

## Battery-operated flowmeter

Monitors district water usage throughout distribution network

Process Instrumentation



MAG8000

A private water company in the Northeast United States delivers more than just clean water. They provide comprehensive and sustainable management solutions for drinking water and wastewater processing that promotes public and environmental health.

As both a utility owner and a contract services operator, the company can customize management and operational strategies to suit local needs and meets expectations.

### Challenge

With the expansion of the local urban districts they serve, the drinking water management business unit realized that they needed to review the data of billed volume vs. produced volume to find inefficiencies. Typically, an acceptable “loss” is 3%, but across several districts, the company was looking at a much more significant loss. With such a large distribution system, they did not know where the loss was occurring, but anticipated the potential for loss from larger customers by-passing the water meter. They also wanted to look for fire hydrant loss (water is “free” to fire districts, but they had seen pool companies using hydrants to fill their trucks), or leakage into the ground (not anticipated to be a large impact, but they were not sure).

The customer realized that the cost of implementing an Automatic Meter Reading/ Advanced Metering Infrastructure (AMR/ AMI) strategy would be a very expensive investment, because they had close to 500,000 water meters deployed. Using a “district strategy”, the company decided to begin monitoring each district, comparing billing, plant generation reports and population profiles, and then identifying which districts had the largest non-billable water usage. That information will allow them to use other strategies in order to pinpoint individuals or group offenders.

Part of the difficulty in collecting the data was due to some of the water interconnects being located in the middle of busy highways or otherwise difficult to access because of no available power source. The company came to the local Siemens representative to investigate a Siemens solution including data collection and communication capabilities. The Company initially considered a large solar-powered radio infrastructure to accomplish the task, but community ordinances prohibited pole or tower construction, and objected to the large solar panels that would have to be used.

## Solution

The local Siemens representative recommended the SITRANS F M MAG8000 battery-operated flowmeter for continuous flow measurement at those sites that had no power available. After they had installed 8 of those meters, the customer still needed their people to travel to each site to collect the data. That is when the customer decided to use the MODBUS output from the MAG8000 flowmeter. The MODBUS signal is sent to a datalogger with cellular interface for data retrieval, all without any solar panels.

Since this comprehensive system was implemented, all required flowmeter data is sent back to the customer's SCADA system for actual collection.

The MAG8000 flowmeter is being used strategically in the customer's water distribution network at pre-determined points to monitor water usage. The values are then fed back to the SCADA system to run calculations on usage, and aid the determination of production values versus loss values. This data has been very useful in determining where the loss issues reside.

## Benefits

### ■ *Cost Savings*

No need to run power to remote site by using the battery-powered MAG8000 flowmeter

### ■ *Time Savings*

Using the MODBUS capability of the MAG8000 flowmeter, they were able to send the meter's output over the wireless network, therefore reducing field time for the meter readers

### ■ *Customer Service*

The local Siemens representative provided startup and fine tuning of the installed system

## About the SITRANS FM MAG8000 Battery-Operated Flowmeter

The SITRANS F M MAG8000 Series of battery-operated water meters gives you the flexibility to install a reliable water flowmeter virtually anywhere without sacrificing accuracy or performance. No direct power is required. The MAG8000 flowmeter complies with the custody transfer approvals MID and OIML R49 water meter standards and is specially engineered for stand-alone water applications such as abstraction, distribution network, revenue metering and irrigation.

The SITRANS F M MAG8000 Series features a basic version for general water applications, or an advanced version for more complex functionality and information.

An optional, built-in GSM/GPRS Wireless Communication Module can send logged flow measurement data via email, SMS or via an OPC server. This keeps the operator up-to-date, regardless of location and makes it possible to commission the meter without visiting the site.

Siemens Industry, Inc.  
3333 Old Milton Parkway  
Alpharetta, GA 30005

1-800-241-4453  
info.us@siemens.com

[usa.siemens.com/pi](http://usa.siemens.com/pi)

Subject to change without prior notice  
Order No.: PICS-00071-0112  
All rights reserved  
Printed in USA  
©2012 Siemens Industry, Inc.

The information provided in this brochure contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.