Technical Data

**Portable liquid flow meters**

<table>
<thead>
<tr>
<th>Flow Range</th>
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<th>Flow Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volumetric</td>
<td>Volumetric</td>
<td>Volumetric</td>
</tr>
<tr>
<td>Flow Rate</td>
<td>Flow Rate</td>
<td>Flow Rate</td>
</tr>
<tr>
<td>0.01 to 60 m/s</td>
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**Portable gas and liquid flow meters**

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**Connected transducers**

- ATEX, IECEx Zone 2 and FM Class I, Div. 2 certified;
- 2 x Temp. Pt100 / Pt1000 RTD,
- 2 x 4-20 mA (active/passive), 2 x binary
- Built-in Noise Trek
- 2 x 100 mbar – 10 bar
- 2 x 0 to 25 m/s

**Matched and paired transducers**

- Ensuring zero offset and superior low flow performance
- Simultaneous measurement at two pipes
- Independent measurement at two pipes
- Changing ambient temperatures
- Matching transducers zero offset and superior flow performance
- Integrated transducer temperature compensation (w. to ANSI/ISA-65.21.1-2011 regulations)

**Measurement uncertainty**

- ±0.5% of reading ±0.005 m/s
- ±1% of reading ±0.005 m/s

**FluxDiag Software**

- By downloading measurement data from the meter, FluxDiag offers statistical data evaluation, interpretation and recommendation as easy as it can get.
- Efficient measurement data evaluation and extensive graphical visualisation 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.

**FLUXUS® F/G60X Series**

Portable ultrasonic flow measurement of liquids, thermal energy, gases, compressed air and steam

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 its 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 systems
- Matched and paired transducers ensuring zero offset and superior low flow performance
- Integrated transducer temperature compensation (w. to ANSI/ISA-65.21.1-2011 regulations)
- 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 visualisation 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.

Precise, flexible and versatile

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

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

FLEXIM Instruments Benelux B.V.
Phone: +31 63 14 92 23 00
benelux@flexim.com

FLEXIM Instruments UK Ltd.
Phone: +44 1606 781 420
sales@flexim.com

FLEXIM Instruments USA
Phone: +1 63 14 92 23 10
sales@flexim.com

FLEXIM Instruments China
Phone: +86 21 64 95 75 20
escoarg.com.ar

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

FLEXIM Middle East
Phone: +971 4430 5114
info@flexim.com

FLEXIM India
Phone: +91 9811 42 01 69
sales@flexim.com

FLEXIM Instruments S.A.
Phone: +56 22 32 03 62 80
info@flexim智利.co

FLEXIM Instruments South America, Argentina
Phone: +54 11 49 20 71 00
info@flexim南美.com

FLEXIM Instruments Benelux B.V.
Phone: +31 63 14 92 23 00
benelux@flexim.com

FLEXIM Instruments S.A.
Phone: +43 33 26 529 81
office@flexim.at

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

FLEXIM Service and Support Center
South America, Argentina
Phone: +54 11 49 20 71 00
info@flexim南美.com

FLEXIM Instruments UK Ltd.
Phone: +44 1606 781 420
sales@flexim.com

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

FLEXIM S.A.
Phone: +56 22 32 03 62 80
info@flexim智利.co

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

www.flexim.com
Welcome to the most versatile and industry-proven portable flow meter

The 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 & Beverages, Pharma 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 -190 °C up to +600 °C) and even with solid or gaseous entrainments.
- virtually any gas – independent of the pressurisation, 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 exchanger, etc.)

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 FLUXUS® F/G60X portable flow meters are available in various variants, starting as a liquid flow meter up to a multifunctional meter for non-invasive measurement of liquids, heat flow rates and gases – even including compressed air and steam. Wherein the FLUXUS® F/G60X meter series is designed for non-hazardous area related applications, the FLUXUS® F/G60X8 meter series is ATEX, IECEx zone 2 (1) and FM Class I, Div. 2 (1) certified, making it the world’s only portable flow meters with hazardous area approval.

