

CuBIC® HF

HIGH-FREQUENCY

DRILLING DYNAMICS RECORDER

SANVEAN®
TECHNOLOGIES
 A BUSINESS UNIT OF TURBO DRILL INDUSTRIES, INC.

CuBIC® HF

CuBIC HF from Sanvean Technologies is a compact high-frequency drilling dynamics data recorder designed to be embedded into existing drill bits and drilling tools. With two form factors available, CuBIC (cigar shape) and PuK (hockey-puck shape), the sensor can easily be placed at the “points of interest” within the BHA to record drilling dynamics data for actionable drilling decisions.

Continuous high-frequency three-axis shock ($\pm 200G$ at 800Hz to 1600Hz) and gyro-based RPM (± 330 RPM at 100Hz to 1000Hz) provide a magnified view of the “real” dynamics present at the drill bit and BHA. Two sensor placements (per BHA) deliver the ultimate drilling dynamics data solution, with one placed in the drill bit shank (or centerline) and the other placed above the power section of the drilling motor, effectively providing a “downhole dynamometer” to help evaluate bit and motor performance.

The latest generation CuBIC HF is the culmination of over six years of development. With deployment in some of the harshest drilling environments in North America, high-reliability and high-data-recovery rates are standard deliverables for the CuBIC product line.

APPLICATIONS

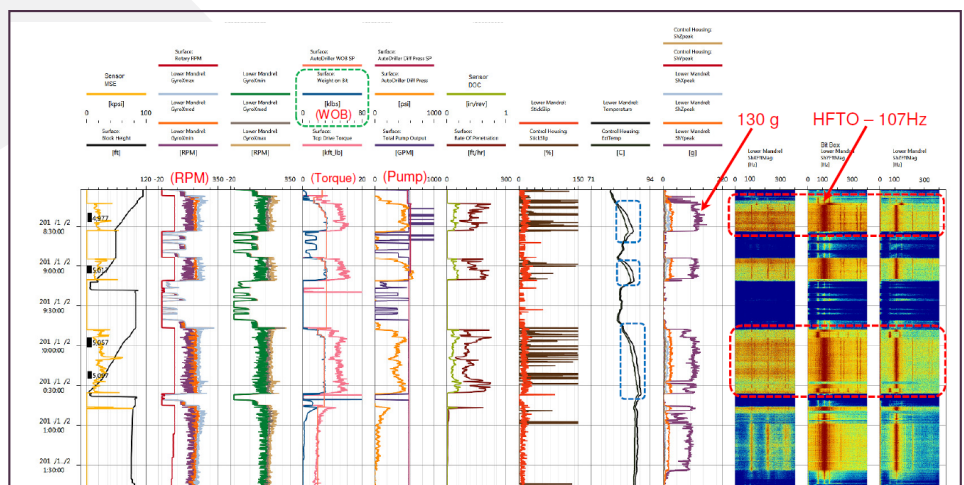
- Development of detailed drilling parameter roadmaps using multi-well comparative analysis
- Reducing bit trips and tool failures by understanding dynamics-based wear and damage
- Improvement of transitional operations (rotate-slide-rotate, back to bottom and coming off bottom)
- Tuning automated drilling rigs for optimized downhole performance

FEATURES

- High-frequency continuous three-axis shock and gyro-based RPM
- Compact and reliable design
- Can be embedded into existing drill bits and drilling equipment
- Easy data merge with surface EDR utilizing Sanvean GameChanger Viewer software

BENEFITS

- No additional BHA length or connections when embedded into existing drilling equipment
- No field personnel required (logging commences with string rotation)
- Compatible with slim-hole drill bits
- Both shank and centerline placement available for drill bits



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CuBIC® HF 2021 SPECIFICATIONS

DESCRIPTION	PuK HF	CuBIC HF
Placement	Drill Bit Shank, BHA and Drill String	Drill Bit Centerline, BHA and Drill String
Logging Trigger	RPM or RPM Delay	RPM or RPM Delay
3-Axis Shock	-200G to +200G (+/- 100mG)	-200G to +200G (+/- 100mG)
Shock Sample Rate	800Hz - 1600Hz	800Hz - 1600Hz
Shock Record	Continuous	Continuous
Gyro RPM	+/- 330 RPM	+/- 330 RPM
Gyro Sample Rate	100 Hz	100Hz (1000Hz for Centerline)
Gyro Record	Continuous	Continuous
Temperature	150°C (302°F) 160°C (320°F) Option	150°C (302°F)
Pressure Rating	15,000 PSI	15,000 PSI
Record Life	150 hours @ 800Hz 100 hours at 1600Hz	150 hours @ 800Hz 100 hours at 1600Hz



1.87" Diameter x 1.12" Depth



0.75" Diameter x 5.80" Length

