

Red Arrow Simplifies Measurement and Saves on Energy Costs by Capitalizing on the Rosemount Compact Annubar Flowmeter

RESULTS

- Quickly added an accurate and reliable measurement point during a short process shutdown
- Improved steam system monitoring
- Minimized energy costs

APPLICATION

To measure flow in a saturated steam line feeding two evaporators and an atomizer

APPLICATION CHARACTERISTICS

6 inch line 14 feet off the ground

CUSTOMER

Global liquid smoke and cooking flavor supplier

CHALLENGE

Red Arrow wanted to closely monitor steam usage from two evaporators and an atomizer. The measurement solution would be required to supply an accurate measurement that didn't require higher pumping costs. Only a short process shutdown was scheduled, so the solution would need to be installed quickly. As a result, traditional DP flow technology like an orifice plate installation would not suffice.

The desired installation location was above the ground with other piping nearby, so a DP Flow installation involving impulse piping would be cumbersome and time consuming.



The Compact Annubar flowmeter added a valuable measurement point while saving on energy costs.



Figure 1. Rosemount 3051SFC Compact Annubar Flowmeter installation

SOLUTION

Red Arrow installed a Rosemount 3051SFC Compact Annubar Flowmeter between two standard raised-face flanges (see figure 2). This solution combines the benefits of the easy-to-install Compact Platform and the performance of the Annubar averaging pitot tube. The pipe cutting, flange welding, installation, and flowmeter wiring was quickly completed in around four hours. The Annubar sensor's shape provided a small profile in the pipe, resulting in a low permanent pressure loss compared to other DP Flow technologies. Additionally, the Annubar sensor provided the accuracy and reliability required.

Red Arrow was able to closely monitor the evaporators' and atomizer's steam consumptions and run the process more efficiently by using less steam.

RESOURCES

Emerson Process Management Power Industry

<http://www2.emersonprocess.com/en-US/divisions/power-water/Pages/powerwater.aspx>

Rosemount Annubar® Flowmeter Series

<http://www2.emersonprocess.com/en-US/brands/rosemount/Flow/DP-Flow-Products/Annubar-Flowmeters/Pages/index.aspx>

Rosemount 3051S® Transmitter Series

<http://www2.emersonprocess.com/en-US/brands/rosemount/Pressure/Pressure-Transmitters/MultiVariable-Transmitters/3051S-MultiVariable/Pages/index.aspx>



Figure 2: Compact Annubar Flowmeter installed between two raised-face flanges.



Figure 3: The Rosemount 3051SFC Compact Annubar Flowmeter.

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