

Operation Manual



BCBLR-102

Benchtop Low Speed Refrigerated Centrifuge

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

Foreword

For users:

The manual will guide you how to install, test, use and maintain the Centrifuge. Please read the Instruction Book first.



Caution !

The Centrifuge should be operated by the technical staff and maintained by professional engineer.

Don't use and maintain the centrifuge before you read the Instruction Book. Please use the corresponding socket, and make sure its in a good condition.

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When you move the machine, please keep the four corner of the base bear homogeneous power.

Notice:

- * Before your operation, please read the Instruction Book carefully.
- * Only professional engineer have the right to maintain the centrifuge.
- * The centrifuge should be controlled by the technical staff and maintained by professional engineer.
- * The weight of sample in each tube should be approximate; weight difference is no more than 1.5g. For angle rotor, the sample volume should be less than 80% of the total tube volume. As for swing rotor, the sample capacity will be no more than 90% of the total tube volume.
- * Don't use the following material:
 - Flammable and explosive material;
 - Poisonous and radioactive material.

Explanation of the logo



Please pay more attention to the content with this sign above.



High-voltage danger !

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01 Use

It's mainly use in physic, life sciences, agriculture, etc. Many kinds of rotors can be used. The computer controls, digital display, have door overlay, over speed, ultra warm protection function. It is furnished with the electronic lock, to make the operation course safe and reliable.

02 Technical Specifications

Max Speed	8000r/min
Max volume	250ml×4
Max RCF	9100×g
Temp. range	-5°C~+35°C
Timer	0~99min
Temp. Accuracy	±1°C
Speed Accuracy	±30r/min
Noise	≤65dB (A)
Power	220V 50Hz
Dimensions	460×710×420 (L×W×H)
Weight	80kg

03 Rotor's Specifications

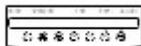
Rotor No.	Capacity ml	Max. speed (r/min)	Max. RCF (×g)
No. 1 Swing rotor	250mlx4	4300	3582
No. 2 Swing rotor	50mlx8	4000	2810
	15mlx16/24/32	4000	2810
	7mlx72	4000	2810
	7mlx48	4000	2810
No. 3 Angle rotor	100mlx8	8000	9100
No.4 Micro plate rotor	8x96 well	4000	2200

04 Installation

1. Put the rotor on the spindle and screw down the cap.
2. The tubes shall be placed in symmetry with balance.
3. The table shall be stability.
4. The power shall be 220V and single-phase with separate Earth wire without creepage.
5. The instrument shall local at where be without disturb of magnetic field and caustic gas, relative humidity is less than 85%.
6. The back of machine shall be 10 cm from the wall for aeration.
7. Use power line which we supplied.

05 Operation

Before your operation, please read the book carefully. And check the Power, and the Max. Speed of rotor.



1. Explanation of key:

ROTOR:	Rotor number
RCF:	Centrifugal force volume Input
TIME:	Time input
TEMP:	Temp. volume input
ACC/DEC:	Speed up/down
ENTER:	OK
STOP/OPEN:	Door lock/open
START:	Start
SET:	Setup
▲:	UP
▼:	DOWN

Operation

a. Rotor No. Display

The display of rotor No.: only one bit display, "1" refers to 250ml×4, "2" refers to 50ml×8, 15ml×16/24/32, and 7ml×72, "3" refers to 100ml×8, "4" refers to 8×96 well

b. Speed display

The display of Speed: four bits display. If the forth bit have one point at right corner, they means RCF; if no, they means SPEED volume.

c. Time Display

The display of time: Two bits display. The volume shall be counted down when machine reach the speed you set.

d. Temp. Display:

the display of TEMP: three bits display. If it display numbers only, it means Temp.. If it display as following Table IV, the machine have some faults:

Table IV

Type of trouble	Imbalance	Over speed	Temperature Sensor error	Electronic plate error	Motor error	Poor contact	Setup error
display	E1	E2	E3	E4	E5	E7	E8

e. The display of Speed up/down: only bit display. The acceleration is Max. when it display "1". "9" means Min. (One point at right corner means speed down.)

2. Rotor Install

- a. Check the rotor, if it have any flaw or the spot of eroded.
- b. Put some lubricating oil on spindle, install the rotor, screw the nut.
- c. The tubes shall be place in symmetry with balance. The error must be less than 1.5g.

3. lock the door.

Close the door.

4. Plug in

Before plug in, check the machine carefully. please refer to Table III. When Power is "On", the compressor start to work and the red transistor light which on the control panel. Pleas setup the parameter of centrifuge as the example of Table V.

Table V

rotor No.	speed	time	temp.	speed on	speed down
1	4000	30min	3°C	6	4

a. setup the rotor No.

Setup the rotor No.: Press "ROTOR" (it display "0") → press "▲" or "▼"→chose No. 1→press ENTER. It shows "1".

b. Setup SPEED

Setup the Speed: Press "RMP" →press "▲" or "▼" →set "4000"→press ENTER

c. Setup Time

Press "time" (it display "0") → press "▲" or "▼"→chose No. 30→press ENTER

d. Setup Temp.

Press "TEMP" (it display "0") → press "▲" or "▼"→choose +3→press ENTER

e. Setup "ACC"

Press "ACC" (it display "0") → press "▲" or "▼"→chose +6→press ENTER

f. Setup "DEC"

Press "DCC" (it display "0") → press "▲" or "▼"→chose +4→press ENTER

5. START

If press the "START", machine is working as setup. The Time is count down.

07 Maintain by User

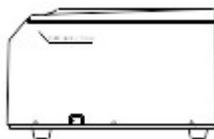
1. Put some vaseline or lubricating oil on the spindle. It is easy to put out the rotor.
2. If tubes is broken or liquid overflow, please clean the hole of rotor.
3. Check the rotor, if it have any flaw or the spot of eroded.
4. Please replace the tube in time.
5. Clean the rotor in time and locate it in drafty room
6. If the machine is not work in a long time, please plug out.

08 Maintain Certificate

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

09 Note

1. Centrifuge has electronic lock. If power was cut when Centrifuge is working, or in any other reasons, the door can not be open, please put the special tool into the hole where is in the left (right) side of machine and open the door.



2. Please keep the chamber dry.



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