



WASTEWATER TREATMENT

Monitor Aeration Flow, Digester Gas or Oxygen and Ozone Flow

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Aeration Flow Monitoring

The use of compressed air is necessary to oxygenate the aeration basins to assist in the process of breaking down municipal waste. While a dissolved oxygen meter (DO meter) provides the primary signal to assure that conditions are optimal for bacterial growth, it is the air flow that provides the oxygen that controls the environment. Older systems manually inject air through drop lines into the basins, but do not control the amount of air pumped into the basins, causing great inefficiencies. By monitoring the air flow with a Sage Flow Meter, rather than the traditional positive displacement meter, associated pressure drop is eliminated and a direct mass flow output signal is provided. This fast responding signal can serve as feedback control in automating the process of maintaining the proper DO level, resulting in energy savings as much as 30%.

Digester Gas Flow Monitoring

Downstream of the aeration basins, a secondary process occurs where digesters further break down the waste. The environment consists of digester gas (typically 65% CH₄ and 35% CO₂); here the mass flow rate must be constantly monitored so that an overall system balance is maintained. Older systems consist of maintenance-intensive positive displacement meters that require temperature and pressure corrections. Our flow meters measure the mass flow directly, have negligible pressure drop, fast response, and low-end sensitivity to handle the low velocities associated with digester gas. They are easy to install, insensitive to contamination, and easily cleanable.

WATER TREATMENT

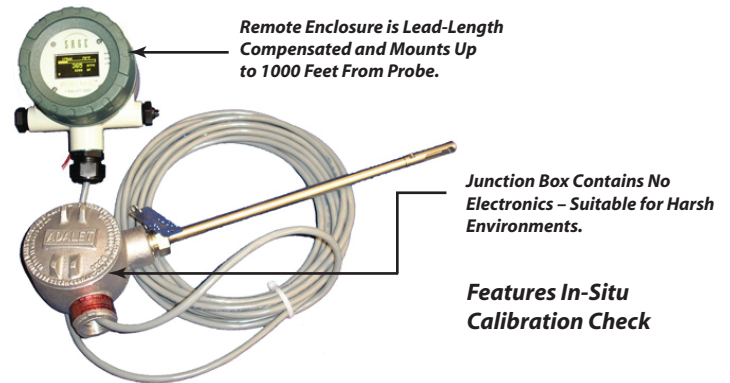
Oxygen and Ozone Flow Monitoring

Modern Water Treatment Systems use ozone, rather than chemicals (such as chlorine) to purify water. These systems have less environmental insult and are more efficient. The systems that generate the ozone require an accurate mass flow meter to monitor the oxygen, and in some cases need the oxygen/ozone mix monitored as well. The Sage in-line thermal mass flow meter (or insertion, for larger systems), is ideal for this application, and can be calibrated for either oxygen or the known ozone mix.

THERMAL MASS FLOW METERS

Sage Metering is your source for monitoring, measuring and controlling the gas mass flow in your municipal or industrial process. Our high performance, NIST traceable, thermal mass flow meters will help comply with environmental regulations, increase productivity, reduce energy costs, and maximize product yields. With over 100 years of combined experience in delivering quality in-line and insertion thermal mass flow meters for a wide variety of municipal and industrial needs, the Sage Metering management team is dedicated to providing you with the performance and customer support that you deserve.

See Sage Metering product brochure for additional information and product benefits or contact us at 866-677-7243 for application assistance.



HOW DOES THERMAL MASS FLOW MEASUREMENT BENEFIT YOU?

- Direct Mass Flow – No need for separate temperature or pressure transmitters
- High Accuracy and Repeatability – Precision measurement and extraordinary repeatability
- Rangeable over 100:1 and resolution as much as 1000 to 1
- Low-End Sensitivity – Detects leaks, and measures flow, even on start-up
- Negligible Pressure Drop – Will not impede the flow nor waste energy
- No Moving Parts – Eliminates costly bearing replacements, and prevents undetected accuracy shifts
- Dirt Insensitive – Provides sustained performance
- Ease of installation and convenient mounting hardware

WHAT ARE THE BENEFITS THAT SAGE THERMAL MASS FLOW METERS OFFER YOU?

- Calibration milliwatts (mw) is continuously displayed, providing for ongoing diagnostics, and in-situ calibration check
- Rugged, user-friendly packaging with easy terminal access
- Low power dissipation, under 2.5 Watts (e.g. under 100 ma at 24 VDC)
- Powerful state-of-the-art microprocessor technology for high performance mass flow measurement and low cost-of-ownership
- Proprietary digital sensor drive circuit provides enhanced signal stability and unaffected by process temperature and pressure changes
- Remote Style has Lead-Length Compensation. Allows Remote Electronics up to 1000 feet from probe; Explosion Proof Junction Box has no circuitry, just terminals (suitable for harsh environments)
- Field reconfigurability via Addresser software
- Captive Flow Conditioners for Insertion Meter applications, if required