

PRODUCT SPEC SHEET

FALCON EM ELECTROMAGNETIC MWD

The Falcon EM MWD is the next generation electromagnetic MWD system from Scientific Drilling, delivering maximum reliability, faster drilling, precision wellbore placement, deeper reach, and safer operations.

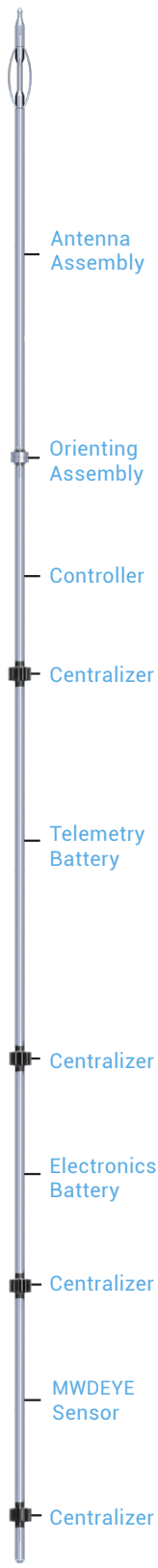
The Falcon EM MWD is engineered to transmit downhole data to surface at speeds up to 14 bps. The telemetry transfer rate ensures drilling efficiency by transmitting surveys during pipe connections, enabling greater ROP, and increased data density for high resolution reservoir analysis.

DELIVERING THE ULTIMATE VALUE

- Supports all drilling fluid types (air, mist, foam, mud)
- Provides unlimited LCM tolerance, eliminating trips required due to plugged MWD pulsers
- Allows survey transmission during connections significantly reducing NPT
- Bi-directional communication enables full tool parameter customization while drilling
- Innovative design with no moving parts, reducing mechanical wear, improving overall reliability
- High-density memory data available for all sensor variables, delivering greater accuracy
- Retrievable configurations available, minimizing lost in hole liability

TARGET APPLICATIONS

- Unconventional Resource Plays
- Under-Balanced Drilling With Aerated Fluids
- Directional/Horizontal Wells
- Relief and Re-Entry
- Magnetic Ranging (Passive and Active)
- Geothermal
- Steam Assisted Gravity Drainage (SAGD)



TECHNICAL SPECIFICATIONS

Tool Collar Sizes (OD)	Dog Leg Severity	
	Sliding	Rotating
9.500 in (241.3 mm)	12°	6°
8.000 in (203.2 mm)	12°	7°
6.750 in (171.5 mm)	19°	8°
6.500 in (165.1 mm)	20°	10°
6.250 in (158.8 mm)	20°	10°
4.750 in (120.7 mm)	28°	12°
3.500 in (88.9 mm)	37°	15°
3.125 in (79.4 mm)	40°	17°

Pressure Rating	20,000 psi @ 300° F (30,000 psi available) 137,900 kPa @ 150° C (206,842 kPa available)
Temperature Rating	302° F (150° C)
Lost Circulation Material (LCM)	No Limit
Telemetry	Electromagnetic
Sensor Accuracy	Tool Face: ±0.15° > 3° Azimuth: ±0.25° > 3° Inclination: ±0.15° at all angles
Maximum Bit Pressure	No Limit
Operating Time	150+ hours

DIRECTIONAL SPECIFICATIONS

Length	Directional Only 24.16 ft (7.36 m) (+ 6 ft gap sub and antenna)	Directional+Gamma Ray 27.33 ft (8.33 m) (+ 6 ft gap sub and antenna)
	Data Update Period	Minimum: 0.5 sec @ 0.032 sec pulse width Maximum: 3.5 sec @ 0.250 sec pulse width
Calculated Survey Time	2.4 seconds	
Raw Survey Time	6.2 seconds	
Continuous Inclination	Sliding Yes	Rotating Yes
	Measurements Provided	High Side & Magnetic Tool Face, Inclination, Azimuth, Temperature, Peak & RMS Vibration, Scintillation/API Gamma Ray, Pressure While Drilling (PWD), and Magnetic Ranging

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VIBRATION SPECIFICATIONS

Axial	4 g _{RMS} for 3 hr, 6 g _{RMS} for 30 min
Lateral	5 g _{RMS} for 3 hr, 7.5 g _{RMS} for 30 min
Stick/Slip	150% for 3 hr, 200% or neg. RPM detected for 30 min

Specifications are subject to change without notice.

Updated May 2016

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