

Chemical Industry

Petrochemical Industry

Oil and Gas – Exploration
and Production

Midstream – Storage
and Distribution

Downstream –
Refinery

Non-intrusive Ultrasonic Flow Meter
for Gases and Liquids

FLUXUS® F/G831 with intrinsically safe Process Inputs

For Operation in Hazardous Environments

FLEXIM Sets Standards
when measuring matters



FLUXUS® F/G831 – Specifically Designed for Process Control Applications in Hazardous Areas

Oil and gas production and chemical processes from the oil field to the refinery and chemical plants require reliable and accurate flow measurement instrumentation to ensure all flows regardless of the fluid composition and abrasiveness are accounted for every step of the way, to improve field management operations and increase efficiencies.

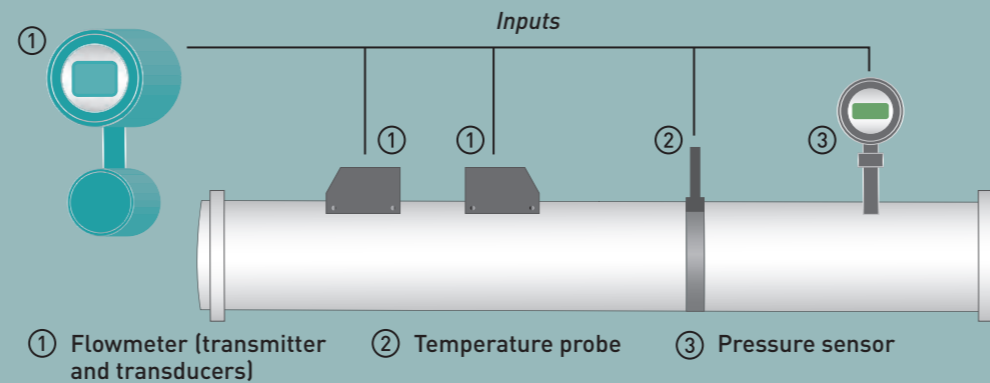
The new FLUXUS® F/G831 checks all the boxes. The combination of rugged and robust area ATEX/IECEX Zone 1 rated design, 1 or 2 measurement channels for liquids and gases, a fast processor, advanced meter diagnostic capabilities and intrinsically safe (Ex-ia) process inputs ensures optimal performance and durability under the harshest environments where additional safety is needed.

The addition of intrinsically safe process inputs for pressure and temperature at the meter location means the FLUXUS® F/G831 flow meters can now provide standard volume flow and mass flow during standard operating conditions.

FLEXIM Offers the Superior Alternative:

- **Unrivaled Performance** – FLEXIM’s ultrasonic flow meters offer exceptional reliability and accuracy at high and low flows due to their matched, calibrated and temperature compensated transducers, advanced signal processing capabilities and diagnostics.
- **Standard Volumetric Flow and Mass Compensation** – Intrinsically safe Ex-ia process inputs for pressure and temperature
- **Operational Safety** – The ATEX/IECEX Zone 1 rated measurement system cannot cause potential pipe leaks, be prone to clogging or any other related issues that can hinder process integrity.
- **Flexible Technology** – Suited for multiple applications (liquids and gases) in a wide range of pipe sizes
- **Economical Solution** – An externally mounted system means no need for process interruptions or additional engineering costs.
- **Maintenance Free** – No contact with flowing media results in a completely maintenance free and durable metering solution capable of withstanding the the harshest environments.

Flowmeter with integrated pressure and temperature compensation



Advantages

- ATEX/IECEX Zone 1 area rated
- Single & dual channel options available
- Powerful processor – Synchronized Channel Averaging
- Intrinsically safe process inputs available
- Temperature compensated transducers
- Wide turndown ratio – Independent of pipe size, material, operating pressure, fluid and temperature
- High tolerance to entrained solids and gases
- Free of wear, tear and abrasion
- Not prone to clogging or corrosion – No pressure loss or source of potential leaks and fugitive emissions

Chemical Industry

- Hazardous organic and inorganic fluids
- Acids and caustics
- Process gases
- Polymerization processes
- Infrastructural processes

Hydrocarbon Product Handling

- Pipeline integrity monitoring
- Allocation terminals
- LNG terminals
- Underground gas storage
- Gas distribution and compressor stations

Crude Oil Refining and Gas Processing

- Distillation columns
- Cracker and coker units
- Gas processing

Oil & Gas Exploration

- Gas injection, gas lift & water injection
- Scrubbers and reboilers
- Produced water management
- Chemical injection

Safe, Reliable, Versatile

With its explosion proof housing, intrinsically safe inputs and stainless steel (SS316) corrosion resistant transducers, the FLUXUS® F/G831 series is perfectly suited for every demanding industrial application in and out of the oil field and the chemical industry.

