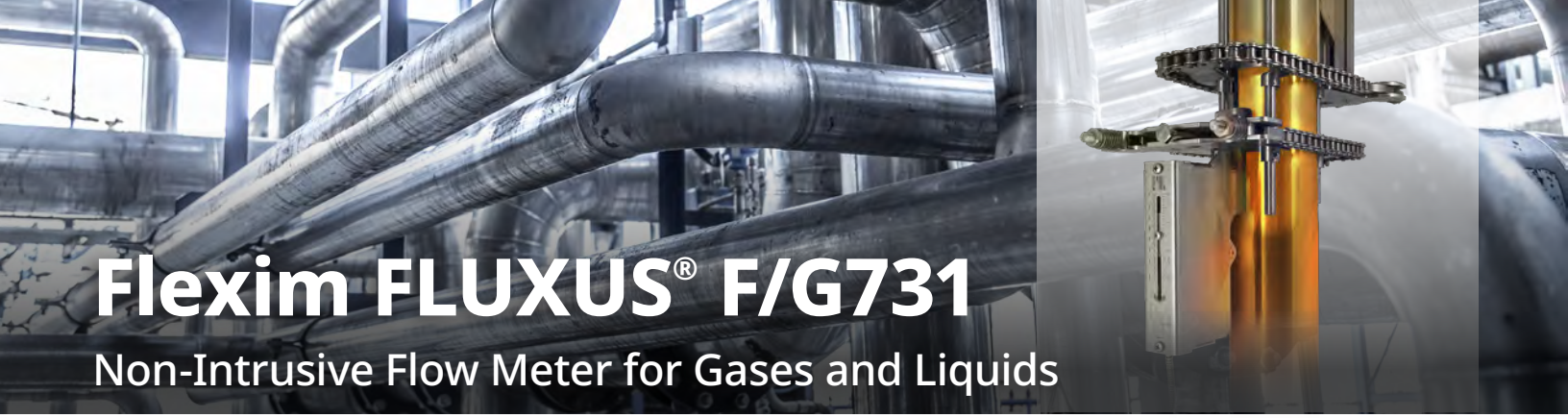
Flexim FLUXUS® F/G731

Non-Intrusive Flow Measurement for Gases and Liquids

Save time, save costs, clamp on!

FLEXIM

EMERSON™



Flexim FLUXUS® F/G731

Non-Intrusive Flow Meter for Gases and Liquids

Fast - Accurate - Reliable

The Flexim FLUXUS® F/G731 is a technological breakthrough in the clamp-on ultrasonic flow measurement of liquids and gases. With its new hardware design and improved, powerful digital signal processing it surpasses any other non-intrusive ultrasonic flow meter in terms of accuracy, reliability and versatility.

Clamp-On Saves Cost and Time

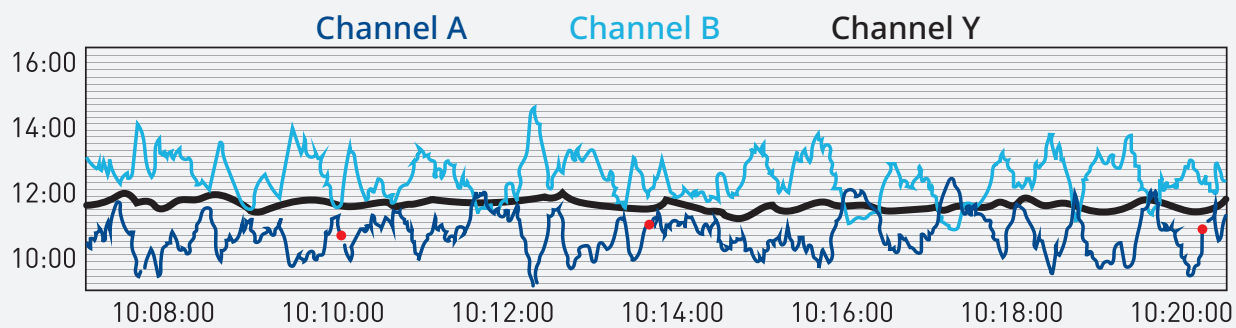
From the smallest tubing to the largest penstock, independent from the pressure inside the pipe and over a very wide temperature range, the Flexim FLUXUS® F/G731 saves time and money! Whether it is gas or liquid, no process interruption is required for installation. The signal processing increases robustness even in challenging conditions with entrained gas or solids or liquid in the gas stream. Even low flows down to only a few liters per hour can be recorded accurately. As the flow meter of choice for a very wide range of applications in virtually any industrial sector, the FLUXUS® F/G731 is available with two different housing types: aluminum enclosure for standard applications and stainless steel enclosure for operation in highly corrosive environments.

Ready for Industry 4.0

The Flexim FLUXUS® F/G731 comes with all common communication protocols - HART, Modbus, Foundation Fieldbus, Profibus PA and BACnet allow field communication, parameterization and online diagnostics. The FLUXUS® F/G731 is also one step ahead in terms of user guidance and diagnostics. It can be easily parameterized via USB. Its Ethernet connectivity provides additional bi-directional communication capabilities. The Advanced Meter Verification tool enables the user to prove the meter performance at any time.

