OPERATING MANUAL

HOTPLATE MAGNETIC STIRRER

BMGS-203

CE ISO9001 CERTIFIED

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1. Introduction

BMGS-203 magnetic intelligent color display heating stirrer adopts special enamel plate heating technology, whose highest surface temperature can reach 340 °C. Magnetic stirrer stirring technology and humanized operation design can meet a variety of heating and stirring experimental requirements. Its feathers are as followings:
Special enamel plate surface heating surface to heat, beautiful, anti-corrosive and easy to clean
Unique heating way, the highest surface temperature can reach 340°C;
Temperature control using fuzzy PID control algorithm, high measuring precision, low blunt temperature (within + / - 5 °C), single key operation, internal and external PT1000 temperature measurement, thyristor controlled output with the function of broken accidentally protection ;
The stirring function can be used to heat and stir 50ml-20l standard or non-standard reaction bottles.
Brushless DC motor, stable performance, low noise, long life, without spark.
Aluminum alloy shell, high strength, fast heat dissipation, corrosion resistance;
30 ° slope control panel for seated and standing point of view;
Magnetic stirring technology, smooth at low speed, powerful at high speed;
4.3 inches color screen holographic display, convenient and intuitive.

2. Specifications

2.1 The normal operating condition

Ambient temperature: 4°C - 45°C
The relative humidity: ≤70%
Power supply: AC220V/AC110V,50/60Hz

2.2 The parameters and function

Type	BMGS-203
Diameter of Heating Plate	Φ137mm
Heating Plate Material	Ceramic
Speed Range	80~1800rpm
Temp control range	R.T+5°C~340°C
Temp setting range	30°C~340°C
Temp stability	±3°C
Timing range	1min~99h59min 0 means infinite length
Number of stir point	1
Max. Stir Capacity (H2O)	20L
Max length of stirrer	80mm

External temperature sensor interface	PT1000
Minimum adjustable safety temperature loop	50°C
Max adjustable safety temperature loop	350°C
Supply power	AC220V/AC110V, 50/60Hz
Power	600W
Fuse	250V, 4A/8A,Φ5x20
Dimension(W x D x H)	W.160xD.270xH.90mm
Net weight(kg)	2.4kgs

Table 1

3. Basic Operation

This chapter mainly introduces the structure of the instrument, the function of the operation panel, and the preparatory work before starting up. When using this instrument for the first time, you should be familiar with the contents of this chapter before starting it up.

