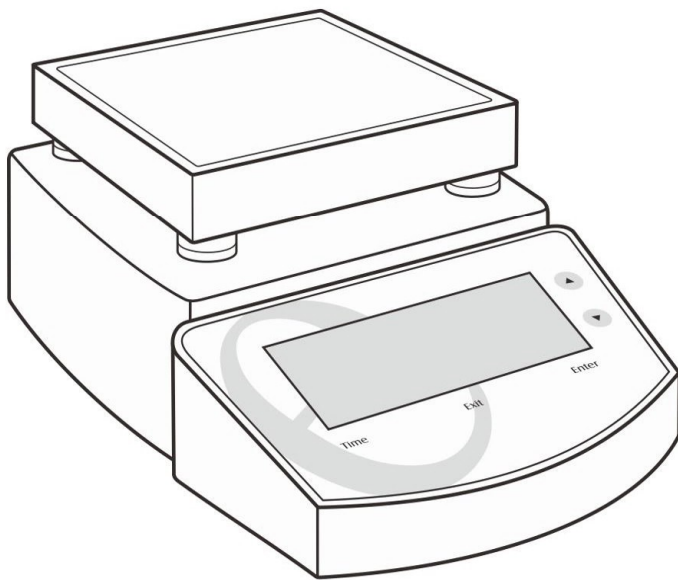


MS200/300/400 Magnetic Stirrer

# Instruction Manual



## Introduction

Thank you for selecting the MS series magnetic stirrer. This manual provides a step-by-step guide to help you operate this device, please carefully read the following instructions before use.

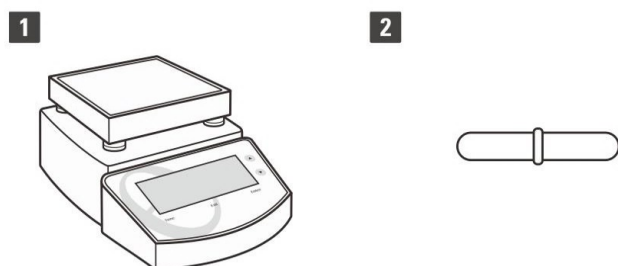
### Environmental Conditions

Before unpacking, ensure that current environmental conditions meet the following requirements.

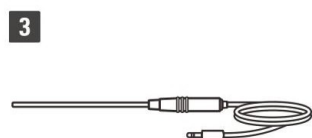
- Relative humidity is less than 80%.
- Ambient temperature is greater than 0°C/32°F and less than 40°C/104°F.
- Well ventilated and no corrosive gas exists.

### Packing List

The following list describes all components of the stirrer. If any items are missing or damaged, contact the supplier immediately.



- Magnetic stirrer and stir bar



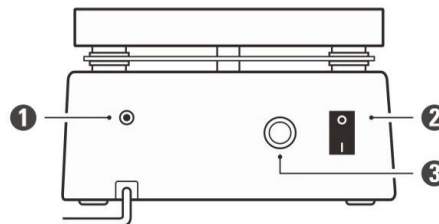
- Temperature probe (for models MS300 and 400 only)

## Overview

### Keypad

| Key   | Function   |
|-------|--|
| Time  | Set the stirring time                            |
| °C    | Set the heating temperature                      |
| Enter | Confirm the setting                              |
| Exit  | Exit the setting, heating or timed stirring mode |
| ▲     | Increase value or stirring speed                 |
| ▼     | Decrease value or stirring speed                 |

### Connector



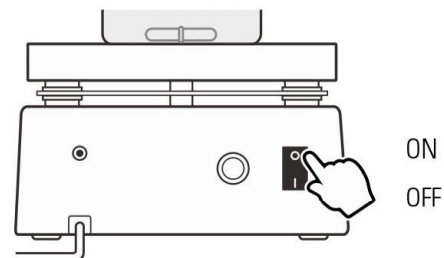
|   |  |
|---|--|
| 1 | Socket for temperature probe (3.5 mm jack) |
| 2 | Power switch                               |
| 3 | Fuse                                       |

## Safety Notes

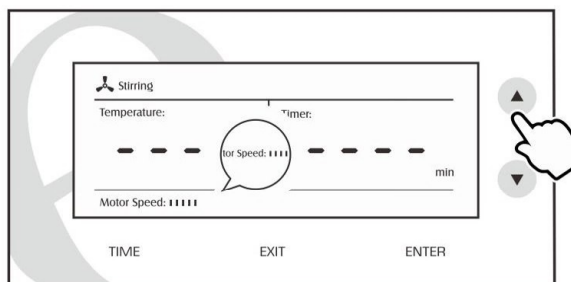
- Before connecting the power supply, make sure that the local mains power voltage matches the stirrer requirements, the power outlet has been properly grounded.
- The power cable must be kept away from the hot plate.
- Do not use a metal container.
- Do not heat or stir volatile or flammable liquids.

## Stirring

- 1.1 Place stir bar into the container and fill the liquids to be stirred.
- 1.2 Place container in the center of the top plate.
- 1.3 Press the power switch to **ON** position.



- 1.4 Press the ▲ or ▼ key to set the stirring speed, the stir bar will begin running after 3 seconds.



- 1.5 When desired stirring is complete, press the power switch to **OFF** position. Remove container from the top plate.

