

# Slimline Single-Phase Reservoir Sampler

Collect contaminant-free, representative, single-phase samples

## APPLICATIONS

- Advanced or routine PVT and compositional analysis
- Flow assurance measurement (asphaltene, wax, and paraffins)
- Heavy oil sampling
- Near-saturated reservoir sampling
- Sulphur- and mercury-species analysis
- Routine, HP, HT, high-H<sub>2</sub>S, deepwater, and arctic downhole reservoir sampling

## BENEFITS

- Reservoir fluid sampling directly in flow stream
- Contamination-free, representative fluid sampling
- Single-phase sample retrieval above reservoir pressure without phase split
- Reservoir fluid kept above reservoir pressure and asphaltene onset pressure
- Accurate and consistent GOR value measurement
- Representative sampling of trace elements
- Sampling during different flow periods
- Fast sample validation, analysis, transfer, or shipment
- Fluids- and reservoir-domain expertise and support
- Dangerous-goods- and hazardous-material-certified

The slimline single-phase reservoir fluid sampler (SLS) is an advanced HPHT-rated system for subsurface sampling applications. Each Inconel® SLS independently maintains every sample in single-phase condition and above reservoir pressure as the tool is retrieved to surface because it has its own small nitrogen gas charge. Samples are collected directly in the flow stream with no contamination for more accurate reservoir characterization.

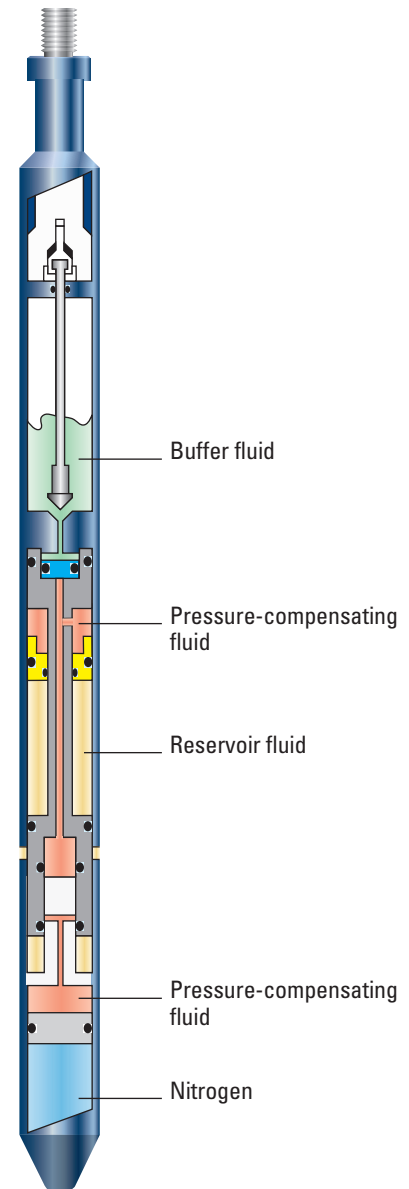
The SLS captures representative, contaminant-free, single-phase samples during downhole reservoir testing operations. This enables advanced and routine PVT and compositional analyses on the entire range of reservoir fluids, even from demanding environments such as HPHT, high-H<sub>2</sub>S, and deepwater reservoirs.

Challenging questions related to H<sub>2</sub>S and the concentration of other sulphur species can be reliably addressed by applying unique, latest-generation, nonreactive coatings such as Dursan™. When applied to the SLS sampling tools, this coating inhibits the loss of H<sub>2</sub>S, increases durability, and eliminates the need for frequent recoating; as a result, reliable data can be obtained when critical decision making is required.

The SLS is conveyed with the SCAR\* inline independent reservoir fluid sampling system during downhole reservoir testing operations. SCAR sampling enables high-quality PVT samples to be obtained when running wireline is not cost-effective, practical, or safe. By eliminating the need for wireline intervention, SCAR sampling provides potential rig-time savings of 8 to 24 h during an offshore bottomhole sampling project.

The SLS technology is based on the original mercury-free single-phase reservoir sampler (SRS), which has been successfully operated for almost 20 years. The reliability of the SRS and SLS has established these technologies as the benchmark tools for all subsurface sampling operations.

The SLS allows controlled, contaminant-free reservoir-representative fluid samples without sample flashing. The unaltered sample is retrieved at the surface in single-phase state, requiring no recombination before transfer. Because samples need not be recombined, the sample transfer takes minutes instead of hours.



*Slimline single-phase reservoir fluid sampler.*

# Slimline Single-Phase Reservoir Sampler

## FEATURES

- Samplers positioned directly in line of flow stream
- Independent nitrogen gas charge
- Simultaneous or selective firing using annular pressure or wireless commands
- Downhole self-closure of samplers
- No sample flashing
- Inconel® samplers
- Dursan™ nonreactive coating
- Mercury-free operation
- Chain-of-custody sample-management tracking
- Dangerous goods and hazardous material labeling and packaging service

The SLS mercury-free, pressure-compensating bottomhole sampling tool can be operated in configurations of up to eight tools in each SCAR assembly. As part of the Quartet\* downhole reservoir testing system enabled by Muzic\* wireless telemetry, samplers are activated using wireless commands or annulus pressure to rupture disks. This activation enables collecting samples at any time during the flow period. Samplers can be simultaneously or selectively activated for more flexibility during operations. In addition, Schlumberger provides a total chain of custody for your samples.

## Specifications

Length, ft [m]	12.1 [3.7]
Weight, lbm [kg]	30.9 [14]
Max. OD, in [mm]	1.2 [30.5]
Sample capacity, in <sup>3</sup> [cm <sup>3</sup> ]	18.3 [300]
Material	Inconel 718
Test pressure, psi [MPa]	30,000 [207]
Working pressure, psi [MPa]	20,000 [138]
Working temperature, degF [degC] (at 15,000 psi [103 MPa])	354 [179]
Service (NACE MR0175/ISO 15156)	H <sub>2</sub> S, acid
Design code	API <sup>†</sup> 6A, NACE MR0175, ISO 15156
Certifying authority	Bureau Veritas

<sup>†</sup> American Petroleum Institute

[www.slb.com/welltesting](http://www.slb.com/welltesting)

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