3.1 Structure sketch

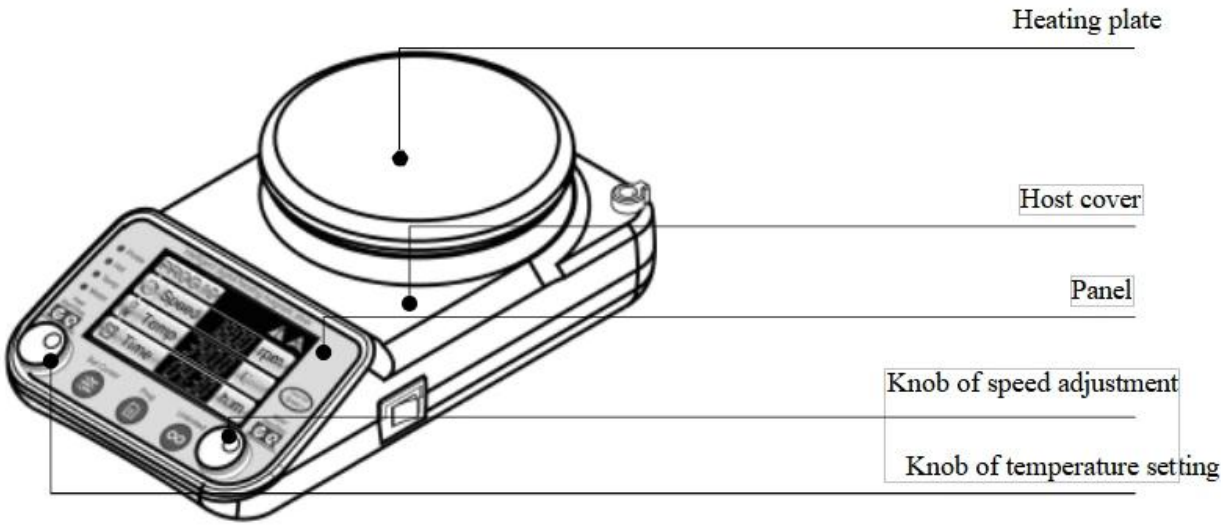

Figure 1

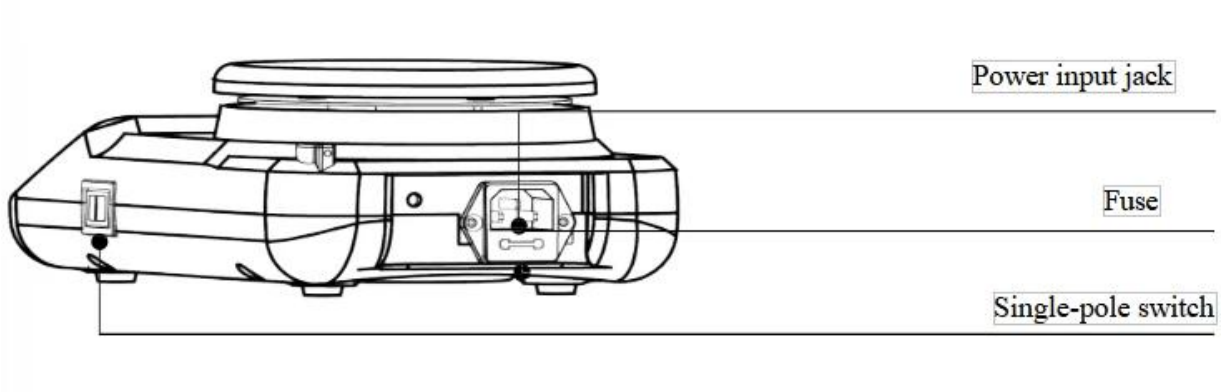

Figure 2

3.2 Keyboard and Display Panel

Figure 3

a) Probe means external sensor
b) Hot means heating indicator light
c) Temp means heating running indicator light
d) Motor means stir running indicator light
e) Set Cursor means set the adjustment segment(Temp/Time)
f) Prog means one key to invoke built-in program
g) Unlimited means one key to run for long time.

3.3 Key Function

Left knob is used to set the temperature or time, clockwise rotate to increase knob, anticlockwise rotate to decrease knob.

Right knob is used to set speed, clockwise rotate to increase knob, anticlockwise rotate to decrease knob.

3.4 Power connector

Put the instrument on a stable and level table. Insert the columnar socket of the power line into the power input socket on the back of the instrument as the following picture shows, and connect the other end of the power line to the power grid. The power grid voltage is required to be AC220V/AC110.

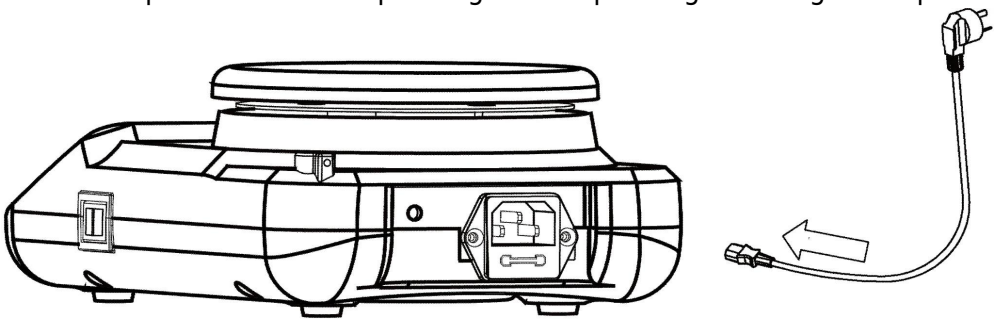

Figure 4

4. Operation Guide

4.1 Setting of speed, temperature and time

a) Turn on the power switch, the screen displays the main interface, with the sound of "di". (refer to picture one)

b) The right knob is used to set the speed, clockwise to increase while anticlockwise to decrease(refer to picture two and picture three)

The left knob is used to adjust the temperature or time. While default condition , it adjust temperature .

c) The user can switch the temperature or time through the Set Cursor key, clockwise to increase while counterclockwise to decrease.

d) In the process of operation, the instrument can also adjust the temperature and speed for convenient

operation.
e) When the temperature of the disk surface is above 50 degrees, the user turns off the instrument switch, and the instrument display screen does not close to remind the user that the instrument is still in a high temperature state with Hot light beside still on.
f) Temp lamp flashes when the instrument is heated.Temp lamp is long on when the instrument is thermostatic. Motor lamp is long on when the Motor is in the state of agitation.
When the instrument is in standby state, click the Prog key can invoke 10
g) built-in fixed programs, which contain different speed, temperature and time parameters.
h) When the instrument is in standby mode, click the Unlimited key to run for a long time, when the time goes to zero.