The FLUXUS® F/G60X portable flow meters are the ideal tool for:
- Spot metering for continuous process optimisation
- Check metering of existing stationary meters
- Permanently mounted existing meters
- Plant wide flow and thermal energy audits
- Consumption monitoring
- Efficiency determination of pumps, heat exchangers, etc.

For liquids: FLUXUS® F60X

The standard 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 up to slurries. In conjunction with the WaveInjector® transducer mounting, the meter can even measure at extreme pipe wall temperatures from as low -190 °C up to +600 °C.

For liquids and thermal energy flows: FLUXUS® F60X Energy

The FLUXUS® F60X Energy is the portable meter of choice for the monitoring of thermal energy flow rates (e.g., balancing of chillers, heat exchangers, etc.).

For liquids and gases: FLUXUS® G60X

When measuring gas filled pipes, the FLUXUS® G60X portable flow meter is the system of choice. Independent of the pipe’s pressurisation 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: FLUXUS® G60X CA Energy

Equipped with temperature and current inputs, the product variant 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: FLUXUS® G601 ST

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

Fit for industrial purpose

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

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Solutions for any flow metering application

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- Consumption monitoring
- Efficiency determination of pumps, heat exchangers, etc.

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The standard 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 up to slurries. In conjunction with the WaveInjector® transducer mounting, the meter can even measure at extreme pipe wall temperatures from as low -190 °C up to +600 °C.

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The FLUXUS® F60X Energy is the portable meter of choice for the monitoring of thermal energy flow rates (e.g., balancing of chillers, heat exchangers, etc.).

For liquids and gases: FLUXUS® G60X

When measuring gas filled pipes, the FLUXUS® G60X portable flow meter is the system of choice. Independent of the pipe’s pressurisation 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: FLUXUS® G60X CA Energy

Equipped with temperature and current inputs, the product variant 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.

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- virtually any gas – independent of the pressurisation, 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 exchanger, etc.)

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Solutions for any flow metering application

The FLUXUS® F/G60X portable flow meters are available in various variants, starting as a liquid flow meter up to a multifunctional meter for non-invasive measurement of liquids, heat flow rates and gases – even including compressed air and steam. Wherein the FLUXUS® F/G60X meter series is designed for non-hazardous area related applications, the FLUXUS® F/G60X8 meter series is ATEX, IECEx zone 2 (1) and FM Class I, Div. 2 (1) certified, making it the world’s only portable flow meters with hazardous area approval.

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- Check metering of existing stationary meters
- Permanently mounted existing meters
- Plant wide flow and thermal energy audits
- Consumption monitoring
- Efficiency determination of pumps, heat exchangers, etc.

For liquids: FLUXUS® F60X

The standard 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 up to slurries. In conjunction with the WaveInjector® transducer mounting, the meter can even measure at extreme pipe wall temperatures from as low -190 °C up to +600 °C.

For liquids and thermal energy flows: FLUXUS® F60X Energy

The FLUXUS® F60X Energy is the portable meter of choice for the monitoring of thermal energy flow rates (e.g., balancing of chillers, heat exchangers, etc.).

For liquids and gases: FLUXUS® G60X

When measuring gas filled pipes, the FLUXUS® G60X portable flow meter is the system of choice. Independent of the pipe’s pressurisation 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: FLUXUS® G60X CA Energy

Equipped with temperature and current inputs, the product variant 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: FLUXUS® G601 ST

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

FLUXUS® F/G60X Series
Portable ultrasonic flow measurement of liquids, thermal energy, gases, compressed air and steam

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 its 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 FLUXUS Modbus RTU
- Volumetric flow rate, mass flow rate, velocity, heat flow rate
- 2 x 4-20 mA (active/passive), 2 x binary

G608 product variants: ATEX, IECEx Zone 2 and FM Class I, Div. 2 certified;

Built-in Noise Trek - Integrated transducer temperature compensation (acc. to ANSI/ASME

Matched and paired transducers ensuring zero offset and superior low flow performance

