

Multiphase Flow Meter

MPFM 1900VI® Non-gamma

Roxar's leading technology for multiphase flow metering is now available also 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.

Key characteristics:

- Extensive worldwide track record
- Simple installation
- Low maintenance requirements
- Reliable and rugged hardware
- Low power consumption
- Dual velocity method for powerful flow regime handling
- In-line
- No mixer and no separator required
- Low pressure loss
- Highly tolerant to variations in influencing parameters
- Redundancy and self verification
- Independent of changes in H₂S, CO₂ and viscosity

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: 0-70% water in liquid ratio (WLR)
0-85% gas void fraction (GVF)

Typical velocity range: Low GVF: 1.8-18 m/s

Pipe dimensions: 2-12 in. (43-220 mm ID)

Typical uncertainty: (95% confidence int.)
Liquid rate: +5%
Water cut: +3,5%
Gas rate: +10%

Design pressure: Up to 690 bar (10000 psi)

Operating temperature: Up to 150°C (302°F)

Flow computer

Com 1: For service console PC (RS232/485)

Com 2: For client interface (RS232/RS485/TCP/IP)

Communication protocol: Modbus ASCII/RTU TCP/IP

Options: Safe area (19-in. Rack module)
Field enclosure zone 1
Field enclosure IP66/zone 2
Installation skid
Gamma source

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 : 1000 mm (typical for 3 in.)

Sensor electronics

Type: Electrical impedance

Certification: EEx ia IIC T4

Secondary Instruments: Pressure, differential pressure, temperature

Power supply

Voltage: 24V DC, 100-240 V AC

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

Service console PC

Operating system: Windows 2000/XP

Software: RFM service console

Software

Optional modules: PVT calculations
Multilingual support

Add-on modules

Integrated sand detection, SAM 400TC/CIU
DACQUS, Roxar's real-time well-data logging system



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