4.2 Start and stop

A) Press the left knob once can start or stop temperature control separately
B) Press the right knob t once can star and stop stirring state separately.

 Operation precautions:
1. When using an external sensor, please insert the sensor into the tested product with a depth of more than 10mm.
2. It is forbidden to move the instrument, or adjust the knob at will and pull out the sensor head during the operation of the instrument, otherwise the instrument will operate abnormally, and some damage will be caused in serious cases; you should press the knob first, and then perform the operation after the instrument stops.

5. Failure Analysis and Handling

Failure analysis and processing procedures

No.	Phenomenon	Cause	Remedy
1	No display	No power	Check the connection of power
		Switch Failure	Exchange the switch
		Others	Contact the seller
2	Shaking too heavily	Mixing samples are placed asymmetrically	Place the mixing samples symmetrically
3	The actual speed is different from the displayed speed	Failure in control board	Contact the seller
4	"ERR" in the display	Motor or sensor malfunction	Contact the seller
5	Heating plate does not heat	Temperature sensor breakdown	Contact the seller
		Heat block damage	
6	Press invalid	Press-key failure	Contact the seller

Table 2

Annex 1

Wiring Diagram of Magnetic Intelligent Color Display Heating Stirrer
(Below diagram is just for reference. It is subject to change without prior notice.)

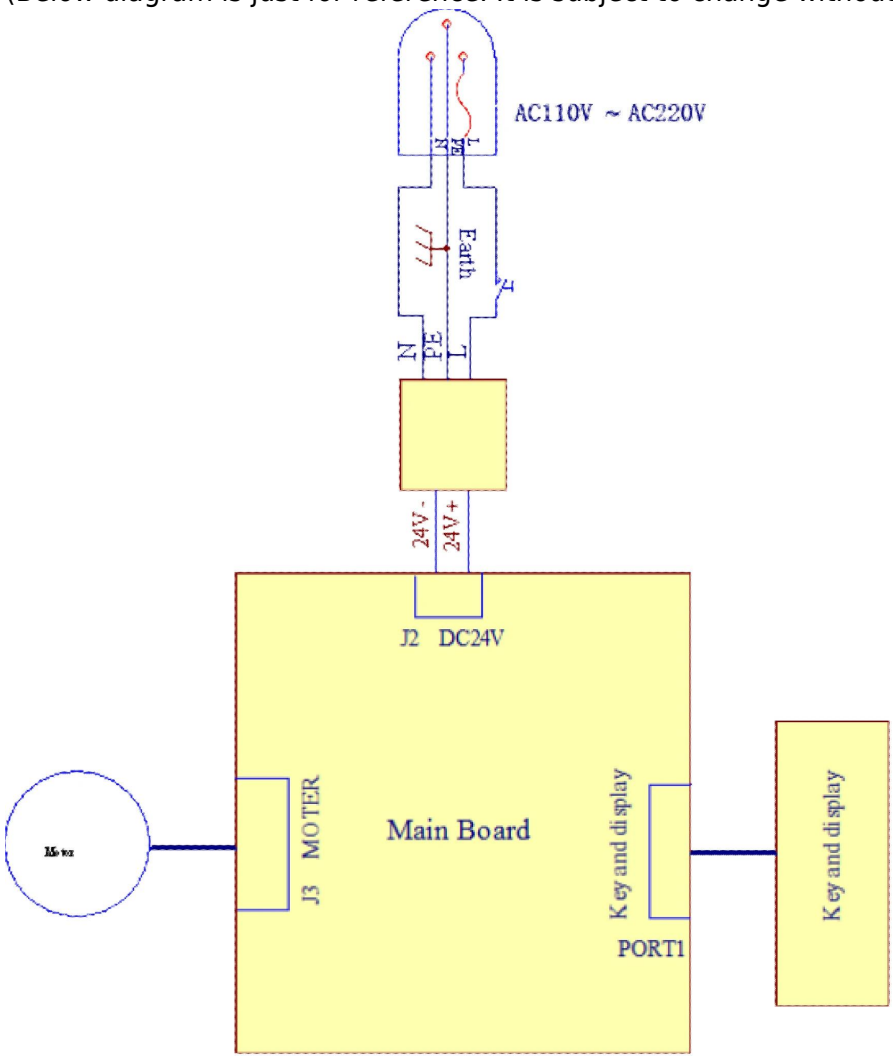

Figure 5

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