katronic

THORNE & DERRICK INTERNATIONAL

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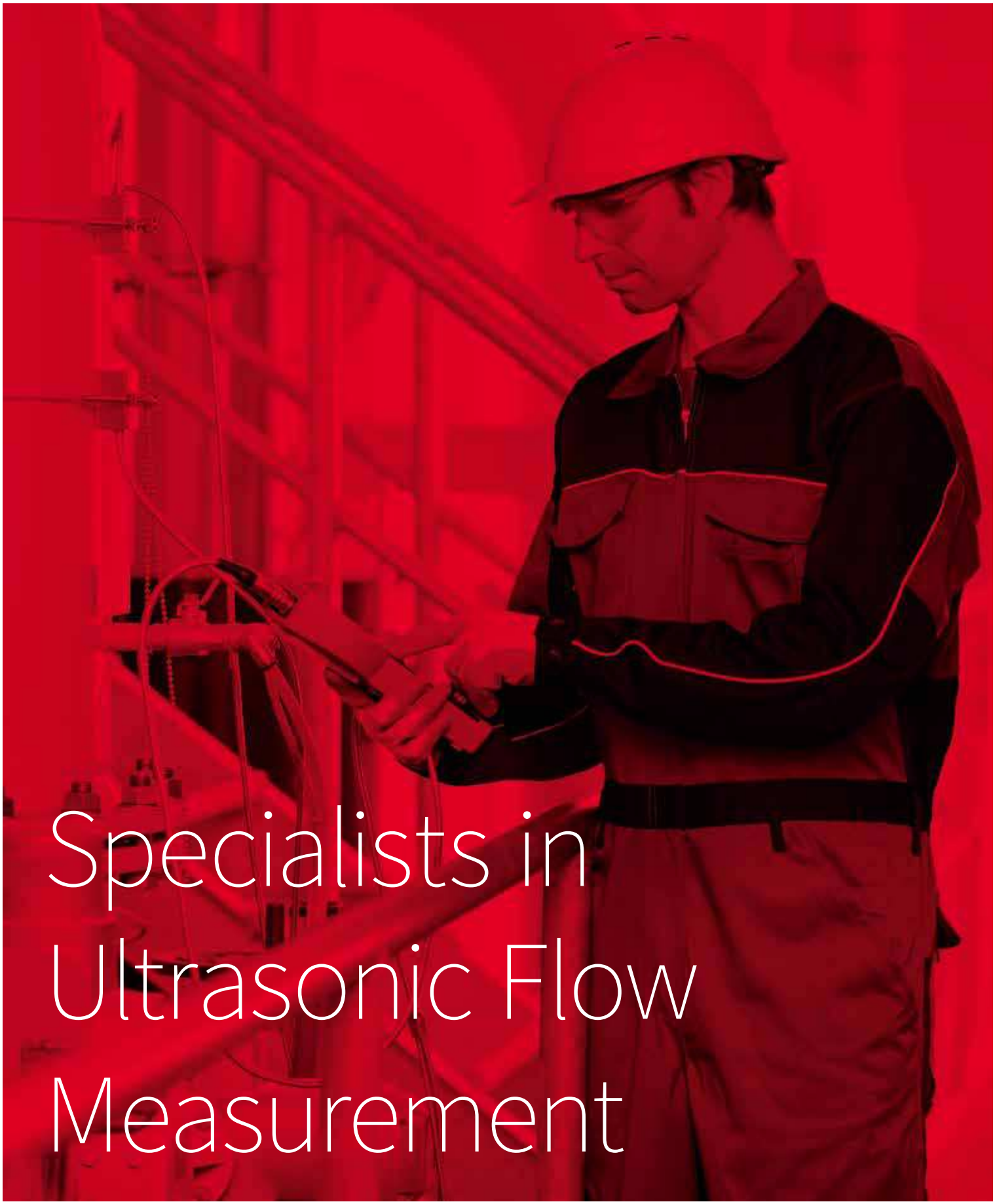

Specialists in Ultrasonic Flow Measurement

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10 – 6,500 mm

Power Generation

Aircraft and Aerospace

Oil and Gas

Portable and Fixed Installation

Semiconductor

Marine and Shipbuilding

Petrochemical

+250 °C and higher

Pharmaceutical

24 h

-50 °C and lower

±25 m/s Flow Velocity

Food and Drink

Water and Wastewater

Building Services

ISO 9001 Certified Company

Manufacturing and Process

katronic

Providing reliable flow measurements to satisfied customers since 1996

Katronic's excellent reputation has been built on offering accurate and intuitive clamp-on flowmeters supported by market-leading customer service and technical support.

