APPLICATION REPORT

Oil & Gas

Mass flow measurement of crude oil products

- Mass flow measurement of crude oil products
- Easy integration into existing systems
- Bulk mass flow measurement

1. Background

The JSC Mozyr oil refinery refines crude oil and other fuels in Belarus. The crude oil for refining is imported from Russia and Venezuela via the Ukraine.

The main products include fuels such as petrol, jet fuel, diesel fuel and domestic heating fuel.

A variety of bitumen products for road building, for roofing felt and other applications are also manufactured.

JSC Mozyr Oil Refinery

In addition, the refinery also produces liquefied gases including hydrocarbon fuel gases, butane and other products such as vacuum gasoil for export, commercial sulphur, lamp oil and gasoline-pyrolysis feedstock.

2. Measurement requirements

The first mass flowmeter is required to measure the flow of crude oil in the supply pipe to the primary oil refining. The mass flow rate here is 1600 t/h.

The second meter is used to measure black oil in the pipeline to the Commodity and Raw Materials Park.

Additionally the customer required simple installation, high accuracy and smooth integration of the new meters into existing systems.

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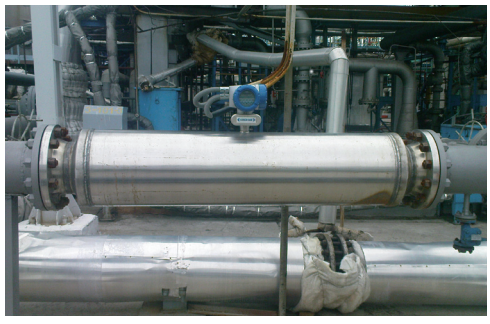
3. KROHNE solution

For this application, KROHNE supplied 2 OPTIMASS 2300 C mass flowmeters, size S 250s / 10 inch. It is extremely easy to install these OPTIMASS meters in existing pipelines as there are no restrictions on installation. Vibrations in the pipeline have no influence on the very precise measurements. The compact design of the meters simplifies the electrical connection and the meters come equipped with density and temperature measurement as standard. The meters can be commissioned and operated without any special knowledge.



OPTIMASS 2300 C in use

4. Customer benefits

OPTIMASS mass flowmeters from KROHNE offer many advantages. Excellent long-term stability and repeatability ensure exact measuring results with the OPTIMASS 2300 C. This mass flowmeter measures mass directly, eliminating the need for recalibration, even when process parameters vary. Extensive diagnostic functions facilitate self-monitoring of the systems and give prompt indication of possible errors in the system.

Converter MFC 300 F

5. Product used

OPTIMASS 2300 C (Coriolis Mass flowmeter)

- Innovative twin measuring tube design with optimised with optimised flow divider for minimum pressure loss
- Stainless Steel measuring tubes (NACE Compliant)
- Large diameter for bulk measurement and custody transfer of liquids and gases
- Standard flanges with ratings up to PN 160 / 1500 lb
- Exact measurements of mass, volume, density and concentration, even with solids
- Easily drained and easy to clean
- Optional heating jacket
- Modular electronics concept: electronics and sensor are easy to replace
- High measuring accuracy and reproducibility

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