

Application News

Flow Transfer Standard Improves Power Generator Efficiency and Compliance

Industry: Industrial

Service: Flow Rate/Total

Fluid: Fuels

Overview

When it comes to power generation systems, monitoring the flow of fuel intake is a critical aspect of efficient operation. Accurate and responsive flow measurement allows for rapid and precise burner control. Power generators employ flow meters on both supply and return lines to measure the consumption of fuel. In today's demanding economy, reducing fuel costs is a key initiative.

Situation

Portable power gen-set users, including industrial plants, medical facilities and government buildings, are responsible for reporting generator emissions to the U.S. Environmental Protection Agency (EPA). To obtain precise reporting data, they must ensure fuel flow measurements are as accurate as possible. This requires periodic, secondary-standard flow meter calibrations in compliance with EPA standards.

Flow meter calibration can involve removing the device from service and sending it to an outside calibration lab. Depending upon the calibration provider, this process can take days (or weeks) to accomplish—requiring the installation of a replacement meter and/or loss of generator service.

Solution

Flow Technology's solution to help power generation system users optimize efficiency and regulatory compliance is its state-of-the-art Gecko Flow Transfer Standard (FTS). This portable, secondary-standard flow calibrator performs in-line calibration and validation of flow meters using the actual application liquid. In most cases, calibrations can be performed in 10 minutes or less with the proper preparations and test configuration.

Gecko is uniquely designed to measure and correct for the influences of temperature on flow. For power generation users, Gecko serves as a master meter prover system, which meets the EPA 40 CFR75 Appendix D Section 2.1.6 Quality Assurance standard. Unlike older flow transfer standards, Gecko can calibrate or prove all principal flow meter types including magnetic, mass, PD, turbine, ultrasonic and vortex meters.

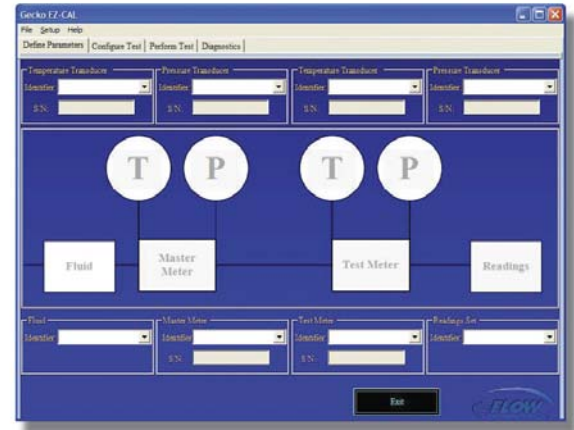
System Description

The Gecko system incorporates an interface box (EZ-LINK) that takes inputs from a master flow meter and temperature sensor, and supplies these outputs to user-friendly system software (EZ-CAL). Based on the inputs, the software can calculate the flow rate. The software merges the output information from the master meter, sensors and device-under-test (DUT) and generates a calibration data sheet in volumetric or mass units, which can be stored for future reference.

The key benefit of Gecko lies in its versatility: the system can be installed in an existing application utilizing the flow source and actual conditions of the fluid under measurement. In addition, a bypass fixture can be built into the application for ease of installing the master meter with flow straighteners for calibration of the DUT. Once the calibration/validation is complete, the master meter can be replaced with a spool piece. This approach maximizes accuracy while minimizing costly downtime.

Technical Information

Calibrator:	Gecko EZ-CAL and EZ-LINK (Model # EZ-LINK-S-R-4)
Flow Rate:	Dictated by Master Meter
Fluid:	Fuels



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