Our Mission Statement

To provide innovative products and services that staff can be proud of and customers can trust.
To foster relationships with customers, suppliers and colleagues that add benefit to all parties.
To offer levels of support and flexibility that exceed those of our competitors.

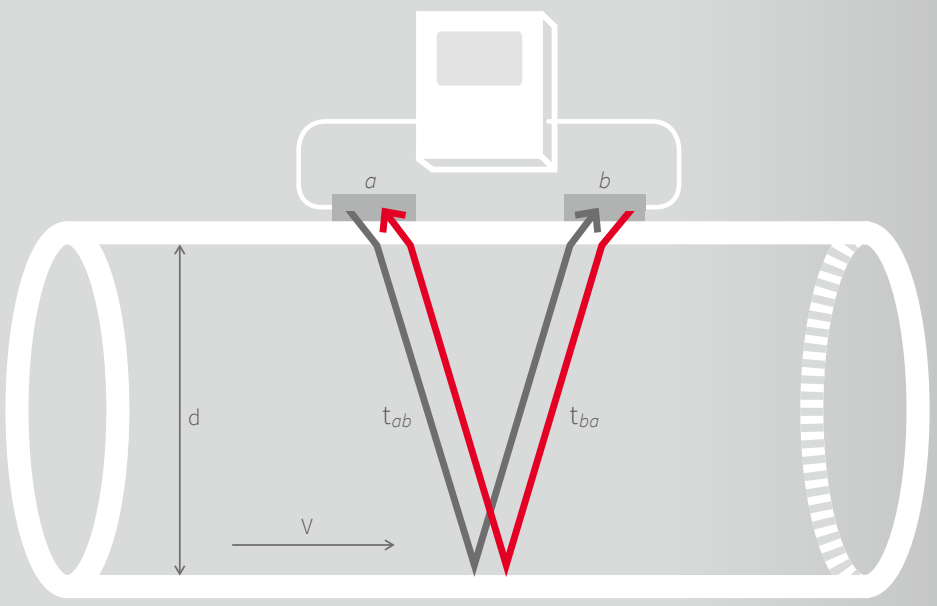
Katronic
Your Solution Starts With Our Product

THE TECHNOLOGY BEHIND THE MEASUREMENT

The KATflow non-invasive flowmeters work on the transit time ultrasonic principle. This involves sending and receiving ultrasonic pulses from a pair of sensors and examining the time difference in the signal. Katronic uses clamp-on transducers that are mounted externally on the surface of the pipe and which generate pulses that pass through the pipe wall. The flowing liquid within causes time differences in the ultrasonic signals, which are then evaluated by the flowmeter to produce an accurate flow measurement.

The key principle of the method applied is that sound waves travelling with the flow will move faster than those travelling against it. The difference in the transit time of these signals is proportional to the flow velocity of the liquid and consequently the flow rate.

Since elements such as flow profile, type of liquid and pipe material will have an effect on the measurement, the flowmeter compensates for and adapts to changes in the medium in order to provide reliable results. The instruments can be used in a variety of locations from measurements on submarines, to installations on systems destined for use in space, and on process fluids as different as purified water in the pharmaceutical sector and toxic chemical effluent. The flowmeters will operate on various pipe materials and diameters over a range of 10 mm to 6,500 mm.



Sensors *a* and *b* work alternately to send and receive ultrasonic pulses. The sound waves *ab* travelling with the flow move faster than those travelling against it *ba*.

KATflow 200
Hand-Held Clamp-On Ultrasonic Flowmeter

Hand-held design and intuitive menu structure make the KATflow 200 extremely easy to operate. The flowmeter and accessories are neatly arranged in a robust IP 67 transport case.

INNOVATIVE. INTUITIVE. INTELLIGENT.

