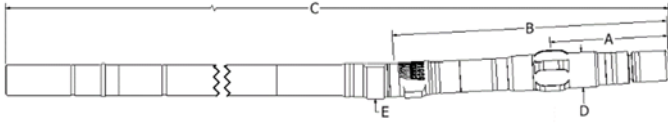


### RVTF-77 : 7/8 Lobe 4.0 Stage



#### Dimensions

Bit to Stabilizer Center	A	28.3 in
Bit to Bend, ABH	B	79 in
Bit to Bend, Fixed	B	65 in
Bit to Top Sub	C	355 in
Body OD, Slick	D	7.75 in
Body OD, Stabilizer	D	9.25 in
Pad Radius, ABH	E	4.188 in
Pad Radius, Fixed	E	4.07 in
Bottom Connection	6-5/8 REG Box 6-5/8 REG Pin	
Top Connection	6-5/8 REG Box	
Top Sub Float Bore	5F-6R	

#### Recommended Operating Limits

Max WOB	143,000 lbf
Max Overpull, Backream	206,000 lbf
Max Overpull, Re-Run	256,000 lbf
Max Overpull, POOH	923,000 lbf

Performance Details	HR	XP
Max Diff Pressure	900	990 psi
Max Torque	14,930	16,420 lbf-ft
Stall Torque	22,400	26,640 lbf-ft
Rotation	0.166	0.166 rev/gal
Flow Range	400-900	400-900 gpm
Speed Range	66-150	66-150 rpm

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

Bend Setting	Slick Hole Size			Stabilized Hole Size		
	9 7/8	10 5/8	12 1/4	9 7/8	10 5/8	12 1/4
Deg						
0.39	-	-	-	3.0	3.5	4.5
0.78	2.7	1.1	-	5.3	5.7	6.8
1.15	5.2	3.7	-	7.4	7.9	8.9
1.50	7.7	6.1	2.7	9.4	9.9	10.9
1.83	9.9	8.4	4.9	11.3	11.8	12.9
2.12	11.9	10.3	6.9	13.0	13.5	14.5
2.38*	13.7	12.1	8.7	14.5	15.0	16.0
2.60*	15.2	13.6	10.2	15.8	16.2	17.3
2.77*	16.4	14.8	11.4	16.7	17.2	18.3
2.90*	17.3	15.7	12.3	17.5	18.0	19.0
2.97*	17.8	16.2	12.8	17.9	18.4	19.4
3.00*	18.0	16.4	13.0	18.1	18.5	19.6

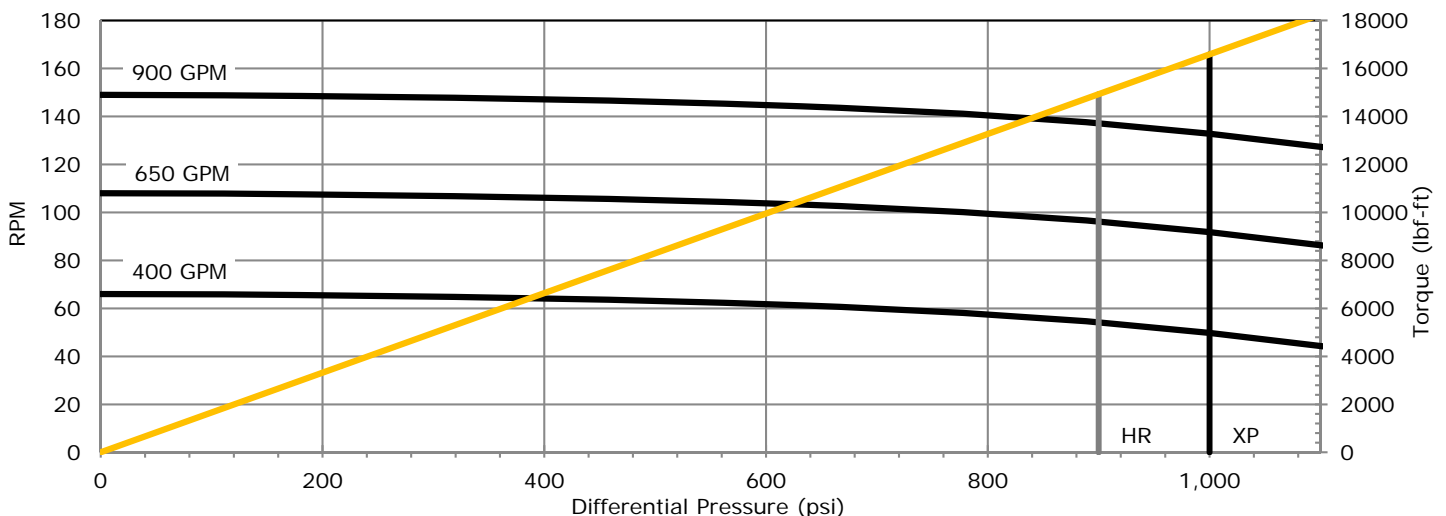
\*Bend Setting not recommended for Rotary Drilling

#### Predicted Build Rates (Fixed) – Degrees/100ft

Bend Setting	Slick Hole Size			Stabilized Hole Size		
	9 7/8	10 5/8	12 1/4	9 7/8	10 5/8	12 1/4
Deg						
0.75	1.2	-	-	5.3	5.8	6.9
1.00	2.9	1.0	-	6.8	7.3	8.4
1.25	4.6	2.7	-	8.4	8.9	9.9
1.50	6.3	4.5	-	9.9	10.4	11.4
1.63	7.2	5.4	1.3	10.7	11.2	12.2
1.75	8.0	6.2	2.2	11.4	11.9	13.0
1.83	8.6	6.7	2.7	11.9	12.4	13.4
2.00	9.8	7.9	3.9	12.9	13.4	14.5
2.25*	11.5	9.6	5.6	14.5	14.9	16.0
2.38*	12.4	10.5	6.5	15.2	15.7	16.8
2.50*	13.2	11.3	7.3	16.0	16.5	17.5

\*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.