

# Application News

## Process Plants Use Flow Transfer Standard for Calibration & Troubleshooting

**Industry:** Industrial

**Service:** Flow Rate/Total

**Fluid:** Pharmaceuticals, Chemicals, Hydrocarbons, etc.

### Overview

Refineries, chemical plants, pharmaceutical operations and other process facilities need a cost-effective solution for performing flow meter calibrations to help maintain their equipment in optimal working order—and meet strict government environmental standards. Meter performance can have a significant impact on process efficiency and regulatory compliance, not to mention the quality of end products.

### Situation

The typical manufacturer can have 15-40 flow meters of various types and sizes in a process plant. Frequently, these devices are rotated in order to maintain proper calibration. Meters may also have to be removed from the line for repair and service. These procedures can be both costly and time-consuming, and result in process downtime and lost production.

Periodic calibration is essential for ensuring that flow meters provide utmost accuracy when measuring a wide range of liquids. Calibration systems used for process control validation are also an important tool in reducing raw material costs and minimizing rejected products, as well as documenting waste emissions as mandated by the U.S. Environmental Protection Agency (EPA). Failure to perform waste stream monitoring with an accurate, properly calibrated flow device can result in significant fines.

In most cases, flow meter calibration involves 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—resulting in downtime and lost production.

### Solution

To help process plants obtain the most precise flow measurements possible, Flow Technology can provide its advanced Gecko Flow Transfer Standard (FTS). This portable, secondary standard flow calibrator performs in-line calibration and validation of flow meters using the actual process fluid. Gecko is uniquely designed to measure and correct for the influences of line temperature effects on flow. In most cases, calibrations can be performed in 10 minutes or less with the proper preparations and test configuration.

Unlike older flow transfer standards, Gecko can calibrate or prove all principal flow meter types including magnetic, mass, PD, turbine, ultrasonic and vortex meters.

Plants can maintain 3 or 4 master meters to validate all the flow instruments in the facility, thus eliminating recurring costs associated with an outside calibration service. They can also use the master meters for improving control strategies, troubleshooting maintenance issues and identifying poorly performing equipment.

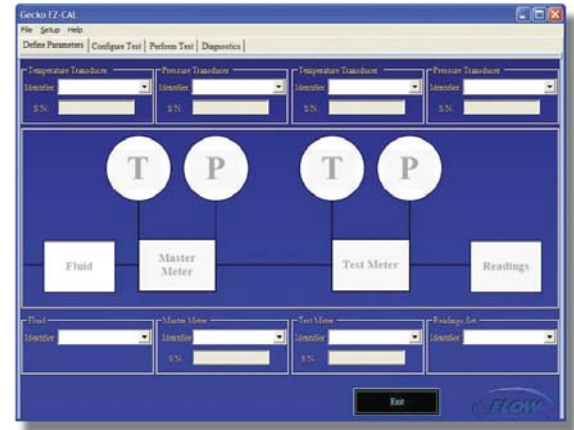
### System Description

The Gecko system was developed to offer utmost convenience and ease of use. The Gecko System incorporates an interface box (EZ-LINK) that takes inputs from a master meter, temperature sensor and 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 into an existing application utilizing the flow source and actual conditions of the liquid 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 (Model Number): Gecko EZ-CAL and EZ-LINK (Model # EZ-LINK-S-R-4)  
Flow Rate: Dictated by Master Meter(s)  
Fluid: Hydrocarbons, chemicals, water, etc.



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