

Field Inspection Manual	Part: 3-STP	Section: 19	Page: 1 of 2
Volumetric Measuring Devices	Issued: 2004-03-01	Revision Number: Original	

PERFORMANCE - AUTOMATIC TEMPERATURE SENSOR FAILURE TEST

APPLICATION

This test applies to metering systems that have an electronic temperature compensator (ATC) where the probe can be swapped as in dispensers with more than one metering system in the housing. This test would normally be performed during the initial factory or field inspection for testing the automatic temperature compensation (ATC) feature of retail motor fuel dispensers and refuellers. Only the service representative is to disconnect the temperature sensor. Normally, this test would not be performed during a routine field inspection, unless the inspector has reasonable belief that the temperature sensor has been installed incorrectly or altered.

NOTE: This test is only to be applied when accompanied by a service technician or company representative.

PURPOSE

The purpose of this test is to ensure that the register becomes inoperable if the electrical circuit for the ATC is shorted or incomplete and to ensure the correct probe is associated with the correct meter.

SAFETY CONSIDERATIONS

Although designed to be intrinsically safe, through defect or other fault, disconnecting a temperature sensor could produce a spark. The sensor is located below the vapour barrier of the dispenser in the space where normally explosion proof equipment is located. When the temperature sensor failure test is conducted in the field with gasoline or diesel fuel, the following three conditions must be met to ensure a safe test:

All exterior panels of the device shall be removed to ensure adequate cross ventilation of air to the measuring device;

There shall be no visible leaks of product; and

The temperature sensor connection should be disconnected at least 18 inches above ground level as required by the NFPA 30A Service Station Code.

LEGISLATIVE REFERENCES: SVM.2-11.

PROCEDURE

Confirm that the temperature sensor and test thermal well have been installed in accordance with SVM-2.11. During operation of the device, disconnect the temperature sensor from the register. The flow of product should stop either immediately or within a few litres.

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INTERPRETATION OF RESULTS

Section 11 of SVM-2 does not stipulate time or volume limits within which the flow must cease. Some devices use a "polling feature" to distinguish between pulse output and line noise thus allowing some product to continue to flow after the temperature sensor has been interrupted. If the system shuts down within a couple of seconds, it complies with the requirement.

NOTE: Continued operation of the device with a "default" VCF after the temperature sensor has been disconnected is not permitted. The configuration of all registers incorporating ATC must adhere to SVM.2-11 unless noted otherwise in the Notice of Approval.

NOTE: In some cases, it may be necessary for the service technician to reconfigure or "reboot" the device after the temperature sensor has been disconnected. The disconnection of the temperature sensor(s) should not have a permanent effect on the operation of the device once it has been initially configured. Once the device has been reconfigured, proceed with the inspection as per the - Automatic Temperature Compensator test

REVISION

Original document