

FEATURES

- PDC cutters on the bias unit to achieve maximum displacement
- Optimized control stabilizer placements to balance steering capability and vibration resistance
- Shortened bit box to achieve greater dogleg capability
- OPTIMAL STEERING CONTROL
- DOGLEG CAPABILITY
- RELIABILITY

WHAT ELSE SHOULD I KNOW?

The PoweDrive Orbit G2 RSS is part of the PowerDrive family of rotary steerable tools that allow wells to be delivered more precisely, efficiently, and safely. PowerDrive rotary steerable tools help minimize the risk of stuck pipe, maximize drilling efficiency, and maintain borehole quality.

The PowerDrive Orbit G2 RSS includes the capability to hold inclination and azimuth, enabling precise well positioning, smooth borehole quality, and low tortuosity.

Near-bit gamma ray, inclination azimuth, and other sensor measurements are transmitted in real time to improve decision making.

POWERDRIVE ORBIT G2

SPECIFICATIONS	475 RSS	675 RSS	825 R55	900 RSS	1100 RSS	
GENERAL						
Nominal OD (API), in [mm]	4¼ [120.7]	6¾ [171.5]	9(228.6]	9(228.6]	9(228.6]	
Bit hole sizes," in [mm]	51⁄4-63⁄4 [146.1-171.5]	8½—8¾ [215.9-222.31]	10% [269.9]	12¼-18⅓ [311.2-460.4]	26 [660.4]	
Overall length, ft [m]	13.38 [4.081]	13.43 [4.09]	13.72 [4.18]	13.94 [4.25]	15.06 [4.59]	
Passthrough [DLS sliding].: °730 m						
Max. operating torque,\$ lbf.ft [N.m]	9,000 [12,202]	18,500 [25,082]	45,000 [61,011]	45,000 [61,011]	70,000 [94,907]	
Max. operating load, lbf [N]	340,000 [1,512,395]	1,100,000 [4.893,044]	1,100,000 [4.893,044]	1,800,000 [8,006,799]	1,800,000 [8,006,799]	
Max. WOB, lbf [N]	31,000 [137,894]	180,000 [800,680]	270,000 [1,201,019]	370,000 [1,645,842]	225,000 (1,000,850]	
Max. lost circulation material, lbm/galUS [kg/m²]			1.5 [179.74] medium nut plug			
Flow range," galUS/min [L/min]	120-355 [454-1,343]	210-970 [794-3,671]	280-2.000 [1,059-7,571]	280-2.000 [1,059-7,571]	280-2,000 [1,059-7,571]	
Vibration - Electrical Components (measured by the CPU)			Peak Shock < 250G 200, 000 counts > 50G			
Vibration - Mechanical Components (measured by the CPU)			Peak Shock < 155G 200, 000 counts > 50G			
Max. rotational speed, rpm					350	
Max. temperature," degF [degC]	302 [150]	302 [150]	302 [150]	302 [150]	302 [150]	
Max. hydrostatic pressure, " psi [MPa]	20,000 [137.9]	20,000 [137.9]	20,000 [137.9]	20,000 [137.9]	20,000 [137.9]	
Max. mud density, lbm/galUS [kg/L]	24 [2.881]	24 [2.881]	24 [2.881]	24 [2.881]	24 [2.881]	
Max. mud sand content. % by volume					1	
SENSORS						
Tool bottom to gamma ray. ft (m)	5.96 [1.82]	6.31 [1.92]	7.06 [2.15]	6.92 [2.11]	8.07 [2.46]	
Tool bottom to inclination, ft (m)	6.85 [2.09]	7.10 [2.16]	7.85 [2.39]	7.71 [2.35]	8.86 [2.70]	
Tool bottom to azimuth, ft (m)	8.95 [2.73]	9.30 [2.83]	10.05 [3.06]	9.91 [3.02]	11.06 [3.37]	
Inclination accuracy.°	#0.11 (at 1 sigma level)			#0.11 (at 1 sigma level)		
Azimuth accuracy.°	±1.8 at 90° inclination (at 1 sigma level)			±1.8 at 90° inclination (at 1 sigma level)		
Gamma ray accuracy	Azimuthal 4-quadrant +5% (30-s averaging window), front-back ratio of 24:1					
Shack detector threshold, radial	50 gn ±5 gn (+500 gn m	50 gn ±5 gn (+500 gn max. peak)			50 gn ±5 gn (+500 gn max. peak)	

Note

- -Maximum flow rate depends on mud densit
- -Options may be available for temperature ratings to 325F
- -Maximum load ratings (TOB, WOB, DLS, vibration) are interrelated and may not be applied simultaneously

