Fluent BioSciences

Dry Bath Incubator with Heated Lid

Operating Instructions

Document # 200064268 v00
January 2025

For Research Use Only. Not for use in diagnostic procedures.

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Dry Bath Incubator with Heated Lid

The Dry Bath Incubator with Heated Lid is intended to be used for the lysis step as described in the Fluent BioSciences PIPseq™ Single Cell User Guides. Refer to the appropriate user guide for settings. Read the entirety of this operation manual before using the Dry Bath Incubator.

Table 1 Standard Operating Conditions

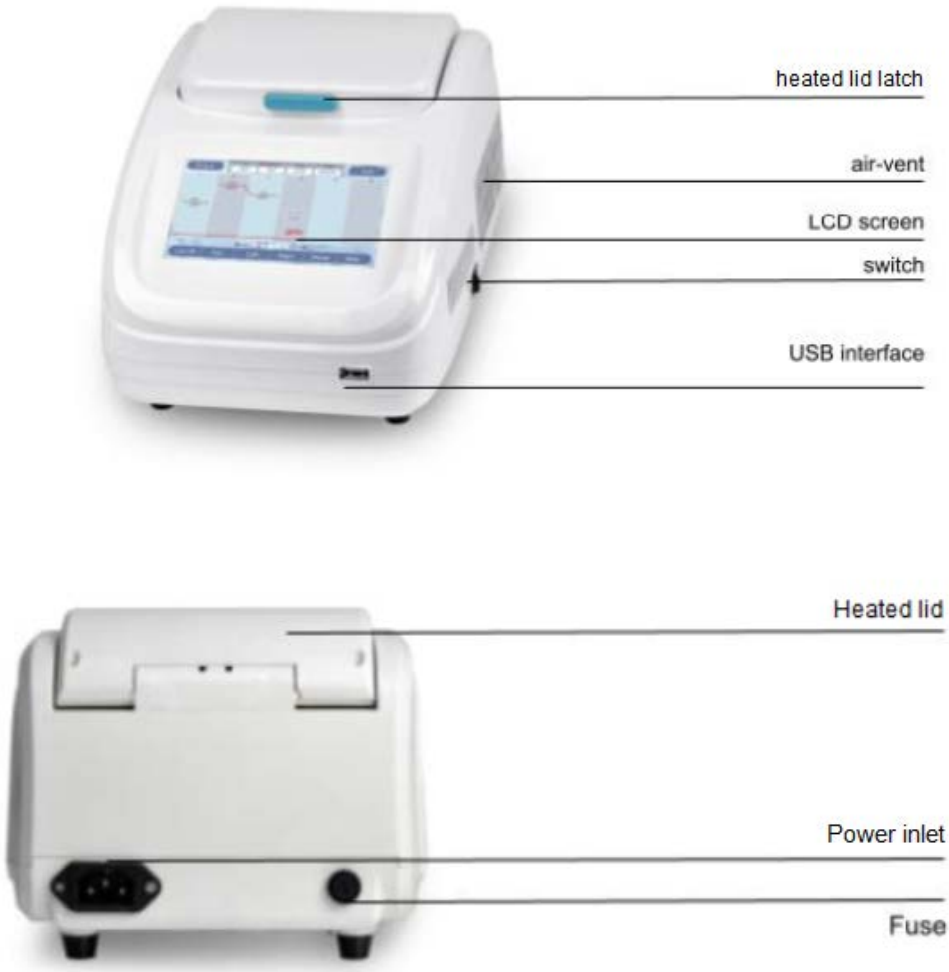
Element	Specification
Ambient temperature	5°C to 30°C
Relative humidity	≤ 70%
Power supply	100–230 VAC 5A 50/60 Hz

Table 2 Technical Parameters

Component	Specification
Elevation	Below 2000 m (6500 ft)
Intended environment	Indoor use only
Model	Catalog # FCS-SCR-PDB
Block temp. setting range	-10°C to 100°C
Block temp. control range	R.T. -25°C to 100°C
Hot lid temp. setting range(≤ 105°C)	0°C to 105°C / Block +0°C to 105°C
Hot lid temp. control range	R.T.+5°C–105°C
Time range	1s–99m59s, For temperature hold enter a time of 0s
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°C)	Heating rate (37°C to 100°C) ≥ 7°C/min
Cooling time	Cooling rate (100°C to 37°C) ≥ 8°C/min

Component	Specification
Dimensions (width × height × depth)	185 mm ×280 mm ×160 mm
Net weight	4.27 kg
Certifications	CE UL 61010-1:2012 EN 61326-1:2021
Fuse	5A 250 V 5 × 20 mm fast blow

Figure 1 Dry Bath Features



Dry Block Installation

This section provides instruction for the basic operation of the instrument, as well as necessary preparation before starting the device. Review this section before using the instrument.

