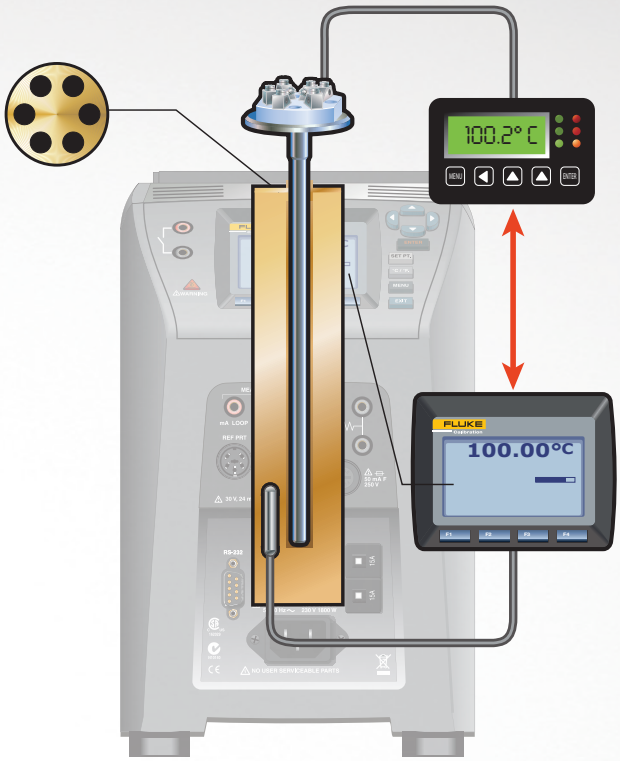

To perform the test:

STEP 1 Isolate the sensor from the process.

STEP 2 Fully immerse the sensor into a precision temperature source, such as a dry-well or bath capable of covering the required temperature range.

STEP 3 For best accuracy, also fully immerse a temperature standard into the dry-well or bath for comparison (the process version of Field Metrology Wells have a built-in precision readout for the temperature standard).

STEP 4 To check the calibration of the RTD separately from the control system temperature indicator, disconnect the RTD from the electronics.

STEP 5 Connect the RTD to a precision instrument capable of measuring resistance. (The process version of Field Metrology Wells have the required electronics built in.)

STEP 6 Adjust the temperature of the bath or dry-well to each of the test points (With Field Metrology Wells these test points can be preprogrammed and automated.)

STEP 7 At each test point record the readings of the temperature standard and RTD.

STEP 8 If measuring the RTD separate from its measurement electronics, compare the measured resistances to the expected resistance from the applicable temperature table. Otherwise, compare the reading on the instrument display to the reading of the temperature standard (which may be the dry-well).

TECH TIPS

- Dry-wells have inserts that are interchangeable and have a variety of hole patterns to accommodate various probe sizes.
- To achieve published performance levels, the insert's hole size should be no more than a few hundredths of an inch larger than the probe being calibrated.
- Avoid placing fluids in a dry-well. If fluids are required, use a Micro-Bath instead.
- If climbing a ladder is required, dry-wells are safer than baths, and handheld dry-wells may be the most convenient.

Additional resources

For more in depth information about this application check out these videos and application notes from Fluke.

How to Calibrate an RTD Using a Dryblock Calibrator webinar

914X Field Metrology Wells Video Series

Industrial Temperature Calibrators Workload Matrix