



Overview

NIST (National Institute of Standards and Technology) Traceability can be defined as an unbroken record of documentation ("documentation traceability") for the measurement device authenticity and an unbroken chain of measurements (with documentation with associated uncertainties) back to the original standard kept at the U.S. National Standards Offices.

A standard used for NIST traceable certification is only valid if the following conditions are met:

1. An unbroken chain of measurements back to NIST standards is maintained.
2. Each step of the chain has known and documented uncertainties.
3. There is a quality system to ensure that the thermometers and associated measurement equipment maintain their measurement uncertainty (accuracy).

BAPI offers our customers an "NIST Traceable Certificate". Many in the HVAC industry erroneously call this an "NIST Certification", "NIST Certified" or "NIST Certificate" which is the wrong terminology and could be misleading.

NIST Certified Value:

An NIST Certified Value is a value reported on a Standard Reference Material Certificate or certificate of analysis for which NIST has the highest confidence in its accuracy in that all known or suspected sources of bias have been fully investigated or accounted for by NIST. (NIST SP 260-136). This is typically the U.S. National Standards Offices end standard to which BAPI test equipment is traceable too.

BAPI Calibration Equipment Standards

All equipment used to verify accuracy at BAPI is maintained in our master calibration database and has an NIST Traceable Certificate. All of our equipment is re-calibrated and re-certified at appropriate intervals based on the manufacturer's recommendations, degree of usage, type, and past calibration history. Typically all are re-certified at regularly-scheduled intervals of six months, one year or two years. This includes our Volt/Ohm Meters, Precision Resistance Decade Boxes, Environmental Chambers, Reference Thermometers, Humidity References, Pressure References, Calibration Gasses and Caliper Type Measurement Devices.

When BAPI issues an "NIST Traceable Certificate", all the test equipment used to verify accuracy is listed on the issued certificate. The BAPI Sensor Certificate also shows the last time the test equipment was re-certified with its own NIST Traceable Certificate thus maintaining the traceability all the way back to the "NIST Certified Value".