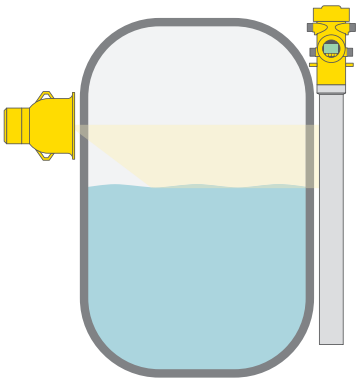
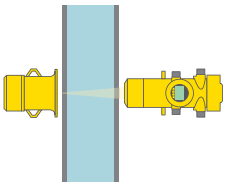
Radiation-based



Non-contact measurement with radiation-based measuring principle

Radiation-based measurement is based on focussed gamma rays, i.e. radiation, emitted by a minimally radioactive isotope. The sensor, which is mounted on the opposite side of the container, receives this radiation. Because gamma rays are attenuated when penetrating matter, the highly sensitive sensor can calculate the level, limit level, density or mass flow from the intensity of the incoming radiation recieved.



The advantages

- ✓ Maximum operational reliability even under the toughest operating conditions
- ✓ Measurement independent of pressure, temperature and product toxicity or corrosiveness
- ✓ Measuring system can be installed externally and set up during ongoing production

	PRO FIBERTRAC 31	PRO FIBERTRAC 32	PRO SOLITRAC 31
			
Application	Level and interface measurement of liquids and bulk solids	Level and interface measurement of liquids and bulk solids	Level and interface measurement of liquids and bulk solids
Measuring range	up to 7 m	up to 7 m	up to 3 m
Version	Sensor with flexible plastic detector ø 42 mm	Sensor with flexible plastic detector ø 60 mm	Sensor with PVT rod detector
Process pressure	any	any	any
Process temperature	any	any	any
Non-repeatability	≤0.5 %	≤0.5 %	≤0.5 %
Mounting	From outside on the vessel	From outside on the vessel	From outside on the vessel
Signal output	4 … 20 mA/HART, Profibus PA, Foundation Fieldbus	4 … 20 mA/HART, Profibus PA, Foundation Fieldbus	4 … 20 mA/HART, Profibus PA, Foundation Fieldbus
Display/adjustment	PLICSCOM, PACTware/DTM, VEGADIS 81, VEGADIS 82, VEGA Tools app	PLICSCOM, PACTware/DTM, VEGADIS 81, VEGADIS 82, VEGA Tools app	PLICSCOM, PACTware/DTM, VEGADIS 81, VEGADIS 82, VEGA Tools app
Approvals	ATEX, UKEX, IECEx, NEPSI, FM, CSA, EAC (GOST), INMETRO, CCOE, TIIS, KOSHA/KTL, SIL2	ATEX, UKEX, IECEx, NEPSI, FM, CSA, EAC (GOST), INMETRO, CCOE, TIIS, KOSHA/KTL, SIL2	ATEX, UKEX, IECEx, NEPSI, FM, CSA, EAC (GOST), INMETRO, CCOE, TIIS, KOSHA/KTL, SIL2
Benefit	✓ Simple installation on round and conical vessels via flexible detector	✓ Cost savings through the use of only one sensor for a measuring range of up to 7 m and reduces source size needed	✓ Maximum accuracy through PVT detector

