

Level Measurement – LLT100 for Totalmix customer

Sodium bicarbonate reactor



The first LLT100 Laser Level Transmitter sold to Totalmix Industria e Comercio LTDA (Brazil)

Measurement made easy

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01 LLT100 stainless steel level transmitter

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02 LLT100 level transmitter technical parts

Level Measurement - LLT100

Introduction

Totalmix is the largest Brazilian company that produces “green” sodium bicarbonate. They are the first and only industry in the world to produce and commercialize sustainable bicarbonates, consuming sustainable and renewable CO₂ from ethanol and sugar production. Sodium bicarbonate has multiple uses in food production, animal nutrition and fire extinguishers.



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Challenge

Measurement is very critical for synthesis of sodium bicarbonate and for the main chemical reactions involved in the crystallization reactor. As part of the process, Totalmix needed to measure the level in a caustic environment with very abrasive fluid. Some challenges were:

- Metallic obstructions inside the reactor
- Injection of steam during the production
- Temperature above 80 °C
- Rotary agitator during production

ABB Solution

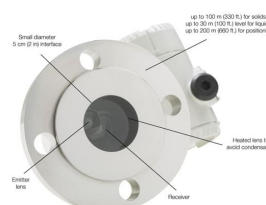
Laser level transmitter, LLT100, provided the ideal solution for measuring the level of sodium bicarbonate reactor for many reasons:

- Very low angle beam of 0.3 °
- Cooling tube permitting to work with high temperature
- Stainless steel housing to support caustic ambient
- Easy maintenance because non-invasive technology measurement
- Digital filters to minimize noise in measurement caused by agitator

Conclusion

ABB provided a simple and reliable non-contact level measurement in this industrial environment. Other technologies such as Dp Cell and Ultrasonic were used, but failed due to agitation, steam intensity, high temperature, and caustic environment.

This laser is the first one installed at an important chemical company located in Brazil.



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