

Hydraulic Driveheads with Torque Control Eliminate Rod Breakage for Progressive Cavity Pumps

Safer and more efficient alternative to motors in fields with no electricity supply

Replacing motors mounted near the wellhead and driven by natural gas with hydraulic driveheads having no exposed moving parts and hydraulic power units (HPUs) improved progressive cavity pump (PCP) operations and decreased risk to personnel.

Existing PCP surface drives posed multiple challenges

An operator in South America had replaced third-party PCPs in all its 1,821 wells with Schlumberger PCPs. Among these wells, 100 had no access to electricity, and the operator had retained natural-gas-powered motors mounted near the wellheads by the previous service provider to drive the downhole pumps. However, the motors were presenting multiple challenges, including

- frequent sucker rod failures due to absence of torque control
- HSE concerns because of the proximity of the gas-powered motors to the wellheads
- additional HSE concerns due to the presence of moving sheaves and belts near the wellheads.

Hydraulic driveheads and user-friendly torque control provided a solution

Schlumberger proposed installing its most compact and high-capacity drivehead—the operator-friendly hydraulic VHGH-9.3T,



The hydraulic drivehead with torque control has eliminated sucker rod failures, and the absence of exposed moving parts near the wellhead has enhanced safety.

designed for rodstring loads up to 9.3 metric tons [20,503 lbf]. The patented integral seal, bearings, and gear set are kept separate from the hydraulic system, preventing contamination and improving reliability. There are no exposed moving parts, and the compact, lightweight design and balanced lifting points simplify installation. In addition, the system is equipped with a control panel that facilitates torque adjustments.

Operator reduced NPT and improved project economics

As the third-party motors fail, the operator is replacing them with VHGH-9.3T driveheads. To date, 33 units have been installed. Rigorous torque control enabled by the driveheads has eliminated NPT associated with broken sucker rods. In addition, maintenance frequency, deferred production, interventions, and HSE incidents have all significantly decreased, resulting in greater operational efficiency, safety, and profitability.