the unit upright and then inverted. Repeat this process until all the beads have fallen out of the unit. To pour the new beads into the well use a funnel (or a piece of paper rolled into a funnel). Place the funnel into the well and pour the beads through the funnel. One 12 oz. bag should fill the entire well to 1/2” below the well rim.

WARNING!

TO AVOID ELECTRIC SHOCK, DO NOT REMOVE THE COVER TO THE GERMINATOR UNDER ANY CIRCUMSTANCES. IT IS DANGEROUS AND WILL VOID THE WARRANTY.

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