



Stik Temperature Probe Features/Benefits

Thermometer probe and digital readout combined into one unit

The stainless steel probe and digital readout are fixed together and calibrated as a system. The accuracy specification is easy to understand since it includes all uncertainty components, including drift, for up to one year¹. The large backlit LCD display rotates 90° degrees making it easy to read from any angle. A user-configurable stability/trend indicator lets you know when your temperature is stable enough to record an accurate measurement. A user-settable auto-off function extends typical battery life to three hundred hours. A low-battery indicator and stop-measure function prevent erroneous measurements from being made due to low battery life. A simple three-point calibration function allows you to easily and accurately calibrate the “Stik” Thermometer. Data logging to internal memory of up to 10,000 time-stamped measurements is optionally available.

Why calibrate process temperature sensors?

Because temperature greatly effects the accuracy of a volumetric measurement, process manufacturers of chemical, pharmaceutical, food or petroleum products require accurate temperature measurements—especially for processes where quality or custody transfer are regulated by government agencies. Since all temperature sensors are subject to drift with time, regular calibration or verification against a reliable reference thermometer is required. Finding a reference thermometer that is accurate, repeatable and robust, however, can be challenging.

What’s wrong with my reference thermometer?

Industrial reference thermometers available on the market today, such as mercury-in-glass thermometers (or “ASTM thermometers”) and portable electronic thermometers are useful, but both come with inherent problems. Although accurate and repeatable, mercury thermometers are fragile. The risk of a mercury spill poses potential hazards to the environment and to the health of personnel. Many of the United States and European Union countries have already banned their use in industrial applications. Some organizations have replaced their mercury thermometers with more durable portable electronic thermometers, only to discover that the RTD probes lack the repeatability and dependability required of a legitimate reference thermometer.

The best alternative to mercury thermometers

The Fluke “Stik” Thermometer is accurate, stable and durable, making it the best alternative to mercury thermometers and existing electronic thermometers. The thin-film RTD sensor incorporates the same characteristics of other premium reference thermometers designed by Hart Scientific, but it is more robust and less susceptible to drift. Accuracy and repeatability, however, are not sacrificed for improved durability.

Using a glass-stem mercury- or spirit-filled thermometer at different immersion depths, or at significantly different ambient temperatures from which it was calibrated, may require the application of emergent-stem corrections that can be tedious but necessary to calculate an accurate measurement. This isn’t required with the “Stik” Thermometer. The sensor of the 1551A Ex requires a minimum immersion depth of only seven centimetres (2.8 inches), with no appreciable effect on the measured temperature due to heat loss through stem conduction. Some digital thermometers can become less accurate when used outside a narrow range of ambient temperatures. This isn’t the case for the “Stik” Thermometer. Your measurement remains accurate in ambient temperatures from -10 degrees to 50 degrees Celsius (14 degrees to 122 degrees Fahrenheit). With a superior probe design combined with electronic functions that assist accurate measurement, the “Stik” Thermometer surpasses the capabilities of other digital thermometers and is the perfect substitute for your mercury thermometers. ¹In order to minimize sensor drift, the probe should always be protected from mechanical shock.



Five reasons to replace mercury thermometers

1. Since the “Stik” Thermometer does not contain mercury, it is not subject to government-imposed bans. Government agencies worldwide have either banned or are seeking to ban the use and transportation of industrial mercury thermometers—this seems to be a growing trend.
2. The stainless steel probe sheath of the “Stik” Thermometer is far more robust than the glass stem of a mercury thermometer and better suited for industrial environments. And since the “Stik” thermometer does not contain mercury, the risk of an accidental mercury spill is eliminated.
3. When considering cost of ownership, a digital thermometer is less expensive than a mercury thermometer. With a mercury thermometer, you either invest in equipment or you hire out to clean up after a mercury spill.
4. Mercury thermometers cannot be adjusted after calibration. The actual temperature must be calculated by applying corrections to the measured temperature. This costs time and is susceptible to calculation error. A digital thermometer does the math for you—the displayed temperature accurately represents the actual measured temperature.
5. Emergent-stem corrections may also be required if the mercury thermometer is not used under the same conditions under which it was calibrated. A digital thermometer doesn’t require that you match calibration conditions to achieve an accurate measurement. You’re only required to meet the minimum immersion requirements—which is only seven centimetres (2.8 inches) in the case of the 1551A Ex.

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