

# **LTR-90**



# ULTRA-COOL DRY BLOCK CALIBRATOR

The Kaye LTR-90 is an ultra-cool dry well calibrator designed for portability and ease of operation. The dry well calibrator operates from -90°C to +140°C and delivers fast response, high stability, and automated sensor calibration for ultra-low temperature applications. This ultra-cool dry well calibrator is ideal for calibrating temperature sensors used in cold rooms, incubators, autoclaves, freeze dryers, freezers, and cryo units. If you are looking for versatility and precision, the Kaye LTR-90 is the dry well calibrator for your business. Multiple quality of life additions are included, such as ergonomic carry handles and a rubber dry well calibrator insulator cap to prevent frost buildup.

The dry well calibrator is lightweight and rugged so you can calibrate sensors almost anywhere. Calibrating sensors in the environment where they will be used, provides the highest degree of accuracy as system temperature coefficient errors are eliminated. Proper use of the Kaye LTR-90 dry well calibrator can provide

continued accurate calibration of temperature sensors and devices. The Kaye LTR-90 is mostly used with Kaye's Intelligent RTD (IRTD) probe and Kaye Validator to makeup a complete validation system.

The dry well calibrator has four wells for sensors and two wells for IRTD probes. The Kaye LTR-90 is backward compatible with the Validator AVS, ValProbe RT or RF ValProbe software for automatic sensor calibration or can be used stand-alone via it's easy to use control buttons on the front panel.

### FEATURES AND BENEFITS

- -95°C to 140°C Ultra-Cool Dry Block Calibrator
- Stirling cooler technology: reaches -90°C in 80 min;
   -95°C in 90 minutes
- Temperature stability of ±0.015°C
- · Axial Uniformity 0.05°C Full Range
- Software interface with Kaye Validator for automatic sensor calibration utility

## **DUAL HEATER ZONE**

Active heater zone control compensates for differential temperatures between zones and minimizes axial temperature gradients.

## STABILITY INDICATOR

A stability indicator visually shows if the block temperature is stable and within the Stability Limits defined by the user.

When the well temperature is NOT within the Stability Limits, the indicator shows as a wavy line. When the temperature is within the Stability Limits, the indicator shows as a flat line; indicating that a measurement can be made.

## **SPECIFICATIONS**

Temperature Range at 23°C	-95° to 140°C (-139°F to 284°F)
Display Accuracy	±0.2°C Full Range
Resolution	0.01°C
Accuracy with External Reference	± 0.05°C Full Range
Stability	±0.015°C Full Range
Stabilization Time	15 min.
Axial Uniformity	±0.05°C Full Range
at 40 mm (1.6 in.)	
Radial Gradient	±0.01°C Full Range
Operating Conditions	0°C to 35°C
	0% to 90% RH (non-condensing)
Radial Gradient	±0.01°C Full Range
Heating Time	-95°C to 140°C: 40 min.
Cooling Time	23°C to -90°C: 80 min.
	23°C to -95°C: 90 min.
	140°C to 23°C: 60 min
Immersion Well	160 mm (6.3 in) Depth
	30 mm (1,18 in) Ø



Display and Control Panel



Power and Interface Panel



Interchangeable insert to accommodate Reference Probe (IRTD) and up to 16 Thermocouples

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