

Roxar subsea Multiphase meter

Subsea MPFM

Data Sheet



Continuous in-line measurement of multiphase flow (oil, gas, water)

Roxar subsea Multiphase meters (MPFM SRC[®] and MPFM CBV[®]) are based on the topside version MPFM 1900VI[®], utilizing the same well-proven measuring principles. The adaptation for subsea use involves the following main attributes:

- Enhanced redundancy in primary measurements, signal processing, power supply and interface modules
- Suitable materials for process fluid and seawater. Instruments and electronics encased in housings designed for subsea use
- Reliable sealing systems towards process fluid and seawater
- Interfaces made to fit customer's subsea system
- Subsea Retrievable Canister suitable for intervention by ROV without use of intervention tool

The stationary inlet/outlet metering section is equipped with compact flanges or with optional weld neck connections. Only components with negligible risk of failure are installed in the stationary part.

Measurement principle

Cross-correlation/venturi for flow rate and fraction measurements using electrical impedance in combination with single-energy gamma ray densitometer has proven successful because of its inherent robustness and unrivaled measurement accuracy.

Subsea Retrievable Canister version – MPFM SRC[®]

The MPFM SRC[®] has a retrievable canister as part of its design. All electronics, signal and power systems and connectors in the MPFM SRC[®] have full redundancy. Fast and simple intervention is available without stopping flow or otherwise interrupting production.

Choke Bridge version – MPFM CBV[®]

The subsea Multiphase meter is also available as a choke-bridge version. Like the SRC, the redundancy concept is kept, but without the retrievable canister. This version installs directly into a pipe assembly or module, and is installed and retrieved as part of this assembly.



INTERPRETATION



MODELING



SIMULATION



WELL & COMPLETION



PRODUCTION & PROCESS

Specifications

System performance and characteristics

Operating range:

- 0 - 98% GVF
- 0 - 100 % WLR

Typical velocity range:

- 1.5 – 35 m/s

Meter ID:

- 74 – 190mm

Typical measurement uncertainty:

- Liquid flow rate: $\pm 4\%$ rel.
- Gas flow rate: $\pm 8\%$ rel.
- WLR $\pm 3\%$ abs.
(given at 95% confidence int.)

Maximum water depth:

- 3000m (10,000 ft)

Design pressure:

- Up to 690 bar (10,000 psi)

Operating temperature:

- Up to 150°C (302°F)

Mechanical specifications

Standard materials:

- Duplex, 22%Cr

Mechanical interface:

- SPO compact or weld-neck

Length (typical):

- 1000 mm (SPO compact)

Weight (typical):

- 800 kg

Installation:

- Vertical upwards flow

Retrievable electronics canister (SRC version)

Materials:

- Titanium

Weight in water:

- < 100 kg

Stationary electronics canister (CBV version)

Materials:

- Duplex 22Cr

Flow computer and electronics

Type:

- Redundant design (non-gamma as option)

Power supply:

- 19 - 30 VDC & 100 - 400 VAC

Power consumption:

- 25 W nominal & max 35 W start-up

Signal interfaces:

- RS485 Modbus (standard), CanBus/CanOpen

Electrical connectors:

- 2 off wet mateable connectors

Software

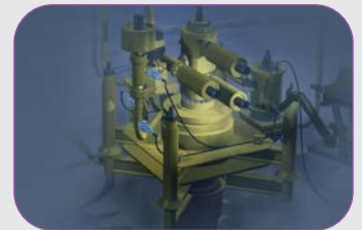
Standard:

- Roxar Service Console SW

Optional:

- Roxar Fieldwatch / Fieldmanager
- Roxar PVTx
- Non-gamma

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