

Ideal Level Measurement in Bitumen Manufacturing

The process of manufacturing bitumen begins by pumping crude oil through a heat exchanger system that increases the temperature of the oil to about 200°C. The oil is then pumped to a furnace to further raise the temperature to around 300°C, which will partially vaporize it. Then it is ready to enter an Atmospheric Distillation Column (ADC).

Challenge

In the Atmospheric Distillation Column, the light elements from the heated substance will rise to a higher level, and heavier elements will settle at the bottom of the column.

The bitumen forms when pumping the heavy parts into a vacuum distillation column via a heat exchanger. Vacuum distillation will maintain the high binding characteristics of the original crude oil.

Spillages from these bitumen storage tanks due to overfilling can cause serious injury, as bitumen is stored at high temperatures and has a large thermal capacity.

The sticky, heated bitumen will be too aggressive for most level switches. So how do you perform safe level measurement on material as sticky as this, without the probe needing excessive cleaning for every contact it makes with the material?

Solution

Drexelbrook's *ThePoint* RF Admittance Point Level Switch can handle the critical high-level alarm to secure the manufacturing process and avoid overflow.

The measurement probe has a push-button auto-calibration feature and a manual calibration for more difficult applications.

Furthermore, the coating rejection capability of the *ThePoint* is key to the success of the measurement of this highly viscous medium. The Cote-Shield enables *ThePoint* to ignore the effect of build-up or material coating on the sensing element.



The Cote-Shield prevents the transmission of RF current through the coating on the sensing element. The only path to ground available for the RF current is through the material being measured.

The result is an accurate measurement regardless of the amount of coating on the probe, making it by far the most versatile technology, suitable for a very wide range of conditions from cryogenics to high temperature, from vacuum to 1,000 psi pressure, and works with all types of materials.

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► **Benefits**

Using a Drexelbrook *ThePoint* for your level measurement needs can help prevent accidents as the high-level alarm can be used to stop a pump or sound an alarm at the application's control board.

- Cote-Shield circuitry ignores coating on the level-sensing probe
- No moving parts for a maintenance-free operation
- Once installed and connected to power, *ThePoint* has a push-button auto-calibration feature.

► **Also Recommended For**

- Cold Feed Bin and Conveyor
- Drum Mixer
- Hot Mix Conveyor
- Delivery Chute
- Asphalt Spreader

► **About Drexelbrook**

Drexelbrook, a part of AMETEK STC, is known worldwide as a leader in level measurement technology. We've earned our reputation for excellence from over five decades of experience in providing level solutions to virtually every industry, including oil and gas, chemical, petrochemical, refining, power, water and wastewater, food, pharmaceutical, pulp and paper, mining, automotive, and many others.



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