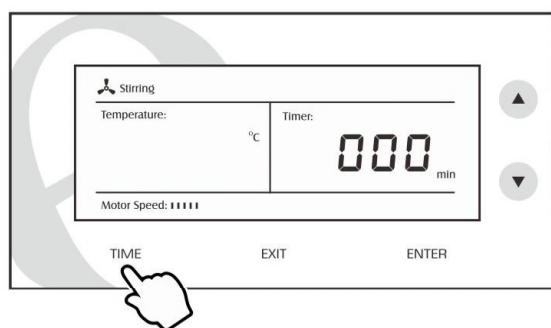


- For the liquids of high viscosity, we recommend that setting a slower stirring speed.
- If the stir bar is not running smoothly, move container slightly, the stir bar should be in the center of the container.

## Stirring Time

The MS series magnetic stirrer is installed with a built-in timer for controlling the stirring time.

- 2.1 Press the **Time** key, the display shows 000 min.
- 2.2 Press the **▲** or **▼** key to set desired stirring time.
- 2.3 Press the **Enter** key, the timer begins countdown automatically until it gets to zero, the stirrer will stop running.

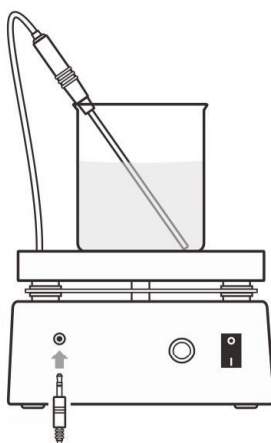


To exit the setting without saving changes, press the **Exit**.

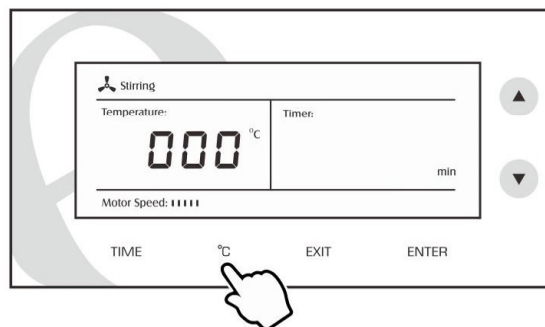
## Heating

This section is applicable to models MS300 and 400 only.

- 3.1 Connect the temperature probe to the jack socket on the rear panel of stirrer.
- 3.2 Place the temperature probe into the liquid.







- 3.3 Press the **°C** key, the display shows 000 °C.



- 3.4 Press the **▲** or **▼** key to set desired temperature.
- 3.5 Press the **Enter** key to begin heating.

Note:

- The hotplate will not heat if temperature probe is not attached.
- While heating a liquid the temperature probe must be immersed, otherwise the hotplate will heat continuously and will go into a fault condition.
- During the heating, the Heating icon will successively show as follows:
  -  Heating
  -  Heating
  -  Heating
- When the liquid reached the setting temperature, the Heating icon will continuously flash.
  -  Heating
- Press the **Exit** key, the hotplate will stop working immediately.

## Temperature Calibration

During the heating, if the temperature reading displayed differs from that of an accurate thermometer, please follow the steps below to calibrate the stirrer.

- 4.1 Turn off the stirrer.
- 4.2 Press and hold the **▲** and **▼** keys for 3 seconds, then turn on the stirrer.
- 4.3 Press the **▲** or **▼** key to modify the temperature value.
- 4.4 Press the **Enter** key to save.

## Troubleshooting

| Issue                   | Cause and Corrective Action   |
|-------------------------|---|
| Stir bar is not running | The screw under the top plate is loose                                  |
| Hotplate is not heating | Temperature probe is not connected to stirrer or the heater has damaged |

## Optional Accessories

| Order Code | Description                                 |
|------------|---|
| TP-100P    | Temperature probe, stainless steel body     |
| STB-S      | Stir bar, PTFE material, 30 (L)×7 (Dia.) mm |

## Specifications

| Model                | MS200                                 | MS300 | MS400 |
|----------------------|---------------------------------------|-------|-------|
| Stirring Volume      | 0 to 2000 ml                          |       |       |
| Stirring Speed       | 0 to 1250 rpm                         |       |       |
| Heater               | ----                                  | 380 W | 450 W |
| Hotplate Temperature | ----                                  | 300°C | 400°C |
| Timer Range          | 0 to 999 minutes                      |       |       |
| Top Plate Size       | 135 (L)×135 (W) mm (5.3×5.3")         |       |       |
| Top Plate Material   | Stainless steel                       |       |       |
| Display              | Segmented LCD, 95×35 mm (3.74×1.37")  |       |       |
| Power Requirements   | AC 220V/50Hz                          |       |       |
| Dimensions           | 230 (L)×180 (W)×120 (H) mm (9×7×4.7") |       |       |
| Weight               | 2.2 kg (4.8 lb)                       |       |       |

### Disposal

This stirrer is required to comply with the European Union's Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC and may not be disposed of in domestic waste. Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment.



### Warranty

The warranty period for stirrer is 1 year from the date of shipment. Above warranty does not cover temperature probe. Out of warranty products will be repaired on a charged basis. The warranty on your stirrer shall not apply to defects resulting from:

- Improper or inadequate maintenance by customer.
- Unauthorized modification or misuse.
- Operation outside of the environment specifications of the products.

For more information, please contact the supplier.

