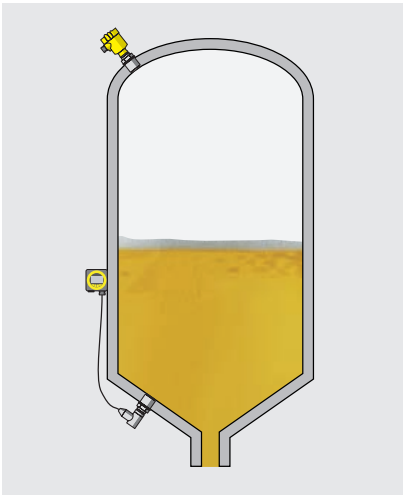
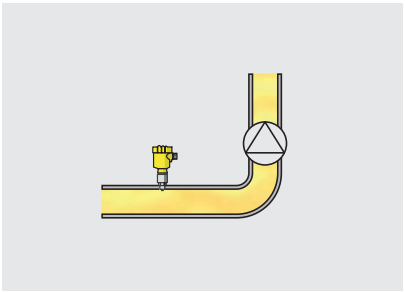
Process pressure





Area of application

The process pressure transmitters of the VEGABAR series measure the pressures and levels of liquids, gases and vapours. They are designed for use in chemically aggressive liquids as well as in hazardous or hygienic areas. They are ideal for detecting relative or absolute pressure in applications with condensation or rapid temperature changes, and can also measure the temperature of the medium. Their versatility and precision enable use for hydrostatic level measurement in liquids or slurries. All VEGABAR series 80 transmitters can be interconnected to create an electronic differential pressure system.

Measuring principle

The pressure of the measured medium acts on a pressure measuring cell, which converts it into an electronic signal. There is a range of measuring cell technologies employed in the VEGABAR range: Ceramic-capacitive CERTEC® and MINI-CERTEC®, metallic METEC®, piezoelectric and strain gauge cells – to best meet individual application requirements.

Advantages

These instruments cover a particularly large measuring range, from vacuum to extremely high pressures. Their integrated self-monitoring function guarantees high operational reliability. An especially high degree of safety and dependability is guaranteed by the process pressure transmitters that use dry, ceramic-capacitive measuring cells. They are characterized by their high overload resistance, long-term stability and thermal shock compensation.

	VEGABAR 14	VEGABAR 17
		
Application	Liquids and gases	Liquids and gases also with high pressures
Deviation	0.3 %	0.5 %
Measuring cell	CERTEC®	Piezoresistive/thin film strain gauge
Process fitting	Thread from G½, ½ NPT of 316L, PVDF	Thread from G½, ½ NPT of 316Ti
Process temperature	-40 … +100 °C	-40 … +150 °C
Measuring range	-1 … +60 bar (-100 … +6000 kPa)	-1 … +1000 bar (-100 … +100000 kPa)
Overload resistance	up to 150-times measuring range	up to 6-times measuring range
Signal output	4 … 20 mA	4 … 20 mA
Approvals	ATEX, EAC (GOST), UKR Sepro, Ship	ATEX, EAC (GOST), UKR Sepro, Ship
Benefit	▪ High plant availability through very high overload resistance of ceramic measuring cell ▪ Low-cost version with extremely small dimensions	▪ Universal application thanks to fully welded measuring cell ▪ Low-cost version with extremely small dimensions

Process pressure

	VEGABAR 81	VEGABAR 82	VEGABAR 83
			
Application	Liquids and gases with high temperatures	Liquids and gases	Liquids and gases also with high pressures
Deviation	0.2 %	0.2 %; 0.1 %; 0.05 %	0.2 %; 0.1 %; 0.075 %
Measuring cell	Chemical seal system	CERTEC® MINI-CERTEC®	Piezoresistive/thin film strain gauge/METEC®
Process fitting	Thread from G½, ½ NPT, flanges from DN 25, 1", hygienic fittings of 316L, Alloy 400, Tantalum, Gold	Flanges from DN 15, ½", hygienic fittings, thread from G½ of 316L, Duplex, PVDF, Alloy	Thread from G½, ½ NPT, flanges from DN 25, 1", hygienic fittings of 316L, Alloy
Process temperature	-90 … +400 °C	-40 … +150 °C	-40 … +200 °C
Measuring range	-1 … +1000 bar (-100 … +100000 kPa)	-1 … +100 bar (-100 … +10000 kPa)	-1 … +1000 bar (-100 … +100000 kPa)
Overload resistance	Depending on chemical seal system	up to 200-times measuring range	up to 150-times measuring range
Signal output	4 … 20 mA, 4 … 20 mA/HART, Profibus PA, Foundation Fieldbus	4 … 20 mA, 4 … 20 mA/HART, Profibus PA, Foundation Fieldbus	4 … 20 mA, 4 … 20 mA/HART, Profibus PA, Foundation Fieldbus
Display/Adjustment	PLICSCOM, PACTware, VEGADIS 81, VEGADIS 82	PLICSCOM, PACTware, VEGADIS 81, VEGADIS 82	PLICSCOM, PACTware, VEGADIS 81, VEGADIS 82
Approvals	ATEX, IEC, FM, CSA, EAC (GOST), Overfill protection, Ship, SIL2	ATEX, IEC, FM, CSA, EAC (GOST), Overfill protection, Ship, SIL2	ATEX, IEC, FM, CSA, EAC (GOST), Overfill protection, Ship, SIL2
Benefit	▪ Optimal process adaptation through selection of various product-contacting materials, filling media and temperature couplers ▪ Reliable measurement, even with extreme product temperatures	▪ High resistance to abrasion and corrosion through use of high-quality Sapphire Ceramic® ▪ High plant availability through maximum overload resistance and absolute vacuum resistance ▪ Absolutely front-flush process fittings ensure maintenance-free operation	▪ Universal application thanks to fully welded measuring cell ▪ Reliable measurement even at high pressures ▪ Excellent accuracy, even with strongly fluctuating process temperatures

Electronic differential pressure

Liquids and gases, even at high pressures and temperatures

0.2 %; 0.1 %; 0.05 %

Depending on the sensor of VEGABAR series 80

Flanges from DN 25, 1", hygienic fittings, thread from G½ of 316L, Duplex, PVDF, Alloy

-40 … +400 °C

±0.025 … ±1000 bar (±2500 … ±100000 kPa)

up to 200-times measuring range

4 ... 20 mA/HART, Profibus PA, Foundation Fieldbus

PLICSCOM, PACTware, VEGADIS 82

ATEX, IEC, FM, CSA, EAC (GOST), Overfill protection, Ship, SIL2

- Exact differential pressure measurement without capillary lines
- Cost savings through simultaneous output of absolute and differential pressure
- Universal use through simple combination of sensors from VEGABAR series 80

Classical differential pressure see page 44 – 45