



World's only non-invasive Flow Meter for
High-temperature Steam

FLUXUS® ST-HT

Non-Invasive – High Turndown – Accurate

Process Control

Consumption Metering

Check Metering

FLEXIM Sets Standards
when measuring matters



FLUXUS® ST-HT

The smart solution for high-temperature steam flow measurement



World Innovation

FLEXIM is proud to present, FLUXUS® ST-HT, the latest high-temperature model in our growing family of unique non-invasive steam flow metering products. The FLUXUS® ST-HT is complementary to our existing FLUXUS® ST steam flow meter, but pushes FLEXIM's solutions for clamp-on ultrasonic steam measurement up to **630 °C!**

Non-invasive and efficient

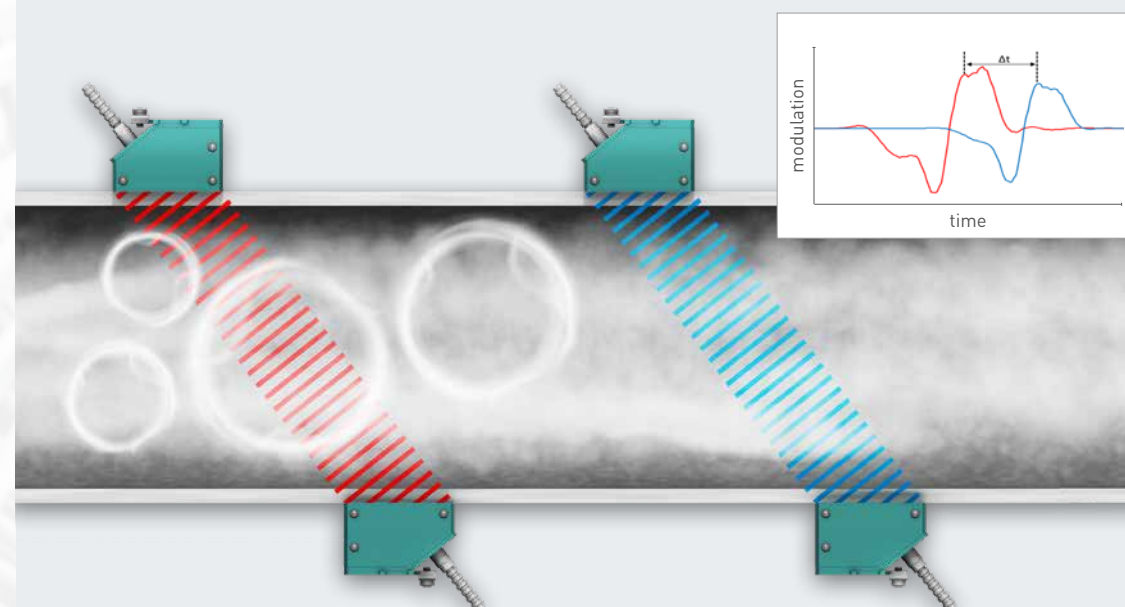
FLUXUS® ST-HT measures steam flow non-invasively from the outside of the pipe. Non-invasive steam flow measurement means measuring without any interruption of operation or supply. Since clamp-on ultrasonic transducers are simply mounted on the outside of the pipe, it requires just minimal installation effort and no pipeline penetrations.

- **No pressure loss**
- **No process interruption**
- **No pipe modification required**
- **No susceptibility to leak paths**

The acoustic measuring method functions **independently of the flow direction**. The FLUXUS® ST-HT offers precise bidirectional flow measurement over a wide turndown ratio up to 10:1.

Correlation Flow Measurement Principle

Two ultrasonic transducer pairs are mounted with a defined distance onto the pipe forming two gates. They are sending ultrasonic signals through the pipe. The modulation of the signals is tracking turbulence characteristics of the steam flow. By cross-correlation of the modulation signals of both gates over time, FLUXUS® determines the steam's flow velocity.



High Temperature Steam Meter G831 ST-HT for hazardous environments



High-temperature mounting system - WaveInjector®

Completely maintenance-free, robust and safe in operation

Non-invasive steam flow measurement also means measuring without direct contact with the medium flowing in the pipe. FLUXUS® ST-HT has **no moving parts**. Its ultrasonic transducers are fixed to the pipe with broad stainless steel straps or our patented WaveInjector® and secured in robust stainless steel housings. They are connected to the pipe with **permanent coupling** pads, instead of coupling gel that can deteriorate or be washed away. Therefore, FLUXUS® ST-HT is **not subjected to wear and tear and does not require any maintenance**. No more venting and draining of inline flow equipment is necessary, which ensures a totally safe operation of our flow measurement solution.

Designed for high temperature steam applications

With the WaveInjector® FLEXIM provides a very robust transducer mounting fixture for the ultrasonic flow measurement. It has been specifically **engineered for high-temperature applications** above 240 °C. Using patented technology, the WaveInjector® thermally separates ultrasonic transducers from the hot pipe, allowing operation at process temperatures up to 630 °C.

It has proven itself in numerous high-temperature applications worldwide. Without the need for pipe work or process interruption, the WaveInjector® is mounted on the outer surface of the pipe. Sturdy mounting fixtures provide **long-term high stability measurement**. Once installed, the pipe can be completely insulated up to and around the WaveInjector® to reduce any heat loss to the environment.

FLEXIM

More than 30 years of experience in non-invasive ultrasonic flow measurement



FLUXUS® G722 ST-HT



FLUXUS® G722 ST-HT
Stainless Steel



FLUXUS® G831 ST-HT

Technical Specifications

FLUXUS® ST-HT	Stationary clamp-on ultrasonic steam flow measurement system for high temperature steam
Media	Saturated and superheated steam (turbulent flow required)
Measurement quantities	Volume flow, mass flow, flow velocity
Temperature	100 – 630 °C *
Pressure	1 – 220 bara
Pipe sizes (ID)	10 – 900 mm
Measurement uncertainty (Volumetric flow rate)	±3% of reading **
Repeatability	±1% of reading **
Explosion protection (optional)	Transmitter ATEX/IECEx Zone 2, FM Class I / Div 2 (G722 ST-HT) Transmitter ATEX/IECEx Zone 1, FM Class I / Div 1 (G831 ST-HT) Transducers ATEX/IECEx Zone 1/Zone 2, FM Class I / Div 2
Calibration	In-house calibration traceable to PTB Standards

* please have your specific application tested for feasibility, for applications above 400 °C please contact FLEXIM for pre-evaluation

** flow velocities with > 60.000 Reynolds

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

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