



TTFM and DFM provide accurate flow solutions at a wastewater treatment plant in the UK.

Overview

A large UK water company based in the South of England required a non-invasive flow measurement solution for two important processes at a wastewater plant. One application was to measure flow measurement of processed water, and the second the raw dirty water from the main inlet pumping station into the works. Some of the pipes used in the wastewater treatment plant were large in diameter and were concrete lined.

The cost of installing contacting flow measurement devices on these larger concrete lined pipes can be prohibitive and could cause a lot of disruption as engineers at the wastewater treatment plant will need to look at getting flows diverted. Not always easy when dealing with a live processing plant.

There was a lack of measurement on both the filter process water and the raw dirty water that flowed into the treatment plant from the main inlet pumping station. Wastewater treatment plants must have accurate and reliable measurement readings on both inflows and outflows so that they know how much water is running through the plant and that processes are operating efficiently.

Thanks to the range of technology in the Pulsar Measurement portfolio, we have a technology that is suited to almost every application.

Flow Measurement for Filter Process Water

The filter process wastewater at the site is the wastewater that has been through the treatment process and has most of the particles removed and is ready for safe distribution back into the local environment.

The treatment plant was looking to gain flow measurement on a concrete-lined 600 mm pipe. Knowing that the liquid being measured at this part of the treatment stage would be clean and filtered, Marc Richards, Senior Support Engineer at Pulsar Measurement, suggested using the TTFM Transit-Time Flow Meter with the more powerful large Pipe



Both flow meters performed well in their respective applications and are a fantastic example of how Pulsar Measurement has a technology to suit every application.

SE16C Sensors.

The TTFM 6.1 Transit Time Flow Meter works by measuring the time-of-flight difference for ultrasonic pulses that are transmitted from one transducer to another. Depending on the mounting configuration, the signal may cross the pipe once, twice, or four times, and this technology is best for clean fluids because of the requirement for the signal to completely cross the pipe. The TTFM 6.1 features three easy-to-select transducer sizes that work on all common pipe materials and options that are tailored to fit the application.

Flow Measurement for Raw Untreated Water

Marc's job wasn't over once we had provided a solution to the filtered wastewater. The water company still needed to gain flow measurement on the raw influent pipeline that flowed into the treatment works from the main pumping station.

The raw untreated wastewater flowed through a concrete pipeline 350 mm in diameter at a different location but on the same site. Because the wastewater in this pipe is untreated, it's likely to have suspended solids and air present which could make it difficult for transit-time technology to obtain a reliable reading. Luckily, the Pulsar Measurement portfolio offers a wide range of technologies, so Marc Richards was able to suggest a solution, the DFM 6.1 Doppler Flow Meter.

The DFM 6.1 Doppler Flow Meter transmits continuous high-frequency ultrasound through the pipe wall into the flowing liquid. Sound is reflected to the single sensor from suspended solids or gas in the liquid. If the liquid is flowing, the reflected sound returns at a shifted frequency, and the DFM 6.1 continuously measures this frequency shift to accurately measure velocity.

Both flow meters performed well in their respective applications and are a fantastic example of how Pulsar Measurement has a technology to suit every application. To find out more about our portfolio of products, please visit the Pulsar Measurement website.



More Information

DFM 6.1 Doppler Flow Meter: <https://pulsarmeasurement.com/dfm-6-1>

TTFM 6.1 Transit-Time Flow Meter: <https://pulsarmeasurement.com/ttfm-6-1>



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