

**INSTRUCTIONAL MANUAL**  
**CAT. 63126-10, 63126-20, 63126-40**

**Digital Modular Blocks – Dri-Baths**



**Electron Microscopy Sciences**

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## Alert Symbols Used Throughout this Manual



### **Note**

Notes alert you to pertinent facts and conditions.



### **Caution**

Cautions alert you to a possibility of damage to the equipment.



### **Warning**

Warnings alert you to a possibility of personal injury.



### **Hot Surfaces**

Hot surfaces alert you to a possibility of personal injury if you come in contact with a surface during use or for a period of time after use

## Safety Information

Thank you for selecting Electron Microscopy Sciences for your equipment needs.

The Modular Block Dri-bath has been designed with safety, function, and reliability in mind. The user is expected to follow installation instructions exactly as written. Do not attempt operation without this information. It is the users responsibility to follow and conform to local electrical codes and use Good Laboratory Practices when installing and operating this equipment.



### **Warning**

Use the Modular Block Dri-bath only in the manner described herein. Unit may be impaired and/or cause personal injury if directions are not followed.

## Introduction

The EMS Modular Block Dri-Baths provide uniform dry heating for many types of containers: various size test tubes, titer plates, cuvettes, and microcentrifuge tubes. Close contact of tubes to block walls provides. The unit is designed for excellent heat transfer, with the tubes in close proximity to the block walls, making it ideal for many applications such as food sciences, clinical labs, chemistry, hematology, or pathology.

Other features include:

- A wide variety of interchangeable heating blocks available to fit various test tube sizes and quantities. **NOTE:** These solid blocks permit the heaters to be used as a temperature-controlled hotplate.
- Heating blocks are solid aluminum with a sealed black anodized finish for superior heat absorption.
- Cabinets are steel with a powder-coated finish.
- Temperature is maintained from slightly above ambient to 130°C with a PID microprocessor-based controller
- A patented temperature sensing probe system ensures accurate block temperature by measuring the temperature within the block.

## Unpacking

- Inspect package upon delivery.
- Examine for any shipping damage before unpacking. **NOTE:** If damage is discovered, have the delivering carrier specify damage *and* sign for the damage on your copy of the delivery receipt.
- When opening the package, make certain that all parts are accounted for before packaging materials are discarded. **NOTE:** If damage is found while unpacking, promptly report it to the carrier and request a damage inspection. **IMPORTANT:** You must call for a damage inspection promptly, since failure to request an inspection of damage within a few days after receipt of shipment absolves the carrier from any liability for damage.

## Determining Location of Equipment

Unit location should be:

- Convenient
- Draft-free location
- Near a grounded electrical outlet that meets the power requirements listed on the unit nameplate.

The heater should be:

- Level (though operation does not depend on this)
- Away from edges of the laboratory bench where there is danger of accidental burns or knocking the unit over.
- Unit needs to be at least 2 inches or more away from any walls.

## Heating Blocks

Use an aluminum-heating block designed for the test tubes or other vessels to be heated. Insert block(s) in the well on top of the unit.



### Note

Blocks have a threaded hole that serves a dual function:

1. To facilitate removal of blocks from the unit – use the furnished block puller
2. For temperature calibration – insert a thermometer in the threaded hole

## Electrical Requirements



- Use a properly grounded electrical outlet of correct voltage and current handling capacity.
- DO NOT remove or modify grounded power plug.
- Use only properly grounded outlets to avoid shock hazard.



### Note

It is highly recommended to leave the unit disconnected from the power source when not in use.

## Operation & Directions for Use



### **Warnings – Severe injury or death may result if these warnings are not heeded.**

- DO NOT use in the presence of pressurized or sealed containers – fire or explosion may result, causing death or severe injury.
- DO NOT heat any substance above a temperature which will cause it to emit toxic fumes – death or severe injury may result.
- DO NOT use in the presence of flammable or combustible materials or explosive gases – fire or explosion may result, causing death or severe injury.
- DO NOT add water to the heating block or the empty well of a unit connected to electrical power. This can result in an explosion with possibility of serious injury or death



### **Note**

Turn power switch OFF and unplug unit when not in use. This extends the life of the heating element and eliminates the possibility of accidental burns.

