

HFTI Technology

HIGH-FREQUENCY TORSIONAL ISOLATION TOOL



High-Frequency Torsional Oscillations (HFTO) are a common problem when drilling hard and dense formations. HFTO excitation initiates at the PDC bit and self-perpetuates throughout BHA components below the motor power section. HFTO can cause rapid torsional fatigue to BHA components resulting in unexpected costs due to premature trips and damage.

Motor-driven rotary steerable bottom hole assemblies are particularly susceptible to HFTO damage due to the length of BHA equipment below the motor (i.e., RSS and MWD). BHA damage associated with HFTO has become a significant portion of costs to the operator while drilling shale wells in North America land.

The new HFTI tool from Scout Downhole has been designed to suppress the high-frequency vibrations associated with HFTO. The tool provides an isolation element that absorbs torsional, lateral, and axial dysfunction from BHA components to prolong equipment life.

The simple and unique design of the HFTI tool utilizes dissimilar materials as the absorption mechanism, providing a cost-effective solution to a common problem. It was designed based on HFTO knowledge and experience gained from CuBIC® downhole high-frequency embedded sensor data from Sanvean Technologies.

The HFTI tool also includes CuBIC embedded sensors to measure the reduction in high-frequency downhole dynamics — providing isolation and dynamics measurements all in one package.

Benefits

- Reduces damage throughout the entire BHA
- Reduces both torsional and axial high-frequency oscillations
- Capable of reducing axial low-frequency oscillations

7" HFTI Specifications	
OD	7.06"
Hole Size	8-1/2" - 8-3/4"
Connections	4-1/2"
Tool ID	2.25"
Tool Overall Length	7.8 ft
Tool Weight	850 lbs
Max WOB	50,000 lbs
Max Torsional Load	50,000 ft lbs
Max Overpull to Re-run	90,000 lbs
Max Overpull	735,000 lbs
Pressure drop @ 700 GPM with 10 ppb fluid	30 psi
Body Connection MUT	33,000 ft



HFTI TOOL ASSEMBLY

