SAGE METERING, INC.

MONITOR LANDFILL GAS

LANDFILL GAS FLOW MONITORING

Measuring the Landfill Gas Directly From the Ground

There are over 1000 waste disposal landfill sites throughout the country. The owners or lessees of these sites must know what quantity of gas is coming out of the ground. Typically, the landfill gas is a mix of 50% CH4 and 50% CO2, although this percentage will vary from site to site, and may even vary seasonally within a site. The gas flow is at a very low pressure and the associated velocity is extremely low – well below the threshold of most flow meter technologies. However, with Sage, our Thermal Mass Flow Meter Technology has extraordinary low-end sensitivity and will detect even the slightest flow of the landfill gas. In addition Sage mass flow meters have negligible pressure drop, are resistant to contamination, can tolerate wide gas temperature fluctuations and are easy to install - all features that have direct benefit in the landfill gas application. The meter will report mass flow (no temperature or pressure devices are needed), and will also totalize the ongoing gas consumption. If desired, the totalizer can periodically be reset externally by a simple contact closure, or by utilizing the menuing system via the meter keypad or via RS232 and a laptop. Convenient remote enclosures are available that eliminate any electronics at the sensor location. Finally, if the landfill gas mix has known and severe seasonal fluctuations in composition, the Sage meter can be calibrated for up to four different gas mixes, easily user selectable.

Measuring the Landfill Gas to Engines That Generate Electricity

More and more landfills are developing the technology to generate electricity from the landfill gas. The landfill gas runs the engines that generate electricity, the excess of which is sold and added to the power grid. These facilities are now being required to measure the gas going into the engines – and the Sage Thermal Gas Mass Flow Meter will accurately and cost-effectively handle this requirement, providing additional benefits described above.

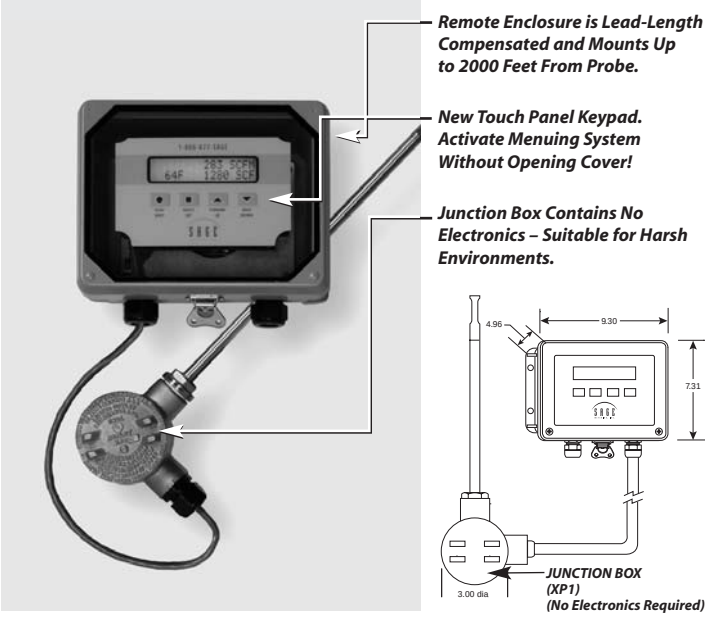
THERMAL MASS FLOW METERS

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 70 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.

Sage Thermal Mass Flow Meters are designed for high performance mass flow measurement of flow rate and consumption of gases such as air, oxygen, landfill gas, digester gas, bio gas and other gases and gas mixes. They are field rangeable and have a convenient user interface.

Sage Metering has distinguished itself by offering a higher standard – our mass flow meter output is virtually independent of even large process temperature variations, and our digital electronics is impervious to external analog noise. In addition, our meters feature a back-lit display that reports mass flow or velocity, totalized mass flow, and temperature. Isolated 4-20 ma outputs for mass flow and/or temperature, relays, and a convenient RS232 and keypad user-interface, gives you the flexibility to integrate the functions of flow measurement with your specific needs.

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 optimal control of your process
- Rangeable over 100:1 Turndown (1000:1 with multiple calibrations) – Accommodates the extremes of your process with one instrument
- 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

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

- ***New:*** Verify sensor cleanliness and validate calibration with self-check routine
- ***New:*** *Touch Screen Technology.* The cover does not need to be removed to access Menuing System
- ***New:*** *Lead-Length Compensation.* Remote electronics up to 2000 ft from probe
- ***New:*** Probe Junction Box requires no electronics. Suitable for harsh environments
- Available with up to four totally independent calibations (four different gases, sensitivities, or configurations). Channels A–D selectable by keypad, laptop or external switch closure
- Powerful state-of-the-art microprocessor technology designed for high performance mass flow measurement, and field rangeability
- Proprietary sensor drive circuit provides enhanced signal stability and is unaffected by process temperature changes
- Menu driven user configurability, including full scale setting, units of measure, pipe area, channel selection, pulsed outputs of total, and diagnostics
- Easy to read 2-line back-lit flow rate/totalizer and temperature display. Also serves as dialog window for menu selection of user options
- RS232 PC interface and free Sage VIP software – easy to use
- Ease of installation, and convenient mounting hardware
- Flow conditioning built in to large flow meters (3/4" and up)

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Rev 1, 11/23/05