

STANDARD OPERATING PROCEDURE OF WATER BATH

1. PURPOSE

- 1.1 To provide general operating instructions for water baths used in QC/Manufacturing laboratories.

2. SCOPE

- 2.1 This procedure applies to circulating and non-circulating water baths used at the QC/Manufacturing facility.
- 2.2 This procedure does **not** apply to circulating baths for cooling.

3. RESPONSIBILITY

- 3.1 It is the responsibility of all water bath users to follow this SOP. It is the responsibility of the department supervisor to ensure that all users are adequately trained in operation and maintenance of this equipment.

4. MATERIALS AND EQUIPMENT

- 4.1 Calibrated Partial Immersion Thermometer
- 4.2 Mild soap or detergent (Glass Klensz or equivalent)
- 4.3 Benzalkonium chloride as a preservative

5. HEALTH AND SAFETY CONSIDERATIONS

- 5.1 Use caution when operating, maintaining, or servicing electrical equipment.

6. DOCUMENTATION REQUIREMENTS

- 6.1 Maintenance must be documented on Attachment A, Maintenance Logsheet.
- 6.2 The supervisor must review logsheets as they are completed.
- 6.3 Logbook must be bound and numbered. Submit the completed logbooks to MEF administration for storage.



7. GENERAL PROCEDURE

- 7.1 Operation (Precision Scientific Model 183 only)
 - 7.1.1 Before filling, check the power switch and make sure that it is in the “OFF” position.
 - 7.1.2 Fill the bath with distilled water or WFP, making allowance for displacement by the sample(s) being immersed and for expansion of the media upon reaching operating temperature.
 - 7.1.3 The maximum liquid level should be 1 1/2” from the top surface of the bath after sample(s) are immersed.
 - 7.1.4 The bath is supplied with a thermometer and O-ring. The thermometer is attached to the bath via a metal clip on the top of the bath.
 - 7.1.5 The thermometer should be inserted until the immersion depth indicator line is at or below the water surface. The thermometer bulb should always be located above the diffuser shelf.
 - 7.1.6 Insert the line cord into the proper receptacle and turn the power switch to the “ON” position. This action will energize the heater and cause the amber pilot lamp to light. The pilot lamp will stay lit as long as the heater(s) is energized. NOTE: Do not leave the bath unattended during the setting procedure.
 - 7.1.7 Turn both the Temperature Control and High Temperature Limit thermostat knobs fully clockwise. The temperature control pilot lamp should light. NOTE: Dial numbers on Front Panel are for reference only; they are not values for water temperature within the unit.
 - 7.1.8 When the bath temperature reaches the desired temperature, slowly turn the High Temperature Limit Thermostat counterclockwise and stop when the High Temperature Limit Pilot Lamp just lights.
 - 7.1.9 Turn the High Temperature Limit Thermostat Knob clockwise to the next highest reference number. The High Temperature Limit light should go off. The High Temperature Limit thermostat is now set approximately 5° above the desired bath temperature.
 - 7.1.10 Turn the Temperature Control Thermostat counterclockwise until both pilot lamps are off.
 - 7.1.11 Turn the Temperature Control Thermostat clockwise until the Temperature Control pilot lamp just lights. Allow the unit to stabilize, readjust/fine tune the Temperature Control thermostat as necessary.
- 7.2 Controls (VWR Model 1250 only)
 - 7.2.1 Power Switch - The main ON/OFF switch on the panel controls power to the unit
 - 1.1.1 Main Temperature Controller - Located at left of panel, this clutch-set

control is marked PUSH & TURN TO SET LIMIT, and monitors water bath temperature. This is completely independent of the Main Controller which would allow the temperature to rise past the set-point. If the temperature rises to the safety set-point, the Safety takes over control of the heating element and allows continued use of the bath until service can be arranged.

- 1.1.2 Cycle Lamp - This light is ON when the Main Controller is functioning and the unit is heating normally.
- 1.1.3 Safety Lamp - Light comes ON when the high limit is reached and the Safety has acted to shutdown the heating element until the set temperature is again stabilized.