A Geno Technology, Inc. (USA) brand name

Hot Plate Stirrer, Multi position (4 positions) Individually Controlled

Cat. No. BT1024

1-800-628-7730 ♦ 1-314-991-6034 ♦ info@BTLabSystems.com

Thanks for choosing BT Lab Systems' BT1024 Hot Plate Stirrer, Multi position (4 positions) Individually Controlled. This operation manual describes the function and operation of the instrument. In order to use the instrument properly, please read this manual carefully.

IMPORTANT SAFETY INFORMATION

The operation, maintenance and repair of the instrument should comply with the basic guidelines and warning below. Ignoring these instructions will affect the life of the Instrument and safety precautions.

- This product is an indoor Instrument which conforms to Standard B style- I type- GB9706.1.
- These units are designed for laboratory use by persons knowledgeable in safe laboratory practices.
- The operator should never open or repair the instrument. Opening or repairing the instrument will void the guarantee and can cause accidents.
- The power plug should safeguard against an electric shock. Make sure the power supply voltage matches the voltage that the instrument needs.
- The instrument should be used in an area with low temperature, little dust, no water, no direct sunshine or hard light and with good air circulation. Do not use where there is corrosive gas or a strong magnetic field. Keep far away from central heating and other hot sources.
- Power off when not in use. If the instrument will not be used for a long period, unplug, and cover with a piece of cloth to protect it from dust.
- In case of the following, unplug the instrument at once and contact BT Lab Systems.
    - The instrument comes into contact with liquid
    - The instrument gets soaked or burned
    - The instrument emits an abnormal sound or smell
    - The instrument is dropped or the outer shell damaged
    - The instrument functions abnormally.

MAINTENANCE

The instrument and the accessories should be cleaned with a cloth dampened by alcohol. If there are smudges on the instrument, clean it with a dry cloth.

WARRANTY

The instrument is warranted against defects in materials and workmanship for 1 year. If any defects occur in the instrument or accessories during this warranty period, BT Lab Systems will repair or replace the defective parts at its discretion without charge.

For any inquiry or request for repair service, contact your local BT Lab Systems office. Inform BT Lab Systems of the model and serial number of your instrument.

INTRODUCTION

BT1024 Hot Plate Stirrer, Multi position (4 positions) Individually Controlled acquires special enamel plate heating technology, with highest surface temperature can reach upto 340 ℃. Furthermore, with its magnetic stirrer stirring technology and user-friendly operation design, it can meet variety of heating and stirring experimental requirements.

KEY FEATURES

- Four heating plates independently control temperature and speed, and independent display.
- The outer casing is made of metal, with high strength, high temperature resistance and corrosion resistance.
- The temperature control adopts PID control algorithm, digital display, high precision, small flushing temperature (within ±5°C), and internal and external BT1009-A temperature measurement.
- Can heat or stir 50ml to 20L standard or non-standard reaction bottles.
- Brushless DC motor, stable performance, low noise, long life and no sparks.
- Heated by an enamel heating plate and the maximum surface temperature can reach 340 °C.
- 30° slope control panel for seated and standing point of view
- Magnetic stirring technology, stable at low speed, strong at high speed.

NORMAL OPERATING CONDITIONS

- Ambient Temperature: 4-45°C
- Relative Humidity: ≤70%
- Power: AC220V, 5A 50/60Hz

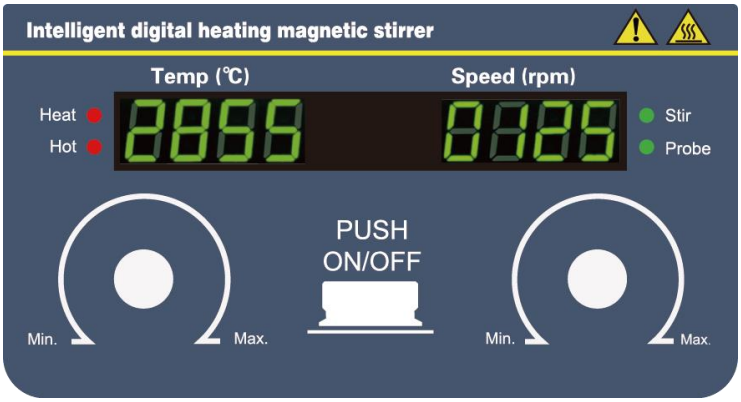
TECHNICAL SPECIFICATIONS

Type	**BT1024**
Diameter of Heating Plate	Φ137mm
Heating Plate Material	Ceramic
Speed Range	200-1200rpm
Temp control range	Ambient +5-340°C
Temp setting range	30-340°C
Temp stability	±3°C
Timing range	-
Number of stir point	4
Max. Stir Capacity (H2O)	20L
Max length of stirrer	80mm
External temperature sensor interface	BT1009-A
Minimum adjustable safety temperature loop	50°C
Max adjustable safety temperature loop	350°C
Supply power	AC220V, 50/60Hz
Power	1600W

Fuse	250V, 10A, Φ5x20
Dimension (W x D x H)	W.610×D.272×H.86mm
Net weight(kg)	8.5kgs

