



Dualstream Venturi

The Original Wet Gas Metering System

Each gas condensate development has its own unique challenges. These may include measuring gas rates to allocation standard, accurately detecting low levels of water for hydrate mitigation or optimizing production recovery from marginal fields.

The Dualstream family of wet gas meters is uniquely positioned to provide an operator with the optimum "Life-of-Field" solution.

Solartron ISA's unrivalled global experience ensures user confidence in the data that Dualstream provide. Successfully installed and operated on over 300 gas condensate fields, Dualstream is considered the benchmark for wet gas-metering.

Measurement Application

Dualstream Venturi is a low CAPEX solution for allocation or monitoring of gas flow rate. It is typically used on a per well basis where well testing facilities exist or can easily be deployed. Well testing facilities typically consist of existing test separators or use tracer dilution techniques. Common applications include tie ins to existing infrastructure or large multi-well fields where production fluids remain relatively constant throughout field life.

Mode of Operation

When using a differential pressure (DP) device to measure wet gas, the presence of liquid will cause an over-read in the gas flow rate. A correction, typically the de Leeuw algorithm, is required to generate the 'true' gas flow rate. The liquid flow rates are assumed constant or must be derived periodically from well testing.

Real time measurement of the liquid flow rates is available using the Dualstream 1, Dualstream 2 and Dualstream 3.



Applications

- ✓ Royalty Allocation
- ✓ Flow Line Monitoring

Key Benefits

- ✓ Uses Existing Infrastructure
- ✓ Low CAPEX
- ✓ Uncomplicated & Robust
- ✓ Operator Maintenance
- ✓ Industry Standard Computer
- ✓ Industry Standard Computer
- ✓ Large Installed Base
- ✓ Regulatory Body Approval

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Specifications

Measurement Technique

Dualstream wet gas Venturi
Wet gas correction algorithm
Liquid fraction from periodic well test

Operating Range

Gas Mass Fraction 50-100%
Turndown >8:1 typical
Water Liquid Ratio 0-100%

Performance

Typical Uncertainty (95% confidence level)
Gas mass flow rate <5%
Liquid mass flow rate from Well Test

Repeatability

Gas mass flow rate: 0.15%

Permanent Pressure Loss

Pressure loss specific to application (<1 bar)

Instrumentation

Standard field instrumentation comprising:

- Differential pressure
- Gauge pressure
- Temperature

Installation Requirements

Horizontal installation (vertical on request)
Upstream straight length: 3D to 10D typical (calibrated spool available for allocation systems)
Downstream straight length: None
(5D calibrated spool available with thermowell for allocation systems)
Compact flowmeter design options are available for applications where installation envelope is restricted, please contact Solartron ISA for details.

Data Acquisition

Options available include

- Dualstream Flow Computer (safe area)
- Dualstream PC (safe area)
- Dualstream PC (hazardous area)

User Required Inputs

- Compositional Data
- Liquid Density
- Liquid Fraction (from well test)



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