



1. Objective

To describe the procedure for operating the dry heat oven under the trade name **LABoven**.

2. Scope of Application

The oven is used in the laboratory for sterilizing glassware such as test tubes, glass Petri dishes, pipettes, as well as metal instruments such as forceps, scalpels, and scissors.

3. Responsibility

The responsibility for implementing this instruction lies with the relevant laboratory experts/technicians.

4. Procedure

1. Place the items to be sterilized inside the oven while observing the necessary safety precautions.
2. Close the oven door completely.
3. Connect the device to the power supply.
4. Turn on the power button of the device.
5. There are two buttons or displays, **Time** and **Temp**, which show the time and temperature.
6. Set the time to **120 minutes**.
7. Set the temperature to **180°C**.
8. Check the temperature increase on the temperature display.
9. The required sterilization time starts when the chamber reaches the selected sterilization temperature. Additional time should also be considered to ensure that all parts of the chamber and the load inside reach the desired temperature. (**160°C–180°C for 2 to 4 hours**)
10. At the end, turn off the device and unplug it from the power supply.

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5. Safety Precautions When Using the Device

1. The device must be turned off and cooled down before cleaning.
2. Make sure that the door is closed while the device is operating.
3. After disinfecting laboratory equipment, it is better to wait for some time until the temperature of the items decreases. If you need to remove items while they are still hot, be sure to use protective gloves. When transferring the items, place them on a tray and move them carefully.
4. When disinfecting items, always consider the useful capacity of the device and avoid placing items beyond its capacity. In such conditions, the items may not be completely sterilized.
5. Do not use flammable or explosive materials inside the oven.
6. Place materials, equipment, or packages inside the oven in such a way that hot air can circulate around and between them.
7. Prevent acidic solutions or corrosive vapors from splashing or entering the oven to avoid corrosion of the internal surfaces and shelves.
8. Use personal protective equipment (PPE), including insulated gloves, safety goggles, and forceps for placing or removing equipment or materials inside the oven.

6. Maintenance and Handling Instructions

1. Aluminum foil, kraft paper, and cotton plugs may be used for packaging the above-mentioned items for sterilization in the oven. Care must be taken to ensure that the paper and cotton do not burn, as partially burned cotton releases volatile antibacterial substances.
2. Plug approximately **2 cm** of the upper end of pipettes with non-absorbent cotton, place them in a metal container, and close the container lid.
3. Cover the caps of test tubes with aluminum foil and place them vertically in a test tube rack. The cap protects the rim of the tube from airborne contamination during storage.
4. Screw-cap bottles may be sterilized in the oven only if their caps and liners are made of materials such as metal, Teflon, polypropylene, or silicone rubber, as these materials do not deform at sterilization temperatures.
5. Before placing glassware in the oven, make sure it is dry. It is recommended to first place it at **100°C**.
6. Place materials, equipment, or packages inside the oven in such a way that hot air can circulate around and between them.
7. Close the oven door and turn on the heat source.
8. The sterilization holding time begins when the chamber reaches the selected sterilization temperature. Additional time should also be considered to ensure that all parts of the chamber and the load inside reach the desired temperature. (**160°C–180°C for 2 to 4 hours**)
9. Due to the insulation of the device, it takes several hours for the objects inside to cool down unless the device is equipped with a fan. Do not open the oven door until the chamber,

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containers, and materials inside have cooled to approximately **60°C**. If cold air suddenly enters the device, glassware may crack.

10. For drying equipment, a temperature below **100°C** is usually used.

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