Presents

“The C & D 3800”
Clean & Dope System

**Petroproducts’ Clean & Dope System** is designed to automatically wash, air dry and to apply dope to drill pipe and drill collars. The system can operate pipe sizes from 2-7/8” OD to 7” OD. The automatic sequenced operation of washing, drying and applying dope takes only 5-6 seconds! Every step of the process is done rapidly in one operation and saves valuable time for the users.

The benefits of using this system are found in both HSE and efficiency; operating drilling personnel will spend less time in red zones and the drill floor will be kept much cleaner, due to no spill of dope. These factors secure the safety for the personnel during drilling operations and will also decrease the consumption and general exposure of dope to the surrounding environment.

The Clean & Dope System is also classed as Drill-N Class, so the system can operate in temperatures as low as -20 degrees Celcius.

**System requirements and general description**

**Control cabinet / pump units**

The control cabinet contains pumps, an electric power circuit, heater, connections for water and air supply, in addition to closed reservoirs for glycol/water and dope. The system’s cabinet requires a 16A power circuit, pressurized water washer and air supply from the rig. Closed reservoirs inside the control cabinet are customized to contain glycol/water and pre-heated dope. The heating of dope is done by an ExDe approved 2,5kW Backer supplied heater, safely installed in the cabinet. The Ingersoll Rand circulation pump is run from the air supply from the rig’s air system.
Dope pump and lift, supplied from Wiwa, run from the same air supply as the circulation pump. During normal operation the dope pump runs on 4,5 Bars rig supplied air pressure, which gives 100 Bars pump pressure and 2,05 liters/per minute dope consumption. The Wiwa lift runs on 2,5 Bars air pressure.
Pressure to all the pumps are regulated by their designated and separate air regulators. All pumps are approved for all EX areas. Fittings, tubing, reservoirs, cable trays and heater are made in stainless steel.
4x Rud 8 lifting eyes are mounted for internal handling on drill floor.
The control cabinet’s dimensions are H:1950mm x W:910mm x D:550mm
The dope applicator machine can operate pipe sizes from 2-7/8" OD to 7" OD. A guide cone on top of the machine gives easy access to insert the pipe into the system. Inside there are mounted four valve blocks for water and dope, in addition to four nozzles to apply pressurized water and dope to the threads. The desired amount of dope to be applied can easily be adjusted on each valve block. All system parts are integrated in the same unit to simplify maintenance to the applicator system. The anti-freeze system integrated in the machine prevents freezing of water and dope, even for temperatures as low as -20 degrees Celsius. The machine is classed as Drill N. The dope applicator machine, including manifolds and valve blocks, are heated on the inside with constant tempered hot water / glycol. This secures that the C&D operation performs as promised, without icing and with correct tempered dope. The system has a three step function for washing, drying and doping the threads; the first step is that the system starts with washing the tool joint on its way down into the system. When the joint lifts back out, the threads are blown dry and finishes by applying the dope evenly to all sides of the threads. The entire sequence takes 5-6 seconds.
After each tool joint, the nozzles are blown clean of dope and prepare for the next insertion.

The bottom of the machine is detachable and this is where all excess dope is being gathered. There’s not much excessive dope after each operation, so the volumes are small and all spill is gathered in a collection sheet installed in the bottom. The top of the machine is easily lifted off and the collection sheet is folded and thrown in the hazardous waste basket. The sheet is quickly changed and safeguards that no spill of dope hits the drill floor.

This secures that no dope is spilled to the environment and also prevents slippery drill floor because of spilled dope. Dope waste handling done easy!

The dope applicator machine will be fitted with 4x Rud 8 lifting eyes for internal handling on the drill floor.

The main elements consist of a pillar and cone, top and middle plates, spring guided functions and the easily detachable bottom.

Fittings, tubing, springs, bearings, plates, detachable bottom and manifolds are all made in stainless steel.

*NOTE: Stainless materials are SS316 grade steel*

**Hoses**

- 1x 3/4" air hose with stainless fittings
- 1x 3/8" air hose for dope with stainless fittings
- 1x 3/8" air hose for pressurized water with stainless fittings
- 2x 1/4" hoses for circulation of heated water
- 10m hoses which are placed in a protective sheath (extra isolation sheath for arctic areas can easily be mounted)

The C&D System has been used at the Heidrun field in the North Sea with great success. Great time savings, safe operations and no down time at all is the feedback.

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