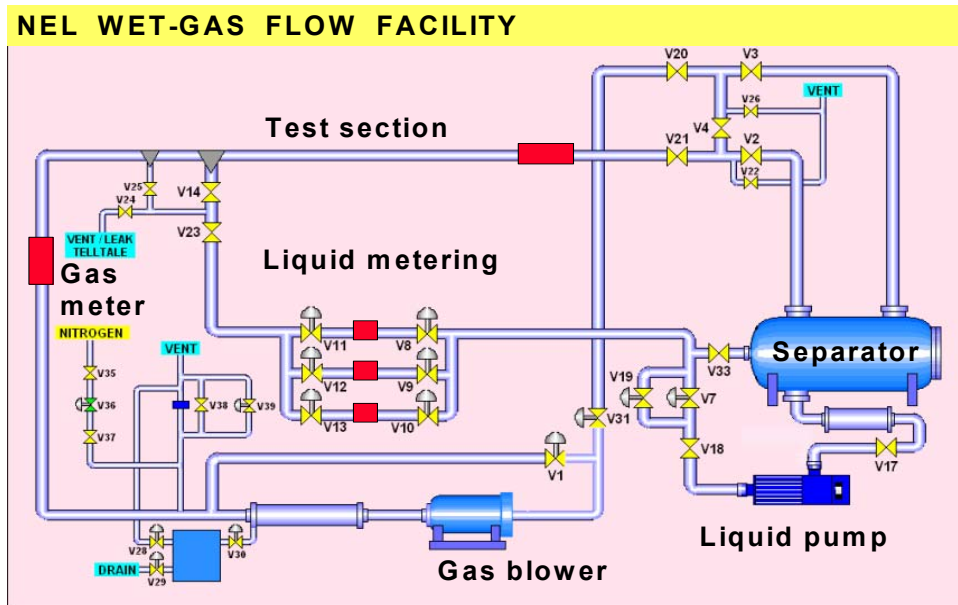




WET GAS TEST FACILITY

NEL has long been recognised as a world leading supplier of multiphase test and evaluation services. The Wet Gas Test Facility now extends this service into the very high gas fraction region, an area of increasing significance in the oil and gas industry. The facility is operated by highly skilled operators supported at all stages by technical experts to ensure that our customers receive the best possible service, matching their expectations throughout the process.

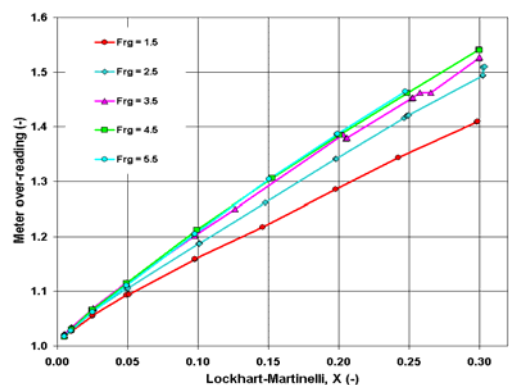
The Wet Gas Test Facility is designed to simulate gas flows with small quantities of liquids present, such as found in gas/condensate and very high GOR fields. The facility is built around a high pressure gas/liquid separator, which stores the working fluids. Each phase is pumped and metered separately prior to mixing. Two test lines are available with horizontal and vertical configurations to suit the equipment under test. The facility is completely enclosed in a dedicated testing building, providing a comfortable and safe working environment.



Wet Gas Metering

Applications of wet gas metering have increased in recent years, particularly in allocation or even fiscal metering for newly developed marginal gas fields.

This requires a good understanding of the effect of liquid on gas meters. Just 0.5% liquid by volume in the gas stream can cause up to 10% error in gas measurement. If not accounted for this can lead to large allocation errors.



Effect of liquid on Venturi meter gas measurement

A 2% error in a 50 mmscf/d gas field could result in over £1/2 million equity exposure per year. This exposure can be reduced by testing the meters in wet gas to determine the correction required prior to deployment.

Testing Services

- Detailed wet gas meter evaluation
- Wet gas meter FATs
- High GVF multiphase meter evaluations
- Wet gas Venturi characterisation
- Two-phase effects on dry gas meters
- Compact separator performance evaluation
- Wet gas sampling system testing
- Liquid detection monitor testing



Facility Services



In addition to the instrumentation and equipment available in the facility, NEL also offers:

- Handling of dangerous goods
- Handling and storage of radioactive sources
- Overhead crane (10 tonnes)
- Power supplies (110VAC, 240 VAC, DC)
- Mains air supply @ 7 bar (100 psi)

Subject to availability, the facility can be hired on a day rate basis for short, medium or long term testing. Full details of facility rates are available on request.

Wet Gas Test Facility Specifications

Fluids/Flowrates

Gas (nitrogen)
Liquid (kerosene or water)
Uncertainty

Up to 1400 m³/hr
0% to 10% by volume
Gas flow < 0.5%
Liquid flow < 0.2%

Operating conditions

Line pressure
Line temperature
Line sizes
Horizontal line length
Vertical line height

0 to 63 bar (910 psi)
15 to 25°C (controlled to 0.2°C)
2-inch to 8-inch
15m
10m

Reference Instrumentation

Gas 6" ultrasonic and turbine meters
Liquid ½", 1" and 3" turbine meters

Test Instrumentation

Temperature, pressure, Δp
High speed Δp / pressure
Subsea visualisation camera
Gamma densitometer

Offline Instrumentation

Density measurement
Viscosity measurement

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