Programmable Dry Bath Incubator with Cooling

Cat. No. BT1120

Thank you for choosing BT Lab Systems' Dry Bath Incubator with Cooling. 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

- Please read this operation manual carefully before using the instrument.

- 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.

- 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. The 3-pin plug supplied with the instrument should be matched with a suitable grounded socket.

- The temperature of the metal block will be very high during the normal operation. This will produce scalding or boiling liquid. Do not touch any part of the body to the instrument to avoid scalding.

- Close the test tube lid before putting the tube into the block. Liquids may spill out in the block or onto the device if the tube lid is open, which will damage the block or the device.

- Make sure the outlet voltage complies with the voltage required. Make sure there is nothing else plugged into the same outlet. Hold the plug when pulling out the power line. Do not plug the cord in where it is a tripping hazard.

- The instrument should be used in an area with low temperature, little dust, no water, no 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, camp stove and other hot sources. Do not put the instrument in a wet and dusty area. The vent on the instrument is designed for aeration. Do not wall up or cover the vent. The distance between each device should be more than 100cm when there is more than one instrument.

- Main switch is on the rear of the device. Push "I" to power on the device, and push "O" to power off the device.

- 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. o

    - 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 well in the block should be cleaned with a cloth dampened with alcohol. If there are smudges on the instrument, clean it with a dry cloth.

Turn the power off before cleaning the instrument. Do not put cleaning fluid into the well of the block. Do not use corrosive cleaning fluid.

INTRODUCTION

The Dry Bath Incubator with Cooling is designed with a microprocessor controller. It is used for preservation and reaction of samples, DNA amplification and electrophoresis and blood serum coagulation.

KEY FEATURES

- Temperature and time is digitally displayed in LCD and digitally controlled.

- Displays program and current temperature.

- The time and temperature is adjustable.

- Metal block prevents product pollution.

- Easy replacement, cleaning and disinfecting of metal block.

- Buzzer sounds at end of temperature program.

NORMAL OPERATING CONDITIONS

Ambient temperature: 5°C-30°C
Relative humidity: $\leq$ 70%
Power supply: 100-230V$\sim$ 50/60Hz

TECHNICAL SPECIFICATIONS

Block temperature setting range	-10 to 100°C *NOTE: -10°C can be achieved when ambient temperature is <25°C.*
Block temp. control range	25°C below ambient to 100°C
Heated lid temp. setting range (≤105℃)	0-105°C when block at 0-105°C
Hot lid temp. control range	Ambient +5°C to 105°C
Time range	1s -99m59S or continuous
Max. number of steps	10
Max. number of cycles	99
Block temp. control accuracy	±0.5°C
Hot lid temp. accuracy	±1.0°C
Block temp. uniformity	±0.5°C
Display accuracy	0.1°C

Heating time (R.T.25℃)	Heating rate From 37 to 100°C rate is ≥7°C/min
Cooling time	Cooling rate From 100-37°C rate is ≥8°C/min
Dimension	W.185xD.280xH.160mm
Net weight	3.2Kgs

OVERVIEW

This section describes the instrument's mechanical structure, the keypad and functions of each key, as well as preparation before turning the power on. Please learn this section well before operating the instrument for the first time.

Heated Lid Button

Air Vent

LCD Screen
Power switch

USB Interface

Power cord socket

Fuse
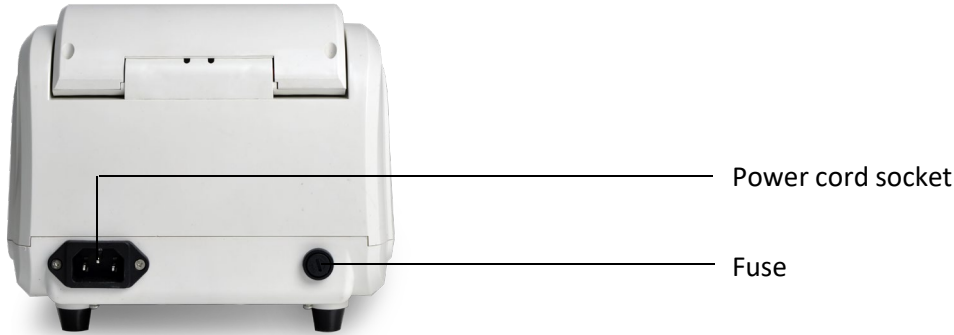
OPERATION GUIDE

Standby Interface

Indicator Lights

Green Light: Indicates the temperature control status of the heated lid. The green light remains on when the temperature is constant and flashes when the temperature increases or decreases.

