

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. It operates from -90°C to $+140^{\circ}\text{C}$ and delivers fast response, high stability, and automated sensor calibration for ultra-low temperature applications. This calibrator is ideal for calibrating temperature sensors used in cold rooms, incubators, autoclaves, freeze-dryers, freezers, and cryogenic units.

With its rapid heating and cooling rates, extreme homogeneity in the calibration zone, and a wide temperature range, the LTR-90 is the ideal calibration unit for temperatures between -90°C and $+140^{\circ}\text{C}$.

If you are looking for high precision and ultra-cool temperatures, the Kaye LTR-90 is the dry-well calibrator you need. It is equipped with ergonomic carry handles for easy transportation, and a rubber insulator cap, included with each unit, prevents frost buildup and avoids moisture in the block. The calibrator is lightweight and rugged, allowing you to 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. The Kaye LTR-90 is commonly used with Kaye's Intelligent RTD (IRTD) probe, Kaye Validators, and the Kaye ValProbe (RT) to form a complete validation system.

The dry-well calibrator has 25 wells for sensors and one well for an IRTD probe. The Kaye LTR-90 is compatible with the Validator AVS, ValProbe RT, or RF ValProbe software for automatic sensor calibration or can be used stand-alone via its easy-to-use control buttons on the front panel.

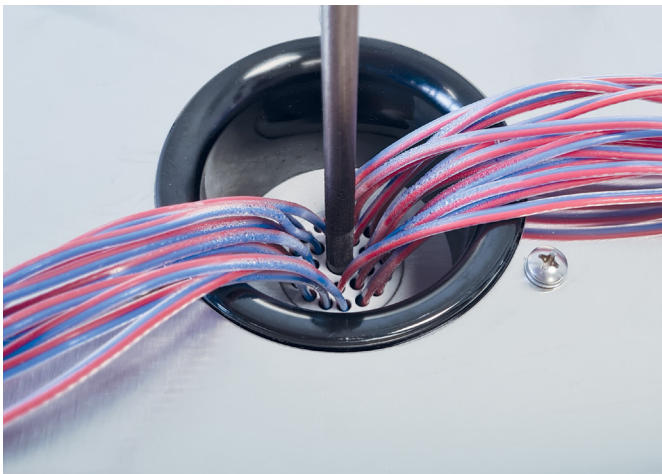
FEATURES & BENEFITS

- -90°C to 140°C ultra-cool dry-block calibrator
- 25 wells for sensors and one well for an IRTD reference probe
- Stirling cooler technology reaches -90°C in 80 minutes
- Temperature stability of $\pm 0.015^{\circ}\text{C}$
- Axial uniformity of 0.05°C full range
- Software interface with Kaye Validator for automatic sensor calibration

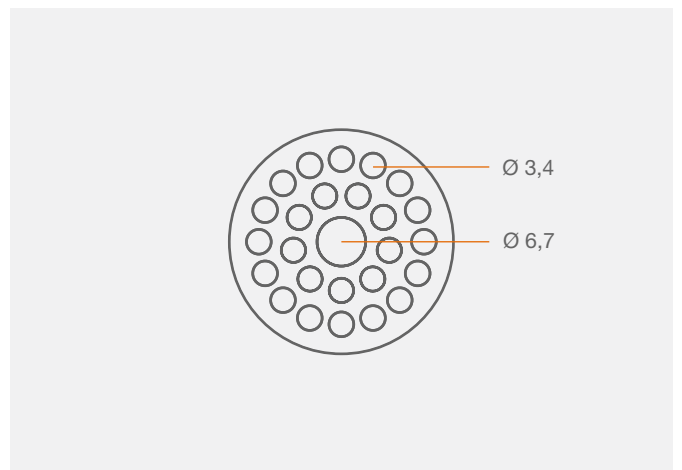
Inserts

The standard insert allows for the parallel calibration of up to 25 temperature sensors. Additionally, a specific rubber seal is included to ensure moisture is kept away from the insert and thermocouples, and seals the traceable temperature standard, Kaye IRTD-400.

The actively controlled dual heater zone ensures a high degree of radial and axial homogeneous temperature distribution, thereby reducing potential calibration errors for both the sensors and the temperature standard. To support the flexible use of the LTR-90, Kaye is offering various interchangeable inserts.



25-Well Standard Insert



Standard Insert

Specifications

TECHNICAL DATA

MODEL

Model	LTR-90
Control Sensor	Internal

DRY BLOCK

Temperature Range	-90° to 140°C (-139°F to 284°F)
Display Accuracy	±0.2°C Full Range
Stability	±0.015°C Full Range
Stabilization Time	15 min
Axial Uniformity	±0.05°C Full Range
Radial Uniformity	±0.01°C Full Range
Operating Conditions	0°C to 35°C

