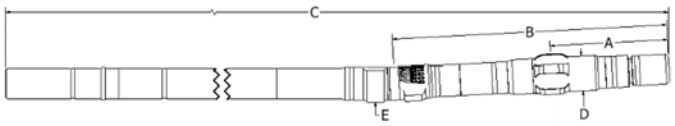
RVMA-51 : 6/7 Lobe 8.0 Stage



Dimensions

Bit to Stabilizer Center	A	22	in
Bit to Bend, ABH	B	55	in
Bit to Bend, Fixed	B	47	in
Bit to Top Sub	C	354	in
Body OD, Slick	D	5.13	in
Body OD, Stabilizer	D	5.80	in
Pad Radius, ABH	E	2.78	in
Pad Radius, Fixed	E	2.84	in
Bottom Connection		3-1/2 REG Box 3-1/2 IF Pin	
Top Connection		3-1/2 IF Box XT-39 Box	
Top Sub Float Bore		3-1/2 IF	

Recommended Operating Limits

Max WOB	54,000	lbf
Max Overpull, Backream	78,000	lbf
Max Overpull, Re-Run	154,000	lbf
Max Overpull, POOH	441,000	lbf

Performance Details	HR	XP	
Max Diff Pressure	1,800	2,000	psi
Max Torque	5,720	6,350	lbf-ft
Stall Torque	8,580	9,530	lbf-ft
Rotation	0.810	0.810	rev/gal
Flow Range	150-350	150-350	gpm
Speed Range	122-284	122-284	rpm

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

Bend Setting	Slick Hole Size			Stabilized Hole Size		
Deg	6	6 1/4	6 3/4	6	6 1/4	6 3/4
0.39	1.3	-	-	1.8	2.0	2.3
0.78	4.1	3.3	1.7	4.3	4.4	4.7
1.15	6.7	5.9	4.3	6.7	6.7	7.1
1.50	9.1	8.3	6.8	9.1	8.9	9.2
1.83	11.5	10.7	9.1	11.5	11.0	11.3
2.12	13.5	12.7	11.1	13.5	12.8	13.1
2.38*	15.3	14.5	12.9	15.3	14.5	14.7
2.60*	16.9	16.1	14.5	16.9	16.1	16.1
2.77*	18.1	17.3	15.7	18.1	17.3	17.2
2.90*	19.0	18.2	16.6	19.0	18.2	18.0
2.97*	19.5	18.7	17.1	19.5	18.7	18.4
3.00*	19.7	18.9	17.3	19.7	18.9	18.6

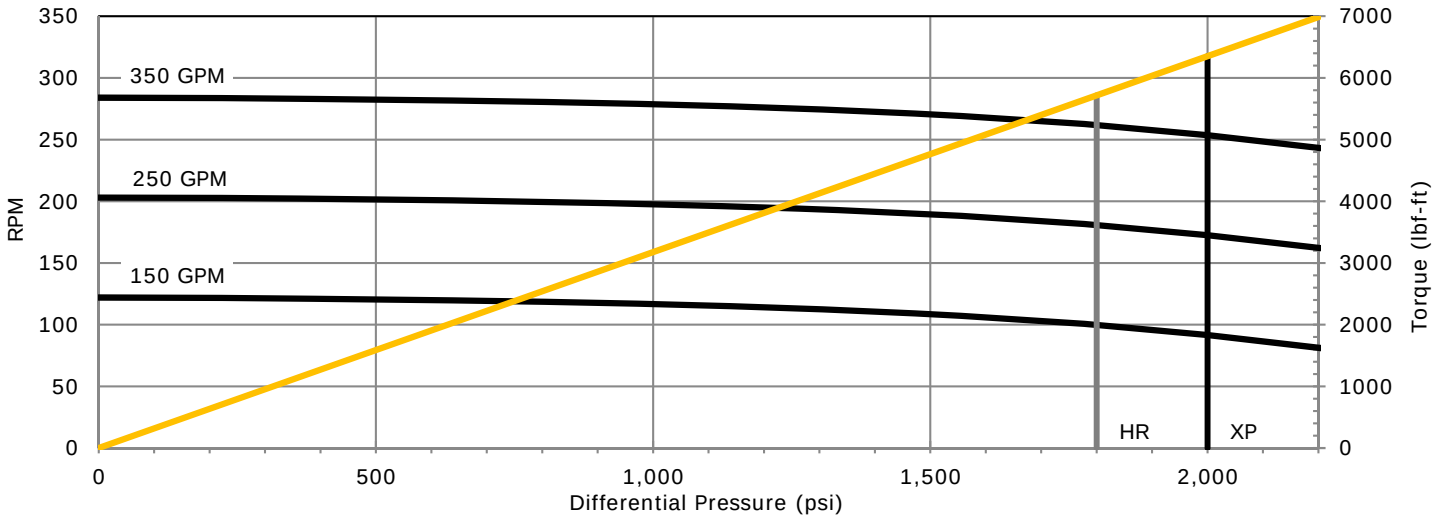
**Bend Setting not recommended for Rotary Drilling*

Predicted Build Rates (Fixed) – Degrees/100ft

Bend Setting	Slick Hole Size			Stabilized Hole Size		
Deg	6	6 1/4	6 3/4	6	6 1/4	6 3/4
0.78	4.5	3.5	1.7	4.5	4.6	4.9
1.15	7.1	6.2	4.3	7.1	6.9	7.3
1.50	9.5	8.6	6.8	9.5	9.2	9.5
1.75	11.3	10.4	8.6	11.3	10.8	11.1
1.83	11.9	10.9	9.1	11.9	11.3	11.6
2.00	13.1	12.1	10.3	13.1	12.4	12.7
2.12	13.9	13.0	11.2	13.9	13.2	13.5
2.25*	14.8	13.9	12.1	14.8	14.0	14.3
2.38*	15.7	14.8	13.0	15.7	14.8	15.2
2.50*	16.6	15.7	13.8	16.6	15.7	15.9

**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.