

Rosemount 8800 Series of Instrumentation

Vortex Flowmeters



Delivering on the Promise of Vortex

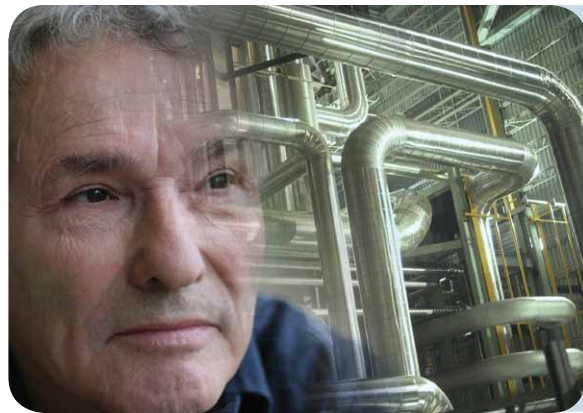
ROSEMOUNT


EMERSON
Process Management

Delivering on the Promise of Vortex

Vortex technology was introduced 25 years ago to improve reliability and reduce installed costs. However, there were unexpected limitations with traditional vortex. Emerson is now delivering on the original promise of vortex technology. The innovative design of the Rosemount Vortex Flowmeter addresses the traditional limitations of vortex, while our industry expertise helps ensure your success.

The Promise of Vortex



When vortex technology was introduced, it promised to improve reliability, reduce installation and maintenance costs, and provide cost-effective steam measurement.

Traditional Vortex Limitations



Traditional vortex designs have limitations such as inherent low flow cutoff, ports and crevices that can plug, and susceptibility to inaccurate measurement from vibration. Traditional vortex meters are also difficult to troubleshoot and require separate equipment for calibration verification.

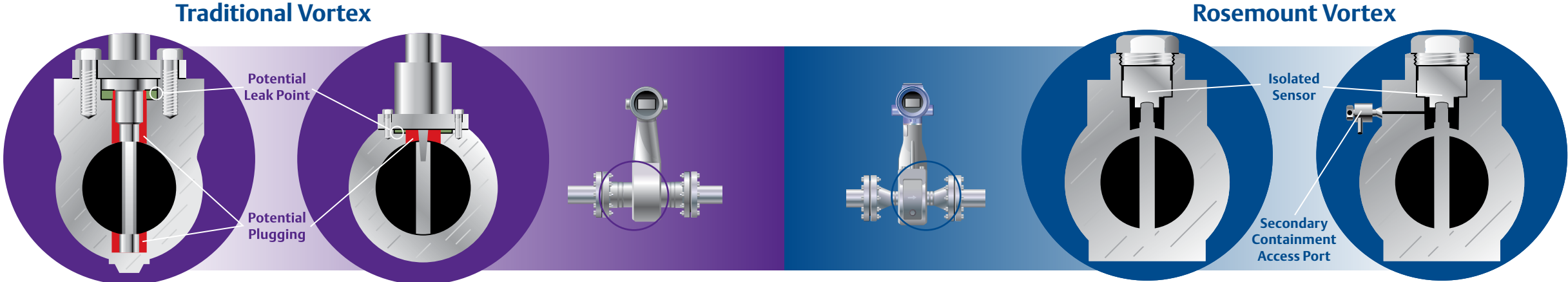
Rosemount Vortex Delivers Solutions



Emerson is delivering on the promise of vortex technology. Our innovative Rosemount Vortex design addresses the limitations of traditional vortex by offering Reducer™ and MultiVariable™ Vortex in a non-clogging design, with the additional benefits of PlantWeb® diagnostics. The non-wetted isolated sensor design enables online sensor replacement with the CriticalProcess™ Vortex.

The Superior Design of Rosemount Vortex

Staying competitive means getting the highest efficiency out of your plant, as safely as possible, with the fewest number of shutdowns. The Rosemount Vortex flowmeter delivers these benefits through a unique design that overcomes the limitations of traditional vortex flowmeters to help you succeed.



