RHI Normag AS reduces annual costs and meets regulatory requirements using Emerson's Coriolis flowmeters

RESULTS

- Annual maintenance costs reduced by €150,000, recovering the investment in less than six months
- Measurement accuracy helps ensure correct billing for fuel oil and natural gas
- Meets the measurement requirements of KLIF, Norway's national environmental agency
- Meter performance verified without interrupting the flow

APPLICATION

Measurement of mass flow of natural gas and recycled oil used in kilns

CUSTOMER

The RHI Normag AS plant located in Porsgrunn, Norway, produces fused magnesium oxide for use as refractory material in a wide range of industries

CHALLENGE

RHI Normag AS was measuring oil and natural gas consumption using turbine flow meters with a density measurement system. The measurement data was also being used to calculate CO_2 emissions for compliance reports to KLIF, Norway's national environmental agency. However, due to wear and tear over the years, the accuracy of the measurement system was poor and it needed to be calibrated twice a year to maintain performance. Each time, four systems had to be taken out of the line for calibration/refurbishment at a cost of €25,000 for each flow point – incurring a total annual cost of €150,000.

In order to reduce maintenance costs, minimise plant downtime and accurately measure energy usage, RHI Normag AS needed a measurement system that would be acceptable to KLIF, provide accurate data for custody transfer, and require minimal maintenance.

"We chose Micro Motion Coriolis flowmeters because they are reliable, accurate and simple. We are confident that we are paying for only the energy we actually use."

Merethe Pepevnik
RHI Normag AS

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SOLUTION

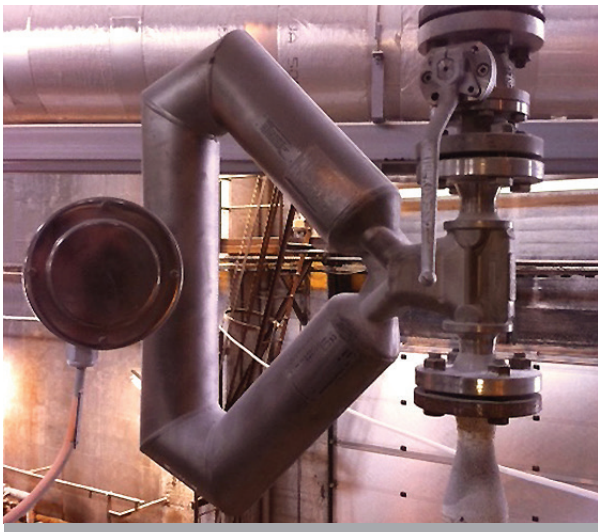
RHI Normag AS chose Emerson's Micro Motion® CMF Series Coriolis flowmeters based on their accuracy, reliability, and suitability for installation in challenging environments. The first four CMF Series meters were installed on two kilns during the summer of 2009. One flowmeter on each kiln was used for recycled oil and one for gas. In 2012, two larger-capacity Coriolis flowmeters were installed to measure higher gas flow rates.

The flow data is used for determining the amount of gas being purchased from the supplier, ensuring accurate custody transfer. In addition, with their mass flow accuracy of ±0.35% for gas and ±0.1% for oil, the Micro Motion meters comfortably meet the requirements of KLIF.

Meter performance and tube integrity is verified using Emerson's Smart Meter Verification – an easy-to-use, automatic diagnostic tool that quickly verifies the complete meter performance (sensor, drive and signal processing), without interrupting the flow measurement. This allows meter performance to be tracked without removing it from the pipeline.

Using Emerson's Micro Motion ProLink® configuration and diagnostic software tool, a smart meter verification report is generated every month and is retained for yearly audit by the authorities.

Emerson's Micro Motion Coriolis flowmeters have been proven in use over several years at the plant and their performance has enabled a significant reduction in annual maintenance costs. In addition, the process of meeting regulatory requirements has been simplified. Based on these factors the initial investment has been recovered in just six months.



"Emerson's Micro Motion Coriolis flowmeters have reduced our annual maintenance costs and simplified the process of meeting regulatory requirements."

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