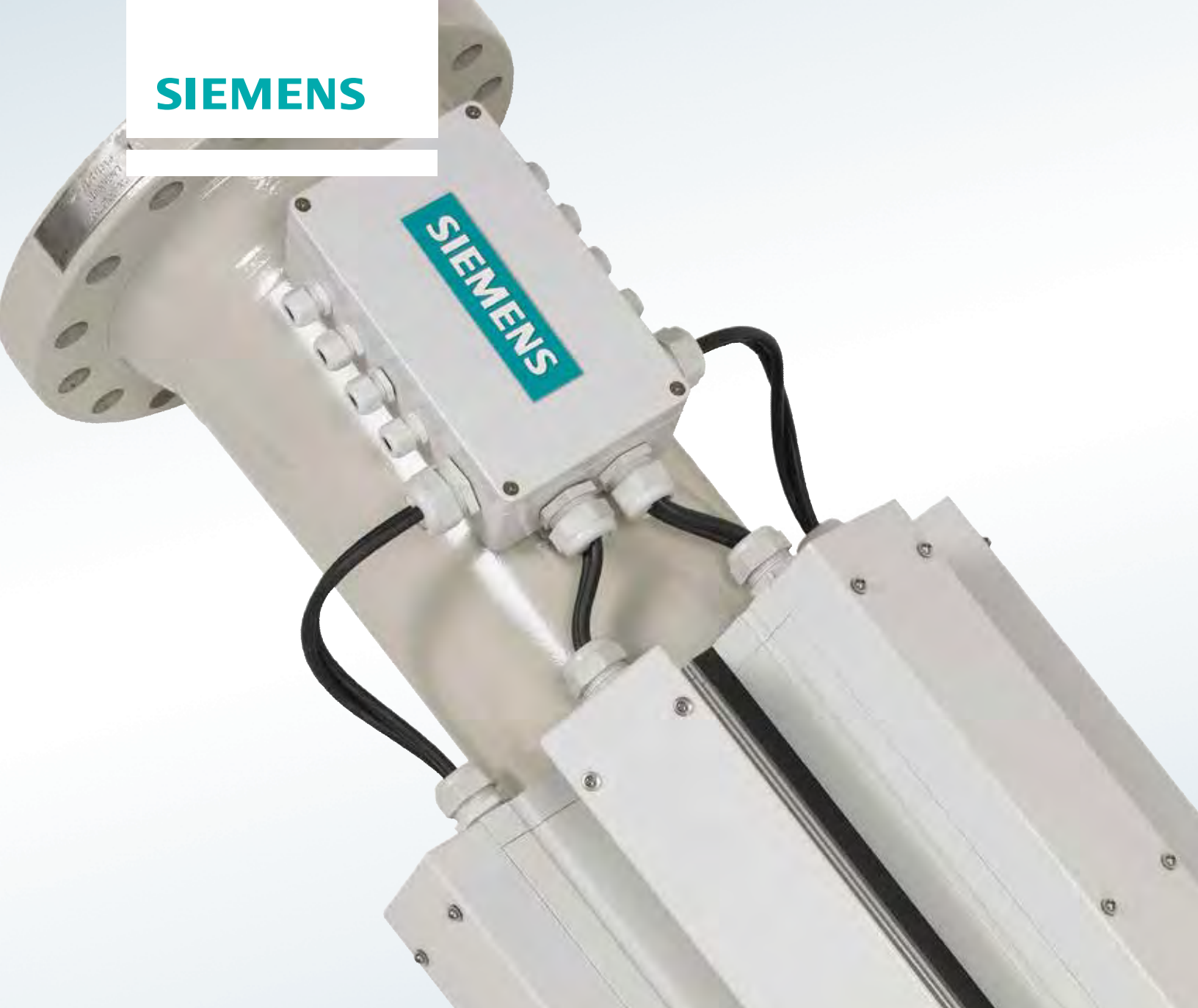




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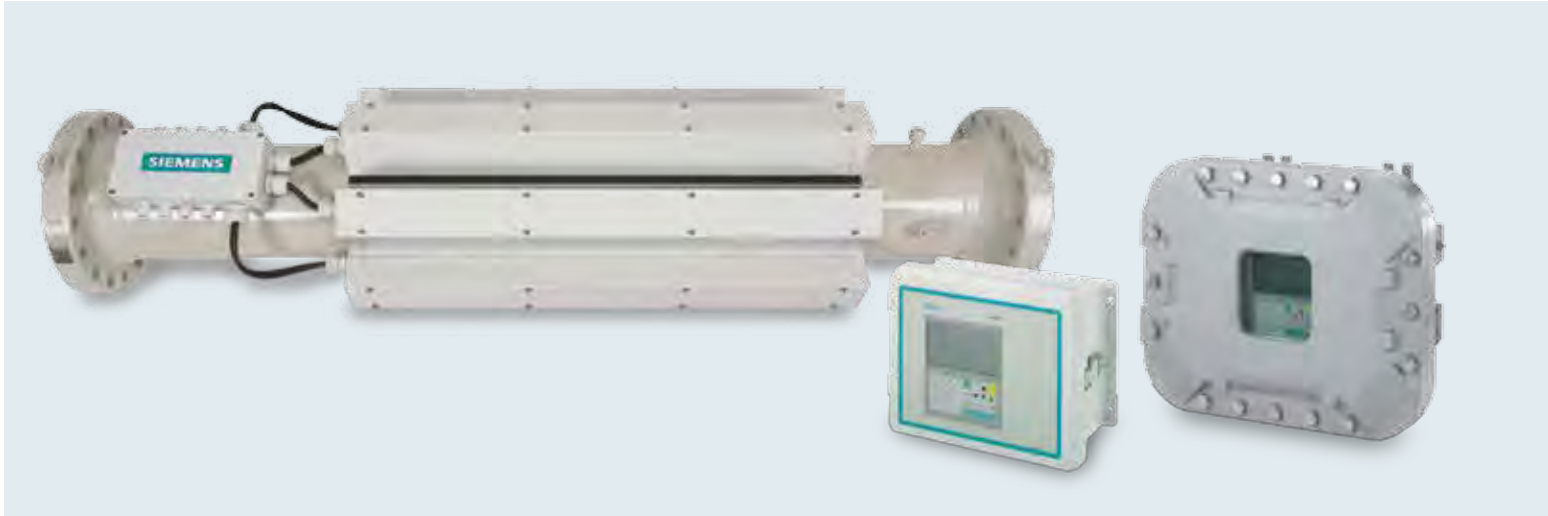
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Precise flow measurement without all the extra work

With the innovative SITRANS FUT1010 ultrasonic flowmeter, the transducers never touch the medium

Answers for industry.

Maintenance-free accuracy with WideBeam ultrasonic flow technology



Extremely precise flow measurement with virtually no maintenance required? It's possible when you incorporate the versatile SITRANS FUT1010 ultrasonic flowmeter from Siemens into your liquid or gas hydrocarbon application.

The SITRANS FUT1010 uses WideBeam transit-time technology to achieve highly accurate flow measurement. And with Siemens' unique TransLoc™ mounting system, the transducers are permanently mounted on the outside of the sensor, preventing contact with the medium. The result is no cavities or clogging by the high-paraffin liquids found in many hydrocarbon applications.

As a manufacturer of best-in-class flowmeters, Siemens offers groundbreaking technology wrapped in an innovative design. Combine this with 40+ years of experience in the field of ultrasonic flow measurement, and you can rest assured that you are getting the right solution. There is no need to search further.

WideBeam signal processing

Siemens' WideBeam transit-time technology increases flow measurement precision by using the resonant frequency of the

pipe wall to transmit the beam into the media, with the wall acting as a waveguide. The result is a very strong signal, which is the basis of the meter's high accuracy and rangeability.

TransLoc transducer mounting system

With the permanently mounted TransLoc transducer system, the WideBeam transducers are permanently mounted onto the sensor, permitting flow calibration and use in high-performance applications. The transducers are sealed completely, protecting them from harsh environments. And with an IP65 enclosure rating and the use of made-to-last dry couplant, there is no need for time-consuming maintenance tasks.

