Ladd Research
3 Ewing Place
Essex Junction, VT 05452
Tel: (802) 658-4961
Email: sales@laddresearch.com
Web: www.laddresearch.com

Stir Kool

Thermoelectric Laboratory Cold Plate

Catalog Numbers: 21480 & 21481

Operating Instructions & Data Sheet

Stir-Kool literally pumps thermal energy down the drain. As power is applied to the rugged thermoelectric modules, heat is transferred from the cold plate to the heat exchanger. The heat exchanger is maintained at tap water temperature by a hose connection to the ¼ inch tubing at the rear of the instrument. A flow of one liter of tap water per minute through the heat exchanger is sufficient to carry excess heat down the drain.

For optimum performance of this Stir-Kool thermoelectric instrument, please follow these instructions:

- For maximum heat transfer from the solution to the cold plate, use flat bottom glassware or accessories with very flat bottoms.
- Use approximately five drops of heat transfer fluid on the top plate to make an efficient heat transfer junction to the beaker.
- When using water cooling, maintain minimum water flow at about 1 liter per minute.
- Use a polyfoam jacket around the cooled beaker.
- The cold plate will reach a temperature approximately 40°C below that of the heat exchanger, e.g., 10°C tap water generates a -30°C cold plate. BEWARE of frostbite. Equilibrium at a given power setting is reached in 2-3 minutes for temperatures from +25°C to -20°C.
- Treat aluminum cooling blocks like beakers. Use heat transfer fluid for a good seal to the top plate and use a polyfoam jacket for insulation.
- The unit is recommended for solutions up to 200ml. It uses a three-inch cold plate from which heat is extracted at an initial rate of 130 BTU/hr.

CAUTION!! Do not try to repair the instrument yourself, as the top plate assembly may be easily damaged. Call Ladd for repair assistance.

Electrical: 110V, 60Hz
Power Supply: DC, operates at approximately 5.5V and 5.5A with a module resistance of 1Ω.
Power Input: 50W, 4Ω rheostat
Stirrer: 25W, 750Ω rheostat