Red Light: Indicates the temperature control status of the block. The red light remains on when the temperature is constant and flashes when the temperature increases or decreases.

Curve Display
1. The temperature setting is displayed above the curve and the time is displayed below the curve

Button Operation
1. Press "Prog.A" to move between the 10 programs "Prog.A" to "Prog.J
2. Press "Edit" to switch to the edit interface (see below)
3. Press "Lid Off" to turn on/off the heated lid temperature status display. System will automatically switch to "Lid Off" if the heated lid is open
4. Press "Run" to start a program
5. Use the "Left" and "right" buttons to move the screen left and right.

Running Interface
1. The "Prog.A" key and the "Edit" key are invalid at runtime.
2. Press the "Stop" button to pop up the OK stop dialog box, press "Yes" to stop, "No" to continue running.

3. Press "Pause" to pop up the Confirm Pause dialog box, press "Yes" to pause, "No" to continue running.

4. Press the "Continue" button to continue running.

5. Press the "Skip" key to pop up and confirm the skip dialog box. Press "Yes" to skip and "No" to continue running.

Editing Interface

1. Press the LidMode button to switch to the heated lid temperature setting mode.

   a. Mode 1 is the heated lid temperature = set value

   b. Mode 2 is heated lid temperature = module temperature + set value

2. Press the Step key to increase the temperature step.

3. Press the Cycle button to increase the loop step.

4. Press the Delete key to delete the selected step.

5. Click on the step number above the temperature step/loop step to select the current step number and the step number turns red.

6. Click on the parameter above and below the red curve to pop up the input dialog to enter the temperature/time.

7. Click the parameter pop-up input dialog box above and below the white box to enter the jump/cycle number.

OPTIONAL BLOCKS

Type	Specification	Hole diameter	Bottom shape	Block size
A	0.2ml×96	6.7mm	Cone bottom	107×71×38mm
B	0.5ml×54	8mm	Cone bottom	107×71×35mm
C	1.5ml×35	10.8mm	Cone bottom	107×71×27mm
D	2.0ml×35	10.8mm	Round bottom	107×71×27mm
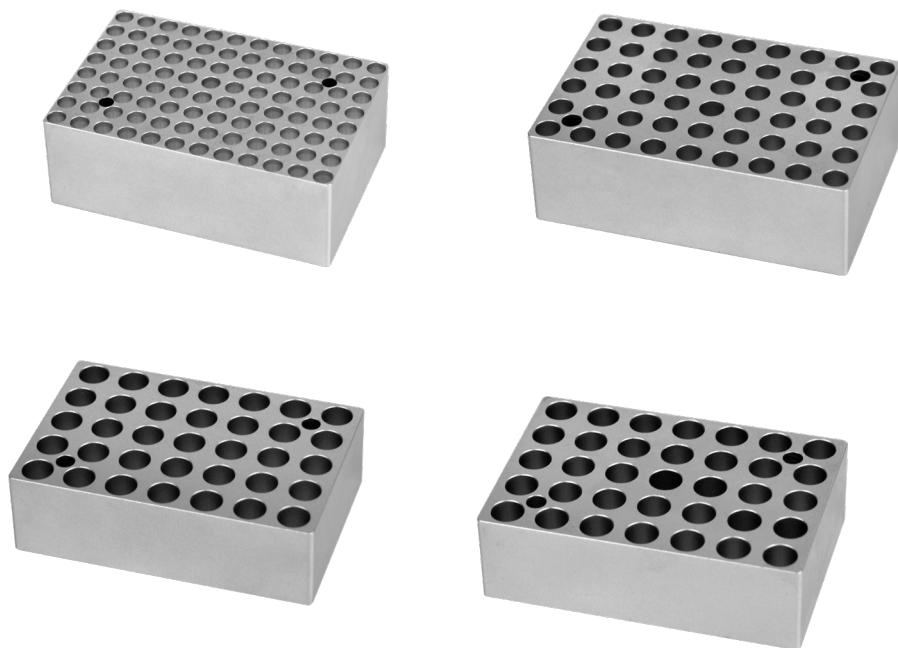
TECHNICAL SUPPORT

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