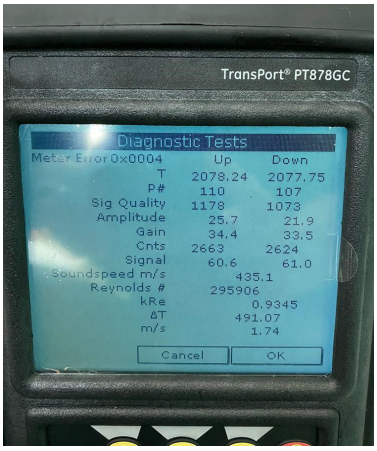
Panametrics
a Baker Hughes business

Application note

# Natural Gas clamp on flow measurement in a transportation pipeline

**Benefits:**

- Easy to set up
- Easy to operate
- No process shutdown
- No downtime and no periodic maintenance/calibration needed
- Reliable




## Summary

Natural Gas is fundamental to the energy transition. It is therefore critical to monitor and understand what flows in gas pipelines.

When a natural gas operator in South East Asia recognized that it could better optimize its gas flow operations through improved monitoring and leak detection it turned to Panametrics for a solution.

## Application

| | |
|---|---|
| Medium: | Natural Gas (CH4 84%, C2H6 8.4%, C3H8 6%, the rest C4+) |
| Temperature: | 15 °C to 55 °C (59 °F to 131 °F) |
| Pressure: | 47 bara to 68 bara (682 to 986 psi) |
| Pipe: | 36" with wall thickness 12.7 mm (0.5") |
| Material: | Carbon steel |
| Flow rate: | 20 MMCFD to 350 MMCFD |

## Challenge

To identify any gas leaks within its pipeline network, the operator required a solution that would measure and compare the gas flow at its compressor stations. If the measurements at the compressor stations were equal, then the operator could assume there were no leaks. If measurements varied, then the operator could launch further investigations to pinpoint and repair the leak.

The customer could not afford to interrupt the distribution of natural gas for a flow measurement application. Therefore, the operator's options, including the use of wetted meters, were drastically reduced. Furthermore, as a result of the bi-directional capability, the customer was limited to selecting an ultrasonic clamp on solution.

However, the customer had entrenched doubts about the ability of a clamp on flowmeter to measure on such a large line size. The Panametrics team ran a demonstration to show the effectiveness of Panametrics clamp on technology.

## The solution

Using Panametrics' portable PT878GC ultrasonic clamp on flow meter, flow verification was trialed for several days to prove the technology could deliver accurate and reliable results on such a large line size.

The trial was successful. The customer immediately placed an order for a permanent solution at both its compressor stations. Panametrics installed its GC868 ultrasonic flow meter with Modbus digital output with C-RW 312 transducers. The customer is now in a stronger position to optimize its operations, identify leaks quickly and enable early interventions.


Panametrics, a Baker Hughes business, provides solutions in the toughest applications and environments for moisture, oxygen, liquid and gas flow measurement.

Experts in flare management, Panametrics technology also reduces flare emissions and optimizes performance.

With a reach that extends across the globe, Panametrics' critical measurement solutions and flare emissions management are enabling customers to drive efficiency and achieve carbon reduction targets across critical industries including: Oil & Gas; Energy; Healthcare; Water and Wastewater; Chemical Processing; Food & Beverage and many others.

Join the conversation and follow us on LinkedIn
**linkedin.com/company/panametricscompany**

Baker Hughes™



BHCS39088 (07/2021)

panametrics.com