Micro Motion® Flowmeters Improve Measurement of Caustic Density

RESULTS
- Eliminated plant shutdowns
- Eliminated dilution tank and steam tracing system
- Provides accurate, continuous, on-line measurement

APPLICATION
A chemical manufacturer supplies its plant with 50% caustic through a plant-wide piping (header) system. The entire header system must be steam traced to prevent pipes from freezing, since 50% caustic freezes at ambient temperatures.

CHALLENGE
Caustic causes accelerated piping corrosion, especially at elevated concentrations and temperatures. When corrosion occurs, the entire facility had to be shut down to repair the header system.

SOLUTION
After analyzing the situation, the manufacturer determined that most in-plant customers dilute the header caustic for use in their processes. The manufacturer decided to dilute the caustic to 25% caustic.

The manufacturer installed a Micro Motion® Coriolis flowmeter to measure the caustic density in the header piping. To calculate the caustic concentration in the header system, the control system uses caustic density and algorithms. This concentration information is then used for operating a control valve on dilution water to the header.

The new system provides the manufacturer with a continuous, on-line caustic dilution process.

Diluting caustic using a Micro Motion density flowmeter eliminated costly equipment and plant shutdowns.

For more information:
www.EmersonProcess.com/solutions/chemical
www.micromotion.com
Since installing the Micro Motion flowmeter, the plant has not had a corrosion-related shutdown. With continuous on-line caustic dilution, there is no need for a caustic dilution tank. The need for steam tracing has also been eliminated, reducing steam consumption in the plant and lowering the cost of maintaining a steam tracing system.

In addition, using the mass flow output, the plant can now accurately determine the amount of caustic being consumed.