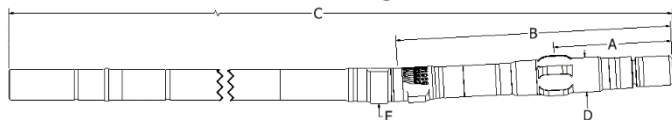


RVEN-70 : 6/7 Lobe 9.7 Stage



Dimensions

Bit to Stabilizer Center	A	27 in (0.7 m)
Bit to Bend, ABH	B	66.3 in (1.7 m)
Bit to Bend, Fixed	B	50 in (1.3 m)
Bit to Top Sub	C	436 in (11 m)
Body OD, Slick	D	7.0 in (178 mm)
Body OD, Stabilizer	D	7.5 in (191 mm)
Pad Radius, ABH	E	3.625 in (92 mm)
Pad Radius, Fixed	E	3.75 in (95 mm)
Bottom Connection	4-1/2 REG Box 6-5/8 REG Box 4-1/2 IF Pin	
Top Connection	4-1/2 IF Box 4-1/2 XH Box	
Top Sub Float Bore	4R	

Recommended Operating Limits

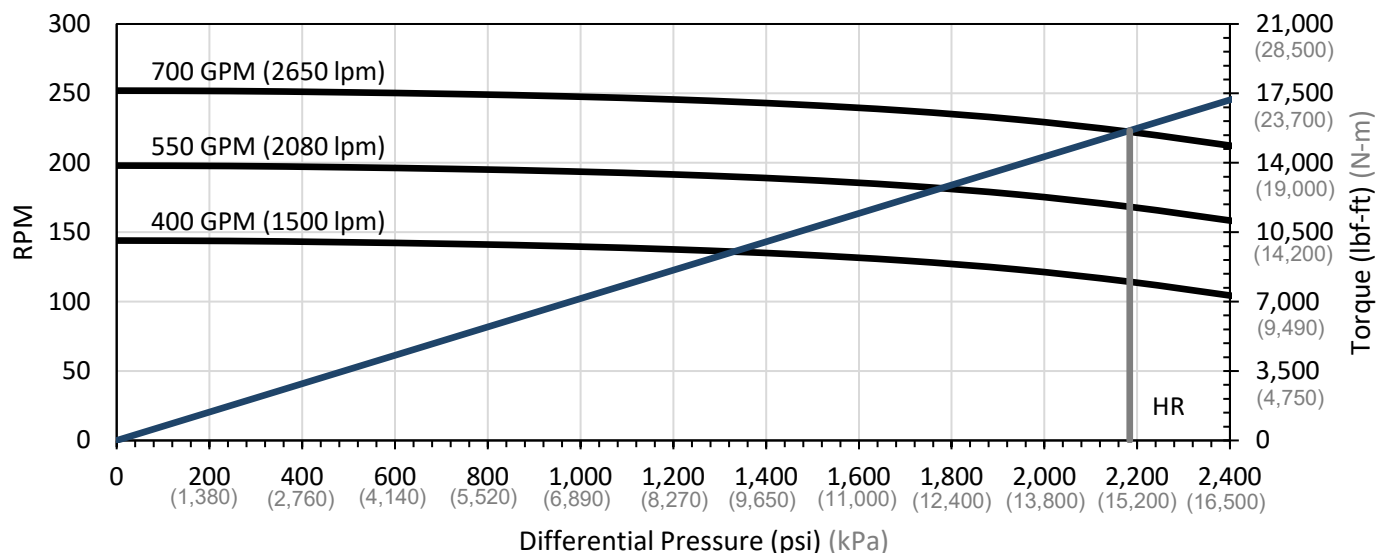
Max WOB	117,000 lbf (52,000 daN)
Max Overpull, Backream	169,000 lbf (75,200 daN)
Max Overpull, Re-Run	325,000 lbf (144,600 daN)
Max Overpull, POOH	630,000 lbf (280,000 daN)

Performance Details

HR

Max Diff Pressure	2,180 psi (15,030 kPa)
Max Torque	15,630 lbf-ft (21,190 N-m)
Stall Torque	23,420 lbf-ft (31,750 N-m)
Rotation	0.360 rev/gal (0.095 rev/L)
Flow Range	400-700 gpm (1500-2650 lpm)
Speed Range	144-252 rpm

Theoretical Performance Curve



Performance curves based on testing at 70°F(21°C). Actual field performance may vary with field operation conditions.

Predicted Build Rates (ABH) – Degrees/100ft (30m)

Bend Setting	Slick			Stabilized		
	Hole Size			Hole Size		
Deg	8 1/2	8 3/4	9 7/8	8 1/2	8 3/4	9 7/8
0.39	2.7	2.2	0.1	4.6	4.7	5.1
0.78	4.7	4.2	2.1	6.5	6.6	7.0
1.15	6.6	6.2	4.0	8.3	8.4	8.8
1.50	8.5	8.0	5.8	10.0	10.1	10.5
1.83	10.2	9.7	7.6	11.6	11.7	12.1
2.12	11.7	11.2	9.1	13.0	13.1	13.5
2.38*	13.1	12.6	10.4	14.3	14.4	14.8
2.60*	14.2	13.7	11.6	15.3	15.4	15.9
2.77*	15.1	14.6	12.5	16.2	16.3	16.7
2.90*	15.8	15.3	13.1	16.8	16.9	17.3
2.97*	16.1	15.6	13.5	17.1	17.2	17.7
3.00*	16.3	15.8	13.7	17.3	17.4	17.8

*Bend Setting not recommended for Rotary Drilling

Predicted Build Rates (Fixed) – Degrees/100ft (30m)

Bend Setting	Slick			Stabilized		
	Hole Size			Hole Size		
Deg	8 1/2	8 3/4	9 7/8	8 1/2	8 3/4	9 7/8
0.78	4.6	4.1	1.4	6.7	6.8	7.2
1.15	6.5	5.9	3.3	8.5	8.6	9.1
1.50	8.3	7.7	5.1	10.3	10.4	10.8
1.75	9.6	9.0	6.3	11.6	11.7	12.1
1.83	10.0	9.4	6.8	12.0	12.1	12.5
2.00	10.8	10.2	7.6	12.9	13.0	13.4
2.12	11.4	10.8	8.2	13.5	13.6	14.0
2.25*	12.1	11.5	8.9	14.1	14.2	14.6
2.38*	12.8	12.2	9.5	14.8	14.9	15.3
2.50*	13.4	12.8	10.2	15.4	15.5	15.9

*Bend Setting not recommended for Rotary Drilling