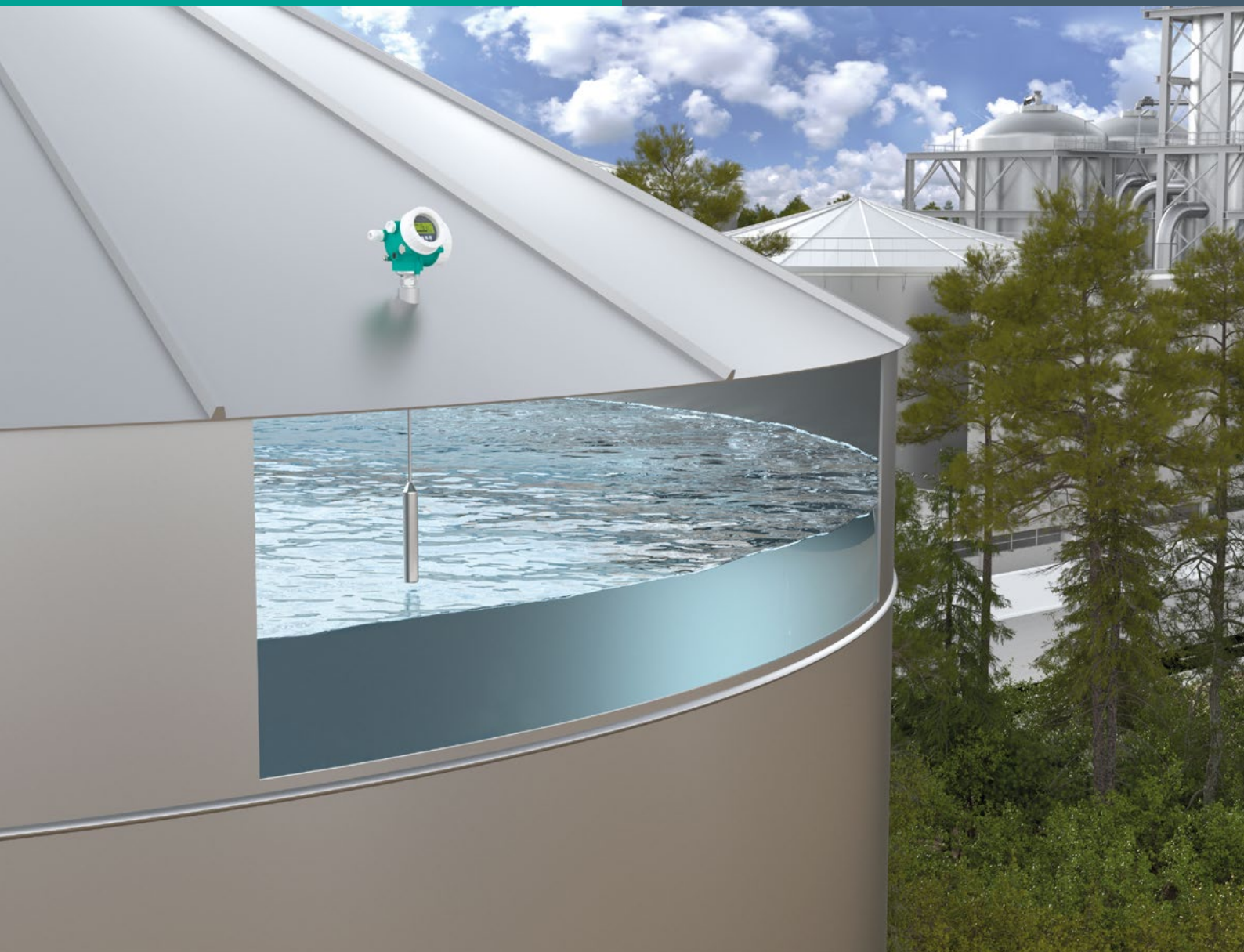


Reliable Level Measurement with Explosion Protection

High Precision for Liquids and Granulates via Guided Microwave

At a Glance

- Safe measurement in a wide range of product and process conditions
- High reliability using multi-echo tracking
- ATEX, IECEx, CSA, FM, WHG, and SIL 2 explosion protection certificates
- Seamless integration into process control and asset management systems
- Intuitive user interface in local language
- Simple proof test for SIL and WHG
- Configuration memory for easy commissioning, servicing, and diagnosis



The Application

The chemical industry processes a large number of liquids that are stored in tanks for this purpose. The same applies to granulates and bulk materials used in areas such as plastics processing and the food industry. To avoid interruptions in production and to consistently plan replenishment of materials, fill levels must be monitored continuously and precisely. Production and logistics processes are often highly automated, with the fill level data processed by process control and asset management systems. The liquids, vapors, and dusts in the tanks are often explosive and must be protected.

The Goal

The fill level of many different liquids and granulates is reliably determined to the required degree of precision, regardless of the tank geometry. Measurements are not affected by vapors, dust, or extreme temperatures. The measuring instrument has the required explosion protection certificates. It can be used as widely as feasible to keep the asset management of the plant or company in this area simple. The measurement data can be processed by higher-level systems and used for predictive planning of production and replenishment.

The Solution

The guided microwave is a reliable and precise measuring method based on time-of-flight technology. It continuously determines the fill level without being impeded by dust or vapors. Even installations in the tank do not influence measurement. The devices in the Pulscon LTC series are designed to be extremely rugged. They withstand temperatures between -40 and 200 °C and a process pressure between -1 and 40 bar. With a measuring range of up to 45 m, they are also suitable for very large tanks. The measurement data can be transmitted via HART or PROFIBUS PA. The devices are certified according to ATEX, IECEx, CSA, FM, WHG, and SIL 2.

The Benefits

Dynamic and self-learning evaluation algorithms with multi-echo tracking ensure reliable detection of the data. The measurement does not depend on the density of the medium. The hardware complies with standard IEC 61508 SIL 2; the software achieves SIL 3. Commissioning requires only six steps, which can be performed directly on the device using intuitive menu navigation.

Technical Features

- Communication via HART or PROFIBUS PA
- Measuring range up to 45 m
- For all products from $DK \geq 1.4$
- Temperature range: -40 °C to $+200$ °C
- Process pressure: -1 to $+40$ bar
- Process connections: $\frac{3}{4}$ ", $1\frac{1}{2}$ ", and flange versions
- Accuracy: ± 2 mm
- WHG, steam boiler approval, EN 10204-3.1

