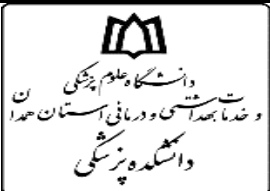


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Standard Operating Procedure: Laboratory Refrigerator

Manufacturer: Electro steel (Made in Iran)

1. Purpose

To define the standardized procedures for the correct operation, temperature monitoring, and maintenance of the **Electrosteel Laboratory Refrigerator** to ensure the stability and integrity of stored reagents and samples.

2. Scope of Operation

The device is intended to maintain a constant temperature of 4°C to ensure the long-term storage and stability of sensitive laboratory materials, buffers, and biological solutions.

3. Responsibility

The execution and compliance with this protocol are the responsibility of the laboratory technicians and researchers.

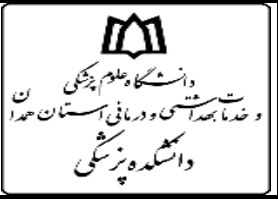
4. Operating Interface (Control Panel)

Button/Indicator	Function
Fridge Temp	Adjusts/Sets the refrigerator compartment temperature.
Freezer Temp	Adjusts/Sets the freezer compartment temperature.
Lock	Activates the child/control lock to prevent accidental button presses.
Unlock	Disables the lock to allow temperature adjustments.
Cancel	Cancels any pending commands or input settings.
Water	Activates the water dispenser function (if applicable).

5. Safety Precautions

- Chemical Cleaning Warning:** NEVER use volatile or corrosive chemicals such as petroleum, gasoline, acetone, thinner, bleach, or ink to clean the interior or exterior of the refrigerator. Use only approved laboratory-grade disinfectants.
- Electrical Hazard:** Do not spray water directly onto any part of the device (interior or exterior). Liquid ingress can lead to short circuits and poses a significant **fire hazard**.
- Frostbite Prevention:** Avoid direct contact with frost or ice buildup on the interior surfaces, especially with wet or damp hands, to prevent skin freezing or frostbite.

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6. Maintenance and Storage Protocols

A. Monitoring and Power Supply

- Emergency Power:** Ensure the refrigerator is connected to an **Uninterrupted Power Supply (UPS)** or emergency power circuit to prevent temperature fluctuations during power outages.
- Temperature Verification:** Regularly verify that the digital monitor displays the target temperatures: $+4^{\circ}\text{C}$ for the refrigerator and -18°C for the freezer.

B. Temperature Regulation

- Adjustable Range:** The refrigerator temperature is adjustable within the range of 0°C to 8°C .
- Thermostat Control:** The temperature can be fine-tuned by rotating the thermostat dial.
 - Setting 1:** Represents the minimum cooling intensity.
 - Setting 5:** Represents the maximum cooling intensity.

C. Best Practices for Storage

- Door Management:** Avoid leaving the refrigerator door open for extended periods to prevent temperature spikes and excessive frost buildup.
- Load Distribution:** Do not place heavy samples or containers on the door shelves. This can cause door misalignment and compromise the airtight seal.
- Inventory Management:** Periodically inspect all stored items. **Immediately remove and dispose of any expired solutions or reagents.**
- Coordination:** All sample storage configurations must be coordinated with the Laboratory Supervisor or designated expert to ensure compatibility with storage requirements.

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