Flexim FLUXUS® F/G60X SERIES

Portable Ultrasonic Flow Measurement of Liquids, Thermal Energy, Gases, Compressed Air and Steam

Precise | Flexible | Versatile

FLEXIM

EMERSON

Flexim FLUXUS® F/G60X SERIES

Flow Measurement on the Go

Other Applications

- Power Generation
- Chemical & Petrochemical
- Water & Wastewater
- Power Generation
- HVAC
- Life Science
- Food & Beverage
- Semiconductor
- Mining
- General Production

Welcome to the most versatile and industry-proven portable flow meter

The Flexim FLUXUS® F/G60X portable flow meter series is the instrumentation standard in many industries, ranging from the Oil & Gas and Chemical Industry to HVAC, Water & Wastewater, Food & Beverage, Life Science and many more. Independent of the environment and pipe conditions, it accurately and reliably measures:

- virtually any liquid – independent of viscosity and temperature (from as low as -328 °F to +1166 °F) and even with solid or gaseous entrainments
- virtually any gas – independent of the pressurization, including compressed air and steam, and not affected by gas wetness (up to LVF of 5%) as well as
- thermal energy flow rates of liquid heat transferring media (water, heat transfer oils, etc.)

Fit for industrial purpose

With the transmitter residing in a sturdy housing and the transducers and cables being stainless steel armored, Flexim FLUXUS® F/G60X offers unrivalled durability for long-term stable flow measurements. Its internal battery allows for up to 25 hrs. of autonomous measurement.

Moreover, based on special ATEX, IECEx Zone 2 and FM Class I, Div. 2 certified variants, time consuming hot work permits are a thing of the past.

Solutions for any flow metering application

The Flexim FLUXUS® F/G60X portable flow meters are available in various variants, starting as a liquid flow meter up to a multifunctional meter for non-intrusive measurement of liquids, heat flow rates and gases – even including compressed air and steam.

Whereas the Flexim FLUXUS® F/G601 meter series is designed for non-hazardous area related applications, the Flexim FLUXUS® F/G608 meter series is ATEX, IECEx Zone 2 (1) and FM Class I, Div. 2 (1) certified, making them the world's only portable flow meters with hazardous area approval.

For liquids: Flexim FLUXUS® F60X

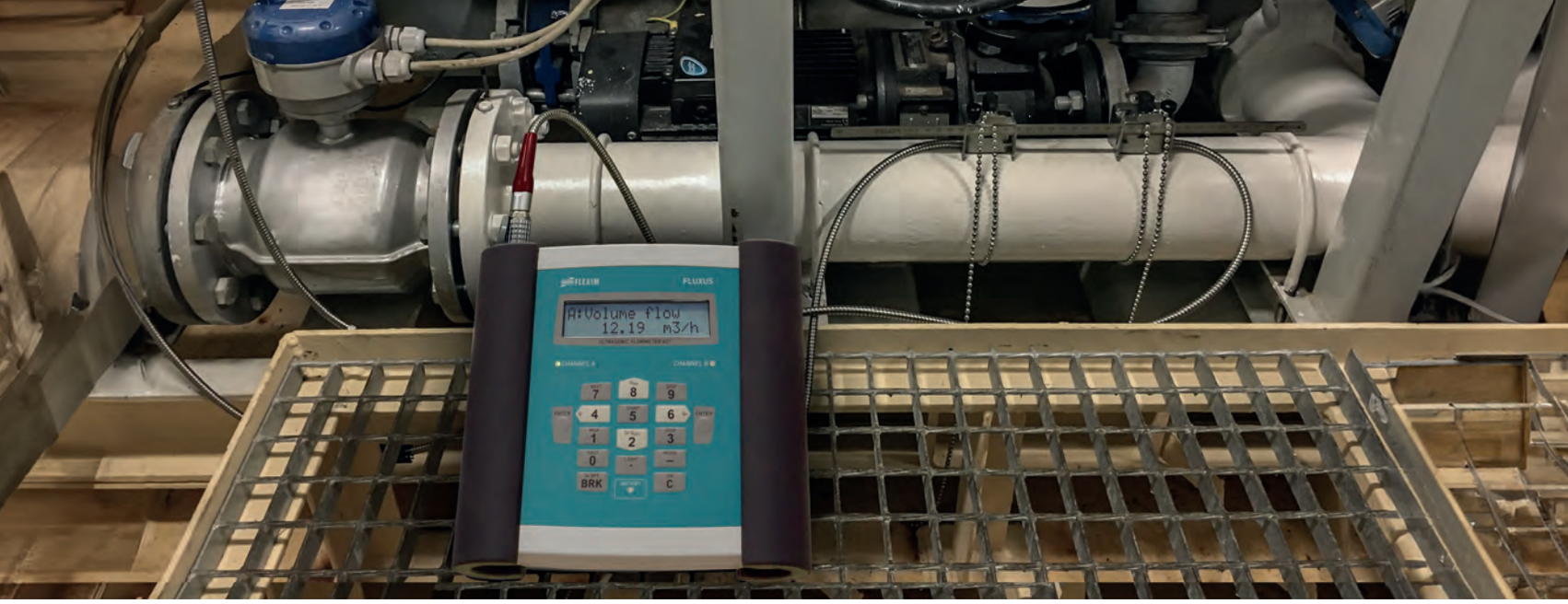
The standard Flexim FLUXUS® F60X portable liquid flow meter allows for the measurement of virtually any liquid media – from water over high viscosity oils to chemicals such as acids and caustics and up to slurries. In conjunction with the WaveInjector® transducer mounting, the meter can even measure at extreme pipe wall temperatures from as low -328 °F to +1166 °F.

