

MBDB-01 Mini Dry Bath



Mini Dry Bath

Instruction Manual

Catalogue Numbers

MBDB-01

Record the following for your records:

Model _____

Catalogue No. _____

Date of Delivery _____

Warranty Period _____

Serial No. _____

Invoice No. _____

Purchase Order No. _____

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Safety Information

Precautions

Take all necessary precautions for using any electrical device. Before connecting the electrical supply, check to see if the supply voltage is within the range stated at the rating label, and see to it that the device be seated firmly. Place the unit in a safe and dry location; it must NOT touch the surrounding. Follow the safety precautions for chemicals / dangerous materials. If needed, please contact a qualified service representative or support@cleaverscientific.com

Environmental Conditions

Ensure the instrument is installed and operated strictly under the following conditions:

1. Indoor use only
2. $\leq 95\%$ RH
3. 75 kPa – 106 kPa
4. Altitude must not exceed 2000 meters
5. 4°C~ 40°C operating temperature
6. Pollution degree: 2

Avoiding Damage to the Instrument

1. Do not attempt to operate the device if damage is suspected.
2. Protect this unit from physical damage, corrosive agents and extreme temperatures (direct sunlight, etc.).
3. For proper ventilation and safety concerns, keep at least 10 cm of space behind the instrument, and at least 5 cm of space on each side.
4. Do not operate the unit out of environmental conditions addressed above.
5. Do not operate the power supplies in high humidity environments ($> 95\%$), or where condensation may occur.
6. To avoid condensation after operating the power supply in a cold room, wrap the unit in a plastic bag and allow at least 2 hours for the unit to equilibrate to room temperature before removing the bag and operating the unit.

Packing List

- Incubator
- Adapter
- Instruction Manual

Packing List Checked by: _____

Date: _____

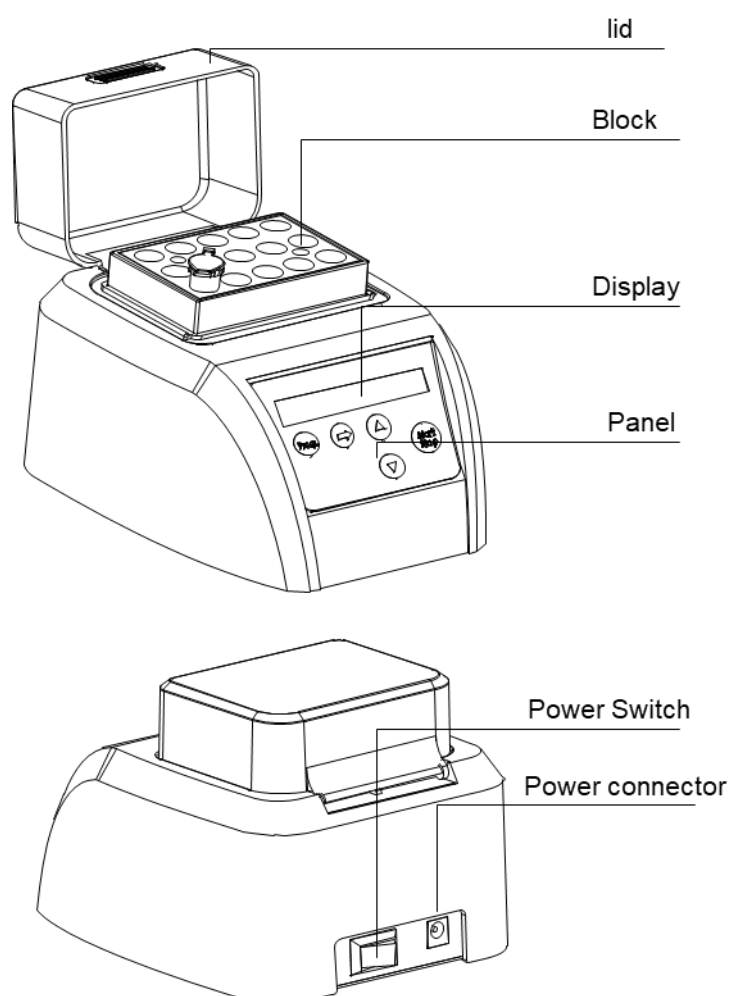
The packing lists should be referred to as soon as the units are received to ensure that all components have been included. The unit should be checked for damage when received.

