

Plug and Play Compatibility

This next generation EM plugs into existing MWD platforms and can be run in-line with pulse tools or standalone EM. We sell “add-on” units for existing kit owners, which consists of a transmitter, gap sub and surface detection system. We can also integrate into other proprietary platforms. We offer RPM on-the-fly downlinking and soon release EM downlinking.

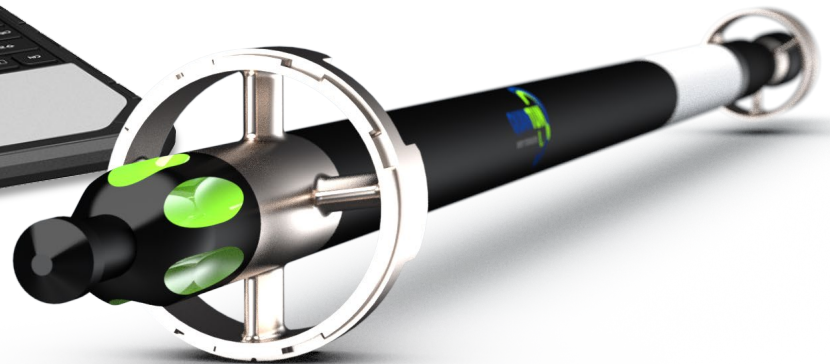
Next Level Power

A high voltage EM transmitter pushes signal through formations typically limited by previous EM tools at speeds up to 32 bits/second. The tech is power seeking, meaning it manages the current and voltage settings to maintain maximum power levels under dynamically changing formation and fluid conditions.



Surface Detection

Advanced noise cancelling and simultaneous intuitive and adaptive multi-channel decoding are incorporated into the surface receiver. The system will seek the best signal for detection while cancelling out rig and drilling pad related EM noise that typically interfere with EM MWD signals. These tools have added performance features to tackle pipeline cathodic protection as well other novel features such as our novel V-Channel to maximize signal-to-noise (SNR).



Quantum EM™ Specifications

Sized Operating Parameters	5.250" Tool		6.625" Tool		8.000" Tool	
Nominal OD (inches, mm)	5.250	133	6.625	168	8.000	203
Flex OD (inches, mm)	4.830	123	6.100	155	N/A	N/A
Min. Internal ID (inches, mm)	2.688	68	3.250	83	3.500	89
Available End Connections (Box x Pin)	XTF40 x DS42		NC50 x NC50 DS50 x DS50		6-5/8" Reg x 6-5/8" Reg	
End Connection MUT (ft-lbs, N-m)	34,000	46,100	26,000 (NC50) 43,000 (DS50)	35,250 (NC50) 58,300 (DS50)	45,000	61,000
Min. Internal Gap MUT (ft-lbs, N-m)	30,000	40,675	40,000	54,250	70,000	94,900
Max. Dogleg Rotating	18 deg/100 ft		15 deg/100 ft		10 deg/100 ft	
Max. Dogleg Sliding	25 deg/100 ft		20 deg/100 ft		15 deg/100 ft	
Max. Compression Load (lbs, N)	100,000	444,800	200,000	889,700	300,000	1,334,500
Max. Tension Load (lbs, N)	400,000	1,779,300	1,000,000	4,448,200	1,500,000	6,672,300
Overall Length (ft, m)	7.9	2.4	9.3	2.8	9.5	2.9
Recut Length per side (inches, mm)	4	102	4	102	4	102
Max. Flow Rate (GPM, m ³ /min)	350	1.32	800	3.00	1,200	4.54
Max. Gap Sub + Probe Weight (lbs, Kg)	600	272	750	340	1250	567
General Operating Parameters						
Maximum Pressure	20,000 psi / 137,895 kPa					
Operating Temperature Range	32 to 347 °F / 0 to 175 °C					
Storage Temperature Range	-40 to 149 °F / -40 to 65 °C					
RPM Range	0 to 400 RPM					
Shock and Vibe Limits	30 g, 30 – 500 Hz, (1000g, 1/2 msec, 1/2 Sine Shock)					
Battery Capacity	100 hrs. Stand Alone (per battery pack, config dependent)					
Safety On/Off Control	Configurable Pressure Threshold to Activate EM (100 psi default)					
Telemetry Frequency	1 to 32 Hz					
Baud Rate	1 to 32 bit/s					
EM Max. Limits: Voltage, Current, Power	25V, 10A, 40W (Note: values scale down as temperature exceeds 150°C)					
Minimum Decoding Signal to Noise	2dB Survey, 3dB Drilling					
Data Compression	Up to 50% (configurable)					
Downlinking Methods	EM, RPM High/Low, Vibration On/Off					
Tool Storage Capacity	512 MB Telemetry, 512 MB Directional/Gamma Ray					

Gap Sub Material: Carpenter SCF-19®

Pressure Barrel Material: C17200 BeCu

Specification Revision: A (2023.07.28)

