FLEXIM

FLUXUS® F706 and G706
4-Beam Liquid and Gas Flowmeter

Unrivalled Precision, Reliability and Repeatability

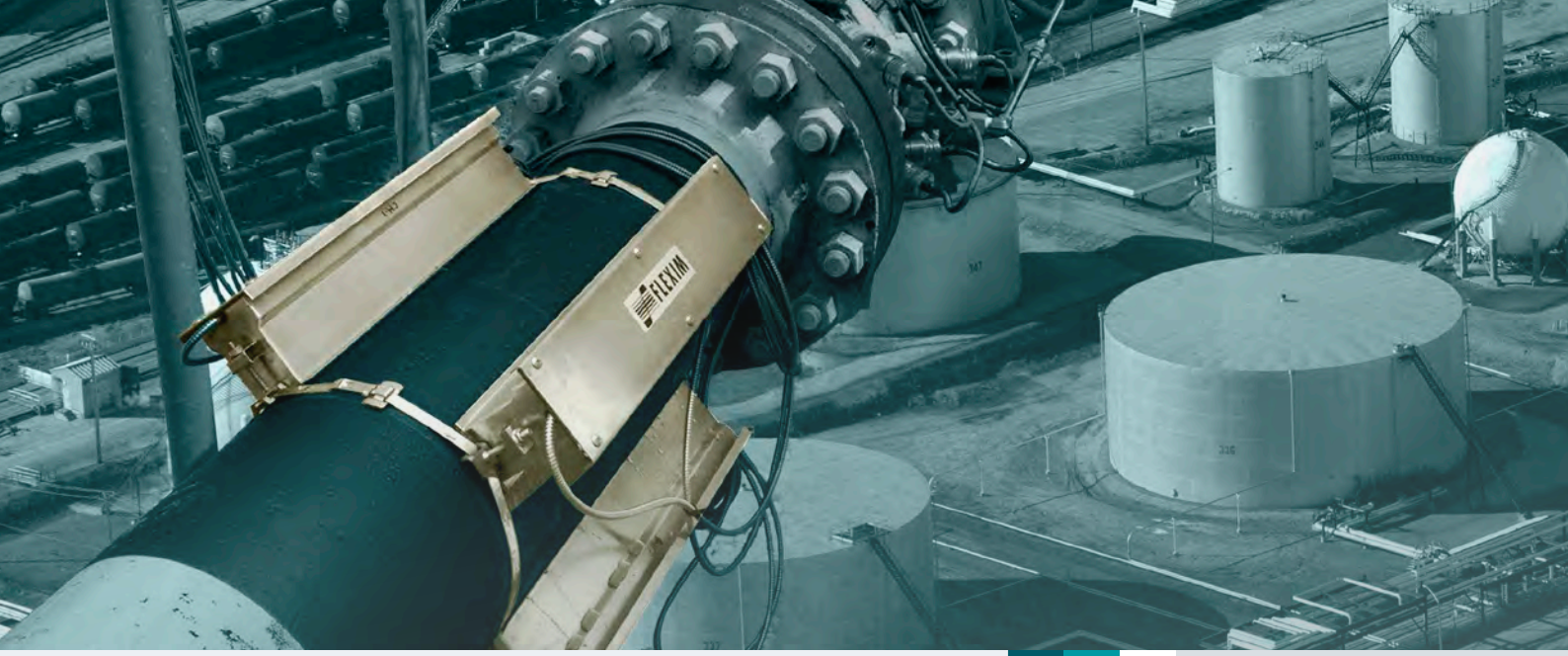
Hydrocarbon Products Handling

Pipeline Monitoring

Check Metering

Leak Detection

Media Detection



FLUXUS® F706 and G706
4 Beams for Precision

Unrivalled Accuracy, Repeatability and Reliability

The FLUXUS® F/G706 combines high precision with the advantages of non-invasive ultrasonic flow measurement. With its 4 beams, in reflect mode providing 8 paths through the fluid, the meter averages the result of up to 4 planes. This arrangement averages-out cross-flow and achieves the optimum non-invasive compensation for disturbed flow profiles. On longer straight runs, the 4-Beam meter achieves outstanding accuracy performance due to the individually averaged path effects and can thus be used for control and redundancy measurements of custody transfer meters or for usage in protective systems for leak detection.

Easy installation without process outages

When commissioning a new flow measurement point, a significant part of the costs are incurred by the installation work (line shut-down, pipe cutting, pipe flushing, etc.). These costs are significantly reduced using the F/G706 clamp-on technology that involves zero impact on pipe integrity while commissioning.

