

Well Flow Management

Fluids Sampling and Analysis

Single-phase bottom hole sampler (PCS) MK2

Expro PCS MK2 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 is designed to be deployed in the Expro 15K Concentric Carrier.

Applications

- Single-phase reservoir sampling has widely been accepted as the industry standard for reservoir PVT sampling. By keeping the sample in single-phase, errors during reconditioning of the sample are avoided.
- For oil samples this greatly reduces the potential for asphaltene deposition. Gas condensates samples also need to be maintained above their dew point pressure. This is because these phase changes can be difficult to reverse prior to transfer to a shipping cylinder.
- The PCS tool is also ideal for sampling of formation water since the pH will remain constant as long as the dissolved gases are kept in solution.

Features and benefits

- Extreme sour service - the PCS provides service in the most hostile well environments with extreme H₂S 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 N₂ charge pressures and guarantee single-phase even for high shrinkage reservoir fluids
- No phase change during retrieval - unlike conventional bottom hole samplers the PCS MK2 tool 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 jeopardizing the integrity of the sample.
- Ease of rig-up - make up tools in the carrier at base and nitrogen filling of individual tools on-site prior to deployment into the well.



Specifications

Design pressure	20,000psi @ 400°F
Minimum working pressure	1500psi (100 bar)
Working temperature range	32°F – 400°F
Sample volume	400cc Single phase
Tool OD	28.3 mm / 1.114"
Tool length	5416.5 mm / 213.4"
Tool weight	17 kg
Material	Nickel-alloy
Service fluid	NACE MR0175 / ISO 15156