Radiation-based

	PRO **POINTRAC 31**	PRO **MINITRAC 31**	PRO **WEIGHTRAC 31**
			
Application	Level detection of liquids and bulk solids	Density measurement of liquids and bulk solids	Mass flow determination of bulk solids on belts and in screw conveyors
Measuring range	–	–	up to 2800 mm (conveyor width)
Version	Sensor with PVT rod detector	Sensor with integrated NaI detector	With PVT rod detector in protective tube of 316L
Process pressure	any	any	any
Process temperature	any	any	any
Non-repeatability	≤0.5 %	≤0.1 %	1 % of measuring range final value
Mounting	From outside on pipeline or on vessel	From outside on pipeline or on vessel	Through supplied measuring frame
Signal output	8/16 mA/HART, Profibus PA, Foundation Fieldbus	4 … 20 mA/HART, Profibus PA, Foundation Fieldbus	4 ... 20 mA/HART, Profibus PA, Foundation Fieldbus
Display/adjustment	PLICSCOM, PACTware/DTM, VEGADIS 81, VEGADIS 82, VEGA Tools app	PLICSCOM, PACTware/DTM, VEGADIS 81, VEGADIS 82, VEGA Tools app	PLICSCOM, PACTware/DTM, VEGADIS 81, VEGADIS 82, VEGA Tools app
Approvals	ATEX, UKEX, IECEx, NEPSI, FM, CSA, EAC (GOST), INMETRO, CCOE, TIIS, KOSHA/KTL, SIL2	ATEX, UKEX, IECEx, NEPSI, FM, CSA, EAC (GOST), INMETRO, CCOE, TIIS, KOSHA/KTL, SIL2	ATEX, UKEX, IECEx, NEPSI, FM, CSA, EAC (GOST), INMETRO, CCOE, TIIS, KOSHA/KTL
Benefit	✓ Reliable limit level detection by a PVT scintillator eliminates the need for early replacement of the source	✓ Simple, retro installation, even in confined spaces, during ongoing production processes thanks to compact design	✓ Wear-free due to non-contact measurement

	VEGASOURCE 31	VEGASOURCE 35	SHLD1
			
Application	Source container for radioactive isotope	Source container for radioactive isotope	Source container for radioactive isotope
Measuring range	5°, 20° (±10°), 40° (±20°)	5°, 20° (±10°), 40° (±20°)	0°, 15°, 30°, 45°, 60° (±30°)
Version	Cs-137: For activities up to 18.5 GBq (500 mCi) Co-60: For activities up to 0.74 GBq (20 mCi)	Cs-137: For activities up to 111 GBq (3000 mCi) Co-60: For activities up to 3.7 GBq (100 mCi)	Cs-137: For activities up to 3.7 GBq (100 mCi)
Process pressure	any	any	any
Process temperature	any	any	any
Non-repeatability	–	–	–
Mounting	Flange DN 100 PN 16, 4" 150 lbs	Flange DN 100 PN 16, 4" 150 lbs	Mounting plate or L profile 152 mm (6")
Signal output	Optionally with ON/OFF position switch	Optionally with ON/OFF position switch	Optionally with ON/OFF position switch
Display/adjustment	manual, pneumatic	manual, pneumatic	manual, pneumatic
Approvals	–	–	–
Benefit	✓ Reliable shielding allows use without control areas		✓ Ideal for mass flow determiniation with an aperture angle of 45° and 60°

Radiation-based

	VEGASOURCE 81	VEGASOURCE 82	VEGASOURCE 83
			
Application	Source container for radioactive isotope	Source container for radioactive isotope	Source container for radioactive isotope
Measuring range	5°, 30°, 40° (± 20°), 45°, 60° (± 30°)	5°, 30°, 40° (± 20°), 45°, 60° (± 30°)	5°, 30°, 40° (± 20°), 45°, 60° (± 30°)
Version	Cs-137: For activities up to 740 MBq (20 mCi)	Cs-137: For activities up to 11 GBq (300 mCi)	Cs-137: For activities up to 185 GBq (5000 mCi)
Process pressure	any	any	any
Process temperature	any	any	any
Non-repeatability	–	–	–
Mounting	Mounting plate 152 x 152 mm (6 x 6")	Mounting plate 216 x 216 mm (8.5 x 8.5")	Mounting plate 315 x 315 mm (12.4" x 12.4")
Signal output	Optionally with ON/OFF position switch	Optionally with ON/OFF position switch	Optionally with ON/OFF position switch
Display/adjustment	manual, pneumatic	manual, pneumatic	manual, pneumatic
Approvals	–	–	–
Benefit	✓ Minimal space requirement due to compact design with low weight (11 kg)	✓ Trustworthy shielding allows use without control areas (34 kg)	✓ Trustworthy shielding allows use without control areas (82 kg)