Removing the Dry Block

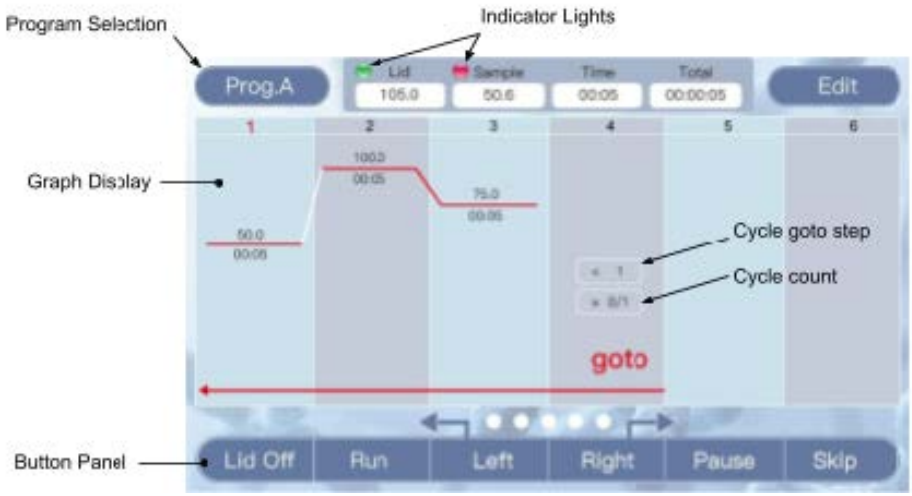
1. Turn off and unplug the device. Ensure the block is cool to the touch.
2. Open the lid.
3. Use the 2.5 mm allen key to unscrew the two screws securing the block to the heating plate. Leave the screws inside the block until fully removed.
4. Screw in the provided removal handle to the block and lift the block straight upwards.

Installing the Dry Block

1. Inspect both the bottom surface of the block and the heating plate for any debris.
2. If needed, use a lint-free cloth and isopropyl alcohol to clean both surfaces.
3. Place the block inside the device onto the heating plate. Drop the two 3 mm screws into the holes on the block.
4. Use the 2.5 mm allen key to evenly tighten both screws. It might be necessary to move the block side to side to get both holes to line up before fully tightening both screws down.
5. Make sure that the block is properly seated and does not move.
6. If there is any visible motion, unscrew both screws and try again.

Operation Guide

Figure 2 Standby Interface



Indicator Lights

Green light: Indicates the status of the heated lid. A solid green light indicates the lid has reached the target temperature. A flashing green light indicates that the lid is actively heating.

Red light: Indicates the status of the block. A solid red light indicates the block has reached the target temperature. A flashing red light indicates that the block is actively heating or cooling.

Graph Display

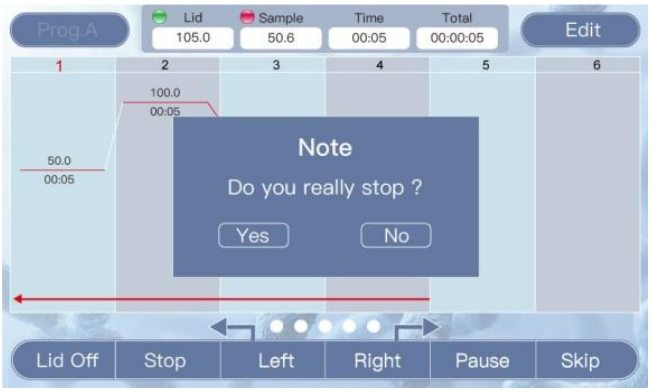
Displays the programmed temperature steps of the program. The flashing line indicates the current step that is running. The temperature is displayed above the red line and the time is displayed below [mm:ss].

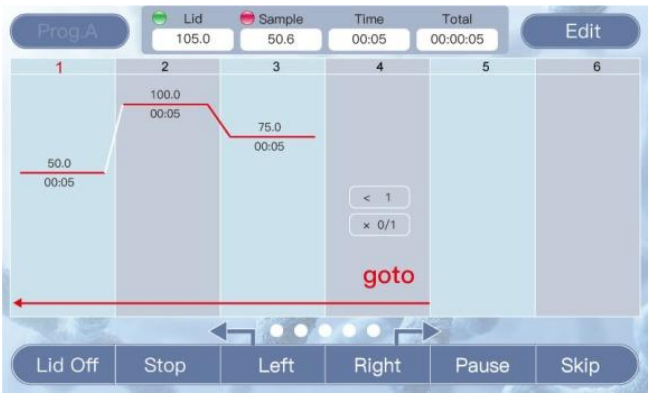
Cycle steps allow repeating temperature steps a programmed number of times. The upper box indicates which step to jump to, and the number of cycles is displayed below.

