



AW-LAKE
PROCESS FLOW MEASUREMENT



APPLICATION SPOTLIGHT

Powersport Manufacturer Engine Coolant Loop Testing



Powersport Manufacturer-Engine Coolant Loop Testing



APPLICATION:

A powersports manufacturer wanted to measure the flow of various cooling circuits of an engine while testing it on a dynamometer to evaluate vehicle performance. By monitoring the flow of the main cooling loop, the powertrain test engineers could use flow data to set limits within a data acquisition system to catch low flow events before overheating the engine. An analysis of the coolant system included comparing simulated vs actual flows to auxiliary coolant loops for the oil cooler, heater cores, head bleeds, and intercoolers.

PRODUCTS SUPPLIED:

- TRG Turbine Flow Meters (TRG-11.375-5, TRG-11.500-5)
- EDGE Flow sensor (EDG-1-1B-31S)

CHALLENGE:

The test engineers wanted a flow meter that could interface with a variety of data acquisition systems and cover a variety of flow ranges. An analog output was needed to interface with test cells that had open analog voltage channels or analog current inputs. The meters must be compatible with coolant and engine temperatures.

SOLUTION:

The AW-Lake EDGE Sensor offered the best solution as it provided both analog voltage and analog current outputs for interface with different data acquisition systems. Sensor setup and troubleshooting were quick and easy. Accompany TRG sensors, on which the sensors are mounted, offered an economical solution to keep a variety of different sizes on hand. The meters are designed to monitor lower-viscosity fluids.

RESULTS:

The manufacturer noted significant money savings by reducing troubleshooting time when having a cooling issue. Before measuring flow, it was difficult to isolate the cause of cooling issues as countless issues can cause overheating on the engine dynamometer. Knowing coolant flow expedites troubleshooting. EDGE sensors also save significant installation time as the setup is quick and easy.