- 4 x Temp. Pt100 / Pt1000 RTD

-0.01 to 25 m/s

0.15% of reading ±0.005 m/s

±1% of reading ±0.005 m/s

Benchmarking digital signal processing and evaluation capabilities

-40 °C to +240 °C (with WaveInjector 6 mm to 6500 mm

-4 x Temp. Pt100 / Pt1000 RTD

Pipe size range (I.D.):

- Liquids: 6 mm to 6500 mm

- Gases & Steam: 7 mm to 1600 mm

Reproducibility:

Gases & Steam:

±1% of reading ±0.005 m/s

±1% of reading ±0.005 m/s

Technical Data

Portable liquid flow meters

<table>
<thead>
<tr>
<th>Specification</th>
<th>F/G60X-V3</th>
<th>F/G60X-4</th>
<th>F/G60X-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow range (m³/h)</td>
<td>0.03 to 3000</td>
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<tr>
<td>Volume throughput (l/h)</td>
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<td>Temperature range (°C)</td>
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<tr>
<td>Accuracy (at 20°C)</td>
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Portable gas and liquid flow meters

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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 visualisation 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.

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

FLEXIM Benelux B.V.
Phone: +31 76 24 05 69 41
benelux@flexim.com

FLEXIM Service and Support Center
South America, Argentina
info@flexim.cl
Phone: +56 22 32 03 62 80
info@flexim.cl

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

FLEXIM Instruments UK Ltd.
Phone: +44 20 78 70 62 30
salesuk@flexim.com

FLEXIM Middle East
Phone: +91 11 6529 91 16
salesme@flexim.com

FLEXIM Instruments Benelux B.V.
Phone: +31 76 24 05 69 41
benelux@flexim.com

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

FLEXIM Instruments China
Phone: +86 10 970 97 97 90
shanghai@flexim.com

FLEXIM Instruments Benelux B.V.
Phone: +31 76 24 05 69 41
benelux@flexim.com

FLEXIM Instruments Benelux B.V.
Phone: +31 76 24 05 69 41
benelux@flexim.com

FLEXIM AMERICAS Corporation, USA
Phone: +1 43 42 21 30
salesus@flexim.com

FLEXIM Instruments Benelux B.V.
Phone: +31 76 24 05 69 41
benelux@flexim.com

www.flexim.com
Welcome to the most versatile and industry-proven portable flow meter

The 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 & Beverages, Pharma 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 -190 °C up to +600 °C) and even with solid or gaseous entrainments
- virtually any gas – independent of the pressurisation, 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 (boiler, heat exchanger, etc.)

More information on the F/G60X series can be found in the Product Brochure on the FLUXIM website.

Solutions for any flow metering application

The FLUXUS® F/G60X portable flow meters are available in various variants, starting as a liquid flow meter up to a multifunctional meter for non-invasive measurement of liquids, heat flow rates and gases – even including compressed air and steam. Whereas the FLUXUS® F/G601 meter series is designed for non-hazardous area related applications, the 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.

One for all – including steam: FLUXUS® F/G601 ST

As the world’s only portable steam flow meter, the FLUXUS® F/G601 ST is the benchmark of non-invasive 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 to the pharmaceutical and chemical sector. Additionally, it also measures thermal energy and flow rates of virtually any liquid or gaseous medium.

Flow Measurement on the go

FLOW® F/G60X Series

Fit for industrial purpose

With the transmitter residing in a sturdy housing and the transducers and cables being stainless steel armored, FLUXUS® F/G60X offers unmatched 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.

For liquids: FLUXUS® F60X

The standard 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 up to slurries. In conjunction with the WaveInjector® transducer mounting, the meter can even measure at extreme pipe wall temperatures from as low as -190 °C up to +600 °C.

For liquids and thermal energy flows: FLUXUS® F60X Energy

The FLUXUS® F60X Energy is the portable meter of choice for monitoring of thermal energy flow rates e.g. balancing of chillers / heatexchangers, application 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 temperatures it offers the same possibilities as the standard FLUXUS® F60X portable meter.

