

Revision: ----	Document Code: WI- ML-1049	Standard Operating Procedure (SOP) For Magnetic Stirrer Hot Plate	 دانشگاه گیلان و خدا بخداست و درانی آستان خدا والسلام و برکات
----------------	----------------------------	--	---

Operating and Maintenance Instructions: D500 Magnetic Hotplate

1. Purpose

To provide standard operating procedures for the Iranian-made D500 Magnetic Hotplate for the safe heating and mixing of laboratory liquids.

2. Scope of Application:

The D500 is intended for the gentle heating and stirring of laboratory substances.

3. Responsibility:

Laboratory experts are responsible for the correct implementation of these procedures.

4. Operating Instructions

- **Interface:** The unit features a 4-digit LED display and a digital rotary knob (push-button functionality).
- **Stirring Control:** Rotate the knob to adjust the speed; the display will show a flashing number. Turn the knob to increase or decrease the speed. Release the knob to confirm, or press it once to return to the main screen.
- **Temperature Control:** Press the knob once until the “H” option appears and the temperature value begins to flash. Rotate the knob to the desired temperature and press again to save. (To disable heating, set the temperature to “-”).
- **Timer Settings:** After setting the temperature, the system will prompt for the timer (in minutes). Set to “0” for infinite operation. Press the knob to save and return to the main display (current plate temperature).
- **System Completion:** If a timer is set, the unit will turn off automatically once the time expires, displaying “OFF” and sounding an audible alarm. Press the knob to exit this state and restart if necessary.

5. Safety Precautions

- **Cleanliness:** Maintain a clean heating surface at all times.
- **Prohibited Items:** Do not use metal foil on the hotplate surface.
- **Equipment Compatibility:** Ensure the use of appropriate laboratory glassware designed for use with magnetic stir bars.
- **Positioning:** Ensure all vessels are centered and stable on the heating surface before starting the stirrer.

تاریخ اجرا:	تصویب کننده:	تأیید کننده: دکتر محمد رضا عربستانی	تهیه کننده: زهرا کریمی تبار
تاریخ بازنگری:	سمت:	سمت: مدیر گروه میکروبیشناسی	سمت: کارشناس آزمایشگاه
شماره صفحه: ۱ از ۲	تاریخ و امضاء:	تاریخ و امضاء:	تاریخ و امضاء:

Revision: ----	Document Code: WI- ML-1049	Standard Operating Procedure (SOP) For Magnetic Stirrer Hot Plate	 دانشگاه گلبرگ گجرات و خدا بختی و درانی استان خدا والله اعلم
----------------	----------------------------	--	--

6. Maintenance

To ensure longevity, perform the following maintenance every six months:

- Apply one drop of machine oil to the motor shaft located beneath the heating plate (between the gaskets) using a dropper or syringe. This process significantly increases the lifespan of the motor by protecting it against oxidation and moisture.

تاریخ اجرا:	تصویب کننده:	تأید کننده: دکتر محمد رضا عربستانی	تهیه کننده: زهرا کریمی تبار
تاریخ بازنگری:	سمت:	سمت: مدیر گروه میکروبیشناسی	سمت: کارشناس آزمایشگاه
شماره صفحه: ۱ از ۲	تاریخ و امضاء:	تاریخ و امضاء:	تاریخ و امضاء: