

# Well Flow Management

## Fluids Sampling and Analysis

### Single-phase bottom hole sampler (PCS)

Expro PCS is a single-phase bottom hole sampling tool with a pressure compensation system to keep the sample in monophasic condition, from the reservoir to the surface. The tool can be deployed by carrier, tractor, coil tubing or run on slickline / electric-line.

#### Applications

Single-phase reservoir sampling has widely been accepted as the industry standard for reservoir PVT sampling. By keeping the sample in singlephase errors during reconditioning of the sample are avoided. For Gascondensates it is particularly important to maintain the sample above the dew point pressure as asphaltene precipitation may be irreversible. The PCS tool is also ideal for sampling of formation water since the pH will remain constant as long the dissolved gases are kept in solution.

#### Features and benefits

##### Non-corrosive

- The PCS provides service in the most hostile well environments with extreme H<sub>2</sub>S levels

##### Positive displacement operation

- A slow positive displacement of the floating piston ensures no pressure differential across the sample entry ports

##### Single-phase

- The PCS tool will allow use of high N<sub>2</sub> charge pressures and guarantee single-phase even for high shrinkage reservoir fluids

##### Inert material

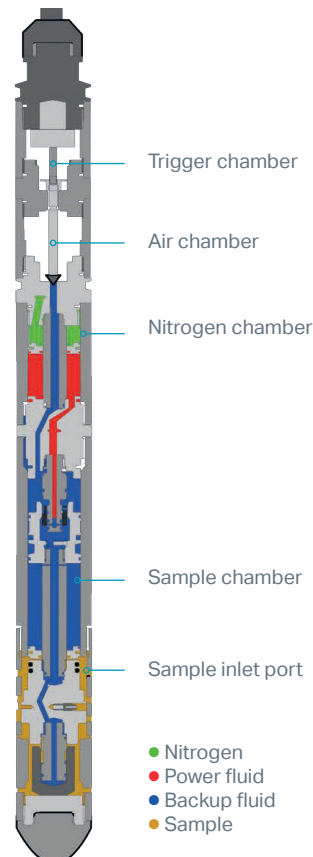
- The non-reactive material makes the tool excellent for trace element sampling and sampling in highly corrosive hydrocarbon fluids containing CO<sub>2</sub>, H<sub>2</sub>S and brines. The material of the tool provides insignificant loss of H<sub>2</sub>S from the sample

##### No phase change during retrieval

- Unlike conventional bottom hole samplers the PCS will maintain the sample in single-phase from bottom hole to surface

##### Fast sample transfer

- With no requirement for re-establishing single- phase at surface sample transfer is performed rapidly and without jeopardising the integrity of the sample



Specifications	
Length	13'8"/4.16 m
Weight	84 lbs/38 kg
Working Pressure Sampler	20,000 psi
Working Pressure N <sub>2</sub> chamber	25,000 psi
Working Temperature	200°C
Sample Capacity	560 cc
Maximum OD	1.75"/44 mm
Material	Inconel
Test Pressure	37,500 psi
Design code	ASME VIII
Certified by	DNV