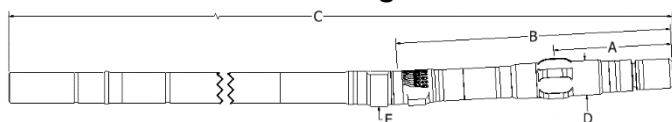


RVEN-86 : 7/8 Lobe 2.5 Stage



Dimensions

Bit to Stabilizer Center	A	NA	in
Bit to Bend, Fixed	B	76	in
Bit to Bend, ABH	B	94	in
Bit to Top Sub	C	426	in
Body OD, Slick	D	8.62	in
Pad Radius, Fixed	E	4.43	in
Pad Radius, ABH	E	4.25	in
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	197,000	lbf
Max Overpull, Backream	285,000	lbf
Max Overpull, Re-Run	286,000	lbf
Max Overpull, POOH	847,000	lbf

Performance Details	HR	XP
Max Diff Pressure	560	630 psi
Max Torque	17,420	19,360 lbf-ft
Stall Torque	26,140	29,040 lbf-ft
Rotation	0.080	0.080 rev/gal
Flow Range	400-900	400-900 gpm
Speed Range	32-72	32-72 rpm

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

Bend Setting	Slick Hole Size			Stabilized Hole Size		
Deg	9 7/8	10 5/8	12 1/4	9 7/8	10 5/8	12 1/4
0.39	1.1	-	-	1.8	2.0	2.7
0.78	3.2	2.2	-	3.5	3.8	4.4
1.15	5.2	4.2	1.9	5.2	5.4	6.0
1.50	7.2	6.1	3.8	7.2	6.9	7.5
1.83	9.0	7.9	5.6	9.0	8.4	9.0
2.12	10.5	9.5	7.1	10.5	9.7	10.3
2.38*	11.9	10.9	8.6	11.9	10.9	11.4
2.60*	13.1	12.1	9.8	13.1	12.1	12.4
2.77*	14.1	13.0	10.7	14.1	13.0	13.1
2.90*	14.8	13.7	11.4	14.8	13.7	13.7
2.97*	15.1	14.1	11.8	15.1	14.1	14.0
3.00*	15.3	14.2	11.9	15.3	14.2	14.1

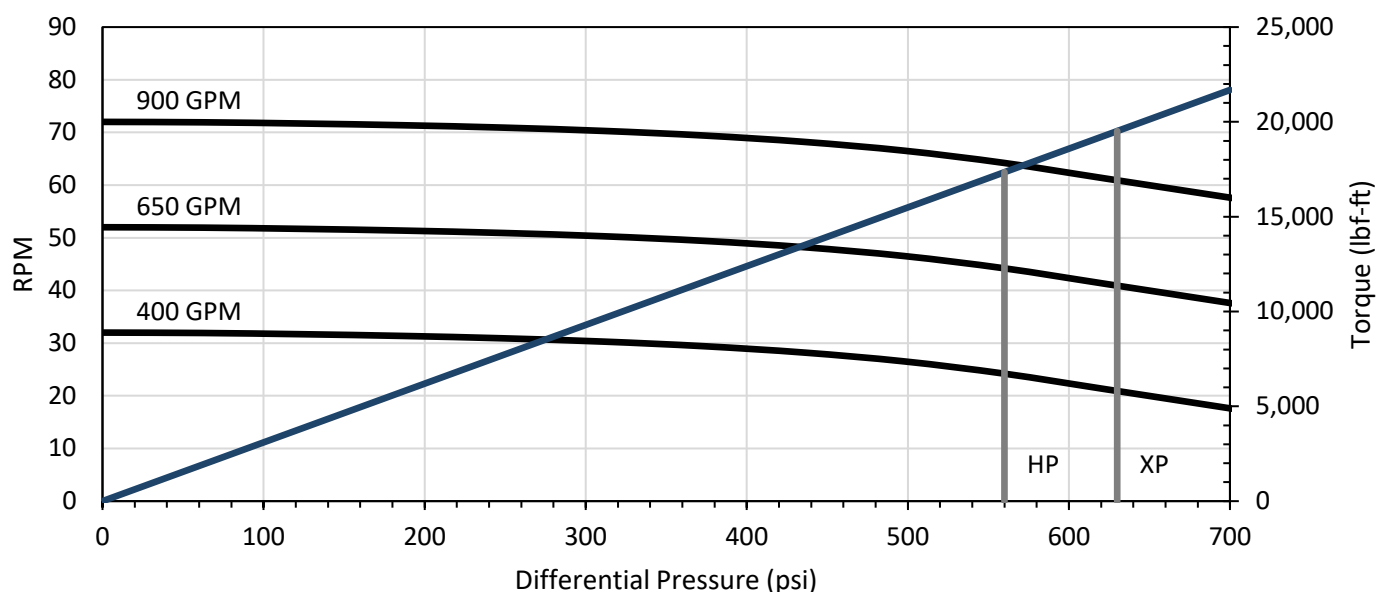
*Bend Setting not recommended for Rotary Drilling

Predicted Build Rates (Fixed) – Degrees/100ft

Bend Setting	Slick Hole Size			Stabilized Hole Size		
Deg	9 7/8	10 5/8	12 1/4	9 7/8	10 5/8	12 1/4
0.78	2.1	-	-	3.7	3.9	4.6
1.15	4.1	2.8	-	5.4	5.7	6.3
1.50	6.0	4.7	2.0	7.0	7.3	7.9
1.75	7.4	6.1	3.3	8.2	8.5	9.1
1.83	7.8	6.5	3.8	8.5	8.8	9.4
2.00	8.8	7.5	4.7	9.3	9.6	10.2
2.12	9.4	8.1	5.3	9.9	10.2	10.8
2.25*	10.1	8.8	6.0	10.5	10.8	11.4
2.38*	10.8	9.5	6.8	11.1	11.4	12.0
2.50*	11.5	10.2	7.4	11.7	11.9	12.6

*Bend Setting not recommended for Rotary Drilling

Theoretical Performance Curve



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