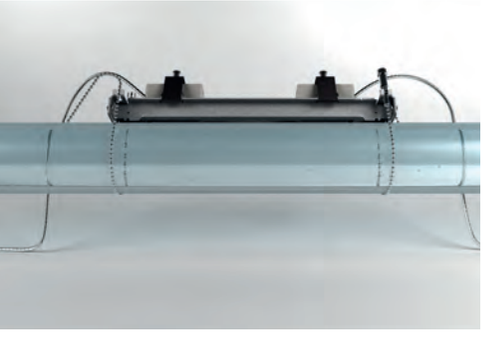
For liquids and thermal energy flows: Flexim FLUXUS® F60X Energy

The Flexim FLUXUS® F60X Energy is the portable meter of choice for monitoring of thermal energy flow rates e.g. balancing of chillers / heaters, optimization of heat exchangers, etc., making it a standard flow metering tool for HVAC applications as well as energy efficiency tasks in any kind of industrial environment. In terms of media and applicable pipe wall temperature it offers the same possibilities as the standard Flexim FLUXUS® F60X portable meter.

The Flexim FLUXUS® F/G60X portable flow meters are the ideal tool for:

- Spot metering for continuous process optimization
- Check metering of existing stationary meters
- Temporary replacement of existing meters
- Plant wide flow and thermal energy audits
- Consumption monitoring
- Efficiency determination of pumps, heat exchangers, etc.





Flexim's range of FLUXUS® G60X portable gas flow meters not only covers virtually any gaseous medium, they also include all liquid flow metering capabilities of the FLUXUS® F60X series meter series making them a truly comprehensive tool.

For liquids and gases: Flexim FLUXUS® G60X

When measuring gas filled pipes, the Flexim FLUXUS® G60X portable flow meter is the system of choice. Independent of the pipe's pressurization and with virtually no limitation in terms of measurable media – even wet gas isn't a challenge – it is the perfect measuring solution for the oil & gas and chemical industry.

For liquids, thermal energy, gases and compressed air: Flexim FLUXUS® G60X CA Energy

Equipped with temperature and current inputs, the product variant Flexim FLUXUS® G60X CA Energy is the most versatile multi-tool for various measuring tasks:

From monitoring liquid and thermal energy streams up to gas flow rates – including compressed air – it is the ideal portable measuring system for usage within the framework of plant wide industrial energy audits.

One for all – including steam: Flexim FLUXUS® G601 ST

As the world's only portable steam flow meter, the Flexim FLUXUS® G601 ST is the benchmark of non-intrusive clamp-on ultrasonic flow measurement. Engineered for low pressure and low steam temperature applications, it is an ideal companion in various industries ranging from food & beverage and life science to the chemical sector. Additionally, it also measures thermal energy and flow rates of virtually any liquid or gaseous medium.

Safe and efficient by principle

As the ultrasonic clamp-on transducers are simply mounted onto the pipe wall outside, the measurement does not require any pipe modifications and does not impair plant availability. With no direct media contact any potential for leaks can be ruled out, offering highest operational safety.

