



CHEMICAL COMPANY IMPROVES MONITORING OF FLUIDIZED BED DRYERS WITH ROSEMOUNT WIRELESS FLOW TECHNOLOGY

Customer

Leading global producer of specialty polymers

Application

Bed dryer monitoring for CPVC

Challenge

A chemical company in the Southeastern United States utilizes three fluidized bed dryers to gently dry chlorinated polyvinyl chloride (CPVC) particles in the production process. Air flow rate and temperature control are closely monitored to optimize drying.

"Each dryer utilizes differential pressure through the bed to validate air flow and prevent overheating and fires," said the Production Engineer. "If air flow is impeded, the heat inside the dryer does not dissipate and the fiberglass can melt, potentially catching the wood frame on fire." Unfortunately, the differential pressure system is limited by plugging in the beds and can give false readings leading to high temperature excursions." We needed a backup warning system to verify low air flow in 20 inch ducts to give early warning to operations staff that a problem is imminent," she stated.

A reliable flow measurement in this area was difficult because there were no straight runs of pipe. An affordable solution was also difficult because this area of the plant has no I/O infrastructure available.

Results

- Reduced the risk of fire
- Deferred \$65,000 in lost operating profits per incident
- Saved \$5,500 in installation and wiring costs
- Obtained a return on investment in less than a year



Rosemount 3051SFA Annubar Flow Meter

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Solution

Emerson determined that an elbow mounted annubar with a wireless 3051S DP flow transmitter provided good accuracy with excellent repeatability, which was required in this application. "I don't care about the accuracy as much as the repeatability," stated the engineer. "I am looking for a downward trend in flowrate to indicate plugging."

By utilizing Rosemount wireless technology, operators can now monitor the flow rate of each of their bed dryers on the operations screen and set alarm limits for falling flows.

"By preventing fires, we have deferred any lost production, which we estimate at \$65,000 per incident," she concluded. "There was a low capital investment with the wireless technology, and the solution paid for itself in less than a year."

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*Production Engineer
Chemical Company in the Southeast US*

For more information, visit
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