i-LABware

more than just equipment

i-Cube Dry Bath Incubator
E10020

User Guide and Operating Manual

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User / Owner Responsibility

Thank you for purchasing an i-Labware product. We appreciate having you as a customer and wish you many years of safe and satisfied use of your equipment.

PLEASE READ THIS MANUAL BEFORE OPERATING THE EQUIPMENT

The i-Cube Dry Bath Incubator is for laboratory use only and is designed to function as specified when operated and maintained in accordance with the instructions supplied in this manual.

This equipment must be periodically checked, calibrated, maintained and/or, components repaired and replaced when necessary for equipment to operate reliably. Parts that have failed in whole or in part, exhibit excessive wear, are contaminated orare otherwise unfit for use, should be immediately discarded and replaced. To maintain the warranty, replacement parts must be installed or supplied by i-Labware Pte Ltd. Equipment that is not functioning correctly must not be used. This equipment must not be modified by unauthorized personnel or with unauthorized components.

Please keep this manual in a convenient place for future reference.

Receiving

1. Examine shipping carton for signs of external damage.
2. Unpack all items. Retain and store original shipping cartons and materials for use in the event the equipment must be shipped.
3. Inspect the equipment and accessories for any sign of damage that may have occurred during shipping. If damage is discovered, immediately file a damage claim with the carrier. Notify i-Labware or your local i-Labware distributor of the claim, and we will do all we can to assist you.
4. Compare quantities received to quantities shown on the packing list. Report any discrepancies to i-Labware or your local i-Labware distributor immediately.
5. Complete the following information:

Rec'd by:_____ Date: ___/___/___

Serial number verified: _____

Contact Us

i-Labware Pte Ltd
enquiry@i-labware.com
www.i-labware.com

Warnings and Cautions

Do not install, maintain, or operate this equipment without reading, understanding and following the proper i-Labware Pte Ltd instructions. Otherwise, injury or damage or both may result.

This product is meant for use in the laboratory and should be used in accordance with safe laboratory practices.

Repairing or tampering of the equipment components by the user or unauthorized personnel voids all warranties and specifications. The prevention of tampering with the equipment is the sole responsibility of the user or owner. i-Labware assumes no liability for any malfunction, failure, damage or loss to either equipment or life.

Never open the case of the equipment or attempt to modify the product in any way since this can result in damage to the unit.

Do not plug the equipment power cables into an electrical outlet if the power cable is damaged. To prevent electric shock, the 3-pin plug supplied with the equipment's power cable should be plugged into properly grounded electrical outlets. Be sure to grasp the plug, not the cable, when disconnecting equipment from an electric socket.

Warnings and Cautions

Hot surfaces. The equipment may have very hot surfaces. If an operator contacts a hot surface, injury may occur. Use protective clothing to prevent injury. If other equipment comes in contact with a hot surface, damage to the equipment may occur. Ensure the area around this equipment is kept clear to prevent damage from occurring.

Cap the tubes before placing in the blocks. Liquids may spill out if the tube is open when heated. This could result in damage to the block or the equipment.

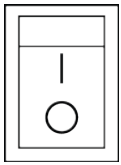
Check the voltage rating before you connect the equipment to an electrical outlet to ensure that the required voltage and frequency match the available power source.

To prevent the risk of fire, electrical shock or malfunction, avoid using the equipment where it will be exposed to:

- Extreme temperatures
- Heat sources such as radiators or stoves
- Corrosive gases or strong magnetic field
- High humidity or moisture
- Excessive dust or sand
- Excessive vibration or shock

Warnings and Cautions

The vent on the equipment is designed for aeration. Do not cover the vent or place the equipment in a closed-in wall unit. Leave a 10.2 cm (4 in) minimum of clearance on all vented sides of the equipment to permit the airflow required for proper ventilation. Restricting airflow can damage the equipment or cause a fire. Do not stack equipment or place equipment so close together that it is subject to re-circulated or preheated air.



