

Silicone Manufacturer Improves Energy Costs with Wireless Flowmeters

RESULTS

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

APPLICATION

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

CUSTOMER

A large silicone manufacturer in the North Eastern US

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 are 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 flowmeters at high installation costs. Replacing these flowmeters required maintenance personnel to climb scaffolding to reach the installations in icy and dangerous locations.

SOLUTION

The silicone manufacturer purchased four 3051SFC Compact Orifice Wireless Flowmeters and two 3051SFA Annubar Wireless Flowmeters. The wireless technology enabled them to install the flowmeters without the need for wiring. They utilized new top mounting installation recommendations for DP Flowmeters 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.



The Rosemount 3051SF Wireless Flowmeters allowed the customer to better account for steam usage within the plant.



Figure 1. Rosemount 3051SF Wireless Flowmeters

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Utilizing reliable wireless flowmeter 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 flowmeters. 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.

RESOURCES

Emerson Process Management Chemical Industry

<http://www.emersonprocess.com/solutions/chemical/>

Emerson Smart Wireless

<http://www2.emersonprocess.com/en-US/plantweb/wireless/Pages/WirelessHomePage.aspx>

Rosemount Annubar Flowmeters

<http://www.rosemount.com/Flow/DP-Flow-Products/Annubar-Flowmeters/Pages/index.aspx>

Rosemount Compact Orifice Flowmeters

<http://www.rosemount.com/Flow/DP-Flow-Products/Compact-Orifice-Flowmeter/Pages/index.aspx>

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