



Dualstream 3

Wet Gas Combined With Water Fraction Measurement

The Dualstream 3 is the latest development in wet gas measurement for the upstream oil and gas market. Solartron ISA engineers have used their extensive experience and knowledge in wet gas flow behavior and added water fraction measurement to the Dualstream family of meters. Dualstream meters have been successfully used around the world in over 300 gas fields for solutions in hydrocarbon allocation and reservoir optimization.

The water fraction measurement utilizes a new unique approach developed especially for wet gas applications. Using multi path sensors, the water fraction meter can obtain an extremely accurate record of the liquid phase fractions for virtually any flow regime. There are no probes or dead volume traps to worry about. The measurement sensor is the only non-intrusive sensor available that can detect the water fraction across the entire pipe diameter for wet gas flow.

The water fraction measurement coupled with Dualstream Venturi offers the simplest, reliable method for wet gas. This makes it ideal for harsh or remote locations. There are no regulative concerns as with sensors of radioactive sources.

Whether needed for allocation, reservoir optimization or detecting water breakthrough, the Dualstream 3 is the new standard for a reliable solution to everyday problems in wet gas measurement.

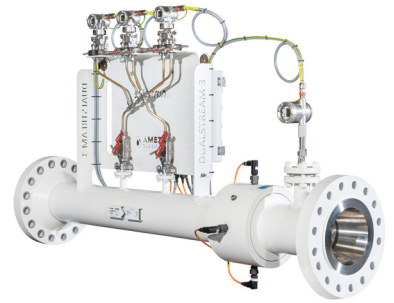
Plug and Play Compact Design

Our latest design benefits from Solartron ISA's unrivalled experience developed over three decades in the engineering, installation and operation of wet gas flow meters. Recent enhancements have been implemented to reduce installation time, improve measurement performance and increase operational safety on wellheads and flow lines.

Water Fraction Measurement

The next generation of the Dualstream meters incorporates the newest water fraction technology using multi path sensors to derive the phase fractions of the fluid. It is designed to maintain accuracy in both oil and water continuous fluids and to operate across the full liquid range of a gas condensate well.

By metering the multi phase fractions in real time, Dualstream 3 multi-path sensor technology provides gas, water and condensate flow rates for use in allocation of hydrocarbon royalties. It also provides for economic optimization of gas reserves through generation of real time production data including early measurement of water breakthrough for inhibitor management.



Applications

- ✓ **Water Breakthrough**
- ✓ **Production Optimization**
- ✓ **Hydrocarbon Allocation**
- ✓ **Salinity Detection**

Key Benefits

- ✓ **High Accuracy**
- ✓ **Real Time Measurement of Phase Fractions**
- ✓ **No Radioactive Sources**
- ✓ **Non Intrusive Probes**

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Standard Specifications

Measurement Technique

Enhanced dual-phase version: Dualstream Venturi, electromagnetic resonant cavity employing paired sensor combinations plus PVT model

Typical Operating Range

Turndown	>8:1
Gas volume fraction	90-100%
Water liquid ratio	0-100%

Typical Performance

Typical Uncertainty (95% Confidence Level):

- Gas mass flow rate ±2%
- Condensate mass flow rate ±10%
- Water volume fraction ±0.1% abs

Typical Repeatability

- Gas mass flow rate <0.40% relative
- Condensate mass flow rate <0.40% relative
- Water volume fraction 0.02% abs

Permanent Pressure Loss

Pressure loss specific to application (<1 bar)

Instrumentation

- Electromagnetic resonant cavity sensors
- Differential pressure
- Gauge pressure
- Temperature - non intrusive sensor

Installation Requirements

Horizontal or vertical orientation	
Upstream straight length	3D Included
Downstream straight length	None

Data Acquisition

Max power requirements	50W
Power supply	24 V DC (16 V ~ 32 V)
Signal output	RS485 Modbus (Standard) Ethernet (Optional)

Hazardous Area Approval

ATEX  II 2 G Ex d e IIB T6 Gb -20°C ≤ Ta ≤ 60°C



IECEX II 2 G Ex d e IIB T6 Gb -20°C ≤ Ta ≤ 60°C
Flameproof



Additional Features

Salinity detection

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