

# Roxar subsea Multiphase meter

Subsea MPFM

Data Sheet



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

Roxar subsea Multiphase meters (MPFM SRC<sup>®</sup> and MPFM CBV<sup>®</sup>) are based on the topside version MPFM 1900VI<sup>®</sup>, 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<sup>®</sup>

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

### Choke Bridge version – MPFM CBV<sup>®</sup>

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



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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

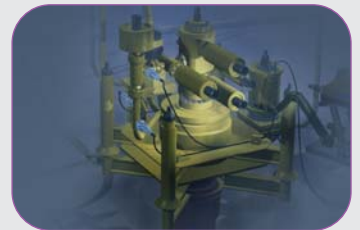
#### Standard:

- Roxar Service Console SW

#### Optional:

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

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