

Title: Calibration Of Kane-May 450S Digital Thermometers

Scope

Work Instruction for the internal calibration of Kane-May 450S Digital Thermometers. To be used in the absence of a manufacturers calibration instruction.

Preparation

Calibration must be carried out using Category A Master instruments as required.

Equipment required;-

- 1.1 Datron 9100 calibrator.
- 1.2 Glass Thermometer.
- 1.3 Haven OTB-7D Bath and Heater System.
- 1.4 Techne Fridge Unit.

Method

- 2.1 All calibration results must be entered on the results sheets (see appendix A).
- 2.2 Note the lab temp / relative humidity and enter on calibration results sheet.
- 2.3 Carry out tests 1 to 8 using item 1.1.
- 2.4 Carry out tests 9 to 13 using items 1.2, 1.3 and 1.4.
- 2.5 Complete the results sheet header and enter Pass / Fail.

- All records must be kept for audit purposes

References

Appendix A Calibration Results for Kane-May 450S Digital Thermometer

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Appendix A

Calibration Results for Kane-May 450S Digital Thermometer

Model Serial No
Date Result
Lab Temp / RH Operator
User Certificate No

Accuracies quoted are from the manufacturer's specification or relevant British Standard.

Digital Thermometer : Instrument Only

Accuracy specification: $\pm (0.5\text{Rdg} + 1^{\circ}\text{C})$

Test No	Simulator Equivalent Temperature $^{\circ}\text{C}$	UUT Reading $^{\circ}\text{C}$	Allowed Limits $^{\circ}\text{C}$	Result
1	- 25		- 26.1 to - 23.8	Pass / Fail
2	- 3		- 4.0 to - 1.9	Pass / Fail
3	0		- 1 to + 1	Pass / Fail
4	3		1.9 to 4.0	Pass / Fail
5	8		6.9 to 9.0	Pass / Fail
6	63		61.6 to 64.3	Pass / Fail
7	100		98.5 to 101.5	Pass / Fail
8	199		197 to 201	Pass / Fail

Digital Thermometer and Probe

Accuracy specification: $\pm (0.5\% \text{Rdg} + 1^{\circ}\text{C} + 1.5^{\circ}\text{C})$

Test No	Bath Temperature $^{\circ}\text{C}$	Digital Thermometer and Probe Reading $^{\circ}\text{C}$	Allowed Limits $^{\circ}\text{C}$	Result
9	- 10		- 12.5 to - 7.4	Pass / Fail
10	- 5		- 7.5 to - 2.4	Pass / Fail
11	0		- 2.5 to + 2.5	Pass / Fail
12	25.0		22.3 to 27.6	Pass / Fail
13	50.0		47.2 to 52.7	Pass / Fail

The UUT was calibrated using the following equipment:

1. Datron 9100 calibrator S/N _____
2. Glass Thermometer S/N _____
3. Haven OTB-7D Bath and Heater System S/N _____
4. Techne Fridge Unit S/N 828 _____

The uncertainty of measurement is estimated not to exceed:

Temperature : $\pm 0.5^{\circ}\text{C}$

The uncertainty limits quoted, which are derived from the arithmetic summation of the contributions, refer to the applied values only and do not relate to the stability of the UUT.