

Wash Oil Measuring Chemical Solution

Coriolis Flow Meter | ROTAMASS TI

Measuring chemical solution with advanced Coriolis flow meter design provides best-in-class performance.

Application

Acquiring an accurate and reliable measurement of wash oil in a high temperature process. This measurement helps maintain the production levels of the chemical solution and helps detect any issues within the process.



Figure 1: Chemical Manufacturer

Challenges

Thermal maintenance of certain high viscous liquids is a challenge frequently faced by engineers in the industry. Maintaining a certain temperature window is critical. Below a particular temperature, the viscosity rises exponentially. Temperature maintenance problems can shut down an entire unit or bring operations to a standstill, resulting in financial loss.

The problem in this application, was trying to avoid solidification of the chemical, while acquiring a reading, and maintaining the hazardous area certification. The customer was concerned about the reliability of the measurement they were reading.

Solution

In order to avoid such problems, which typically occur in non-processing periods and under low flow conditions, it is essential to adjoin heat as well as insulation to the piping and equipment. Therefore, thermal management of the pipe runs is required, to avoid any heat loss in the fluid to maintain the fluid properties.

The insulation is critical to the performance of a heating system. To maintain thermal inertia, the ROTAMASS TI uses mineral wool insulation which provides the best thermal performance.

With the /T10 option, the insulation is mounted inside the stainless-steel enclosure, which maintains the hazardous area certification required by the customer.

In addition, to the insulating design, /T21 option (Includes /T10) offers heat tracing to the secondary containment. This design ensures that the process media temperature is maintained in the entire flow path within the flowmeter.

With Yokogawa being able to offer this proven and standard insulation and heat tracing option, the ROTAMASS TI was selected and inserted in the customer's process.

The customer was able to use the Total Insight concept of the Tube Health Check, to monitor the tubes conditions based on the process. In addition, the microSD card allowed the customer to record the trends and analyze the data offline to maintain records of the process improvement.

Lastly, the customer was very satisfied of the accuracy of the ROTAMASS TI and its measuring capabilities in this high temperature application.



Figure 2: Meter installed with /T21 option

Key Benefits

- Best in class accuracy
- Advanced Diagnostics, as per NE107, would populate abnormal events for the operator
- Unique trend display of process parameters
- Outer stainless-steel case remains cool to the touch
- No jump-over hoses
- Terminal box is extended beyond the exterior of the enclosure to allow field serviceability
- Yokogawa also offers /T31 option, with purging; and other custom designs



ROTAMASS
Total Insight



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