Maintenance leak location using the LACO XRS9012

SCOPE

This application note explains how to use the LACO XRS9012 Portable Leak Locator to find leaks in pipes valves and tanks that comprise part of an above ground fluid process system.

BACKGROUND

- While Helium is traditionally used as a tracer gas in leak detection and location, it has become difficult to obtain and expensive to use when, and if, it can be found. Primarily due to helium's scarcity, alternative methods of leak detection and location have been developed. The XRS9012 uses a tracer gas of H5 (forming gas) which is available everywhere and is less expensive than helium.

- This method uses a mixture of 5% Hydrogen/95% Nitrogen, an abundant and inexpensive tracer gas, to fill the fluid process system and then locate any leaks with the XRS9012. Although hydrogen exists in the air, there is about 100,000 times more of it by volume in the tracer gas. Notwithstanding this increased presence of hydrogen, the tracer gas is quite safe and not flammable due to the overwhelming amount of nitrogen in the mixture.

- Unlike other leak location tools, the sensitivity of the XRS9012 is not compromised by humidity. Additionally, the XRS9012 is highly gas specific so the presence of other gasses will not affect the sensor.

METHODOLOGY

1. If necessary, using compressed air, purge the fluid process system that you want to test.

2. Isolate the system into the smallest possible sections for speed and accuracy of testing.

3. Connect your bottle of forming gas to one end of a section with an appropriate manifold and fill it to a low pressure, being careful not to exceed the design pressure of the system.

4. Using the XRS9012, systematically scan the testing area using the response of the LEDs to determine how close you are to the leak.

5. Continue to test various locations around the spot where you first obtained a signal, to home in on the actual leak location. If the signal maxes out with all LEDs, reduce the sensitivity of the unit and continue to test to determine where the leak is..

Gas Bottle

Compressed air

Access point to system

System Under Test

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