

HIGH-DENSITY, HIGH-SPEED DATA FOR IMPROVED WELLBORE PLACEMENT

Peak Measurement While Drilling (MWD) leverages decades of tool development expertise, and millions of downhole operational hours, to fine tune and deliver the next generation in MWD performance and reliability.

With entirely new, in-house developed hardware, firmware, and software, Peak is designed to improve data quality, accelerate transmission speed, and enhance usability, delivering groundbreaking performance across all basins and drilling programs.

FEATURES

- Modular design allows integration to a wide variety of internal and third-party solutions, including Top Mount Pulsers, RSS (Orbit and Orbit G2 through Babelfish, D-Tech, iCruise), PWD, and Azimuthal Gamma Ray (Kratos)
- Patented pulser and gamma ray sensor engineered to eliminate common failure points in legacy MWD tools
- Ruggedized Fortis pulser featuring diamond-on-diamond valve design
- Faster servo valve activation through multi-port design
- State-of-the-art decoding platform with custom, easy-to-interpret UI and built-in remote operations support
- Advanced downhole power bus

BENEFITS

- Ultra reliable and faster mud pulse data transmission at 0.46-2.6 bps, 4 second updates available in fast mode
- Higher recorded data density
- A four-port valve design with increased total flow area (TFA), providing more reliable performance at higher flow rates
- Faster actuation downhole
- Cloud integration of real-time operational and diagnostic data
- Full-service support with in-house engineering, manufacturing, and operational support

Mechanical						
BHA O.D. in (cm)	5 (12.7)	5¼ (13.3)	6½ (16.5)	6¾ - 7 (16.8 - 17.8)	8 (20.3)	9½ (24.1)
BHA I.D. in (cm)	2.69 (6.8)	2.81 (7.1)	2.81 (7.1)	3.25 (8.3)	3.50 (8.9)	3.50 (8.9)
Maximum Dogleg Severity (DLS), rotating/sliding, slick, deg/100 ft (30m)	15/30	15/30	10/20	10/20	8/15	8/15
Maximum Dogleg Severity (DLS), rotating/sliding, flex, deg/100 ft (30m)	25/30	25/30	15/20	15/20	12/15	12/15
Threaded Connection	XTF™39 / uXT™39	XTF™40 / uXT™40	4½ IF (NC50)	4½ IF (NC50)	6% API REG	7% API REG
Minimum Make-Up Torque, klb-ft (kN-m)	20.3 (27.5)	21.9 (29.6)	29.8 (40.4)	32.3 (43.8)	53.3 (72.3)	84.2 (114.2)
Maximum Make-Up Torque, klb-ft (kN-m)	24.4 (33.1)	26.3 (35.7)	32.8 (44.5)	35.5 (48.2)	58.6 (79.5)	92.7 (125.7)
Flow Range GPM, (m³/min)	125-350 (0.47-1.23)	125-400 (0.47-1.51)	250-650 (0.97-2.46)	250-750 (0.97-2.84)	350-1000 (1.23-3.79)	350-1300 (1.23-4.92)

Environmental		
Maximum Temperature, standard batteries	329 °F	165 °C
Maximum Temperature, high-temp batteries	347 °F	175 °C
Maximum External Pressure	20 klb/in	137.8 Mpa
Maximum Shock, ²	1,000 g	9,800 m/sec ²
Maximum Vibration, 30-500 Hz, ³	25 grms	245 m/sec ²

Directional Sensor	
Inclination, accuracy	±0.1 °
Inclination, repeatability	±0.05 °
Azimuth, accuracy, >5° incl.	±1.0 °
Azimuth, repeatability, >5° incl.	±0.5 °
Toolface, accuracy, >5° incl.	±0.5 °
Toolface, repeatability, >5° incl.	±0.05 °
Dynamic Inclination, accuracy	±0.25 °
Dynamic Inclination, repeatability	±0.1 °
Dynamic Azimuth, accuracy	±0.25 °
Dynamic Azimuth, repeatability	±0.1 °
Dynamic Magnetic Toolface	±5.0 °

Tool Specifications ⁵		
Length, directional & gamma, single battery	21.3 ft	6.5 m
Length, directional & gamma, dual battery	26.8 ft	8.2 m

Telemetry	
Available Pulse Widths, sec	0.188, 0.250, 0.375, 0.500, 0.600, 0.800, 1.000, 1.200
Maximum Data Rate	2.66 bits/sec
Downlink Method	Flow ON/OFF
Telemetry Sequences Available, ⁴	6
Telemetry Modes	Survey, Slide, & Rotate

Gamma Sensor	
Detector Type	Sodium Iodide (NaI) Scintillation
Sensitivity, ⁶	1.0 CPS/API
Accuracy, 0°-150°	±3 %
Accuracy, 0°-175°	±5 %
Repeatability, 0°-150°	±5 %
Repeatability, 0°-175°	±10 %

Mud Specifications ⁷	
Granular LCM	Medium Nut Plug, 80 lbm/bbl (228 kg/m³)
Fibrous LCM	Cedar Fiber, 15 lbm/bbl (43 kg/m³)
Maximum Sand Content	1%

- 1: Maximum survival temperature depends on many factors and maybe reduced in application. Please contact AEP for more details.
- 2: 0.5 msec, ½ sine, 10 times, all axes.
- 3: Limited to 1 in (2.54 cm) double amplitude for 5-30 Hz.
- 4: Contact AEP for more details regarding data telemetry sequences available.
- 5: Length of MWD tool probe. BHA makeup length determined by tubulars on location.
- 6: Sensitivity is for raw sensor. Contact AEP for details regarding effect of drilling fluid and tubulars.
- 7: Reference AEP Loss Circulation Material Mixing Guidelines to reduce risk of service interruptions or pipe blockage.

