

Single-Phase Sample Bottle

Enables sampling, transporting, and storing samples in HPHT-rated, pressure-compensating cylinder

APPLICATIONS

- Fluid sampling for advanced or routine PVT and compositional analysis
- Flow assurance measurements (asphaltene, wax, and paraffins)
- Heavy oil sampling, where achieving successful recombination is difficult
- Water sampling for inorganic scale, corrosion, salinity, and live pH studies

BENEFITS

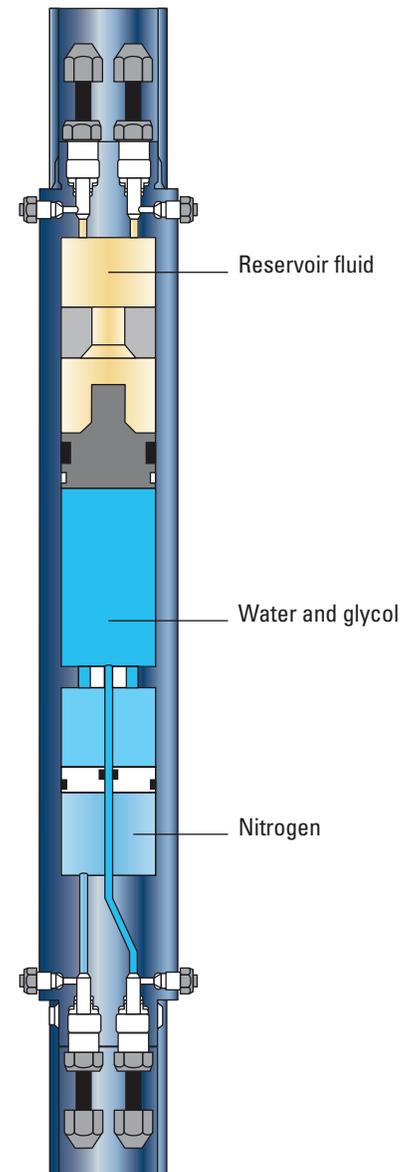
- Sample transportation without phase change for specialized analysis
- Representative samples for flow assurance studies
- Superior valve control prevents sample flashing
- Minimal dead volume
- Safer operation

FEATURES

- Positive displacement operation
- US Department of Transportation (DOT), Transport Canada (TC), and EU Pressure Equipment Directive (PED) approval
- NACE MR0175
- Single-phase pressure compensation
- Mercury-free operation
- End-cap valves
- Custom-designed sample bottle shipping box
- Dangerous goods shipping labels
- Chain-of-custody reservoir-sample tracking using the Schlumberger Web-based sampling and analysis information management system

The single-phase sample bottle (SSB) is an HPHT-rated sample cylinder for single-phase reservoir fluid sampling, transportation, and storage. This pressure-compensating sample cylinder is used for mercury-free transfer of samples from single-phase reservoir samplers as well as single-phase surface sampling operations. Manufactured from Inconel[®], the bottle allows safe handling of reservoir fluids from the most-demanding high-H₂S reservoirs. Oil, condensate, or formation-water samples transported and stored in the SSB are maintained at a pressure above the bubblepoint or reservoir pressure, depending on the nature of the fluids analyses to be performed at the laboratory. A nitrogen-charged chamber provides pressure compensation to ensure the representative sample arrives unaltered at the laboratory, enabling advanced and routine PVT and compositional analysis over the entire range of reservoir fluids, while the nitrogen gas cap meets dangerous-goods shipping regulations.

The sample bottle allows controlled, uncontaminated PVT sampling without sample flashing. The bottle features inset valves, matching pistons, and agitation rings that keep dead volume at less than 0.5% of the sample volume. The valves, which are incorporated in end caps, are equipped with nonrotating tips for repeatable, low-torque, high-pressure sealing. For enhanced safety, they can be operated without removing the protective caps.



A sample cylinder for single-phase PVT sample transportation and storage.

Single-Phase Sample Bottle

Specifications

	15,000 psi	25,000 psi
Length, in [m]	31.5 [0.8]	30.54 [0.78]
Weight, lbm [kg]	61 [28] boxed	81.6 [37]
Max. OD, in [m]	3.25 [0.083]	3.71 [0.094]
Sample capacity, in ³ [cm ³]	37 [600]	37 [600]
Compensation capacity, in ³ [cm ³]	7.31 [120]	7.31 [120]
Test pressure, psi [MPa]	22,500 [155]	37,500 [259]
Working pressure, psi [MPa]	15,000 [103]	25,000 [172]
Working temperature, degF [degC]	392 [200]	392 [200]
Material	17/4 pH stainless steel, Inconel 725	Inconel 718
Service	Sour	Sour
Design code	US DOT, TC, EU PED, NACE MR0175	US DOT, NACE MR0175
Certifying authority	Bureau Veritas and Authorized Testing, Inc.	Bureau Veritas and Authorized Testing, Inc.

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