



# Weatherford®

Drilling Services

## *Motorized Revolution® Plus Rotary-Steerable Systems*

Placing a high-performance directional drilling motor power section above a rotary-steerable tool (RST) increases power to the bit and enables the rotary-steerable system (RSS) to deliver significantly higher rates of penetration (ROP). Weatherford's *Revolution Plus* RSS offers two motorized options.

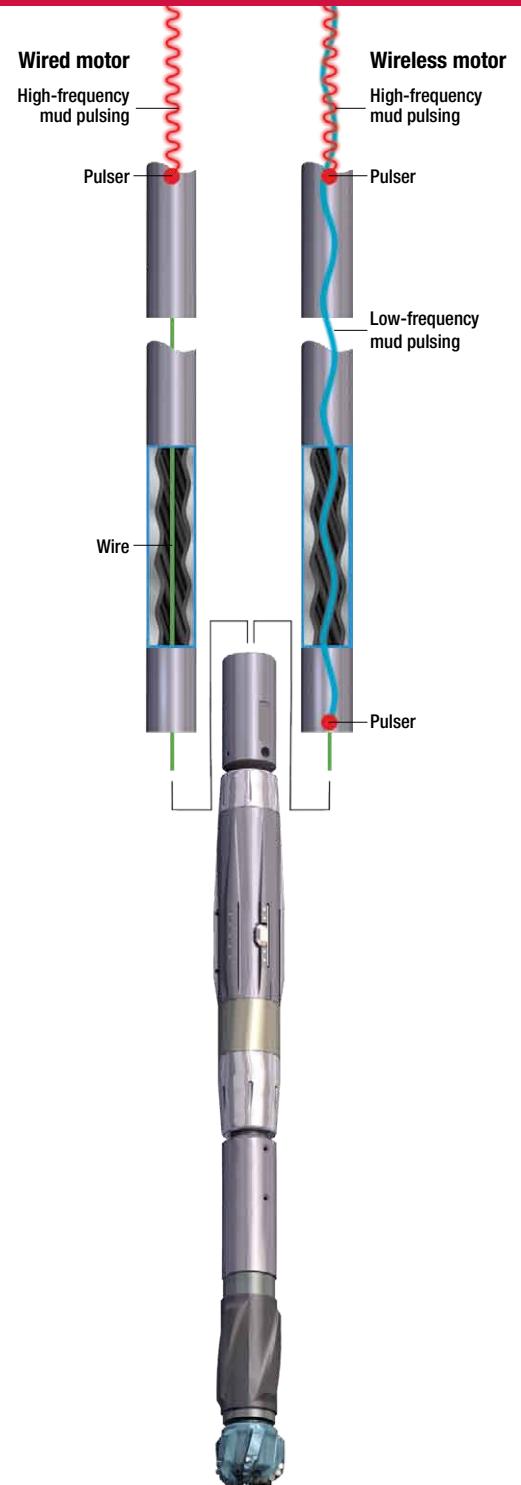
- Wired
- Wireless

In the wired-motor option, a Weatherford HyperLine™ Plus high-torque power section with uniform rubber thickness is used. A wired electrical connection is run through the rotor in the power section, connecting it with the RSS below and the logging-while-drilling (LWD) sensors above.

The *Revolution Plus* is also available with a wireless motorized option, using Weatherford's DualPulser™ wireless telemetry service and any Weatherford directional drilling motor power section. Through the *DualPulser* service, two independent pulsing systems can be operated simultaneously in the same drillstring; one above the motor, and one below. Each LWD sensor cooperates with, and is located close to, at least one dedicated, independent telemetry system. The telemetry systems can be of the same type, such as mud pulse. Or, mud pulse and electromagnetic (EM) systems can be used in combination. The two telemetry systems create redundant, parallel channels of data transmission that provide increased transmission rates and reliability. To avoid cross-talk, data is transmitted at two different frequencies. Basic and advanced filtering techniques are applied at surface to distinguish between the telemetry trains.

### *Applications*

- Geosteering
- Maximizing drilling ROP in RSS applications
- Extended-reach drilling (ERD)
- Drilling operations in high-temperature, high-pressure environments
- Increasing drilling performance from lower-capacity drilling rigs





## *Motorized<sup>®</sup> Revolution Plus Rotary-Steerable Systems*

### *Features, Advantages and Benefits*

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- Dramatically increases bit revolutions per minute (RPM) while reducing surface RPM.
- Significantly increases ROP.
- Wired-motor system acquires greatest data density and generates most overall information.
- Wired-motor system uses *HyperLine* Plus motors with uniform rubber thickness to deliver industry-leading drilling performance, power output and ROP without sacrificing reliability or run life.
- *DualPulser* wireless motor system is easy to configure and places no limitations on power section or bit, enabling the well team to select the best motor and bit for the formation and to change power sections as needed.
- Wireless motor system's reduced complexity leads to a natural increase in overall system mean time between failure (MTBF), thus effectively reducing nonproductive time (NPT).
- Dual pulsers allow data to be transmitted individually by the RSS and the LWD, effectively doubling the bits per second (BPS) data rate in the system and allowing for improved data transfer for drilling optimization and geosteering.



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### *Specifications—Wired Motor*

Model	Configuration	Overall Length (ft/m)	Flow Rates (gpm/lpm)	Bit Speed (rpm)	Max Torque (ft-lbf/N-m)	Max Power (hp/kW)
4 3/4-in. XMN4536	4:5 Lobe, 3.6 Stage	17.67 5.38	150-300 560-1,140	100-210	3,900 5,300	156 116
4 3/4-in. XME4554	4:5 Lobe, 5.4 Stage	24.58 7.49	150-300 560-1,140	100-210	6,600 8,950	264 197
4 3/4-in. XLE6725	6:7 Lobe, 2.5 Stage	23.08 7.03	125-325 475-1230	35-95	5,700 7,730	103 77
6 1/2-in. XLE6722	6:7 Lobe, 2.2 Stage	26.08 7.95	250-500 950-1,890	40-85	10,250 13,900	166 124
6 1/2-in. XLE 6727	6:7 Lobe, 2.7 Stage	28.83 8.79	250-500 950-1,890	40-90	11,450 15,520	196 146
6 3/4-in. XMN6731	6:7 Lobe, 3.1 Stage	20.33 6.20	300-700 1,140-2,650	75-185	8,900 12,100	314 234
6 3/4-in. XME6729	6:7 Lobe, 2.9 Stage	26.50 8.08	300-650 1,140-2,460	40-95	12,000 16,270	217 162
6 3/4-in. XME6748	6:7 Lobe, 4.8 Stage	26.50 8.08	300-700 1,140-2,650	75-195	11,700 15,900	435 324
8-in. XME5652	5:6 Lobe, 5.2 Stage	30.75 9.37	300-900 1,140-3,410	45-140	17,100 23,200	456 340
9 5/8-in. XLE6735	6:7 Lobe, 3.5 Stage	29.58 9.02	600-1,200 2,270-4,540	45-85	32,300 43,800	523 390

### *Specifications—DualPulser Wireless Motor*

As any directional drilling motor can be used, specifications will be those of the selected motor.