Weatherall Equipment & Instruments

APPLICATION BULLETIN #23

Purge / Test Procedure for Natural Gas pipelines

Riken Keiki Model GX-2012

When new natural gas pipelines are installed or existing mains removed from service , crews must purge the pipelines with an inert gas to eliminate the potential hazard of a combustible mixture. The most commonly used purge gas is nitrogen. After the Purge is conducted an upstream valve on the line, with a stand pipe or diffuser attached, is opened to allow venting gas or nitrogen to escape.

Standard Confined space instruments will not adequately test for safe conditions during this process, as the high gas levels will overwhelm or damage the LEL sensor. In addition the LEL sensor will not function in an Oxygen depleted (inert) Atmosphere.

The solution :

The Riken Keiki Model GX-2012 has been specifically designed for this application . It utilises a robust thermal conductivity (TC) sensor that can measure high gas levels without damage and does not required Oxygen for accurate measurements. It features a % Vol only “Purge “ Mode .

Procedure for existing pipelines :

1. Purge line with N2 . Use GX-2012 in % Vol only (Purge) Mode (also measures O2) to verify that O2 reading is 0.5% or less and gas reading is 2% or less.
2. Open line and perform service . This will introduce air into the main.
3. Purge again with N2 . Use GX-2012 again in Purge Mode to verify O2 reading is 0.5% or less
4. Open upstream valve to charge line with gas . Use GX-2012 in Purge mode to verify gas reading is 98% or more

Procedure for new pipelines :

1. Purge line with N2 . Use GX-2012 in Purge Mode to verify O2 reading is less than 0.5% . To verify purge of air from line
2. Open Upstream Valve to charge line . Use GX-2012 to verify gas reading is 98% or more .

   When measurements are taken at the stand pipe or diffuser with service valve open. Weatherall recommends using a T adapter (as pictured) for Purge testing

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