HEATING/COOLING TIME

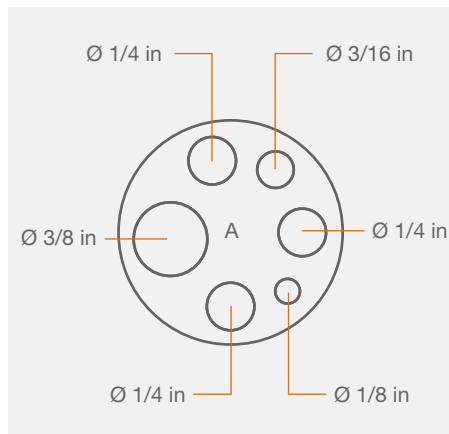
Heating Time	-90°C to 140°C 40 min
Cooling Time	23°C to -90°C 80 min
	140°C to 23°C 60 min

BLOCK DIMENSIONS

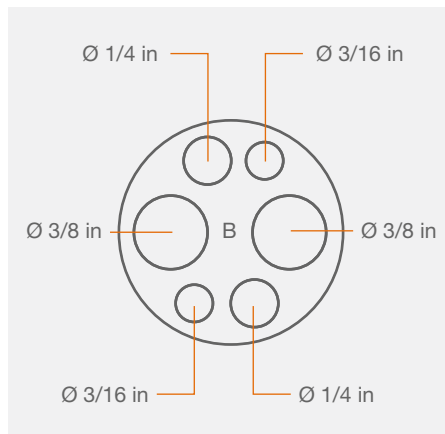
Diameter	30 mm (1,18 in) Ø
Immersion Well Depth	160 mm (6.3 in)

GENERAL DATA

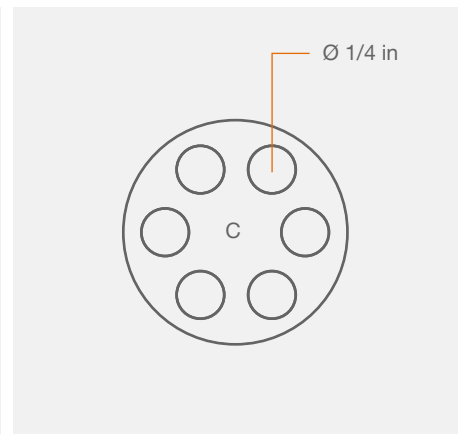
Weight	16 kg (35 lb)
Power Requirements	(X0395) 100V to 115V 50/60 Hz (X0395CE) 200V to 230V 50/60 Hz
Power Consumption	575 W
Size (H x W x D)	380 mm x 205 mm x 480 mm (14.9 in x 8.0 in x 18.8 in)



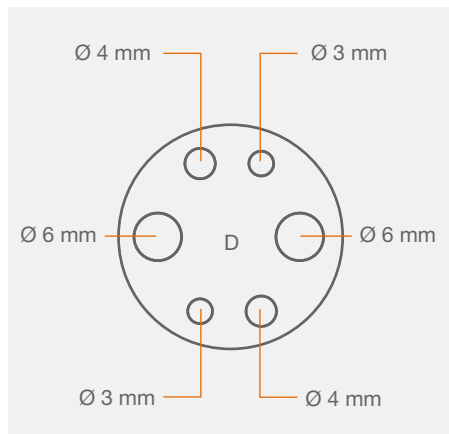
Insert A



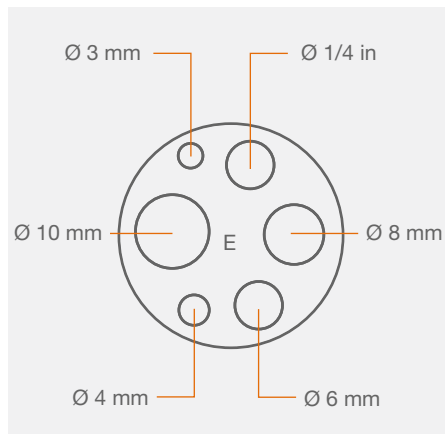
Insert B



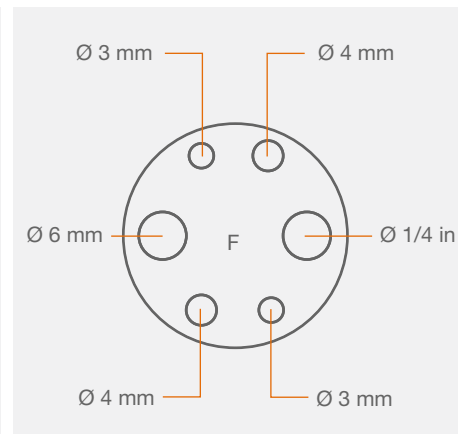
Insert C



Insert D



Insert E



Insert F

PART NUMBER

X0395CE (230V)
X0395 (115V)

DESCRIPTION

Kaye LTR-90 includes:

- Insert for Dry Block with 25 Wells
- Well Insulator Kit
- Insert Removal Tool
- USB/Serial Adapter Cable
- Temperature Reference Cable
- Calibration Certificate
- User Manual
- Power Cord



ACCESSORIES

412-3111

Well Insulator



425-3152-F

LTR-90 Insert



412-3112

LTR-90 Insert and Insulator



M0177 / KG-CASE-LTR-90

Shipping Case LTR-90



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