Cleaver Scientific is liable for all missing or damaged parts / accessories within 7 days after customer received this instrument package. Please contact Cleaver Scientific immediately regarding this issue. If no response within such period from consignee party, that will be consignee party's whole responsibility.

Please contact your supplier if there are any problems or missing items.

Specifications

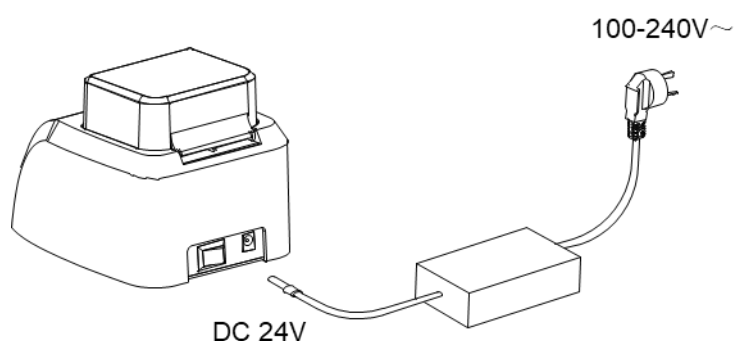
Parameter	Value
Power supply	DC24V
Power	35 W
Temperature range	RT+5 °C ~ 100 °C
Timing range	0 ~ 999sec or 0 ~ 999min
Accuracy of the temperature	≤± 0.5°C
Display accuracy	0.1°C
Heating time (from 40 °C to 100 °C)	≤15min
Ambient temperature	5°C ~ 35°C
Dimensions (W×D×H)	120mm×152mm×112mm
Weight	0.85 kg



Operating Instructions

Installation

1. Place the incubator onto a level, horizontal surface.
2. Insert the column connector of the power adapter to the power connector of the device and insert the plug of the adapter to mains power supply.
3. Power on the main switch. The incubator is ready to operate when the display becomes visible.



Control Interface

START / STOP	Start or Stop operation
PROG	Select Program
▲ ▼	Adjust Parameter
➡	Move Cursor

Creating Programs

1. Press the "PROG" key to select the desired program, from 1-9.
2. Press the ➡ key to access the program settings. Each program consists of 2 steps with 2 settings, time and temperature.
3. Navigate using the ➡ key, and set parameters using the ▲ and ▼ keys.
4. When programming step 1, a single icon, ■, is displayed. When programming step 2, 2 icons, ■ ■, are displayed.

5. To switch between minutes and second, hold the ➡ key for 2 seconds, and navigate between "min" and "sec" using the ▲ and ▼ keys.
6. Once complete, waiting 10 seconds for the screen to return to the main view.

Run a program

1. To run a program, select the desired program with the "PROG" Key.
2. The unit will start to heat to the initial temperature, with a message "NOTOK" Displayed. When the initial temperature is reached, the display will show "OK".
3. Press the "START/STOP" key to begin the program.
4. To interrupt the program, press the "START/STOP" key for 2 seconds.
5. Step 2 will run automatically, once finished, and alarm will sound and the step 2 temperature will be held.

Continuous operation

To run the unit at one temperature continuously:

1. Set Step 1 of a program to the desired temperature.
2. Select the program.
3. When the display reads OK, do not press "START/STOP".
4. The temperature will be maintained at Step 1.

Temperature Calibration

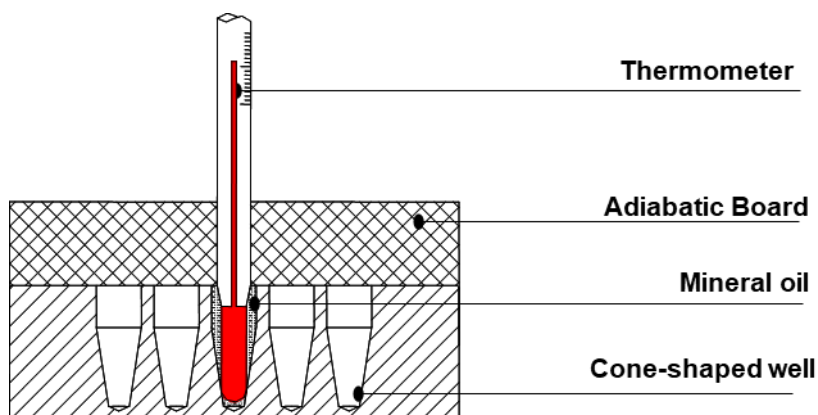
The temperature of the instrument has been calibrated before shipping. If there is deviation between the actual temperature and the displayed temperature, the unit may be recalibrated manually.

