

Industry solutions

Panametrics: Bringing solutions to the Steel industry

Overview

The highly competitive Steel industry anticipates to grow at a steady and slow pace for several years, despite some residual overcapacity. However, the trend toward a circular economy aimed at continued use of resources and elimination of waste, along with enhanced Corporate Social Responsibility, may sustain the pace without a further economic contraction.

The heavy industrial processes produced by steel mills, and metal heat treatment operations require multiple analysis points for process control and safety. They also use thousands of flow measurement points at their facilities and consume energy at a high rate.

Challenges

The Steel industry faces a series of on-going challenges to manage and optimize its energy usage, efficiency and compliance, with growing stringent environmental regulations that require emissions monitoring to address climate change.

Applications

The demanding environment of a metal processing facility requires heavy-duty industrial instrumentation. Metal parts, alloys and sheet steel are processed in furnaces at elevated temperatures. Controlled atmospheres are used to infuse desired properties and in pretreatment for depositing coatings. In these applications, measuring and controlling **Moisture, Hydrogen** and **Oxygen** levels is critical.

Moisture analyzer – to optimize yield and reduce scrap rates

Oxygen analyzer – to support the safety of the process

Flow meter – for Natural gas, oxygen and other types of gas flow can be monitored for emissions

Flow meters – for cooling water lines

Solutions

Panametrics ultrasonics flow meters have been deployed in steel mills for:

- Sea water, raw water, cooling water and wastewater from 15mm to 3m (1/2" to 300")
- Natural gas, blast furnace gas and coke oven gas
- Utility gases, including air, argon, nitrogen, oxygen and steam
- Fuel oil and tar
- Acids and alkaline solutions
- Leak detection between processing units

The main drivers of this technology offer these benefits:

- Able to withstand flow with high turndown ratio
- No drift over time
- Energy efficient without a pressure drop
- High reliability; low OPEX
- Increased process availability with no downtime
- Able to work with low pressure gas on large pipes and withstand dirty gases
- Smart meters with embedded diagnostics that assess meters' "health"
- Includes these clamp-on benefits:
 - Able to work on a dual traverse set-up even on very large pipes (2m or 80")
 - No interruption of process
 - Installs within minutes from outside the pipe
 - Able to measure large lines with cement or other liners

The AT600, PT900, XMT1000, PanaFlow, xGF868, xGM868, xGS868, GC868 and PT878GC are among the installed permanent and portable clamp-on flow meters. The G&M oxy.IQ, XMO2 (Oxygen), XMTc (Hydrogen) and multiple solutions for moisture (Aurora, HygroPro, moisture.IQ, et al) seamlessly integrate in a turnkey conditioning system to offer a complete measurement solution.

Panametrics offers multiple solutions for flow gas and moisture measurement using ultrasonics and both aluminum oxide and laser technologies, in transmitter and multi-channel analyzer configurations.

For more information:

Please visit our website panametrics.com or **contact us** for questions.

