

Foreword

Thank you for purchasing our products: Centrifuge For Microplate. This manual for users contains function and operation of the instrument. In order to use the instrument properly, please read the manual carefully before using it.

Opening Check:

Please check the instrument and appendix with the packing list when you first open the packing case. If you find there is something wrong with instrument and appendix, do contact with the distributor or the manufacturer.

Contents

SAFETY WARNINGS AND GUIDELINES	3
1. IMPORTANT OPERATION INFORMATION OF THE SECURITY	3
2. SAFETY	3
CHAPTER 1: INTRODUCTION	5
1. INTRODUCTION	5
2. NORMAL OPERATING CONDITIONS	5
3. PARAMETERS	6
CHAPTER 2: PREPARATIONS	7
1. STRUCTURE DESCRIPTION	7
2. KEYBOARD DESCRIPTION	8
3. ICON DESCRIPTION	8
4. MICROPLATE INSTALLATION	9
CHAPTER 3: SAFETY PRECAUTIONS	10
CHAPTER 4: OPERATION GUIDE	11
1. POWER ON	11
2. SPEED AND TIMINGS	11
3. START RUN	11
4. STOP RUN	11
CHAPTER 5: FAULT TREATMENT	12
MEMO	13

Safety Warnings and Guidelines

1. Important operation information of the security

Before using the instrument, user need have a complete understanding how to operate it safety.

Before running the instrument, please read the manual carefully.



Forbid anyone to operate the instrument before reading the manual.

If operate not in accordance with the tips on the manual, the heat generated by the instrument at runtime may cause severe burns and electric shock accident. Please read the following safety tips and guidance, and implementation of all precautions.

2. Safety

When operation, maintenance and repair of this instrument, it must subject to the following basic safety precautions. If you don't abide by the warnings pointed in the manual, it may affect the protection and intended use scope of the instrument.



The instrument is GB9706.1 standard I class B common devices. The instrument is for indoor use.



Before operating this equipment, please read this manual carefully, otherwise it may cause personal injury.

Only in the aspect of how to use electrical equipment installation trained qualified inspection personnel can operate the equipment.



Operators do not attempt to open or repair equipment, doing so will make you lose the warranty qualification, also may be limited by electric shock. If you need repair, please contact our company. In order to avoid electric shock accident, the instrument input power cord must be reliable grounding. This instrument uses three core grounding plug, of which the third feet for grounding, which should be used with grounding type power socket.



Before connecting the power supply, ensure the power supply voltage and the instrument voltage required the same. And make sure that the power outlet rated load no less than the instrument requirements.

If the power cord damaged, replace it according to the same type and specification. Don't press anything on the power cord when it be used, don't put the power cord in place where people often walk.

When insert the power cord plug, must hand-hold the plug and ensure that the plug is completely inserted into the socket, when pull out the plug, must hand-hold the plug as well and don't pull the power cord.



Don't take instrument in wet or dusty places. The instrument should be put in places where lower humidity and less dust and away from water and avoid direct sunshine and strong light, indoor should be well ventilated, no corrosive gas or strong magnetic field interference, away from heat, stoves and other heat sources. In order to avoid temperature overheating, do not block or cover the vent holes on the instrument. When several equipment be used at the same time, the distance between each instrument shall be not less than 30 cm.



Shutting off the power when stop working. Unplugging the plug and using soft cloth or plastic cover to prevent dust from entering the instrument when long time no use.

When happened as the following cases, it should be pulled the power socket immediately and contact the supplier or trained maintenance personnel:



- Liquid into instrument;
- Instrument damaged by rain or water;
- Instrument don't work properly, especially appear any abnormal sound or smell;
- Instrument drops or shell damage;
- Instrument functions have obvious changes;

Chapter 1: Introduction

1. Introduction

CF2800M is designed for quick spins of samples in PCR plates. Primarily designed for use with 96- or 384-well and small capacity microplates, it accommodates full-skirted, semi-skirted and non-skirted styles.

Features:

- ◆ Easy to use, real-time display of all operating information.
- ◆ Support countdown mode.
- ◆ DC brushless motor, low noise, small interference, maintenance-free.
- ◆ Automatically stop running when opening the cap.
- ◆ Fast acceleration from standstill to maximum speed in just 10 sec.
- ◆ Braking time is short, from the highest speed to a complete standstill in just 4 sec.

