

THE NEW STANDARD IN FLOW MEASUREMENT

New stationary clamp-on ultrasonic FLUXUS F/G 721 flowmeter

Due to its practical advantages, external non-invasive flow measurement with clamp-on ultrasonic transducers has become a standard measuring technique over the past twenty years. With the FLUXUS F/G 721, FLEXIM presents a clamp-on ultrasonic system that sets new standards.

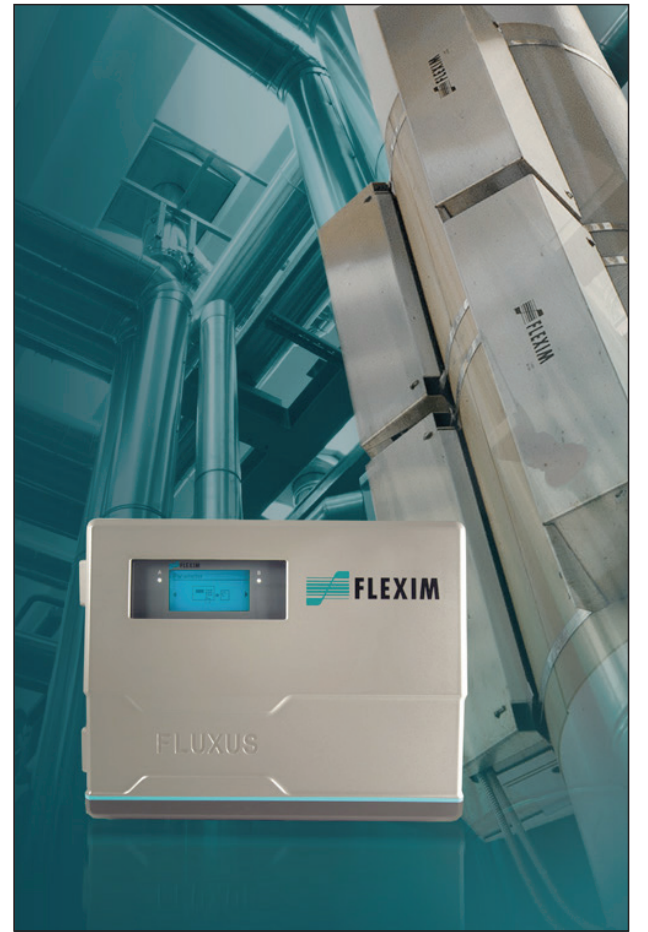


Today, non-invasive, ultrasonic flow measurement is only an outsider measuring technique in the technical sense: clamp-on ultrasonic transducers are simply attached to the outside of the pipe – without any interruption to operation or any risk of leakage. Regardless of what is flowing inside the pipe, whether it is high-purity water in the pharmaceutical or semiconductor industry or highly explosive natural gas under high pressure in gas production or gas transport – clamp-on transducers always measure from the safe side, are not subjected to wear and tear by the medium flowing inside and do not pose any risk of introducing impurities. Because they meet the main requirements of industrial production, namely the highest level of safety for people and the environment on the one hand and the highest level of plant availability on the other, the former outsiders have long since become extremely popular.

FLEXIM has been successfully setting the pace of this development for 25 years. The ultrasonic experts from Berlin have not only worked hard to convince customers that their non-invasive measuring technology is reliable and accurate but they have also developed outstanding products that impress. FLEXIM recently received official confirmation, so to speak, for the reliability of its FLUXUS clamp-on ultrasonic systems. Their stationary FLUXUS F/G70X and F/G80X series flowmeters received SIL certification. FLEXIM has once again raised the bar a good deal with the new FLUXUS F/G721: "With our new FLUXUS F/G721, it's not just an incremental improvement based on successful predecessors, but rather a true technological breakthrough", explains Thomas Jahn, Head of Operative Marketing at FLEXIM: "The stationary flowmeters of the new 721 series are the first representatives of a completely new generation of devices. It is based on an entirely new and significantly more efficient hardware design. Not only does this form the basis for an even better performance in terms of reliability, measurement accuracy and dynamics, but it also opens up entirely new possibilities for bidirectional communication."

In fact, the new ultrasonic system isn't just one device, it's actually two: The FLUXUS F721 is used for non-invasive flow measurement of liquids whereas the G721, which is externally identical in design, measures the flow rate of gases. Both systems are also available in two different housing versions, namely with aluminium housing for standard applications and a stainless steel version for use in highly corrosive environments and for use in potentially explosive atmospheres (ATEX, IECEx zone 2, FM class I, div. 2, EAC TR TS, Inmetro).

Sophisticated signal filters, significantly improved signal algorithms and a high-frequency processor make the FLUXUS F/G721 the ideal flowmeter even for the most challenging applications. The ultrasonic system adapts itself to the respective conditions and automatically compensates for disturbances such as structure-borne sound and beam drift. The extremely fast measurement output enables the detection of highly dynamic processes in real time. Measuring transmitters and transducers are calibrated independently of each other at FLEXIM in a patented process without the influence of applicative disturbances. This ensures the highest possible measuring accuracy in the field regardless of the combination in which the measuring system is used.



