

PolyScience MX07R-20-A11B

PolyScience MX07R-20 Refrigerated Circulating Water Bath User Manual

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation, installation, and maintenance of the PolyScience MX07R-20 Refrigerated Circulating Water Bath. Please read this manual thoroughly before operating the unit to ensure proper usage and to prevent potential hazards.

The PolyScience MX07R-20 is a 7-liter capacity refrigerated circulating water bath designed for precise temperature control in laboratory and industrial applications. It features an MX Controller for intuitive operation and a temperature range from -20°C to 135°C.

2. SAFETY INFORMATION

WARNING: Failure to follow these safety instructions may result in personal injury or damage to the equipment.

- Always operate the unit on a stable, level surface.
- Ensure adequate ventilation around the unit to prevent overheating.
- Do not operate the unit without proper fluid levels in the bath.
- Use only recommended heat transfer fluids. Consult the fluid manufacturer's safety data sheet (SDS) for handling precautions.
- Disconnect power before performing any maintenance or cleaning.
- Avoid direct contact with heated or cooled fluids and surfaces.
- Do not immerse the controller or electrical components in fluid.
- Ensure the power supply matches the unit's requirements (120V/60Hz).

3. UNPACKING AND SETUP

3.1 Unpacking

Carefully remove the unit from its packaging. Inspect for any signs of shipping damage. Retain packaging materials for future transport or storage.

3.2 Placement

Place the circulating bath on a sturdy, level surface. Ensure there is sufficient clearance (at least 15 cm or 6 inches) around all sides for proper air circulation, especially for the WhisperKool Environmental Control System and Cool Command modulated refrigeration system. The unit's dimensions are approximately 21.3"D x 8.7"W x 25.4"H.



Image 1: PolyScience MX07R-20 Refrigerated Circulating Water Bath with indicated dimensions (Depth: 21.3", Width: 8.7", Height: 25.4"). The unit features a top-mounted MX Controller and a DuraTop insulating, chemical-resistant top deck.

3.3 Fluid Filling

The bath has a 7-liter capacity. Fill the bath with the appropriate heat transfer fluid (e.g., distilled water, ethylene glycol/water mixture, silicone oil) to a level between the minimum and maximum fill lines. Ensure the fluid level is sufficient to cover the pump and heating/cooling coils.

3.4 Power Connection

Connect the power cord to a grounded electrical outlet (120V/60Hz). Ensure the power switch is in the OFF position before connecting.

4. OPERATING INSTRUCTIONS

4.1 MX Controller Overview

The MX Controller features a large, universal icon and English display for easy readability. It provides intuitive control over temperature settings and operational parameters.

4.2 Setting Temperature

1. Turn on the main power switch.
2. The display will show the current bath temperature and the setpoint temperature.
3. Use the arrow keys on the controller to adjust the setpoint temperature to your desired value within the range of -20°C to 135°C.
4. Press the ENTER key to confirm the new setpoint.
5. The unit will begin heating or cooling to reach the setpoint. The Cool Command modulated refrigeration system will optimize cooling performance.

4.3 Calibration

The MX Controller offers single-point calibration capability. Refer to the detailed controller manual for specific instructions on performing calibration to ensure temperature accuracy.

5. MAINTENANCE

5.1 Fluid Management

- Regularly check the fluid level and replenish as needed to prevent damage to the pump or heater.
- Change the heat transfer fluid periodically (e.g., every 3-6 months, depending on usage) to maintain optimal performance and prevent algae growth or contamination.

5.2 Cleaning

- **Exterior:** Wipe the exterior surfaces with a damp cloth and mild detergent. Avoid abrasive cleaners.
- **Bath Tank:** Drain the bath and clean the interior with a non-abrasive brush or cloth. Rinse thoroughly with distilled water.
- **Condenser:** Periodically clean the condenser fins (located on the side/rear) with a soft brush or vacuum cleaner to ensure efficient refrigeration.

5.3 Storage

If storing the unit for an extended period, drain all fluid from the bath and ensure it is clean and dry. Store in a clean, dry environment.

6. TROUBLESHOOTING

This section addresses common issues. For more complex problems, contact PolyScience technical support.

6.1 Unit Does Not Power On

- Check if the power cord is securely plugged into a live outlet.
- Verify the main power switch is in the ON position.
- Check the circuit breaker or fuse for the electrical circuit.

6.2 Temperature Not Reaching Setpoint

- Ensure the fluid level is adequate.

- Verify the setpoint temperature is within the unit's operating range (-20°C to 135°C).
- Check for proper ventilation around the unit.
- Ensure the condenser is clean and free of obstructions.
- If using an external application, ensure proper insulation and connections.

6.3 Error Codes

If an error code appears on the MX Controller display, consult the detailed MX Controller manual for specific error code definitions and troubleshooting steps. Common issues may include low fluid level, over-temperature, or sensor faults.

7. SPECIFICATIONS

Feature	Specification
Model Number	MX07R-20-A11B
Capacity	7 Liters
Temperature Range	-20°C to 135°C
Product Dimensions (D x W x H)	21.3" x 8.7" x 25.4"
Item Weight	62.1 pounds
Power Source	Corded Electric (120V/60Hz)
Material	Plastic, Stainless Steel, Phenolic Resin
Controller Type	MX Controller
Installation Type	Freestanding
Access Location	Top

8. WARRANTY AND SUPPORT

For warranty information, please refer to the official PolyScience website or the warranty card included with your product. PolyScience provides customer support for technical assistance and service inquiries.

This product is eligible for 30-day easy returns. For further assistance, please contact customer support.