

LMT100 magnetostrictive level transmitter

Crude oil collection tank– every drop counts



Precise level measurement in storage tanks

Level measurement is critical to handle the crude oil safely and securely so that it proceeds to refinement while keeping our world safe.

Measurement made easy

Introduction

The production of petroleum in all of its different states requires different types and sizes of tanks at different stages. Crude oil is the naturally occurring liquid form of petroleum. In the petrochemical industry in order for the crude oil process to run continuously and smoothly care has to be taken when storing raw and finished products. Accurate level measurement of products of distillation is essential whilst they are being stored in different sized tanks. In a world where everyone is concerned with keeping the environment clean for future generations to enjoy, it has never been more important to make sure that oil spills are minimized as much as possible. As a result, it is imperative that the level measurement of such tanks that store massive amounts of crude oil be using the best technology and product – introducing ABB's LMT series magnetostrictive level transmitters.

The application

The customer is an upstream oil and condensate producer and is interested in a reliable level and interface measurement in his collection vessels.

- Vessel height is 9 m (30 ft)
- Ambient temperature: –40 to 43 °C (–40 to 109.4 °F)
- Process temperature: 40 °C (104 °F) or lower
- Process pressure: 15 psig



The challenge

The measurement of total level and interface are both critical in remote collection operations. Timing of oil and water collection requires coordination. Untimed shutdowns are unacceptable and too frequent pickups add to expenses.

Additionally, having oil in the process water adds to the processing cost and decreases margins. Having water in the oil also impacts processing and causes billing headaches. With thick emulsion layers, GWR is not a option.

The solution

The LMT100 with a W7 flexible halar sensor and 316/316L segmented sensor well with two F51B floats will be an excellent solution. Installation will be easy and the measurement will be reliable. Remember, the measurement is relying on the magnetic fields, not the process conditions. Emulsion layers will not affect the signal.

LMT100 features and benefits

- High accuracy: 0.01% of full scale or ± 1.27 mm (0.05 in), whichever is greater
- Superior sensor (patent #5,473,245)
- Local indication with HMI display
- Never requires recalibration: set it & forget it
- Dual compartment housing with separate field terminal compartment
- Rigid probes up to 9 m (30 ft) probe length
- Total and/or interface level measurement
- Field replaceable/upgradable electronics module
- Built-in RFI/EMI filter
- Probe and flange materials to meet your process compatibility needs
- 4 to 20 mA HART®, FOUNDATION™ Fieldbus*
- Certified for use in SIL2/3 rated systems per IEC61508
- DTM, EDDL, FDI software available
- Integral RTD option available for process temperature measurement

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LMT100 for accurate total level and interface level measurement

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