PERFORMANCE - HOSE EXPANSION TEST

APPLICATION

This test applies to dispensers and refuellers (service stations, marinas and airports) that are equipped with delivery hoses that exceed 5 metres. This test also applies to vehicle mounted meters and other metering systems that are equipped with delivery hoses.

NOTE: This test is optional is the case of truck mounted meters. It shall be performed when the inspector suspects that the hose, because of its length and diameter, could cause significant measurement errors.

PURPOSE

This test verifies that there is no measured but undelivered product, beyond the prescribed limits of error, filling the hose due to expansion because of excessive pressure or weakened materials. This test is intended to simulate actual use by the device operator.

LEGISLATIVE REFERENCES: R.238 and R.272, bulletin V-1, R.265.

PROCEDURE FOR DISPENSERS AND REFUELLERS

NOTE: Consult Bulletin V-1 for more information regarding Measurement Canada's policy related to dispenser hoses.

Perform a full-flow test. Note the result (turn off dispenser).

Open the nozzle to relieve pressure in the hose, paying attention not to lose any product due to gravity in the case of a faulty anti-drain valve.

Close the nozzle and drain test measure. Start the dispenser. Open the nozzle and proceed with another full-flow test. Note the result.

PROCEDURE FOR VEHICLE MOUNTED METERS

(1) Un-reel all but the last row of hose from the hose reel.

(2) At the end of the last test run, while the hose is pressurized, close the quick acting valve or stop button on the flow computer so that the automatic flow control valve closes. (Note, this will isolate the pressurized hose from the other components of the measuring system.

(3) Note the measurement indicated by the gauge plate of the prover.

(4) Open the nozzle for 5 seconds draining the resulting product into the prover.

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(5) Note the measurement indicated by the gauge plate. Determine the difference in volume from the measurement taken in step 3.

Revised August 2007

INTERPRETATION OF RESULTS

During these tests dispensers and refuellers must remain within the applicable limits of error:
±100 millilitres on a test volume of 20 litres for conventional dispensers or high speed dispensers;
±937 millilitres on a test volume of 250 litres for truck refuellers.

In the case of vehicle mounted meters, the amount of volume indicated on the gauge plate shall not exceed the applicable limit of error for the meter. This limit of error is a determination based on the appropriate test standard size used to inspect the device.

Revised April 2010, March 2011

REVISION 1

August 2007. The test procedure for vehicle mounted meters was revised to better represent the actual manner of use of most vehicle mounted metering systems.

REVISION 2

April 2010. The interpretation of results for vehicle mounted meters was revised to clarify that the correct limit of error for this test is based on the test volume (prover capacity) and applicable limit of error for the meter under test.

REVISION 3

March 2011. The interpretation of results for truck refuellers was revised to change the applicable limit of error to ±937 millilitres for a test volume of 250 litres, i.e., change requirement from Regulation 266 to 265; and, the interpretation of results, in the case of vehicle mounted meters, was corrected to indicate that the difference in volume is indicated by the gauge plate of the prover, as per step 3 of the procedure for vehicle mounted meters.