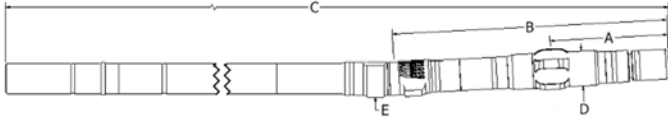


### RVTF-67 : 4/5 Lobe 7.0 Stage



#### Dimensions

Bit to Stabilizer Center	A	33 in
Bit to Bend, ABH	B	73.6 in
Bit to Bend, Fixed	B	60.4 in
Bit to Top Sub	C	330 in
Body OD, Slick	D	6.87 in
Body OD, Stabilizer	D	6.87 in
Pad Radius, ABH	E	3.63 in
Pad Radius, Fixed	E	3.56 in
Bottom Connection	4-1/2 REG Box 4-1/2 IF Pin	
Top Connection	4-1/2 IF Box 4-1/2 XH Box	
Top Sub Float Bore	4R & 5R	

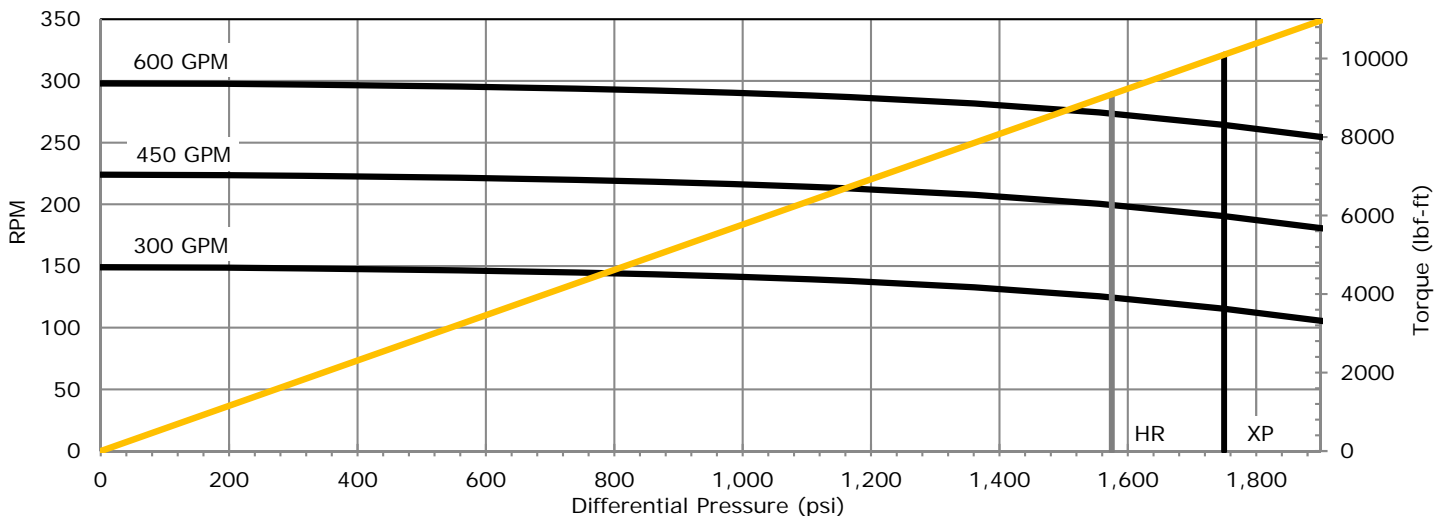
#### Recommended Operating Limits

Max WOB	127,000 lbf
Max Overpull, Backream	183,000 lbf
Max Overpull, Re-Run	183,000 lbf
Max Overpull, POOH	751,000 lbf

#### Performance Details

	HR	XP
Max Diff Pressure	1,580	1,740 psi
Max Torque	9,090	10,000 lbf-ft
Stall Torque	13,630	15,000 lbf-ft
Rotation	0.497	0.497 rev/gal
Flow Range	300-600	300-600 gpm
Speed Range	149-300	149-300 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	8 1/2	8 3/4	9 7/8	8 1/2	8 3/4
<b>0.39</b>	-	-	-	2.9	3.1	3.9
<b>0.78</b>	2.9	2.3	-	5.3	5.5	6.2
<b>1.15</b>	5.5	4.9	2.3	7.5	7.7	8.5
<b>1.50</b>	8.0	7.4	4.8	9.7	9.8	10.6
<b>1.83</b>	10.3	9.7	7.1	11.7	11.8	12.6
<b>2.12</b>	12.3	11.8	9.1	13.4	13.6	14.4
<b>2.38*</b>	14.2	13.6	10.9	15.0	15.2	15.9
<b>2.60*</b>	15.7	15.1	12.5	16.3	16.5	17.3
<b>2.77*</b>	16.9	16.3	13.7	17.4	17.5	18.3
<b>2.90*</b>	17.8	17.2	14.6	18.2	18.3	19.1
<b>2.97*</b>	18.3	17.7	15.1	18.6	18.7	19.5
<b>3.00*</b>	18.5	17.9	15.3	18.8	18.9	19.7

\*Bend Setting not recommended for Rotary Drilling

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

Bend Setting	Slick Hole Size			Stabilized Hole Size		
	Deg	8 1/2	8 3/4	9 7/8	8 1/2	8 3/4
<b>0.75</b>	1.7	-	-	5.3	5.5	6.3
<b>1.00</b>	3.5	2.8	-	6.9	7.1	7.9
<b>1.25</b>	5.3	4.6	1.4	8.5	8.7	9.5
<b>1.50</b>	7.0	6.3	3.2	10.1	10.3	11.1
<b>1.63</b>	7.9	7.2	4.1	11.0	11.1	11.9
<b>1.75</b>	8.8	8.1	4.9	11.7	11.9	12.7
<b>1.88</b>	9.7	9.0	5.9	12.6	12.7	13.5
<b>2.00</b>	10.5	9.8	6.7	13.3	13.5	14.3
<b>2.25*</b>	12.3	11.6	8.5	14.9	15.1	15.8
<b>2.38*</b>	13.2	12.5	9.4	15.7	15.9	16.7
<b>2.50*</b>	14.0	13.3	10.2	16.5	16.7	17.4

\*Bend Setting not recommended for Rotary Drilling