

PVC Plant Reduces Maintenance Costs and Improves Safety with Non-Clog Vortex Technology

RESULTS

- Decreased annual maintenance costs by \$1080 per point
- Reduced downtime
- Increased measurement reliability
- Increased plant safety



APPLICATION

Polyvinyl Chloride (PVC) Processing

APPLICATION CHARACTERISTICS

Fluid: Vinyl Chloride Monomer (VCM), Flow Rate: 25–500 gpm (95–1893 l/m), Temperature: 80 °F (27 °C), Pressure: 80 psig (5.5 bar), Viscosity: 0.3 cp, Meter: 3-inch flanged (80 mm)

CUSTOMER

A Petro-chemical plant in North America

CHALLENGE

Polyvinyl chloride is a polymer formed in a reaction that links vinyl chloride monomer (VCM) into long chains. VCM that does not react is stripped from the reactor effluent and recycled. The production of PVC is closely regulated by the Environmental Protection Agency (EPA), because VCM is carcinogenic. The agency is especially concerned about the process to recover and recycle the VCM, so minimizing potential fugitive emissions is critical.

To measure the flow in the VCM waste recovery line - which is also the flare feed line - vortex meters are typically employed. A common problem for many vortex meters is posed by collateral PVC dust clogging the crevices and sensor ports present in most manufacturers' meters.

The installed vortex meters only functioned for 7-10 days before they had to be cleaned. The site tried to alternate mounting positions, as well as call upon other vortex manufacturers, but nothing improved the situation. The downtime severely reduced PVC production and increased maintenance costs.

Petro-chemical plant reduces maintenance costs by \$1,080 per point annually by using Rosemount 8800 Vortex Flowmeters.



The Rosemount 8800 Vortex Flowmeter Series

SOLUTION

With the installation of the Rosemount 8800 Vortex Flowmeter, the non-clog design eliminated the issues with plugging caused by the PVC dust, which reduced maintenance costs and increased process uptime. The vortex meters have now been in service for six years without failure or cleaning. The site has calculated annual maintenance savings to amount to \$90 per cleaning x 12 cleanings per year per vortex meter, totaling \$1,080 annually. In addition, the improved uptime of the plant has significantly improved profitability.

In addition, the gasket-free design of the Rosemount 8800 Vortex Flowmeter helped this petro-chemical manufacturer improve environmental compliance by reducing potential leak points. This also helped improve the overall safety of the plant.

RESOURCES

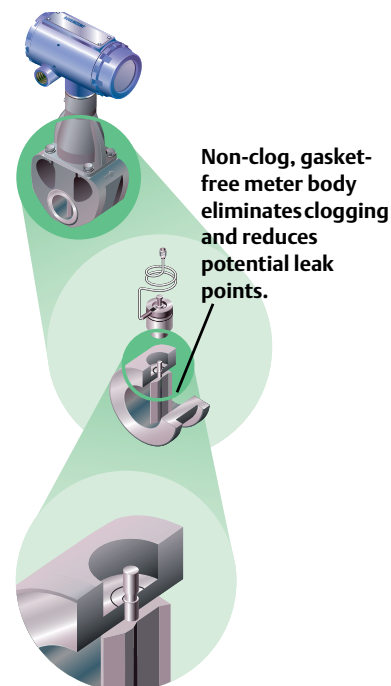
Emerson Process Management Chemical Industry

<http://www2.emersonprocess.com/en-US/industries/Chemical/Pages/index.aspx>

Rosemount Vortex Flowmeters

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

The Rosemount 8800 Vortex Flowmeter's gasket-free design reduced potential leak points and improved environmental safety.



Rosemount 8800 Vortex Flowmeter delivers reliability by design.

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