LEAK POINTS

With traditional vortex, a potential leak point exists around the gasketed sensor connection leaving you vulnerable to safety and environmental issues. Since this seal must be broken for sensor replacement, the process needs to be shut down and that leads to decreased efficiency.

PLUGGING

Traditional vortex designs are susceptible to plugging in tough applications due to ports and crevices that limit the sensor's ability to measure flow. A plugged sensor requires a process shutdown for maintenance, which impacts efficiency and quality.

FEWER LEAK POINTS

Only Rosemount Vortex flowmeters have a gasket-free sensor design that eliminates leak points. For the most critical applications, Emerson offers a weld-end Rosemount Vortex with zero gaskets or threads.

NO PLUGGING

The unique meter body design of the Rosemount 8800 eliminates all ports and crevices that can impact the ability of the sensor to measure flow. A reliable flow measurement allows you to maximize availability by eliminating unscheduled shutdowns.

ONLINE REPLACEMENT

Only Rosemount Vortex flowmeters have an isolated sensor design that eliminates the need to break process seals for sensor replacement. Now, with the Critical Process™ Vortex, you can keep your process running efficiently while ensuring personnel safety.

Results Delivered

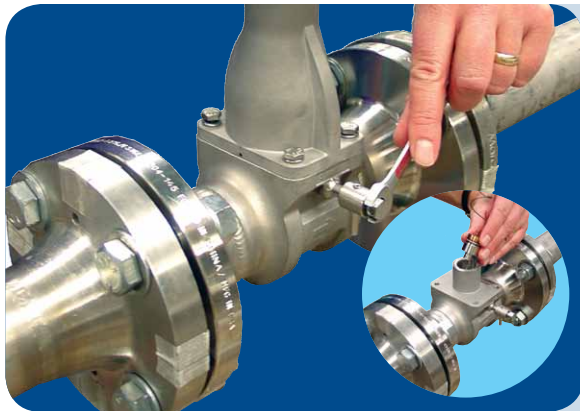
A global chemical company used Rosemount Vortex flowmeters to minimize leak points for improved plant safety, process availability and efficiency, and measurement reliability. (Ref: Rosemount Proven Result: P/N 00830-0100-4004)

To read more application notes on how Rosemount Vortex flowmeters were applied to deliver reliable flow measurement in tough applications where plugging was an issue, go to Rosemount.com.

Reduce Overall Cost of Ownership

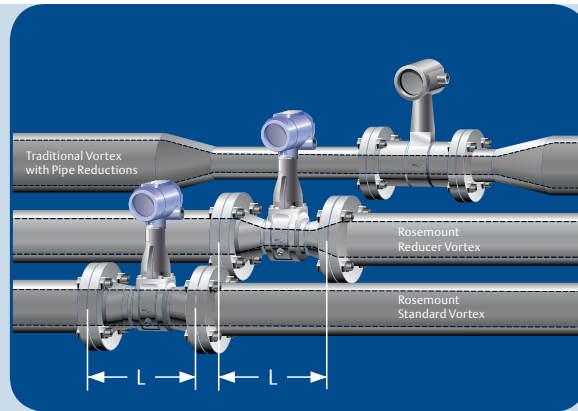
Traditional vortex flowmeters can be expensive and time consuming to install and maintain. The unique Rosemount design simplifies installation, maintenance, and verification while improving overall process availability; reducing the total cost of ownership.

