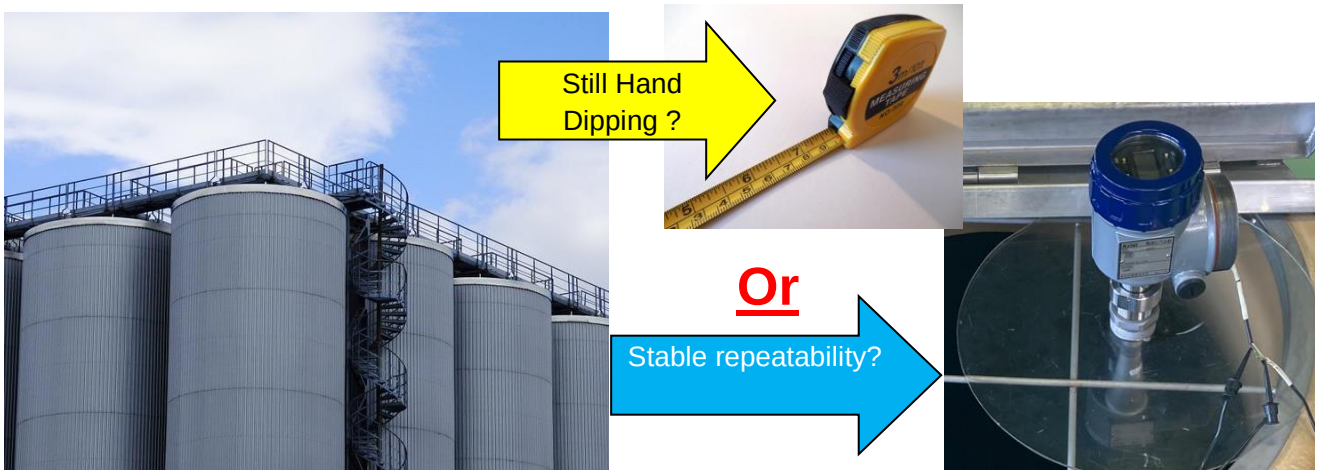
Radar Level Gauge Application Report 54

- Still Hand-Dip-Validation ?



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

In this application, KRG-10 achieves simple measurement for tank level monitoring without contacting liquid.

At the factory, there are dozens of tanks to be measured manually dozens of times per day.

The manual measuring was time-consuming (over the 60 sec / time), and they may contain problem of mis-reading the scale due to human error. On the contrary, the KRG-10 displays the measured value on the LCD just in 20 seconds with stable repeatability, without human error.

Pressure sensor or Capacitance type level gauges are commonly applied in general industry 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, product may stick to the pressure receiving part, then it may increase 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 KRG-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 KRG-10's 4-key input menu display also allows parameter setting on site as an alternate method.

	KRG-10	Pressure	Capacitance	Ultrasonic
Non-Contact	○	×	×	○
Vapor (High Temp & High Humidity)	○ Least affected	○ Not affected	× Increased errors	× Increased errors
Temp. Change	○ Least affected	○ Not affected	○ Not affected	× Increased errors
Sediment	○ Not affected	× Increased errors	○ Not affected	○ Not affected
Durability	○ Isolated from ambient conditions	× Wet	× Wet	× Exposed to ambient conditions

[Application Data]

Typical User : Construction company
Target : Aqueous solution
Location : Japan

[Installation Data]

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

For more detailed information, please contact your local representative.

Representative in your Area