

Rosemount 5300 Guided Wave Radar Level Transmitter

Dynamic Vapor Compensation

Experience a **safe, accurate, and reliable** process in **challenging applications**.

The world's **most trusted** Guided Wave Radar level transmitter, the **Rosemount™ 5300**.



Common Challenges



Level is critical for safe operations, and good measurement helps to optimize plant performance. Application challenges include:

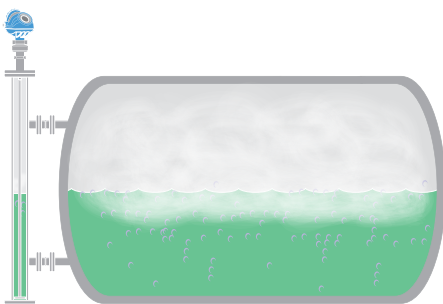
- Phase changes
- Extreme high pressures and temperatures
- Magnetite coating
- Vibrations
- Density changes

Benefits of the Rosemount 5300 Guided Wave Radar



- Independent of density changes
- Handles high pressure and temperature
- No moving parts
- Easy to install and configure
- Direct level measurement
- No calibration and zeroing
- Compensates for vapor space changes

Advanced Technology: Dynamic Vapor Compensation

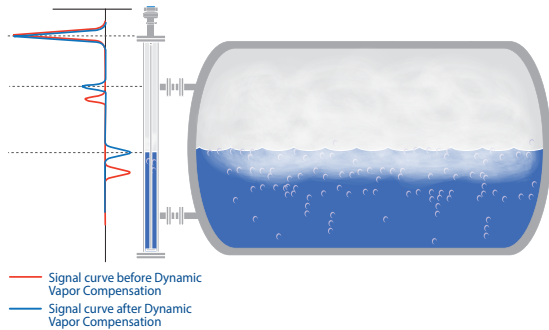


- Helps optimize plant performance, improves safety and reduces field trips
- Uses non-mechanical techniques
- Decreases the risk of production interruptions and increases throughput with an optimized thermal cycle
- Compensates for attenuation in vapor space during saturated steam conditions, providing accurate and reliable measurement in extreme conditions



Dynamic Vapor Compensation Functionality

Operating Principle



Dynamic Vapor Compensation works by using a target at a fixed distance. Knowing where the reflector pulse should be without any vapor, the distance between the target and the apparent reflector point is calculated.

Safe at Extreme High Pressure and Temperatures



Robust process seal design with multiple layers of protection, each resisting the maximum temperature and pressure, increases reliability and prevents leakage, which is vital for safety.

Rosemount 5300 Specification

Output	Loop-powered 4-20mA HART™, Modbus™, FOUNDATION™ Fieldbus
Temp/Pressure rating	-320 to 752 °F (-196 to 400 °C) / Full vacuum to 5000 psig (345 bar)
Configuration	Customized PC setup and support software, AMS Suite / Field Communicator (e.g. Emerson 375/475)
Process connections	Threaded, flanged, Tri-Clamp®
Probe materials	Stainless steel or PTFE covered, Duplex 2205, Alloy C-276, Alloy 400
Diagnostics	Enhanced diagnostic capabilities
Challenging applications with single lead probe	Level and interface, coating products, disturbing electromagnetic interference, turbulent hydrocarbons, saturated steam, solids
Approvals	ATEX, IECEx, CSA, FM, NEPSI, Steam boiler (EN 12952/12953), EAC Overfill protection (DIBt/TÜV WHG)
Safety Instrumented Systems	IEC 61508 certified to SIL 2

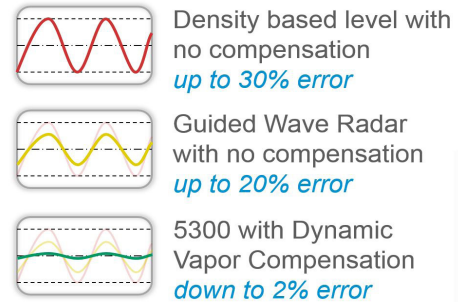
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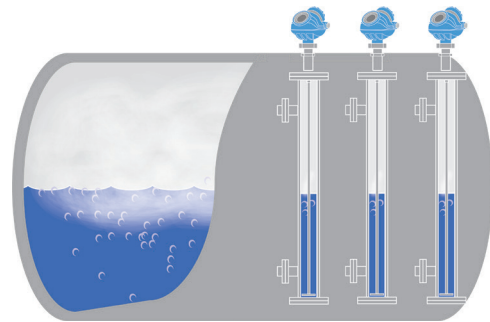
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Phase Changes



With Dynamic Vapor Compensation your readings are correct all the time, even during start-up and shut-down, providing constant reliable measurement up to pressures of 5000 psi (345 bar) and temperatures of 752 °F (400 °C).

Applications



Good fit for safety applications requiring SIL/SIL2 rating according to IEC. These include high pressure saturated steam applications in power and industrial steam systems such as boiler drums, steam separators, deaerators and high pressure feed water heaters, etc.

