

To reliably detect the level in a vessel, the reflection signal from the medium must be clearly distinguishable from the noise. Two factors determine the beam angle of a radar beam – and thus its focusing – they are: the transmission frequency and the effective antenna size. If the antenna size remains the same, better focusing is achieved by using a higher frequency.

The solution

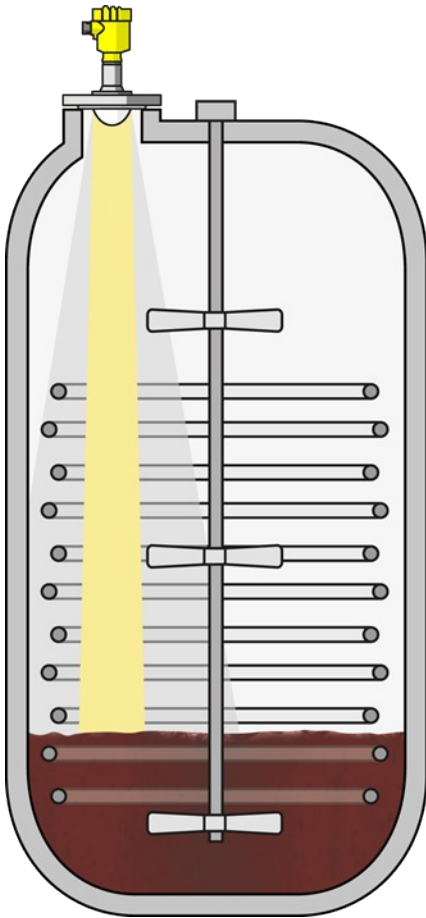
VEGAPULS 64 operates with a transmission frequency of 80 GHz. With an 80-mm antenna, this results in a beam angle of only 3°. The radar sensor receives only distinct, definitive reflections from the product surface. This makes the measurement more accurate and reliable. By comparison: a conventional radar sensor with 26 GHz transmission frequency and an antenna of the same size has a beam angle of approximately 10°. Due to the considerably wider signal beam, agitators, fittings or buildup on the vessel wall cause interference that can affect the measuring result.

The benefits

- Considerably easier setup and commissioning, even with complex vessel internals
- Increased measurement certainty over the entire measuring range through better focusing
- High accuracy, even when the sensor is mounted close to the tank wall

Expert tip:

For maximum measurement certainty, the largest possible antenna system should be chosen during installation. This ensures both optimal focusing and maximum signal strength.



Applications

- Dissolving tank
- Mixing tank for soft cheese production
- Aroma vessel