The main switch is on the rear of the equipment Switch to "I" to power on the device, and switch to "O" to power off the device.

Power off when the operation is completed. If the equipment is not in use for extended periods, unplug the device from the electrical source and cover the equipment to protect from dust.

If your equipment does not operate normally - in particular, if there are any unusual sounds or smells coming from it - unplug it immediately and contact i-Labware or your local distributor.

Power off when cleaning the instrument. Use a soft, dry cloth to clean the equipment. If necessary, slightly moisten the cloth. Do not use abrasive cleansers, wax, or solvents (such as paint thinner or cleansing alcohol), since these may dull the finish or damage the surface of the equipment. The wells in the heating block should be cleaned periodically with alcohol to ensure good heat transfer between the block and tubes.

General Description

The i-Cube Dry Bath Incubator is a microprocessor-controlled thermostat device with high precision temperature control and comes with interchangeable Heating Block Modules designed to accommodate test tubes, square cuvettes, microcentrifuge tubes, 96-well plates, PCR plates and conical bottom centrifuge tubes. Customised blocks are also available. The i-Cube Dry Bath Incubator is ideal for a variety of applications including restriction digests, COD denaturing DNA, BUN, melting agar, coagulation studies, in situ hybridization and Hot Start PCR.

Product Features:

1. LCD display. Cool and compact design with a small footprint.
2. Rapid heating rate with uniform heating, accurate temperature control, high stability, low energy consumption and no noise.
3. Built-in temperature calibration function, automatic fault detection and buzzer alarm function.
4. Built-in over-temperature protection device, safe and reliable, enhanced service life of the machine.
5. Wide choice of blocks, easy to exchange, clean and disinfect.