Highly Economical: No line shut-down, welding, pipe cutting or heavy equipment necessary for installation.

100% plant availability: The non-invasive measurement technology does not require any process shut-downs - neither for installation nor for any potential maintenance efforts

Extremely low maintenance – virtually zero maintenance due to use of solid couplant pads instead of high maintenance gels

Safety: The F/G706 clamp-on meter does not add any leakage risk. It also does not require any flanges or gaskets

Leading clamp-on ultrasonic flow measurement

Temperature compensated transducers, unique digital signal processing with superior noise suppression, combined with a highly rugged design, result in an unrivalled degree of reliability, durability and accuracy - ensuring perfect operation of the system under the harshest field conditions and making it even suitable for buried or flooded installations (IP68 rated).

The Solution for Challenging Midstream Applications

Flow Measurement in Leak Detection Systems

Leak Detection applications are not dependent upon highest flow measurement accuracy but on high resolution, wide turndown and especially good repeatability and reliability. This must also be achievable under changing ambient conditions and with stationary or transient flow conditions. On the basis of its 4-Beam ultrasonic technology, the F/G706 is capable of providing such solutions for both liquid hydrocarbon products as well as natural gas applications. Being completely drift-free and detecting even the smallest flow rates, it is the ideal meter for leak detection purposes.

Check Metering

Check metering points provide metering redundancy, providing an increase in reliability and ultimately plant availability. The F/G706 non-invasive flow meter can be placed next to a custody transfer meter for reading validation. Moreover with the F/G706 in place, downtime can be avoided in case the custody transfer meter is temporarily taken out for recalibration.

Pipeline Monitoring and Media Detection

Pipelines have to be monitored closely - especially within tank terminals where various hydrocarbon products can successively pass within the same line. Placing custody transfer meters at such measurement points can be very costly. FLEXIM's F/G706 meter provides the same levels of metering capability but more cost effectively. Furthermore, the F/G706 can be placed on any pipe, independent of its dimensions, material and inner pressure.
FLEXIM also provides a solution for non-invasive media detection. By measuring the sonic velocity of the flow medium, the meter clearly identifies the individual hydrocarbon product and can be used to help trigger valves and vents to reduce costly transmixing of media.

Laboratory Accuracy under Field Conditions

High accuracy and proven laboratory performance under reference conditions is one task. Accuracy under field conditions is quite another thing:

- FLEXIM's transducers automatically compensate for ambient temperature changes – according to ANSI/ASME MFC-5.1-2011. This ensures no false measurement readings during temperature swings (day / night)
- FLEXIM's transducers are carefully paired according to their individual properties. This process lays the foundation for superior accuracies over a wide temperature and application range. It also ensures a negligible zero offset and facilitates the measurement of very low flow rates. There is no need for zeroing, or programmed "automatic zero" workarounds.
- FLEXIM's transducers are all individually factory calibrated, with storage of the calibration data on a "Sensprom"chip. The calibrated transmitter automatically reads the individual calibration data, avoiding potential errors and making transducer exchanges easy.

For FLEXIM, accuracy is a topic we take seriously. FLEXIM's specified installed-accuracy claims can seem conservative but we firmly believe that clients expect us to over-perform rather than disappoint. Ask us, if you want to learn more about the total measurement uncertainty for your specific application.

Technical facts

Temperature ranges: Liquid media: Gaseous media:	 -40 °C to +200 °C (-190 °C to +600 °C with WaveInjector®) -40 °C to +100 °C
Flow velocity: Liquids: Gases:	 0,01 to 25 m/s 0,01 to 35 m/s
Repeatability:	0,15% of reading, ± 0,01 m/s
Accuracy: Liquids: Gases: (if field calibrated):	 ± 1% of reading, ± 0,01 m/s ± 1% ... 3% of reading, ± 0,01 m/s (application dependent) ± 0.5% of reading, ± 0,01 m/s (liquids and gases)
Pipe sizes (OD): Liquid filled pipes: Gas carrying pipes:	 6 mm to 6500 mm 6 mm to 2100 mm
Protection degree: Hazardous area approvals:	IP65/IP66; Transducers up to IP68 ATEX, IECEx Zone 2, FM Class I, Div. 2
Pressurisation:	No limitations for liquids > 3 bar for gases in steel pipes; plastic pipes > 1 bar
Communication Protocols:	HART, Modbus RTU, RS485
Inputs: Outputs:	Up to 4 Inputs: temperature (Pt100/Pt1000), current, voltage, binary Up to 4 Outputs: (active/passive) current, voltage, frequency, binary
Quantities of measurement:	Volume flow, mass flow, flow velocity, media detection

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