



Revolution® Rotary-Steerable Service 4³/₄-in. System

The *Revolution* service was the first slimhole rotary-steerable system (RSS) to use point-the-bit drilling technology for improved borehole quality and bit life. The *Revolution* system's short, compact design reduces the complexity of rotary-steerable drilling technology, while placing critical LWD measurements close to the bit.

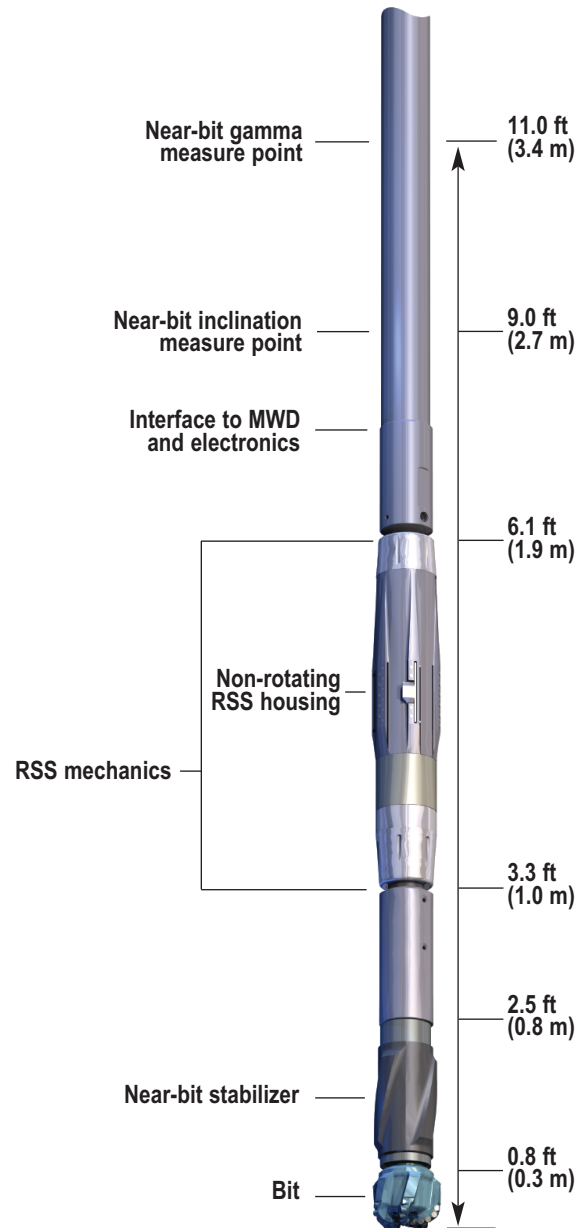
The *Revolution* system's point-the-bit technology uses a pivot stabilizer to orient the drill bit axis with the axis of the desired well path, optimizing the directional drilling process and maximizing drilling efficiency. Relative rotation between the center shaft, which carries torque to the bit, and a non-rotating outer housing drives a hydraulic pump. This pump generates enough motive force to deflect the drillstring as programmed in the well's steering plan.

Applications

- Extended-reach 6- to 6 3/4-in. wellbores

Features, Advantages and Benefits

- Point-the-bit design for improved hole quality and bit life.
- Simple functionality ensures high reliability.
- Deviation rates set from surface for improved directional control.
- Build rates of up to 10°/100 ft depending on formation type.
- Compact design.
- Fully integrated with PrecisionLWD™ system.





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Specifications

Nominal tool OD	4-3/4 in. (121 mm)
Maximum OD [†]	.6 to 6-3/4 in. (152.4 to 171.4 mm)
Length (RSS mechanics)	2.8 ft (0.9 m)
Length (RSS assembly)	12.9 ft (3.9 m)
Top connection	.3 1/2-in. API IF pin
Bottom connection	.3 1/2-in. API Reg box
Make-up torque	.9,900 to 10,900 ft-lb (13,423 to 14,778 N•m)
Maximum torque	10,000 ft-lb (13,558 N•m)
Maximum tension	.250,000 lb survival (113,398 kg)
	.105,000 lb reusable (47,627 kg)
Maximum weight-on-bit	25,000 lb (11,340 kg)
Maximum build rate	10°/100 ft
Minimum kickoff angle – vertical kickoff	.0°
Maximum operating temperature	329°F (165°C)
Maximum operating pressure	25,000 psi (172 MPa)
Maximum flow rate	.350 gal/min (1,325 L/min)
Maximum sand content	.2%
Distance from bit, near-bit inclination	.9 ft (2.7 m)
Distance from bit, near-bit gamma	.11 ft (3.4 m)

[†] Dependent on bit size