

Roxar Multiphase meter

MPFM 1900VI® Non-gamma

Data Sheet



Multiphase flow metering with no gamma densitometer

Roxar's leading technology for multiphase flow metering is available without a gamma densitometer. The non-gamma version of the MPFM 1900VI® applies the same well proven technical solutions as the standard meter, which is considered among the most accurate multiphase meters available. The two meters are interchangeable, so that a non-gamma version can later be updated to a gamma version and vice versa. See separate data sheet for Roxar Multiphase meter.

Technology

As a result of in-house technology innovation, Roxar has developed the multiphase meter software and enhanced signal processing enabling measurement of flow rates of oil, gas and water without utilizing a radioactive source. In all other aspects the meter design is identical to the standard MPFM 1900VI®.

The signal processing method is based on improved algorithms for time series analysis, and analyses the variation in permittivity measurements over time. Thereby information which is normally filtered in the signal averaging process is extracted for use.

Applications

The non-gamma version of the MPFM 1900VI® is particularly well suited for single-well installations with low to medium GVF ranges. Moreover, in applications where the use of nucleonic sources is unacceptable due to legislation or company policy, the non-gamma version is the natural choice. For applications with very high GVF ranges, or with non-compromised accuracy requirements, the standard MPFM 1900VI® is recommended. Roxar can advise on suitability for different applications.



INTERPRETATION



MODELING



SIMULATION



WELL & COMPLETION



PRODUCTION & PROCESS

Specifications

System performance and characteristics

Operating range:

- 0-100% water in liquid ratio (WLR)
- 0-85% gas void fraction (GVF)

Typical velocity range:

- Low GVF: 1.5-15 m/s
- High GVF: 3.5-35 m/s

Pipe dimensions:

- 2-12 in. (43-280 mm)

Typical uncertainty (95% confidence int.):

- Liquid rate: +5% relative
- Water cut: +3.5% abs.
- Gas rate: +10% relative

Design pressure:

- Up to 690 bar (10,000 psi)

Operating temperature:

- Up to 150°C (302°F)

Mechanical and electrical components

Measurement section

Wetted parts materials:

- Stainless steel 316, duplex or to customer specifications

Flange connections:

- ANSI, API or clamp flanges

Length:

- 1200 mm (typical for 3 in.)

Weight:

- 550 kg (typical for 3 in.)

Sensor electronics

Type:

- Electrical impedance

Certification:

- EEx ia IIC T4

Secondary instruments:

- Pressure, differential pressure, temperature

Power supply

Voltage:

- 18-29 VDC, 100-240 VAC 50/60 Hz

Power consumption:

- 12 W (Low-power version, excluding service console)

Installation:

- Vertical upward flow

Flow computer

Operating system: :

- Windows CE

Com 1:

- For service console PC (RS-232/RS-485/TCP/IP)

Com 2:

- For client interface (RS232/RS485/TCP/IP)

Communication protocol:

- Modbus ASCII/RTU

Installation:

- Safe area (19-in. rack module)
- Hazardous Area

Certification: :

- EEx d IIB

Service console PC

Operating system:

- Windows 2000/XP

Software:

- RFM service console
- Roxar Fieldwatch

Optional modules:

- PVT calculations
- Multilingual support
- Well test module

Add-on modules

- Integrated sand detection
- Roxar Fieldwatch/Fieldmanager
- Roxar's real-time well-data logging system
- Gamma densitometer

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