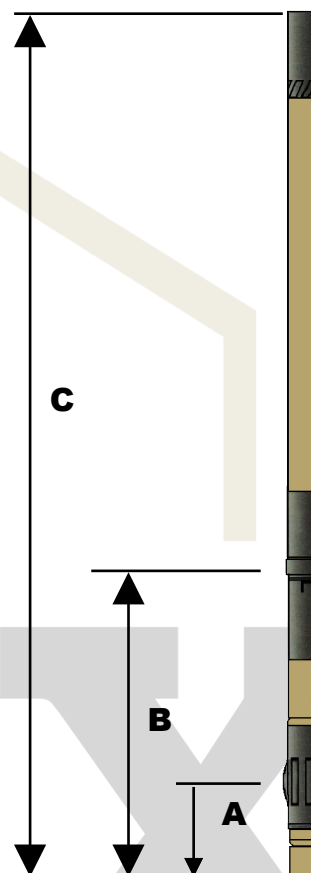




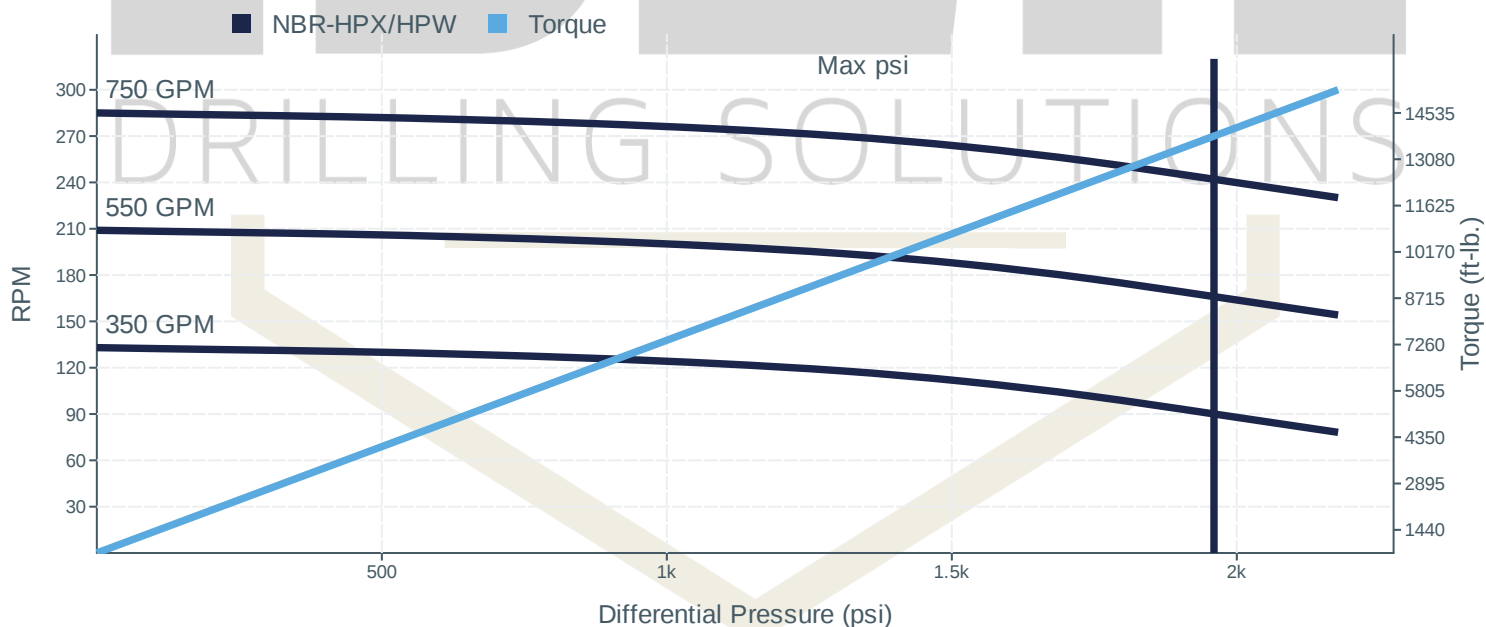
7.13" RAM 5/6 8.3 FLEX SHAFT

7.13" 5/6 8.3 Stage HR	
Motor OD	7.13 inch
Lobe Configuration	5 - 6 Lobe 8.3 Stage
Bit Size Range	8 1/2 - 9 7/8 inches
Bit Box Connection	4 1/2 REGULAR
A = Bit to Stabilizer (Center)	22.68 inches
B = Bit to Bend - Fixed	54.75 inches
B = Bit to Bend - Adjustable	N/A
C = Overall (with Top Sub)	408.05 inches
Adjustable Makeup Torque	N/A
Weight	3,300 lbs
Max WOB - w/Flow	124,000 lbs
Optimum WOB - w/Flow	67,000 lbs
Max WOB - w/o Flow	300,000 lbs
Max Bit Pull - w/Damage	400,000 lbs

Rev. Per Gallon	Flow Rate Range	Bit Speed Range	Torque Output	Max Diff Pressure
RPG	GPM	RPM	Ft. Lbs	PSI
0.38	350 - 750	130 - 290	13,030	1,960



7.13" 5/6 LOBE 8.3 STAGE HR





7.13" 5/6 8.3 STAGE HR								
CALCULATED BUILD UP RATES - DEGREES / 100ft. * (FIXED)								
Angle (Deg)	Hole Size (in) - Slick Sleeve				Hole Size (in) - Stabilized			
	7 7/8"	8 1/2"	8 3/4"	9 7/8"	7 7/8"	8 1/2"	8 3/4"	9 7/8"
0.25	2.4	1.8	1.4		1.1	1.3	1.4	2.0
0.50	3.6	3.0	2.6		2.4	2.8	2.9	3.3
0.75	4.7	4.1	3.9	2.6	3.9	4.1	4.2	4.7
1.00	5.9	5.3	5.1	3.9	5.3	5.5	5.6	6.1
1.25	7.2	6.5	6.2	5.1	6.6	6.8	6.9	7.5
1.50	8.4	7.7	7.4	6.3	8.0	8.3	8.4	8.8
1.75	9.5	8.8	8.6	7.4	9.4	9.7	9.8	10.2
2.00	10.8	10.0	9.8	8.6	10.8	11.0	11.1	11.6
2.25	12.0	11.2	10.9	9.8	12.1	12.4	12.5	13.0
2.50	13.0	12.4	12.1	11.0	13.5	13.8	13.9	14.3
2.75	14.3	13.5	13.3	12.1	14.9	15.2	15.3	15.7

DRILLING SOLUTIONS

* Actual Build Up Rates subject to varying factors; including formation, weight on bit, etc.