

Application News

Ultrasonic Meter Helps Truck Manufacturer Evaluate Piping Efficiency

Industry: Automotive

Service: Flow Rate/Total

Fluid: Water

Overview

Cooling towers are a very important part of many industrial plants. They represent a relatively inexpensive and dependable means of removing low-grade heat from cooling water. Some cooling towers are designed to create water that can be reintroduced in the production process. When water is reused, it is pumped through the installation into the cooling tower. After the water is cooled, it is reintroduced into the process operation.

Situation

A leading producer of commercial trucks, school buses and other utility vehicles, as well as diesel engines for pickups and SUVs, required a precise and reliable flow measurement solution for monitoring cooling tower water supplied to dynamometers, heat exchangers and other equipment in its manufacturing operation. In particular, the truck manufacturer wanted to evaluate the efficiency of the piping configuration in its 50+ year-old facility and identify modifications that could improve production efficiency.

Solution

To help the customer map the flow of cooling water, Flow Technology provided its SLF Series liquid clamp-on ultrasonic flowmeters. These versatile, cost-effective meters are an ideal solution for applications where the user would prefer not to break the line, for corrosive fluids where material compatibility is an issue, for high pressure, and for sanitary environments. They are capable of measuring bi-directional flow through metal, plastic and even lined pipes.

The SLF Series flowmeters can be installed on the outside of existing piping and use the ultrasonic transit time method to determine flow rate. The meters have no pressure drop or loss, offer wide rangeability and fast speed-of-response, and are easy to install. Best of all, they are designed with no moving parts for maintenance-free operation.

System Description

For this application, Flow Technology supplied its Model SLF-500 clamp-on ultrasonic flowmeter. Employing digital signal processing (DSP) techniques, the meter provides outstanding accuracy and repeatability. The same meter can be used on line sizes from 1 to 12 inches without recalibration, and will cover a wide range of flow rates.

The SLF-500 meter is strapped on to process piping to data-log the flow of cooling water in various areas of the customer's production operation. The information gathered from ongoing flow measurements will be used to study the design characteristics of the older facility and determine whether changes are needed to improve production processes.

Installation and setup of the Model SLF-500 flowmeter is fast and easy, which has allowed the customer to relocate the device from pipe to pipe. Integral to the display unit, the set-up software leads the installer through a series of questions related to pipe material and size, display configuration and desired outputs. This makes initial installation of the meters a straightforward process. The sensors are provided with a mounting fixture that allows adjustment for optimal performance. Sensor separation distance is determined and displayed during system setup.

Technical Information

Flow Meter: SLF-500
Flow Rate: 9 to 11,500 GPM
Fluid: Water



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