

LMT200 magnetostrictive level transmitter

Powerful level measurement solution



Boiler level measurement and control

Reliable level measurement solutions for extreme applications. LMT series – simple to apply, powerful results.

Measurement made easy

Introduction

The sugar industry is well-established and sugar production is an energy intensive process. A typical sugar plant requires 8 to 10 MW of power. Almost all sugar plants have to be self-sufficient and generate the energy they need in their own power plants. The prime technology for sugar mill cogeneration is the conventional steam-rankine cycle design for conversion of fuel into electricity. A combination of stored and fresh bagasse is usually fed to a specially designed furnace to generate steam in a boiler at typical pressures and temperatures of usually more than 40 bars and 440 °C respectively. The high pressure steam is then expanded either in a back pressure or single extraction back pressure or single extraction condensing or double extraction cum condensing type turbo generator operating at similar inlet steam conditions.

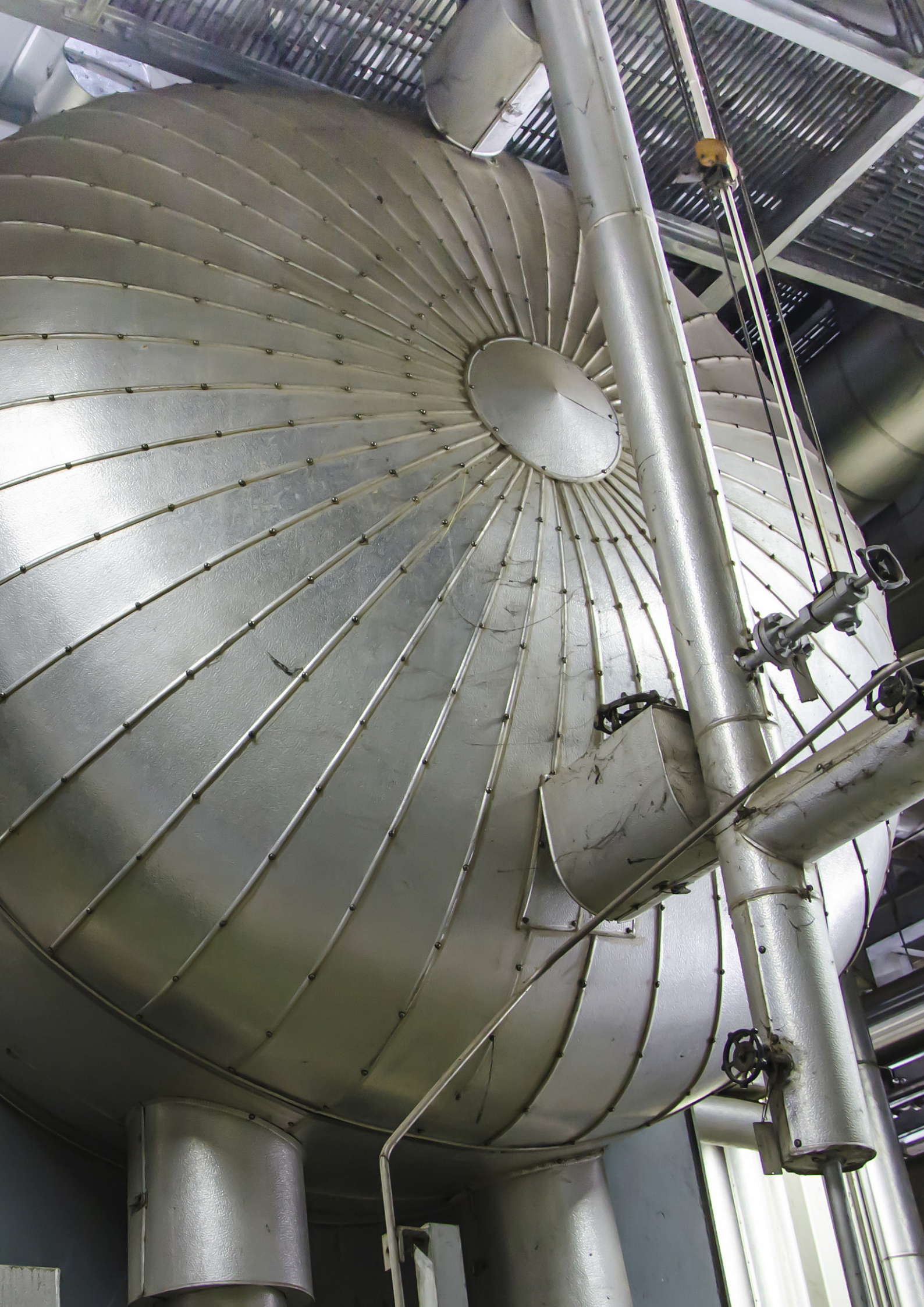
The application

The customer is a sugar mill with a boiler which powers the entire plant's electricity as well as the steam supply during grinding season.

- Ambient temperature: -2 to 43 °C (28.4 to 109.4 °F)
- Process temperature: 295 °C (563 °F)
- Process pressure: 8 MPa

The challenge

The boiler is critical to the operation of the plant. If it is not controlled properly or is shut down, the entire operation stops. Without steam generation, there is no power for the crushers and other equipment and there is no way to heat the sugars to produce molasses. Failure is not an option.



The solution

Having successful experience with AT series of magnetostrictive transmitters for decades, the customer did not have any second thoughts in upgrading the boiler level measurement system with ABB's new LMT Series magnetostrictive level transmitter. The customer has installed and commissioned the LMT200 since 2015 and happy with the performance and appreciates the features like the built-in waveform and rotatable housing and display. Also, with the new design of the LMT, the extra 90 degree bend for keeping the transmitter away from the chamber was not required for this high temperature application saving cost and space.



Advanced LMT200 for boiler level measurement

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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LMT200 bottom mount configuration mounted on the flagship KM26 MLG

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