The start of a new dimension of non-invasive flow measurement with clamp-on ultrasonic technology: FLEXIM's new FLUXUS F/G721

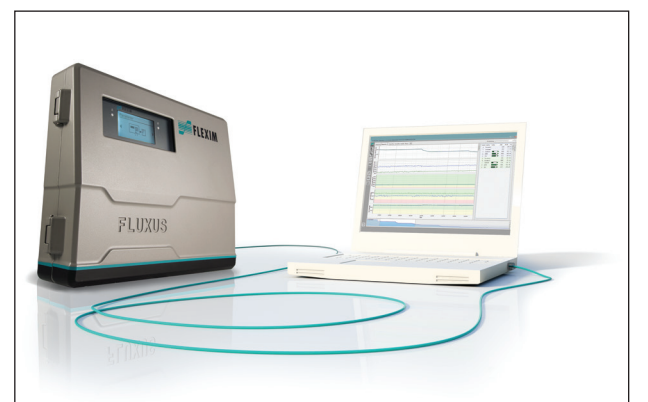
Huge Application Area

The FLUXUS F721 is suitable for non-invasive flow measurement of virtually all liquids, from the narrowest pipeline to the largest pipe, regardless of the prevailing pressure inside and over a very large temperature range. In conjunction with the patented Wavelinjector transducer attachment, the flow rate of liquids can be measured non-invasively in a temperature range of -190 °C (e.g. LNG) to over +600 °C. The highly developed technology of the FLUXUS F721 also allows for reliable non-invasive flow measurement of liquids with high solids or gas content. In addition, the acoustic measurement method is characterised by its extraordinary sensitivity and dynamics: Even the lowest flow rates of a few litres per hour can be detected accurately.

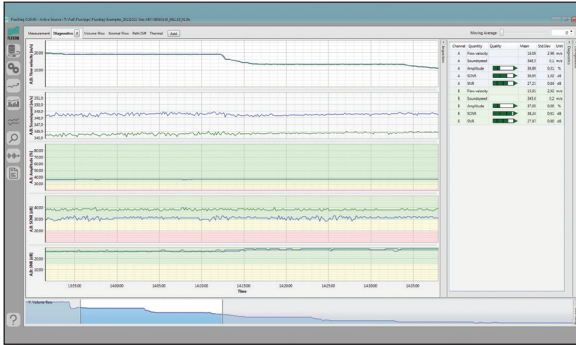
"The extremely powerful signal processing of our new platform really plays out its advantages during non-invasive flow measurement of gases", emphasises Thomas Jahn: "We are now able to measure on steel pipes from a pressure of 3 bars without any problems. The FLUXUS G721 is the ideal instrument for non-invasive consumption measurement in compressed air networks." On plastic pipes, it is much easier to feed acoustic signals into the gas flowing inside. The non-invasive measuring technique does not require any minimum pressure in this instance. It can even measure at negative pressure.

Of course, the new FLUXUS F721 can also be used as a heat meter like its predecessor. Thomas Jahn sees the non-invasive development of energy saving potentials as a particularly exemplary application for the exceptionally versatile ultrasonic system:

"Regardless of whether the non-invasive measuring technique is used to measure thermal output in a district heating network or to determine the efficiency of an industrial heat exchanger, complete security of supply is guaranteed at all times. Thanks to its excellent sensitivity at low currents and highly accurate, paired temperature transducers, the FLUXUS F721 is particularly suitable for accurate consumption measurements in air conditioning systems."



The new FLUXUS F/G721 offers various, fully bidirectional communication possibilities.



The measuring transmitter can be parameterised from a PC. The FluxDiag software is a very useful tool for easily visualising and evaluating measurement and diagnostic values.

Fit for Industry 4.0

The FLUXUS F/G721 provides all common communication protocols. HART, Modbus, Foundation Fieldbus, Profibus PA and BACnet allow bidirectional field communication, parameterisation and online diagnosis. User-oriented configurations ensure optimum adaptation to the respective application.

The FLUXUS F/G721 is also a step ahead when it comes to user-friendliness and diagnostic possibilities: It can be parameterised

in next to no time via its UBS interface. The Ethernet connection opens up additional bidirectional communication possibilities.

The extended self-monitoring function of the instruments and the possibility of event-driven data logging add particular value in industrial practice. The measuring transmitters permanently monitor the measurement quality themselves. These values as well as all other measurements or even values fed in externally, such as for pressure or temperature can be selected as a trigger for functions of the user's choosing. If, for example, the measurement quality falls below a defined value, a high temporal resolution measurement storage rate can be started. This freely configurable trigger function is not only suitable for diagnosing the measurement itself but also for accurately monitoring the processes and particularly for monitoring and controlling critical operating situations.



Thomas Jahn, Head of Operative Marketing at FLEXIM

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