POND ENGINEERING
Pond Engineering Laboratories, Inc.
2401 South County Road 21.
Berthoud CO 80513 USA

Model K51M
Compact TPW Maintenance System

Model K51M
Compact Model
Triple Point of Water
andComparison System

Nearly all precision thermometry requires frequent realization of the Triple Point of Water (TPW). All ratiometric calculations using Standard Platinum Resistance Thermometers (SPRTs) are based on this defining fixed point.

Pond Engineering designed the K51M to simplify the realization procedure, providing a practical fixed point and comparison foundation for your calibration needs. System prompts and audio alarms walk users through the "super-cool and agitate" mantle formation method with a few clicks of a button. 24-hour cycling commands allow users to configure the system to melt and sub-cool a cell overnight and have it ready for mantle formation at any specified time each day. Alternatively, a user can take the system from power-up to realization in less than an hour and maintain the mantle for calibration for 8 hours or more.

With greater immersion depth than any competing "mini" cell system the K51M compact model dramatically improves performance of industrial probes. The immersion profiles on the back of this sheet illustrate the difference even a few centimeters can make. Solid state thermoelectric cooling ensures long system life and rapid response to setpoint changes. The system also includes three comparison block inserts allowing users to perform precision comparisons from -15°C to 122°C (including the crucial Gallium point).

User-friendly features like fully interactive controls placed on a sloping front panel and cooling air flow directed to the rear of the unit (away from the user) improve usability. The stand-alone compact model fits easily on standard benchtops. Other standard features include a microprocessor controller and universal input power supply, so the unit operates properly with virtually any commercial AC power worldwide. Interactive control sensor calibration functions make it easy to maintain optimal performance over time.

Specifications

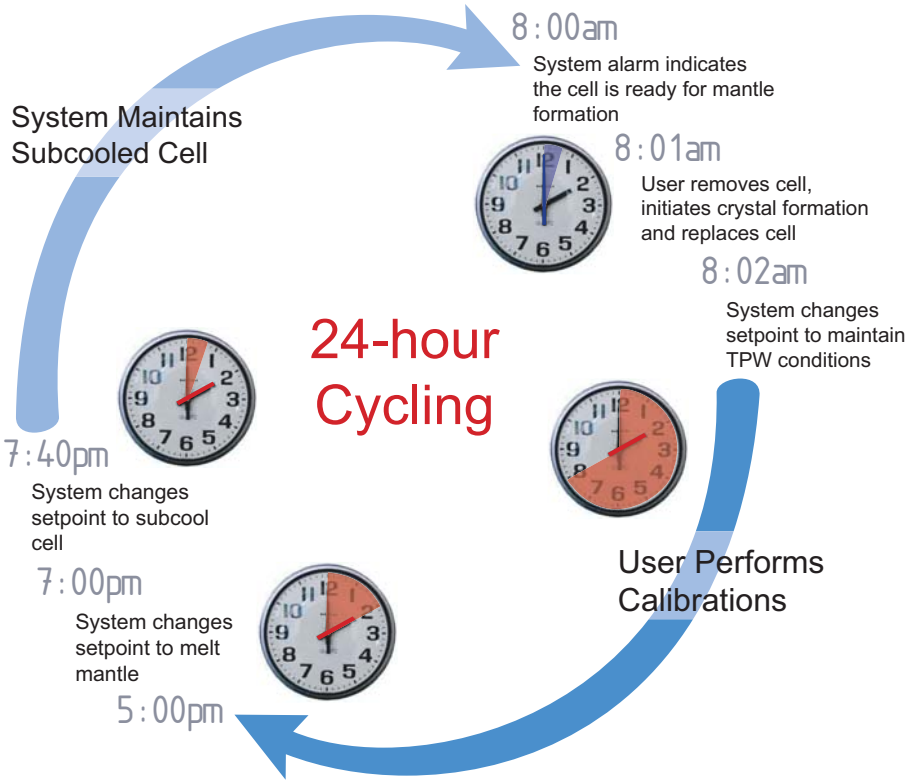
System Setpoint Range:	-15°C to 122°C
TPW Cell Expanded Uncertainty:	+/-0.000 5°C (k=2 w/SPRT)
Control Stability:	+/-0.015°C
Main Well:	Type 304 Stainless Steel 1.30" (33 mm) I.D. @11.3" (28 cm) Deep
Pre Cool Wells: 2 ea.	Type 304 Stainless Steel 0.33" (8.0mm) I.D. @11.3" (28 cm) Deep
Power Requirements:	90 to 264 Volts, 1.5 Amps Max., A.C. 60 Hz. A.C. 47 to 63 Hz.
Cabinet Physical Dimensions:	@12" (30.5 cm)Wide @ 8.5" (21.6 cm)Deep @ 18" (45.7 cm)High
System Operating Range:	15°C to 30°C (Non Condensing)

All Specifications subject to change without notice. Rev.Jan04

To Order or For More Information:

Call Pond Engineering at (303)651-1678
or FAX (303)651-1668
or E-mail stanpond@pondengineering.com

A TPW System that works on YOUR schedule...



The Model K51 Compact TPW/Comparison system: engineered for productivity and performance in secondary thermometer calibrations.

- Step-by-step system prompt walk users through the entire Triple Point of Water realization procedure.
- Stand-alone system requres no external cooling medium; no nitrogen, no ice, no alcohol, no CO2.
- Full 6" immersion depth in the TPW cell dramatically improves performance with industrial probes.
- User-configured 24-hour cycling prepares cell for regular new mantle formation.
- Standard comparator block inserts provide +/- 0.015°C stability from -15°C to 122°C.
- Less than 45 minutes from power-up to Triple Point realization.

How Important is Immersion Depth Anyway?

As the graph of measured data at the left shows, thermometer construction greatly influences immersion characteristics. The 5" immersion depth provided by other "mini" cell systems is fine for use with a quartz sheath SPRT. Even a good quality metal sheath SPRT produces solid results at 5" immersion, but look what happens with a "Secondary" metal sheath PRT. Instead of the 0.000 2°C uncertainty assured by their literature, uncertainty increases by 700%. No wonder you can't get decent results with industrial probes. Pond Engineering's K51 Compact Maintenance System combines the 6" immersion depth necessary to optimize PRT performance with user-friendly features, quality construction, and unprecedented ease of use.