The connection and electronic compartments of the FLUXUS® F/G831 series are hermetically sealed, so that the measurement system provides maximum operational reliability and safety, being ATEX/IECEX Zone 1 rated.

Not only is the FLUXUS® F/G831 versatile, safe and reliable, it is precise. With faster processing capabilities, the meter offers significantly improved accuracy and response time between measurement channels which results in better representation of flow profile and high accuracy. In addition, as with all other FLUXUS® meters, the FLUXUS® F/G831 comes with carefully matched and temperature compensated transducers (fully ANSI/ASME MFC 5M compliant) providing unmatched zero-point stability and precise bi-directional flow measurement over a wide range of conditions – extremely low to high flows.



More than 30 years of experience
in clamp-on ultrasonic metering



FLUXUS® F/G 831
Aluminium housing



FLUXUS® F/G 831
Stainless steel housing

Technical Data

FLUXUS® F/G831	Clamp-on ultrasonic measuring system for hazardous environments
Measurement principle	Transit time
Measurement functions	
Physical quantities	Volumetric flow rate, mass flow rate, flow velocity
Totalizers	Volume, mass
Diagnostic functions	Sound speed, signal amplitude, SNR, SCNR, standard deviation of amplitude and transit times
Flow ranges	Velocity in m/s
F831 (liquids)	0.01 ... 25 m/s
G831 (gases)	0.01 ... 35 m/s
Measurement uncertainty	Volumetric flow rate (measurement)
F831 (liquids)	±1 % of reading ± 0.005 m/s
G831 (gases)	±1 ... 2 % of reading ± 0.005 m/s
Repeatability	0.15 % of reading ± 0.005 m/s
Transmitter	
Number of measuring channels	1/2
Explosion protection	Aluminium housing: ATEX/IECEX Zone 1, FM Class I/Div. 1 Stainless steel housing: ATEX/IECEX Zone 1
Power supply	100 ... 230 V AC / 50 ... 60 Hz 20 ... 32 V DC
Outputs	4 ... 20 mA passive [Ex ia] or active/passive 4 ... 20 mA HART passive [Ex ia] or active/passive
Digital outputs	pulse/frequency/binary, [Ex ia] available
Inputs	Pt100/Pt1000, [Ex ia] available
Digital communication	4 ... 20 mA active [Ex ia] or active/passive Modbus RTU, HART, Profibus PA, Foundation Fieldbus
Available transducers	
Explosion protection	ATEX/IECEX Zone 1, FM Class I/Div. 1
Temperature range (pipe wall)	-40 °C ... +240 °C / WI: -200 °C ... +630 °C

For more detailed information please download the Technical Specifications here: www.flexim.com.

FLEXIM GmbH,
Berlin
Phone: +49 30 93 66 76 60
info@flexim.de

FLEXIM Austria GmbH
Olbendorf
Phone: +43 33 26 529 81
office@flexim.at

FLEXIM Instruments Benelux B.V.
Berkel en Rodenrijs
Phone: +31 10 24 92 333
benelux@flexim.com

FLEXIM France SAS
Limonest
Phone: +33 4 27 46 52 10
info@flexim.fr

FLEXIM Instruments UK Ltd.
Northwich
Phone: +44 1606 781 420
sales@flexim.co.uk

FLEXIM Middle East
Dubai South
Phone: +971 4430 5114
salesme@flexim.com

FLEXIM India
Rohini New Delhi
Phone: +91 98114 49285
salesindia@flexim.com

FLEXIM Instruments Asia Pte Ltd.
Singapur
Phone: +65 67 94 53 25
salessg@flexim.com

FLEXIM Instruments China
Beijing Shi
Phone: +86 21 64 95 75 20
shanghai@flexim.com

FLEXIM S.A, Chile
Las Condes
Phone: +56 22 32 03 62 80
info@flexim.cl

FLEXIM AMERICAS Corporation, USA
Edgewood, NY
Phone: +1 63 14 92 23 00
salesus@flexim.com



www.flexim.com