For liquids and gases: FLUXUS® G60X

When measuring gas filled pipes, the FLUXUS® G60X portable flow meter is the system of choice. Independent of the pipe’s pressurisation 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: FLUXUS® G60X Energy

Equipped with temperature and current inputs, the product variant FLUXUS® G60X 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.

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The FLUXUS® F/G60X portable flow meters are the ideal tool for:
- Spot metering for continuous process optimisation
- 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.

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For liquids: FLUXUS® F60X

The standard FLUXUS® F60X portable liquid flow meter allows for the measurement of actually 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 -190 °C up to +600 °C.

For liquids and thermal energy flows: FLUXUS® F60X Energy

The FLUXUS® F60X Energy is the portable meter of choice for measuring 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 FLUXUS® F60X portable meter.

For liquids and gases: FLUXUS® G60X

When measuring gas filled pipes, the FLUXUS® G60X portable flow meter is the system of choice. Independent of the pipe’s pressurisation 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: FLUXUS® G60X CA Energy

Equipped with temperature and current inputs, the product variant FLUXUS® G60X CA Energy is the modifiable 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: FLUXUS® G601 ST

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

Solutions for any flow metering application

The FLUXUS® G60X portable flow meters are available in various variants, starting as a liquid flow meter up to a multifunctional meter for non-invasive measurement of liquids, heat flow rates and gases – even including compressed air and steam. Whereas the FLUXUS® G60X meter series is designed for non-hazardous area related applications, the FLUXUS® G600H meter series is ATEX / IECEx zone 2 (II) and FM Class 1 Div. 2 (II) certified, making them the world’s only portable flow meters with hazardous area approval.

The FLUXUS® G60X portable flow meters are the ideal tool for:
- Spot metering for continuous process optimisation
- Check metering of existing stationary meters
- Permanently replace existing meters
- Plant wide flow and thermal energy audits
- Consumption monitoring
- Efficiency determination of pumps, heat exchangers, etc.

For gases: FLUXUS® F601 ST

Whether measured dry or wet, the FLUXUS® F601 ST portable flow meter is the system of choice. Independent of the gas’s pressurisation 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: FLUXUS® F608

The standard FLUXUS® F608 portable liquid flow meter allows for the measurement of virtually any liquid – 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 -190 °C up to +600 °C.

For liquids and thermal energy flows: FLUXUS® F608 Energy

The FLUXUS® F608 Energy is the portable meter of choice for measuring 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 FLUXUS® F608 portable meter.

Flow Measurement on the go — FLUXUS® F/G60X Series

Fit for industrial purpose

With the transmitter residing in a sturdy housing and the transducers and cables being stainless steel armored, 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 1, Div. 2 certified variants, time consuming hot work permits are a thing of the past.

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

The 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 & Beverages, Pharma 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 -190 °C up to +600 °C) and even with solid or gaseous entrainments
- virtually any gas – independent of the pressurisation, 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.)

For liquids: FLUXUS® F60X

The standard FLUXUS® F60X portable liquid flow meter allows for the measurement of actually 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 -190 °C up to +600 °C.

For liquids and thermal energy flows: FLUXUS® F60X Energy

The FLUXUS® F60X Energy is the portable meter of choice for measuring 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 FLUXUS® F60X portable meter.
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 ultrasonic temperature compensation (acc. to ANSI/ASME WP5-A-2011 regulations), for reliable 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 FluidDiag Software, efficient measurement data evaluation, interpretation and recognition is as easy as it can get. By downloading measurement data from the meter, FluidDiag offers statistic data analysis and extensive graphical visualisation 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 Data

Portable liquid flow meters

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Portable gas and liquid flow meters

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Measurements of: Liquids: FLUXUS G60X Series

Oils & Gas

Chemical & Petrochemical

Water & Wastewater

Power Generation

HMC

Pharmaceutical

Food & Beverage

Semiconductor

Mixing

General Production

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