Specifications

Normal Operation Conditions

Ambient Temperature: 5°C ~ 30°C

Relative Humidity: ≤70%

Power Supply: 10V / 220V ~50/60Hz

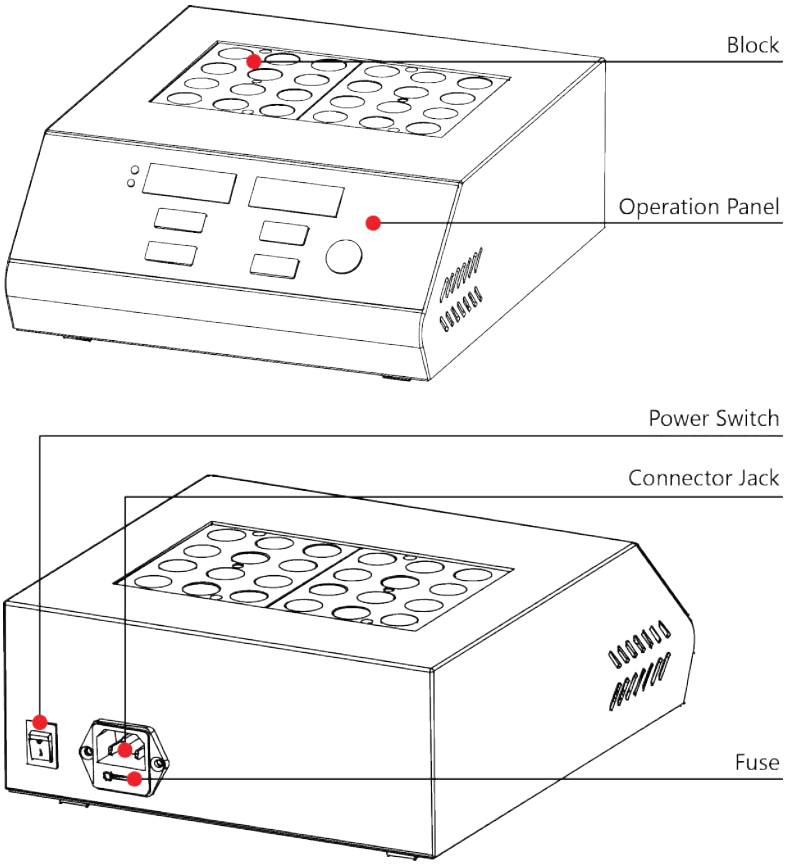
Equipment Specifications

Temperature Range	R.T.+5°C - 150°C
Heating Time	≤ 30min (20°C to 150°C)
Temperature Control Accuracy@100~150°C	≤ ±1°C
Temperature Control Accuracy @40~100°C	≤ ±0.5°C
Block Temp Discrepancy@40°C	0.3°C
Block Temperature Uniformity	≤ ±0.5°C
Display Accuracy	0.1°C
Timing Range	99h59min
Maximum Temperature	150°C
Maximum Power	400W
Dimension	260 x 220 x 95 mm

Component Identification

This chapter describes the instrument's mechanical structure, the keyboard and functions of each key, as well as preparations before powering the system. Please read this chapter well before operating the i-Cube Dry Bath Incubator for the first time.

Structure Description



Component Identification

Keyboard and Display Panel

Key Function	
▼	To decrease the set value.
▲	To increase the set value.
Start / Stop	Press to start operation after setting the desired temperature and the time. Press the button for 2 seconds to stop operation.

Operation Guide

1. Temperature and time setting

a) When powered on, the LED will display "8" as shown on the right. The instrument will beep and enter into the initial program.

b) Two seconds later, the values will change to the block's current temperature and the last operated time setting. E.g. as shown on the right, "28.5" is the block's current temperature, and "00:35" is the last setting time in hh:mm i.e. 35 minutes in this example.

c) Click ▲ or ▼ of TEMP, and the temperature value changes to the set value of the previous operation with the last numerical digit flickering. Press ▲ or ▼ to increase or decrease the temperature set value. Press and hold ▲ or ▼ to increase or decrease the settings quickly. When the value reaches the required temperature setting, release ▲ or ▼, and the instrument will automatically confirm and save the value.

d). Click ▲ or ▼ of TEMP, and the last digit of the time setting value will flicker. Press ▲ or ▼ to increase or decrease the time set value. Press and hold ▲ or ▼ to increase or decrease the settings quickly. When the value reaches the required time setting, release ▲ or ▼, and the instrument will automatically confirm and save the value.

Note: A time setting of "00:00" will have the instrument run continuously at the set temperature.

Operation Guide

2. Start and Stop

a) After setting the desired temperature and time, press the Start/Stop key to begin operation.

When the instrument is heating, the dot "." of the temperature value will flicker. When the temperature reaches the set value, the dot "." will stop flickering, and the colon " : " of the set time value will begin to flicker, and the time will start counting down.

When the time is up, the operation stops with a buzzer alarm sounding. The LCD displays the current block temperature and the time will display is "oUEr" which indicates that the operation is complete.

b) When the operation is completed, the instrument enters a waiting interface. Press ▲ or ▼ to reset the temperature and time, then press Start/Stop to start a new operation, or if there is no change to the settings, press Start/Stop to restart the operation.

c).To pause the operation during a run, press and hold the Start/Stop button for 2 seconds. Press Start/Stop again to restart the operation.

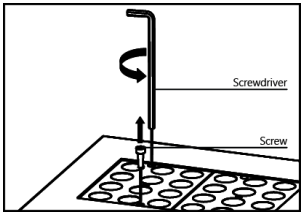
3. Temperature calibration

The temperature of the instrument has been factory calibrated before being shipped out. If there is a discrepancy between the actual temperature and the displayed temperature, please contact i-Labware or your local i-Labware distributor.

