

LMT200 magnetostrictive level transmitter

Non-intrusive level solution for toxic and corrosive applications



Managing hazardous chemical storage inventory requires safe and reliable level measurement solutions. LMT series level solutions offers safe and reliable solution with a higher level of confidence in measurement.

Measurement made easy

Safe and reliable
level measurement
of toxic liquids

Introduction

Oleum is a widely used industrial chemical utilized as an intermediate to produce many different organic and inorganic chemicals. These include sulfonation (chemically adding sulfate) processes, nylon manufacturing, the production of dyes, nitrating reactions and hydrofluoric acid (HF) production. Oleum is consumed in industrial manufacturing processes or recovered and re-used. Oleum is not biodegradable and when released into the upper atmosphere, oleum exists as sulfuric acid particles or droplets. The acid particles dissolve in clouds, fog, rain, or snow, resulting in very dilute acid solutions. This may impact the environment as acid rain. If exposed to Oleum which is rapidly destructive to all body tissues, causing severe burns is extremely dangerous to human health. Hence, in any manufacturing process that involves the handling of this acid, the level measurement is critical not only for the operations but also for the human safety and environment.

The application

The customer is chemical plant located on the United States East Coast. The application is an oleum acid tower level control.

- Ambient temperature: -26°C to 40°C (-14.8 to 104°F)
- Process temperature: ambient
- Process pressure: externally mounted



TK-1922
130 M³

The challenge

Oleum is a very dangerous chemical which can create a sulfuric acid gas cloud when exposed to atmosphere, so containment is critical for plant personnel safety as well as community safety.

Additionally, sulfuric acid is very corrosive in low concentrations, so material compatibility is critical and leaks must also be avoided. The installation area requires acid jacket and face shield for entry.

A competitor's level measurement solution installed was failing in this application and the customer wanted to upgrade the system to use an advanced level measurement technology.

The solution

ABB replaced a competitor's external level switch which had failed.

The LMT200 magnetostrictive level transmitter is mounted on the outside of a competitor's magnetic level gauge to the side of the process vessel.

As a non-intrusive device, exposure to vapors and leak potential are eliminated which means a safer work environment for instrument technicians and plant personnel.

For setup, the device was shipped with all known parameters preconfigured. No additional tuning was required.



Accurate level measurement of toxic liquid using LMT200 transmitter

LMT200 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 and forget it
- Dual compartment housing with separate field terminal compartment
- Probe lengths up to 15 m (50 ft)
- Total and/or interface level measurement
- Field replaceable/upgradable electronics module
- Built-in RFI/EMI filter
- 4 to 20 mA HART®, FOUNDATION™ Fieldbus*
- Certified for use in SIL2/3 rated systems per IEC61508
- DTM, EDDL and FDI software available
- Waveform display (no need for an oscilloscope)
- 360° display rotation
- Mounting orientation field changeable
- Standard sealed sensor tube
- NAMUR NE107 messaging

*HART® is a registered trademark of the FieldComm Group

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SIL certified LMT200 transmitter

Sales



Service



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