Reducer™ Vortex Saves $1121 on Steam Flow Measurement at Chemical Plant

Product
Rosemount 8800CR Reducer Vortex

Customer:
North American Chemical Facility

Application:
4-inch Steam flow application

Details:

- A traditional DP-Orifice system was being used to measure this flow historically.
- The flow required heat tracing of the impulse lines to avoid freezing.
- Sizing suggested use of a Reducer Vortex.
- Estimated savings of $1121 compared with traditional vortex installation.

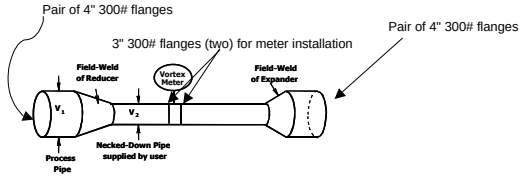
PROBLEM

A North American chemical facility has had problems with impulse lines freezing on traditional DP-Orifice systems when the heat tracing does not work properly.

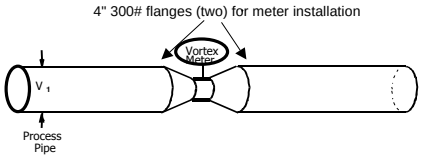
Vortex is recognized as a 'Best Practice' to address this issue for new flow measurement points where heat tracing was used in the past, but was justified in this application because the existing heat tracing has not been sufficient to avoid freezing and maintenance of the impulse lines.

The use of Reducer Vortex was recognized as reducing the cost of installing vortex when compared to traditional installation practice for Vortex at the site.

Traditional Site Practice:



Practice with Reducer Vortex:



SOLUTION

Reducer Vortex technology to simplify the installation and save an estimated $1121 in installation costs for this 4-inch application. The savings were based on comparing material, procurement, engineering, and installation labor. The savings were estimated as:

Material Savings = $551

- Paid $385 MORE for Reducer vs. traditional 3-inch flanged meter = -$385
- $23 per Reducer/Expander = $46
- (2) less 3-inch & (2) less 4-inch flanges = $700
- 10 feet Straight Pipe (3") @ $20/ft = $200

Engineering Savings = $100

- Reduced time by 2 hours @ $50/hr = $100

Procurement Savings = $110

- 3 less items to purchase & inspect = $110

Installation Labor Savings = $360

- Reduce time by 8 hours across demolition, fabrication, and installation @$45/hour = $360

Total Savings = $1121

SUMMARY

A North American Chemical site adopted Reducer Vortex for a steam flow measurement to eliminate maintenance due to freezing impulse lines. The use of Reducer Vortex was recognized as the lowest-cost approach; reducing the installed cost of the vortex by more than $1100 compared to traditional vortex installations.

RESULTS

Vortex was justified to eliminate freezing of impulse lines on a steam flow application.
Reducer Vortex was estimated to save $1121 in installation costs for a 4-inch line size.

Emerson Process Management.

Rosemount Inc.
8200 Market Boulevard
Chanhassen, MN 55317 USA
T (U.S.) 1-800-999-9307
T (International) (952) 906-8888
F (952) 949-7001

www.rosemount.com

EMERSON. Process Management