

# Liquid-Level Sensors

with Temposonics®  
Magnetostrictive Technology



550674 C

## Specialty Chemical Applications Idea



### The application problem

An east coast chemical processing plant relied on hand-gauging their blending tanks for many years. Hand-gauging involved opening the tanks to access the level, a process that may cause dangerous vapors to escape. New state environmental regulations required the installation of a vapor recovery system at the plant, effectively ruling out the use of hand-gauging methods.

This customer needed a new method of level measurement that met the following requirements:

- Sealed level measurement system
- Local and remote level indication
- High degree of repeatability

It was important that the new level measurement system be sealed to prevent any harmful emissions per the new state regulations. Even though the tank would be sealed, operators in the plant still needed to have on-the-spot level indication. A new measurement system also was required to have a higher degree of repeatability than the original hand-gauging measurement method.

In researching an application solution, many level technologies were considered. This plant produces chemical solvents which become volatile compounds when blended. Ultrasonic and RF-capacitance transmitters were considered, but due to the high vapor concentration and low dielectric constant in the process, these technologies proved unreliable.

### The liquid-level sensor solution

The customer chose the MTS level MR analog gauge as the best solution. The gauge features:

- Single-loop gauge with HART® communication
- Single-cavity explosion-proof enclosure with local display
- 60 in. 316L stainless steel sensor pipe with a 3/4 inch NPT process connection

MTS level gauges are modular, consisting of the electronics housing, sensing element, and the sensor pipe. This allows the sensor pipe to be installed and sealed in the vessel, while the electronics and flexible sensing element can be removed from the sensor pipe. The customer does not have to disturb their process or release any harmful emissions into the air when removing these elements. This significantly reduces costly downtime.

An on-board display option still allows operators to have local indication, while also displaying level measurement data in a remote control room as well.

MTS level gauges employ magnetostrictive technology, ensuring excellent repeatability. Magnetostriction can provide a greater degree of repeatability than can be achieved by hand-gauging.

All specifications are subject to change. Please contact MTS for specifications that are critical to your needs.

**Part Number: 04-05 550574 Revision C**  
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