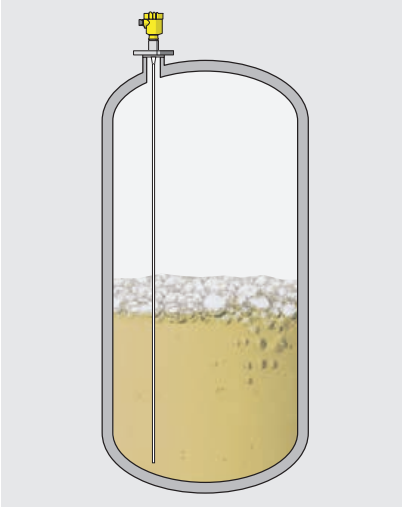
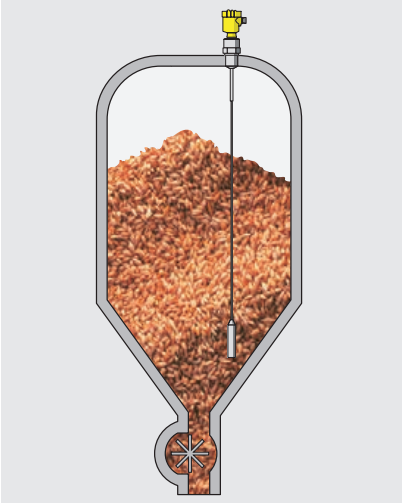
Level I Guided Wave Radar





Area of application

The GWR sensors of the VEGAFLEX series are suitable for level measurement in liquids and bulk solids. In liquids, they can also detect the interface between two products. They measure liquids reliably, even under high pressure and extreme temperatures. They can be used in simple as well as in aggressive liquids and are suitable for applications with stringent hygiene requirements. The sensors can also be used to measure light and heavy bulk solids with absolute reliability, even in the presence of dust and noise, and without being affected by buildup or condensation.

Measuring principle

High-frequency radar pulses are coupled onto a cable (bulk solids) or rod (liquids) and guided along the probe. The pulse is reflected by the product surface. The instrument calculates the level from the running time of the radar pulses and the entered tank height.

Advantages

GWR sensors operate independently of noise, pressure or temperature fluctuations and are also completely unaffected by changes in density, foaming, steam or dust. Buildup on the probe or on the container wall does not affect the measurement either. This allows simple, straightforward system design and engineering. The menu-driven adjustment routines enable simple, time-saving and confident setup.

	VEGAFLEX 81	VEGAFLEX 82
		
Application	All kind of liquids, applications with steam, buildup, foam generation, condensation as well as ammonia	Light-weight and heavy-weight bulk solids of all kind, applications with strong dust generation, condensation or buildup
Measuring range	Cable probe up to 75 m of 316 Rod probe up to 6 m of 316L or Alloy C22 Coax probe up to 6 m of 316L or Alloy C22	Cable probe up to 75 m of 316 or 316 PA coated Rod probe up to 6 m of 316L
Version	Exchangeable cable (ø 2 mm, ø 4 mm) Exchangeable rod (ø 8 mm, ø 12 mm) Coax (ø 21.3 mm, ø 42.2 mm)	Exchangeable cable (ø 4 mm, ø 6 mm, ø 11 mm) Exchangeable rod (ø 16 mm)
Process fitting	Thread from G¾, ¾ NPT, flanges from DN 25, 1"	Thread G¾, ¾ NPT, flanges from DN 25, 1"
Process temperature	-60 … +200 °C	-40 … +200 °C
Process pressure	-1 … +40 bar (-100 … +4000 kPa)	-1 … +40 bar (-100 … +4000 kPa)
Accuracy	±2 mm	±2 mm
Signal output	4 ... 20 mA/HART, Profibus PA, Foundation Fieldbus	4 ... 20 mA/HART, Profibus PA, Foundation Fieldbus
Display/Adjustment	PLICSCOM, PACTware, VEGADIS 81, VEGADIS 82	PLICSCOM, PACTware, VEGADIS 81, VEGADIS 82
Approvals	ATEX, IEC, FM, CSA, EAC (GOST), UKR Sepro, Overfill protection, Ship, SIL2, FDA	ATEX, IEC, FM, CSA, EAC (GOST), UKR Sepro, Overfill protection, Ship, SIL2
Benefit	▪ Comprehensive diagnostic options ensure low-maintenance operation and thus high plant availability ▪ Shortenable probes enable simple standardization and maximum flexibility in planning	▪ Factory calibration simplifies setup considerably ▪ Shortenable probes enable simple standardization and maximum flexibility in planning

Level I Guided Wave Radar

	VEGAFLEX 83	VEGAFLEX 86
		
Application	Aggressive liquids or liquid media with stringent hygienic requirements, applications with steam, buildup, foam generation or condensation	Virtually all liquids under extreme pressure and temperature conditions, applications with buildup, foam generation or condensation
Measuring range	Cable probe up to 32 m of PFA Rod probe up to 4 m of PFA or 1.4435 (BN)	Cable probe up to 75 m of 316 or Alloy C22 Rod probe up to 6 m of 316L or Alloy C22 Coax probe up to 6 m of 316L or Alloy C22
Version	Cable (ø 4 mm) Rod (ø 8 mm, ø 10 mm)	Exchangeable cable (ø 2 mm, ø 4 mm) Exchangeable rod (ø 8 mm, ø 16 mm) Coax (ø 21.3 mm, ø 42.2 mm)
Process fitting	Flanges from DN 25, 1", hygienic fittings, clamp, slotted nut	Thread from G¾, ¾ NPT, flanges from DN 25, 1"
Process temperature	-40 … +150 °C	-196 … +450 °C
Process pressure	-1 … +16 bar (-100 … +1600 kPa)	-1 … +400 bar (-100 … +40000 kPa)
Accuracy	±2 mm	±2 mm
Signal output	4 ... 20 mA/HART, Profibus PA, Foundation Fieldbus	4 ... 20 mA/HART, Profibus PA, Foundation Fieldbus
Display/Adjustment	PLICSCOM, PACTware, VEGADIS 81, VEGADIS 82	PLICSCOM, PACTware, VEGADIS 81, VEGADIS 82
Approvals	ATEX, IEC, FM, CSA, EAC (GOST), UKR Sepro, Overfill protection, Ship, SIL2, EHEDG/3A, FDA	ATEX, IEC, FM, CSA, EAC (GOST), UKR Sepro, steam boiler, Overfill protection, Ship, SIL2
Benefit	▪ Gap-free hygienic design ensures good cleanability with simple methods ▪ Maintenance-free operation increases profitability of the plant	▪ Comprehensive diagnostic options guarantee low-maintenance operation and thus high plant availability ▪ Shortenable probes enable simple standardization and maximum flexibility in planning

	VEGAPASS 81
	
Application	Bypass for level and point level sensors, e.g. the VEGAFLEX or VEGASWING series
Measuring range	up to 4 m
Version	According to ASME or PED
Process fitting vessel	Flanges from DN 20, 1"
Process temperature	-196 … +450 °C; dependent on the installed sensor
Process pressure	0 … +205 bar; dependent on the installed sensor
Accuracy	Dependent on the installed sensor
Signal output	Dependent on the installed sensor
Display/Adjustment	Dependent on the installed sensor
Approvals	Dependent on the installed sensor
Benefit	▪ Maintenance-free system without moving parts ▪ Simple, robust and proven mechanical design