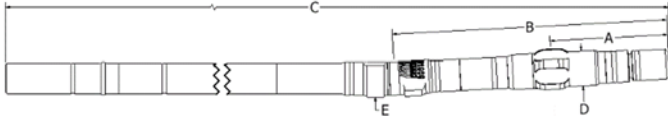


RVDF-70 : 4/5 Lobe 7.0 Stage



Dimensions

Bit to Stabilizer Center	A	30 in
Bit to Bend, ABH	B	68.4 in
Bit to Bend, Fixed	B	49 in
Bit to Top Sub	C	336 in
Body OD, Slick	D	7.25 in
Body OD, Stabilizer	D	7.25 in
Pad Radius, ABH	E	3.75 in
Pad Radius, Fixed	E	3.75 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	

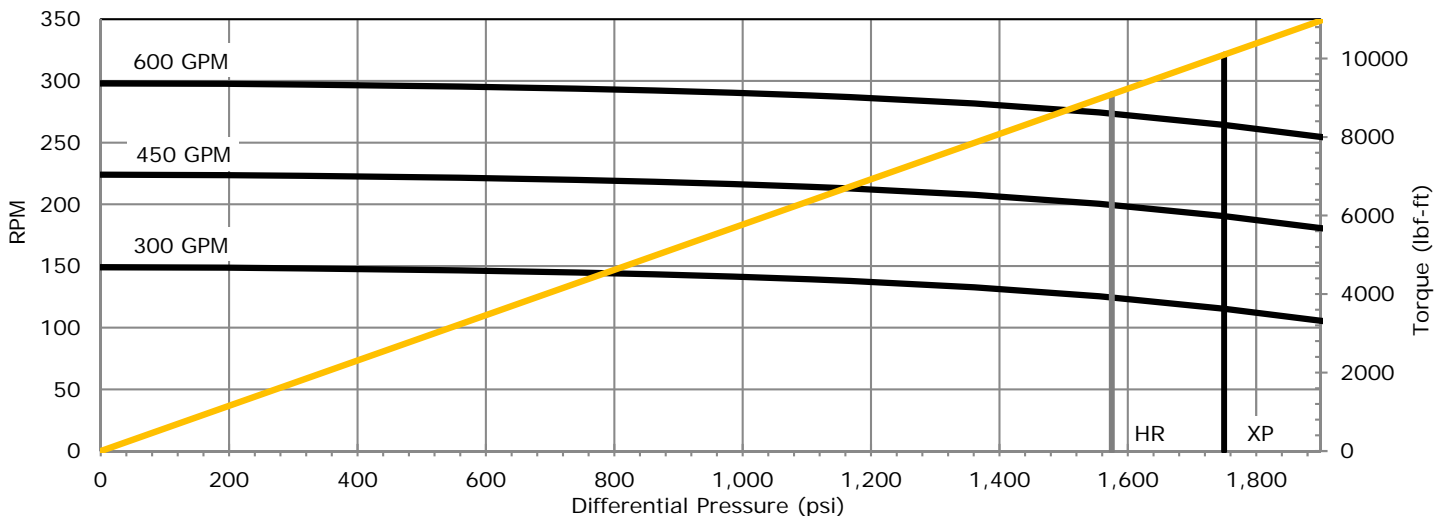
Recommended Operating Limits

Max WOB	160,000 lbf
Max Overpull, Backream	231,000 lbf
Max Overpull, Re-Run	319,000 lbf
Max Overpull, POOH	875,000 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
0.39	-	-	-	2.6	3.0	3.5
0.78	3.3	2.7	-	5.0	5.5	5.9
1.15	5.9	5.2	2.5	7.2	7.9	8.1
1.50	8.3	7.7	4.9	9.3	10.1	10.2
1.83	10.6	9.9	7.2	11.3	12.2	12.2
2.12	12.6	12.0	9.2	13.0	14.1	13.9
2.38*	14.4	13.7	11.0	14.6	15.8	15.5
2.60*	15.9	15.3	12.5	15.9	17.2	16.8
2.77*	17.1	16.4	13.7	17.1	18.3	17.8
2.90*	18.0	17.3	14.6	18.0	19.1	18.6
2.97*	18.4	17.8	15.0	18.4	19.6	19.0
3.00*	18.6	18.0	15.3	18.6	19.8	19.2

*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
0.75	2.3	1.5	-	5.1	5.3	6.0
1.00	4.0	3.2	-	6.7	6.9	7.6
1.25	5.7	4.9	1.3	8.3	8.5	9.2
1.50	7.5	6.7	3.0	10.0	10.1	10.8
1.63	8.4	7.6	3.9	10.8	11.0	11.7
1.75	9.2	8.4	4.7	11.6	11.7	12.5
1.88	10.1	9.3	5.6	12.4	12.6	13.3
2.00	10.9	10.1	6.5	13.2	13.3	14.1
2.25*	12.7	11.8	8.2	14.8	15.0	15.7
2.38*	13.6	12.7	9.1	15.6	15.8	16.5
2.50*	14.4	13.6	9.9	16.4	16.6	17.3

*Bend Setting not recommended for Rotary Drilling