

Application News

Flow Transfer Standard Helps Municipalities Realize Lost Revenue

Industry: Industrial

Service: Flow Rate/Total

Fluid: Water

Overview

Today, municipalities of all sizes are challenged with increasing their revenue. This requires efficient operation of city-run utilities. On municipal water systems, flow meters are installed upstream of residential and commercial properties, and their readings are used for invoicing monthly water service. However, most conventional water meters provide relatively poor accuracy—often resulting in discrepancies between actual water consumption and billing to the customer.

Situation

Municipalities need a convenient, cost-effective method for verifying flow measurement accuracy in order to maintain their water systems in optimal working order. This includes a solution for calibrating new meters before they are installed at residential and commercial properties, as well as validating existing meters that have been in service for many years. By improving flow meter performance, water departments can realize 100% of potential customer revenue.

The American Water Works Association (AWWA) has established an industry standard stipulating that water meters should provide at least $\pm 1.5\%$ accuracy. To achieve this objective, meters must be periodically serviced and recalibrated using a precision calibration system.

Currently, municipalities dig up and replace low-cost flow meters after a period of time or failure in operation, which can require hours of expensive labor. Replacing hundreds or thousands of these meters a year becomes very costly.

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 or an interruption in service to the customer.

Solution

Flow Technology's Gecko Flow Transfer Standard (FTS) can help municipalities optimize their water delivery system. This portable, secondary standard flow calibrator utilizes a "master meter" that should be calibrated against a primary 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.

Thanks to the Gecko system, municipalities can minimize the potential for lost revenue before they put meters into the ground at new residential areas or commercial buildings. On the service side, they don't have to remove existing meters from the line in order to perform validation or calibration service.

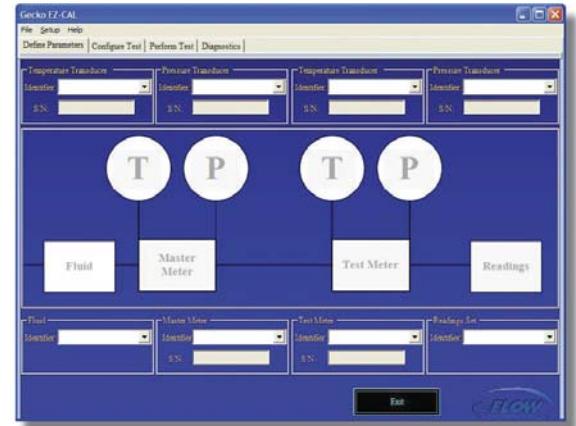
System Description

The Gecko FTS incorporates an interface box (EZ-LINK) that takes inputs from a master flow meter, temperature sensor, and supplies these outputs to user-friendly system software (EZ-CAL). Based on flow with or without temperature inputs, the software calculates the flow rate. A user can then choose to adjust their meter factor of the meter under test and generate a new calibration record. The software merges the output information from the master meter, sensors and device-under-test 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 this case, the water system technician simply plumbs the master meter into the spigot at the front of the customer's property and installs a valve downstream of the master meter. Alternatively, a clamp-on ultrasonic flow meter can also be used in this application. The spigot is then fully opened and the validation is performed without having to remove the customer's meter from the ground. The entire procedure typically takes less than 15 minutes to complete.

Technical Information

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



8930 S. Beck Ave., Suite 107 • Tempe, AZ, 85284 USA
Tel: 480.240.3400 • Fax: 480.240.3401 • Toll-free: 800.528.4225
E-mail: ftimarket@ftimeters.com • Web: www.ftimeters.com
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