Improve Process Availability



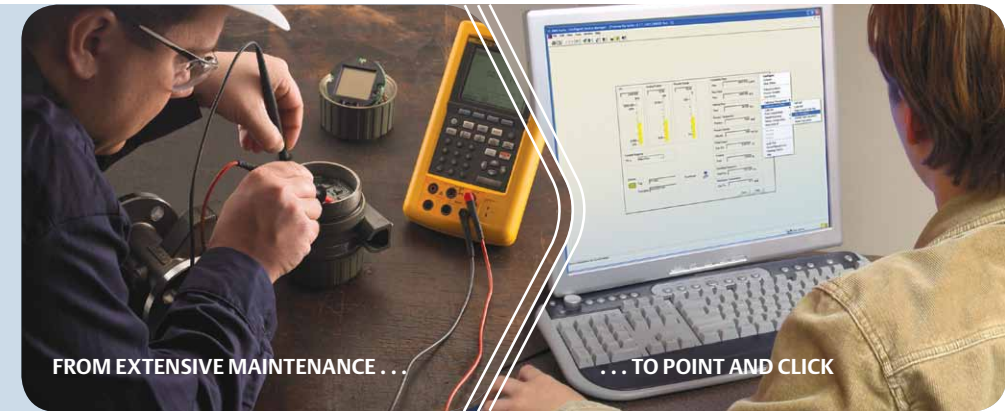
The Vortex sensor is isolated from the process allowing users to verify the performance of the sensor while providing an added level of safety on critical applications. Sensor verification can be costly on traditional Vortex applications, and users typically need to shutdown or bypass their process in order to verify performance of the sensor. The sensor verification available via the CriticalProcess Vortex greatly increasing process availability.

Reduce Installation Costs



Low flow cutoff issues require most users to install pipe reductions and a smaller vortex meter in order to measure the application's flow range, adding complexity and expense. Emerson has integrated reducing flanges in the Rosemount Reducer Vortex which eliminates the need for field installed reducers. In addition, the Rosemount Reducer Vortex has the same lay length as conventional vortex so that piping does not need to be modified if sizing changes.

Easy Verification Reduces Maintenance Costs



To verify the calibration of traditional vortex flowmeters, a separate calibrator and even disassembly in the field is required. With Rosemount vortex flowmeters users can internally verify the meter calibration by utilizing PlantWeb[®] diagnostics. An internal signal generator can be accessed with a Field Communicator or AMS[™] Suite: Intelligent Device Manager, so no separate equipment is needed.

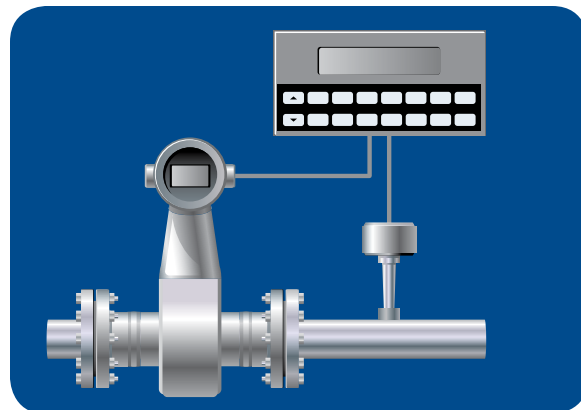
Have an application in mind?

Let us help. Our global team of sales representatives can help you size and specify the best flowmeter for your application. In addition, our global team of flow experts can visit your facility and audit your most challenging flowmeter applications, provide recommendations, and ultimately improve the efficiency and profitability of your facility.

Reliable, Cost-Effective Steam Measurement

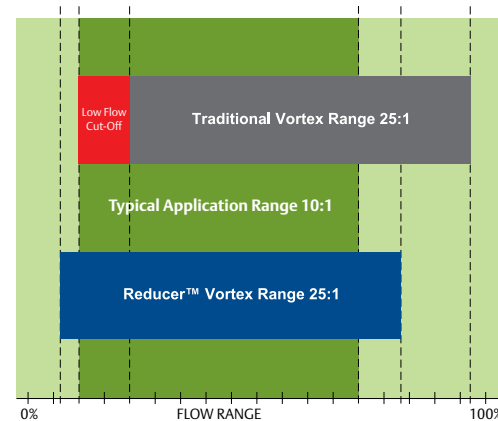
With rising energy costs, capturing steam usage as part of an energy management program is critical. Saturated steam applications often require flowmeters with wide rangeability, good accuracy, and high reliability. The Rosemount MultiVariable™ Vortex meets all of these requirements, which helps you improve your bottom line.

