



Flask Orbital Shaker

LMFOS-110A

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1. Safety Measures

Read and understand the orbital shaker user manual before operating it. When replacing fuses or repairing electrical parts, the power plug must be unplugged.

- The orbital shaker must be effectively grounded.
- The external power supply must meet the requirements of the orbital shaker.
- Plugs and sockets with good contact should be used, and the power must match.
- It is not allowed to lengthen or shorten the power cord at will.
- Do not heat flammable, explosive, volatile and corrosive substances.
- Do not repair it by yourself, it must be repaired by professional maintenance personnel.
- When replacing the fuse, the power plug must be unplugged.
- You must fully read and understand the instruction manual of this product before operating it.

Operating instructions for orbital shaker

- The electrical rating of the socket provided by the user should not be less than the electrical rating of the machine and have good grounding measures.
- When replacing the fuse, the plug should be pulled out of the socket.
- After the failure of the wire or electrical equipment, it should be repaired by a professional.
- When used in an environment with children, pay close attention.
- During use, it is strictly forbidden to put your fingers into the gap of movement.
- It is strictly forbidden to move the machine during movement.
- The working platform of the machine cannot be too smooth (such as tiles, etc.).
- When the machine is used at a high place, someone should be in charge.
- When scrubbing the machine, the power supply should be unplugged first.

2. Introduction

Flask Orbital Shaker LMFOS-110A has a triple eccentric counter balanced drive to hold the containers in proper position. It has the orbital diameter of 20 mm with speed range of 50 to 350 r/min. It is of low maintenance and vibration free equipment which secure the sample safely. It is provided with LCD display to view the parameters. Brushless motor enables the smooth and effective working. Best design and Good quality of fabric are used to build the structure. It can put up high speed and heavy weights. It has speed and time adjustment switch's near to the LCD display.

3. Features

- It is provided with triple eccentric counter balanced drive to hold the containers and protect the samples
- The LCD display shows the speed and time of the shaking
- Engineered to make it low maintenance and vibration free
- We can process more amount of sample as it can hold up high speed and heavy weights
- Equipped with speed and time adjustment switches to make it easy to operate
- Durable fabric is used to make the structure of the equipment
- Installed with brushless motor to avoid vibration and damage to the samples
- It has 2 types of time setting options Time range 1 min to 24 h or continuous operation

4. Specifications

Model No.	LMFOS-110A
Shaking motion	Orbital
Orbital diameter	20 mm
Speed range	50 to 350 r/min
Timer	1 min to 24 h/continuous operation
Display	LCD display
Maximum shaking weight	7.5 kg
Motor power	40 W
Motor type	Brushless motor
Dimension(W×D×H)	360x420x100 mm
Weight	13 kg
Voltage	AC 100 to 240 V
Frequency	50 to 60 Hz

5. Applications

Used in the fields of molecular biology, microbiology, immunology, chemistry, etc. Used in many applications including biochemistry, environmental and food sciences. Used in clinical diagnostics, and eukaryotic cell culture. Microbes culturing, washing blots, and general mixing methods uses this device.

6. Operations

- 1) The upper row of the LCD screen displays the set speed during setting and the actual speed after starting.
- 2) The lower row of the LCD screen displays the timing time during setting and the countdown time after starting.
- 3) $\nearrow$ and $\searrow$ are the plus and minus keys for setting the speed. The long press can quickly add and subtract.
- 4) $\triangle$ and ∇ are the plus and minus keys for setting the timing. The long press can quickly add and subtract.
- 5) **STOP** is the stop operation key and the confirmation key during setting.
- 6) **RUN** is the start operation key.
- 7) When the timing time is set to 0, it means no timing and is in the normally open mode. When the timing time is set to greater than 0, it indicates the timing time value in minutes. When the timing time is reached, the upper row displays OFF, the lower row displays 0, and the rotation stops. The buzzer stops automatically after 5 seconds.
- 8) When the upper row displays E-2, it means
 - The speed probe and the magnet are offset.
 - The motor is stuck.
 - The motor is not powered on.
- 9) This instrument needs to be used correctly:
 First, set the speed and set the time. The time can be 0, which means it is always on. After setting, press the **STOP** button to confirm, and then press the **RUN** button to start running. After use, set the speed to the lowest and the time to 0, press the **STOP** button to confirm, and finally turn off the power.

7. Maintenance

- 1) Correct use and attention to the maintenance of the instrument to keep it in good working condition can extend the service life of the instrument.
- 2) During the continuous operation of the instrument, a regular inspection should be carried out every three months: check whether there are water drops, dirt, etc. falling into the motor and control components, and check the fuses, control components and fastening screws.
- 3) The bearings of the rotating part have been filled with an appropriate amount of grease (No. 1 calcium-nano base) before leaving the factory. During the continuous operation of the instrument.
- 4) Grease should be added every six months, and the filling amount accounts for about 1/3 of the bearing space.
- 5) After long-term use, the natural wear of the instrument is normal. After one year of use, if abnormal motor noise is detected, the transmission bearing shows signs of wear, the belt becomes loose or cracked, or the electronic control component malfunctions.
- 6) The above bottling volume is the recommended configuration of our factory. Since the bottling volume and bottling specifications are ever-changing, it is very normal for users to have other bottling volume/specification requirements.



Labmate Scientific Inc 444 W Lake Street Chicago IL 60606 USA
Email: info@labmate.com | Website: www.labmate.com