

# Operation Manual



BCBH-101

## Benchtop High Speed Centrifuge

Thank you very much for Choosing Biolab products. Please read the "Operating Instructions" and "Warranty" before operating this unit to assure proper operation.

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# 01 Application

It's mainly use in clinic, biochemistry, immunology, etc. The instrument is mainly used in lab for precipitation.

# 02 Technical Specification

Max Speed	16000r/min
Max RCF	23669×g
Timer Range	0-99 min
Power Supply	AC 220V 50Hz
Dimensions	330×420×280mm (L×W×H)
Weight	20kg

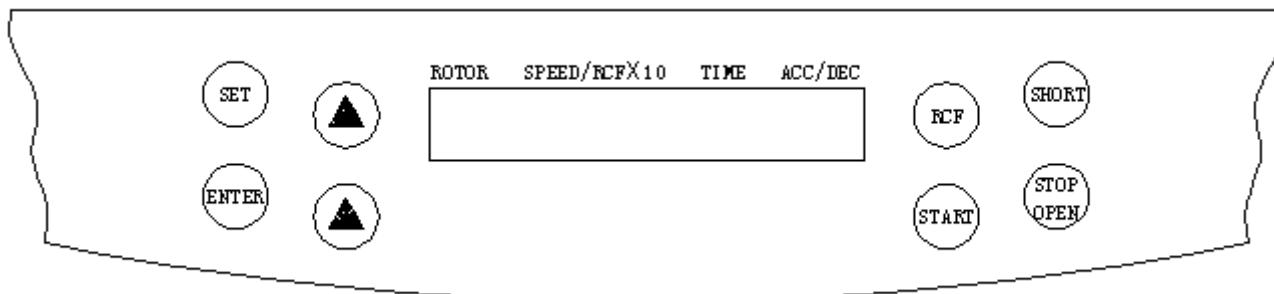
Allocated Rotor's specification refer to Table I

**Table I**

Rotor's No.	Volume (ml×tube)	Max Speed (r/min)	Max RCF (×g)
BX-103302	1.5/2.2 ml×12	16000	17800
BX-103303	1.5/2.2 ml×24	13200	16110
BX-103304	5 ml×10	13000	11400
BX-103305	10 ml×12	12000	14800
BX-103306	15 ml×8	12000	14800
BX-103307	0.5 ml×36/48	16000	23669
BX-103308	50 ml×6	12000	13000

## The principle and character of Products' Work

The Product has computer controls. There are many kinds of protection functions. Explanation of keystroke refer to table II



SET: Setup

ENTER: OK

▲ : Up

▼ : Down

RCF: Centrifugal force output

SHORT: Instantaneous centrifugation. (Close the gate, press the key, the machine starts to centrifuge. It will stop with your release of SHORT key. It is mainly used in short-time centrifugation)

START: Start

STOP: Stop / Door open

Display Window Function:

ROTOR: Number of Rotor

SPEED/RCF: This digital display window shall show two types of information: it shows the speed of motor in normal. If you press the RCF key, it shows the value of RCF. Press RCF key again, you will see the figure of speed.

TIME: Time

ACC/DEC: Accelerate/Decelerate

### Requirement of the Instrument Installation

1. The table shall be stable and solid.
2. There should be 30 cm between the wall and centrifuge's back, to ensure ventilation and heat elimination.
3. Room temperature had better no more than 30°C to the best performance of centrifuge.
4. The instrument shall be placed at where their is no disturb of magnetic field and caustic gas.
5. The power shall be three phase with separate Earth wire.

# 03 Operating Principle

1. Plug in
2. Switch on power
3. Open the door lid
4. Install the rotor: put in the tube with sample which the value is less than the 90% of tube. The tubes shall be place in symmetry with balance. Close the door.
5. Setup the Rotor Number, the speed, the RCF and Operating Time.

For example:

Rotor No.	speed r/min	Time (min)	Acc/Dec
1	10000	15	3

Steps of setup:

- a. Setup the rotor No.: Press "SET" → press "▲" or "▼", the cursor shall be blinked in the digital displayer where under "ROTOR"(only one bit blinked) →chose No. 1→press ENTER
- b. Setup the Speed: Press "SET" →press "▲" or "▼", the cursor shall be blinked in the digital displayer where under "SPEED/RCF"(five bits blinked) →set "10000"→press ENTER
- c. Setup the time: Press "SET" →press "▲" or "▼", the cursor shall be blinked in the digital displayer where under "TIME"(Two bits blinked) →set "15"→press ENTER
- d. Setup Acc/Dec: There are ten gears from 0 to 9. 0 represent the highest accelerated/decelerated speed, 9 represent the lowest accelerated /decelerated speed.

