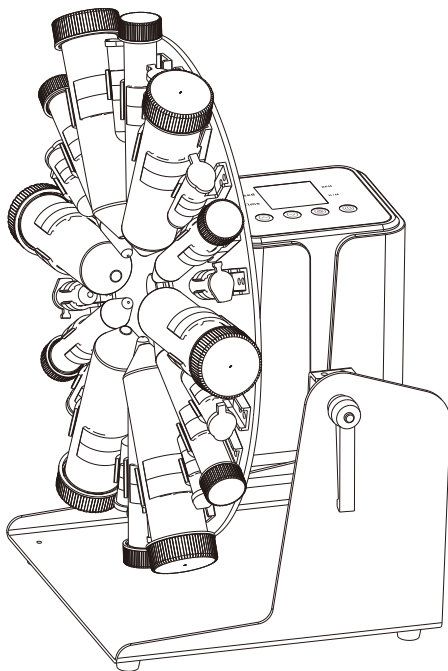




User Manual

Rotary Mixer

SMV-R

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01 Important Note

① Attention / Warning

- The precautions contain vital information. Please read them carefully. Failure to follow the instructions may result in equipment damage or malfunction
- The warning message requires you to exercise extreme caution when performing a certain operation or method. Failure to follow the correct requirements may result in serious personal injury

Safety

During all stages of operating, maintaining, and repairing this instrument, it is essential to adhere to the following basic safety measures. Failure to comply with these measures or other warnings indicated in this manual may affect the protection provided by the instrument. It may also violate the safety standards and intended use of the instrument's design and manufacturing. Wuhan Servicebio Technology Co., Ltd. shall not be held responsible for any consequences resulting from the user's failure to comply with the following requirements.

① Caution

- This instrument is intended for indoor use

1. Stay away from live circuits

Operators are not allowed to open the instrument without authorization. Component replacement or internal adjustments must be performed by certified professional technicians. Do not replace components while the power cord is connected.

2. Pay attention to power supply usage

Before connecting to the AC power supply, ensure that the voltage of the power supply matches the required voltage of the instrument (allowing a deviation of $\pm 10\%$). Also, ensure that the rated load of the power outlet is not less than the requirements of the instrument.

3. Pay attention to the placement of the instrument

The instrument should be placed in an environment with low humidity, minimal dust, and away from water sources (such as near pools, water pipes, etc.). The indoor area should have good ventilation and be free from corrosive gases or strong magnetic interference.

The openings on the instrument are designed for ventilation. To prevent overheating, do not block or cover these ventilation holes. When using a single instrument, the distance between the ventilation holes on the left and right sides of the instrument and the nearest object should be no less than 25cm. High temperatures can affect the performance of the instrument or cause malfunctions. Do not use this instrument in direct sunlight and keep it away from warm air, stoves, and all other heat sources.

When the instrument is not in use for a long time, unplug the power plug and cover the instrument with a soft cloth or plastic sheet to prevent dust from entering.

⚠ **Caution**

In the following situations, immediately unplug the power plug of the instrument from the power outlet and contact the supplier or qualified repair personnel for assistance:

- Liquid spills into the instrument
- The instrument falls or the casing is damaged
- The instrument is exposed to rain or water
- There are noticeable changes in the functionality of the instrument
- The instrument is not functioning properly, especially if any abnormal sounds or odors occur

Module Installation and Instrument Maintenance

When replacing modules, unscrew the hand-tightened screws, select the module to be replaced, and then tighten the screws again.

If there are stains on the surface of the instrument, you can use a soft cloth soaked in water and wrung dry to clean it.

⚠ **Warning**

- When cleaning the surface of the instrument, the power must be disconnected
- Corrosive cleaning agents are strictly prohibited from being used to clean the surface of the instrument

02 Product Introduction

The rotary mixer is suitable for general mixing scenarios in industries such as biology, medicine, and chemicals. However, it is not recommended for use in cold storage.

Product Features

- Rotary operation, gentle and thorough mixing
- Adjustable Angle Range: Single-layer adapter 0-90 degrees, double-layer adapter 50-90 degrees
- Adjustable speed range: 10-80rpm
- Accurate speed control
- Low noise
- Various sizes of adapters can be freely combined, suitable for 1.5mL, 2.0mL, 5mL, 10mL, 15mL, and 50mL centrifuge tubes
- Memory function: The startup parameters are set to the last settings before shutdown

03 Product Features

This chapter mainly introduces the usage, transportation and storage conditions of this instrument, as well as its basic parameters, performance, and functions.

3.1 Normal Operating Conditions

Environmental temperature	5°C~40°C
Relative humidity	≤80%
Input power	AC100V~AC240V
AC power	50Hz / 60Hz
Output power	24V 1.5A 36W

⚠ Caution

- Before using the instrument, please confirm whether the working conditions meet the above requirements

