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# CONSTANT TEMPERATURE CIRCULATOR

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# INSTRUCTION MANUAL

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**MODEL 70**



***PolyScience Corporation***

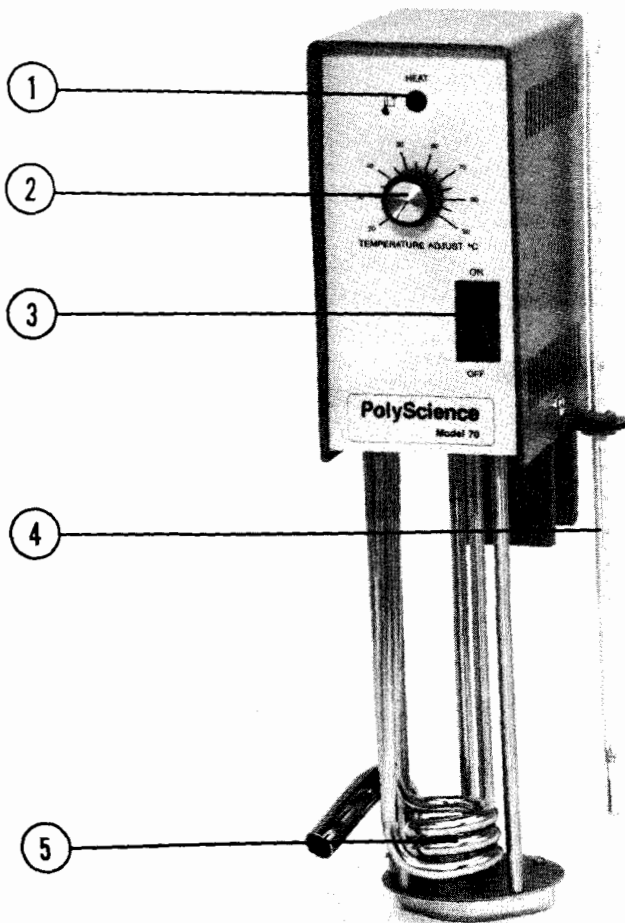
***P.O. Box 48312 • Niles, IL 60648 • (708) 965-0611***

## Model 70 Immersion Circulator

### I. PARTS LIST

- 1 ea. Circulator
- 1 ea. Reading Thermometer (-20 to +150°C)
- 1 ea. Operating Instructions
- 1 ea. Warranty Card

Before using, be sure to inspect all parts carefully for damage, particularly the reading thermometer. If damage is noted, it should be reported immediately and a claim filed with the carrier who delivered the instrument.



**Figure 1. FRONT VIEW POLYSCIENCE IMMERSION CIRCULATOR**

- 1) Heating Cycle Indicator Lamp
- 2) Temperature Adjust Control
- 3) ON-OFF Switch
- 4) Reading Thermometer
- 5) Heater

## II. SET-UP INSTRUCTIONS

### A. Assembly (see Figure 1)

1. Remove the unit from its corrugated shipping container.
2. Put ON-OFF switch in the OFF position (downward).
3. A reading thermometer is provided with the circulator. Remove it from its special packing. Please inspect the thermometer for breakage. If none, then...
4. Moisten the thermometer with glycerine or water and carefully insert it through the grommet so that the tip is immersed in fluid to be controlled.
5. Clamp unit to reservoir (tank) and fill to desired level using care that the heater is submerged at least 2 inches.

**WARNING: Failure to submerge heater may result in heater burnout or Triac failure.**

B. Temperature Setting (see Figure 1). After assembly has been completed, the circulator must be set for the desired temperature level.

1. **Plug the line cord into a grounded outlet of the correct voltage.**
2. Set Limit Adjust Knob, then switch the unit on. The pump should start to operate. You are now ready to set the front panel controls to the desired temperature level.

**Temperature Setting:** Turn the Temperature Adjust knob to the desired temperature. Once the bath has stabilized some fine adjustment may be required. The temperature values on the front panel are close approximations of actual control temperature.

After the bath has come up or down to the selected temperature, the bath temperature may be read from the reading thermometer. The thermometer supplied with this unit may be as much as  $\pm 1^{\circ}\text{C}$  from the actual temperature. If a precise temperature must be obtained, then it is recommended that a certified NBS thermometer be used to determine the variance found in the thermometer supplied with the circulator.

**Notice: It is recommended that the use of caustic or corrosive liquids be avoided. Viscosities above 100cP are also not recommended as they reduce the pumping rate thereby substantially reducing control accuracy.**

C. Liquid Media—Solutions commonly used in the circulator include water, alcohol and water solution, ethylene glycol, silicone fluids, etc. For the following ranges, use:

- 60 to + 30°C—ethylene glycol mixed with water.
- + 1 to + 95°C—water.
- + 90 to + 150°C—glycerine mixed with water, ethylene glycol mixed with water, or a low viscosity silicone fluid.

**WARNING: This instrument is not certified for use with flammable fluids and their use is not recommended.**

D. Service. If this product should require service, contact PolyScience Corporation. When return of the product is necessary, a return authorization number will be assigned and the product should be shipped, transportation charges prepaid, to the indicated service center. To insure prompt handling, the return authorization number should be placed on the outside of the package and a detailed explanation of the defect enclosed with the item.



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