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Vista Precision Solutions, Inc.
(originally listed as Vista Research, Inc.)

Model HT-100 Monitoring Method and Line Tightness Test Method Version 1.1

Line Leak Detection Method for Airport Hydrant and Field Constructed Systems

Certification Leak rate of 0.00209% of line capacity (0.0209 gph per 1000 gallons of product) with PD = 95% and PFA = 5%.

Leak Threshold 0.000916% of pipeline volume (0.00000916 gph per gallon of product).
A pipeline system should not be declared tight if the test result indicates a loss that equals or exceeds the threshold.

Leak Detection Rate Per Test Section Volume
(EPA maximum allowable/Vista 3rd party certified)

Test Section Volume (Gallons)	EPA Semiannual Test-Leak Detection Rate Not to Exceed (Gallons Per Hour)	EPA Annual Test-Leak Detection Rate Not to Exceed (Gallons Per Hour)	Vista 3rd party certified minimum detectable leak rate. (Gallons Per Hour)
3,000 to 23,923	1.0	0.5	0.50
23,924 to 47,847	1.0	0.5	1.00
47,848 to 71,770	1.5	0.75	1.50
71,771 to 95,694	2.0	1.0	2.00
95,695 to 119,617	3.0	1.5	2.50
119,618 to 143,541	3.0	1.5	3.00
143,542 to 167,464	3.0*	1.5	3.50
167,465 to 191,388	3.0*	1.5	4.00
191,389 to 215,311	3.0*	1.5	4.50

* Effective October 12, 2021, the EPA semi-annual minimum detectable leak rate cannot exceed 3.0 gallons per hour.

Applicability Gasoline, diesel, aviation fuel, fuel oil #4, solvent, waste oil, biodiesel B6-B20 meeting ASTM D7467, biodiesel B100 meeting ASTM D6751 or other liquids after consulting the manufacturer.

Specification System tests single or double-walled fiberglass or steel piping.
Tests are conducted at operating pressure to a maximum of 350 psi. Specialized systems can be provided for higher test pressures.

Waiting Time None between delivery and testing.
None between dispensing and testing.

Test Period Minimum of 3 hours after setup and after pipeline is fully isolated.

System Features System may be permanently installed on pipeline to perform monitoring or may be transported and set up to perform line tightness testing.

A single 3-hour test is required consisting of a 1-hour monitoring period at operating pressure, and a minimum 2-hour monitoring period at atmospheric pressure. System measures change in volume and reports output quantity in gph, while compensating for thermal effects. Test data are acquired and recorded by a microprocessor. Calculations are automatically performed by the microprocessor. Printed message and alarm activation if leak is declared.

Calibration System must be calibrated in accordance with manufacturer's instructions.

Comments This leak detection system is intended to test pipeline systems that are associated with underground storage tank facilities that contain petroleum or other chemical products, that are typically constructed of fiberglass or steel, between 3,000 and 612,954 gallons. The size of the detectable leak scales upward with the size of the piping system. The original 1998 third-party evaluation utilized a total of 87 tests, one with induced leak rate of 13.1 gph. Version 1.1, (smallest detectable leak rate for Version 1.1 evaluation, which was conducted on a 306,477-gallon line at 160 psi, was 6.42 gph). The abbreviated 7-test evaluation performed in 2026 confirmed that Minimum Detectable Leak Rate (MDLR) is appropriate for scaling the system across various capacities, (see capacity table above).

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