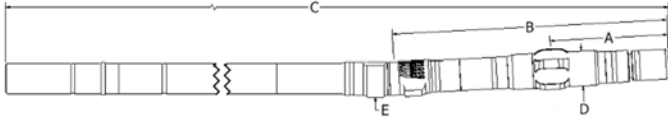


### RVDF-70 : 7/8 Lobe 5.0 Stage



#### 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	321 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	

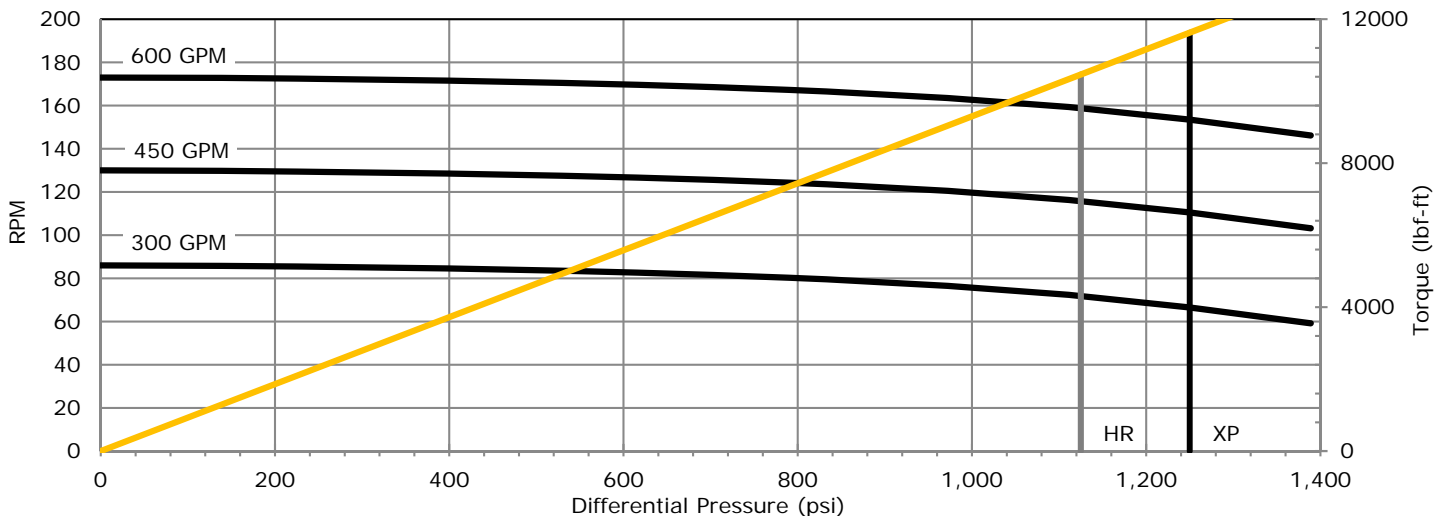
#### Recommended Operating Limits

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	1,130	1,240 psi
Max Torque	10,460	11,510 lbf-ft
Stall Torque	15,690	17,260 lbf-ft
Rotation	0.288	0.288 rev/gal
Flow Range	300-600	300-600 gpm
Speed Range	86-180	86-180 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 Deg	Slick Hole Size			Stabilized Hole Size		
	8 1/2	8 3/4	9 7/8	8 1/2	8 3/4	9 7/8
0.39	-	-	-	2.8	3.0	3.8
0.78	3.5	2.8	-	5.2	5.4	6.2
1.15	6.2	5.5	2.6	7.5	7.7	8.5
1.50	8.7	8.0	5.1	9.7	9.9	10.7
1.83	11.1	10.4	7.5	11.8	11.9	12.7
2.12	13.2	12.5	9.6	13.6	13.8	14.6
2.38*	15.1	14.4	11.5	15.2	15.4	16.2
2.60*	16.6	16.0	13.1	16.6	16.8	17.5
2.77*	17.9	17.2	14.3	17.9	17.8	18.6
2.90*	18.8	18.2	15.3	18.8	18.6	19.4
2.97*	19.3	18.7	15.8	19.3	19.1	19.9
3.00*	19.5	18.9	16.0	19.5	19.2	20.0

\*Bend Setting not recommended for Rotary Drilling

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

Bend Setting Deg	Slick Hole Size			Stabilized Hole Size		
	8 1/2	8 3/4	9 7/8	8 1/2	8 3/4	9 7/8
0.75	2.4	1.6	-	5.4	5.6	6.4
1.00	4.2	3.4	-	7.1	7.2	8.0
1.25	6.0	5.2	1.4	8.8	8.9	9.7
1.50	7.8	7.0	3.2	10.4	10.6	11.4
1.63	8.8	7.9	4.1	11.3	11.5	12.3
1.75	9.7	8.8	5.0	12.1	12.3	13.1
1.88	10.6	9.7	5.9	13.0	13.2	14.0
2.00	11.5	10.6	6.8	13.8	14.0	14.8
2.25*	13.3	12.4	8.6	15.5	15.7	16.4
2.38*	14.2	13.4	9.5	16.3	16.5	17.3
2.50*	15.1	14.2	10.4	17.2	17.3	18.1

\*Bend Setting not recommended for Rotary Drilling