Zero drift compensation

To correct for zero drift without interrupting flow, the SITRANS FUT1010 dynamically compensates for variations in the transducer temperature. If not corrected, such conditions can negatively impact accuracy.

Liquid applications		Gas applications	
Pipelines	Allocation, line balance, interface detection, densitometer reading	Upstream	Production wells, gathering, separation, dehydration
Terminals	Check metering, transmix metering, product identification	Midstream	Underground storage, transmission, compressor stations
Refineries	Process control, blending, tank measurement, ship loading and unloading	Downstream	Electric power generation, industrial use, gas processing plants
Transportation	Crude oil pipelines, LPG pipelines, multiple product pipelines, airport facilities		
Downstream	Petrochemical and processing plants		

A robust solution for almost every hydrocarbon application



	Technical specifications
Calibrated accuracies	Liquid: $\geq 0.15\%$ of flow, Gas: $\geq 0.2\%$ of flow
Repeatability	$\pm 0.05\%$ to 0.1% of actual reading
Flow ranges	Liquid: ± 40 f/s (± 12 m/s), Gas: up to ± 100 ft/s (± 36.5 m/s), both bidirectional
Temperature ranges	-20 °F to 200 °F (-28 °C to 93 °C)
Pipe diameters	4 to 24 inches (DN100 to DN600)
Data inputs	4 x 4-20 mA, programmable (pressure, temp., etc.)
Data outputs	4 x isolated 4-20 mA, 2 x 0-10 VDC, 4 x digital pulse outputs (2x open collector, 2x 0-5V TTL)
Communication	HART, Modbus RTU / TCPIP, Ethernet IP, VT100 RS232
Enclosure ratings	Sensor: IP65 (NEMA 4X), transmitter: IP66 (NEMA 7)
Approvals	CSA, FM, CRN and ATEX (PED)

The SITRANS FUT1010 is available in two versions, one for measurement of liquid hydrocarbon and another for gas. , making it useful for numerous upstream, midstream and downstream measurement tasks. A wide variety of sensor sizes ensures compatibility with virtually any application.

