

Tabletop High Speed Refrigerated Centrifuge YR111-5 Instruction User Manual

Thank you very much for purchasing our Tabletop High Speed Refrigerated Centrifuge YR111-5.

Please read the “Operating Instructions” and “Warranty” before operating this unit to assure proper operation. After reading these documents, be sure to store them securely together with the “Warranty” at a hand place for future reference.



Warning: Before operating the unit, be sure to read carefully and fully



Model :

Tabletop High Speed Refrigerated Centrifuge YR111-5

I. Use

It's mainly use in physic, life sciences, agriculture, etc. Many kinds of rotor are available. It has digital display, over speed and over temperature protection devices. Moreover, it is furnished with the electronic lock, which will make the operation course safe and reliable.

II. Technical Specification

Table I

| | |
|--------------|------------------------|
| Max Speed | 16500r/min |
| Max Capacity | 1.5ml/2.2×36 |
| Max RCF | 21532×g |
| Temp. range | -20°C~+40°C |
| Timer | 0~99min |
| Noise | ≤65dB (A) |
| Power | 220V 50Hz |
| Dimensions | 280×540×300 mm (L×W×H) |
| Weight | 30 kg |

III. Rotors

Rotor's specification refer to Table II

Table II



| NO. | Capacity (ml×tubes) | Max Speed (r/min) | Max RCF (×g) |
|---------------|------------------------|----------------------|-----------------|
| 1 Angle rotor | 1.5/2.2ml×12 | 16500 r/min | 18360 |
| 2 Angle rotor | 5ml×12 | 12000 r/min | 10142 |
| 3 Angle rotor | 1.5/2.2ml×24 | 15000 r/min | 21532 |
| 4 Angle rotor | 1.5/2.2ml×36 | 12000 r/min | 13813 |
| 5 Angle rotor | 0.5ml×48 | 12000 r/min | 10920 |
| 6 Angle rotor | 3×8×0.2ml PCR | 15000 r/min | 13800 |
| 7 Swing rotor | 0.5ml×18 | 16000 r/min | 15300 |

IV. Requirement of the instrument installation

1. Rotor install: put the rotor on the spindle and screw it with 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.
5. The instrument shall be placed at where there is no disturb of magnetic field and caustic gas.
6. The back of machine shall be 15cm from the wall for aeration.
7. Use power line we supplied.

V. Working and using

Before your use, please read the book carefully at first, Check the Power and operate according to the manual book.

Table III



1、 Keypad:

ROTOR: Rotor number (Table II)

SPEED: Speed setting

TIME: Time input

TEMP: Temp. setting

SET: Set specifications

ENTER: OK

START: Start

STOP/OPEN: Stop the machine /open the lid

▲: Up

▼: Down

VI. Display



a. **Rotor No.:** “1” refer to 1.5/2.2 ml×12, “2” refer to 5 ml×12, “3” refer to 1.5/2.2 ml×24, “4” refer to 1.5/2.2 ml×36, “5” refer to 0.5ml×48, “6” refer to 3×8×0.2ml, “7” refer to 0.5ml×18.

b. **Speed:** Refer to Table II

C. **RCF:** Refer to Table II

D. **TEMP:** three bits display. If it displays numbers only, it means Temp. Moreover, it shows error number.

E. **Acc/Dec:** There are 9 grades from 1 to 9. Please note grade 9 is the fastest. Grade 1 is the slowest.

F. **State:** it shows if the machine is working or not. In addition, it shows Error code here:

Table IV

| | Imbalance | Over speed | Temperature Sensor error | Power board | Motor error | Connector | Setting | Transformer |
|-------|-----------|------------|--------------------------|-------------|-------------|-----------|---------|-------------|
| Error | E1 | E2 | E3 | E4 | E5 | E7 | E8 | E9 |

G. **Lid:** Open or closed

2、Rotor Install

a、 Check the rotor, if it has any flaw.

b、 Put some lubricating oil on spindle, install the rotor, screw the nut.

c、 The tubes shall be placed in symmetry with balance. The weight error must be less than 1.5g.

d、 Screw cap.

3、 lock the door

4、 Switch the machine on

There is a switch at the side of machine, switch it on.



Please note the compressor starts working as soon as the power is on.

5. Setting

Please set the specification. For example:

Table V

| rotor No. | speed | time | temp. | ACC/DCC |
|-----------|-------|-------|-------|---------|
| 1 | 16000 | 30min | 4°C | 3 |

A、 Setup the rotor No.: Press “Rotor” → press “▲” or “▼”, the cursor shall be blinked on the display where under “ROTOR” →choose No. 1→press “ENTER” button

B、 Setup the speed: Press “SPEED” → press “▲” or “▼”, the cursor shall be blinked under “SPEED” →choose 16000→press “ENTER” button

C、 Setup the time: Press “Time” → press “▲” or “▼”, the cursor shall be blinked under “TIME” →choose 30→press “ENTER” button

D、 Setup the temperature: Press “TEMP” → press “▲” or “▼”, the cursor shall be blinked under “TEMP” →chose 4→press “ENTER” button

E、 Setup ACC: Press “SET” button, until the cursor is blinked under ACC→ press “▲” or “▼”, →Choose 3→press “ENTER” button

F、 Setup DEC: Press “SET” button, until the cursor is blinked under DEC→ press “▲” or “▼”, →Choose 3→press “ENTER” button

6. Start

press the “START” button, machine starts spinning.

6. Stop

Until time counts down to “0”, the speed will start to decrease. Once the speed get down to 0,



please open the lid and draw out the tubes.

VII. Function

1. We set the speed as the main specification; the system calculates its relative RCF automatically.
2. While you set the speed, please check the table II first, and make sure it is no more than its max speed.

VIII. Fault analysis and obviating

1、 Not “Start”

- | | |
|----------------------------------|--|
| a、 Not plug in | Plug in |
| b、 Door is not locked | Lock it |
| c、 Wrong setup | Set up again |
| 2、 Stop working with shake | |
| a、 Imbalance | Adjust the balance, the weight error of tubes should be less than 1.5g |
| b 、 Spindle is bend | Contact us |
| 3、 Over speed | |
| a、 Control board error | Contact us |
| b、 Speed sensor is in trouble | Contact us |
| 4、 Fault of refrigeration system | Contact us |
| 5、 Temp. trouble | |
| Temperature sensor is in trouble | Contact us |
| 6、 No display | |
| Fuse is burn | Replace it |



7、 Cannot setup

Contact us

IX. Maintain by user:

- 1、 Put some Vaseline or lubricating oil on the spindle. It is convenient to put out the rotor.
- 2、 If tubes are broken or liquid overflow, please clean the hole of rotor.
- 3、 Check the rotor, if it has 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 doesn't work for a long time, please plug out.

XI. Note:

Centrifuge has electronic lock. If there is a power failure, while the machine is working, or the lid cannot be opened for some reasons, please note there is an emergency lid release at the side of machine, just press it, the lid will open. But it doesn't work when the machine is working.

