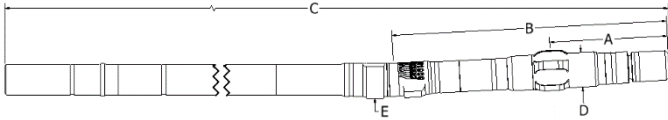


RVEN-86 : 4/5 Lobe 6.0 Stage



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	432	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	1,350	1,500	psi
Max Torque	15,300	17,000	lbf-ft
Stall Torque	22,950	25,500	lbf-ft
Rotation	0.246	0.246	rev/gal
Flow Range	400-900	400-900	gpm
Speed Range	98-221	98-221	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	-	-	1.7	2.0	2.6
0.78	3.2	2.1	-	3.4	3.7	4.3
1.15	5.2	4.1	1.8	5.2	5.3	5.9
1.50	7.1	6.0	3.7	7.1	6.8	7.4
1.83	8.8	7.8	5.5	8.8	8.3	8.9
2.12	10.4	9.3	7.0	10.4	9.5	10.1
2.38*	11.8	10.7	8.4	11.8	10.7	11.3
2.60*	13.0	11.9	9.6	13.0	11.9	12.2
2.77*	13.9	12.8	10.5	13.9	12.8	13.0
2.90*	14.6	13.5	11.2	14.6	13.5	13.5
2.97*	14.9	13.9	11.6	14.9	13.9	13.8
3.00*	15.1	14.0	11.8	15.1	14.0	14.0

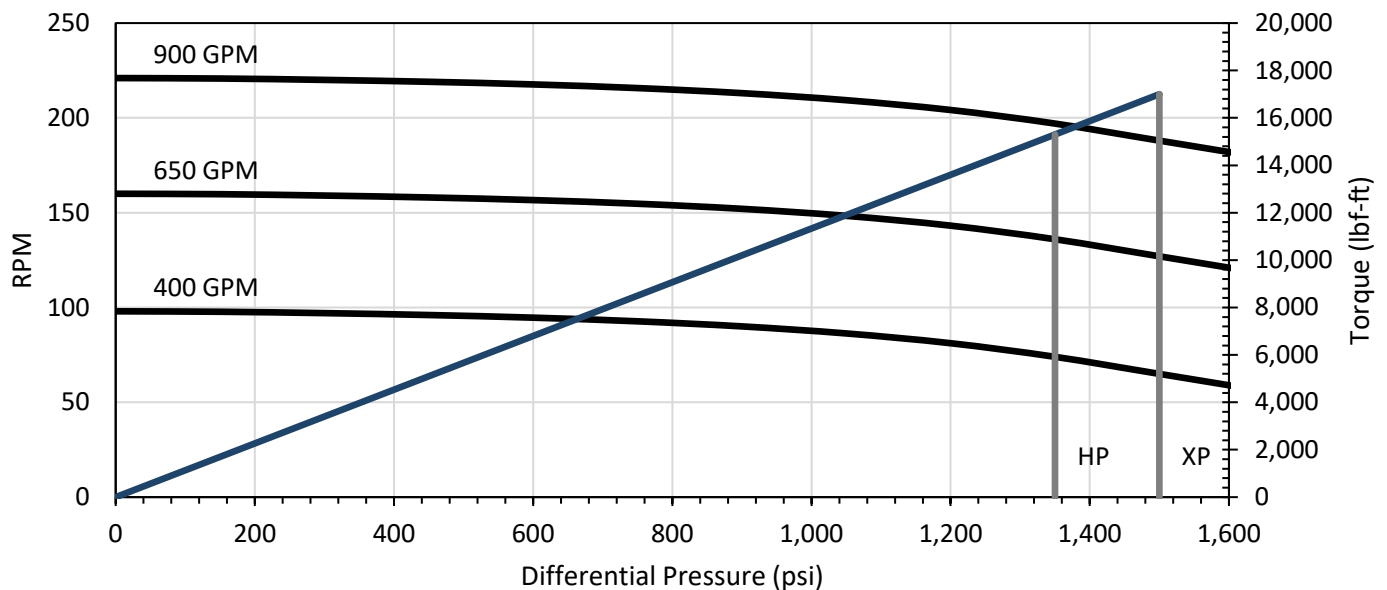
*Bend Setting not recommended for Rotary Drilling

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	-	-	3.6	3.9	4.5
1.15	4.1	2.8	-	5.3	5.6	6.2
1.50	6.0	4.7	1.9	6.9	7.2	7.8
1.75	7.3	6.0	3.3	8.1	8.4	9.0
1.83	7.7	6.5	3.7	8.4	8.7	9.3
2.00	8.6	7.4	4.6	9.2	9.5	10.1
2.12	9.3	8.0	5.3	9.8	10.0	10.6
2.25*	10.0	8.7	6.0	10.4	10.6	11.2
2.38*	10.7	9.4	6.7	11.0	11.2	11.8
2.50*	11.3	10.1	7.3	11.5	11.8	12.4

*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.