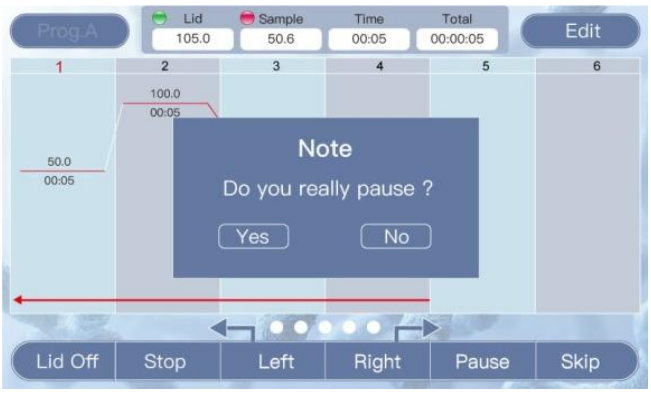
Button Panel & User Input

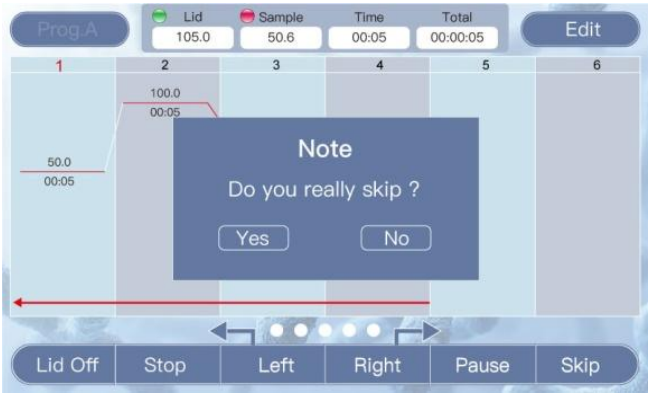
1. To cycle through the 10 configurable programs, select **Prog.A**.
   The programs display as Prog.A through Prog.J.
2. To modify the current program, select **Edit**.
3. Select **LidOff** to turn off the heated lid. Select **LidOn** to turn on the heated lid.
   A green indicator next to the Lid temperature appears when the lid is heating.
4. To start the program, select **Run**.
5. To shift the graph display if steps are not all visible, select **Left** and **Right**.

