OpreX™ Asset Management and Integrity

Wireless Steam Trap Monitoring Device

YOKOGAWA
Co-innovating tomorrow™

Improving the Reliability of Steam Traps and Reducing of Steam Loss

Feature

Easy Installation

- **LoRaWAN wireless network:** Installation without accounting for wireless coverage.
- **Environmental resistance (Intrinsic-safe, dustproof and waterproof):** Operable in challenging environments including hazardous areas.
- **Specialized fixing bracket "Waveguide":** Simple installation on currently operating equipment.

Easy Monitoring

- **Temperature/acoustic sensors:** Condition monitoring of various types of steam traps.
- **Long-distance wireless communication:** Equipment monitoring in a wide area up to a distance of 1km in plant.
- **Cloud environment or on-premise solution:** Remote access.

Benefits

Values of implementing Sushi Sensor

- Decreasing inspection cost by automating the monitoring and quantification of steam trap conditions, lessening the frequency for operator rounds.
- Minimizing inconsistencies in inspection quality by quantifying and visualizing results, reducing reliance on individual experience and intuition.
- Avoiding failure oversights by early detection of issues like clogged drains or condensate floods ("Cold") and steam leaks ("Blow through"), and reducing downtime.

Advantages of implementing a Wireless Steam Trap Monitoring Device

By efficiently maintaining steam traps that failures have been detected, the following benefits can be expected.

- **Healthy operation of steam systems:** Avoiding and reducing potential risks such as breakdowns and damages.
- **Energy efficiency and product quality:** Maintaining the thermal transfer efficiency of steam systems for plant operations.
- **Plant environment:** Reducing steam leaks and energy waste contributes to lower emissions and a smaller carbon footprint.

Sensor overview

The XS822 Steam Trap Monitoring Module, when combined with the XS110A Wireless Communication Module, operates as a battery-powered wireless device. It uses temperature and acoustic sensors to detect three steam trap conditions—"Good," "Cold," and "Blow through"—and wirelessly transmits this data to the host systems.

Module Specifications	
Ambient Temperature Limits	-40°C to 70°C (–40 to 158°F)
Maximum Steam Temperature	440°C (824°F)
Minimum Steam Pressure (gauge pressure)	100 kPa (14.5 psi)
Waveguide (Pipe diameter)	1/2", 3/4", 1", 1 1/4", 1 1/2", 2"*
Degrees of protection	IP66/IP67
Intrinsic safe	Ex ib IIC T4 Gb

*: For sizes larger than 2", please contact us.

Wireless Solution for the Industrial IoT

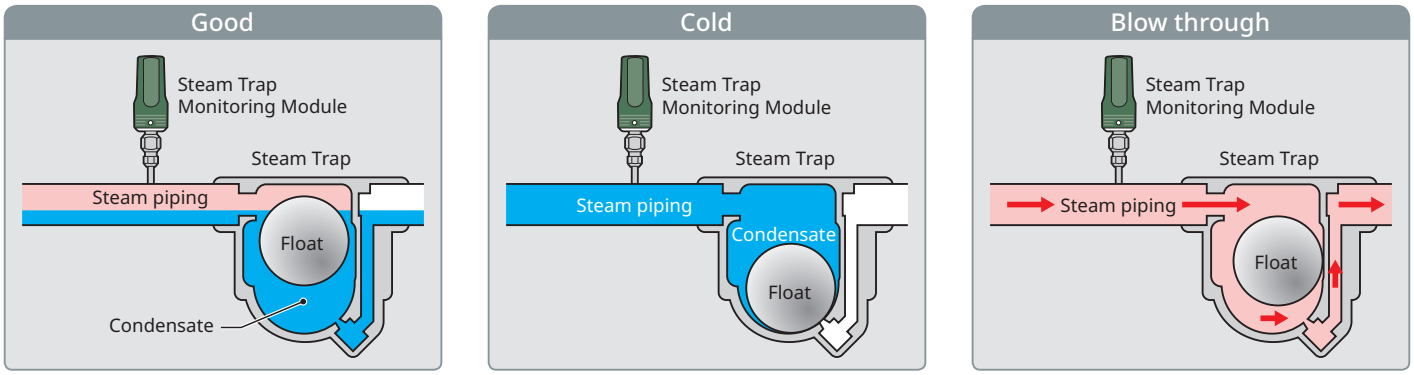
Sushi Sensor

Wireless Communication Module (XS110A)

Steam Trap Monitoring Module (XS822)

Steam trap condition detection

- **Detection of "Cold":** This can prompt proactive measures to prevent issues caused by clogged drains and non-drainage of condensate, which can lead to water hammer.
- **Detection of "Blow through":** This can trigger actions to repair steam leaks, thereby promoting energy conservation within the plant.



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Represented by:

Subject to change without notice. [Ed:02/b]

Printed in Japan, 502(KP)

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