Measurement technology for level and pressure

Oil & Gas industry

Precise measurement technology is the foundation of safe, efficient, and cost-effective processes in the oil and gas industry. VEGA provide reliable solutions for level, point level, pressure, and radiometric measurement.

VEGA instruments are designed for use in the oil and gas industry. Resistance to pressure, vibration, and temperature, combined with chemically resistant materials, provides the basis for long-term reliable operation under demanding process conditions.

All components, from seals and process fittings to housings, are specifically designed for use in this industry. International standards, hazardous area approvals, and SIL certifications ensure safe operation in explosive atmospheres and safety-critical applications.

When conventional technologies reach their limits

Not every application can be solved using conventional instrumentation technologies. Radiometric systems measure level, interface level, and density without direct contact with the medium. They are particularly suitable for applications where installation in the process is either not possible or not desired.

Reliable support throughout the lifecycle

VEGA supports safe and reliable operations with a comprehensive range of services. In the field of radiometric measurement, these include licensing procedures and safety training, as well as maintenance and source lifecycle management.

Pressure instrumentation

Pressure instruments are used to measure process pressure and differential pressure, as well as to determine level, volume, density, and flow in oil and gas facilities.

From oil and gas extraction in the upstream sector to processing in the downstream sector, VEGA pressure transmitters provide precise measurement data in gases, vapours, and liquids.

	PRO **VEGABAR 81**	PRO **VEGABAR 82**	PRO **VEGABAR 83**	PRO **VEGADIF 85**
	Process pressure	**Process pressure**	**Process pressure**	**Differential pressure**
Application/ Version	Highly corrosive and hot media, for liquids and gases (electronic differential pressure measurement also possible)	High overload resistance and a wide range of process fittings, for liquids, gases and vacuum (electronic differential pressure measurement also possible)	High temperatures, for liquids, viscous bulk solids and gases (electronic differential pressure measurement also possible)	High temperatures, for liquids, viscous bulk solids and gases
Process temperature	-90 … +400 °C	-40 … +150 °C	-40 … +200 °C	-40 … +400 °C
Measuring range	Absolute and relative -1 … +1000 bar (-100 … +100000 kPa)	Absolute and relative -1 … +100 bar (-100 … +10000 kPa)	Absolute and relative -1 … +1000 bar (-100 … +100000 kPa)	+0.01 … +40 bar (+1 … +4000 kPa)
Signal output	4 … 20 mA, 4 … 20 mA/HART, Profibus PA, Foundation Fieldbus, Modbus			4 … 20 mA, 4 … 20 mA/HART, Profibus PA, Foundation Fieldbus
Display/adjustment	PLICSCOM, PACTware/DTM, VEGADIS 81, VEGADIS 82, VEGA Tools app (Bluetooth)			
Approvals	SIL2/3, Ex approval (dust/gas Ex), WHG (overfill protection), FDA, EC 1935/2004			SIL2/3, WHG (overfill protection), Ex approval (dust/gas Ex)

Level instrumentation

Continuous level transmitters detect the levels of liquids and bulk solids in tanks, separators, and storage vessels and convert them into measurement signals.

Point level switches reliably detect when predefined levels are reached. They provide dependable switching signals for overfill protection, dry run protection, and process control, helping to ensure smooth and trouble-free plant operation.

	PRO **VEGAFLEX 81/86**	PRO **VEGAPULS 6X**	PRO **VEGACAP 63/65**	PRO **VEGASWING X**
	Guided wave radar	**Radar**	**Capacitive**	**Vibration**
Application/ Version	High temperatures, for almost all liquids (interface measurement also possible)	High temperatures, for liquids and bulk solids	High functional reliability with a robust design, for liquids and bulk solids (interface measurement also possible)	High temperatures, for liquids. Pipe and suspension cable version (interface point level detection also possible)
Process temperature	-196 … +450 °C	-196 … +450 °C	-50 … +200 °C	-196 ... +450 °C
Process pressure	-1 … +400 bar (-100 … +40000 kPa)	-1 … +160 bar (-100 … +16000 kPa)	-1 … +64 bar (-100 … +6400 kPa)	-1 ... +160 bar (100 ... +16000 kPa)
Measuring range	Cable probe up to 75 m Rod probe up to 6 m Coax probe up to 6 m	up to 120 m	–	–
Signal output	4 ... 20 mA/HART, Profibus PA, Foundation Fieldbus, Modbus	4 ... 20 mA/HART, APL, Profibus PA, Foundation Fieldbus, Modbus	Relay, transistor, two-wire output, contactless electronic switch	Relay, transistor (NPN/PNP), NAMUR, contactless electronic switch, two-wire 8/16 mA (4 ... 20 mA)/HART
Display/adjustment	PLICSCOM, PACTware/DTM, VEGADIS 81, VEGADIS 82, VEGA Tools app	PLICSCOM, PACTware/DTM, VEGADIS 81, VEGADIS 82, VEGA Tools app (Bluetooth)	Control lamp (LED) or pluggable display module PLICSLED	Display, adjustment and communication module XCOM
Approvals	SIL2, Ex approval (dust/gas Ex), WHG (overfill protection)	SIL2/3, Ex approval (dust/gas Ex), WHG (overfill protection)	SIL2, Ex approval (dust/gas Ex), steam boiler, WHG (overfill protection)	SIL, Ex approval, overfill protection, Cybersecurity, steam boiler

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Radiometric instrumentation

Radiometric measurement technology is suitable for applications with high temperatures, high pressure or aggressive media. Typical application areas include cokers, separators and reactors.

	PRO **FIBERTRAC 31/32**	PRO **SOLITRAC 31**	PRO **MINITRAC 31**	
	Radiation-based	**Radiation-based**	**Radiation-based**	**Source holder**
Application/ Version	Level and interface measurement of liquids and bulk solids	Level and interface measurement of liquids and bulk solids	Point level and density measurement of liquids and bulk solids	VEGASOURCE series 80
Ambient temperature	-40 ... +50 °C	-40 ... +60 °C	-40 ... +60 °C	
Selectable detector length	305 ... 7000 mm	152 ... 3000 mm	–	The radioactive source is hermetically sealed within the source holder and meets the highest safety requirements in accordance with radiation protection regulations and IAEA Safety Standards. Depending on the version, beam angles from 5° to 60° are available. Mounting brackets are available to simplify installation.
Signal output	4 ... 20 mA/HART, Profibus PA, Foundation Fieldbus			
Approvals	ATEX, UKEX, IECEx, NEPSI, FM, CSA, EAC (GOST), INMETRO, CCOE, TIIS, KOSHA/KTL, SIL2			

VEGA added value

VEGAsense makes data make sense

VEGAsense provides intelligent digital functions throughout the entire lifecycle of an instrument: These include intuitive adjustment, digital test assistants and diagnostic functions for self-monitoring.

VEGAcare is a service with added value

VEGAcare offers free services that make day-to-day work easier. These include professional application consulting, a 24/7 service hotline, the myVEGA digital customer portal, as well as video tutorials.

vega.com/industries/oil-gas