

Temperature Calibration Services

Traceable temperature calibration with documented measurement uncertainty for sensors, instruments and enclosures



Comparison calibration of temperature sensors and instruments against traceable reference standards

Temperature calibration establishes the relationship between the value indicated by a sensor or instrument and the true temperature realised by a reference standard. At Mizan, each item is calibrated by comparison in stirred baths and dry-block calibrators against reference thermometers traceable to the International Temperature Scale of 1990 (ITS-90), and every result is reported with its measurement uncertainty on a calibration certificate.

What We Calibrate

- **Temperature sensors**
 - Platinum resistance thermometers (Pt100 / PRTs)
 - Thermocouples of all common types
 - Thermistors and semiconductor sensors
 - Liquid-in-glass and dial thermometers
- **Non-contact & thermal**
 - Infrared (non-contact) thermometers
 - Thermal imaging cameras
 - Blackbody reference sources
 - Surface temperature probes
- **Temperature instruments**
 - Temperature indicators and readouts
 - Temperature transmitters
 - Thermometer and data-logger systems
 - Process temperature calibrators
- **Thermal enclosures**
 - Ovens, furnaces and dry-block calibrators
 - Environmental and climatic chambers
 - Incubators, refrigerators and freezers
 - Temperature mapping and uniformity surveys

Every temperature calibration is a documented comparison to a traceable reference – measured, not assumed



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Traceability & Uncertainty

Every calibration result is linked, through an unbroken chain of comparisons, to the International Temperature Scale of 1990 (ITS-90) and to national measurement standards.

- Reference thermometers calibrated by accredited or national laboratories
- Traceability to ITS-90 and national temperature standards
- Expanded uncertainty evaluated to the GUM (ISO/IEC Guide 98-3)
- Results reported at a coverage factor of $k = 2$, about 95% confidence



Calibration in the laboratory and, with portable equipment, on the customer's site

The Calibration Certificate

Each calibration is documented on a certificate that records:

- Identification of the instrument and the reference standards used
- As-found and as-left readings at each calibration point
- The measurement result with its expanded uncertainty
- Ambient conditions during the calibration
- A statement of metrological traceability
- Calibration date and recommended recalibration interval

The Calibration Process

Every instrument follows a defined, documented calibration process. Its condition is recorded before any adjustment is made and verified again afterwards, so that the calibration is repeatable and the result can be relied upon.



Calibrations are performed under controlled environmental conditions by trained personnel, following documented procedures and using reference standards traceable to national and international standards.

Measurement you can trace. Uncertainty you can see.



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