Notes: The Instrument uses double temperatures adjustment to ensure its accuracy. This means it is linearly calibrated at 40°C and 100°C two points. The temperature accuracy will be within $\pm 0.5^{\circ}\text{C}$ after the double temperature adjustment.

The environment should be lower than 35°C.

1. After stating the Instrument, it enters waiting interface. Make sure the temperature in display is below 35°C. If the temperature is higher than 35°C, you should wait until the temperature is below 35°C.

2. Inject olefin oil into one of the cone-shaped wells, and then put a thermometer into this well (Make sure the precision of the thermometer is within 0.1°C and the temperature ball should be absolutely immersed into the cone-shaped well). Heat insulation material is needed on the block to separate it from the environment. As shown below:



3. Press the ▲ and ▼ keys simultaneously, the display will change to read the current temperature, as well as "ADJ *", "*" will flicker intermittently.
4. When the temperature reached 40°C , both "ADJ" and "*" will begin to flicker. At this point, leave the unit for 20 minutes to equilibrate.
5. Once 20 minutes has elapsed, adjust the temperature to the actual temperature as measured on the thermometer using the ▲ and ▼ keys.
6. Press the "START/STOP" key to confirm the adjustment. The unit will now repeat the process at 100°C .
7. Once the temperature at 100°C has been adjusted, return to the main screen by pressing the "START/STOP" key.
8. At any point, press the ▲ and ▼ keys simultaneously to end calibration.

Troubleshooting

Error	Cause	Solution
No display	No main power connection. Power failure.	Plug in mains cable on both sides. Check the mains fuse
"OPEN" in the display with the alarm of "du..."	Broken sensor or loose contact of the module	Contact service.
"SHORT" in the display with the alarm of "du..."	The sensor is short	Contact service.
No heating of the block	Heater failure	Contact service.
Press invalid	Keyboard failure	Contact service.

Encountering Problems

1. Check the troubleshooting section.
2. Call Technical Service or e-mail to support@cleaverscientific.com
3. If the unit must be shipped back for repair, contact Cleaver Scientific or the distributor for a Return Authorization Number and shipping instructions. The unit will be repaired and returned to you as quickly as possible.

Care and Maintenance

The wells in the blocks should be cleaned with a cloth stained with alcohol to assure good heat translation between the block and the tube and no pollution.

The instrument should not be cleaned with alcohol, but with a cloth soaked with water and a light detergent such as dish soap.

Power off when cleaning the Instrument.

Corrosive cleaning liquid is strongly prohibited.

Ordering information

Cat. No.	Description
MBDB-01	microBLOCK Digital Dry Bath, 100- 240V
A-MINI	microBLOCK Block for 40 x 0.2ml tubes
B-MINI	microBLOCK Block for 24 x 0.5ml tubes
C-MINI	microBLOCK Block for 15 x 1.5ml tubes
D-MINI	microBLOCK Block for 15 x 2.0ml tubes
E-MINI	microBLOCK Block for 8 x 12.5 x 12.5ml Cuvettes
F-MINI	microBLOCK Block for 4 x 15ml tubes
G-MINI	microBLOCK Block for 2 x 50ml tubes

Warranty

The Cleaver Scientific Ltd. (CSL) dry bath units have a warranty against manufacturing and material faults of twelve months from date of customer receipt.

If any defects occur during this warranty period, CSL will repair or replace the defective parts free of charge.

This warranty does not cover defects occurring by accident or misuse or defects caused by improper operation.

Units where repair or modification has been performed by anyone other than CSL or an appointed distributor or representative are no longer under warranty from the time the unit was modified.

Units which have accessories or repaired parts not supplied by CSL or its associated distributors have invalidated warranty.

CSL cannot repair or replace free of charge units where improper solutions or chemicals have been used. For a list of these please see the Care and Maintenance subsection.

If a problem does occur, then please contact your supplier or Cleaver Scientific Ltd:

Cleaver Scientific Ltd.

Unit 41, Somers Road Industrial Estate

Rugby, Warwickshire, CV22 7DH

Tel: +44 (0)1788 565300

Email: info@cleaverscientific.com