Traditional Compensated Installation



Vortex meters are well suited for steam applications due to their high reliability and wide rangeability. However, a compensated mass output is often preferred. Many users resort to external compensation of the vortex meter to achieve both reliability and performance requirements. This is costly and often complex.

Rosemount Reducer Vortex Technology



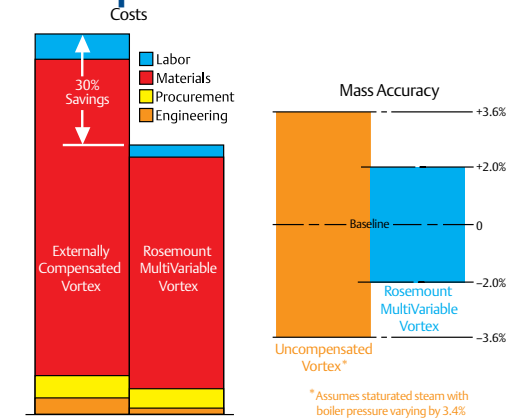
Many steam applications require flowmeters for low flows due to seasonal or process demands. Much of the measuring range of traditional vortex is at higher velocities and is susceptible to missed measurement at low flows due to low flow cutoff. Reducer Vortex eliminates this problem by using a smaller meter body to achieve the application rangeability required, allowing you to capture steam usage even at low flow rates.

Rosemount MultiVariable Vortex



Multivariable vortex flowmeters eliminate the need for a separate temperature measurement point and a flow computer. Unfortunately, most designs embed the temperature sensor into the wetted vortex assembly. If either sensor needs to be verified or replaced a process shutdown is required. Emerson has integrated a temperature sensor into our MultiVariable Vortex meter body that is isolated from the process and separate from the vortex sensor. This facilitates independent verification or replacement of each sensor without breaking the process seal.

Reduce Cost, Improve Performance



Uncompensated vortex meters have moderate accuracy in saturated steam and externally compensated vortex meters are expensive. The Rosemount MultiVariable Vortex provides a cost-effective flowmeter with improved accuracy.

* Assumes saturated steam with boiler pressure varying by 3.4%

The Rosemount 8800 Vortex Flowmeter Offering

Emerson offers a full portfolio of Rosemount Vortex flowmeters, with models that range from meeting basic requirements to solving your most critical application issues.



8800 MultiVariable Vortex Flowmeter

- Integral temperature sensor enables temperature compensated mass flow for saturated steam
- Removable temperature sensor makes access and removal easy without draining the process piping
- Mass flow, volumetric flow or temperature are available as configurable outputs

8800 Reducer™ Vortex Flowmeter

- Flanged vortex flow meter with reducing flanges integrated into the design
- Reduces cost by eliminating the need for field assembly of reduced piping
- Both Reducer and standard vortex have a common face-to-face dimension which allows the user to change the meter without impacting the piping layout or drawing

8800 Flanged Vortex Flowmeter

- Wide range of flange ratings available
- Ideal for all applications from general purpose to the most demanding application

8800 Wafer Vortex Flowmeter

- Lightweight, cost-effective solution
- Easy installation with standard alignment rings
- Ideal for utility applications

8800 Weld-end Vortex Flowmeter

- Flange gaskets are eliminated by welding the flowmeter directly into your process piping
- The only vortex flowmeter available with zero potential leak points
- Ideal for applications where reducing potential leak points is important

8800 High Pressure Flanged Vortex Flowmeter

- Up to ANSI Class 1500 pressure ratings
- Ideal for injection applications

8800 Dual Vortex Flowmeter

- Flanged vortex flowmeter with redundant electronics and sensors
- Use for SIS and other applications where redundancy is critical
- Transmitters available with independent configurations



8800 CriticalProcess Vortex Flowmeter

- Unique design isolates Vortex sensor from the process
- Allows online verification of the Vortex sensor
- Eliminates unnecessary process shutdowns increasing availability without requiring bypass piping

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