The KATflow 200 is a fully portable instrument with a power which is belied by its small size. This lightweight flowmeter is incredibly easy to use and can be operated one-handed which makes it an ideal tool for use in confined spaces or when working at height. The KATflow 200 offers measurement performance normally associated with more complex and expensive devices and is complemented by the exceptional quality and robustness of the Katronic transducers.

Portable -30°C +250°C

SPECIFICATION

- Pipe diameter range 10 mm to 6,500 mm
- Temperature range for sensors -30 °C to +250 °C (-22 °F to +482 °F)
- Weight 650 g
- Robust IP 65 enclosure with added rubber shock protector
- Selectable three-line LCD display and full keypad
- Battery life up to 24 hours with standard NiMH AA batteries for simple replacement

FEATURES

- Lightweight and tactile for easy one-handed use
- Stainless steel sensors, cable and connectors as standard
- Innovative installation wizard for quick and intuitive programming
- Full instrument diagnostics and scope function
- Large data logger and software for sampling and data transfer
- Optional pipe wall thickness gauge

APPLICATIONS

- Pump testing and inspection
- In-line flowmeter performance verification
- Leakage and blockage detection
- Clean in process system (CIP) testing
- Monitoring of hydraulic systems
- Clean room applications

KATflow 230
Portable Clamp-On Ultrasonic Flowmeter

The robust multifunctional KATflow 230 and K1N sensors with durable connector for measurement on larger pipes.

POWERFUL. PRACTICAL. PORTABLE.

The KATflow 230 is easily portable but incorporates an advanced specification for situations which require comprehensive measurement features coupled with easy operation. The flowmeter has two measurement channels, which allow it to monitor two pipes simultaneously or to improve accuracy in non-ideal conditions. The KATflow 230 can also be supplied with a variety of options to meet the most diverse application requirements.

Portable -30°C +250°C

SPECIFICATION

- Pipe diameter range 10 mm to 6,500 mm
- Temperature range for sensors
  -30 °C to +250 °C (-22 °F to +482 °F)
- Robust IP 65 aluminium enclosure
- Selectable three-line LCD display and full keypad
- Battery life up to 24 hours with easily replaceable battery cartridge
- Measurement of two flows simultaneously

FEATURES

- Dual flow monitoring with *sum*, *average*, *difference* and *maximum* calculations
- PT100 inputs for heat quantity (thermal energy) measurement
- Process output options including current, open-collector, relay
- Large data logger and software for sampling and data transfer
- Stainless steel sensors, cable and connectors as standard
- Optional pipe wall thickness gauge

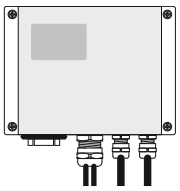
APPLICATIONS

- Heating, Ventilation and Air Conditioning (HVAC) measurements
- Large pipe measurement with two sensor pairs in 'X' configuration
- Temporary replacement of conventional in-line flowmeters
- Building surveys on large facilities
- Efficiency monitoring of heat exchangers
- Clean in process system (CIP) testing

KATflow 100
Standard Clamp-On Ultrasonic Flow Transmitter

The KATflow 100 and K1L transducers for installation on standard process applications with pipes greater than 50 mm.

SMALL. SIMPLE. STURDY.



The KATflow 100 is a compact clamp-on ultrasonic flow transmitter with a robust and practical design for permanent installation and flow measurement on single pipes. The instrument offers a cost-effective option owing to its simplified specification and the availability of a range of transducer types. The varied functionality and simple operation of the KATflow 100 make it the perfect product for large projects and customer specific solutions.

Fixed Installation

-30°C +80°C

SPECIFICATION

- Pipe diameter range 10 mm to 3,000 mm
- Temperature range for sensors -30 °C to +80 °C (-22 °F to +176 °F)
- Weight 750 g
- Robust IP 66 aluminium enclosure
- Sturdy unit with LCD display and five-key keypad
- Wall or pipe mounted

FEATURES

- Low cost of ownership
- Process outputs including RS 485, Modbus RTU and HART* compatible output
- PT100 inputs for heat quantity (thermal energy) measurement
- Bi-directional measurement with totaliser function
- Innovative installation wizard for quick and intuitive programming
- Configuration can be changed to suit customer requirements

APPLICATIONS

- Water and wastewater measurements
- Replacement of electromagnetic flowmeters
- Monitoring and controlling of HVAC systems
- Cost-effective solution for large scale projects
- Automated process control
- Shipping applications

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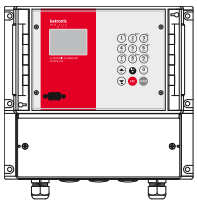
KATflow 150
Advanced Clamp-On Ultrasonic Flowmeter

The wall mounted KATflow 150 offers practical and simple operation with its attractive housing, lockable polycarbonate cover and stainless steel transducers.