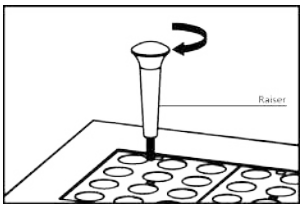
Operation Guide

4. Block Replacement

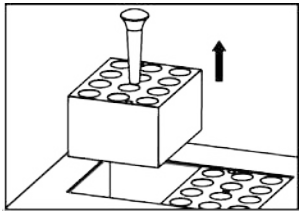
a) Using a screwdriver, remove the two screws which hold the block to the heating board.



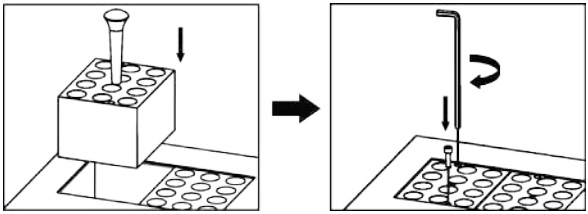
b) Screw the raiser in the middle of the block



c)Pull out the block with the help of the raiser



d) Unscrew the raiser from the block, and screw the raiser into the replacement block. Gently place the block onto the heating pad and secure the blocks with two screws.



Troubleshooting

No.	Issue	Possible Cause	Solution
1	No signals on the display when the power is turned on.	No power	Check the power connection
		Broken fuse	Exchange fuse (250V 3A Φ5x20)
		Broken switch	Change the switch
		Others	Contact your local i-Labware distributor
2	The actual and displayed temperatures are different.	Broken sensor or loose contact of the block	Contact your local i-Labware distributor
3	"ERR" in the display panel with the alarm sounding.	Broken sensor or room temperature is below zero	Contact your local i-Labware distributor
4	No heating of the block.	Broken sensor	Contact your local i-Labware distributor
		Solid state relay damage	
		Broken heater	
5	Keys on the keyboard not functioning	Broken keys	Contact your local i-Labware distributor

Interchangeable Heating Block Modules

Cat. No.	Parameter	Capacity	Dimension (mm)
E10020-A	6mm	42	95.5X76.5X50
E10020-B	7mm	42	95.5X76.5X50
E10020-C	10mm	20	95.5X76.5X50
E10020-D	12mm	20	95.5X76.5X50
E10020-E	13mm	20	95.5X76.5X50
E10020-F	15mm	12	95.5X76.5X50
E10020-G	16mm	12	95.5X76.5X50
E10020-H	19mm	12	95.5X76.5X50
E10020-I	20mm	6	95.5X76.5X50
E10020-J	26mm	6	95.5X76.5X50
E10020-K	28mm	4	95.5X76.5X50
E10020-L	40mm	2	95.5X76.5X50
E10020-N	0.5mL	42	95.5X76.5X50
E10020-O	1.5mL	24	95.5X76.5X50
E10020-P	2.0mL	24	95.5X76.5X50
E10020-Q	0.2mL	48	95.5X76.5X50
E10020-R	0.2mL	96	78X114X26
E10020-S	Plate (no holes)	96 micro-plate	81X123X19
E10020-T	Customized	Customized	Customized

i-Labware Warranty

i-Labware warrants products manufactured and supplied by it against defects in materials and workmanship when used normally for a period of 12 months after delivery. This warranty does not apply: (a) to consumable parts, such as protective coatings that are designed to diminish over time, unless failure has occurred due to a defect in materials or workmanship; (b) to cosmetic damage, including but not limited to scratches, dents and broken plastic on ports (c) to damage caused by use with another product (d) to damage caused by accident, abuse, misuse, fire, earthquake or other external cause (e) to damage caused by improper use of the i-Labware product, operating in inappropriate conditions (f) to damage caused by refitting without authorization (g) to an i-Labware product that has been modified to alter functionality or capability without the written permission of i-Labware (h) to defects caused by normal wear and tear or otherwise due to the normal aging of the i-Labware product, or (i) if any serial number has been removed or defaced from the i-Labware product.

Contact Us

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www.i-labware.com