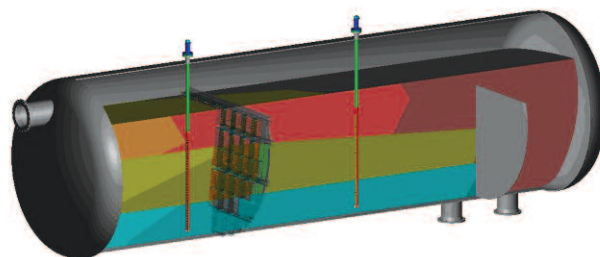


iPhase®

Level measurement and water profiler



Profiler

The iPhase® profiler measures the oil/water interface level by providing an accurate measurement of the fluid conductivity.

The oil in water profile is provided in order to visualize the liquid separation performance in oil & gas production separators and settling tanks.

Several independent sensors are located above each other in order to measure a vertical profile of the separator contents. Each sensor measures the bulk properties of the surrounding fluid. The interface level accuracy is extremely robust and less sensitive to deposits compared to other measurement principles.

The iPhase® profiler provides a crystal-clear view of the separation performance inside the vessel.

Principle

The iPhase® profiler measures the electrical conductivity of the water/oil mixture surrounding each sensor.

Dispersed oil droplets are non-conductive compared to the surrounding water. The overall conductivity will therefore decrease with increasing concentration of oil. The iPhase® sensors utilize the conductivity difference to measure the oil in water content.

Sand build-up on the bottom of the separator is measured using the same principle as oil in water measurements. A sensor surrounded by sand will measure lower conductivity than a sensor in water. The profiler will monitor sand build-up as it gradually increases in levels.

Benefits/features

- ▶ Accurate oil/water interface levels
- ▶ Oil in water profile
- ▶ Emulsion layer thickness
- ▶ High OiW accuracy
- ▶ Control of OiW to hydrocyclones
- ▶ Detection of sand build-up
- ▶ Rapid response
- ▶ Tolerant to deposits
- ▶ Low cost profiler
- ▶ Low maintenance/operational cost
- ▶ Easy top mounted installation
- ▶ No handling or export restrictions of radioactive sources
- ▶ Intrinsically safe electronics
- ▶ No active components inside vessel
- ▶ Integrated temperature sensor

Models/versions

- ▶ Interface level and Water Profiler
- ▶ Interface level
- ▶ Top mounted version
- ▶ Installed through manhole



Performance

Accuracy (interface level)**:	±20 mm level height
Range:	Water continuous phase (Water conductivity > 1 S/m) or (> 1% NaCl or equivalent)
Update interval:	1 second
Process temperature:	0°C to +130°C
Ambient temperature:	-20°C to +75°C

Interface

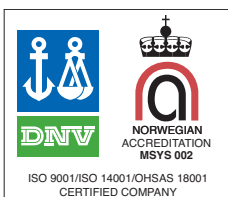
Classification:	Eex ia IIB T4, CE
Hazardous Area Approvals:	ATEX (approved for zone 0)
Intrinsically safe:	Yes
Power requirements:	Standard IS isolator (24VDC)
Output for level control:	4-20 mA
Communication Water Profiler:	MODBUS RTU (RS 485)

Mechanical

Vessel Nozzle size:	Preferred 4" - Minimum 2"
Operating pressure:	62 bar (higher pressure ratings on request)
Probe operating temperature:	130 °C
Design code:	ASME B31.3 (ANSI B31.3)

References

- ▶ Waimea, Start-up 2012
(OGX)



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The manufacturers reserve the right to alter the specification and data to incorporate improvements in design. Certified drawings will be issued on request.

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