



## PVC PLANT REDUCES MAINTENANCE COSTS AND IMPROVES SAFETY WITH NON-CLOG VORTEX TECHNOLOGY

### Customer

Petrochemical plant in North America

### 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)

### 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.

### Results

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



*The Rosemount 8800 Vortex Flow Meter Series*

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

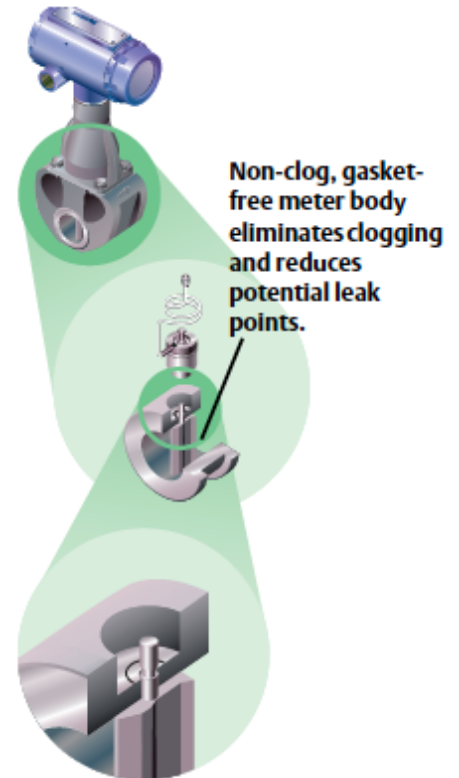
# PVC PLANT REDUCES MAINTENANCE COSTS AND IMPROVES SAFETY WITH NON-CLOG VORTEX TECHNOLOGY

## Solution

With the installation of the Rosemount™ 8800 Vortex Flow Meter, 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 Flow Meter helped this petro-chemical manufacturer improve environmental compliance by reducing potential leak points. This also helped improve the overall safety of the plant.

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



*Rosemount 8800 Vortex Flow Meter delivers reliability by design.*

The Emerson logo is a trademark and service mark of Emerson Electric Co. Brand logotype are registered trademarks of one of the Emerson family of companies. All other marks are the property of their respective owners. © 2024 Emerson Electric Co. All rights reserved.

For more information, visit  
[Emerson.com/chemical](https://www.emerson.com/chemical)  
[Emerson.com/Vortex](https://www.emerson.com/Vortex)

00830-0700-4004 Rev AC

**ROSEMOUNT™**

  
**EMERSON**