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

FLUXUS® ST-HT

Non-Invasive – High Turndown – Accurate

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 – 400 °C *

**Pressure**
1 – 110 bara

**Pipe sizes (ID)**
10 – 900 mm

**Measurement uncertainty**
±3% of reading **

**Repeatability**
±1% of reading **

**Explosion protection** (optional)
transmitter ATEX/IECEx Zone 2, FM Class I / Div 2
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.
**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.

**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 400 °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 has exceptionally high measuring dynamics and functions independently of the flow direction. The FLUXUS® ST-HT offers precise bidirectional flow measurement over a wide turndown ratio up to 25:1.

**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 400 °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. Study 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.
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**Defined by performance**

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FLEXIM Sets Standards when measuring matters

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

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