

PVT separator sampling

Expro offers Separator PVT Sampling as part of the total sampling package. This type of separator sampling is aimed at recreating the reservoir fluid composition by recombining gas and liquid samples using the separator pressure, temperature and GOR to determine the amount of gas and liquids going in to the mixture.

This method is often used to create a back-up set of PVT data that can be used to validate bottomhole or wellhead samples, or as an economical means to check an already known reservoir composition.

For high quality recombination-sampling the only methods in use in the industry are; Vacuum displacement for gas, and Positive Displacement (Piston Cylinders) for oil. These two methods are the only ones recommended by Expro.

Issues

Some key considerations related to successful Separator Sampling are:

- Separator capacity is sufficient (to allow gas and oil phases to separate properly, and not carry-over or carry-under).
- Stable production at a low flow rate.
- Accurate measurement of gas and liquid flow rates.
- Chemicals. No chemicals should be injected into the well stream during sampling if possible.
- Collection of representative samples of first stage gas and first stage liquid.



Combined gas and oil manifold

Features & Benefits:

Economical

Full control of the sampling process

Relatively quick

Lightweight portable equipment

Option for using Iso-kinetic sampling techniques to improve recombination of fluid samples.



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Technical Specifications:

Injectable Probe

Test pressure:	315 bar / 4500 PSI
Working pressure:	200 bar/ 2900 PSI
Temperature:	-40 to 150°C
Service:	H ₂ S and CO ₂

Sampling Control System

Isokinetic sampling rate:	Automatically controlled
Test pressure:	500 bar
Working pressure upstream of system:	350 bar
Working pressure downstream of system:	100 bar
Temperature:	-25 to 85°C
Service:	H ₂ S and CO ₂

Sensors

Pressure ratings:	100, 200, 500 and 700 bar
Temperature ratings:	0-200°C

Cables

Capacitance :	70 nF/km
Inductance:	0.62 mH/km

Gas Sample Bottles

Type:	Luxfur gas bottle
Displacement:	Vacuum
Pressure rating: 200 bar	
Volume:	20 litre

Oil Sample Bottles

Type:	Petrolite Piston Cylinder
Displacement:	Glycol
Pressure rating:	690 bar
Volume:	700 cc