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Volumetric Measuring Devices	Issued: 2004-03-01	Revision Number: Original	

PERFORMANCE - INTERLOCK TEST

APPLICATION

The following tests apply, unless otherwise indicated below, to any retail measuring device, price computing device, blending metering systems, meters interfaced to one register, and any metering system with multiple outlets.

RETURN-TO-ZERO INTERLOCK MECHANISMS

LEGISLATIVE REFERENCES: R.254, NoA.

Devices with a maximum flow rate of 350 l / minute (built-in a cabinet or other custom-built) intended to be used to measure motor fuel must be inoperable unless their means of registration is returned to zero. This requirement applies also to propane metering systems.

PURPOSE

Interlocks are provided to prevent fraudulent use. These tests ensure that the prescribed interlocks are functioning as intended.

PROCEDURE

When the dispenser is off and registering a quantity, attempt to turn the dispenser on and deliver product without re-setting the register to zero.

NOTE: Propane dispensers and refuellers may use a "deadman" switch or a "time out" feature (up to 45 seconds) instead of an interlock.

INTERPRETATION OF RESULTS

Any attempt to deliver product before re-setting the device to accurately zero must fail.

MULTIPLE OUTLET METERING SYSTEMS

LEGISLATIVE REFERENCES: R.282.

NOTE: The following does not apply to metering systems used to fuel / defuel aircraft and to propane metering systems intended to be used to fill large tanks (5000 litres or more).

It is required that metering systems such as vehicle mounted meters, loading rack meters, dispensers and refuellers, are equipped with only one delivery outlet unless the diversion of liquid is readily apparent to the purchaser by means of selector valves, lights and signs.

Ensure that the sign provide clear information regarding the operation of the multiple outlet system.

Ensure that the piping configuration and valves make it apparent to the purchaser as to which outlet(s) is in operation.

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Select outlets in alternation; observe the lighting system to ensure that it works as required. Ensure that proper indication is provided when more than one outlet is activated.

Truck mounted meters equipped with dual outlets must also be equipped with selector valves such as three-way two port valves so that only one derivation can be used at a time.

Set the selector for one outlet.

Attempt to deliver product from the other.

Check for leaks between the two outlets at intermediate positions of the selector valve.

Ensure that the selection feature of multiple outlet systems designed for the use of one derivation at a time operate as prescribed. Perform the test during a delivery.

INTERPRETATION OF RESULTS

Device that fail to comply with Regulation 282 must be non-complied.

REGISTER USED WITH SEVERAL METERS OR FOR SEVERAL LIQUIDS

LEGISLATIVE REFERENCES: SVM.1-16, SVM.1-17, SVM.1-18, SVM.1-38 and SVM.2-12

The piping system must be equipped with automatic selector valves interfaced with the register that will permit the use of only one meter at a time or the selection of only one liquid.

Set the register or system for one liquid or one meter.

Ensure that the register automatically select the right adjustment factor (K-Factor), coefficient of cubical expansion for ATC, and unit price if applicable.

During the delivery, attempt to select an other liquid, or to deliver product using an other meter; or to change the unit price (if applicable).

Repeat the test with an other selection.

INTERPRETATION OF RESULTS

The selection of a meter or a liquid must automatically select the right unit price(if applicable), adjustment factor, and ATC coefficient of cubical expansion; and the delivery of an other liquid or grade of product, or the use of an other meter simultaneously must be prevented.

REVISION

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