

Application News

Magnetic Flow Meter Optimizes Coolant Measurement for Racing Engines

Industry: Automotive **Service:** Flow Rate/Total **Fluid:** Automotive Coolant Mixture Water/Glycol

Overview

A leading automotive racing organization participating in Indy Car, Rolex Sports Car and NASCAR Sprint Cup Series events required effective engine cooling technology. If a cooling system is oversized, it carries the excess weight of hardware and coolant. If the system is undersized or poorly designed, the engine runs too hot — resulting in premature breakdown before the finish line!

Situation

Automotive racing engineers continuously seek the most efficient combination of vehicle radiator size, configuration and airflow direction. Measurement of coolant flow is an important aspect of the R&D process. The customer was looking for a solution with high accuracy over a wide flow range and low pressure drop.

Solution

Flow Technology's EL Series electromagnetic flow meter is specifically designed to minimize pressure drop, thus improving the accuracy of coolant flow measurements across a wide flow range. The EL Series meter employs a straight through bore with non-intrusive sensors, which add no pressure drop to the test system. Plus, its Teflon liner and Hastelloy C electrodes are immune to any potential corrosion. The meter has no moving parts, assuring long service life and a low cost of ownership.

System Description

Based on the application requirements, Flow Technology supplied its EL2200 Series magnetic flow meter and MC308C transmitter. The 1 1/4 inch meter handles a wide flow range with negligible pressure drop. Its proprietary coil design ensures accuracy at the lowest flow rates with laminar and transitional flow profiles. The MC308C transmitter, mounted remotely, is easily programmable for changing parameters. Its 4-20mA output can be transmitted to a recording device for data logging.

Technical Information

Flow Meters (Model Number): EL2200-032A15FP5SA
Electronics (Model Number): MC308CCVM2D3S21N
Flow Rate: 2.5–120 GPM
Fluid: Automotive Coolant Mixture (Water/Glycol)



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