MDot™ provides Air Flow Monitoring for Wastewater Treatment Plant in Wichita

Aeration is an essential part of the wastewater treatment process. Airflow is introduced into wastewater through a main header pipe and branch lines leading to individual aeration basins. Aeration provides oxygen to beneficial microorganisms (bacteria) which break down organic matter and remove pollutants, stabilizing the incoming wastewater.

Suspended growth systems like the activated sludge process used at the City of Wichita Wastewater Treatment Plant require a sufficient supply and an evenly distributed volume of air. Accurate and reliable flow measurement is necessary to help with the plant's efficiency and to meet both Federal and State permitting requirements.

Aeration air flow generally flows through oversized pipes to allow for influent surges. Under normal low-flow operation, the meters must perform accurately. Most flow meters do not measure low velocities accurately, and they require a reduction in pipe size and/or significant pipe blockage to increase velocity. Not only are pipe reductions or restrictions significantly costly, they can also lead to unrecoverable pressure loss which increases energy costs. In addition, the amount of air being sent to the basins needs to be maintained at a specific level, and if there is not an accurate volumetric flow meter in place that can handle the wide range of velocities necessary to deal with the change in influent loads, this leads to increased operational costs via operators conservatively sending more air than what is necessary.

MDot™ Thermal Mass Flow Meter, Provides Accurate Monitoring of Air Flow

The MDot™ is one of the most technically advanced gas flow meters specifically designed for water and wastewater, both highly accurate and with incredible turndown, perfect

" The MDot™ units are performing accurately and with repeatability while providing the City of Wichita significant energy cost savings."

for maintaining the efficiency of the blowers at different speeds. The City of Wichita installed MDot™ units in existing piping with no reduction in pipe size and no resultant pressure loss. A combination of accuracy, especially at low velocities, and energy cost savings made the MDot™ the right choice for this application.

The MDot™ meters are performing accurately and with repeatability, while providing the City of Wichita with significant energy cost savings. Installation costs were minimal thanks to only a single branch outlet being required, compared to other mass flow meters that would require cutting and flanging of the pipe to accommodate smaller diameter spool pieces.

As a full-service instrumentation and service provider, and a trusted Pulsar Measurement partner, Axiom Instruments knows the benefits and drawbacks of all flow measurement technologies from installation & start-up, to operation & troubleshooting. As usual, Axiom provided the right solution for the application.

To find out more about the MDot™ Thermal Mass Flow Meter, visit the Pulsar Measurement website, or to find your local Pulsar Measurement partner, visit the partner locator.

More Information

MDot Thermal Mass Flow Meter: https://pulsarmeasurement.com/en/mdot

Partner Locator: https://pulsarmeasurement.com/en/partnerlocator

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