User manual Multispin 12

Introduction

Multispin 12 is equipped with two rotors and tube adaptors, suitable for centrifugal tubes of 1.5ml、0.5ml、0.2ml, and 8-strip 0.2ml PCR tubes.
Multispin 12 is stopped when opening the lid.
It has timing and speed function.

Features

1. The “3-in-1” 18-place rotor is suitable for three different centrifugal tubes, 1.5ml, 0.5ml, 0.2ml.
2. It adopts high-frequency broad voltage technical technology. The input voltage range is 85-265V AC.
3. It has LED screen to set time and speed.
4. It adopts brushless motor with very low noise.

Technical parameters

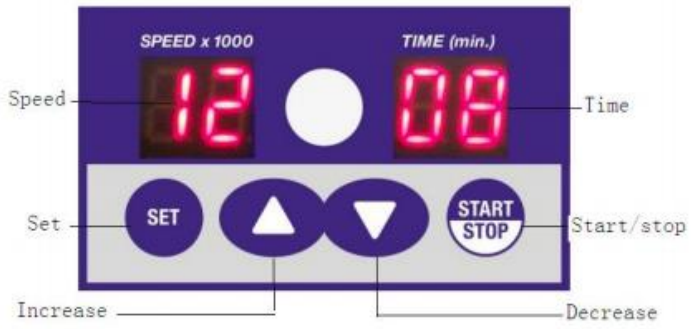
1. Speed: 1000-12000 rpm
2. Relative centrifugal force: 7900g
3. Time setting range : 1-99 minutes
4. Sample capacity : 6×1.5ml/0.5ml/0.2ml tubes and 2×8×0.2ml PCR tube
5. Input voltage: 85-265V AC 50/60Hz
6. Noise level : ≤ 45db
7.Weight: 1.5kg 8.Volume: 196×176×122 (mm)

Basic operation

Structure

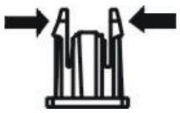


Keyboard and display panel



Rotor replacement

1. Pick up the rotor.
2. Push two sides of the clip towards the middle.
3. Use another hand to pick up the rotor.
4. Install the rotor.
5. Aim the middle hole of the rotor at the clip.
6. Push until the rotor is clipped on firmly.



Operation guide

Speed and time setting

Switch the power button to "I" . The LED screen displays the previous parameters.
Press the button of " SET " for one time and the cursor will twinkle at the screen of speed. Press up arrow or down arrow to reach the targeted speed (1000-12000rpm). The unit is 1000rpm.
For example : "10" represents 10×1000rpm, that is 10000rpm.
Continue to press the button " SET " for one time the cursor will twinkle at the screen of time.
Press up arrow or down arrow to reach the targeted time(1-99 min). The nit is 1 minute.
The set value will be confirmed after 3 seconds.

Operation

a. Make sure the lid is entirely closed. Press the button of START/STOP , then the instrument will start to operate. When the set time reaches 0, the buzzer alarm rings.
b. During the centrifugation, the speed can be changed at any time. To stop the centrifugation, please press the button of START/STOP or press the lid switch.

Warning

1. Do not open the lid until the centrifugation completely stops.
2. The centrifugal tube should be placed in balance and in equivalent volume/weight. Each tube can't exceed 3g.
3. Should loud noise or abnormal vibration occurs after centrifugation, please stop the centrifugation immediately and check the machine.
4. When using the rotor of 6×1.5ml, it is absolutely forbidden to use 1.5ml, 0.5ml, and 0.2ml tubes altogether.

Safety Tips

1. Do not operate the centrifuge without rotors inside.
2. To avoid corrosion, do not add samples to the tubes when the tubes are already placed in the rotor.
3. Do not move the centrifuge at all while centrifugating.
4. Do place the centrifuge on a flat and solid bench or surface.

Cleaning

Use dry cloth and non-corrosive detergent to clean the surface of the instrument. Please ensure that all the components are thoroughly dry before operation. Do not immerse the instrument into any liquid or let instrument be wet by any liquid.

Trouble Shotting

Phenomenon	**Factor analysis**	**Solutions**
The rotor does not work	The power cord is not plugged well.	Plug the power cord well
	No power from the wall socket	Find power source
	The switch button is off.	Switch on the power button
	The tube cap is not closed well.	Keep the tube cap closed well.
	Fuse is burned out..	Change the fuse or contact the supplier.
Loud noise or dramatic vibration or abnormal sound after power on.	The instrument is not placed on a flat and solid bench.	Place the instrument on a flat and solid bench
	The rotor is not installed horizontally or correctly.	Re-install the rotor.
	The tubes are not placed in a balance	Place the tubes in a balance
	Liquid in the tubes are not in the same level.	Adjust the liquid to a same level.
	The tube cap is not well closed and part of samples flew out, which leads to the imbalance of the rotor.	Add samples.
	The tubes break and the leakage leads the rotor to the imbalance of the rotor.	Change tubes.
	Rotor is aged or partly broken	Change new rotor.
	Use multiple sizes of tubes.	Use tubes with same size.
	Rotor cover is out of shape or broken	Change rotor cover.

Warranty

The instrument is guaranteed for a period of 24 months from the date of purchase. The warranty is valid only if the product is original. It does not apply to any product or parts of it that have been damaged due to incorrect installation, improper connections, improper use, accident or abnormal conditions of operation. The manufacturer declines all responsibility for damage caused by failure to follow instructions, lack of maintenance and any unauthorized modification.