



Forensic Biology Section

Operation of the Thermomixer

1. Scope

- 1.1. The Eppendorf Thermomixer are incubators that provide simultaneous mixing and temperature control for a wide variety of applications, such as the incubation of samples during DNA extraction.

2. Safety

- 2.1. Never heat samples beyond safe levels. Please note that the lids of microcentrifuge tube can potentially pop open or leak foam with viscous solutions. Spills and leaks must be cleaned up immediately and the outside of adjacent tubes should be wiped to prevent cross contamination.
- 2.2. Always wear gloves and a laboratory coat to reduce the risk of biological or chemical exposure.

3. Equipment

- Eppendorf Thermomixer
- NIST-traceable thermometer

4. Quality Assurance

- 4.1. The thermomixers are calibrated at the factory and no periodic maintenance should be required.
- 4.2. A Two-Point Temperature Verification Test (56 °C and 70 °C) should be performed quarterly (plus or minus 30 days) on one well near the center of the block in each thermomixer. The sample block temperature indicated by the instrument and a NIST-traceable thermometer should be within +/- 2.0 °C. If the thermomixer temperature differs more than +/- 2.0 °C from the NIST-traceable thermometer, a label will be placed on the front of the instrument indicating what the temperature should be set at to attain the desired temperatures of 56 °C and 70 °C.
- 4.3. Fill tubes to levels no higher than the top of the block.

5. Operation of Thermomixer

- 5.1. Turn the thermomixer on (the switch is located at the rear of the unit).
- 5.2. Use the ▲▼ buttons to set the temperature and mixing frequency (e.g. 56 °C and 900 rpm).
- 5.3. Press the “Start/Stop” button to begin incubating and mixing.
- 5.4. When the incubation period has passed, press the “Start/Stop” button to stop the mixing. Turn the thermomixer off using the switch located at the rear of the unit. Note: Mixing finishes after the “Start/Stop” button has been pressed, however, incubation continues until the device is switched off.
- 5.5. To mix for a short period of time, press the “Short Mix” button. The device will mix at the set frequency for as long as the button is held down.



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6. Cleaning Thermomixer

- 6.1. Allow the thermomixer's heat block to cool down prior to cleaning.
- 6.2. On a weekly basis, the exterior of the Thermomixer should be wiped down with a paper towel dampened with 10% bleach.
- 6.3. On a weekly basis, the plastic trays inside the Thermomixer should be soaked in the bleach bath, rinsed, and dried.
- 6.4. On a monthly basis, the wells in the Thermomixers should be cleaned with cotton tipped applicators wetted with 10% bleach and then cleaned with cotton tipped applicators wetted with alcohol. Be sure the wells are dry before using the instrument again.