Key Features

- Fully compliant with ISO 24062
- Advanced Meter Verification provides continuous meter status check
- Integrated Flow Disturbance Correction allows installations with a short inlet run down to 2x pipe diameter length
- Transducer calibration according to ISO 17025
- Permanent transducer coupling reduces the maintenance efforts to virtually zero
- Synchronized multi-channel processor for instant flow disturbance compensation
- Matched transducers, built-in temperature compensation (according to ANSI/ASME MFC-5.1-2011 regulations) and digital signal processing guarantee excellent zero-point flow measurement stability



1. Instantaneous flow compensation of averaging (Y) channel with F/G731 Synchronized Channel Averaging ultrasonic flow meter

Instantaneous Flow Compensation

Flow profile changes or disturbances inside the pipe are the result of multiple factors: high flow velocities, pressure and temperature fluctuations, inadequate inflow conditions (straight runs), and adjacent instrumentation such as valves, gauges, etc. Minimizing the effects of these disturbances makes all the difference when it comes to accurate and reliable flow measurement. While optimal inflow conditions, flow conditioners and other design measures can solve these issues, in real-world applications, the opposite is often the case, resulting in a trade-off between response time and performance.

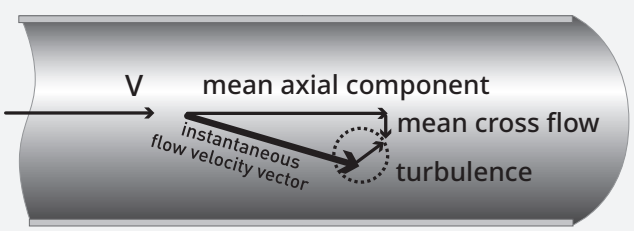
With Flexim FLUXUS® F/G731 there is no compromise. The faster processor reduces fluctuations and lag time in the meter reading, thus resulting in better and more stable outputs.

Superior Performance

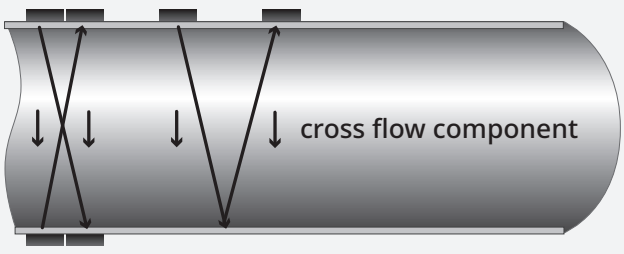
The new Flexim FLUXUS® F/G731 leverages the already superior capabilities and advanced signal processing techniques pioneered by Flexim's clamp-on measurement solutions, while introducing an even faster DSP processing module that enables Synchronized Channel Averaging measurement.

- **Operational Safety**
  The measurement system can't cause pipe leaks, be prone to clogging or any other related issues that can compromise process integrity.
- **Economical Solution**
  An externally mounted system means there's no need for process interruptions or additional engineering costs.
- **Maintenance-Free**
  No contact with flowing fluids results in a completely maintenance-free and durable metering solution suitable for the harshest environments.
- **Standard Volumetric Flow Rate and Mass Flow Rate Compensation**
  Pressure and temperature inputs for built-in standard volumetric and/or mass flow rate measurement.

2. Disturbed flow profile and flow velocity vector composition



3. Cross flow compensation with X arrangement or reflection arrangement



TECHNICAL FACTS

Flexim FLUXUS® F/G731	
Measurement uncertainty (volumetric flow rate)	
FLUXUS® F731 (liquids)	± 1% MV ± 0.02 ft/s (± 0.005 m/s)
FLUXUS® G731 (gases)	± 1...2% MV ± 0.02 ft/s (± 0.005 m/s)
Transmitter	
Response time	1 s (2 channels)
Repeatability	0.15 % MV ± 0.02 ft/s (± 0.005 m/s)
Number of measuring channels	1 or 2
Explosion protection of transmitter	ATEX/IECEx Zone 2, FM Class I / Div. 2
Power supply	90...264 V/50...60 Hz or 11...32 V DC
Outputs	4...20 mA active/passive 4...20 mA HART active/passive Pulse/frequency/binary
Digital outputs	Pulse/frequency/binary
Inputs	Pt100/Pt1000 4...20 mA active/passive
Digital communication	Modbus RTU/TCP, BACnet MSTP/IP, Profibus PA, Foundation Fieldbus
Available transducers	
Pipe size range (inner diameter)	
FLUXUS® F731	0.24...256 in (6 mm...6500 mm)
FLUXUS® G731	0.28...64 in (7 mm...1600 mm)
Temperature range (pipe wall)	
FLUXUS® F/G731	-40...+392 °F / WI: -328...+1166 °F (-40...+ 240 °C / WI: -200...+630 °C)

- Fast measurement dynamics thanks to high sampling rates
- Certified for use in hazardous areas ATEX/IECEx Zone 2, FM Class I Div. 2
- High operational safety with no risk of leakage
- Independent of pipe material, diameter, wall thickness and internal pressure and temperature
- Accurate and repeatable measurement readings even at extremely low flow rates (high turndown ratio)
- Highly cost-effective compared to wetted instrumentation

FLUXUS® F/G731
aluminum housing

FLUXUS® F/G731
stainless steel housing

ACCREDITED
CERTIFICATE #3791.01

For more information, visit
Emerson.com/Flexim

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