

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

- Available in 4 ¾" – 9 ½" BHA sizes
- Modular design allows integration to a wide variety of internal and third-party solutions, including Top Mount Pulsers, RSS (Orbit, Orbit G2, D-Tech, iCruise), PWD, and Azimuthal Gamma Ray (Babelfish and Kratos)
- Faster servo valve activation through multi-port design
- Ruggedized diamond-on-diamond valve design
- Patented pulser and gamma ray sensor reduces multiple failure points of legacy equipment
- 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)	4% (12.1)	5% (13.3)	6% (16.5)	6% (17.1)	8 (20.3)
Collar I.D. in (cm)	2.69 (6.8)	2.81 (7.1)	2.81 (7.1)	3.25 (8.3)	3.50 (8.9)
Maximum Dogleg Severity (DLS), rotating, slick, °/100f t	15	15	10	10	8
Maximum Dogleg Severity (DLS), sliding, flex, °/100f t	30	30	20	20	15
Maximum Dogleg Severity (DLS), rotating, slick, °/100f t	25	25	15	15	12
Maximum Dogleg Severity (DLS), sliding, flex, °/100f t	30	30	20	20	15
Threaded Connection	3½ IF (NC38)	XT39	4½ XH (NC46)	4½ IF (NC50)	6% API REG
Maximum Compression, klbf (kN)	100 (445)	100 (445)	200 (890)	200 (890)	350 (1,557)
Maximum Tension, klbf (kN)	500 (2,224)	500 (2,224)	1,000 (4,448)	1,000 (4,448)	1,200 (5,338)
Minimum Make-Up Torque, klbf-ft (kN-m)	10.0 (13.6)	20.3 (27.5)	22.4 (30.4)	32.3 (43.8)	53.3 (72.3)
Maximum Make-Up Torque, klbf-ft (kN-m)	11.0 (14.9)	24.4 (33.1)	24.6 (33.4)	35.5 (48.2)	58.6 (79.5)
Flow Range GPM	125-325 (0.47-1.23)	125-375 (0.47-1.42)	250-650 (0.97-2.46)	250-750 (0.97-2.84)	250-850 (0.97-3.22)

Environmental		
Minimum Temperature	32 °F	0 °C
Maximum Temperature, standard batteries	329 °F	165 °C
Maximum Temperature, high-temp batteries	347 °F	175 °C
Maximum External Pressure	20 klbf/in	137.8 Mpa
Maximum Shock, ²	1,000 g	9,800 m/sec ²
Maximum Vibration, 30-500 Hz, ³	25 g	245 m/sec ²

Directional Sensor	
Inclination, accuracy	±0.1 °
Inclination, repeatability	±0.05 °
Azimuth, accuracy, >5° inclination	±1.0 °
Azimuth, repeatability, >5° inclination	±0.5 °
Toolface, accuracy, >5° inclination	±0.5 °
Toolface, repeatability, >5° inclination	±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) Cointillation
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/m ³)
Fibrous LCM	Ceder Fiber, 15 lbm/bbl (43 kg/m ³)
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: All LCM must be premixed and added to avoid slugging the tool to reduce risk of service interruptions or pipe blockage.

