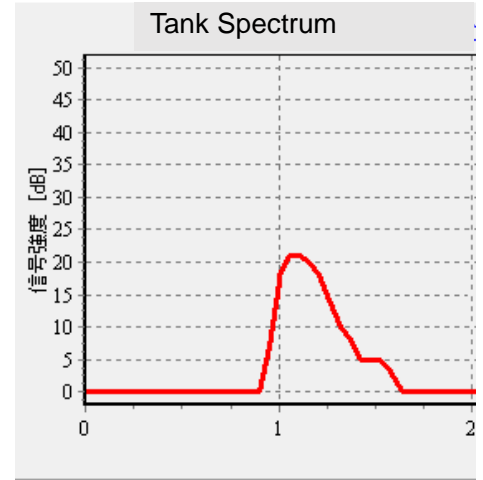


# Radar Level Gauge Application Report 31

## - Level monitoring at Inlet Filter basin -



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

In this application, MRG-10 achieves simple control for inlet tank level monitoring without contacting water.

Submerged pressure sensor or Capacitance type level gauges are commonly applied in waterworks because of their relatively simple construction and design which involves direct sensor-liquid contact (wet installation). There are disadvantages however with these types of gauges. For example, channel bottom sediment may cause an increase in submerged pressure transducer measurement errors. The sensing elements of capacitance level gauges are also prone to substance adhesion, which may result in errors.

Ultrasonic level gauges are also frequently used 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	Capacitance	Ultrasonic
Non-Contact	○	×	×	○
Vapor (High Temp & High Humidity)	○ Least affected	○ Not affected	×	×
Temp. Change	○ Least affected	○ Not affected	○ Not affected	×
Sediment	○ Not affected	×	○ Not affected	○ Not affected
Durability	○ Isolated from ambient conditions	×	×	×
		Wet	Wet	Exposed to ambient conditions

### [ Application Data ]

Typical User : Water treatment plant  
 Target : Raw water  
 Location : Japan

### [ Installation Data ]

Main Unit : Radar Level Gauge MRG-10  
 Antenna : 8 inch cone antenna  
 Range : 2m

For more detailed information, please contact your local representative.

Representative in your Area