To accommodate varying customer accuracy requirements, the SITRANS FUT1010 is available with two, three or four paths, and is suitable for installation in Zone 1 and hazardous areas. If the installation requires it, the SITRANS FUT1010 can be delivered with upstream and/or downstream tubes and a flow conditioner. Sensors can accommodate pipe sizes from 4 to 24 inches (DN100 to DN600) with ANSI Class 150, 300 and 600 flange ratings for the liquid meter and ANSI Class 300 and 600 for the gas version. A number of communication options are available, including HART, BACnet MSTP/BACnet IP, Modbus RTU/TCPIP, Ethernet IP, Johnson N2 and VT100 RS232.

The SITRANS FUT1010 is available with a variety of local approvals, including:

- CSA
- FM
- CRN
- ATEX (PED)

Liquid version features

The performance of the liquid version of the SITRANS FUT1010 meets OIML R117 and API requirements, which makes it ideal for a wide range of pipeline, terminal, refinery and transportation applications.

Thanks to the WideBeam technology, the SITRANS FUT1010 is characterized by a stable performance that allows for

continuous operation in applications where the measured media is contaminated (e.g. by water or gas).

Output options include liquid density and API, making the liquid version a perfect replacement for intrusive densitometers. It also comes with a complete range of diagnostic functions that assure calibration and operational integrity.

Since the transducers are located on the outside of the sensor, the SITRANS FUT1010 easily accommodates scraper and pig detection.

Gas version features

The SITRANS FUT1010 meets the strict manufacturing and accuracy standards required for compliance with AGA-9. In addition, the internal AGA-8 table allows the meter to report standard volume flow without the need for a separate volume compensating flow computer. This ensures high precision and is particularly useful for fixed gas compositions.

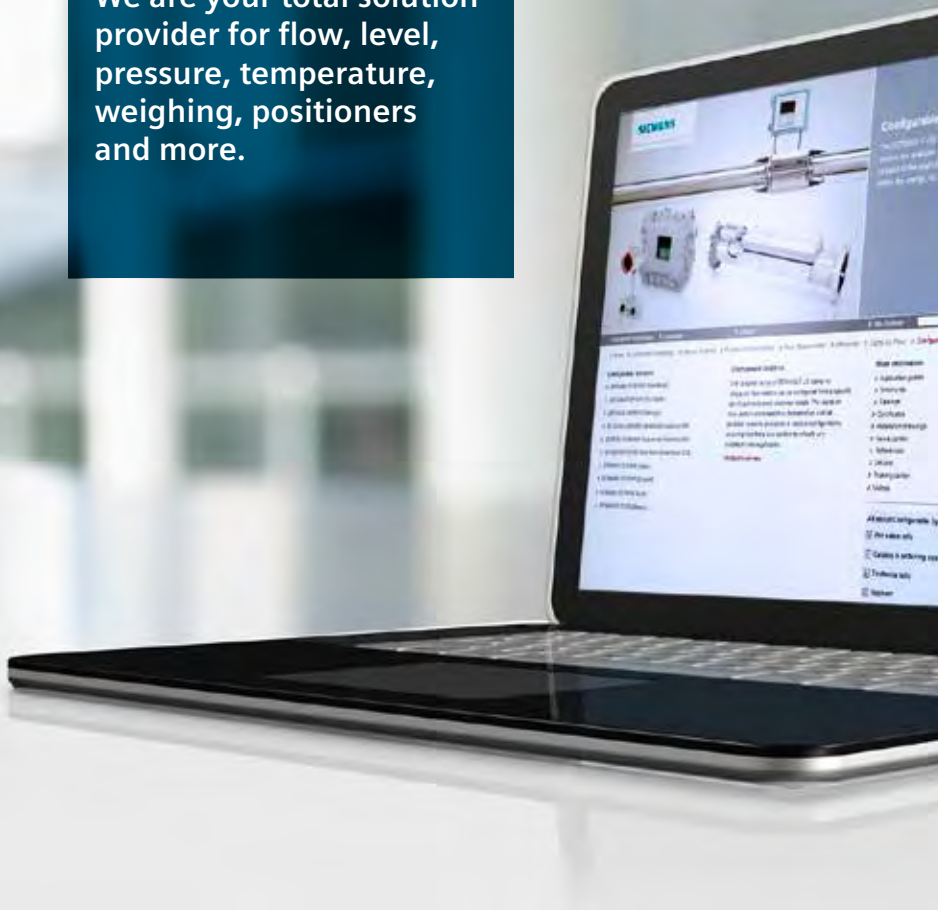
Applications with valve-generated acoustic noise are perfect candidates for the SITRANS FUT1010, since its non-intrusive configuration and high operating frequencies dampen such noises. The WideBeam technology also reduces the impact of cross and swirl flow through the use of a "bounce" or reflect path configuration.

Your all-in-one-solution:

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