HELIUM MASS SPECTROMETER LEAK TESTING

HMT Inspection offers Helium Mass Spectrometer Leak Detection. HMT utilizes a Varian 959 Porta-Test Leak Detector with Macro Torr configuration which provides high test pressure capability and is excellent for fast response sniffing applications. This equipment is capable of $1 \times 10^{-9}$ atm cc/sec sensitivity, as required by ASME code for detector probe and tracer probe techniques.

**ADVANTAGES**

The use of helium as a tracer gas is advantageous because it is non-flammable, inexpensive, and quickly diffuses through small leaks. In addition, it is non-reactive with other chemicals and easily permeates through the earth and asphalt. Due to its minute molecular size and its low concentration in the atmosphere (5ppm), very small leaks can be detected. The use of the helium method enables the location of leaks up to 15 feet below ground. The Varian 959 Port-Test Helium Mass Spectrometer is only sensitive to helium; therefore eliminating false indications due to the presence of any other gases.

**TECHNICIANS**

HMT Inspection technicians are thoroughly trained and qualified in accordance with the HMT Inspection procedure for qualification and certification of Nondestructive Examination Personnel which is written in accordance with the guidelines set forth in ASNT Recommended Practice SNT-TC-1A 2006 edition.

**APPLICATIONS**

- Single bottom aboveground storage tanks
- Double bottom aboveground storage tanks
- Floating roof pontoons
- Heat exchanges
- Process piping
- Pressure vessels
- Underground storage tanks
- Underground pipelines
- Vacuum units
- Roof drains

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TEST PERFORMANCE

All surfaces to be inspected must be free of contaminants such as oil, water, grease, paints and other surface coatings that may temporarily seal or mask a leak. As with most other NDT methods, inadequate cleanliness will hinder the success of the test. After proper surface preparation, the tracer gas is introduced under the tank bottom or into the component to be tested. Once proper coverage or pressure of gas (as applicable) is established, the instrument sensitivity is set, followed by a system calibration to establish response time and thus scan speed. Scanning will start at the lowermost portion of the component and progress upward. All leaks detected are clearly marked.

ABOUT HMT

HMT is the global leader in aboveground storage tank solutions. HMT’s global team of engineers, project managers and field personnel can assist with common challenges including ways to reduce emissions, optimize tank capacity, reduce stranded inventory and engineer a tank system that exceeds safety standards and extends maintenance intervals.

HMT’s full suite of tank products includes: External Seal Systems - Internal Seal Systems - Drain and Floating Suction Systems - Geodesic Domes - Skin and Pontoon IFRs - Full Contact IFRs - Emissions Reduction Devices

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