Measurement data you can rely on

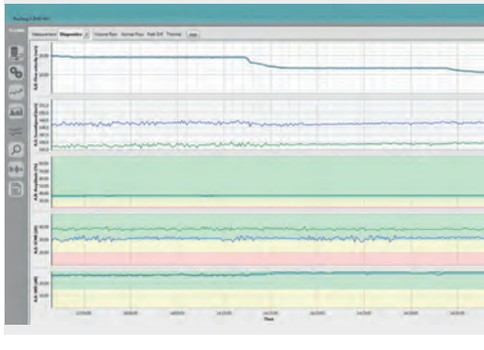
With 30 years of engineering experience, Flexim sets standards in the field of clamp-on flow measurement:

- Benchmarking digital signal processing and evaluation capabilities (up to 1000 measurement signals per second)
- Separately calibrated transmitters and transducer pairs based on patented aperture calibration for highest possible accuracy of the measuring system
- Matched and paired transducers ensuring zero offset and superior low flow performance
- Integrated transducer temperature compensation (acc. to ANSI/ASME MFC-5.1-2011 regulations), for stable measurements independent of changing ambient temperatures
- Two channels for reliable measurements at challenging applications or simultaneous measurement at two pipes
- Built-in Noise Trek® Mode for accurate and reliable measurements of liquids with entrained solids or gases as well as internal wet gas compensation (up to LVF of 5%).

Data evaluation made easy

In connection with Flexim's elaborated FluxDiag Software, efficient measurement data evaluation, interpretation and recommendation is as easy as it can get. By downloading measurement data from the meter, FluxDiag offers statistical data analysis and extensive graphical visualization helping to gain an in-depth understanding of the process.

With its excellent reporting options, it is the ideal tool to comply with industry standards for regular verification of existing meters and plant wide flow audits.



TECHNICAL FACTS

Portable liquid flow meters

	Flexim FLUXUS® F60X	Flexim FLUXUS® F60X Energy
Measurement of:	**Volumetric flow rate, mass flow rate, flow velocity**	**Volumetric flow rate, mass flow rate, flow velocity, thermal energy rate**
Measurement uncertainty:	±1% of reading ±0.02 ft/s	
Repeatability:	0.15% of reading ±0.02 ft/s	
Flow velocities:	0.03 to 82 ft/s	
Outputs:	2 x 4-20 mA (active/passive), 2 x binary	
Inputs:	-	4 x Temp. Pt100 / Pt1000 RTD
Communication:	Modbus RTU	
Pipe size range (I.D.):	6 mm to 6500 mm	
Temperature range:	-40 °C to +200 °C (with WaveInjector® mounting: -200 °C to +630 °C)	
Hazardous area protection:	F608 product variant: FM Class I, Div. 2 and ATEX, IECEx Zone 2 certified; Connected transducers up to FM Class I, Div. 1 and ATEX, IECEx Zone 1	

Portable gas and liquid flow meters

	Flexim FLUXUS® G60X	Flexim FLUXUS® G60X CA (Compressed Air) Energy	Flexim FLUXUS® G601 ST – Steam flow meter
Measurement of:	**Volumetric flow rate, mass flow rate, flow velocity**	**Volumetric flow rate, mass flow rate, flow velocity, thermal energy rate**	**Volumetric flow rate, mass flow rate, flow velocity, thermal energy rate**
Measurement uncertainty: Steam: Gases Liquids:	 ±1 to 3% of reading ±0.02 ft/s ±1 to 2% of reading ±0.02 ft/s ±1% of reading ±0.02 ft/s		
Repeatability:	0.15% of reading ±0.02 ft/s		
Flow velocities:	0.03 to 115 ft/s (dependent on pipe diameter); Steam: 0.03 to 180 ft/s		
Outputs:	2 x 4-20 mA (active/passive), 2 x binary		
Inputs:	-	up to 4 x Temp. Pt100 / Pt1000 RTD, up to 4 x 4-20 mA passive (G601 CA Energy only)	up to 4 x Temp. Pt100 / Pt1000 RTD, up to 4 x 4-20 mA passive
Communication:	Modbus RTU (optional)		
Pipe size range (I.D.): Gases: Liquids: Steam:	 0.28 inch to 63 inches 0.24 inch to 22 ft		 1.91 inch to 39.4 inches *
Temperature range: Gases and Steam: Liquids:	 -40 °F to +392 °F; Steam: +275 °F to +356 °F -40 °F to +392 °F (with WaveInjector® mounting: -310 °F to +1166 °F)		
Hazardous area protection:	G608 product variants: FM Class I, Div. 2 and ATEX, IECEx Zone 2 certified; Connected transducers up to FM Class I, Div. 1 and ATEX, IECEx Zone 1		

*Please have your specific application tested for feasibility.
This is especially recommended for pipe diameters smaller 4 inch.

Photo to reflect product placement on equipment or an industry application

ACCREDITED
CERTIFICATE #3791.01

For more information, visit
Emerson.com/Flexim

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