

# Radar Level Gauge Application Report 5

## - Storage Tank -



The MRG-10 micropower impulse radar level gauge features accurate, non-contact, level measurement with simple installation over a target fluid.

At this particular site, the MRG-10 radar gauge provides stable level measurement of food products in the storage tank, unaffected by atmospheric.

Differential pressure sensors for sanitized use are also widely employed in this type of application. The sensors detect the pressure exerted by the liquid's mass. Pressure is then converted to level measurement in accordance with preset densities.

These types of gauges are popular in waterworks because of their relatively simple construction and design which involves direct sensor-liquid contact (wet installation). Costly materials are involved however if heavy corrosion resistance is required. In addition, high viscosity liquids such as slurries are prone to increased measurement errors. Moreover, densities may vary for a product, which may result in spontaneous increases in measurement error.

Ultrasonic level gauges are also often applied as a non-contact means of level measurement. This type of gauge measures the round-trip transiting time of high frequency sounds to and from the surface of a liquid and converts this into distance. Ultrasonic level gauges however are easily affected by fog, vapor, pressure, temperature changes, and other environmental factors.

Radar level gauges, which incorporate electromagnetic waves (microwaves) on the other hand, do not require direct contact with liquids, density parameters or complex capacitance comparisons. Microwave-based level gauges are also least affected by ambient conditions.

In addition, the MRG-10 radar level gauge offers HART 2-wire loop communication protocol so customers can change any parameter from a central computer station with PC and

configuration software. The MRG-10's 4-key input menu display also allows parameter setting on site as an alternate method.

	MRG-10	Pressure Transmitter	Ultrasonic
Non-Contact	○	×	○
Vapor (High Temp & High Humidity)	○ Least affected	○ Not affected	×
Temp. Change	○ Least affected	○ Not affected	×
Density Change	○ Not affected	×	○
Durability	○ Isolated from tank atmosphere	×	×

**[ Application Data ]**

Typical User : Food company  
 Target : Soybean sauce (soy sauce)

**[ Installation Data ]**

Main Unit : Radar Level Gauge MRG-10  
 Antenna : PFA rod antenna  
 Range : 10m

For more detailed information, please contact your local representative.

**Representative in your Area**