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Franklin Fueling Systems

Secondary Containment Monitoring (SCM)
EBW AS-SCM, EVO 600 Series Consoles, and Incon TS-SCM

CONTINUOUS INTERSTITIAL LINE SYSTEM MONITORING METHOD (PRESSURE/VACUUM)

Certification:
Certified as equivalent to European leak detection standard EN 13160-2, Part 2, as a Class I leak detection system.

Operating Principle:
System uses vacuum generated by the turbine pump to continuously maintain a partial vacuum within the interstitial space of double-walled tanks and double-walled piping.
System is designed to activate a visual and acoustic alarm, and optional turbine pump shutdown before stored product can escape to the environment.
System is capable of detecting breaches in both the inner and outer walls of double-walled tanks and double-walled piping.

Alarm Condition:
System alarms when a liquid or air leak occurs which causes the interstitial vacuum to decrease (pressure to increase) and the system is unable to maintain minimum vacuum.
System will also alarm if the interstitial vacuum level decreases at a rate exceeding manufacturer's allowable values. Allowable values are based on an "AutoLearn line leak algorithm." The unit will record two curves (up curve and down curve) while a calibrated leak orifice is connected to the interstitial space being monitored. The "up" curve is learned while the vacuum pump is on and evacuating the interstice. The "down" curve is learned when the vacuum pump is off and interstitial vacuum is decaying. During normal operation when the vacuum level is between the upper and lower limits, the system is continuously comparing vacuum decay rates to the learned curves stored in memory.

Applicability:
Underground double-walled tank, connected double-walled piping, and other connected interstitial spaces storing gasoline, gasohol, diesel*, heating oil #2, kerosene, aviation fuel, motor oil, water.
EN13160-2 requires the use of separate monitoring systems for separate USTs.

*This evaluation determined the system's responses to the liquids shown above. Biodiesel blends B6-B20 meeting ASTM D7467 and biodiesel B100 meeting ASTM D6751 would also produce an alarm if the sensor threshold is exceeded. Responses to these fuels were not determined, but would be expected to be very similar to the diesel responses.

Manufacturer's Specifications:
Alarm will activate when interstitial vacuum decreases to approximately 1 psi vacuum (approx. 2" Hg).
Normal operating vacuum for the system is between 2" Hg and 6" Hg.
System does not restrict the vacuum source to 85 plus or minus 15 liters/hour flow rate at the "Alarm On" vacuum level.
Volume of monitored interstitial space must not exceed 8 m^3 (2114 gal) for tanks and 10 m^3 (2642 gal) for piping.
When monitoring double-walled tanks, the system does not require a liquid stop valve, a condensate trap or liquid sensors. Since the vacuum line is connected to the pump siphon port, any liquid in the vacuum line will be returned to the tank.
Suction line must be located at lowest point of interstitial space.

Calibration:
Functional and operational safety tests should be performed in accordance with manufacturer's instructions.
Initial calibration with known leak is performed at system installation, using an orifice supplied by the manufacturer.

Comments:
The Franklin Fueling EVO 600 series consoles consist of the EVO 600 and EVO 6000 consoles.

Interstitial space is tested continuously.
Vacuum source is the submerged turbine pump siphon port.
Presence of a water table above the leak point will allow water to enter the interstice rather than air or vapor. The water would be detected in the same manner as fuel.

A difference in elevation of 8 foot or greater between the float valve and the low point (s) of the interstitial space may prevent the float valve from activating if the pressure from the column of liquid from intrusion is able to exceed or offset the vacuum established by the vacuum pump. (Example: An 8 foot column of water is the approximate equivalent of 3.5 psi (7 in HG) and may mask intrusion if liquid sensor is not located at the lowest point of an interstitial space.)

This system may not be compatible with all secondarily contained tanks and/or piping. Always consult with the tank and/or piping manufacturer and the manufacturer's applicable recommended installation practices before installing this system, or damage may be caused to the tank or piping by its use.

This system is also listed as an approved "Continuous Interstitial Tank Monitoring Method (Pressure / Vacuum)"

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