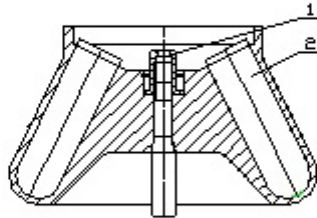
At last the digital displayer shall be show as following:

1	10000	15	3
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- e. Setup RCF: Press "RCF" →press "▲" or "▼"(choose what you need)→ press ENTER. If you need show the value of RCF when centrifuge is working, press the "RCF", then press the "RCF", the digital shall show the speed.
- f. SHORT. If you need instantaneous centrifuges, press "SHORT".
- g. If press the "START", Centrifuge shall be working. (If you need stop the Centrifuge when it is working, please press the "STOP".) Centrifuge shall auto stop working when program is over. When speed is 0. You can open the door and take out the sample, then turn power off.

## Installation of Rotor

Table III

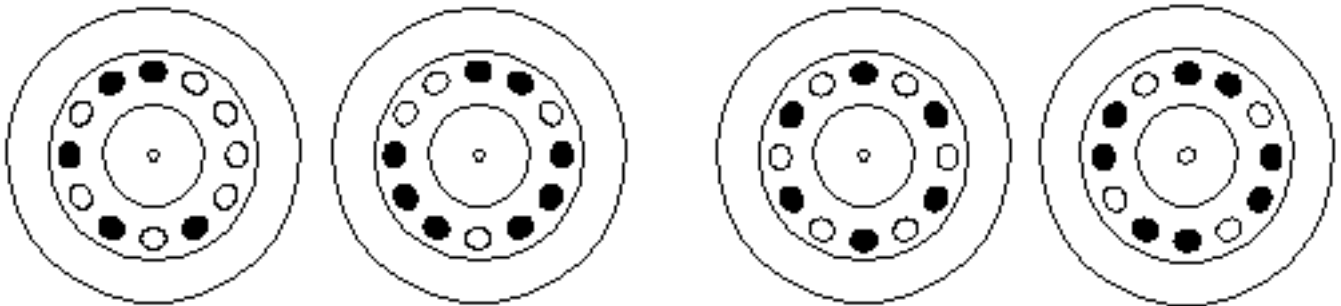


1. Nut 2 .Tube

Put the rotor on the spindle vertically, and fix it by nut.

### Placement of Tube

Put the tubes in rotor symmetrically and close the lid. Please note that the sample amount should be less than the 90% of tube. The tubes shall be placed in symmetry with balance.



Wrong

Right

Error code 1. Nut 2 .Tube

Put the rotor on the spindle vertically, and fix it by nut.

### Placement of Tube

Put the tubes in rotor symmetrically and close the lid. Please note that the sample amount should be less than the 90% of tube. The tubes shall be placed in symmetry with balance.

	Imbalance	Over speed	Lid	Circuit board	Motor	Setting
Error	E1	E2	E3	E4	E5	E8

#### E1.Imbalance:

- (1) The weight of sample in each tubes have great difference; weight error is more than 1.5g.
- (2) Rotor is out of shape.
- (3) The spindle of motor bend.

#### E2.Over speed :

- (1) Rotor number is wrong.
- (2) The real voltage don't meet the demands of machine. Power supply isn't stabilized.
- (3) Speed sensor is in trouble

#### E3.Lid :

- (1) Lid isn't closed completely.
- (2) The lid protection devices doesn't work.

#### E4.Circuit board or display panel :

- (1) Circuit board or display panel damage.
- (2) The wire between circuit board or display panel is loosen.

#### E5.Motor failure :

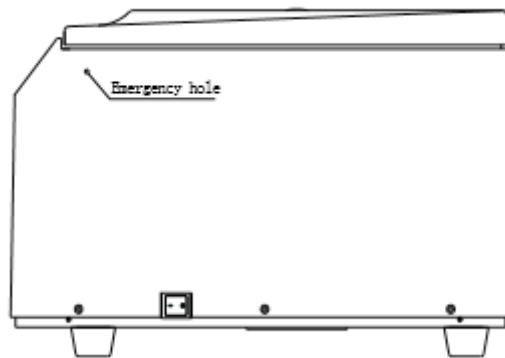
- (1) Motor breaks down.
- (2) The wire between the motor and control panel is loosen.

#### 2.No display

Fuse blowout                      replace it

## 04 Notice

1. Centrifuge has electronic lock. Without plugged in, the door could not be opened. If power was cut when Centrifuge is working, or in any other reasons, the door can not be open, The Emergency pole we provided is available. Please note on the right side of the model, there is a hole, insert Emergency pole into the hole, use some efforts, the door can be opened.



2. No moving the machine when it is working.
3. Clean the rotor and locate it in drafty room if it is not use for a long time.

## 05 Maintain Certificate

The warranty period is twelve months after ex-work. We shall provide the best service in warranty period complied with the request of this instruction book.





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