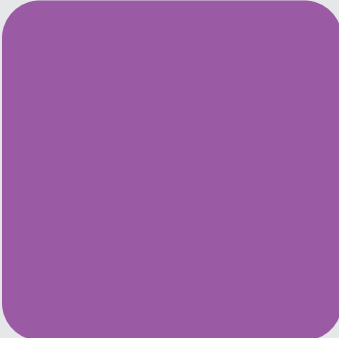
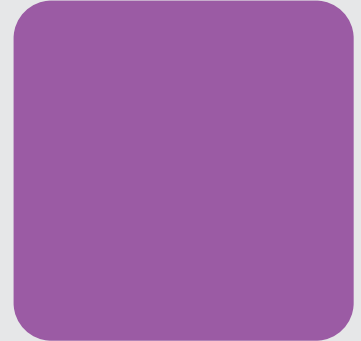
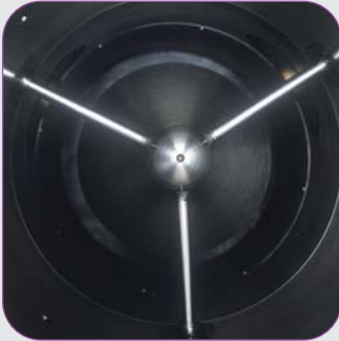


Roxar subsea Wetgas meter

SWGGM

Data Sheet



When water is a concern

The Roxar state-of-the-art subsea Wetgas meter measures real-time flow rates of water, gas and condensate, providing operators with vital information for optimized reservoir and process management.

Exceptionally compact design, low weight and power consumption provides for easy integration into subsea systems. Due to high reliability and redundant systems, minimum maintenance is required.

Unique Water Sensitivity

The Roxar subsea Wetgas meter employs the same proven, unique and patented microwave technology as the Roxar Watercut meters. This technology allows for unmatched sensitivity to changing water and salinity levels.

Field Proven Technology

The Roxar subsea Wetgas meter is part of the extensive Roxar subsea metering and sensor portfolio and has operational experience since 2003.



INTERPRETATION



MODELING



SIMULATION



WELL & COMPLETION



PRODUCTION & PROCESS

Specifications

Operating principle

Water fraction measurement is obtained by measuring the dielectric properties of the fluid with low uncertainty and high sensitivity. From these measurements the fractions of hydrocarbon and water are calculated. Flow measurements are obtained by dP measurement over a V-cone®. Pressure and temperature are measured by dedicated transmitters.

General Specifications

Operating range:

- 90-100% GVF
- 0-100% WLR for GVF > 99%
- 0-W_{tr}*% WLR for GVF < 99%

* W_{tr} = Transition point oil/water continuous liquid phase, approx at 50% WLR

Velocity range:

- 5 to 40 m/s

Process media:

- Wet gas i.e. water, gas and condensate

Pipe dimensions:

- 2" - 8"

Design pressure:

- Up to 690 bar (10,000 psi)

Design temperature:

- Up to 150°C (302°F)

General Performance*¹

Water fraction measurement:

Uncertainty*²:

- GVF > 98%: ±0.1 abs. vol.%
- GVF < 98%: ±0.2 abs. vol.%

Sensitivity:

- < 0.0008 abs. vol.%

Total hydrocarbon mass flow:

Uncertainty*²:

- ±5% relative

Repeatability:

- 0.5%

*¹ within operating range @ meter conditions

*² 90% confidence interval

Interface Details - Mechanical

Sensor body material:

- UNS S31803 Duplex
- Others as option

Interface connection:

- API, SPO compact or weld interface

Mass Flow Device:

- V-cone®

Length:

- < 1 meter

Weight:

- 2" - 8": 600 - 900 kg

Installation:

- Vertical upward flow (recommended)

Interface Details - Electrical

Electrical housing material:

- UNS S31803 Duplex

No. of interface connectors:

- Single system: 1 off
- Redundant system: 2 off

Interface connector type:

- ODI or Tronic

Design temperature electronics:

- -18 to 70°C

Operating temperature electronics:

- -5 to 40°C

Storage temperature electronics:

- -18 to 50°C

Input voltage:

- 24 VDC (20 - 30 VDC)

Power consumption:

- Single system: Nominal 13W, Max 16W
- Redundant system: Nominal 18W, Max 29 W

Interface Details - Logic

Serial port:

- RS 485
- Others as option

Communication protocol:

- Modbus RTU
- Others as option

User input:

- PVT - hydrocarbon composition

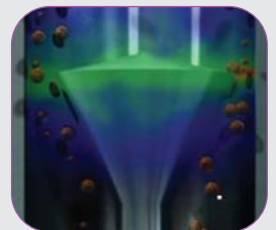
Output (examples):

- Water volume fraction, volume and mass flow rates of water, oil and gas, oil and gas at reference and actual conditions, differential pressure, temperature, pressure, alarm and warnings, GOR

Add-on modules

- Redundant electronics, dP and PT
- Formation Water Detection
- Gamma Densitometer
- Roxar Fieldwatch - SWGM Instrument Console Software
- Roxar Fieldmanager Software

Roxar subsea Wetgas meter



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