

# 3D Rotating, Variable Speed Mixer

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**Cat. No. BT911**

Please read the manual thoroughly before operating the microplate shaker.

## INTRODUCTION

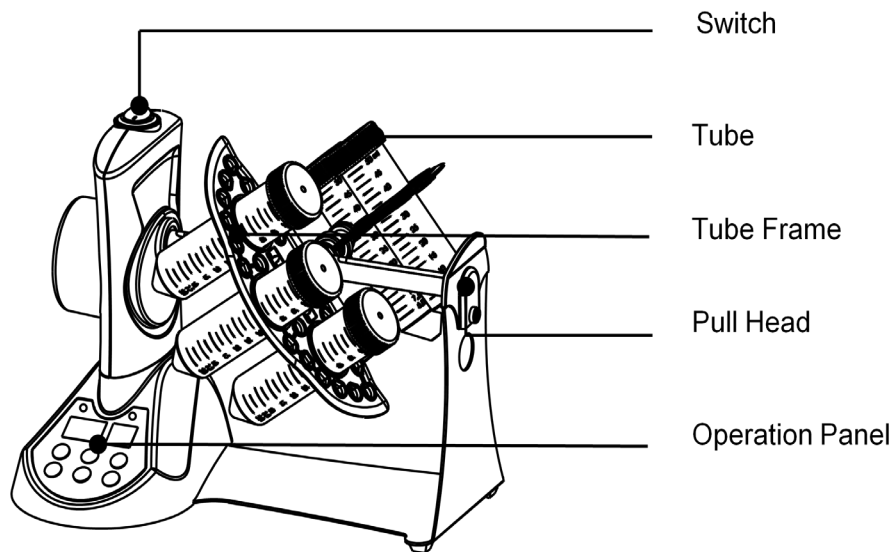
The 3D rotating mixer is a uniquely designed instrument which can mix samples horizontally, vertically or any angled rotation with a variety of sample tubes. The 3D rotating mixer is compact, light and convenient, can be easily moved to a bench top, a refrigerator or an incubator.

## COMPONENTS

- 3D Rotating Mixer
- 1.5/2ml Tube Frame (1 pair)
- 12-13mm & 15-16mm OD Tube Frame (1 pair)
- 0.5ml & 50ml Tube Frame (1 pair)
- Rotating Bar (2)
- Spare O-Rings (4)
- Manual (1)

## OPERATION INSTRUCTION

### Structure



## Display Panel



### Key Function

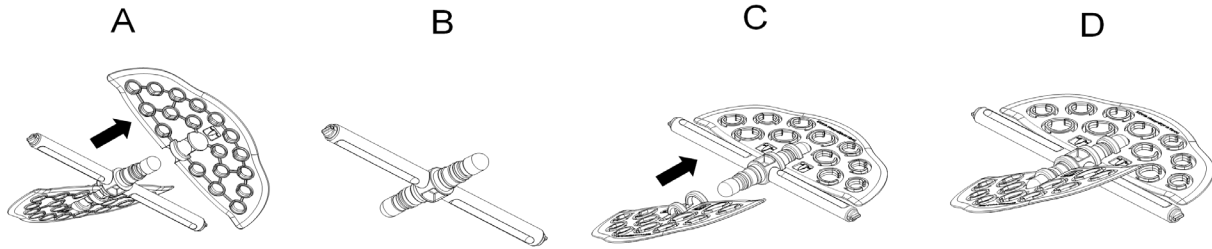
▲ ▼	Time and speed setting key. Keep pressed to increase or decrease value quickly. Time range is 1s-999min. Speed range is 10-40rpm.
Start/Stop	Start/Stop key. After time setting finish, press Start/Stop key to run the operation. Press Start/Stop key in running process to stop operation.
Loop	Press LOOP key to enter to Reciprocating rotation mode. Press LOOP key again to exit Reciprocating rotation mode.

### Operation

#### 2.4.2 Time and Speed Setting

1. Power on, the screen display "88888" and enters initialization with beep alarm.
2. After 2 seconds, the screen displays value 17 (for example) to indicate the setting speed 17rpm from former operation, the value 010 (for example) to indicate the setting time 10s or 10min.
3. Press "▲" or "▼" of Time key to set time. Hold keys down to increase or reduce value quickly.
4. Press "▲" or "▼" of Speed key to set time. Hold keys down to increase or reduce value quickly.
5. Press and hold both the Time "▲" and "▼" keys to change the time unit between second and minute. The minute indicator light means the unit is in minutes, otherwise, its unit is second.
6. Press LOOP key, top-right LOOP indicator will light, the instrument enter into reciprocating rotation mode, the 3 digital on the screen right part indicate reciprocating rotation degree. The rotation degree can set from 20° to 99°. Rotating speed is fixed at 20rpm. Press LOOP key again to exit reciprocating rotation mode.
7. Press the time down arrow until time displays 000 for constant operation.

### **Tube Frame Replacement**



1. Remove the frame by gently pulling away (A) from the rotating bar (B).
2. Gently push the new frame onto the rotating bar (C).

### **Warning**

1. The tube frame should be the same type on the two sides of the cross bar. Make sure the samples are in as balanced a position as possible.
2. Do not put hand on the tube frame when the instrument is operating.
3. Turn off the instrument to check if too noisy or heavily shake.

### **MAINTENANCE**

Use mull or soft cloth with non-corrosive cleansing fluid (pH=7±1) to clean surface of the instrument. Do not dip the instrument into fluid or water it.

### **SPECIFICATIONS**

- Dimension: 240x145x210 (mm))
- Speed: 10-40rpm
- Time Range: 1S-999min
- Reciprocating Rotation Degree: from 20° to 99°
- Input Power: AC100-230V, 50/60Hz
- Power: ≤4W
- Fuse: 0.5A /1.0A

## TROUBLESHOOTING

Issue	Possible Causes	Solution
Not rotating when power on	Power line problem	Check the power line
	Broken switch	Change the switch
	Other	Contact with the seller
Display speed is different from actual speed	Broken controller	Contact with the seller
Display "ERR"	Speed out of control	Contact with the seller
Tube frame cannot be fixed on the cross bar	Serious wear of the rubber ring, or rubber ring broken	Change the rubber ring
Vibrate heavily when operating. Non-uniform rotating speed	Use different types of tube frame on each side, serious imbalance	Use the same type of tube frame, try to keep the weight of two side the same

## WARRANTY

The company will be responsible for replacement due to fault caused by the materials and manufacturing up to 1 month from the date of delivery. The company will provide 12 month free warranty due to fault caused by the materials and manufacturing from the date of delivery. In the warranty period, the company will provide free repair service or replacement for those machines which are proved as defective apparatus selectively.

Improper use or use under abnormal condition, damage caused by repair or modification without authority etc will invalidate the warranty.

## TECHNICAL SUPPORT

BT Lab Systems offers technical support for all of its products. If you have any questions about the product's use or, operation, please contact BT Lab Systems at the following info.

E-Mail: [info@BTLabSystems.com](mailto:info@BTLabSystems.com)