

## Monitoring water usage and reservoir levels at England's massive Glastonbury Festival



The festival's organizers have turned to ABB flowmeters and recorders to monitor supply and correlate water usage with utility billing.

### Background

The Glastonbury Festival, held every year since 1970 in south-west England, stands as one of the world's largest and most popular open-air festivals for music and the performing arts. The five-day festival takes place in early summer on a huge 900-acre site steeped in symbolism, mythology and religious traditions dating back many hundreds of years. It draws a sellout attendance of 177,000 people a day. Visitors attending the festival enter a huge tented city, a mini-state under canvas. As possibly one of the largest temporary performance sites on Earth, the festival requires an extensive infrastructure to ensure that its city-size population has access to food, water, electric power, toilets and waste management facilities.

In the case of water, the festival consumes more than three million gallons for drinking, washing and showers. The water originates from two underground reservoirs built for the festival. A network of pipes distributes the water to hundreds of hand basins and taps around the festival site.

Bristol Water supplies water to the underground reservoirs, providing fresh water for drinking and washing. All the water on site has the same quality as home drinking water. Regular sampling and testing ensures a safe, clean supply. Instead of buying bottled water, visitors can fill their bottles for free at any of the drinking water taps and the WaterAid kiosks.

### Monitoring water usage

ABB's technical solution now lets festival organizers accurately monitor water reservoir levels, flow rates and consumption throughout the whole site. The solution relies on ABB WaterMaster electromagnetic flowmeter systems and SM500F videographic field recorders. The WaterMaster flowmeters monitor flow rates of water pumped into the reservoirs and pipe distribution system, correlating water supplied with utility billing.



ABB WaterMaster electromagnetic flowmeters.

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Phil Miller, the festival's infrastructure manager.



1 The Glastonbury Festival draws more than 177,000 people a day. Photo: Andrew Allcock. | 2 A network of pipes distributes water from underground reservoirs to hundreds of hand basins and taps around the site.

Phil Miller, the festival's infrastructure manager says, “The information collected by the ABB solution is used for bill evaluation, giving us an accurate and easy-to-understand record of our usage. This ensures that we don’t pay for any more water than we actually use.”

In addition, organizers can view consumption rates and totalization on the SM500F recorders at any time, providing an indication of reservoir levels to ensure adequate supply. They can also note whether dosing and pump rates remain in compliance.

### ABB Flowmeters and recorders

ABB's WaterMaster electromagnetic flowmeters provide the the best levels of efficiency, performance, reliability and accuracy for monitoring water and wastewater infrastructures. They offer the flexibility to solve the most demanding water applications, enabling previously unattainable operational and financial benefits.



ABB SM500F field-mountable videographic recorder.

The flowmeter's innovative sensor design improves flow profiles, reducing upstream and downstream straight piping requirements for the most commonly installed sizes. Using a higher excitation frequency combined with advanced digital filtering, WaterMaster flowmeters improve measurement accuracy by reducing fluid and electrode noise.

ABB's SM500F field-mountable videographic recorder clearly displays water data in a variety of monochrome or color formats. The standard model includes a universal input, 12 software recording channels, an SD memory card for channel data and logs, and a relay output.

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