

Application News

PD Flow Meter Improves Material Quality in Steel Strip Oiler

Industry: Steel

Service: Oil Flow Rate

Fluid: Rust Preventive Oil

Overview

Pickling is a metal surface treatment used to remove impurities from ferrous metals, copper and aluminum alloys. A solution called pickle liquor, which contains strong acids, is used to remove surface impurities. Sheet steel that undergoes acid pickling will often oxidize depending on the environment to which it is exposed. To prevent rusting, a thin film of oil or similar waterproof coating is applied to create a barrier to the moisture in the air. This oil is typically removed later prior to fabrication, plating or painting processes.

Situation

A major cold rolled sheet producer was continually having stain issues. Many of these defects were not discovered until they reached the customer, resulting in costly reworks and customer dissatisfaction. They determined that they needed better corrosion protection which included the need for a flow meter to insure the proper amount of oil was applied.

Solution

Flow Technology carefully considered the application requirements and chose the DC series positive displacement flow meter. This meter was chosen due to the small space requirements as well as the extremely low flow rate required. The changing viscosity due to temperature shifts also made the positive displacement meter an ideal solution.

System Description

The compact positive displacement flow meter provides accurate flow rate and total feedback. The meter provided an analog output to monitor continuous flow rate. This allowed the customer to make adjustments "in process" and prevent a rejected product once it was out in the field. The positive displacement meter is ideal for medium to high viscosity fluids and also when pipe spacing is limited.

Technical Information

Flowmeter: DC011-6115-5101000 Positive Displacement Flow Meter

Electronics: TWA -AB6 Frequency to Analog Transmitter with High Temperature Pickoff

Fluid: Rust Preventive Oil



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