BACKGROUND

The top drive system was developed by Varco Systems™ in the early 1980’s for use in offshore drilling operations where harsh environment and demanding requirements called for more rugged and reliable drilling systems. Increased productivity and safer operation for drilling oil and gas wells was achieved. Later, the top drive system was adapted for land based drilling to offer the same low maintenance, high reliability, low operational cost plus being highly mobile and fully transportable between rigs.

APPLICATION

The brake is used to hold back torque in the drill string to avoid motor stall and to assist with positioning the drill bit when directional drilling. Dellner Brakes model SKD 50 hydraulic pressure applied brakes have been successfully used in this application.

Two units are mounted on the motor shaft operating on a 305 mm (12 inch) diameter disc providing 3 800 Nm (2,804 lbf ft) of torque with 100 bar (1,450 psi) applied hydraulic pressure. Through the gear reduction, the holding torque at the drill string is 39 900 Nm (29,442 lbf ft).

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