EQUIPMENT OVERVIEW

KEYBOARD AND DISPLAY PANEL



KNOB DESCRIPTION

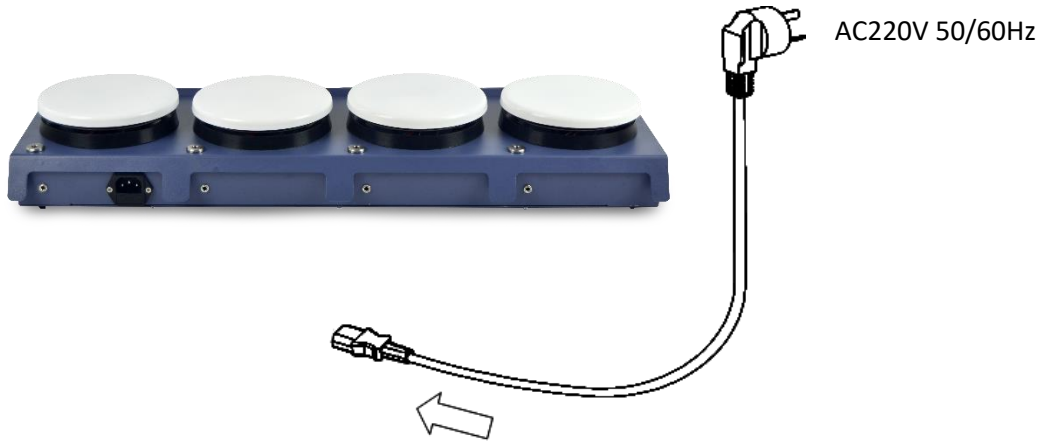
- Left knob is used to set the temperature. Rotate the knob clockwise to increase the temperature and anticlockwise rotate to decrease the temperature. Press the knob to start heating and press again to stop heating.
- Right knob is used to set speed. Rotate the knob clockwise to increase the speed and anticlockwise to decrease the speed. Press the knob to start stirring and press again to stop stirring.

INDICATOR LIGHT DESCRIPTION

- **Heat**: Heating operation indicator
- **Hot**: High temperature indicator
- **Stir**: Stir running indicator
- **Probe**: External sensor

POWER CONNECTION AND EXTERNAL BT1009-A (EXTERNAL TEMPERATURE PROBE) CONNECTION

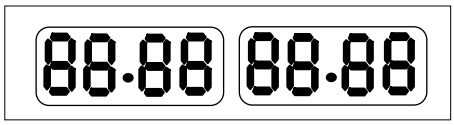
Place the instrument on a stable and level table. Insert the columnar socket of the power line into the power input socket on the back of the instrument as the following picture shows, and connect the other end of the power line to the power grid. The power grid voltage is required to be AC220V. Insert the external BT1009-A plug into the round hole on the back of the instrument, and then fix it on the bracket.



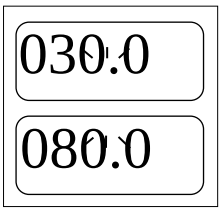
OPERATION GUIDE

Setting of speed and temperature

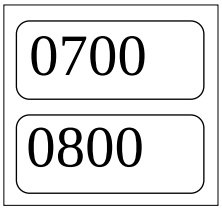
- Turn on the power switch, the display will show "8" one by one, and the instrument enters initialization.



- The display at Temp shows 30.0, indicating that the temperature of the last instrument operation was 30 degrees. The left knob increases the setting value clockwise, and decreases the setting value counterclockwise. To change the setting value to 80°C, rotate the left knob clockwise until the display window value is 80.0.



- The display at Speed shows 700, which indicates that the speed of the last instrument operation was 700 rpm. The right knob increases the setting value clockwise, and decreases the setting value counterclockwise. To change the setting value to 800rpm, turn the right knob clockwise until the display window value is 800.



- Supports the instrument to reset the target value without pressing the stop key during operation, which is convenient for users to operate.
- When the surface temperature is higher than 50 degrees, turn off the single-pole switch. The display of the instrument does not turn off to remind the user that the instrument is still in a high temperature state, and the hot light next to it is always on. When the instrument is temperature-controlled, the Temp light flashes, and the instrument temperature is constant, it will longtime on.
- When the motor is in the stirring state, the Motor light is on.
- When the display shows the temperature of the external probe BT1009-A, then probe light is on.

Start and stop

- Click the Speed knob once to run the current program, click again to stop, the buzzer will sound an alarm.
- Click the knob at Temp once to run the current program, click again to stop, the buzzer will sound an alarm.

TROUBLE SHOOTING

Issue	Possible Causes	Solution
No display	No power	Check the power cord
	Power Switch Failure	Exchange power switch
	Other	Contact BT Lab systems
Plate shakes heavily	Mix samples are placed asymmetrically	Place mix samples symmetrically
The speed is different from the displayed speed	Failure in control board	Contact BT Lab Systems
Heating plate does not heat	Temperature sensor breakdown	Contact BT Systems
	Heat block damage	
Press invalid	Press-key failure	Contact BT Lab Systems

TECHNICAL SUPPORT

BT Lab Systems offers technical support for all of its products. If you have any questions about the product's use or, operation, please contact BT Lab Systems at the following:

E-Mail: info@BTLabSystems.com

APPENDIX A：WIRING DIAGRAM OF HOT PLATE STIRRER, MULTI POSITION (4 POSITIONS) INDIVIDUALLY CONTROLLED

（Below diagram is just for reference. It is subject to change without prior notice）