Figure 3 Running Interface









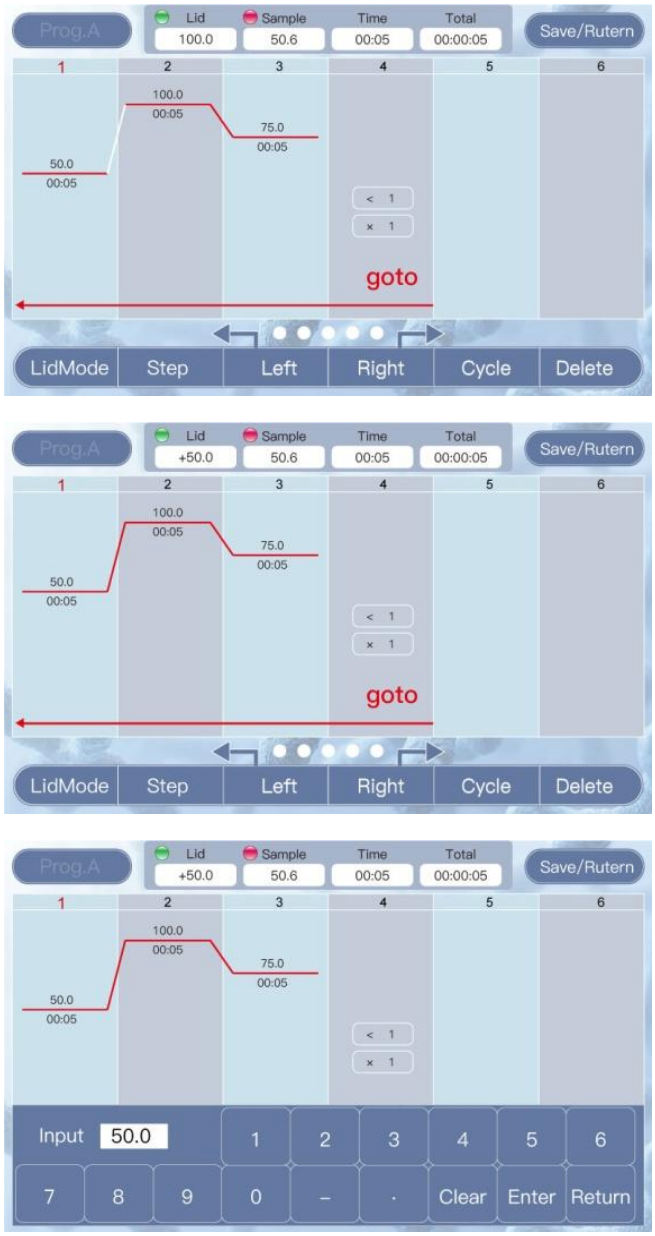
Key Button Operation

While a program is running, program selection and editing are disabled.

1. To stop the active program, select **Stop**.
   When prompted, confirm your selection. Selecting No resumes the program.
2. To pause the active program, select **Pause**.
   When prompted, confirm your selection. While paused, the block continues to hold the current temperature, but the timer does not continue.
3. When paused, select **Continue** to continue the program.

4. Select **Skip** to move to the next step in the program.
   When prompted, confirm your selection.

Figure 4 Editing Interface



Edit a Program

1. To modify an existing program, select **Edit**.
2. To modify existing temperatures, select the temperature to change and enter a new value.
   A number pad appears to enter the new value.

3. To modify existing hold times, select a hold time and enter a new value. To add an infinite hold, enter 0000.
   The time must be in mm:ss format (for example, to set the time to 25 seconds, enter 0025 and for 5 minutes enter 0500).
4. Delete a step as follows.
   a. At the top of the graph display, select a step number.
      The number turns red to indicate that it is the active selection.
   b. To remove the step, select **Delete**.
5. Insert a new step as follows.
   a. At the top of the graph display, select a step number.
      The number turns red to indicate that it is the active selection.
   b. Select **Step**.
      The new step is inserted after the selected step.
6. Add a cycle as follows.
   a. At the top of the graph display, select a step number.
      The number turns red to indicate that it is the active selection.
   a. Select **Cycle**.
      The cycle is added after the selected step.
   b. Enter which step the cycle jumps back to in the upper box of the cycle step, and the number of cycles to perform in the lower box.
7. Modify the heated lid settings as follows.
   a. Select **LidMode** to toggle between the different lid functions.
      - Mode 1: The lid holds a constant temperature (the lid temperature box shows the set value).
      - Mode 2: The lid keeps an offset from the block temperature (the lid temperature box shows as (+x.x°C).
   b. Select the lid temperature box to bring up a number pad to change the value.
      The lid temperature is set independent of the program being modified (ie, changing the lid mode while editing Prog.A, also changes how it functions during Prog.B).
8. Select **Save/Return** to accept the changes to the program.

Error Messages

Serial Number	Error Message	Possible Causes and Corresponding Countermeasures
1	Display shows Error	Sensor open or short circuit. Return to the manufacturer for maintenance or replacement.

Serial Number	Error Message	Possible Causes and Corresponding Countermeasures
2	The display is not lit, abnormal	Hardware failure. Return to the manufacturer for maintenance or replacement.
3	Touch failure	
4	Block is not heated	
5	Block temperature is too high or too low	
6	Hot cover is not heated	
7	Hot cover temperature is too high	
8	Fan does not work	

Safety Warnings

Important Safety Operation Information

The user needs a complete understanding of how the instrument works before operating the instrument safely. Before operating the instrument, read this manual carefully.

⚠ Do not operate the instrument before reading the manual. If you do not follow the instructions, the instrument might cause accidental injury during operation. Read the following safety tips and instructions carefully and implement all precautions.

Safety Tips

The following basic safety precautions must be observed during all handling, maintenance, and repair of this instrument. Failure to follow these instructions or the warnings noted elsewhere in this manual can affect the protection provided by the instrument and the intended use of the instrument.

