



PROCESS INSTRUMENTATION

Chemical company saves money with clamp-on ultrasonic flow solution

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The challenge

A large chemical company in the southwest United States manufactures intermediate and specialty chemicals. One of the company's operating units was receiving a bill every month from the central utility for air usage by a 10-inch plant air-header pipe and an 8-inch instrument air-header pipe. Because their system did not provide adequate flow measurement devices, the operating unit did not know the exact quantities of air being used and therefore could not verify whether the central utility was correctly billing them. To remedy this

situation, the operating unit investigated solutions for measuring the total monthly incoming flow of the plant and instrument air-header inlets.

The engineer responsible for seeking out an appropriate flow technology considered installing in turbine meters or orifice plates with DP cells. However, he learned that the installation costs for either of these solutions would total approximately \$100,000, which exceeded what the company was prepared to spend.

The case at a glance

Region: Southwest USA

Industry: Chemical

Customer: Large chemical company

Challenge: Measure total monthly incoming flow of plant and instrument air-header inlets to ensure accurate billing

Product: SITRANS Clamp-on flow

Main benefits

- Externally mounted sensors mean no cutting of pipes or stoppage of flow
- WideBeam transit-time technology increases measurement precision
- Si-Ware analytic software optimizes meter performance
- Extensive availability of service and support



The solution

The Siemens representative recommended that they consider Siemens clamp-on flow meters for their application. clamp-on flow meters offer several benefits:

- The sensors are externally mounted on the pipe, which means that there is no need to cut into the pipe and stop the flow of air for any amount of time during installation
- Clamp-on flow meters from Siemens use WideBeam transit-time technology, which increases flow measurement precision by reducing sensitivity to any change in the medium type or physical properties
- Si-Ware analytical software analyzes the flow meter diagnostics, delivering crucial information about the application and flow meter performance. The software runs on a PC and polls the data from the flow meter for analysis and full system check
- Siemens' extensive global coverage means that service and support are available whenever and wherever needed
- System pressure is critical for successful clamp-on operation in gas service. Siemens flow meters are capable of handling the low pressure range found in this application (95 to 118 psig)

To prove that this solution would work, the representative offered to set up a trial with a SITRANS clamp on flow meter. The test was confirmed a success and the company ordered two gas meters, the necessary sensors and a clamp-on RTD for real-time temperature measurement. The flow meters were installed on both the plant air-header pipe and the instrument air-header pipe and immediately began to provide accurate measurements of the air being used by the operating unit.

Now the company is able to confirm that they are being billed appropriately by the central utility each month, and the simple installation and start-up of the SITRANS clamp on flow meter saved them a considerable amount of money over the alternative in situ measurement options.

About the SITRANS FS230

The SITRANS FS230 clamp-on non-intrusive ultrasonic flow meter is ideal for numerous natural, specialty and process gas applications, including check metering, lost and unaccounted for (LAUF) analysis, allocation measurement, flow survey verification, product well testing, underground storage applications, and gas-fired power stations. WideBeam technology makes it tolerant of most wet gas environments, which ensures accurate readings. The meter uses an internal AGA-9 table for fixed gas composition to compute standard volume and is in compliance with AGA-10 speed of sound measurement practices. It is immune to most pressure-reducing valve noises, making installation in very close proximity to valves and pumps possible. The SITRANS FS230 is available in single and dual path configurations.

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