ROYAL OAKS ENERGY SERVICES

Offshore CTU
S&S Control Cabin and Power pack HR-680 and TOT well control equipment

Committed Experience
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STEWART & STEVENSON CONTROL CABIN AND POWER UNIT

The Stewart & Stevenson brand Control Cabin is integrated and climate-controlled to operate all equipment components in addition to the cabin's own instrumentation. It features a real-time MEDCO* graphic information logging system (License expires December 2025) with memory storage capability for at least the following parameters:

- Fluid circulation pressure through the coiled tubing (internal pipe pressure).
- Wellhead pressure (annular space pressure between coiled tubing /production tubing).
- Circulation rate.
- Cumulative volume of pumped fluids.
- Weight and tension force of the coiled tubing.
- Speed of insertion or extraction of the coiled tubing.
- Operating depth of the coiled tubing.
- Axial stresses and loads along the pipe during trips to the well, considering the graphed working pressures for interpretation.
- Sinusoidal, helical, or buckling stresses or loads.
- Accumulated life / Fatigue of the coiled tubing string.
- Mechanical and digital depth counter.

Additionally, the Control Cabin features the following characteristics:

- Automatic system for protecting the coiled tubing against over-tension and compression. This system monitors the weight of the coiled tubing while the operator controls/operates the unit (inserting or pulling the string from the well) and activates automatically when the coiled tubing is subjected to unexpected and/or unwanted tension and/or compression stresses, stopping the injector head automatically and immediately.
- Dimensions: 5 m in length, 2.60 m in width, 3.05 m in height.
- Weight: 12 Tons (Includes Power Unit)
- 110 V outlets in the operator's cabin for connecting data acquisition equipment.
- Adequate lighting at all points of the unit.
- Manual hydraulic pump for the blowout preventers and injector head traction.
- Simultaneous brake system for the reel and injector head.
- Fire extinguisher base.
- Contingency system in case of power unit failure, to operate the blowout preventer systems, stripper (sealing system), and injector head traction.
- Pneumatic horn.
- Windshield wiper system for the cabin.
- Control console with:
    - Blowout preventer pressure indicator.
    - All critical switches on the control console are equipped with a safety cover to prevent accidental activation.
    - All necessary controls to operate the entire coiled tubing equipment (stripper, blowout preventers, reel, injector head, etc.).

The Control Cabin is equipped with the MEDCO computing system (software), which allows for the efficient design of strings, optimization of hydraulics, and stresses in coiled tubing strings. It provides graphs of behavior such as weight (tension, accumulated service life, etc.) to maintain the coiled tubing string in good working condition.

These computing systems (software) are compatible between the coiled tubing equipment and the direct displacement pump. They allow for the creation of final execution reports and evaluation of interventions with the parameters resulting from the operation.

Pressure transducers are installed on the Coiled tubing Reel, BOP, and Injector Head to transmit real-time information to the cabin.

The direct displacement pumping units are compatible with the coiled tubing equipment and allow data transmission between them, enabling the monitoring of pumping parameters for treatments from the coiled tubing control cabin.

The Stewart & Stevenson Power Unit is coupled to the Control Cabin and forms part of the same module. This power unit features an internal combustion engine and hydraulic transmission system, capable of operating the different components of the coiled tubing unit, such as: cabin, reel, injector head, blowout preventers, stripper (sealing system), and other hydraulic system components. The weight of the equipment is clearly indicated on the top and side. The power unit includes:

- Detroit Diesel Series 60 internal combustion engine with a capacity of 350 BHP.
- Hydraulic working capacity of 5,000 psi.
- Spark arrestor system in the exhausts and mufflers.
- Emergency electric and/or hydraulic shutoffs from the control cabin.
- Contingency system in case of power unit failure to operate the blowout preventer systems, strippers (sealing system), and injector head traction.
- Spill collection tray with maximum fluid collection capacity.
- All moving parts of the unit are protected with mesh-type covers.
- Fire extinguisher base, located in strategic areas of the power unit.
- The hydraulic system of the injector head assembly, power unit, lubricator, blowout preventers, and hoses has a capacity of up to 5,000 psi depending on each independent hydraulic circuit, ensuring the proper and efficient operation of the equipment with the corresponding length for installation.
- The unit has hydraulic hose reels to operate all the injector, sealing system, and blowout preventer components, with a length of 35 m, sufficient for assembling equipment on offshore platforms.
- Dimensions: 5 m in length, 2.60 m in width, 3.05 m in height (integrated with the Cabin).
- Weight: 12 Tons.

TECHNICAL INFORMATION

Brand: STEWART & STEVENSON
Model: TS-80-SSII
Year: 2017 / Certified 2024
Configuration: Integrated Cabin / Power Unit
Circuit: 5,000 psi
Height: 3.05 m
Length: 5 m
Width: 2.60 m
Weight: 12 tons