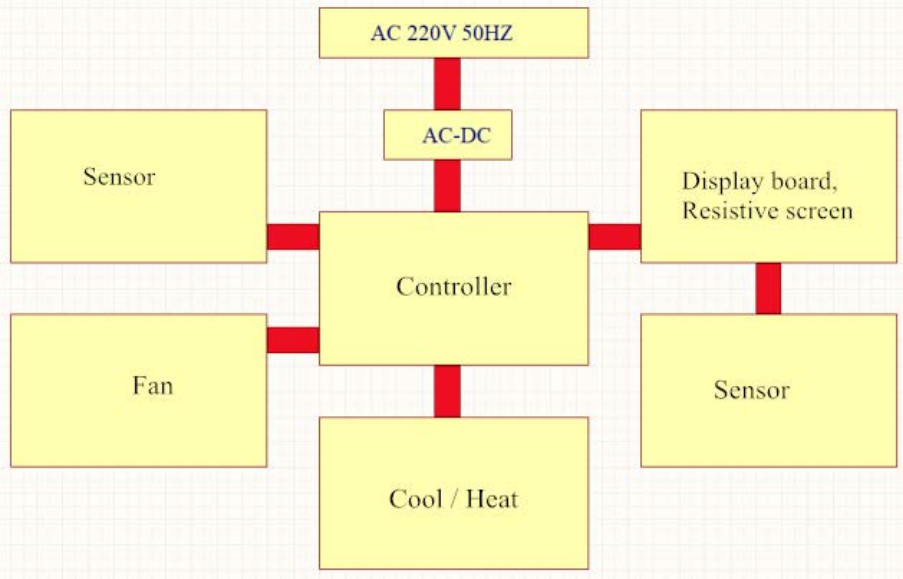
1. Do not attempt to open or repair the instrument. This voids the warranty and might result in an electric shock. If the instrument needs repair, notify Fluent BioSciences to arrange for a return, replacement, and/or repair.
2. The device can reach temperatures of 100°C and can cause burns. Exercise caution while using the device, and do not touch the metal block or the heated lid when they are hot.
3. Before connecting the instrument to power, make sure that the voltage and frequency match what's required by the instrument (100–230 VAC, 50/60 Hz). Make sure that the power outlet can deliver sufficient current (5A).

4. Do not use the power cord if it is frayed, damaged, or broken. Replace with a power cord of the same type and specification. Do not press anything on the power cord when the instrument is in use. Do not place the power cord where people are walking.
5. Always hold the plug when plugging and unplugging the power cord. To prevent damage to the cord, do not pull by the cable. When inserting the plug, make sure that the plug is fully inserted into the power outlet.
6. Place the instrument in a location with low humidity, low dust, and away from water and direct sunlight and strong light source. The room should be well ventilated and free of corrosive gasses or strong magnetic fields. Do not place the instrument in a location that is wet or next to a heater or stove.
7. Turn off the power when the device is not being used. When the device is not used for a long time, remove the power plug and cover the device with a soft cloth or plastic paper to prevent dust from entering.
8. Unplug the instrument from the electrical outlet immediately under the following conditions and contact the supplier or ask trained maintenance personnel to deal with:
    - Fluid spills into the instrument
    - The instrument is exposed to rain or water
    - The instrument is not working properly, especially if there are any abnormal sounds or smells
    - The instrument is dropped or the casing is damaged
    - The instrument function has changed significantly

Instrument Maintenance

- Regularly clean the metal dry bath block holes with a clean cloth and isopropyl alcohol to ensure good thermal contact between test tubes and the dry bath block.
- The surface of the instrument can be cleaned with a soft cloth and water or isopropyl alcohol.
- The power must be turned off while the instrument is being cleaned.
- Do not pour large amounts of cleaning agent directly onto the dry bath block.
- Do not use harsh chemicals to clean the surface of the instrument.

Wiring Diagram



FBS-SCR-PDB Packing List

No.	Name	Type	Unit	Qty	Remarks
1	Dry Bath Incubator with Heated Lid(cooling type)	FBS-SCR-PDB	set	1	
2	Power Line		piece	1	
3	Touch pen		EA	1	
4	Allen wrench		EA	1	
5	Performance Test Statement		EA	1	
6	Operation Manual		EA	1	
7	Warranty card		EA	1	
Charger: (Sign/Stamp)			Packing Date:		

FBS-SCR-PDB Performance Test Statement

Name	Dry Bath Incubator with Heated Lid(Cooling type)	Type	FBS-SCR-PDB
Test Date		Production Number	

No.	Test Content	Test Methods	Standard	Qualified?
1	Basic Function	Visual Inspection	Valid	
2	Appearance	Visual Inspection	Valid	
3	Outer Marks	Visual Inspection	Valid	
4	Continuous Work Tests	Experiment	72 Trouble Free	
Test Results:				
Tester:		Confirmer:		

Revision History

Document	Date	Description of Change
Document # 200064628 v00	January 2025	Initial release.

Legal Notices

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