

## Pharmatherm the Calibration Specialists 'Conductivity Explained'

### Pharmatherm Kaye TC Probe Calibration Standard Operating Procedure



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### Revision History

This is the first issue of this document.

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**Pharmatherm Kaye Thermocouple Probe Calibration Standard Operating Procedure, this section must be signed-off for approval of the document before the document can be distributed for use.**

Report Approval:

Approved By - \_\_\_\_\_ [Date]

Validation Engineer Andrew Varley

### **Kaye Thermocouple Calibration**

Before you perform a qualification study, calibrate the temperature thermocouples to correct raw temperature readings to a traceable national standard.

Calibrating Kaye thermocouples,

Equipments

1. Kaye Validator
2. Laptop (with RS232 connection)
3. Heat bath
  - a) Jofra heat bath suitable for temperature range 50C to 200C
  - b) Haven Heat Bath suitable for temperature range –20C to 140C
4. KAYE IRTD Independent temperature reference
5. Thermocouples (1- 36)

### **Method:**

Kaye Validator provides thermocouples calibration and calibration verification. Specify all calibration parameters on the Calibration Parameters screen.

(The initial set-up file could be copied to set-up a validation cycle and its important to have the calibration set-up correct, as it will be used for post verification.)

1. Specify a two-point calibration, which can be defined using the Kaye software, a check set point chosen close to the operating temperature.
2. Temperature set points for calibration verification to verify that each thermocouple is still within the calibration criteria. You must select at least one set point for calibration verification.
3. Temperature stability, specify the maximum allowable temperature variation for each thermocouple, all thermocouples that have been specified must meet these criteria before the calibration process continues. Default values are 0.2C for 2 minutes.
4. Specify deviation criteria, Deviation is the difference between the reading reported by a thermocouple and the reading reported by the temperature standard during the calibration process. Default values are 0.5C for 5 minutes.
5. Save the configuration file as calibration files.
6. Thermocouples are grouped and inserted into the heat bath, check each thermocouple for the maximum insertion depth.
7. Using the Kaye software. Select from the main menu, calibration and open the saved file. Then select the thermocouple to calibrate
8. Set the heat bath to the temperature set point prompted by the Kaye software.
9. Allow a minimum of ten minutes for the heat bath to stabilize before calibration set points.
10. Independent probe is used to verify the heat bath temperature. Enter the probe temperature accepting the standard value.

11. Repeat step 8 for the high set point and the checkpoint

12. Print the calibration report.

Contact Pharmatherm for further advice on conductivity calibration setups contact us for quotation however large or small the project maybe. We aim to provide a competitive validation service. Please 'don't delay and contact PharmaTherm today' email: [info@pharmatherm.ie](mailto:info@pharmatherm.ie)

See the Pharmatherm website please log onto [www.pharmatherm.ie](http://www.pharmatherm.ie) technical/training page



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