2. Normal Operating Conditions

Ambient temperature: 0°C ~ 35°C

Relative humidity: ≤70%

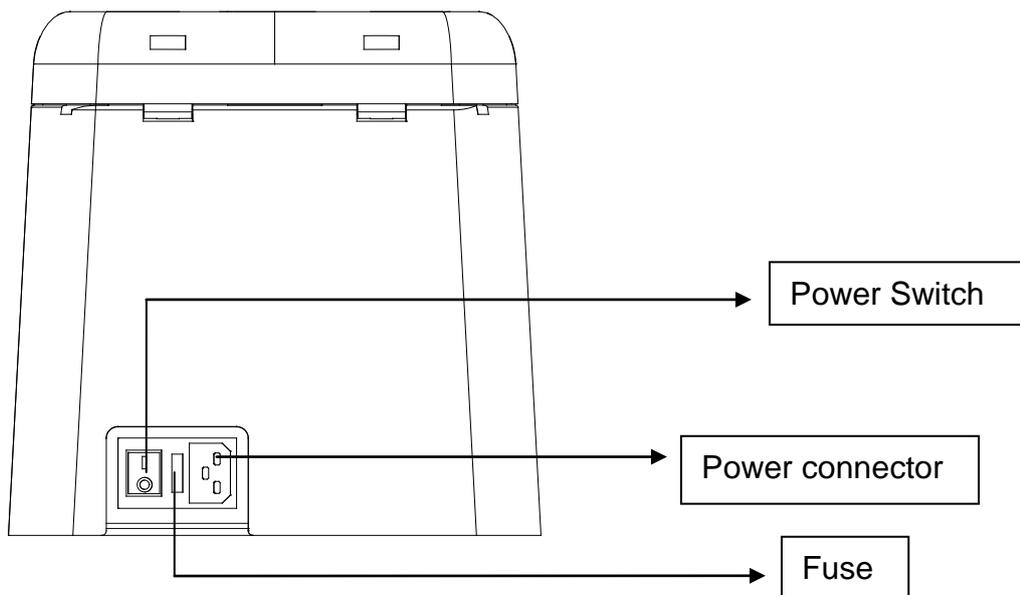
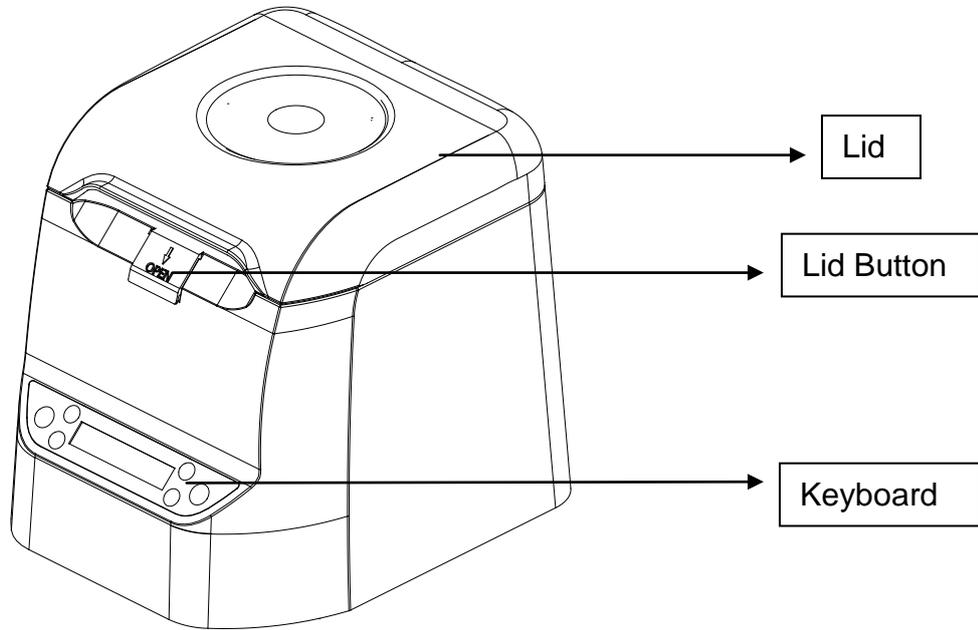
Mains connection: AC110~220V/ 50-60Hz

3. Parameters

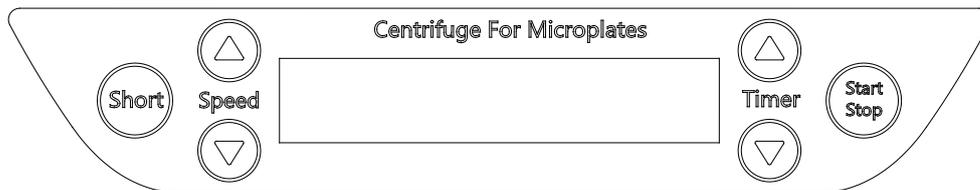
Project	Parameter
Rotating Speed	2200~2800rpm
Timer Range	15sec ~1min59sec
Max(RCF)	550xg
Acceleration Time	≤10sec (0 to 2800rpm)
Braking Time	≤4Sec (2800rpm to 0)
Lid Open-Auto Stop	YES
Short Run	YES
Capacity	2 PCR plates
Power	45W
Voltage	AC110~220V/50-60Hz
Fuse	250V/3A Φ5×20
Dimension	260x240x226mm
Weight	3.3kg

