



Stirring Hot Plate

Model 88-1



USER'S MANUAL

*Read this manual before using this instrument and
retain this document for future reference.*

Introduction

Stirring Hot Plate has the ability to heat and stir simultaneously or you can perform each function separately. It is easy to operate and its speed is adjustable. The thermostatic magnetic stirrer can carry on precise stable agitation of fluid and is especially applicable for use with samples in small size. It is a necessary tool for chemical engineering, medical hygiene, environmental protection and educational research.

Technical Specification of Model 88-1

Heating power: 250W

Stirring power: 30W

Speed range: start-up----2000r/min

Plate area: $\Phi 150\text{mm}$

Temperature control range: Room Temperature ----300°C

Working power: AC110V 60Hz (may be manufactured to 220V upon request)

Usage Description

1. The unit should be placed on a sturdy level surface. The working surface can not be too smooth (such as ceramic tile). Do not block the vents on the sides.
2. Do not heat or stir volatile materials.
3. The speed should be adjusted from low speed to high speed slowly.

Operation

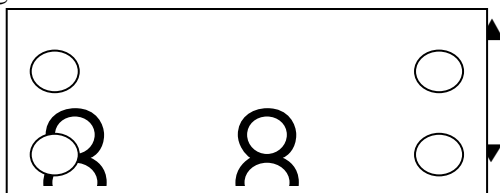
Put the container which is filled with liquid on the working plate. And Put the temperature probe into the container. Do not heat plastic containers.

1. Plug in the power cord to a grounded electrical socket and turn on the power switch (Stir switch should be in “off” position.)
2. To Stir: Be sure the speed adjustment knob is at the lowest setting before flipping the Stir switch to “on” position. Use the Speed dial to *slowly* increase speed as desired.

3. Temperature Setting:

System Menu

SET



1、 Temperature Setting

Press and hold the **SET** key to switch to the temperature setting mode, the digit twinkles indicate you could change the value by pressing up key “▲” to increase or down key “▼” to decrease. Press down constantly to increase or decrease continuously to the value you need. Press the SET key to exit the setting mode when finish setting.

2、 Parameter Setting

Sc: Press and Hold the System menu key for 3 seconds to switch into the inner parameter setting mode. It displays the Sc means the error between the measured value and the actual value. Press the setting key it shows the twinkling default value 0.0, you could change the value by press up or down key(the same operation as below) range:-9.9~9.0

E: After setting **Sc** value press the System menu key to adjust the next parameter E. It means the lead of breakpoint control (take effect when the P value is zero) the default value is 0.5.

P: Press the System Menu SET key again switch to the third parameter P. it means the P parameter of PID control. It means the control $TEMP = \text{setting TEMP} - (10/P)$. When you set 50 degree and the P value is 10 it means the PID will begin control at 49 degree, and when the P value is 4 it will begin control at 47.5 degree. If the overshoot is too big please decrease the P value and if the temperature increases too slowly or couldn't reach the setting temperature please increase the P value.

Note: when the P value is zero, the PID will be disabled. It will use the breakpoint control. It begins to control when the temperature is low than (setting temperature- E value).

C: press System Menu SET key to the last parameter C setting, this is the reserved parameter . don't change its value and the default is 20.0.

AL: press SET key to the last parameter C setting, this is the reserved parameter .It's high temperature alarm setting, The default value is 10.0

After setting press SET key to switch to normal working mode.

Notice

1. Do not heat empty surface.
2. Do not touch hot surface and use gloves or tongs when moving heated containers. Clean up any spills promptly.
3. Keep out of reach of children.

WARRANTY

The manufacturer warrants this instrument to be free from defects in materials and workmanship under normal use for a period of one year from the date of purchase (including electrical components). This warranty does not cover damage resulting from misuse, abuse, unauthorized repairs or modifications, or damage incurred during transit.

For any questions regarding this product or the warranty, please contact the dealer from whom the instrument was purchased. For warranty service, email us at contact@cnascientific.com.

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Made in China

Please contact your dealer if the machine fails to operate properly.

Dealer: _____

Date purchased: _____