### **Power Up**

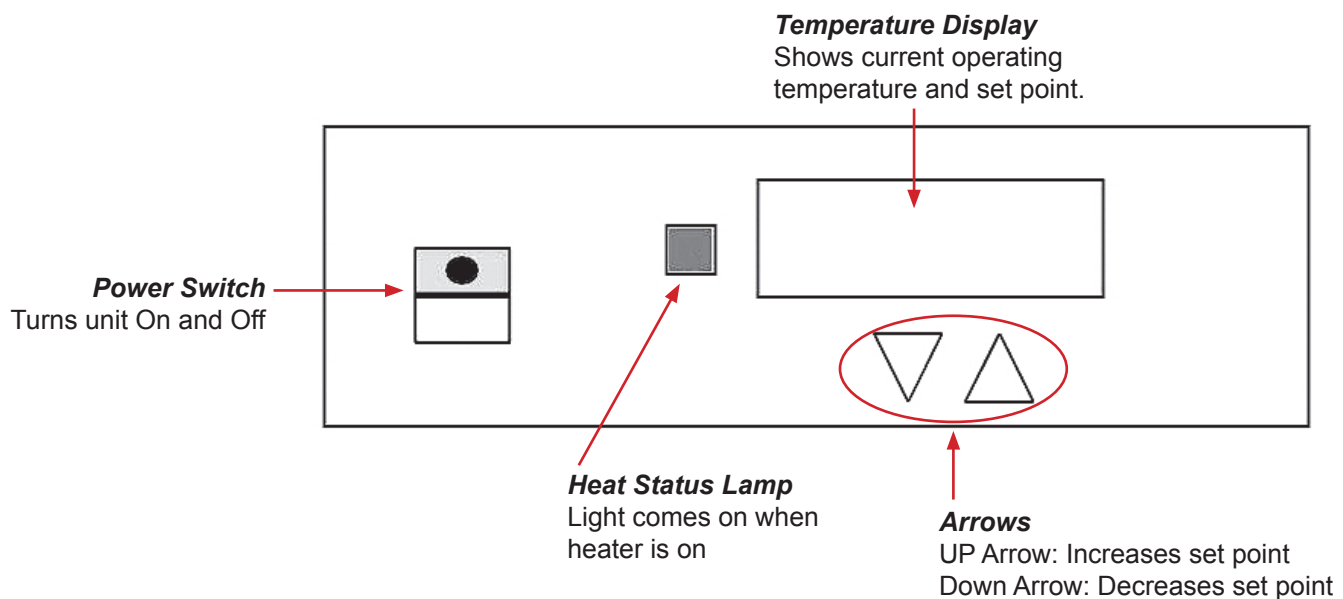
- Insert the plug into an outlet whose characteristics match those on the unit's data plate. Place the power switch in the ON position.

### **Positioning Block For Temperature Sensor Probe**

- The bottom of the block has a hole that accommodates the sensor probe. Note the temperature sensor probe in the heater well by carefully inserting the sensor probe into this hole in the bottom of the block.
- Once the temperature has stabilized at the desired point, insert test tubes/vessels into the heater block.

**NOTE:** Do not place materials in block until required temperature has been reached or desired results may not be achieved.

## Control Panel



## Setting the Temperature

1. Turn the power switch ON. The display will flash the current revision number for about 5 seconds, then the temperature will be displayed.
2. Press and release either the UP or DOWN ARROW KEY once. The display will flash the existing set point temperature already established.
3. To change a temperature set point, press the appropriate UP or DOWN key to raise or lower the temperature to a desired value and release. When the displayed temperature stops flashing (showing the actual temperature) the new set point is established.

## Temperature Calibration

If the displayed temperature does not match the actual block temperature, calibrate the readout as follows:

1. Press and hold both the UP and DOWN ARROW KEYS together at the same time until the display begins to flash.
2. Press the appropriate UP or DOWN ARROW KEY to adjust the displayed temperature to match the actual temperature. Upon releasing the ARROW KEY, the display will stop flashing and the displayed temperature will match the thermometer temperature. Calibration data is automatically entered and stored.

### NOTICE

#### Note

- If the up or down arrow keys are not touched for 5 seconds, the display will default to the actual temperature.
- Turn the power switch to off and unplug unit when not in use, as this will extend the life of the heating element and eliminates the possibility of accidental burns.

