

GREENHOUSE GAS SOLUTIONS FOR MONITORING/REPORTING



Kurz thermal mass flow meters exceed the certification levels required by the Mandatory GHG Reporting regulation and are approved for these applications



complex technology
MADE SIMPLE

Greenhouse Gas Solutions for Monitoring & Reporting



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Mandatory Greenhouse Reporting Requirement

On September 22, 2009, the U.S. Environmental Protection Agency (EPA) signed a new rule requiring facilities to begin reporting GHG emission, starting with the year 2010. The EPA announced that:

"Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to EPA. The gases covered by the proposed rule are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF₆), and other fluorinated gases including nitrogen trifluoride (NF₃) and hydrofluorinated ethers (HFE)." (1)

The EPA estimates that under this rule over 10,000 facilities will be required to report. Affected facilities will have to monitor parameters necessary to determine the Greenhouse Gas emissions from the facility. Depending on the facility and process, this may include the monitoring of fuel flows, process streams and/or stack flows.

Mass Flow Determination

The GHG Regulation requires flow to be determined by mass, not volume. Pressure differential devices (orifice plates, pitot tubes), turbine meters, vortex meters, and ultrasonic meters measure volume, not mass. Accordingly, those devices that measure volume will also require measurement of other parameters such as pressure, temperature and gas density in order to calculate mass flow, so additional costs for those measurement instruments will be necessary.

Mass Flow Meters measure mass directly and can provide continuous real-time monitoring over a broad range of temperature, pressure and gas density without requiring the additional, costly measurement instrumentation needed for volumetric meters.

Thermal Mass Flow Meters

Only Thermal and Coriolis meters measure mass flow directly. Of the two technologies, thermal mass flow meters:

- Are far less expensive
- Have a much greater turndown ratio
- Can provide accurate measurement at much lower flow rate
- Can be used on much larger lines or ducts
- Have a lower pressure drop
- Output both flow rate and temperature simultaneously

(1) The rule is contained in the US Code of Federal Regulations, Title 40, Part 98. The section containing the General Requirements for Monitoring and QA/QC is in 40 CFR 98.34 (c)(1). It defines the requirements to certify the instrumentation used for the monitoring.



Kurz Instruments supplies a wide array of insertion and in-line Mass Flow Transmitters to provide customers solutions for GHG monitoring and reporting. Visit our website for more information www.KurzInstruments.com

Kurz Thermal Mass Flow Meters

Kurz's patented *DigitalFlow*[™] technology is the only fully digital thermal mass flow meter on the market. This technology uses the most sophisticated, cost-effective and reliable digital electronics which improves and eliminates the problems inherent in technology used in other thermal mass flow meters.

- Kurz meters are capable of operating in the toughest, hottest and dirtiest applications:
 - Operate at higher process temperatures (up to 1100°F)
 - High tolerance of dirty gas
 - Capable of measuring extremely low flows to very high flows
- Kurz *DualFast*[™] Sensor has the fastest full range response to changes in flow and is not directionally sensitive
- The Kurz meters include *FlowCorrect*[™] electronic profile correction system. This eliminates the need for flow conditioning and accommodates non-uniform velocity
- Kurz *VariPower*[™] adjusts and continues working at high process temperatures, thus eliminating sensor burnout problems
- Kurz meters have been proven to be Rugged and Reliable for more than 35 years
- Kurz is the **ONLY** Flow Meter and Flow Switch Company to have a **3 Year Warranty standard** for all products

Kurz is the total gas flow measurement answer for monitoring the flow of natural gas, bio-gas fuel, process streams, or stack gasses, and meet the certification required by the mandatory GHG reporting regulations.

About Kurz Instruments

Kurz Instruments is the industry leader for designing and manufacturing Thermal Mass Flow Transmitters for industrial air and gas flow applications. Our engineers, product development specialists and management staff have developed products to operate in the harshest of environments. For more than 35 years, our entire team has provided solutions to our customers most demanding and difficult applications.

Kurz products are used in a wide variety of industrial applications including combustion air, aeration air and digester gas, nuclear power plants, pump protection, flare stack monitoring and compressed air, to name only a few.

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