Chapter 2: Preparations

1. Structure Description

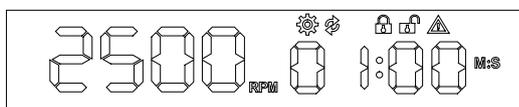


2. Keyboard Description



Name	Function
Start/Stop	Pressing this key to start or stop the procedure. Press once to start, press continuously (>2Sec) to stop.
Speed ▲▼	Set speed
Timer ▲▼	Set time
Short	Press continuously (>2 Sec) to start run

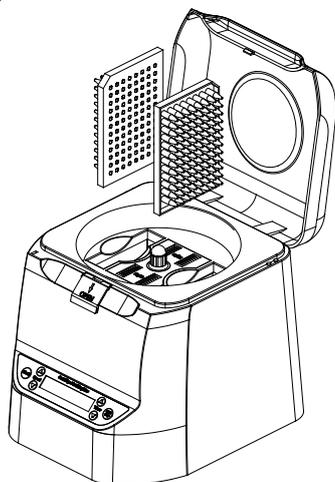
3. Icon Description



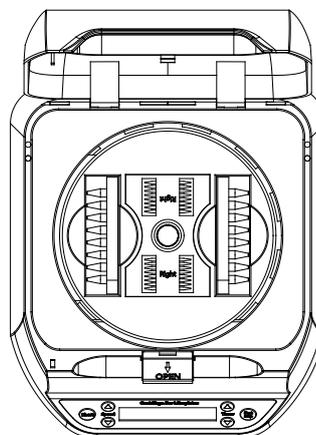
-  Indicating device is in the parameter setting mode.
-  Indicating device is running.
-  Indicating device lid is locked
-  Indicating the lid is not locked.
-  Indicating device is fault.

4. Microplate Installation

①



②



1. Ensure that the instrument is placed on horizontal table, and press the lid button (OPEN) to open the lid.
2. Put 2 pcs microplates vertically in the centrifugal tank (Figure1).
3. Check the installation direction of microplates (Figure 2).
4. Close the lid.

Note 1:

If only one plate, it is extremely important to load another plate of the same brand, style and sample volumes (water can be used) as a balance.

Note 2:

If the load weight is not the same on both sides of the rotor, it will cause the device to run shaking, and will damage the device.

Chapter 3: Safety Precautions

NEVER use the centrifuge in any manner not specified in these instructions.

NEVER put hands in the rotor area unless the rotor is completely stopped.

NEVER move the centrifuge while the rotor is spinning.

NEVER use solvents or flammables near this or other electrical equipment.

NEVER centrifuge flammable, explosive or corrosive materials.

NEVER centrifuge hazardous materials outside of a hood or containment facility.

NEVER continue to operate the device that is vibrating excessively.

ALWAYS load the rotor symmetrically. Each plate should be counterbalanced by another plate of the same brand, type and volumes.

ALWAYS use plates that have been sealed in some manner to avoid spillage.

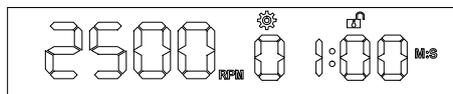
ALWAYS load plates so that the sealed side faces the center of the centrifugal tank and the bottom of the plate faces out.

ALWAYS ensure that the plates are pushed to the button of the centrifugal tank before operating the centrifuge.

ALWAYS keep the centrifuge easy access to power outlet.

Chapter 4: Operation Guide

1. Power on



Turn on the power switch, after the sound “di...”, the system automatically enters into setting mode and displays the last setting parameters.

2. Speed and Time setup

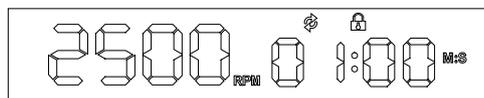
In setting mode, short press the Speed ▲▼ to increase or decrease the speed value.

Speed range: 2200~2800rpm.

In setting mode, short press Timer ▲▼ to increase or decrease the timing value.

Timer range: 15sec~1min59se.

3. Start Run



When parameter setup is completed, close the lid, lid lock icon will light up. Press the Start/Stop key to start the device. If the lid is not locked, the device cannot run.

4. Stop Run

Press the Start/Stop key for more than 2seconds during running, the device will stop running and enter into the setting mode.

