Application note

Lube oil flow measurement using PanaFlow LZ

Process Conditions:

- Line size: 4" inch
- Minimum – maximum flow rate: 1,000 kg/h - 25,000 kg/h
- Temp max: 50°C
- Pressure max: 4 bar
- Viscosity: 13 cst
- Accuracy: ±0.5% of reading

Customer Main Products:

Lubricating Oils

Application:

Measuring Lubricating Oil.

Challenges:

Customer was using a PD meter for a batching and blending application. The PD meter was very old as supplied with the plant construction. That led to significant downtime and Operational Expenditure (OPEX) due to wear and tear of the meters having a direct impact on the production throughput. The availability of spare parts and inventory was another challenge. With lube oil demand growing, the plant couldn't afford this downtime and reduced throughput.

Solution:

To address the customer challenges, **Panametrics' ultrasonic liquid meter PanaFlow LZ** with dual path was the recommended solution.

The ability of the dual path transducer to **meet the customer accuracy requirements** for blending application of ±0.5% of reading and the capability of online transducer removal without process shutdown were decisive factors as they led to **reduced downtime and low OPEX**.

Additionally, thanks to the absence of moving parts and full bore spool design, the ultrasonic meter further improved the energy efficiency by **eliminating the pressure loss** caused by the original DP meter. That is especially relevant here where the lube oil is a bit viscous and viscosity plays a significant role in pressure loss. The pump **efficiency was therefore increased**, saving the plant energy.

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