

Operation Manual



BCBLR-101

Benchtop Low Speed Refrigerated 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 Safety Instruction

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.

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 !

Benchtop Low Speed Refrigerated Centrifuge BCBLR-101

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.

Technical Specification refer to Table I

Table I

Max Speed	5000r/min
Max volume	100ml×4
Max RCF	4390×g
Temp. range	-5°C~+35°C
Timer	0~99min
Temp.accuracy	±2°C
Speed accuracy	±50r/min
Noise	≤65dB (A)
Power	220V 50Hz
Dimensions	460×710×420 (L×W×H)
Weight	80 Kg

Rotor's specification

Table II

Rotor No.	capacity	Max. speed (r/min)	Max. RCF (×g)
BX-103999	100ml×4	5000	4390
BX-104000	50ml×8	4000	2810
BX-104001	15ml×16/24/32	4000	2810
BX-104002	7ml×72	4000	2810
BX-104003	7ml×48	4000	2810
BX-104004	8×96 well	4000	2200

02 Installation

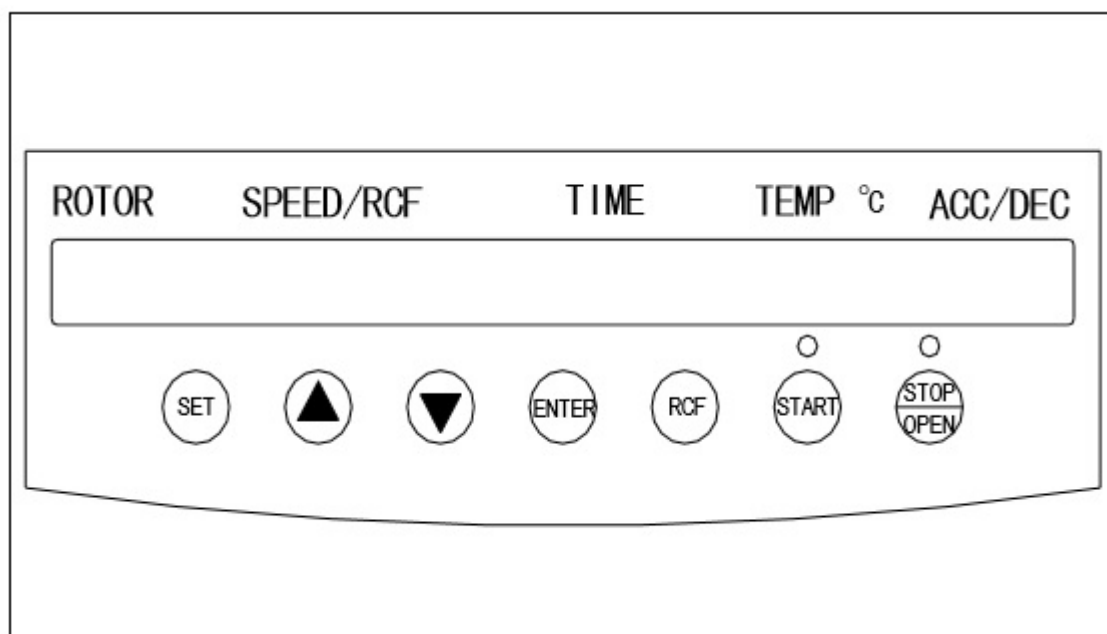
1. Put the rotor on the spindle and screw down the cap.
2. The tubes shall be placed in symmetry with balance.

3. The table shall be stable.
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 10cm from the wall for aeration.
7. Use power line which we supplied.

03 Operation

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

Table III



Operation

a. Rotor No. Display

The display of rotor No.: only one digit display, "1" refers to 100ml×4, "2" refers to 50ml×8, 15ml×16/24/32 and 7ml×72/48. "3" 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	Transformer
display	E1	E2	E3	E4	E5	E7	E8	E9

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

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.

6 Stop the working

When the time gets down to "0", power shall be cut down automatically. When the speed volume is "0", open the door and put out the tubes.

04 Function

In normal, it is display the speed. If you press the "RCF" first, then press the "ENTER", it displays the Centrifugal force volume. Press the "ENTER" again, it displays the speed volume.

Fault analysis and obviating

Not "Start"	
Not plug in	plug in
Door is not locked	lock it
Wrong setup	set up again
stop working as shake	
no poise	The error of opposite samples' weight must be less than 1.5g.
acclivitous	adjust
spindle is bend	contact us
stop working as over speed	
computer control error	contact us

speed meter is not tighten	screw it
sensor is in trouble	contact us
Refrigeration system is in wrong	contact us
thermometer is in trouble	contact us
Switch is wrong	replace it
can not setup	contact us

05 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.

06 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.

07 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.



BIOLAB SCIENTIFIC LIMITED
3660 Midland Avenue, Suite 300, Toronto, Ontario M1V 0B8,
Canada

 +1 707 533 1445 |  info@biolabscientific.com |  www.biolabscientific.com