CASE STUDY • CHEMICAL

SILICONE MANUFACTURER IMPROVES ENERGY COSTS WITH WIRELESS FLOW METERS

Customer

365 °F (185 °C) saturated steam flow measurement at –20 °F (–29 °C) ambient temperature.

Application

A large silicone manufacturer in the Northeastern United States.

Challenge

This silicone manufacturer had challenges trying to keep their process units accountable for the steam usage within the plant. The company needed to better understand their steam usage to know if there were leaks or other waste in their system.

The silicone manufacturer needed to make six flow measurements on steam distribution lines that were located throughout their facility. Unreliable insertion vortex and turbine meters were not providing reliable steam flow measurement and constantly required maintenance. These meters would frequently fail and needed to be replaced. The measurement points were located outside in a cold environment, requiring the manufacturer to consider the use of heat tracing or other measures to safeguard the measurement instrument from freezing.

Not having reliable steam flow measurement constrained their ability to effectively manage their energy costs by process unit. Furthermore, the unreliable measurement instruments increased maintenance problems that required frequent replacement of flow meters at high installation costs. Replacing these flow meters required maintenance personnel to climb scaffolding to reach the installations in icy and dangerous locations.

Results

- Improved energy cost management
- Reduced operation and maintenance costs
- Increased the safety of plant personnel

Rosemount 3051SFA Wireless Annubar Flow Meter

EMERSON™

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Solution

The silicone manufacturer purchased four Rosemount™ Compact Orifice Wireless Flow Meters and two Annubar™ Wireless Flow Meters. The wireless technology enabled them to install the flow meters without the need for wiring. They utilized new top-mounting installation recommendations for Differential Pressure Flow Meters in steam service.

By direct mounting the transmitter above the pipe, the installation eliminated impulse lines and utilized the heat of the process to safeguard the installation from freezing. This eliminated the need for costly heat tracing.

Utilizing reliable wireless flow meter technology enabled the plastics manufacturer to understand their steam usage in the plant. In addition, they saved $40K in wiring costs by using wireless technology and eliminated the frequent maintenance and replacement of the unreliable flow meters. They were also able to achieve a safer work environment for their maintenance personnel as they were not required to frequently troubleshoot failures in hazardous conditions.

> *The Rosemount Compact Wireless Flow Meter allowed the customer to better account for steam usage within the plant.*

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