## Maintenance

### NOTICE

#### Note

- Do not attempt to service or repair the unit before consulting Electron Microscopy Sciences. If assistance is needed please call Customer Service at 800-523-5874.
- Users are solely responsible for the decontamination of their unit(s) if hazardous material is spilled on or into the unit(s).
- Before using any cleaning or decontamination method except those recommended by the manufacturer, users should check with customer service that the proposed method would not damage the equipment.



#### Warning

Disconnect unit from power source before attempting any service or repair.

The dri-baths have no mechanical moving parts, therefore they require very little maintenance beyond normal cleanup with a mild detergent and water. Before performing any maintenance, clean up:

1. Turn the power switch to OFF and unplug the unit from its power source.
2. Allow unit to cool to near room temperature before removing the heating block(s).
3. Remove the thermometer, test tubes and/or other vessels from the heating block and wash them thoroughly or wipe them clean.
4. Take the heating block from the well and wash with a soft cloth, in hot soapy water. Clean block holes with a test tube brush. Rinse and wipe dry. **NOTE:** Heating blocks can be submerged in hot water, but ***under no circumstances should the cabinet be immersed***. Wipe the exterior and well with a wet cloth, taking care not to get water in cabinet.
5. Let the cabinet to dry completely before installing blocks and reconnecting the power source.

## Troubleshooting

Issue	Possible Cause	Action to Correct
Heater status lamp will not light and the unit will not heat.	The power switch is OFF	Turn it ON
	The unit is not plugged in, or it is not plugged into a proper, working outlet	Check the outlet
	Thermal cutoff is blown	Replace
	Setpoint adjusted below actual temperature	Readjust
Temperature is too high or too low and does not change when temperature setpoint is changed.	Faulty temperature-control printed circuit board or sensor	Check sensor resistance (110   @ 25°C) and replace faulty component
	Heater has failed	Replace
	Faulty thermostat	
	Thermal cutoff is open	
The heater status lamp is flicking but the unit will not heat to the desired level.	Faulty thermostat	Replace
	The temperature control adjustment is set too low	Turn temperature control adjustment clockwise
The heater status lamp flashes intermittently.	NOT A PROBLEM – The unit is turning itself on and off to maintain a constant temperature.	
The heater status lamp is lit, but not flickering; the unit is not hot.	Need to allow for heat up time	Allow more time to heat up
	Faulty heater	Replace
	Thermal cutoff blown	

## Accessories

Cat. #	Description	Opening Diameter Inches (cm)	Number of Wells
63129-01	Modular Block, 6 mm Dia Test Tubes	0.31 (.79)	30
63129-02	Modular Block, 10 mm Dia Test Tubes	0.4(1.02)	24
63129-03	Modular Block, 12 – 13 mm Dia Test Tubes	0.53 (1.35)	22
63129-04	Modular Block, 15 – 16 mm Dia Test Tubes	0.68 (1.73)	12
63129-05	Modular Block, 17 – 18 mm Dia Test Tubes	0.75 (1.9)	12
63129-06	Modular Block, 20 mm Test Tubes	0.81 (2.06)	8
63129-07	Modular Block, 25 mm Test Tubes	1.03 (2.62)	6
63129-10	Modular Block, Combination: three, 25mm; five, 12-13mm; 6, 6 mm	—	14
63130-01	Modular Block, Cuvette 12.5 mm square	—	12
63130-12	Block, Model	—	40
63131-02	Modular Block, Microcentrifuge Tube, Size 0.2 ml	0.24 (0.61) taper	79
63131-05	Modular Block, Microcentrifuge Tube, Size 0.5 ml	0.29 (0.74) taper	30
63131-15	Modular Block, Microcentrifuge Tube, Size 1.5 ml	0.44 (1.04) taper	20
63132-10	Solid Aluminum Block to be machined by user	—	—
63132-50	Modular Block, PCR Block, size of two blocks	—	—
63133-01	Modular Block, Titer Plate, direct contact, size of two blocks	—	—
63133-02	Modular Block, Titer Plate, size of two blocks	—	1
63134	Stainless steel cover for models 2064Q and 2065Q	—	—

For any questions or for ordering information,  
please contact Customer Service at

**1-800-523-5874**

*Thank you for choosing*

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