FLEXIM® Flare Gas Meter

Non-invasive Ultrasonic Transit Time Measurement Principle

**Quantities of measurement:**
- Standard and actual volume flow, mass flow, totalized standard volume flow, totalized mass flow, flow velocity

**Flow Velocity:**
- 0.03 ft/s to 120 ft/s

**Accuracy:**
- ± 1 ... 3% ± 0.03 ft/s (depending on application)
- ± 0.5% ± 0.03 ft/s (field calibrated)

**Repeatability:**
- 0.15% ± 0.03 ft/s

**Pipe Sizes:**
- 1” to 10”

**Pipe Material:**
- Polypropylene resin (Proline)
- Clamp-on System: Stainless Steel

**Temperature range:**
- up to 75 °F at 150 psi, up to 200 °F at 10 psi

**Pressure range:**
- up to 150 psi

**Certification:**
- cFM Class 1 Div. 2

**Input types:**
- Maximum of 4, Available are: temperature (Pt 100, Pt 1000), current, voltage

**Output types:**
- A variety of combinations are available from the following: current (0/4 mA to 20 m/AA), voltage, frequency, pulse, alarm

**Communication:**
- HART or Foundation Fieldbus or Modbus RTU or RS485 or BACnet MS/TP

**M i n  S C N R  ≥ 3 0**
**M i n  S N R  ≥ 2 0**

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FLEXIM has offices located throughout North America. Please have a look for your local representative at:

[www.flexim.com](http://www.flexim.com)
or call us at:
**1-888-852-PIPE**

Non-Invasive Ultrasonic Flare Gas Flow Measurement

**Accurate - Reliable - Versatile**
The non-invasive ultrasonic transit-time flow measurement technology employed by FLUXUS®, is the ideal metering solution for flare gas applications. As the transducers are mounted onto the outside of the pipe wall, there are no moving parts and thus no interference with the flow in any way. Further, the system is virtually maintenance-free, thus significantly reducing costs and increasing the lifetime of the meter.

One of the challenges of measuring flare gas is the ability to measure extremely low flows in purging situations as well as high flow velocities during flaring events. FLUXUS® achieves an unrivalled accuracy and reliability at such variable conditions by emitting and receiving over 1,000 measurement signals per second and employing a standard setting digital signal processing algorithm. By use of an additional internal temperature compensation within the ultrasonic transducer according to ANSI/ASME standards, measurement drift is completely ruled out.

FLUXUS® is a superior solution in comparison to insertion and inline ultrasonic flow meter solutions as the transducers do not intrude into the pipe itself. Installation of the measurement system can be done with minimal process interference by inserting the pre-fabricated spool piece.

Why do this with a Polypropylene Spool? Though our meters are capable of measuring gas on steel pipes down to a minimum pressure of 70 psi - which no other clamp-on meter on the market achieves, it is possible to measure even at ambient pressure when using a polypropylene pipe!

FLUXUS® is already the flare gas meter of choice by major Oil & Gas producers - contact us for references!

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**FLUXUS® Ultrasonic Flare Gas Meter**

**Features**

- Highly accurate and reliable
- Unlimited turndown ratio
- Measures mass and volume flow rates
- No pressure drop, no back pressure
- No maintenance required – no moving parts
- Certified for operation in hazardous areas
- No calibration required during and after installation
- Rapid installation - meter is fully preprogrammed

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**Applications**

- Flare and Vent Gas
- Mass Balance
- Gas Waste streams
- Leak Detection
- Acid Gas, Process Gases
- Process optimization
- Wide flow velocity range and low pressure applications

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**One for All Applications**

Due to their harmful effect on the atmosphere, regulating agencies require flow measurements for reporting flared and wasted greenhouse gases. Waste gases can contain moisture and residual solids. Meters that are intrusive like ultrasonic and thermal can get fouled and become maintenance prone. The accuracy of thermal meters can be severely affected by coatings, moisture, and the gas composition. The non-invasive nature of FLEXIM’s clamp-on meter makes it immune to these effects.

Another very important aspect of flare metering is turndown range. The FLUXUS® ultrasonic flare gas meter is truly non-invasive and offers a virtually unlimited turndown ratio - measuring from the lowest flow rates down to 0.03 ft/sec and up to 120 ft/sec with an unrivalled degree of accuracy and reliability.

**Flare and Waste Gas Monitoring**

Flare stack and feed lines are common in Oil & Gas production environments as well as at Chemical and Petrochemical plants. The flared or wasted gases can range from various natural gas compositions - including sour gas - to inorganic gases such as nitrogen oxides (NOx), highly reactive volatile organic compounds (HRVOC) and other greenhouse gases. FLUXUS® measures accurately and highly reliably over a huge turndown ratio at temperatures up to 200 °F and internal pressurization up to 150 psi.

**Pressure Relief Valve Flow Measurement**

Installed downstream of relief valves feeding into the main flare header, FLUXUS® is the ideal solution to accurately and reliably indicate flow of flare gas and monitor “blowdown” events as well as potential leaks.
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