

Slider Plus

Fully automated slide drilling system

APPLICATIONS

Automation of slide drilling to maximize drilling efficiency in horizontal wells

BENEFITS

- Increases ROP and reach capability by sensing the amount of surface torque needed to transfer the proper amount of weight to the bit
- Avoids stalling, which increases motor life and reduces trips
- Saves time with on-bottom toolface correction
- Reduces wellbore tortuosity, enabling longer lateral sections and increasing production potential
- Provides additional skill at the rig site without adding additional personnel
- Saves time required to train rig personnel

FEATURES

- Automated control of
 - torque
 - toolface
 - pressure differential
 - hook load
- Automatic determination of torque and bumping set points
- Compatibility with most rigs and topdrives
- Optional advisory mode, enabling manual rocking if desired

The Slider Plus* fully automated slide drilling system helps increase drilling efficiency in directional and horizontal drilling operations performed with motors and MWD directional systems. With this system in place, the directional driller simply enters the target toolface. Then, the Slider Plus system takes over by automatically maintaining toolface within acceptable limits and optimizing sliding ROP—providing more skill at the rig without adding more people.

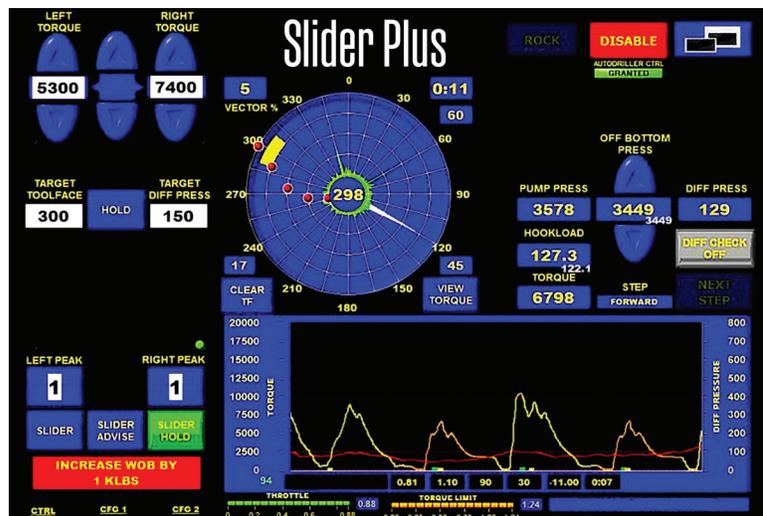
The Slider Plus system is compatible with most rig types, including new and advanced rigs, and requires minimal operational training for drillers.

Improve sliding efficiency and ROP

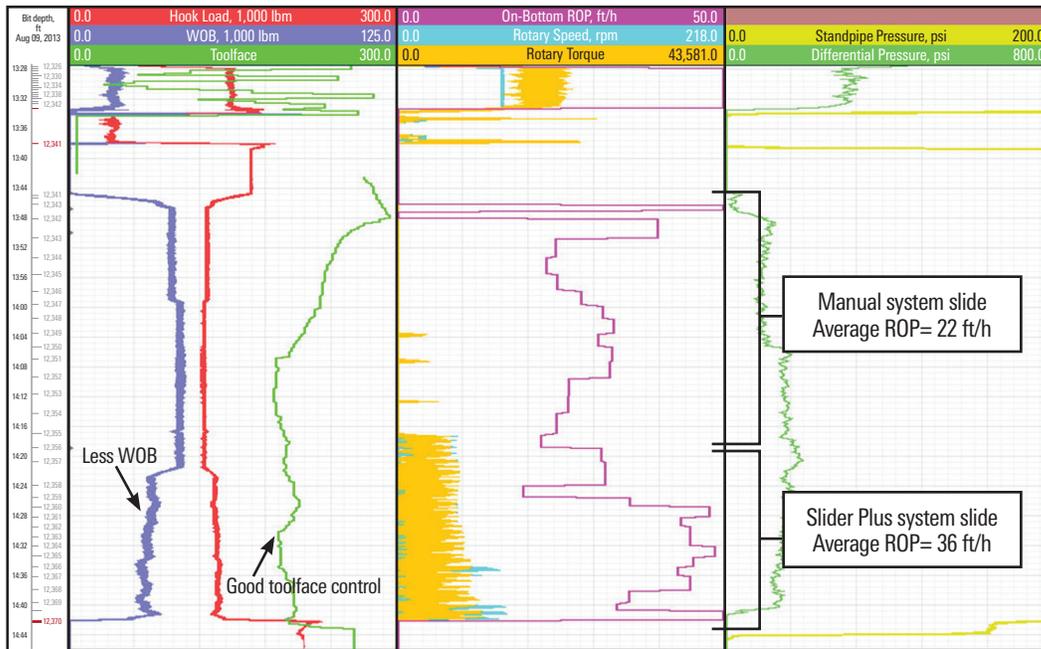
The Slider Plus system's automated surface rotation control increases the efficiency of motors and MWD directional systems—more than 250% in some cases—during the drilling of directional and horizontal wells. The system applies oscillatory movements to the right and left at the topdrive during sliding operations to steer the BHA. It uses torque readings as feedback for an automated system to control the rocking movement.

Maximize drag reduction

As well profiles become more complex, they produce higher torque and drag. Moreover, the downhole toolface orientation becomes harder to obtain. The Slider Plus system is able to handle more challenging wells by using fully automated torque-rocking technology during sliding. This technology enables the maximum amount of drag reduction while accurately controlling the downhole toolface, which is achieved without pulling the bit off bottom to enhance ROP. The system also enables steering of positive displacement motors in any direction without interrupting the drilling process and works with any BHA, including bicenter bits.



Slider Plus system automatically adjusts the rocking torque to the correct target toolface determined by the directional driller.



Data shows the Slider Plus system helping improve the sliding ROP by 64% compared with a manual system.

Get torque-rocking technology

The Slider Plus system enables the drillstring to behave during sliding as if it were rotating. The torque-rocking technology reduces drag with oscillatory movements applied at the topdrive during sliding, using torque as the basic feedback mechanism to control the rocking movement. Longitudinal drag can be reduced from the surface down to the point where friction and imposed torque are in balance. By manipulating the surface torque oscillations, this point can be moved deep enough to make the reduction substantial. Similarly, reactive bit torque produces vibrations and propagates back uphole from the motor to break friction over the bottom section of the drillstring up to a point where it is also balanced by friction. The reactive torque is also monitored by the system in the sliding mode, avoiding much of the guesswork that existed in the past.

There is a middle section of the drillstring that is unaffected by rocking and reactive torque. By continuously measuring torque, WOB, and penetration rate while sliding, the Slider Plus system minimizes the length of the middle section—and, consequently, the longitudinal drag. The remaining drag is minimized and kept constant to prevent the surface torque-rocking motion from unintentionally changing the toolface and to increase sliding ROP.