

API-Cecomp Group *n'fo*

Technical & Application Note C114

Application: Accurately monitoring hydrostatic pressure testing in a gas pipeline

Type Of company: Public Utility

Location: Kansas

Problem: The DOT requires that any new/replaced pipeline carrying natural gas be hydrostatic tested. Depending on the varying elevation of the terrain along the pipeline and the location of available water sources, the pipeline may be divided into sections to facilitate the test. Each section is filled with water and pressured up to a level higher than the maximum pressure at which the pipeline will operate when carrying natural gas (600 to 2000 PSI depending on the type of pipe used). The test pressure is held for a specific period of time to determine if the pipeline meets the design strength requirements and if any leaks are present. Once a section successfully passes the hydrostatic test, water is emptied from the pipeline and the pipeline is dried to ensure that no water is present when natural gas begins to flow. The customer is concerned with the significant accuracy errors that occur to the currently used analog dial gauges because of mechanical shock and field conditions. The mechanical shocking causes an appreciable “readout” error due to these gauges operating outside of their rated 2/3 accuracy ‘band width’. Since this is a required test the pressure needs to be “accurately” measured and recorded .

Note: for additional information on this process see http://en.wikipedia.org/wiki/Hydrostatic_test

Solution: A Cecomp DPG1000B3000PSIG-ON digital pressure gauge is the solution. This Cecomp gauge has 0.25% accuracy over the full pressure range, 1 PSI resolution, and can handle the “abuse” because of their ruggedness both electrically and mechanically. The “ON” shutoff time option is used due to the length of time (4 to 8 hours) required for the test and the customer needs to ensure that the gauge stays on until it is removed at the end of the test.



DPG1000B

Battery Powered Digital Pressure Gauge



Benefits of API's solution:

- ±0.25% Test Gauge Accuracy
- Long Battery Life (up to 2500 Hours)
- Rugged design
- 0.5" digit height on Display for ease of reading
- Repeatability of reading

Cecomp Unique Feature




Accuracy/Operation

Cecomp Battery powered Gauges have an accuracy of $\pm 0.25\%$ of full scale (± 1 least significant digit) with 2500 hours battery life using standard alkaline batteries. The unit comes standard with an epoxy powder coated extruded aluminum case and a polycarbonate bezel. The front button turns gauge on and starts the auto shutoff timer. Cecomp gauges come with non-interactive zero and span controls for accurate calibration.

To find your local representative:

www.api-usa.com/api_rep_map.php

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