FAST. FLEXIBLE. FUNCTIONAL.



The KATflow 150 is the premier product for flexibility and performance, providing the user with a comprehensive specification and a list of configuration options. The practical modular design and the wide variety of different transducer types available ensure this instrument is suitable for everything from simple water flow measurements to energy flow monitoring, automated process control and product recognition applications.

Fixed Installation

-30°C +250°C

SPECIFICATION

- Pipe diameter range 10 mm to 6,500 mm
- Temperature range for sensors -30 °C to +250 °C (-22 °F to +482 °F), higher temperatures available on request
- Lockable and sturdy IP 66 polycarbonate flowmeter enclosure
- Selectable three-line LCD display and full keypad
- Up to ten different input or output slots available
- Measurement of two flows simultaneously

FEATURES

- Dual flow monitoring with *sum*, *average*, *difference* and *maximum* calculations
- Process output options including current, open-collector, relay
- Communication options RS 485, Modbus RTU, Profibus PA and HART* compatible output
- Current inputs for temperature, pressure and density compensation
- Large data logger and software for sampling and data transfer
- Optional heat quantity (thermal energy) measurement functionality

APPLICATIONS

- Heating, Ventilation and Air Conditioning (HVAC) measurements
- Large pipe measurement with two sensor pairs in 'X' configuration
- Product recognition and interface detection systems
- ATEX measurements with Ex-certified transducers
- Effluent and wastewater measurements
- Automated process control

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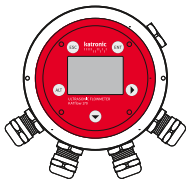
KATflow 170
Clamp-On ATEX Ultrasonic Flowmeter

Programming of the KATflow 170 is conveniently carried out through the glass-fronted housing using a magnet. The K1Ex transducers are IP 68 certified as standard.

RUGGED. RESISTANT. RELIABLE.



For applications where harsh environmental conditions demand a more rugged instrument, the KATflow 170 provides a corrosion-resistant option as part of a fully ATEX-certified package. The flowmeter is intended for permanent operation in Zone 1 and 2 hazardous areas and is an economical choice for a variety of metering applications. The KATflow 170 demonstrates that even the most complex technical requirements can be met with straightforward solutions.

Fixed Installation

-50°C +115°C

SPECIFICATION

- Pipe diameter range 10 mm to 3,000 mm
- Temperature range for sensors -50 °C to +115 °C (-58 °F to +239 °F), higher temperatures available on request
- Robust IP 66 unit with LCD display and glass-fronted keypad
- Epoxy-coated aluminium or stainless steel enclosure
- Magnetic pen for safe and easy programming
- Measurement of two flows simultaneously

FEATURES

- Suitable for installation in hazardous areas
- Dual flow monitoring with *sum*, *average*, *difference* and *maximum* calculations
- IP 68 stainless steel sensors as standard
- Process output options including current, open-collector, relay
- Communication options RS 485, Modbus RTU, Profibus PA and HART* compatible output
- ATEX-certified PT100 probe for temperature compensation

APPLICATIONS

- Produced water measurements
- Methanol and water injection systems
- Product recognition and interface detection systems
- Measurement of refined products
- Tanker unloading systems
- Oil blending skids

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What our Clients say:

"We are always offered a superb level of service for all of our technical queries and support for our customers."
Kathy Devereaux - AUGHTON AUTOMATION

"We have been very impressed with the portability, versatility and durability of the sensing equipment. When you add these qualities to the very fast signal process time, Katronic supply an impressive flow measurement package."
Dave McDonald – AIRBUS

"I was drawn to the Katronic flowmeter because of the high specification of the unit, the ease of use and the excellent build-quality of both the sensors and the electronic transmitter."
Chris Deakin – COORS BREWERS

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