



Tympanic Thermometer Checker Model 991

- **Cost-Effective** - A fraction of the cost of a full laboratory setup
- **Portable** - Easy to use in clinics and field settings, with compact equipment
- **User-Friendly** - No specialised training needed, perfect for quality control and checks

Addressing Calibration Challenges Traditional calibration methods using stirred water baths are cumbersome, expensive, and not easily portable, creating logistical and financial burdens for medical facilities, especially those needing to perform frequent calibrations or validations outside a laboratory setting.

Calibrating Tympanic Thermometers Traditional Calibration Methods According to ISO 80601-2-56:2017 Part 2-56: Particular requirements for basic safety and essential performance of clinical thermometers for body temperature measurement, clinical thermometers, both contact and infrared types, are recommended to be calibrated using a stirred water bath. This method ensures a stable and thermally uniform medium, making it the preferred approach. However, the cost and size of the equipment can be a barrier, especially when full accuracy is not critical.

For Full Accuracy Requirements: for effective calibration, the water bath must:

- Maintain thermal uniformity within 0.01 °C.
- Ensure stability within ± 0.02 °C.

Additionally, the reference thermometer must:

- Be in good thermal contact with the blackbody source
- Have a calibration uncertainty of 0.02 °C (k=2).

Equipment meeting these standards is available from Isotech, although it requires significant investment and is suited to a laboratory environment. Some thermometer manufacturers offer dedicated calibration devices for their models, but these may not be compatible with other brands.

Isotech's Portable Solution Model 991 Temperature Checker: To address these challenges, Isotech has introduced a portable checker for validating tympanic thermometers. This innovative solution alleviates the pain points associated with traditional calibration methods:



<http://www.isotech.co.uk>

Cost-Effective: Priced at less than a tenth of a full laboratory setup, it provides an affordable alternative without compromising essential accuracy for most practical purposes.

Compact and Portable: Its small size and simplicity make it convenient for use in various settings, including in-field and in-clinic, eliminating the need for cumbersome water baths.

User-Friendly: The device is straightforward to operate, requiring no specialized training, making it accessible for a wide range of users.



Model	991
Temp Range	20°C to 50°C
Resolution	±0.01°C
Aperture Size	12mm Diameter
Emissivity (1)	≈0.999
Controller Accuracy: Temperature Range	0.5°C from 20°C to 42°C
Extended Temperature Range	0.7°C from 42°C to 50°C
PC Interface	Included, RS422 (optional RS232 convertor lead)
Units	°C, °F, K
Temperature Stability (2)	<0.01°C
Display	Three Colour LCD, Temperature and Set Temperature
Set Point Lock	Set temperature can be locked and password protected
Automatic Start Up	No user intervention required
Set Point Ramp Rate	Included: switch on to control heating and cooling rates
Self Test	Automatic: Scrolling text diagnostic display
Power	60 Watts
Voltage	12 Vdc
Dimensions	H 200mm x W 135mm x D 170mm
Weight	2.3kg

(1) Calculated NPL Report, calculated with commercial software

(2) Determined by a contact thermometer inserted into the calibration block