



Wind turbine in an offshore wind farm

Reliable

Detection of leaks, corrosion prevention and safe operation

Cost effective

High-resistance materials for uninterrupted operation

User friendly

Simple mounting and setup

Measurement of water level

Wind turbines in offshore wind farms operate in an extremely harsh environment. Besides the buffeting of constant waves and often exceedingly strong winds, they have to withstand the corrosive effects of salt water. Due to the way the turbines are constructed and their location, it is inevitable that some seawater will enter the turbine tower. The water level inside the tower must be continuously monitored in order to detect any leaks at an early stage that can cause corrosion. To determine the mechanical loads and the generating capability of a wind power array, the tidal and wave height measurements on the outside are also required.



VEGAFLEX 81

Level measurement with guided radar inside the tower of a wind turbine

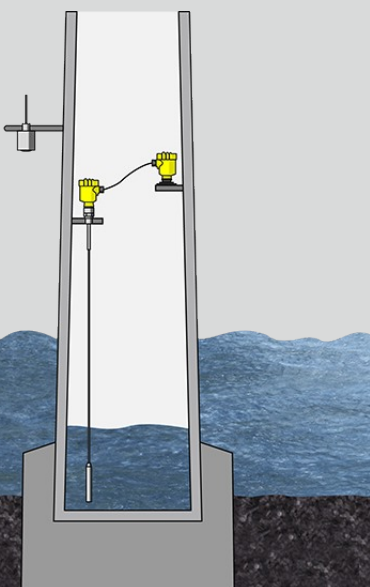
- Easy setup and commissioning thanks to factory calibration
- User-friendly operation through separate electronics
- Corrosion-resistant materials guarantee a long service life



VEGAPULS C 23

Non-contact level measurement with radar for determining tidal and wave heights

- Maintenance-free operation ensured through non-contact measuring method
- Fast measurement data logging guarantees high reliability
- Small sensor size and weight allow simple, one-man installation





VEGAFLEX 81	VEGAPULS C 23
Measuring range - Distance 75 m	Measuring range - Distance 30 m
Process temperature -60 ... 200 °C	Process temperature -40 ... 80 °C
Process pressure -1 ... 40 bar	Process pressure -1 ... 3 bar
Accuracy ± 2 mm	Accuracy ± 2 mm
Version Basic version for exchangeable cable ø 2; ø 4 mm Basic version for exchangeable rod ø 8 mm Basic version for exchangeable rod ø 12 mm Coax version ø 21.3 mm for ammonia application Coax version ø 21.3 mm with single hole Coax version ø 21.3 mm with multiple hole Coax version ø 42.2 mm with multiple hole Exchangeable rod ø 8 mm Exchangeable rod ø 12 mm Exchangeable cable ø 2 mm with gravity weight Exchangeable cable ø 4 mm with gravity weight Exchangeable cable ø 2 mm with centering weight Exchangeable cable ø 4 mm with centering weight Exchangeable cable ø 4 mm without weight exchangeable, PFA-coated cable ø4 mm with non-coated centering weight	Frequency 80 GHz Beam angle 4° Materials, wetted parts PVDF Threaded connection G1, 1 NPT, R1 Protection rating IP66/IP68 (3 bar), Type 6P Output 4 ... 20 mA/HART Modbus SDI-12
Materials, wetted parts PFA 316L Alloy C22 (2.4602) Alloy 400 (2.4360) Alloy C276 (2.4819) Duplex (1.4462) 304L	
Threaded connection ≥ G¾, ≥ ¾ NPT	
Flange connection ≥ DN25, ≥ 1"	
Seal material EPDM FKM FFKM Silicone FEP coated Borosilicate glass	
Housing material Plastic Aluminium Stainless steel (precision casting) Stainless steel (electropolished)	