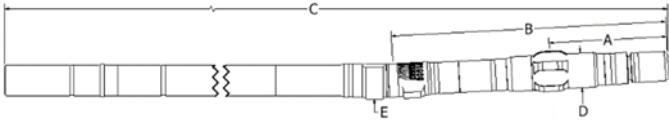


RVEN-96 : 5/6 Lobe 4.0 Stage



Dimensions

Bit to Stabilizer Center	A	50 in
Bit to Bend, ABH	B	89.5 in
Bit to Bend, Fixed	B	79.7 in
Bit to Top Sub	C	377 in
Body OD, Slick	D	9.62 in
Body OD, Stabilizer	D	10.75 in
Pad Radius, ABH	E	5.2 in
Pad Radius, Fixed	E	5.1 in
Bottom Connection	6-5/8 REG Box 7-5/8 REG Box	
Top Connection	6-5/8 REG Box	
Top Sub Float Bore	6R	

Recommended Operating Limits

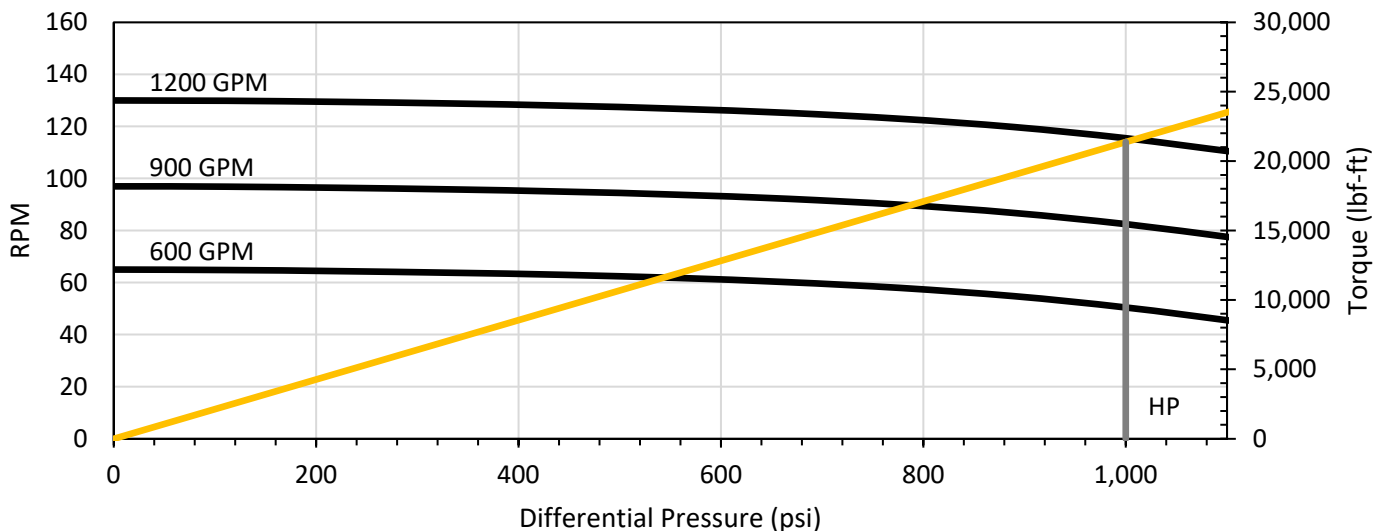
Max WOB	90,000 lbf
Max Overpull, Backream	130,000 lbf
Max Overpull, Re-Run	553,000 lbf
Max Overpull, POOH	1,210,000 lbf

Performance Details

HP

Max Diff Pressure	1,000 psi
Max Torque	21,370 lbf-ft
Stall Torque	32,060 lbf-ft
Rotation	0.108 rev/gal
Flow Range	600-1200 gpm
Speed Range	65-130 rpm

Theoretical Performance Curve



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

Predicted Build Rates (Adj.) – Degrees/100ft

Bend Setting	Slick Hole Size			Stabilized Hole Size		
	Deg	12 1/4	14 3/4	17 1/2	12 1/4	14 3/4
0.39	-	-	-	3.1	4.4	5.9
0.78	2.2	-	-	5.2	6.5	8.0
1.15	4.4	-	-	7.2	8.5	9.9
1.50	6.5	2.5	-	9.0	10.4	11.8
1.83	8.5	4.5	-	10.8	12.1	13.6
2.12	10.3	6.3	1.8	12.3	13.7	15.1
2.38*	11.9	7.8	3.4	13.7	15.0	16.5
2.60*	13.2	9.2	4.7	14.9	16.2	17.7
2.77*	14.3	10.2	5.8	15.8	17.1	18.6
2.90*	15.0	11.0	6.5	16.5	17.8	19.3
2.97*	15.5	11.4	7.0	16.9	18.2	19.6
3.00*	15.7	11.6	7.2	17.0	18.3	19.8

*Bend Setting not recommended for Rotary Drilling

Predicted Build Rates (Fixed) – Degrees/100ft

Bend Setting	Slick Hole Size			Stabilized Hole Size		
	Deg	12 1/4	14 3/4	17 1/2	12 1/4	14 3/4
0.78	1.3	-	-	5.3	6.7	8.1
1.15	3.5	-	-	7.4	8.7	10.2
1.50	5.6	1.2	-	9.3	10.6	12.1
1.75	7.2	2.7	-	10.7	12.0	13.5
1.83	7.7	3.2	-	11.1	12.4	13.9
2.00	8.7	4.2	-	12.1	13.4	14.8
2.12	9.4	5.0	-	12.7	14.0	15.5
2.25*	10.2	5.8	-	13.4	14.8	16.2
2.38*	11.0	6.5	1.6	14.1	15.5	16.9
2.50*	11.7	7.3	2.4	14.8	16.1	17.6

*Bend Setting not recommended for Rotary Drilling