3.2 Transportation and Storage Conditions

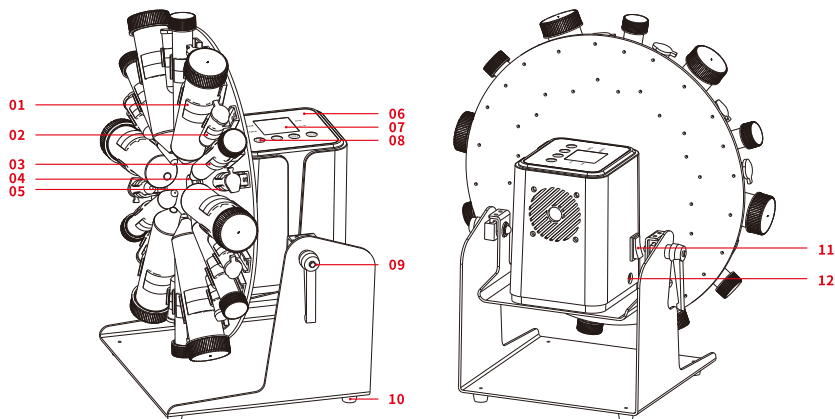
Environmental temperature	-20°C~+55°C
Relative humidity	≤80%

3.3 Basic Parameters

Motor type	Stepper motor
Speed range	10-80rpm
Time range	1m-99h59m
Adjustable Angle Range	Single-layer adapter 0-90 degrees, double-layer adapter 50-90 degrees
Speed display	Digital display
Operating mode	Continuous mode
Voltage	100-240V, 50/60Hz
Input power	36w
Dimensions	176×260×306 mm
Product weight	2.45 Kg

04 Machine Description

4.1 Structural Diagram



01 50mL Centrifuge Tube Buckle

04 Hand-tightened Screw

07 Display Screen

10 Foot Pad

02 1.5 (2.0) mL Centrifuge Tube Buckle

05 5mL Centrifuge Tube Buckle

08 Touch Button

11 Boat-shaped Switch

03 15 (10) mL Centrifuge Tube Buckle

06 Machine Body

09 L-shaped Handle Screw

12 Power Socket

4.2 Optional Accessories

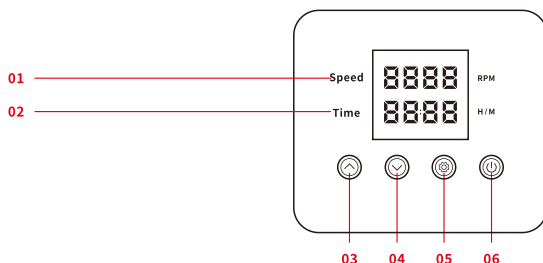
Module	Model	Description
Standard Module	SMV-R-A	$6 \times 1.5 (2.0) \text{ mL} + 6 \times 5 \text{ mL} + 6 \times 15 (10) \text{ mL} + 6 \times 50 \text{ mL}$
	SMV-R-B	$12 \times 1.5 (2.0) \text{ mL} + 6 \times 15 (10) \text{ mL} + 6 \times 50 \text{ mL}$
	SMV-R-C	$30 \times 1.5 (2.0) \text{ mL}$
	SMV-R-D	$25 \times 5 \text{ mL}$
Optional Module	SMV-R-E	$20 \times 15 (10) \text{ mL}$
	SMV-R-F	$10 \times 50 \text{ mL}$
	SMV-R-G	$7 \times 15 (10) \text{ mL} + 7 \times 50 \text{ mL}$
	SMV-R-H	Double-layer tray connecting rod

If you need to customize other models or modules, please contact the supplier

4.3 Installation Instructions

- 1.Ensure a good working environment, free from explosive and flammable materials.
- 2.Open the package and check whether the instrument accessories are complete, then place the instrument on a horizontal workbench.
- 3.If multiple instruments are used at the same time, please maintain a distance of more than 25cm between each equipment.
- 4.Before connecting the instrument to the power supply, please ensure that the input voltage meets the product standard.
- 5.Before installing the accessories, first turn off the power, gently remove the original accessories, and then connect the replacement accessories with screws. Before each use of the instrument, please confirm that the instrument and its accessories are not damaged.

05 Operation Guide



01 Speed Display

02 Time Display

03 Increase

04 Decrease

05 Function Switch

06 Start/Stop

1. Place the instrument on a stable, level workbench. Connect the power supply and turn on the power switch.
2. Touch the "Function Switch" button to select the parameter you want to set. The selected parameter will blink. Use the "Increase" or "Decrease" buttons to set it to the desired value.
3. Once the value is set, touch the "Start/Stop" button to start the instrument.
4. The instrument allows adjusting the speed during operation. If you need to adjust the time, you must pause the instrument first and then use the function switch button to set.
5. Loosen the L-shaped handle screw to adjust the angle of the instrument. After adjusting the angle, be sure to tighten the L-shaped handle screw to secure the angle. If you notice any angle changes during use, check if the L-shaped handle screws are tightened. It is important to tighten both sides of the L-shaped handle screws simultaneously for better angle stability.
6. To replace the adapter, remove the hand-twist screw, align the desired adapter with the mounting hole, and then tighten the hand-twist screw.
7. When installing the double-layer adapter, use the double-layer tray connecting rod. Press the threaded end.
8. The rotator mixer has a locked-rotor function. In case of a locked-rotor caused by improper operation, the instrument will self-correct and continue running. The correction process takes about 10s.
9. If the instrument makes a "Dada Dada" noise during operation, it is determined to be caused by loose manual screw nuts. Please tighten the manual screw nuts.

06 Precautions

1. The main components of this series of products are fragile. Please avoid any impacts or falls during packaging, transportation, and use, as it may result in product damage or render the product unusable.
2. After daily use, please promptly wipe off any water stains and dust from the surface of the instrument.

Warranty Card

User Name		Contact Number	
Cat.No.		Factory No.	

Maintenance Records

Date of Repair	Fault and Repair Details	Date of Repair	Repair Technician



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