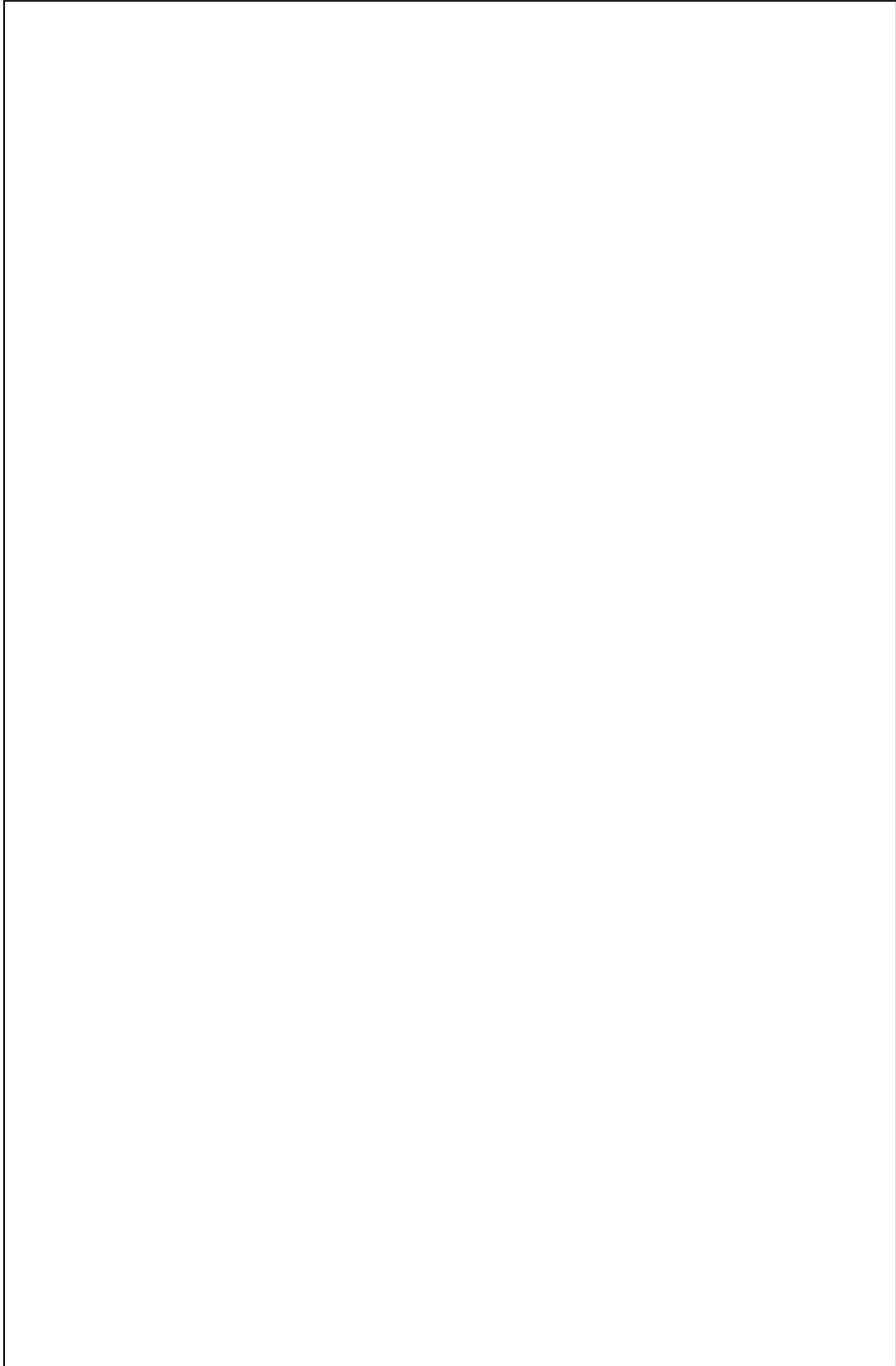
Open the lid during running, the device will automatically stop running and enter into the setting mode.

Chapter 5: Fault Treatment

Fault description	Solutions
After power on, no response	Power supply is not connected (a)
	Fuse is burnt (b)
	Switch failure (c)
Abnormal equipment vibration	Rotor imbalance (d)
Unable to speed up or slow down	Circuit fault (c)
	Lid is not locked (e)
Press have no effect	Key is damaged (c)

- a) **Check the power connection, ensure that the external power supply meet the requirements.**
- b) **Restart after replacing fuses. If the problem remains unresolved, please contact vendor or manufacturer.**
- c) **Restart the device, if the problem still exists, please contact with the distributor or manufacturer.**
- d) **Check if the load weight of the rotor is balance.**
- e) **Check that the lid is closed properly.**

MEMO

A large, empty rectangular box with a thin black border, occupying most of the page. It is intended for the user to write their memo.