

optiWOB™

DEAL™ Smart Module

The HMH optiWOB smart module minimizes weight on bit (WOB) variations and boosts the performance of the drill string Compensator

Product description

In all heave compensator systems there is friction. This comes from cylinder pistons, wire sheaves, guide rails, etc. This friction force works against the heave motion and results in variations in weight on bit (WOB) when drilling.

WOB variations lead to several disadvantages:

- Reduced rate of penetration (ROP)
- Excessive wear on drill bit
- High WOB setting or risk bit lift off
- Fluctuations in rotation torque

Our optiWOB smart module counters the friction in the passive compensator system by using the Active Heave Compensator (AHC) already installed on most HMH compensator and RamRig™ deliveries. optiWOB increases the possible drilling rate of penetration and reduces wear on the drilling equipment.

Benefits

- Increased rate of penetration
- Up to 80 % reduced weight on bit (WOB) variation
- Up to 50 % reduced rotation torque variation
- Increased control in delicate drilling operations
- Enhanced autonomous drilling, relieving the operator from constantly monitoring the compensator load balance
- Reduced wear on drilling equipment
- Drill longer well sections without trip-in and -out for bit change
- Increased weather window for operations

During delicate drilling operations such as directional drilling, coring, milling, etc., optiWOB reduces the WOB variations by up to 80%, enabling delicate operation in a significantly expanded weather window.

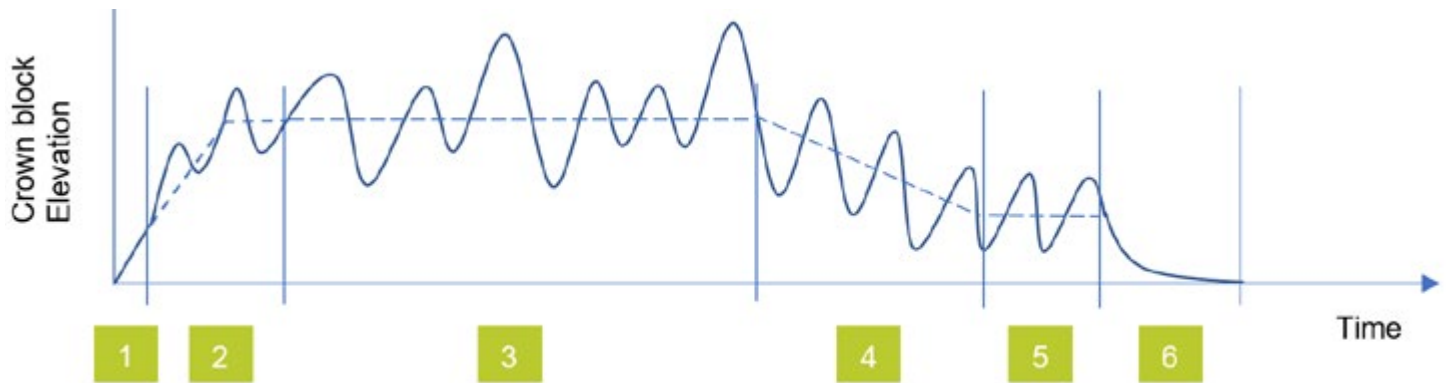
Drilling with optiWOB simplifies drilling operations and enhances drilling automation. For example, the software takes control of the balancing of air/nitrogen pressure in the passive compensator thus enabling the driller to focus on more important tasks.

Operational feedback from end users proof the optiWOB benefits, providing additional value to our customers.

“They [the operators] had never seen these steady parameters while milling a window” and that “we were able to drill out a casing shoe in 3.5 meters rig heave without any problems and with steady parameters on WOB and torque. Without optiWOB this would force us to wait for better weather.”



This is the automatic process that is followed when drilling one stand with optiWOB. Once the drilling function in the IOC panel is activated, the software takes care of the rest.



1. Lifting crown block off water table
2. Bring crown block to mid-stroke
3. Compensating with AHC while drilling
4. Moving setpoint closer to water table
5. Drilling last part of stand close to water table
6. End of stand

Field data proof of a reduction in WOB variations of 50% when drilling with HMH optiWOB.

